



Full wwPDB X-ray Structure Validation Report ⓘ

May 29, 2020 – 06:47 am BST

PDB ID : 4WQS
Title : Thermus thermophilus RNA polymerase backtracked complex
Authors : Murayama, Y.; Sekine, S.; Yokoyama, S.
Deposited on : 2014-10-22
Resolution : 4.31 Å(reported)

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

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

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

MolProbity : 4.02b-467
Xtriage (Phenix) : 1.13
EDS : 2.11
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac : 5.8.0158
CCP4 : 7.0.044 (Gargrove)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.11

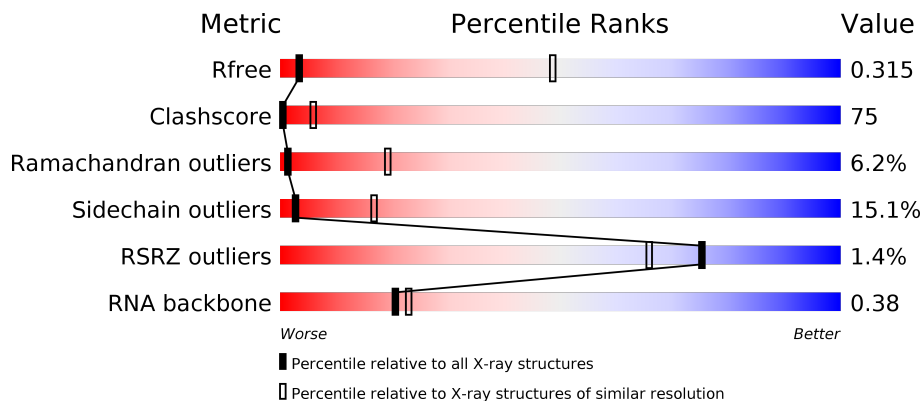
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 4.31 Å.

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



| Metric | Whole archive (#Entries) | Similar resolution (#Entries, resolution range(Å)) |
|-----------------------|-----------------------------|---|
| R_{free} | 130704 | 1014 (4.80-3.80) |
| Clashscore | 141614 | 1077 (4.80-3.80) |
| Ramachandran outliers | 138981 | 1029 (4.80-3.80) |
| Sidechain outliers | 138945 | 1012 (4.80-3.80) |
| RSRZ outliers | 127900 | 1075 (4.90-3.70) |
| RNA backbone | 3102 | 1058 (5.60-3.00) |

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments on the lower bar indicate the fraction of residues that contain outliers for ≥ 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 electron density. The numeric value is given above the bar.

| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|------------------|
| 1 | A | 315 | |
| 1 | B | 315 | |
| 1 | K | 315 | |
| 1 | L | 315 | |

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| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|-------------------------------|
| 2 | C | 1119 | <p>% 23% 62% 14%</p> |
| 2 | M | 1119 | <p>% 23% 62% 14%</p> |
| 3 | D | 1524 | <p>% 18% 45% 11% 24%</p> |
| 3 | N | 1524 | <p>% 21% 51% 12% 15%</p> |
| 4 | E | 99 | <p>% 24% 56% 14%</p> |
| 4 | O | 99 | <p>% 20% 58% 14%</p> |
| 5 | G | 28 | <p>50% 36% 11%</p> |
| 5 | X | 28 | <p>46% 36% 14%</p> |
| 6 | H | 16 | <p>6% 13% 19% 50% 19%</p> |
| 6 | Y | 16 | <p>38% 31% 25% 6%</p> |
| 7 | I | 21 | <p>52% 14% 14% 19%</p> |
| 7 | Z | 21 | <p>57% 24% 19%</p> |

2 Entry composition [i](#)

There are 8 unique types of molecules in this entry. The entry contains 48166 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called DNA-directed RNA polymerase subunit alpha.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|---------|-------|
| | | | Total | C | N | O | S | | | |
| 1 | A | 229 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 1806 | 1153 | 313 | 337 | 3 | | | |
| 1 | B | 229 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 1806 | 1153 | 313 | 337 | 3 | | | |
| 1 | K | 229 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 1806 | 1153 | 313 | 337 | 3 | | | |
| 1 | L | 229 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 1806 | 1153 | 313 | 337 | 3 | | | |

- Molecule 2 is a protein called DNA-directed RNA polymerase subunit beta.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|------|------|------|----|---------|---------|-------|
| | | | Total | C | N | O | S | | | |
| 2 | C | 1119 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 8829 | 5581 | 1577 | 1647 | 24 | | | |
| 2 | M | 1119 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 8829 | 5581 | 1577 | 1647 | 24 | | | |

- Molecule 3 is a protein called DNA-directed RNA polymerase subunit beta'.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|------|------|------|----|---------|---------|-------|
| | | | Total | C | N | O | S | | | |
| 3 | D | 1151 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 9097 | 5753 | 1629 | 1682 | 33 | | | |
| 3 | N | 1288 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 10175 | 6441 | 1804 | 1899 | 31 | | | |

- Molecule 4 is a protein called DNA-directed RNA polymerase subunit omega.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| | | | Total | C | N | O | S | | | |
| 4 | E | 95 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 770 | 491 | 133 | 142 | 4 | | | |
| 4 | O | 95 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 770 | 491 | 133 | 142 | 4 | | | |

- Molecule 5 is a DNA chain called DNA (28-MER).

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|---------|-------|
| 5 | G | 27 | Total | C | N | O | P | 0 | 0 | 0 |
| | | | 548 | 259 | 104 | 158 | 27 | | | |
| 5 | X | 27 | Total | C | N | O | P | 0 | 0 | 0 |
| | | | 548 | 259 | 104 | 158 | 27 | | | |

- Molecule 6 is a RNA chain called RNA (5'-R(P*CP*CP*AP*GP*CP*CP*GP*GP*CP*GP*CP*UP*CP*GP*CP*A)-3').

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|----|-----|----|---------|---------|-------|
| 6 | H | 16 | Total | C | N | O | P | 0 | 0 | 0 |
| | | | 340 | 151 | 61 | 112 | 16 | | | |
| 6 | Y | 15 | Total | C | N | O | P | 0 | 0 | 0 |
| | | | 318 | 141 | 56 | 106 | 15 | | | |

- Molecule 7 is a DNA chain called DNA (5'-D(P*GP*TP*AP*GP*CP*TP*TP*GP*TP*GP*GP*TP*AP*GP*TP*GP*AP*CP*GP*AP*G)-3').

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|----|-----|----|---------|---------|-------|
| 7 | I | 17 | Total | C | N | O | P | 0 | 0 | 0 |
| | | | 357 | 169 | 65 | 106 | 17 | | | |
| 7 | Z | 17 | Total | C | N | O | P | 0 | 0 | 0 |
| | | | 357 | 169 | 65 | 106 | 17 | | | |

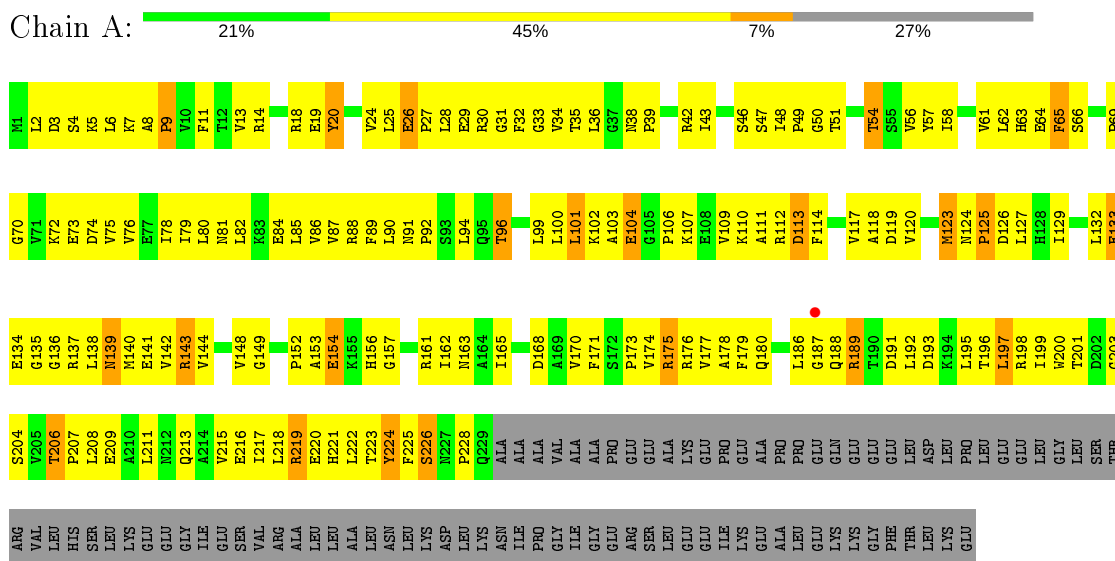
- Molecule 8 is ZINC ION (three-letter code: ZN) (formula: Zn).

| Mol | Chain | Residues | Atoms | | ZeroOcc | AltConf |
|-----|-------|----------|-------|----|---------|---------|
| 8 | D | 2 | Total | Zn | 0 | 0 |
| | | | 2 | 2 | | |
| 8 | N | 2 | Total | Zn | 0 | 0 |
| | | | 2 | 2 | | |

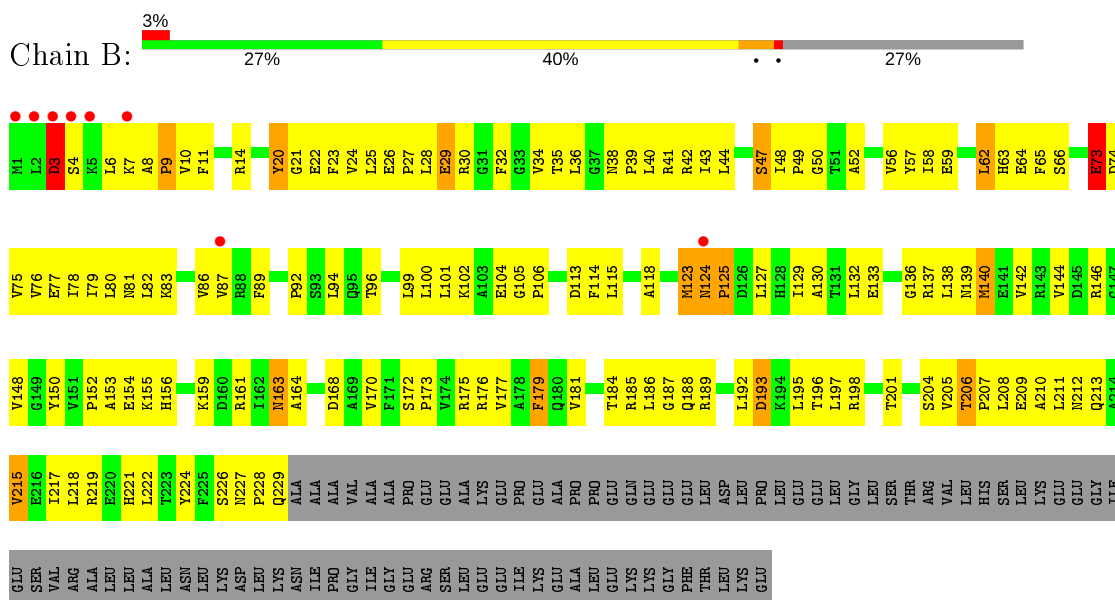
3 Residue-property plots

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

- Molecule 1: DNA-directed RNA polymerase subunit alpha



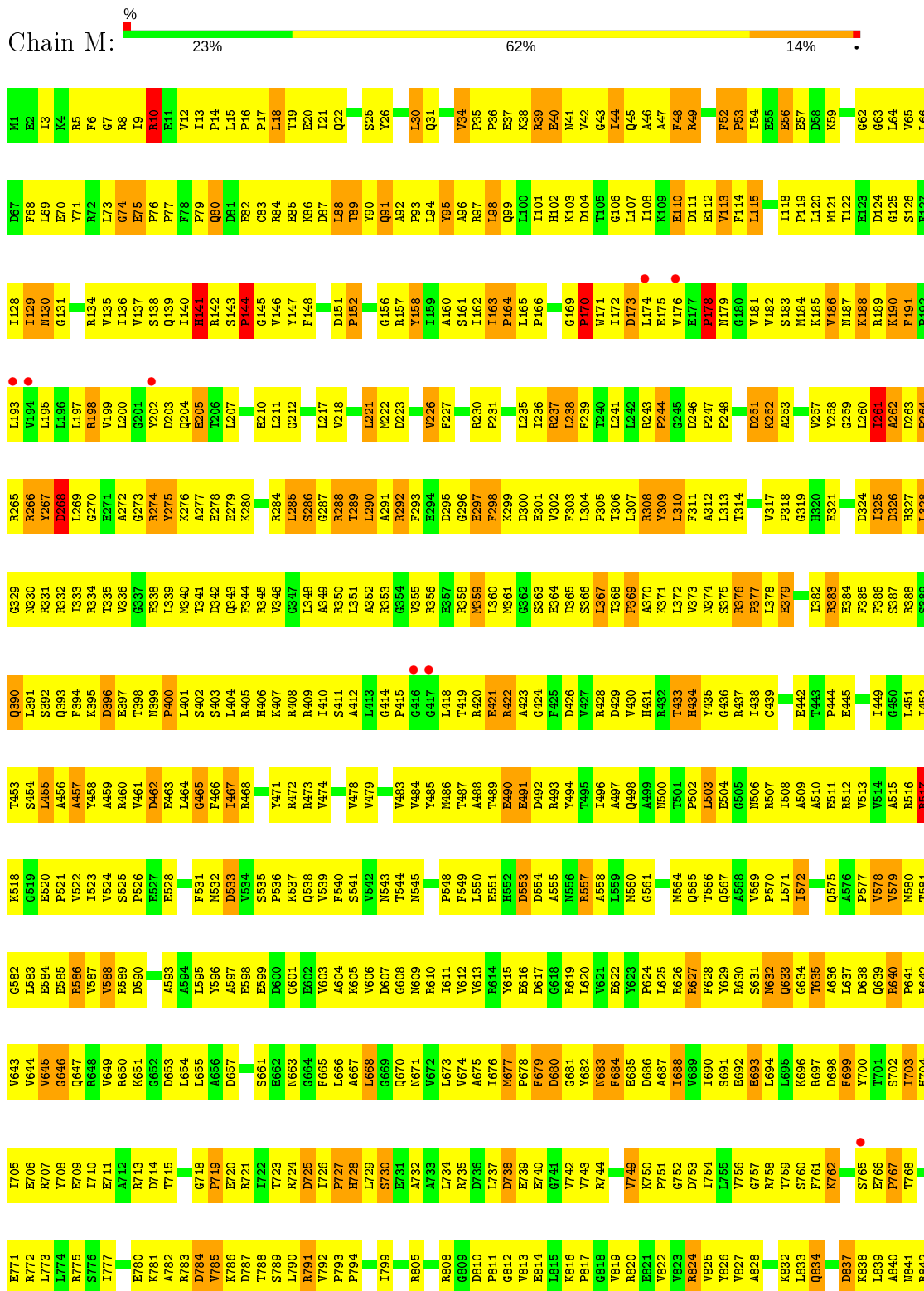
- Molecule 1: DNA-directed RNA polymerase subunit alpha



| | | | | | | | | | | | | | |
|-------|-------|------|------|------|------|------|------|------|------|------|------|------|------|
| M1085 | Y975 | H943 | E771 | E706 | V644 | E584 | R517 | T454 | F386 | H320 | Y258 | F191 | F127 |
| E1036 | D976 | R846 | R772 | R707 | V645 | E585 | R518 | S454 | S387 | E321 | G259 | P192 | L128 |
| M1037 | G977 | R847 | S776 | E708 | 6646 | R586 | G519 | L455 | R388 | V322 | L260 | L193 | L199 |
| M1038 | R978 | G847 | E709 | E709 | Q647 | V587 | V587 | A456 | S389 | D323 | L261 | V194 | N130 |
| A1039 | T979 | G848 | S777 | I710 | R648 | V588 | P521 | A457 | Q390 | D324 | A262 | G131 | G131 |
| L1040 | G980 | A850 | E780 | I711 | V649 | V589 | V522 | Y458 | L195 | L196 | D263 | L196 | A132 |
| E1041 | E981 | R851 | R783 | R713 | R650 | D590 | L523 | A459 | L197 | D326 | P264 | D133 | D133 |
| A1042 | F982 | L852 | D784 | D714 | R651 | S591 | V524 | R460 | R198 | R327 | R265 | R134 | R134 |
| Y1043 | F983 | L853 | D785 | E714 | K652 | S592 | V525 | R461 | V195 | L328 | R266 | V195 | V195 |
| G1044 | E984 | R854 | V785 | F719 | D653 | A593 | F526 | R394 | I136 | L329 | R267 | I136 | I136 |
| A1045 | G985 | V855 | K786 | E720 | L654 | A594 | P527 | K395 | V137 | K330 | D268 | V137 | V137 |
| A1046 | F986 | R856 | V787 | R721 | L655 | L595 | F531 | R396 | S138 | R331 | L269 | S138 | S138 |
| H1047 | R987 | D857 | K788 | I722 | L656 | V596 | V532 | R397 | Q139 | R332 | G270 | Q139 | Q139 |
| T1048 | V988 | R858 | S789 | I723 | D657 | A597 | D533 | T398 | I140 | I333 | E271 | I140 | I140 |
| L1049 | V989 | R859 | R790 | I724 | 6658 | E598 | V534 | F467 | H141 | I334 | A272 | H141 | H141 |
| Q1050 | R990 | H860 | L791 | D725 | E599 | E599 | V535 | R468 | R142 | T335 | G273 | R142 | R142 |
| L1053 | Q991 | L861 | V792 | I726 | S661 | D600 | R537 | L401 | S143 | G336 | R274 | S143 | S143 |
| T1054 | R992 | D862 | P793 | E727 | 6664 | G601 | O538 | T469 | P144 | V337 | R275 | P144 | P144 |
| L1055 | F993 | D863 | P794 | E728 | F665 | E602 | V539 | S402 | G145 | G338 | K276 | G145 | G145 |
| L1056 | L994 | G864 | G795 | L729 | F666 | A604 | F540 | P470 | V146 | L359 | A277 | V146 | V146 |
| S1057 | R995 | R865 | E796 | S730 | L666 | A605 | R472 | R405 | F148 | R390 | E278 | F148 | F148 |
| D1058 | L997 | V867 | G797 | V542 | A667 | K605 | R473 | R406 | D151 | D342 | E279 | D151 | D151 |
| L1059 | R998 | D868 | I799 | A733 | L668 | V606 | N543 | R407 | P152 | K280 | K280 | P152 | P152 |
| E1060 | H999 | R869 | R800 | R735 | Q670 | D607 | N544 | R409 | G169 | G343 | G215 | G169 | G169 |
| G1062 | K1000 | L870 | V801 | D736 | R671 | G608 | L546 | T478 | I172 | F344 | E216 | I172 | I172 |
| E1063 | V1001 | L871 | R802 | L737 | V672 | R609 | V547 | T480 | D173 | R345 | L217 | D173 | D173 |
| N1064 | E1002 | R872 | T803 | D738 | L673 | R610 | P548 | D481 | L174 | V346 | Q219 | L174 | L174 |
| A1065 | D1003 | P873 | L804 | E739 | V674 | V612 | V549 | F482 | L175 | G347 | S286 | L175 | L175 |
| A1066 | K1004 | L874 | R805 | F740 | A675 | V613 | L550 | V483 | I158 | L348 | Q220 | I158 | I158 |
| Y1067 | M1005 | G875 | G806 | G741 | L676 | R614 | V549 | V484 | L159 | A349 | G221 | L159 | L159 |
| I1071 | H1006 | V876 | G812 | V742 | L677 | V615 | D585 | V485 | L160 | R350 | W292 | L160 | L160 |
| K1072 | A1007 | R877 | V813 | I743 | F678 | E516 | D584 | V486 | S161 | L551 | D223 | S161 | S161 |
| G1073 | E948 | R878 | E814 | R744 | F679 | D617 | D585 | T487 | L162 | A352 | E224 | L162 | L162 |
| E1074 | T1010 | R879 | L815 | L745 | R680 | G618 | N555 | A488 | I163 | R353 | R292 | I163 | I163 |
| D1075 | G1011 | L881 | K816 | G746 | V682 | R619 | A557 | E490 | L165 | G354 | F226 | L165 | L165 |
| P1079 | L1012 | L882 | P817 | A747 | L683 | L620 | L559 | E491 | P166 | V355 | F227 | P166 | P166 |
| S1080 | V1013 | G883 | V819 | E748 | V684 | V621 | L560 | D492 | G169 | E357 | G236 | G169 | G169 |
| V1081 | S1014 | R884 | R820 | V749 | F685 | E522 | R561 | R493 | P170 | M359 | E297 | P170 | P170 |
| P1082 | L1015 | L885 | R824 | F751 | D686 | P624 | S562 | T496 | I171 | K299 | L235 | I171 | I171 |
| E1083 | T1017 | R886 | V825 | G752 | A687 | L625 | N563 | A497 | D173 | D300 | R236 | D173 | D173 |
| S1084 | Q1018 | R887 | V826 | D753 | V688 | R626 | N564 | Q498 | L174 | E301 | L238 | L174 | L174 |
| F1085 | Q1019 | L890 | V827 | L754 | V689 | R627 | Q565 | A499 | E175 | F239 | F302 | E175 | E175 |
| R1086 | P1020 | G891 | V828 | L755 | L690 | F628 | V567 | M500 | V176 | T240 | T240 | V176 | V176 |
| V1087 | E961 | R892 | A828 | V756 | S691 | T629 | L571 | T501 | G177 | P389 | L304 | G177 | G177 |
| G1022 | Q962 | A893 | K830 | R758 | E692 | R630 | F502 | H434 | P178 | A370 | P305 | P178 | P178 |
| L1088 | G1023 | G894 | R831 | T759 | E693 | S631 | L503 | Y435 | H179 | R243 | L242 | H179 | H179 |
| K1024 | K964 | V895 | K832 | S760 | L695 | R633 | R506 | G436 | G180 | R306 | G245 | G180 | G180 |
| A1025 | F896 | R896 | L833 | F761 | V696 | G634 | R507 | R506 | V181 | R308 | E246 | V181 | V181 |
| F1027 | F967 | R897 | V834 | K762 | R697 | T635 | Q575 | V508 | S183 | S375 | P247 | S183 | S183 |
| G1028 | L968 | R898 | V835 | G763 | D698 | A636 | V576 | R440 | M184 | R376 | R250 | M184 | M184 |
| G1029 | Q969 | G899 | G836 | E764 | F699 | L637 | P577 | V441 | K185 | P377 | A312 | K185 | K185 |
| Q1030 | G970 | N900 | D837 | S765 | V700 | D838 | V578 | E442 | V186 | L378 | D251 | V186 | V186 |
| A1031 | K971 | R901 | K838 | E766 | T701 | R639 | V579 | T443 | M187 | L379 | K252 | M187 | M187 |
| F1032 | V972 | S903 | L839 | F767 | S702 | R640 | M580 | P444 | K189 | I382 | A253 | K189 | K189 |
| G1033 | V973 | P904 | R840 | I768 | H703 | F641 | T581 | L451 | K190 | R383 | Y256 | K190 | K190 |
| E1034 | L974 | I905 | R842 | E770 | H704 | R642 | L583 | R516 | | F385 | G319 | | |



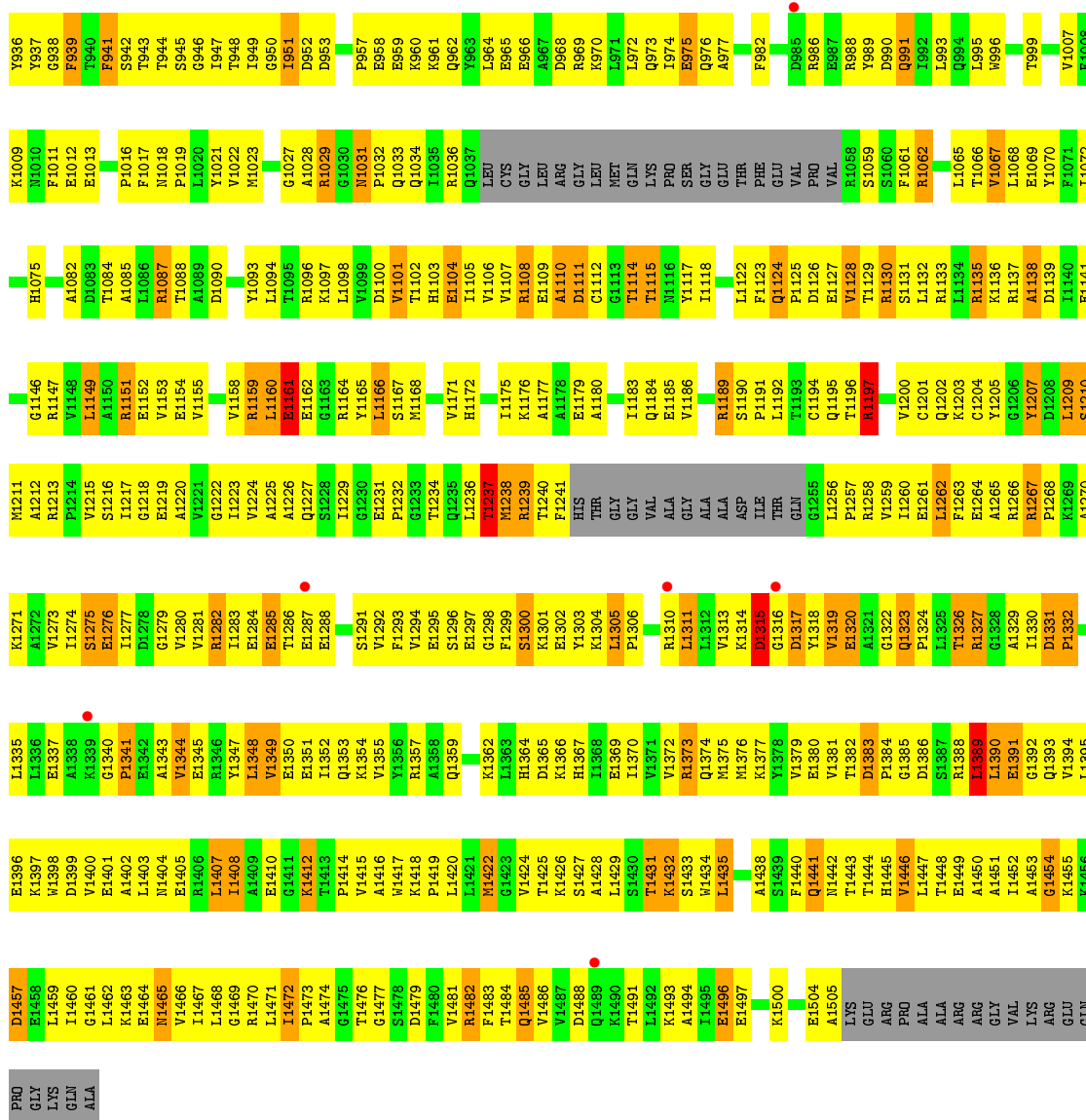
● Molecule 2: DNA-directed RNA polymerase subunit beta



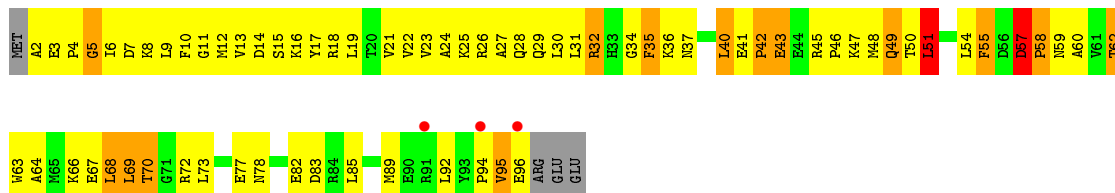
| | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|
| V1466 | L1407 | P1341 | R1213 | R1147 | T1084 | F1017 | T943 | F882 | L813 | F750 | V687 | K621 |
| I1467 | I1408 | E1342 | P1214 | V1148 | A1089 | M1018 | T944 | A893 | A814 | L751 | V688 | R622 |
| L1468 | A1409 | A1343 | V1216 | L1149 | R1087 | P1019 | S945 | V886 | A815 | S752 | W688 | R623 |
| G1469 | A1408 | V1344 | S1215 | L1150 | R1087 | L1020 | G946 | V887 | H816 | S753 | D690 | D624 |
| L1470 | V1411 | V1345 | G1217 | R1151 | T1088 | V1021 | I947 | E888 | E817 | F754 | Y694 | Y625 |
| G1471 | G1410 | R1346 | I1218 | E1152 | A1089 | V1022 | T948 | E889 | R818 | A755 | L695 | R628 |
| I1472 | G1412 | Y1347 | E1219 | V1153 | D1090 | M1023 | I949 | A890 | G819 | Q756 | R696 | S629 |
| P1473 | T1413 | L1348 | G1222 | V1155 | Y1093 | S1026 | G950 | W890 | E820 | E758 | R697 | V690 |
| L1474 | P1414 | V1349 | I1223 | V1156 | L1094 | G1027 | I951 | E891 | W821 | E759 | K698 | L631 |
| G1475 | L1415 | T1350 | I1224 | G1157 | T1095 | A1028 | D952 | D892 | A822 | A759 | K699 | V692 |
| L1476 | E1351 | E1351 | V1224 | L1158 | R1096 | R1029 | D953 | E893 | L823 | R760 | V699 | V693 |
| G1477 | V1352 | G1352 | A1225 | V1158 | A1096 | R1029 | A954 | K894 | N824 | Q761 | V700 | G633 |
| S1478 | G1353 | L1353 | A1226 | R1159 | K1097 | G1030 | V955 | W895 | A825 | Q762 | L701 | G634 |
| D1479 | K1354 | K1354 | Q1227 | L1160 | L1098 | M1031 | I955 | A896 | P826 | R763 | L702 | P635 |
| V1480 | — | — | S1228 | E1161 | D1099 | P1032 | W899 | W897 | R827 | R764 | M703 | Q696 |
| L1481 | R1357 | L1357 | I1229 | V1162 | Y1100 | Q1033 | E959 | E898 | R828 | S765 | R704 | L637 |
| L1482 | A1358 | A1358 | G1230 | R1164 | V1101 | L899 | K960 | E898 | K828 | S766 | A706 | K638 |
| F1483 | Q1359 | Q1359 | E1231 | L1166 | T1102 | Q1034 | I964 | L900 | A830 | H767 | F706 | L639 |
| T1484 | — | — | P1232 | S1167 | H1103 | R1036 | E965 | Q901 | G831 | T707 | T707 | H640 |
| T1485 | K1362 | K1362 | G1233 | L1168 | E1104 | Q1037 | E966 | L902 | R832 | L770 | L708 | G641 |
| V1486 | L1363 | L1363 | T1234 | M1168 | I1105 | L1038 | A967 | D903 | E833 | S771 | H709 | G642 |
| S1487 | H1364 | H1364 | Q1235 | D1169 | V1106 | C1039 | R969 | V904 | W834 | P772 | R710 | G643 |
| D1488 | D1365 | D1365 | L1236 | D1170 | V1107 | G1040 | R969 | P905 | S835 | A773 | L711 | L644 |
| Q1489 | K1366 | K1366 | T1237 | V1171 | R1108 | L1041 | K970 | O906 | S774 | S774 | G712 | P645 |
| K1490 | H1367 | H1367 | M1238 | H1172 | A1109 | R1042 | — | E907 | G775 | G775 | I713 | K646 |
| S1490 | E1368 | E1368 | R1238 | — | A1110 | G1043 | I974 | K908 | — | E776 | Q714 | R647 |
| T1491 | E1369 | E1369 | T1240 | K1176 | D1111 | L1044 | — | N909 | F843 | P777 | A715 | M648 |
| K1492 | L1370 | L1370 | F1241 | A1177 | A1112 | M1045 | A977 | N909 | A844 | L778 | F716 | A649 |
| L1493 | V1371 | V1371 | E1242 | E1178 | G1113 | Q1046 | — | Q917 | N845 | A779 | F717 | L650 |
| A1494 | V1372 | V1372 | T1243 | L1114 | V1107 | G1040 | E978 | N912 | P846 | K780 | Q718 | E651 |
| L1495 | R1373 | R1373 | L1243 | A1180 | T1115 | G1050 | N980 | N913 | D847 | P781 | V719 | L652 |
| S1496 | K1374 | K1374 | A1247 | — | M1116 | E1051 | G981 | L914 | E848 | S782 | L720 | R653 |
| E1497 | M1375 | M1375 | — | I1183 | — | T1052 | R982 | N915 | A849 | R783 | W721 | K654 |
| A1498 | — | — | A1250 | V1186 | S1119 | PHE | L983 | Q917 | L850 | D784 | Q724 | P655 |
| S1499 | M1376 | M1376 | D1251 | L1186 | V1120 | GLU | T984 | N917 | L851 | I785 | S725 | F656 |
| F1440 | K1377 | K1377 | I1252 | L1189 | P1121 | VAL | D985 | A918 | A852 | I786 | L726 | L657 |
| L1441 | V1378 | V1378 | T1253 | R1189 | L1122 | PRO | — | F919 | W853 | L787 | I727 | L658 |
| T1443 | E1380 | E1380 | Q1254 | S1190 | F1123 | VAL | R988 | L920 | I887 | C788 | Q727 | K659 |
| T1444 | V1381 | V1381 | G1255 | S1191 | Q1124 | R1058 | Y989 | R921 | W888 | L789 | H729 | M660 |
| H1445 | T1382 | T1382 | L1256 | L1192 | P1125 | S1059 | D990 | L922 | L850 | — | M661 | M661 |
| V1446 | D1383 | D1383 | P1257 | T1193 | D1126 | S1060 | Q991 | G923 | L860 | F730 | E662 | E662 |
| L1447 | P1384 | P1384 | R1258 | C1194 | E1127 | F1061 | I992 | N924 | L860 | T793 | L731 | E663 |
| T1448 | G1385 | G1385 | V1259 | Q1195 | V1128 | R1062 | L993 | E925 | O861 | Q794 | W732 | E663 |
| E1449 | — | — | I1260 | T1196 | T1129 | — | Q994 | K926 | D862 | W795 | C733 | A667 |
| A1450 | R1388 | R1388 | E1261 | A1197 | A1130 | L1065 | L996 | T927 | W863 | R796 | E734 | P668 |
| L1451 | L1389 | L1389 | L1262 | Y1198 | S1131 | T1066 | W996 | A928 | W864 | K797 | A735 | K671 |
| I1452 | L1390 | L1390 | F1263 | G1199 | L1132 | V1067 | T997 | R929 | T865 | E798 | F736 | L677 |
| A1453 | E1391 | E1391 | E1264 | V1200 | R1133 | L1068 | E998 | L930 | W866 | K799 | A738 | M676 |
| G1454 | G1392 | G1392 | A1265 | C1201 | L1134 | E1069 | T999 | L931 | — | K800 | D738 | R675 |
| K1455 | Q1393 | Q1393 | R1266 | Q1202 | R1135 | Y1070 | T1000 | D832 | W869 | — | F740 | L677 |
| V1394 | V1394 | V1394 | R1267 | K1203 | K1136 | F1071 | E1001 | A933 | R872 | — | D741 | E678 |
| D1456 | L1395 | L1395 | P1268 | K1204 | R1137 | I1072 | K1002 | L934 | — | — | G742 | R679 |
| D1457 | A1329 | A1329 | K1269 | Y1205 | A1138 | S1073 | T1003 | K935 | — | — | F743 | Q690 |
| E1458 | K1396 | K1396 | G1270 | G1206 | V1139 | S1074 | T1004 | Y936 | — | — | D743 | Q690 |
| L1459 | E1397 | E1397 | A1270 | G1206 | V1139 | S1074 | T1004 | Y936 | — | — | Q744 | R681 |
| V1460 | D1398 | D1398 | ALA | V1207 | I1140 | G1075 | Q1005 | G938 | — | — | Q744 | R681 |
| D1399 | W1399 | W1399 | VAL | D1208 | E1141 | G1076 | F1008 | F939 | — | — | A746 | D682 |
| V1400 | — | — | VAL | L1269 | A1077 | A1077 | — | F939 | — | — | — | L683 |
| E1401 | E1401 | E1401 | ILE | S1210 | R1078 | R1078 | — | F940 | — | — | — | K684 |
| A1402 | A1402 | A1402 | SER | M1211 | — | — | — | F941 | — | — | — | D685 |
| L1403 | L1403 | L1403 | GLU | A1212 | G1146 | D1083 | — | S942 | — | — | — | E686 |

• Molecule 3: DNA-directed RNA polymerase subunit beta'



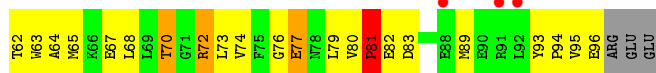
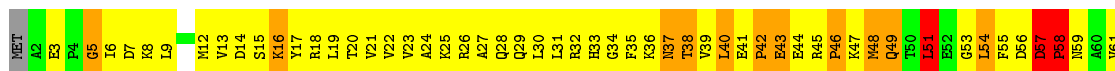


- Molecule 4: DNA-directed RNA polymerase subunit omega

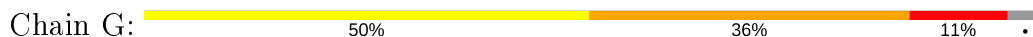


- Molecule 4: DNA-directed RNA polymerase subunit omega





- Molecule 5: DNA (28-MER)



- Molecule 5: DNA (28-MER)



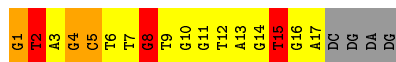
- Molecule 6: RNA (5'-R(P*CP*CP*AP*GP*CP*CP*GP*GP*CP*GP*CP*UP*CP*GP*CP*A)-3')



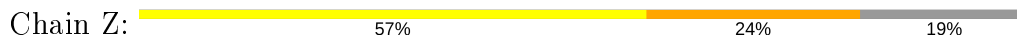
- Molecule 6: RNA (5'-R(P*CP*CP*AP*GP*CP*CP*GP*GP*CP*GP*CP*UP*CP*GP*CP*A)-3')



- Molecule 7: DNA (5'-D(P*GP*TP*AP*GP*CP*TP*TP*GP*TP*GP*GP*TP*AP*GP*TP*GP*AP*CP*GP*AP*G)-3')



- Molecule 7: DNA (5'-D(P*GP*TP*AP*GP*CP*TP*TP*GP*TP*GP*GP*TP*AP*GP*TP*GP*AP*CP*GP*AP*G)-3')



4 Data and refinement statistics

| Property | Value | Source |
|---|---|------------------|
| Space group | P 41 | Depositor |
| Cell constants a, b, c, α , β , γ | 155.98Å 155.98Å 495.00Å 90.00° 90.00° 90.00° | Depositor |
| Resolution (Å) | 44.15 – 4.31 44.15 – 4.31 | Depositor EDS |
| % Data completeness (in resolution range) | 99.9 (44.15-4.31) 99.4 (44.15-4.31) | Depositor EDS |
| R_{merge} | (Not available) | Depositor |
| R_{sym} | 0.17 | Depositor |
| $\langle I/\sigma(I) \rangle$ ¹ | 2.82 (at 4.28Å) | Xtriage |
| Refinement program | PHENIX (phenix.refine: 1.9_1692) | Depositor |
| R, R_{free} | 0.281 , 0.311 0.285 , 0.315 | Depositor DCC |
| R_{free} test set | 3821 reflections (4.82%) | wwPDB-VP |
| Wilson B-factor (Å ²) | 106.1 | Xtriage |
| Anisotropy | 0.046 | Xtriage |
| Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²) | 0.15 , 67.4 | EDS |
| L-test for twinning ² | $\langle L \rangle = 0.30$, $\langle L^2 \rangle = 0.14$ | Xtriage |
| Estimated twinning fraction | 0.499 for h,-k,-l | Xtriage |
| F_o, F_c correlation | 0.89 | EDS |
| Total number of atoms | 48166 | wwPDB-VP |
| Average B, all atoms (Å ²) | 250.0 | wwPDB-VP |

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.72% of the height of the origin peak. No significant pseudotranslation is detected.*

¹ Intensities estimated from amplitudes.

² Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality i

5.1 Standard geometry i

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

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 | 0.38 | 0/1838 | 0.69 | 0/2498 |
| 1 | B | 0.43 | 0/1838 | 0.68 | 0/2498 |
| 1 | K | 0.45 | 0/1838 | 0.70 | 0/2498 |
| 1 | L | 0.42 | 0/1838 | 0.67 | 0/2498 |
| 2 | C | 0.49 | 0/8997 | 0.79 | 3/12164 (0.0%) |
| 2 | M | 0.48 | 0/8997 | 0.78 | 4/12164 (0.0%) |
| 3 | D | 0.51 | 1/9249 (0.0%) | 0.83 | 10/12482 (0.1%) |
| 3 | N | 0.51 | 0/10344 | 0.81 | 8/13968 (0.1%) |
| 4 | E | 0.50 | 0/784 | 0.87 | 2/1057 (0.2%) |
| 4 | O | 0.46 | 0/784 | 0.84 | 2/1057 (0.2%) |
| 5 | G | 0.99 | 1/614 (0.2%) | 1.41 | 9/943 (1.0%) |
| 5 | X | 0.93 | 0/614 | 1.43 | 11/943 (1.2%) |
| 6 | H | 1.14 | 3/378 (0.8%) | 1.56 | 6/585 (1.0%) |
| 6 | Y | 1.15 | 3/353 (0.8%) | 1.45 | 5/546 (0.9%) |
| 7 | I | 0.94 | 1/400 (0.2%) | 1.46 | 7/616 (1.1%) |
| 7 | Z | 0.90 | 1/400 (0.2%) | 1.28 | 3/616 (0.5%) |
| All | All | 0.53 | 10/49266 (0.0%) | 0.84 | 70/67133 (0.1%) |

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 |
|-----|-------|---------------------|---------------------|
| 5 | G | 0 | 10 |
| 5 | X | 0 | 11 |
| 6 | H | 0 | 4 |
| 6 | Y | 0 | 5 |
| 7 | I | 0 | 6 |
| 7 | Z | 0 | 4 |
| All | All | 0 | 40 |

All (10) bond length outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|-------|-------------|----------|
| 7 | Z | 1 | DG | OP3-P | -7.99 | 1.51 | 1.61 |
| 7 | I | 1 | DG | OP3-P | -7.84 | 1.51 | 1.61 |
| 6 | Y | 11 | C | N1-C2 | -7.40 | 1.32 | 1.40 |
| 6 | H | 11 | C | N1-C2 | -7.38 | 1.32 | 1.40 |
| 6 | H | 1 | C | OP3-P | -7.06 | 1.52 | 1.61 |
| 6 | Y | 1 | C | OP3-P | -6.95 | 1.52 | 1.61 |
| 6 | H | 11 | C | C2-O2 | -6.02 | 1.19 | 1.24 |
| 6 | Y | 10 | G | N9-C4 | -5.89 | 1.33 | 1.38 |
| 5 | G | 20 | DC | C2-O2 | 5.61 | 1.29 | 1.24 |
| 3 | D | 688 | TRP | CD2-CE2 | 5.17 | 1.47 | 1.41 |

All (70) bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 7 | I | 1 | DG | O5'-P-OP1 | -18.71 | 88.24 | 110.70 |
| 7 | Z | 1 | DG | O5'-P-OP1 | -16.85 | 90.48 | 110.70 |
| 6 | H | 5 | C | N1-C1'-C2' | -15.07 | 94.41 | 114.00 |
| 6 | Y | 5 | C | N1-C1'-C2' | -9.98 | 101.02 | 112.00 |
| 7 | I | 1 | DG | O5'-P-OP2 | 9.33 | 121.90 | 110.70 |
| 3 | N | 1209 | LEU | N-CA-C | -9.28 | 85.96 | 111.00 |
| 3 | D | 1209 | LEU | N-CA-C | -9.20 | 86.17 | 111.00 |
| 3 | D | 1031 | ASN | C-N-CD | -9.05 | 100.69 | 120.60 |
| 5 | G | 2 | DT | O5'-P-OP1 | -9.01 | 97.59 | 105.70 |
| 6 | Y | 7 | G | N9-C1'-C2' | -9.00 | 102.11 | 112.00 |
| 3 | N | 1110 | ALA | N-CA-C | -7.75 | 90.08 | 111.00 |
| 7 | I | 2 | DT | O4'-C1'-N1 | 7.74 | 113.42 | 108.00 |
| 5 | X | 6 | DT | OP1-P-O3' | 7.70 | 122.15 | 105.20 |
| 3 | D | 1110 | ALA | N-CA-C | -7.68 | 90.26 | 111.00 |
| 5 | G | 17 | DA | O5'-P-OP1 | -7.65 | 98.81 | 105.70 |
| 5 | X | 2 | DT | O5'-P-OP1 | -7.62 | 98.84 | 105.70 |
| 2 | C | 1092 | LEU | CA-CB-CG | -7.59 | 97.84 | 115.30 |
| 7 | Z | 1 | DG | O5'-P-OP2 | 7.58 | 119.80 | 110.70 |
| 3 | N | 1331 | ASP | C-N-CD | -7.32 | 104.49 | 120.60 |
| 3 | D | 81 | THR | N-CA-C | -7.30 | 91.28 | 111.00 |
| 5 | G | 2 | DT | OP1-P-O3' | 7.13 | 120.88 | 105.20 |
| 3 | N | 621 | LYS | N-CA-C | 7.07 | 130.08 | 111.00 |
| 3 | D | 621 | LYS | N-CA-C | 7.06 | 130.07 | 111.00 |
| 6 | Y | 12 | U | N1-C1'-C2' | -7.04 | 104.25 | 112.00 |
| 6 | Y | 5 | C | OP1-P-O3' | 7.02 | 120.65 | 105.20 |
| 5 | X | 7 | DA | OP1-P-O3' | 7.01 | 120.62 | 105.20 |
| 6 | H | 15 | C | C5'-C4'-C3' | -7.01 | 104.79 | 116.00 |
| 6 | Y | 5 | C | OP2-P-O3' | -6.98 | 89.84 | 105.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 5 | G | 17 | DA | OP1-P-O3' | 6.88 | 120.34 | 105.20 |
| 5 | X | 2 | DT | OP1-P-O3' | 6.86 | 120.30 | 105.20 |
| 2 | M | 553 | ASP | CB-CG-OD2 | 6.84 | 124.46 | 118.30 |
| 3 | D | 1247 | ALA | N-CA-C | -6.73 | 92.82 | 111.00 |
| 7 | I | 1 | DG | OP1-P-OP2 | -6.66 | 109.61 | 119.60 |
| 4 | E | 49 | GLN | N-CA-C | 6.63 | 128.90 | 111.00 |
| 4 | O | 49 | GLN | N-CA-C | 6.51 | 128.57 | 111.00 |
| 2 | M | 728 | HIS | N-CA-C | 6.49 | 128.52 | 111.00 |
| 2 | C | 728 | HIS | N-CA-C | 6.44 | 128.39 | 111.00 |
| 5 | X | 27 | DC | OP1-P-O3' | 6.23 | 118.90 | 105.20 |
| 2 | C | 729 | LEU | N-CA-C | 6.13 | 127.56 | 111.00 |
| 3 | D | 1192 | LEU | CB-CG-CD1 | -6.09 | 100.64 | 111.00 |
| 6 | H | 16 | A | C2'-C3'-O3' | 6.07 | 123.41 | 113.70 |
| 4 | O | 51 | LEU | N-CA-C | -5.98 | 94.86 | 111.00 |
| 6 | H | 12 | U | OP2-P-O3' | 5.87 | 118.11 | 105.20 |
| 2 | M | 729 | LEU | N-CA-C | 5.85 | 126.80 | 111.00 |
| 7 | Z | 1 | DG | OP1-P-OP2 | -5.84 | 110.84 | 119.60 |
| 3 | N | 81 | THR | N-CA-C | -5.81 | 95.31 | 111.00 |
| 4 | E | 51 | LEU | N-CA-C | -5.77 | 95.42 | 111.00 |
| 5 | X | 21 | DG | O4'-C1'-N9 | 5.77 | 112.04 | 108.00 |
| 5 | G | 20 | DC | C5'-C4'-C3' | -5.61 | 103.99 | 114.10 |
| 3 | D | 993 | LEU | CA-CB-CG | 5.52 | 128.00 | 115.30 |
| 6 | H | 14 | G | N9-C1'-C2' | -5.48 | 105.97 | 112.00 |
| 3 | N | 1389 | LEU | CA-CB-CG | 5.41 | 127.74 | 115.30 |
| 5 | G | 18 | DC | C5'-C4'-C3' | -5.35 | 104.47 | 114.10 |
| 5 | X | 18 | DC | C4'-C3'-O3' | 5.35 | 123.08 | 109.70 |
| 3 | D | 731 | LEU | CA-CB-CG | -5.33 | 103.05 | 115.30 |
| 5 | X | 26 | DC | C2'-C3'-O3' | -5.30 | 95.12 | 112.60 |
| 5 | G | 19 | DG | OP1-P-O3' | 5.29 | 116.83 | 105.20 |
| 3 | N | 527 | MET | N-CA-C | -5.26 | 96.78 | 111.00 |
| 7 | I | 2 | DT | C5'-C4'-C3' | -5.21 | 104.72 | 114.10 |
| 5 | G | 18 | DC | OP2-P-O3' | 5.21 | 116.65 | 105.20 |
| 5 | G | 26 | DC | OP2-P-O3' | -5.19 | 93.78 | 105.20 |
| 5 | X | 27 | DC | OP2-P-O3' | -5.19 | 93.79 | 105.20 |
| 2 | M | 178 | PRO | N-CA-C | 5.14 | 125.47 | 112.10 |
| 7 | I | 8 | DG | C5'-C4'-C3' | -5.11 | 104.90 | 114.10 |
| 7 | I | 15 | DT | O4'-C1'-N1 | 5.11 | 111.58 | 108.00 |
| 5 | X | 18 | DC | OP2-P-O3' | 5.10 | 116.42 | 105.20 |
| 6 | H | 14 | G | OP2-P-O3' | 5.08 | 116.39 | 105.20 |
| 3 | N | 131 | LYS | N-CA-C | 5.05 | 124.64 | 111.00 |
| 5 | X | 21 | DG | C4-N9-C1' | -5.03 | 119.97 | 126.50 |
| 3 | D | 1116 | ASN | N-CA-C | -5.01 | 97.48 | 111.00 |

There are no chirality outliers.

All (40) planarity outliers are listed below:

| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 5 | G | 10 | DA | Sidechain |
| 5 | G | 11 | DC | Sidechain |
| 5 | G | 14 | DG | Sidechain |
| 5 | G | 15 | DC | Sidechain |
| 5 | G | 17 | DA | Sidechain |
| 5 | G | 18 | DC | Sidechain |
| 5 | G | 2 | DT | Sidechain |
| 5 | G | 3 | DC | Sidechain |
| 5 | G | 4 | DA | Sidechain |
| 5 | G | 9 | DC | Sidechain |
| 6 | H | 5 | C | Sidechain |
| 6 | H | 7 | G | Sidechain |
| 6 | H | 8 | G | Sidechain |
| 6 | H | 9 | C | Sidechain |
| 7 | I | 14 | DG | Sidechain |
| 7 | I | 15 | DT | Sidechain |
| 7 | I | 2 | DT | Sidechain |
| 7 | I | 4 | DG | Sidechain |
| 7 | I | 5 | DC | Sidechain |
| 7 | I | 8 | DG | Sidechain |
| 5 | X | 10 | DA | Sidechain |
| 5 | X | 14 | DG | Sidechain |
| 5 | X | 15 | DC | Sidechain |
| 5 | X | 17 | DA | Sidechain |
| 5 | X | 18 | DC | Sidechain |
| 5 | X | 2 | DT | Sidechain |
| 5 | X | 22 | DA | Sidechain |
| 5 | X | 26 | DC | Sidechain |
| 5 | X | 27 | DC | Sidechain |
| 5 | X | 4 | DA | Sidechain |
| 5 | X | 8 | DC | Sidechain |
| 6 | Y | 10 | G | Sidechain |
| 6 | Y | 11 | C | Sidechain |
| 6 | Y | 15 | C | Sidechain |
| 6 | Y | 7 | G | Sidechain |
| 6 | Y | 9 | C | Sidechain |
| 7 | Z | 12 | DT | Sidechain |
| 7 | Z | 14 | DG | Sidechain |
| 7 | Z | 7 | DT | Sidechain |
| 7 | Z | 8 | DG | Sidechain |

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

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

| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 1 | A | 1806 | 0 | 1861 | 257 | 0 |
| 1 | B | 1806 | 0 | 1861 | 180 | 0 |
| 1 | K | 1806 | 0 | 1861 | 189 | 0 |
| 1 | L | 1806 | 0 | 1861 | 203 | 0 |
| 2 | C | 8829 | 0 | 8933 | 1430 | 0 |
| 2 | M | 8829 | 0 | 8933 | 1425 | 0 |
| 3 | D | 9097 | 0 | 9316 | 1626 | 0 |
| 3 | N | 10175 | 0 | 10401 | 1763 | 0 |
| 4 | E | 770 | 0 | 784 | 124 | 0 |
| 4 | O | 770 | 0 | 784 | 151 | 0 |
| 5 | G | 548 | 0 | 301 | 113 | 0 |
| 5 | X | 548 | 0 | 301 | 93 | 0 |
| 6 | H | 340 | 0 | 176 | 76 | 0 |
| 6 | Y | 318 | 0 | 165 | 56 | 0 |
| 7 | I | 357 | 0 | 194 | 68 | 0 |
| 7 | Z | 357 | 0 | 194 | 71 | 0 |
| 8 | D | 2 | 0 | 0 | 0 | 0 |
| 8 | N | 2 | 0 | 0 | 0 | 0 |
| All | All | 48166 | 0 | 47926 | 7162 | 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 75.

All (7162) 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) |
|-------------------|-----------------|--------------------------|-------------------|
| 2:C:52:PHE:CZ | 2:C:68:PHE:HB2 | 1.22 | 1.67 |
| 3:D:897:TRP:HA | 3:D:900:ILE:CG1 | 1.33 | 1.56 |
| 3:D:1041:LEU:HD11 | 3:D:1045:MET:SD | 1.55 | 1.44 |
| 3:D:705:ALA:HB1 | 6:H:14:G:N2 | 1.24 | 1.40 |
| 3:D:705:ALA:CB | 6:H:14:G:H21 | 1.40 | 1.32 |
| 2:C:52:PHE:CZ | 2:C:68:PHE:CB | 2.12 | 1.31 |
| 3:N:610:LYS:O | 3:N:615:ARG:HG2 | 1.18 | 1.29 |
| 3:D:744:GLN:CD | 5:G:21:DG:H21 | 1.34 | 1.29 |
| 2:M:486:MET:SD | 2:M:490:GLU:HB2 | 1.72 | 1.28 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:D:897:TRP:CA | 3:D:900:ILE:HG12 | 1.62 | 1.27 |
| 3:D:1033:GLN:O | 3:D:1037:GLN:CB | 1.82 | 1.26 |
| 3:N:1033:GLN:OE1 | 3:N:1240:THR:HG21 | 1.31 | 1.26 |
| 2:M:265:ARG:N | 2:M:289:THR:HG21 | 1.49 | 1.26 |
| 1:A:28:LEU:HD22 | 1:A:32:PHE:CD1 | 1.70 | 1.25 |
| 3:D:1033:GLN:O | 3:D:1037:GLN:HB2 | 1.29 | 1.24 |
| 3:D:1041:LEU:CD1 | 3:D:1045:MET:SD | 2.24 | 1.24 |
| 3:D:1042:ARG:NH2 | 3:D:1073:SER:HB2 | 1.52 | 1.24 |
| 3:N:618:LEU:HD12 | 3:N:1467:ILE:CG1 | 1.66 | 1.24 |
| 3:D:989:TYR:OH | 3:D:1051:GLU:HG3 | 1.07 | 1.24 |
| 3:N:610:LYS:C | 3:N:615:ARG:HG2 | 1.58 | 1.23 |
| 2:C:50:GLU:HA | 2:C:266:ARG:CZ | 1.70 | 1.21 |
| 3:N:625:TYR:OH | 3:N:655:PRO:HG2 | 1.33 | 1.20 |
| 3:N:1129:THR:HB | 3:N:1320:GLU:CG | 1.73 | 1.18 |
| 3:N:1485:GLN:HG3 | 4:O:79:LEU:H | 1.08 | 1.18 |
| 2:C:336:VAL:HA | 2:C:339:LEU:HD12 | 1.20 | 1.18 |
| 2:M:265:ARG:H | 2:M:289:THR:CG2 | 1.55 | 1.17 |
| 2:M:1109:VAL:HG11 | 3:N:5:VAL:HG22 | 1.22 | 1.17 |
| 3:N:705:ALA:HB3 | 3:N:706:PRO:HD3 | 1.27 | 1.16 |
| 3:N:1435:LEU:HD23 | 3:N:1464:GLU:HB2 | 1.16 | 1.15 |
| 4:E:36:LYS:H | 4:E:95:VAL:HG21 | 1.09 | 1.15 |
| 3:N:19:ARG:HH21 | 3:N:516:ALA:HB2 | 1.08 | 1.15 |
| 3:N:477:LEU:HD12 | 3:N:496:LEU:HD13 | 1.29 | 1.15 |
| 2:C:52:PHE:CE2 | 2:C:68:PHE:HB2 | 1.81 | 1.15 |
| 1:L:185:ARG:NH2 | 3:N:688:TRP:HB3 | 1.59 | 1.15 |
| 2:C:48:PHE:O | 2:C:52:PHE:HB2 | 1.46 | 1.14 |
| 3:D:1034:GLN:O | 3:D:1038:LEU:HB2 | 1.46 | 1.14 |
| 1:L:185:ARG:HH22 | 3:N:688:TRP:CB | 1.58 | 1.14 |
| 3:N:833:GLU:O | 3:N:834:THR:HG23 | 1.45 | 1.14 |
| 1:K:178:ALA:HB2 | 2:M:864:GLY:H | 1.11 | 1.13 |
| 2:M:490:GLU:HA | 2:M:493:ARG:HD3 | 1.28 | 1.13 |
| 3:D:897:TRP:HB2 | 3:D:900:ILE:HD11 | 1.14 | 1.13 |
| 2:M:1056:LYS:HE3 | 3:N:751:LEU:HD11 | 1.31 | 1.13 |
| 3:N:618:LEU:CD1 | 3:N:1467:ILE:HG12 | 1.77 | 1.13 |
| 3:D:833:GLU:O | 3:D:834:THR:HG23 | 1.47 | 1.12 |
| 7:I:3:DA:H1' | 7:I:4:DG:H5' | 1.30 | 1.12 |
| 3:N:814:ALA:HB1 | 3:N:818:ARG:HH21 | 1.08 | 1.12 |
| 3:N:754:PHE:HA | 4:O:24:ALA:HB1 | 1.22 | 1.12 |
| 2:C:266:ARG:HA | 2:C:288:ARG:HD3 | 1.29 | 1.12 |
| 2:M:455:LEU:HD13 | 2:M:459:ALA:HB3 | 1.25 | 1.12 |
| 3:D:897:TRP:CA | 3:D:900:ILE:CG1 | 2.24 | 1.12 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:K:156:HIS:HE1 | 1:K:166:PRO:HB3 | 1.04 | 1.12 |
| 3:N:98:PRO:HG2 | 3:N:462:GLN:NE2 | 1.65 | 1.11 |
| 2:C:1024:LYS:HB2 | 6:H:4:G:H21 | 1.14 | 1.11 |
| 2:C:630:ARG:HD2 | 2:C:634:GLY:HA2 | 1.27 | 1.11 |
| 2:C:423:ALA:HB1 | 7:I:1:DG:H5'' | 1.33 | 1.11 |
| 2:C:409:ARG:HB3 | 2:C:454:SER:OG | 1.51 | 1.11 |
| 3:N:483:HIS:HB2 | 3:N:484:PRO:HD3 | 1.21 | 1.11 |
| 3:D:993:LEU:O | 3:D:997:THR:HG23 | 1.51 | 1.10 |
| 1:K:156:HIS:CE1 | 1:K:166:PRO:HB3 | 1.87 | 1.10 |
| 3:N:1442:ASN:O | 3:N:1446:VAL:HG23 | 1.51 | 1.10 |
| 3:N:783:ARG:HE | 3:N:1029:ARG:CD | 1.64 | 1.10 |
| 2:C:692:GLU:HG2 | 2:C:696:LYS:HE3 | 1.29 | 1.10 |
| 3:D:126:VAL:O | 3:D:130:SER:HB2 | 1.51 | 1.10 |
| 2:M:490:GLU:HB3 | 2:M:493:ARG:HH11 | 1.17 | 1.10 |
| 2:C:1042:ALA:HB2 | 3:D:1227:GLN:HE22 | 0.95 | 1.09 |
| 3:D:608:SER:HB3 | 3:D:1442:ASN:O | 1.53 | 1.09 |
| 2:C:50:GLU:HG3 | 2:C:266:ARG:HD2 | 1.13 | 1.09 |
| 3:N:957:PRO:HG2 | 3:N:1007:VAL:HG22 | 1.34 | 1.09 |
| 3:D:1112:CYS:HB3 | 3:D:1195:GLN:HG2 | 1.17 | 1.09 |
| 7:Z:11:DG:H2'' | 7:Z:12:DT:H71 | 1.24 | 1.09 |
| 2:C:861:LEU:HD23 | 2:C:863:ASP:H | 0.99 | 1.08 |
| 1:A:28:LEU:CD2 | 1:A:32:PHE:HD1 | 1.66 | 1.08 |
| 2:M:89:THR:HG21 | 2:M:383:ARG:HH22 | 1.14 | 1.08 |
| 5:X:4:DA:H2'' | 5:X:5:DC:H5'' | 1.10 | 1.08 |
| 3:N:925:GLU:HB3 | 4:O:6:ILE:HG22 | 1.25 | 1.08 |
| 3:D:1112:CYS:H | 3:D:1201:CYS:CB | 1.66 | 1.08 |
| 5:G:17:DA:H2'' | 5:G:18:DC:H5' | 1.26 | 1.08 |
| 2:M:857:ASP:HB2 | 2:M:978:ARG:HG2 | 1.34 | 1.08 |
| 3:D:989:TYR:OH | 3:D:1051:GLU:CG | 2.00 | 1.08 |
| 3:N:704:ARG:HA | 3:N:745:MET:HG2 | 1.30 | 1.08 |
| 3:N:1238:MET:O | 3:N:1239:ARG:HG2 | 1.53 | 1.08 |
| 2:M:675:ALA:HA | 2:M:989:VAL:HG12 | 1.11 | 1.07 |
| 3:D:1042:ARG:HH21 | 3:D:1073:SER:CB | 1.65 | 1.07 |
| 2:C:328:LEU:HD13 | 2:C:433:THR:HB | 1.33 | 1.07 |
| 3:N:1238:MET:O | 3:N:1239:ARG:CG | 2.02 | 1.07 |
| 3:D:1472:ILE:HD13 | 3:D:1472:ILE:H | 1.15 | 1.07 |
| 3:N:697:GLY:HA2 | 3:N:717:GLN:CD | 1.73 | 1.07 |
| 3:N:760:ARG:HH11 | 4:O:61:VAL:HG23 | 1.15 | 1.07 |
| 3:D:520:LEU:HD23 | 3:D:525:ARG:HD2 | 1.37 | 1.06 |
| 3:D:696:HIS:CD2 | 4:E:59:ASN:HB2 | 1.90 | 1.06 |
| 2:C:69:LEU:HD12 | 2:C:97:ARG:HB3 | 1.37 | 1.06 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:D:1045:MET:CE | 3:D:1076:GLY:HA3 | 1.85 | 1.06 |
| 2:M:431:HIS:HB3 | 2:M:434:HIS:CE1 | 1.91 | 1.06 |
| 3:D:783:ARG:HA | 3:D:1028:ALA:HA | 1.33 | 1.05 |
| 3:N:957:PRO:CG | 3:N:1007:VAL:HG22 | 1.85 | 1.05 |
| 3:N:1128:VAL:HB | 3:N:1133:ARG:HH22 | 1.21 | 1.05 |
| 3:N:181:ASP:HB3 | 3:N:441:ARG:HD3 | 1.35 | 1.05 |
| 3:N:783:ARG:NE | 3:N:1029:ARG:HD2 | 1.70 | 1.05 |
| 7:Z:3:DA:H1' | 7:Z:4:DG:H5' | 1.33 | 1.05 |
| 2:C:50:GLU:HG3 | 2:C:266:ARG:CD | 1.87 | 1.05 |
| 3:D:899:LEU:HD22 | 3:D:917:GLN:CG | 1.86 | 1.05 |
| 2:C:89:THR:HA | 2:C:129:ILE:O | 1.57 | 1.05 |
| 3:D:989:TYR:CZ | 3:D:1051:GLU:HG3 | 1.91 | 1.05 |
| 1:L:185:ARG:CZ | 3:N:688:TRP:HB3 | 1.85 | 1.05 |
| 3:D:1481:VAL:HG11 | 4:E:18:ARG:HA | 1.30 | 1.05 |
| 1:A:32:PHE:CE1 | 1:B:221:HIS:NE2 | 2.25 | 1.04 |
| 3:N:1274:ILE:HD13 | 3:N:1276:GLU:HG2 | 1.36 | 1.04 |
| 3:N:1472:ILE:HD13 | 3:N:1472:ILE:H | 1.16 | 1.04 |
| 3:N:521:PRO:HB2 | 3:N:524:LEU:HD13 | 1.37 | 1.04 |
| 2:C:165:LEU:HG | 2:C:166:PRO:HA | 1.34 | 1.04 |
| 3:N:1109:GLU:HG2 | 3:N:1201:CYS:HA | 1.39 | 1.04 |
| 3:N:157:GLU:HA | 3:N:160:GLU:OE1 | 1.56 | 1.04 |
| 3:D:1262:LEU:HD23 | 3:D:1352:ILE:HG12 | 1.39 | 1.04 |
| 3:N:783:ARG:NH2 | 3:N:1029:ARG:HB3 | 1.72 | 1.04 |
| 3:D:1410:GLU:HG2 | 2:M:374:ASN:HA | 1.40 | 1.04 |
| 2:M:939:ARG:HA | 2:M:939:ARG:HE | 1.19 | 1.04 |
| 3:N:171:LEU:HD11 | 3:N:195:VAL:HG23 | 1.38 | 1.04 |
| 3:D:1258:ARG:HH12 | 3:D:1329:ALA:HB1 | 1.20 | 1.03 |
| 3:D:704:ARG:HA | 3:D:745:MET:HG2 | 1.37 | 1.03 |
| 3:N:610:LYS:O | 3:N:615:ARG:CG | 2.05 | 1.03 |
| 3:N:62:LYS:HG3 | 3:N:75:ARG:HD2 | 1.37 | 1.03 |
| 2:C:987:ILE:HG23 | 3:D:948:THR:HG21 | 1.40 | 1.03 |
| 5:G:13:DA:H2'' | 5:G:14:DG:OP2 | 1.59 | 1.03 |
| 2:M:89:THR:HA | 2:M:129:ILE:O | 1.57 | 1.03 |
| 3:N:1216:SER:HB3 | 4:O:15:SER:CB | 1.89 | 1.03 |
| 3:D:28:LYS:HG3 | 3:D:29:PRO:HD2 | 1.41 | 1.03 |
| 3:N:171:LEU:CD1 | 3:N:195:VAL:HG23 | 1.88 | 1.02 |
| 3:D:1003:VAL:CG1 | 3:D:1036:ARG:HD2 | 1.90 | 1.02 |
| 2:M:455:LEU:HD12 | 2:M:456:ALA:O | 1.60 | 1.02 |
| 2:C:739:GLU:HG3 | 2:C:742:VAL:HB | 1.39 | 1.02 |
| 3:D:136:ASP:HB3 | 3:D:137:PRO:HD3 | 1.40 | 1.02 |
| 2:M:409:ARG:HA | 2:M:454:SER:HA | 1.42 | 1.02 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:N:783:ARG:HH21 | 3:N:1029:ARG:HB3 | 0.89 | 1.02 |
| 4:O:54:LEU:HD23 | 4:O:58:PRO:HD2 | 1.41 | 1.02 |
| 1:L:185:ARG:NH2 | 3:N:688:TRP:CB | 2.19 | 1.02 |
| 3:N:525:ARG:HB2 | 3:N:538:SER:HB3 | 1.41 | 1.02 |
| 3:N:698:LYS:HG2 | 4:O:59:ASN:ND2 | 1.74 | 1.02 |
| 3:N:1294:VAL:HG12 | 3:N:1319:VAL:HG21 | 1.42 | 1.01 |
| 3:N:603:LEU:O | 3:N:606:ILE:HG22 | 1.60 | 1.01 |
| 1:A:28:LEU:HD22 | 1:A:32:PHE:HD1 | 0.84 | 1.01 |
| 3:N:1018:ASN:HB3 | 3:N:1021:TYR:HB3 | 1.41 | 1.01 |
| 2:C:1036:GLU:HA | 3:D:707:THR:HG21 | 1.42 | 1.01 |
| 1:L:188:GLN:HG3 | 3:N:685:ASP:OD2 | 1.61 | 1.01 |
| 1:A:28:LEU:HD13 | 1:A:32:PHE:HB3 | 1.42 | 1.01 |
| 2:C:1097:LEU:HD22 | 2:C:1097:LEU:H | 1.22 | 1.01 |
| 3:D:764:LEU:HD23 | 3:D:767:HIS:CE1 | 1.96 | 1.01 |
| 3:N:398:ALA:HB2 | 3:N:447:VAL:HA | 1.43 | 1.01 |
| 3:D:960:LYS:HE3 | 3:D:964:LEU:HD12 | 1.41 | 1.01 |
| 7:I:5:DC:H2" | 7:I:6:DT:OP2 | 1.59 | 1.01 |
| 3:D:860:LEU:HA | 3:D:877:PRO:HB2 | 1.43 | 1.00 |
| 3:N:166:GLN:O | 3:N:167:GLU:HB2 | 1.60 | 1.00 |
| 2:C:423:ALA:CB | 7:I:1:DG:H5" | 1.91 | 1.00 |
| 3:N:1294:VAL:HG12 | 3:N:1319:VAL:CG2 | 1.90 | 1.00 |
| 2:M:768:THR:HB | 2:M:771:GLU:HB3 | 1.43 | 1.00 |
| 3:D:1087:ARG:HG3 | 3:D:1236:LEU:HD22 | 1.03 | 1.00 |
| 3:D:705:ALA:HB3 | 3:D:706:PRO:HD3 | 1.39 | 1.00 |
| 3:N:771:SER:HB3 | 3:N:778:LEU:HD13 | 1.43 | 1.00 |
| 3:N:1468:LEU:HD22 | 3:N:1470:ARG:HB2 | 1.41 | 1.00 |
| 1:A:39:PRO:HG3 | 1:B:39:PRO:HG3 | 1.43 | 1.00 |
| 3:N:1101:VAL:HG13 | 3:N:1428:ALA:HB2 | 1.43 | 1.00 |
| 3:D:600:LEU:HD12 | 3:D:600:LEU:H | 1.25 | 1.00 |
| 3:N:711:LEU:HD12 | 3:N:778:LEU:HD23 | 1.44 | 1.00 |
| 2:C:675:ALA:HA | 2:C:989:VAL:HG12 | 1.44 | 0.99 |
| 2:C:1115:LEU:HG | 3:D:85:VAL:HG12 | 1.43 | 0.99 |
| 3:D:1045:MET:HE1 | 3:D:1076:GLY:HA3 | 1.40 | 0.99 |
| 3:D:456:MET:HA | 3:D:460:ALA:HB2 | 1.43 | 0.99 |
| 2:M:1040:LEU:HD23 | 2:M:1049:LEU:HD13 | 1.43 | 0.99 |
| 1:A:63:HIS:HB3 | 2:C:746:GLY:CA | 1.93 | 0.99 |
| 3:N:1216:SER:HB3 | 4:O:15:SER:OG | 1.61 | 0.99 |
| 3:N:1033:GLN:OE1 | 3:N:1240:THR:CG2 | 2.09 | 0.99 |
| 7:Z:4:DG:H2" | 7:Z:5:DC:OP2 | 1.59 | 0.99 |
| 2:C:48:PHE:C | 2:C:52:PHE:HB2 | 1.81 | 0.99 |
| 2:C:1036:GLU:HG3 | 3:D:707:THR:OG1 | 1.62 | 0.99 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 2:M:64:LEU:HD22 | 2:M:359:MET:HG3 | 1.43 | 0.99 |
| 2:M:754:ILE:HD13 | 2:M:791:ARG:HG2 | 1.44 | 0.99 |
| 2:M:889:HIS:HE1 | 2:M:988:VAL:HG21 | 1.24 | 0.99 |
| 3:D:708:LEU:HD22 | 3:D:1231:GLU:HA | 1.41 | 0.98 |
| 7:I:4:DG:H2'' | 7:I:5:DC:OP2 | 1.64 | 0.98 |
| 2:M:706:GLU:HG2 | 2:M:708:TYR:CZ | 1.97 | 0.98 |
| 3:N:1463:LYS:O | 3:N:1467:ILE:HG13 | 1.63 | 0.98 |
| 3:D:744:GLN:CD | 5:G:21:DG:N2 | 2.15 | 0.98 |
| 3:N:453:ASP:HB3 | 3:N:455:ARG:HH21 | 1.25 | 0.98 |
| 2:C:292:ARG:HG2 | 2:C:298:PHE:HA | 1.42 | 0.98 |
| 1:L:185:ARG:NH1 | 3:N:688:TRP:HB3 | 1.78 | 0.98 |
| 3:N:810:GLU:O | 3:N:813:LEU:HG | 1.63 | 0.98 |
| 3:D:902:LEU:H | 3:D:902:LEU:HD23 | 1.29 | 0.97 |
| 3:D:1087:ARG:CG | 3:D:1236:LEU:HD22 | 1.94 | 0.97 |
| 3:N:1129:THR:HB | 3:N:1320:GLU:HG3 | 1.42 | 0.97 |
| 3:N:18:ILE:HG23 | 3:N:518:PRO:HG3 | 1.43 | 0.97 |
| 3:D:539:ASP:HB3 | 3:D:600:LEU:HB3 | 1.46 | 0.97 |
| 3:D:522:PRO:HA | 3:D:525:ARG:HH11 | 1.26 | 0.97 |
| 2:C:399:ASN:ND2 | 2:C:402:SER:HB3 | 1.78 | 0.97 |
| 2:C:399:ASN:HD21 | 2:C:402:SER:HB3 | 1.29 | 0.97 |
| 1:A:63:HIS:HB3 | 2:C:746:GLY:HA2 | 1.46 | 0.97 |
| 3:N:1129:THR:HG23 | 3:N:1130:ARG:N | 1.79 | 0.97 |
| 2:M:422:ARG:HB3 | 7:Z:1:DG:C2 | 1.99 | 0.97 |
| 2:C:1042:ALA:HB2 | 3:D:1227:GLN:NE2 | 1.80 | 0.96 |
| 3:N:618:LEU:HD12 | 3:N:1467:ILE:HG12 | 0.97 | 0.96 |
| 2:C:694:LEU:HD21 | 2:C:868:ASP:HB3 | 1.47 | 0.96 |
| 3:N:1442:ASN:O | 3:N:1446:VAL:CG2 | 2.12 | 0.96 |
| 3:D:1211:MET:HG2 | 3:D:1212:ALA:H | 1.29 | 0.96 |
| 3:N:783:ARG:HE | 3:N:1029:ARG:HD3 | 1.30 | 0.96 |
| 3:D:1109:GLU:HG2 | 3:D:1201:CYS:HA | 1.46 | 0.96 |
| 3:N:843:PHE:HB2 | 3:N:866:VAL:HG22 | 1.48 | 0.96 |
| 3:D:1096:ARG:HH21 | 3:D:1440:PHE:HD2 | 1.01 | 0.96 |
| 3:D:900:ILE:O | 3:D:902:LEU:CD2 | 2.14 | 0.96 |
| 3:N:1268:PRO:HG3 | 3:N:1329:ALA:HB1 | 1.47 | 0.96 |
| 2:C:336:VAL:CA | 2:C:339:LEU:HD12 | 1.94 | 0.96 |
| 2:C:50:GLU:HB2 | 2:C:266:ARG:NH1 | 1.80 | 0.96 |
| 3:D:565:ILE:HD12 | 3:D:565:ILE:H | 1.30 | 0.96 |
| 2:C:630:ARG:CD | 2:C:634:GLY:HA2 | 1.95 | 0.95 |
| 2:M:861:LEU:HD22 | 2:M:863:ASP:HB3 | 1.44 | 0.95 |
| 3:N:783:ARG:HH21 | 3:N:1029:ARG:CB | 1.79 | 0.95 |
| 2:C:89:THR:HG21 | 2:C:383:ARG:HH12 | 1.29 | 0.95 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:D:1209:LEU:HD23 | 3:D:1211:MET:H | 1.28 | 0.95 |
| 2:C:409:ARG:HA | 2:C:454:SER:HA | 1.48 | 0.95 |
| 3:N:1220:ALA:HB1 | 3:N:1223:ILE:HD13 | 1.47 | 0.95 |
| 3:N:483:HIS:CB | 3:N:484:PRO:HD3 | 1.97 | 0.95 |
| 3:N:764:LEU:HD23 | 3:N:767:HIS:CE1 | 2.01 | 0.95 |
| 2:M:395:LYS:HE2 | 2:M:403:SER:HB2 | 1.46 | 0.95 |
| 3:D:899:LEU:HD22 | 3:D:917:GLN:CB | 1.97 | 0.95 |
| 1:A:43:ILE:HG23 | 1:A:47:SER:OG | 1.66 | 0.95 |
| 2:M:973:VAL:O | 2:M:974:LEU:HD12 | 1.65 | 0.95 |
| 3:N:646:LYS:HB2 | 3:N:688:TRP:CZ3 | 2.02 | 0.95 |
| 3:N:695:ILE:HD11 | 3:N:718:PRO:HB2 | 1.44 | 0.95 |
| 2:C:260:LEU:HB3 | 2:C:291:ALA:HB1 | 1.46 | 0.94 |
| 2:M:329:GLY:HA3 | 2:M:489:THR:HG23 | 1.49 | 0.94 |
| 2:C:861:LEU:HG | 2:C:862:PRO:HD2 | 1.49 | 0.94 |
| 2:M:86:LYS:HD3 | 2:M:813:VAL:HB | 1.46 | 0.94 |
| 3:N:1462:LEU:HD23 | 3:N:1473:PRO:HD2 | 1.49 | 0.94 |
| 3:D:814:ALA:HB1 | 3:D:818:ARG:HH21 | 1.32 | 0.94 |
| 2:M:1115:LEU:HD12 | 2:M:1115:LEU:H | 1.29 | 0.94 |
| 2:M:260:LEU:HB3 | 2:M:291:ALA:HB1 | 1.50 | 0.94 |
| 2:M:7:GLY:H | 2:M:904:PRO:HD2 | 1.31 | 0.94 |
| 3:D:660:LYS:HD2 | 3:D:694:VAL:HG22 | 1.48 | 0.94 |
| 7:I:10:DG:H2'' | 7:I:11:DG:OP2 | 1.65 | 0.94 |
| 2:M:1016:ILE:HG12 | 2:M:1017:THR:H | 1.31 | 0.94 |
| 2:M:861:LEU:CD2 | 2:M:863:ASP:H | 1.80 | 0.94 |
| 5:G:5:DC:H2'' | 5:G:6:DT:O5' | 1.65 | 0.94 |
| 5:X:12:DA:H2'' | 5:X:13:DA:OP2 | 1.62 | 0.94 |
| 3:D:1112:CYS:CB | 3:D:1195:GLN:HG2 | 1.97 | 0.94 |
| 1:L:28:LEU:HB2 | 1:L:193:ASP:HB2 | 1.48 | 0.94 |
| 1:K:176:ARG:HH11 | 2:M:865:THR:HB | 1.32 | 0.94 |
| 2:M:1046:ALA:HB1 | 3:N:1471:LEU:HD11 | 1.47 | 0.94 |
| 5:X:4:DA:H2'' | 5:X:5:DC:C5' | 1.97 | 0.94 |
| 1:A:32:PHE:HE1 | 1:B:221:HIS:HE2 | 1.06 | 0.94 |
| 2:M:971:LYS:HE3 | 2:M:988:VAL:HG12 | 1.49 | 0.94 |
| 3:N:1129:THR:HB | 3:N:1320:GLU:CD | 1.88 | 0.94 |
| 2:M:36:PRO:HG2 | 2:M:70:GLU:HB3 | 1.50 | 0.94 |
| 3:N:1271:LYS:NZ | 3:N:1331:ASP:HB2 | 1.83 | 0.94 |
| 3:N:136:ASP:HB3 | 3:N:137:PRO:HD3 | 1.48 | 0.94 |
| 3:N:754:PHE:HA | 4:O:24:ALA:CB | 1.98 | 0.94 |
| 2:C:439:CYS:SG | 2:C:541:SER:N | 2.41 | 0.94 |
| 3:D:1042:ARG:HH21 | 3:D:1073:SER:HB2 | 0.77 | 0.94 |
| 2:M:409:ARG:HB3 | 2:M:454:SER:OG | 1.68 | 0.94 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 2:M:405:ARG:CZ | 2:M:566:THR:HG21 | 1.98 | 0.94 |
| 3:D:1042:ARG:HG2 | 3:D:1061:PHE:HE1 | 1.33 | 0.93 |
| 3:N:693:GLU:HA | 4:O:48:MET:CE | 1.98 | 0.93 |
| 2:C:227:PHE:HD2 | 2:C:237:ARG:HE | 1.12 | 0.93 |
| 3:D:960:LYS:HE3 | 3:D:964:LEU:CD1 | 1.97 | 0.93 |
| 2:M:1015:LEU:H | 6:Y:5:C:N4 | 1.66 | 0.93 |
| 3:N:521:PRO:HD2 | 3:N:524:LEU:HD22 | 1.49 | 0.93 |
| 3:D:899:LEU:HD22 | 3:D:917:GLN:HB3 | 1.48 | 0.93 |
| 3:N:1109:GLU:CG | 3:N:1201:CYS:HA | 1.97 | 0.93 |
| 3:D:1095:THR:HG21 | 3:D:1230:GLY:HA3 | 1.49 | 0.93 |
| 3:D:603:LEU:O | 3:D:606:ILE:HG22 | 1.67 | 0.93 |
| 3:D:739:ASP:H | 6:H:15:C:H5'' | 1.33 | 0.93 |
| 3:D:1256:LEU:HG | 3:D:1260:ILE:HD11 | 1.50 | 0.93 |
| 2:M:144:PRO:HG2 | 2:M:265:ARG:NH1 | 1.83 | 0.93 |
| 2:M:964:LYS:O | 2:M:968:LEU:HG | 1.69 | 0.93 |
| 3:N:783:ARG:NE | 3:N:1029:ARG:CD | 2.29 | 0.93 |
| 2:C:65:VAL:HB | 2:C:101:ILE:HB | 1.50 | 0.93 |
| 3:D:1101:VAL:HG13 | 3:D:1428:ALA:HB2 | 1.47 | 0.93 |
| 2:C:50:GLU:CA | 2:C:266:ARG:CZ | 2.46 | 0.92 |
| 3:N:1098:LEU:HD23 | 3:N:1226:ALA:HA | 1.48 | 0.92 |
| 3:N:1277:ILE:HD12 | 3:N:1301:LYS:HB2 | 1.51 | 0.92 |
| 3:N:157:GLU:HA | 3:N:160:GLU:CD | 1.89 | 0.92 |
| 3:N:646:LYS:NZ | 3:N:688:TRP:NE1 | 2.17 | 0.92 |
| 2:C:50:GLU:HA | 2:C:266:ARG:NH2 | 1.83 | 0.92 |
| 5:X:27:DC:OP2 | 5:X:27:DC:H6 | 1.51 | 0.92 |
| 5:G:6:DT:H2'' | 5:G:7:DA:OP2 | 1.67 | 0.92 |
| 2:M:762:LYS:HA | 2:M:786:LYS:HD2 | 1.50 | 0.92 |
| 5:X:4:DA:C2'' | 5:X:5:DC:H5'' | 1.98 | 0.92 |
| 1:A:27:PRO:HG2 | 1:A:186:LEU:HD13 | 1.49 | 0.92 |
| 2:M:157:ARG:NH1 | 2:M:314:THR:HB | 1.84 | 0.92 |
| 2:M:404:LEU:HA | 2:M:407:LYS:CD | 1.99 | 0.92 |
| 3:N:455:ARG:HD3 | 3:N:463:GLN:HG3 | 1.51 | 0.92 |
| 2:C:1034:GLU:HA | 2:C:1037:VAL:HG23 | 1.51 | 0.92 |
| 3:D:108:VAL:HB | 3:D:109:PRO:HD3 | 1.51 | 0.92 |
| 3:N:1435:LEU:CD2 | 3:N:1464:GLU:HB2 | 2.00 | 0.92 |
| 3:N:600:LEU:HD12 | 3:N:600:LEU:H | 1.33 | 0.92 |
| 3:D:1003:VAL:HG11 | 3:D:1036:ARG:HD2 | 1.51 | 0.92 |
| 2:M:1090:LYS:HZ3 | 2:M:1112:PHE:HE1 | 1.04 | 0.92 |
| 2:M:1097:LEU:HD22 | 2:M:1097:LEU:H | 1.35 | 0.92 |
| 3:D:864:VAL:HG12 | 3:D:865:THR:H | 1.34 | 0.92 |
| 3:N:701:LEU:HD12 | 3:N:701:LEU:H | 1.32 | 0.92 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 2:M:753:ASP:O | 2:M:792:VAL:HG23 | 1.69 | 0.91 |
| 3:N:618:LEU:CD1 | 3:N:1467:ILE:CD1 | 2.48 | 0.91 |
| 3:N:783:ARG:CZ | 3:N:1029:ARG:HD2 | 2.00 | 0.91 |
| 1:A:176:ARG:NH1 | 2:C:865:THR:HB | 1.85 | 0.91 |
| 1:A:39:PRO:HG3 | 1:B:39:PRO:CG | 2.00 | 0.91 |
| 2:M:157:ARG:CZ | 2:M:314:THR:HB | 1.99 | 0.91 |
| 2:M:843:HIS:CE1 | 2:M:884:GLN:HA | 2.05 | 0.91 |
| 1:A:222:LEU:HD23 | 1:B:219:ARG:HB2 | 1.49 | 0.91 |
| 2:C:674:VAL:HG23 | 2:C:869:VAL:HG13 | 1.53 | 0.91 |
| 3:D:1095:THR:CG2 | 3:D:1230:GLY:HA3 | 2.00 | 0.91 |
| 3:D:882:PHE:O | 3:D:886:VAL:HG23 | 1.70 | 0.91 |
| 3:D:1087:ARG:HG3 | 3:D:1236:LEU:CD2 | 1.97 | 0.91 |
| 3:D:109:PRO:HB3 | 3:D:494:LYS:NZ | 1.86 | 0.91 |
| 2:M:73:LEU:HB2 | 2:M:93:PRO:O | 1.69 | 0.91 |
| 3:N:705:ALA:HB1 | 6:Y:14:G:H21 | 1.32 | 0.91 |
| 3:N:882:PHE:O | 3:N:886:VAL:HG23 | 1.70 | 0.91 |
| 2:C:395:LYS:HE2 | 2:C:403:SER:HB2 | 1.50 | 0.91 |
| 3:D:654:LYS:HB3 | 3:D:655:PRO:HD3 | 1.51 | 0.91 |
| 4:E:54:LEU:HG | 4:E:58:PRO:HG2 | 1.50 | 0.91 |
| 3:N:860:LEU:HA | 3:N:877:PRO:HB2 | 1.50 | 0.91 |
| 3:D:897:TRP:CB | 3:D:900:ILE:HD11 | 1.99 | 0.91 |
| 2:C:861:LEU:HD23 | 2:C:863:ASP:N | 1.85 | 0.91 |
| 2:M:312:ALA:HB1 | 2:M:318:PRO:HG2 | 1.52 | 0.91 |
| 3:D:1195:GLN:HG3 | 3:D:1196:THR:N | 1.85 | 0.90 |
| 3:D:610:LYS:O | 3:D:615:ARG:HG2 | 1.70 | 0.90 |
| 3:D:615:ARG:HH12 | 3:D:1096:ARG:NE | 1.69 | 0.90 |
| 4:E:40:LEU:HD21 | 4:E:67:GLU:HA | 1.51 | 0.90 |
| 2:M:492:ASP:HB3 | 2:M:518:LYS:HD2 | 1.51 | 0.90 |
| 2:M:490:GLU:HB3 | 2:M:493:ARG:NH1 | 1.84 | 0.90 |
| 2:M:490:GLU:HA | 2:M:493:ARG:CD | 2.00 | 0.90 |
| 3:N:1465:ASN:OD1 | 3:N:1473:PRO:HG3 | 1.71 | 0.90 |
| 3:N:925:GLU:HB3 | 4:O:6:ILE:CG2 | 2.01 | 0.90 |
| 2:M:631:SER:HB3 | 2:M:635:THR:H | 1.36 | 0.90 |
| 3:N:181:ASP:CB | 3:N:441:ARG:HD3 | 2.01 | 0.90 |
| 3:D:1112:CYS:H | 3:D:1201:CYS:HB3 | 1.36 | 0.90 |
| 2:M:402:SER:HA | 2:M:566:THR:HG23 | 1.52 | 0.90 |
| 5:G:23:DG:N2 | 6:H:11:C:O2 | 2.05 | 0.90 |
| 2:M:404:LEU:HA | 2:M:407:LYS:HD2 | 1.51 | 0.90 |
| 2:M:675:ALA:CA | 2:M:989:VAL:HG12 | 2.02 | 0.90 |
| 2:C:162:ILE:HB | 2:C:172:ILE:HB | 1.54 | 0.90 |
| 3:D:1256:LEU:CG | 3:D:1260:ILE:HD11 | 2.02 | 0.90 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:D:1083:ASP:O | 3:D:1087:ARG:HG2 | 1.70 | 0.90 |
| 2:M:861:LEU:HD23 | 2:M:863:ASP:H | 1.36 | 0.90 |
| 3:D:900:ILE:O | 3:D:902:LEU:HD23 | 1.70 | 0.90 |
| 3:N:522:PRO:HA | 3:N:525:ARG:NH1 | 1.86 | 0.90 |
| 2:C:64:LEU:HD22 | 2:C:359:MET:HG3 | 1.51 | 0.90 |
| 2:C:247:PRO:HD2 | 2:C:250:ARG:HH12 | 1.36 | 0.89 |
| 1:K:7:LYS:HD2 | 1:K:186:LEU:HD21 | 1.51 | 0.89 |
| 2:M:691:SER:OG | 2:M:693:GLU:HB3 | 1.71 | 0.89 |
| 3:N:108:VAL:HB | 3:N:109:PRO:HD3 | 1.54 | 0.89 |
| 2:C:1024:LYS:HB2 | 6:H:4:G:N2 | 1.86 | 0.89 |
| 3:D:554:LEU:O | 3:D:558:LEU:HG | 1.71 | 0.89 |
| 2:M:537:LYS:HD2 | 2:M:905:ILE:HD13 | 1.53 | 0.89 |
| 7:Z:11:DG:H2'' | 7:Z:12:DT:OP2 | 1.70 | 0.89 |
| 2:C:58:ASP:O | 2:C:59:LYS:HB2 | 1.72 | 0.89 |
| 3:D:1087:ARG:HE | 3:D:1236:LEU:CD2 | 1.84 | 0.89 |
| 3:N:1236:LEU:HD12 | 3:N:1256:LEU:HB2 | 1.54 | 0.89 |
| 3:N:98:PRO:HG2 | 3:N:462:GLN:CD | 1.92 | 0.89 |
| 2:C:720:GLU:HG2 | 2:C:760:SER:HB3 | 1.54 | 0.89 |
| 3:N:1280:VAL:HA | 3:N:1318:TYR:HA | 1.54 | 0.89 |
| 1:L:28:LEU:HG | 1:L:193:ASP:O | 1.72 | 0.89 |
| 1:K:178:ALA:HB2 | 2:M:864:GLY:N | 1.88 | 0.89 |
| 2:M:328:LEU:HD13 | 2:M:433:THR:HB | 1.53 | 0.89 |
| 2:M:79:PRO:HG2 | 2:M:82:GLU:HB2 | 1.55 | 0.89 |
| 3:D:705:ALA:CB | 3:D:706:PRO:HD3 | 2.02 | 0.89 |
| 2:M:313:LEU:HD13 | 2:M:321:GLU:HG2 | 1.54 | 0.89 |
| 2:M:650:ARG:HG2 | 2:M:653:ASP:HB2 | 1.53 | 0.89 |
| 3:D:1109:GLU:CG | 3:D:1201:CYS:HA | 2.03 | 0.89 |
| 3:D:632:VAL:O | 3:D:727:GLN:HA | 1.73 | 0.89 |
| 2:C:312:ALA:HB1 | 2:C:318:PRO:HG2 | 1.54 | 0.89 |
| 3:D:1438:ALA:N | 3:D:1446:VAL:HG11 | 1.87 | 0.89 |
| 2:M:676:ILE:HG22 | 2:M:988:VAL:O | 1.73 | 0.89 |
| 2:M:687:ALA:O | 2:M:688:ILE:HD12 | 1.73 | 0.89 |
| 2:M:918:LEU:HD23 | 2:M:968:LEU:HA | 1.52 | 0.89 |
| 5:X:14:DG:H2'' | 5:X:15:DC:OP2 | 1.72 | 0.89 |
| 2:C:857:ASP:HB2 | 2:C:978:ARG:HG2 | 1.55 | 0.89 |
| 3:N:1281:VAL:HG11 | 3:N:1313:VAL:HG13 | 1.54 | 0.89 |
| 3:D:26:VAL:HG11 | 3:D:44:LEU:HD23 | 1.55 | 0.88 |
| 6:H:9:C:H2' | 6:H:10:G:O4' | 1.72 | 0.88 |
| 3:N:1305:LEU:HD12 | 3:N:1311:LEU:HD22 | 1.54 | 0.88 |
| 3:N:697:GLY:HA2 | 3:N:717:GLN:NE2 | 1.87 | 0.88 |
| 3:N:27:GLU:HB3 | 3:N:41:ARG:HH12 | 1.36 | 0.88 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:D:483:HIS:HB2 | 3:D:484:PRO:HD3 | 1.54 | 0.88 |
| 2:M:688:ILE:HG22 | 2:M:849:VAL:HA | 1.53 | 0.88 |
| 3:D:582:LEU:HA | 3:D:603:LEU:HD12 | 1.55 | 0.88 |
| 2:M:445:GLU:HA | 2:M:449:ILE:HD12 | 1.54 | 0.88 |
| 5:X:19:DG:H2'' | 5:X:20:DC:H5' | 1.56 | 0.88 |
| 3:D:703:ASN:O | 3:D:745:MET:HB3 | 1.74 | 0.88 |
| 3:N:1128:VAL:HB | 3:N:1133:ARG:NH2 | 1.88 | 0.88 |
| 2:M:1095:LEU:HD11 | 3:N:603:LEU:HB3 | 1.55 | 0.88 |
| 2:M:431:HIS:HB3 | 2:M:434:HIS:NE2 | 1.87 | 0.88 |
| 3:N:98:PRO:HG2 | 3:N:462:GLN:HE22 | 1.34 | 0.88 |
| 4:O:54:LEU:HA | 4:O:58:PRO:HG2 | 1.56 | 0.88 |
| 5:X:7:DA:H2'' | 5:X:8:DC:H5' | 1.54 | 0.88 |
| 1:L:185:ARG:HH22 | 3:N:688:TRP:HB3 | 1.18 | 0.88 |
| 2:M:273:GLY:HA2 | 2:M:276:LYS:HD2 | 1.56 | 0.88 |
| 2:C:1045:ALA:HB1 | 2:C:1048:THR:HB | 1.54 | 0.88 |
| 2:C:1089:VAL:HG13 | 2:C:1099:VAL:HB | 1.54 | 0.88 |
| 3:D:136:ASP:CB | 3:D:137:PRO:HD3 | 2.04 | 0.88 |
| 6:H:7:G:O2' | 6:H:8:G:H5' | 1.73 | 0.88 |
| 2:C:52:PHE:CE1 | 2:C:68:PHE:HB2 | 2.04 | 0.87 |
| 3:D:1379:VAL:HG12 | 3:D:1419:PRO:HA | 1.56 | 0.87 |
| 1:A:42:ARG:HD3 | 1:B:35:THR:HA | 1.54 | 0.87 |
| 3:D:615:ARG:O | 3:D:619:LEU:HG | 1.74 | 0.87 |
| 3:N:482:LYS:HE2 | 3:N:1384:PRO:HD2 | 1.56 | 0.87 |
| 3:N:160:GLU:HG2 | 3:N:165:LYS:HG3 | 1.56 | 0.87 |
| 3:N:456:MET:HA | 3:N:460:ALA:HB2 | 1.55 | 0.87 |
| 5:X:15:DC:H1' | 5:X:16:DT:H5' | 1.56 | 0.87 |
| 3:D:610:LYS:C | 3:D:615:ARG:HG2 | 1.94 | 0.87 |
| 2:M:31:GLN:HB3 | 2:M:71:TYR:OH | 1.72 | 0.87 |
| 2:M:328:LEU:HD22 | 2:M:433:THR:HG22 | 1.55 | 0.87 |
| 3:N:132:TYR:HD2 | 3:N:154:THR:HB | 1.39 | 0.87 |
| 3:N:465:LEU:HD22 | 3:N:510:GLU:HA | 1.54 | 0.87 |
| 3:N:897:TRP:HA | 3:N:900:ILE:HG12 | 1.55 | 0.87 |
| 2:M:211:LEU:HB2 | 2:M:308:ARG:HD2 | 1.55 | 0.87 |
| 2:M:65:VAL:HB | 2:M:101:ILE:HB | 1.56 | 0.87 |
| 3:N:520:LEU:HD23 | 3:N:525:ARG:HD2 | 1.56 | 0.87 |
| 3:N:952:ASP:HA | 3:N:1062:ARG:HH21 | 1.36 | 0.87 |
| 7:Z:1:DG:P | 7:Z:1:DG:H3' | 2.15 | 0.87 |
| 3:D:799:LYS:HB3 | 3:D:826:PRO:HG2 | 1.57 | 0.87 |
| 3:D:796:ARG:HB2 | 3:D:828:LYS:HD3 | 1.57 | 0.87 |
| 5:G:19:DG:H2'' | 5:G:20:DC:O5' | 1.74 | 0.87 |
| 3:N:646:LYS:HE3 | 3:N:688:TRP:CZ2 | 2.09 | 0.87 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 2:C:796:GLU:HB2 | 2:C:1004:LYS:HZ3 | 1.40 | 0.87 |
| 3:D:900:ILE:HD12 | 3:D:902:LEU:CD2 | 2.04 | 0.87 |
| 3:N:1295:GLU:HG2 | 3:N:1300:SER:HB3 | 1.54 | 0.87 |
| 3:N:814:ALA:HB1 | 3:N:818:ARG:NH2 | 1.88 | 0.87 |
| 2:M:143:SER:HB2 | 2:M:276:LYS:HE2 | 1.55 | 0.86 |
| 3:N:1486:VAL:HA | 4:O:74:VAL:O | 1.74 | 0.86 |
| 3:D:1211:MET:HG2 | 3:D:1212:ALA:N | 1.90 | 0.86 |
| 2:C:36:PRO:HG2 | 2:C:70:GLU:HB3 | 1.55 | 0.86 |
| 3:D:1434:TRP:CZ3 | 3:D:1455:LYS:HB3 | 2.10 | 0.86 |
| 2:M:328:LEU:HD23 | 2:M:437:ARG:HD3 | 1.55 | 0.86 |
| 4:O:9:LEU:HA | 4:O:12:MET:SD | 2.15 | 0.86 |
| 7:Z:1:DG:H3' | 7:Z:1:DG:OP3 | 1.75 | 0.86 |
| 1:A:104:GLU:HA | 1:A:136:GLY:O | 1.75 | 0.86 |
| 3:D:522:PRO:HA | 3:D:525:ARG:NH1 | 1.90 | 0.86 |
| 2:M:260:LEU:HB3 | 2:M:291:ALA:CB | 2.06 | 0.86 |
| 2:M:479:VAL:HG22 | 2:M:506:ASN:HA | 1.57 | 0.86 |
| 3:N:1129:THR:HG23 | 3:N:1130:ARG:H | 1.39 | 0.86 |
| 2:C:129:ILE:N | 2:C:129:ILE:HD12 | 1.90 | 0.86 |
| 3:N:693:GLU:HA | 4:O:48:MET:HE2 | 1.55 | 0.86 |
| 2:C:90:TYR:O | 2:C:119:PRO:HA | 1.74 | 0.86 |
| 3:D:1330:ILE:HD13 | 3:D:1347:TYR:OH | 1.74 | 0.86 |
| 2:M:1016:ILE:HD13 | 2:M:1016:ILE:H | 1.37 | 0.86 |
| 2:M:987:ILE:HG23 | 3:N:948:THR:HG21 | 1.54 | 0.86 |
| 2:C:270:GLY:O | 2:C:274:ARG:HB3 | 1.76 | 0.86 |
| 3:D:1426:LYS:HA | 3:D:1429:LEU:HD22 | 1.57 | 0.86 |
| 5:G:17:DA:H2'' | 5:G:18:DC:C5' | 2.04 | 0.86 |
| 2:M:139:GLN:OE1 | 2:M:415:PRO:HD3 | 1.76 | 0.86 |
| 3:N:1209:LEU:HD23 | 3:N:1210:SER:H | 1.41 | 0.86 |
| 3:D:834:THR:HG22 | 3:D:838:ARG:HH11 | 1.39 | 0.86 |
| 4:E:36:LYS:N | 4:E:95:VAL:HG21 | 1.91 | 0.86 |
| 3:N:524:LEU:O | 3:N:526:PRO:HD3 | 1.75 | 0.86 |
| 3:N:632:VAL:O | 3:N:727:GLN:HA | 1.75 | 0.86 |
| 3:N:899:LEU:CB | 3:N:917:GLN:HG2 | 2.05 | 0.86 |
| 2:C:326:ASP:HB2 | 2:C:431:HIS:ND1 | 1.91 | 0.86 |
| 2:C:579:VAL:HG13 | 2:C:842:ARG:HH22 | 1.39 | 0.86 |
| 2:C:690:ILE:HG12 | 2:C:691:SER:N | 1.91 | 0.86 |
| 2:M:808:ARG:HH21 | 2:M:820:ARG:HH21 | 1.17 | 0.86 |
| 3:N:522:PRO:HA | 3:N:525:ARG:HH11 | 1.37 | 0.86 |
| 3:N:73:CYS:HB3 | 3:N:76:CYS:O | 1.75 | 0.86 |
| 7:Z:11:DG:C2' | 7:Z:12:DT:H71 | 2.06 | 0.86 |
| 2:C:872:ASN:OD1 | 2:C:874:LEU:HB2 | 1.76 | 0.86 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:D:1103:HIS:CG | 3:D:1104:GLU:H | 1.94 | 0.86 |
| 2:C:49:ARG:HA | 2:C:52:PHE:HB3 | 1.57 | 0.85 |
| 3:D:628:ARG:HE | 5:G:22:DA:H4' | 1.41 | 0.85 |
| 1:A:154:GLU:H | 1:A:154:GLU:CD | 1.77 | 0.85 |
| 3:D:1066:THR:HG22 | 3:D:1069:GLU:CD | 1.95 | 0.85 |
| 1:B:74:ASP:HB3 | 3:D:872:ARG:HH22 | 1.39 | 0.85 |
| 3:N:166:GLN:O | 3:N:167:GLU:CB | 2.21 | 0.85 |
| 3:N:498:VAL:O | 3:N:501:ALA:HB3 | 1.77 | 0.85 |
| 3:N:660:LYS:HD2 | 3:N:694:VAL:HG22 | 1.56 | 0.85 |
| 4:O:40:LEU:HD21 | 4:O:67:GLU:HA | 1.57 | 0.85 |
| 3:D:1093:TYR:CE1 | 5:G:17:DA:H1' | 2.10 | 0.85 |
| 3:D:486:ARG:HA | 3:D:489:ARG:HG2 | 1.57 | 0.85 |
| 3:N:1485:GLN:HG3 | 4:O:79:LEU:N | 1.91 | 0.85 |
| 3:N:618:LEU:HD12 | 3:N:1467:ILE:CD1 | 2.07 | 0.85 |
| 2:M:342:ASP:O | 2:M:346:VAL:HG23 | 1.77 | 0.85 |
| 3:N:1094:LEU:HD12 | 3:N:1097:LYS:HD2 | 1.57 | 0.85 |
| 3:N:693:GLU:HG3 | 4:O:48:MET:SD | 2.16 | 0.85 |
| 2:C:18:LEU:HD12 | 2:C:18:LEU:H | 1.41 | 0.85 |
| 2:M:270:GLY:O | 2:M:274:ARG:HB3 | 1.76 | 0.85 |
| 3:N:1093:TYR:CE1 | 5:X:18:DC:H5'' | 2.11 | 0.85 |
| 7:Z:12:DT:H2'' | 7:Z:13:DA:C8 | 2.11 | 0.85 |
| 1:A:178:ALA:HB2 | 2:C:864:GLY:H | 1.38 | 0.85 |
| 2:C:16:PRO:HD3 | 2:C:458:TYR:CD2 | 2.12 | 0.85 |
| 3:D:906:GLN:HB3 | 3:D:911:LEU:HD11 | 1.56 | 0.85 |
| 1:L:24:VAL:HG13 | 1:L:196:THR:HG22 | 1.59 | 0.85 |
| 3:N:1114:THR:HB | 3:N:1195:GLN:HB3 | 1.59 | 0.85 |
| 3:D:1194:CYS:HB2 | 3:D:1204:CYS:SG | 2.17 | 0.85 |
| 3:D:52:PRO:HD2 | 3:D:85:VAL:HG21 | 1.59 | 0.85 |
| 1:B:228:PRO:O | 1:B:229:GLN:HG3 | 1.77 | 0.84 |
| 2:C:918:LEU:HB3 | 2:C:968:LEU:HD23 | 1.58 | 0.84 |
| 3:D:1438:ALA:CA | 3:D:1446:VAL:HG11 | 2.05 | 0.84 |
| 4:E:54:LEU:HA | 4:E:58:PRO:HG2 | 1.58 | 0.84 |
| 2:M:758:ARG:HB3 | 2:M:788:THR:O | 1.76 | 0.84 |
| 4:O:54:LEU:CD2 | 4:O:63:TRP:HE1 | 1.90 | 0.84 |
| 3:N:1128:VAL:HG12 | 3:N:1129:THR:HG22 | 1.59 | 0.84 |
| 5:X:24:DC:H2'' | 5:X:25:DG:H5' | 1.59 | 0.84 |
| 2:C:281:LEU:HD12 | 2:C:309:TYR:HB2 | 1.58 | 0.84 |
| 2:M:862:PRO:HB3 | 2:M:929:ARG:HH22 | 1.40 | 0.84 |
| 3:N:864:VAL:HG12 | 3:N:865:THR:H | 1.40 | 0.84 |
| 2:M:165:LEU:HG | 2:M:166:PRO:HA | 1.58 | 0.84 |
| 6:Y:6:C:H3' | 6:Y:7:G:C8 | 2.13 | 0.84 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 2:M:63:GLY:HA3 | 2:M:103:LYS:HG3 | 1.58 | 0.84 |
| 3:N:698:LYS:HG2 | 4:O:59:ASN:CG | 1.96 | 0.84 |
| 3:D:52:PRO:HG2 | 3:D:80:VAL:HG13 | 1.58 | 0.84 |
| 3:D:1216:SER:CB | 4:E:16:LYS:H | 1.89 | 0.84 |
| 2:C:302:VAL:O | 2:C:305:PRO:HD2 | 1.77 | 0.84 |
| 3:D:117:ASP:HB2 | 3:D:495:ARG:NH1 | 1.93 | 0.84 |
| 2:M:396:ASP:HB3 | 2:M:406:HIS:CD2 | 2.11 | 0.84 |
| 2:M:437:ARG:C | 2:M:438:ILE:HD12 | 1.98 | 0.84 |
| 2:M:936:VAL:HA | 2:M:940:GLU:OE2 | 1.77 | 0.84 |
| 3:N:1274:ILE:HG22 | 3:N:1301:LYS:HZ1 | 1.43 | 0.84 |
| 3:N:19:ARG:NH2 | 3:N:516:ALA:HB2 | 1.93 | 0.84 |
| 2:C:1081:VAL:HB | 2:C:1086:ARG:HE | 1.40 | 0.84 |
| 3:D:743:ASP:OD2 | 6:H:14:G:H4' | 1.76 | 0.84 |
| 3:D:737:ASN:HB3 | 6:H:15:C:O2' | 1.77 | 0.84 |
| 2:M:676:ILE:HG12 | 2:M:873:PRO:HG3 | 1.59 | 0.84 |
| 3:N:767:HIS:CD2 | 4:O:6:ILE:HG12 | 2.11 | 0.84 |
| 2:C:1090:LYS:NZ | 3:D:21:TRP:HB3 | 1.93 | 0.84 |
| 1:B:100:LEU:HD12 | 1:B:115:LEU:HD21 | 1.57 | 0.83 |
| 2:C:395:LYS:HE3 | 2:C:407:LYS:HD2 | 1.59 | 0.83 |
| 1:K:76:VAL:O | 1:K:79:ILE:HG13 | 1.77 | 0.83 |
| 3:N:477:LEU:CD1 | 3:N:496:LEU:HD13 | 2.07 | 0.83 |
| 3:N:483:HIS:HB2 | 3:N:484:PRO:CD | 2.07 | 0.83 |
| 3:D:10:ILE:HG22 | 3:D:1451:ALA:HA | 1.60 | 0.83 |
| 2:M:1083:GLU:OE1 | 2:M:1086:ARG:HD2 | 1.78 | 0.83 |
| 1:K:178:ALA:CB | 2:M:864:GLY:H | 1.89 | 0.83 |
| 3:N:1292:VAL:HG23 | 3:N:1305:LEU:HG | 1.60 | 0.83 |
| 3:N:12:LEU:HD22 | 3:N:511:TRP:HB2 | 1.61 | 0.83 |
| 2:M:490:GLU:CA | 2:M:493:ARG:HD3 | 2.06 | 0.83 |
| 1:K:176:ARG:NH1 | 2:M:865:THR:HB | 1.92 | 0.83 |
| 1:K:9:PRO:HB3 | 1:K:25:LEU:HG | 1.60 | 0.83 |
| 1:L:185:ARG:HH22 | 3:N:688:TRP:HB2 | 1.43 | 0.83 |
| 2:M:44:ILE:HG22 | 2:M:45:GLN:N | 1.94 | 0.83 |
| 1:A:112:ARG:HH21 | 1:A:125:PRO:HB2 | 1.43 | 0.83 |
| 2:C:144:PRO:HG2 | 2:C:265:ARG:HH11 | 1.43 | 0.83 |
| 3:D:1033:GLN:O | 3:D:1037:GLN:HB3 | 1.78 | 0.83 |
| 2:M:313:LEU:HB2 | 2:M:321:GLU:HG3 | 1.59 | 0.83 |
| 2:M:675:ALA:HA | 2:M:989:VAL:CG1 | 2.04 | 0.83 |
| 2:C:1034:GLU:HA | 2:C:1037:VAL:CG2 | 2.08 | 0.83 |
| 2:C:20:GLU:HG2 | 2:C:21:ILE:HD12 | 1.58 | 0.83 |
| 3:D:614:PHE:CE2 | 3:D:1443:THR:HB | 2.14 | 0.83 |
| 2:M:404:LEU:O | 2:M:407:LYS:HB2 | 1.78 | 0.83 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 2:C:260:LEU:HB3 | 2:C:291:ALA:CB | 2.08 | 0.83 |
| 2:C:388:ARG:HD2 | 5:G:27:DC:H4' | 1.58 | 0.83 |
| 2:C:684:PHE:N | 2:C:687:ALA:HB3 | 1.92 | 0.83 |
| 2:C:861:LEU:HD21 | 2:C:925:TYR:CE2 | 2.14 | 0.83 |
| 3:D:1472:ILE:H | 3:D:1472:ILE:CD1 | 1.83 | 0.83 |
| 3:D:65:ARG:HG3 | 3:D:66:GLN:H | 1.44 | 0.83 |
| 2:M:162:ILE:HB | 2:M:172:ILE:HB | 1.60 | 0.83 |
| 7:Z:1:DG:H2'' | 7:Z:2:DT:OP2 | 1.78 | 0.83 |
| 2:C:922:PHE:HB3 | 2:C:964:LYS:NZ | 1.94 | 0.83 |
| 3:D:705:ALA:HB3 | 3:D:706:PRO:CD | 2.08 | 0.83 |
| 4:E:41:GLU:HG2 | 4:E:42:PRO:HD3 | 1.61 | 0.83 |
| 2:M:186:VAL:HG23 | 2:M:187:ASN:H | 1.43 | 0.83 |
| 3:D:738:ALA:HA | 6:H:15:C:H4' | 1.60 | 0.83 |
| 2:M:34:VAL:HB | 2:M:38:LYS:HG3 | 1.58 | 0.83 |
| 3:N:1128:VAL:HG13 | 3:N:1320:GLU:OE2 | 1.79 | 0.83 |
| 3:N:675:ARG:O | 3:N:678:GLU:HG2 | 1.79 | 0.83 |
| 3:D:646:LYS:HG3 | 3:D:647:ARG:H | 1.43 | 0.82 |
| 4:E:28:GLN:HB3 | 4:E:32:ARG:HH12 | 1.43 | 0.82 |
| 3:N:646:LYS:HD2 | 3:N:688:TRP:CE2 | 2.13 | 0.82 |
| 5:X:13:DA:H2'' | 5:X:14:DG:OP2 | 1.77 | 0.82 |
| 2:C:300:ASP:O | 2:C:300:ASP:CG | 2.16 | 0.82 |
| 3:D:728:LEU:HD11 | 3:D:732:VAL:HG21 | 1.58 | 0.82 |
| 3:N:1201:CYS:SG | 3:N:1204:CYS:N | 2.51 | 0.82 |
| 2:C:1016:ILE:HG12 | 2:C:1017:THR:N | 1.95 | 0.82 |
| 3:D:1046:GLN:HA | 3:D:1052:THR:HA | 1.61 | 0.82 |
| 3:N:625:TYR:CZ | 3:N:655:PRO:HG2 | 2.13 | 0.82 |
| 2:C:199:VAL:HG13 | 2:C:235:LEU:HG | 1.62 | 0.82 |
| 3:D:899:LEU:HD22 | 3:D:917:GLN:HG3 | 1.60 | 0.82 |
| 3:N:758:GLU:HB3 | 4:O:20:THR:HG21 | 1.61 | 0.82 |
| 5:X:11:DC:H2'' | 5:X:12:DA:OP2 | 1.77 | 0.82 |
| 2:C:739:GLU:CG | 2:C:742:VAL:HB | 2.08 | 0.82 |
| 2:C:861:LEU:CD2 | 2:C:863:ASP:H | 1.89 | 0.82 |
| 3:N:625:TYR:OH | 3:N:655:PRO:CG | 2.23 | 0.82 |
| 2:C:191:PHE:HB2 | 2:C:241:LEU:HD11 | 1.62 | 0.82 |
| 2:C:945:ARG:HG2 | 2:C:949:LYS:HE3 | 1.59 | 0.82 |
| 3:D:951:ILE:HD12 | 3:D:1062:ARG:HE | 1.43 | 0.82 |
| 3:D:530:VAL:O | 6:H:4:G:H5' | 1.80 | 0.82 |
| 2:M:403:SER:O | 2:M:407:LYS:HG3 | 1.79 | 0.82 |
| 3:N:486:ARG:HA | 3:N:489:ARG:HG2 | 1.62 | 0.82 |
| 6:Y:5:C:H2' | 6:Y:5:C:O2 | 1.77 | 0.82 |
| 7:Z:5:DC:H2'' | 7:Z:6:DT:OP2 | 1.79 | 0.82 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:A:152:PRO:HB3 | 1:A:154:GLU:OE1 | 1.80 | 0.82 |
| 2:C:15:LEU:HD12 | 2:C:15:LEU:H | 1.44 | 0.82 |
| 2:C:724:ARG:HG3 | 2:C:737:LEU:HD22 | 1.60 | 0.82 |
| 3:D:54:LYS:NZ | 6:H:2:C:OP1 | 2.12 | 0.82 |
| 3:N:607:LEU:HD23 | 3:N:613:ARG:HB3 | 1.61 | 0.82 |
| 2:C:31:GLN:CD | 2:C:71:TYR:HH | 1.83 | 0.82 |
| 3:D:1189:ARG:HD2 | 3:D:1204:CYS:SG | 2.20 | 0.82 |
| 3:D:907:GLU:HG2 | 3:D:908:LYS:N | 1.93 | 0.82 |
| 2:C:129:ILE:N | 2:C:129:ILE:CD1 | 2.42 | 0.82 |
| 3:D:628:ARG:NE | 5:G:22:DA:H4' | 1.95 | 0.82 |
| 2:M:1040:LEU:HD23 | 2:M:1049:LEU:CD1 | 2.10 | 0.82 |
| 2:C:404:LEU:HA | 2:C:407:LYS:HD3 | 1.62 | 0.82 |
| 3:D:656:PHE:HB3 | 3:D:694:VAL:HG11 | 1.62 | 0.82 |
| 2:M:338:GLU:O | 2:M:341:THR:HG22 | 1.79 | 0.82 |
| 2:M:579:VAL:HG13 | 2:M:842:ARG:HH22 | 1.44 | 0.82 |
| 2:C:328:LEU:HD11 | 2:C:434:HIS:CD2 | 2.15 | 0.81 |
| 3:D:641:GLN:HB3 | 3:D:717:GLN:O | 1.79 | 0.81 |
| 3:N:1059:SER:HB2 | 3:N:1065:LEU:HD12 | 1.62 | 0.81 |
| 3:N:899:LEU:HB2 | 3:N:917:GLN:HG2 | 1.62 | 0.81 |
| 4:O:54:LEU:HD21 | 4:O:63:TRP:HE1 | 1.42 | 0.81 |
| 2:C:265:ARG:HB3 | 2:C:267:TYR:CD2 | 2.15 | 0.81 |
| 2:C:674:VAL:HG12 | 2:C:990:GLY:O | 1.80 | 0.81 |
| 3:D:1041:LEU:HD13 | 3:D:1045:MET:SD | 2.18 | 0.81 |
| 3:D:631:ILE:CD1 | 3:D:743:ASP:HB2 | 2.09 | 0.81 |
| 5:G:5:DC:H2'' | 5:G:6:DT:C5' | 2.09 | 0.81 |
| 1:L:110:LYS:HD3 | 1:L:126:ASP:HA | 1.62 | 0.81 |
| 3:N:609:GLY:O | 3:N:615:ARG:HB2 | 1.79 | 0.81 |
| 3:D:1410:GLU:CG | 2:M:374:ASN:HA | 2.10 | 0.81 |
| 3:N:1389:LEU:CG | 3:N:1390:LEU:H | 1.93 | 0.81 |
| 3:D:631:ILE:HD11 | 3:D:743:ASP:HB2 | 1.62 | 0.81 |
| 3:N:183:GLU:HG2 | 3:N:184:GLU:N | 1.95 | 0.81 |
| 3:D:1432:LYS:HB2 | 3:D:1432:LYS:HZ2 | 1.44 | 0.81 |
| 3:D:711:LEU:HD12 | 3:D:778:LEU:HD23 | 1.61 | 0.81 |
| 7:Z:11:DG:OP2 | 7:Z:11:DG:H8 | 1.61 | 0.81 |
| 3:D:744:GLN:NE2 | 5:G:21:DG:H21 | 1.79 | 0.81 |
| 5:G:21:DG:H2'' | 5:G:22:DA:C5' | 2.11 | 0.81 |
| 2:M:1014:SER:HB3 | 2:M:1017:THR:O | 1.80 | 0.81 |
| 3:D:1098:LEU:HD23 | 3:D:1226:ALA:HA | 1.61 | 0.81 |
| 3:D:1087:ARG:HE | 3:D:1236:LEU:HD21 | 1.43 | 0.81 |
| 1:L:185:ARG:HH12 | 3:N:688:TRP:HB3 | 1.43 | 0.81 |
| 1:L:80:LEU:HG | 3:N:844:ALA:HA | 1.63 | 0.81 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 5:X:7:DA:H2' | 5:X:8:DC:C6 | 2.15 | 0.81 |
| 2:C:1041:GLU:HB3 | 3:D:1223:ILE:HG12 | 1.61 | 0.81 |
| 2:C:1060:ILE:HG23 | 2:C:1061:GLU:H | 1.43 | 0.81 |
| 3:D:1460:ILE:HG13 | 3:D:1460:ILE:O | 1.78 | 0.81 |
| 3:D:52:PRO:HD2 | 3:D:85:VAL:CG2 | 2.11 | 0.81 |
| 2:M:679:PHE:C | 3:N:943:THR:HG22 | 2.00 | 0.81 |
| 1:B:24:VAL:HG13 | 1:B:196:THR:HG22 | 1.63 | 0.81 |
| 2:C:263:ASP:HB2 | 2:C:264:PRO:HD3 | 1.60 | 0.81 |
| 2:C:49:ARG:HA | 2:C:52:PHE:CB | 2.11 | 0.81 |
| 3:N:581:LEU:HD23 | 3:N:581:LEU:H | 1.43 | 0.81 |
| 2:C:1014:SER:HB3 | 2:C:1017:THR:O | 1.80 | 0.81 |
| 2:C:186:VAL:HG23 | 2:C:187:ASN:H | 1.44 | 0.81 |
| 2:C:928:LYS:NZ | 2:C:932:GLU:HG3 | 1.96 | 0.81 |
| 3:D:696:HIS:CD2 | 4:E:59:ASN:N | 2.48 | 0.81 |
| 3:D:897:TRP:HA | 3:D:900:ILE:CD1 | 2.11 | 0.81 |
| 2:M:611:ILE:HD11 | 2:M:641:PRO:HG3 | 1.63 | 0.81 |
| 2:M:875:GLY:HA2 | 3:N:1029:ARG:NH2 | 1.96 | 0.81 |
| 3:N:639:LEU:HD12 | 3:N:640:HIS:H | 1.45 | 0.81 |
| 2:C:918:LEU:HD23 | 2:C:968:LEU:HA | 1.62 | 0.80 |
| 3:D:1472:ILE:HD13 | 3:D:1472:ILE:N | 1.94 | 0.80 |
| 3:D:637:LEU:HD11 | 3:D:642:CYS:HA | 1.61 | 0.80 |
| 3:D:1216:SER:HB3 | 4:E:16:LYS:H | 1.44 | 0.80 |
| 3:N:1435:LEU:HD23 | 3:N:1464:GLU:CB | 2.06 | 0.80 |
| 2:C:1115:LEU:CG | 3:D:85:VAL:HG12 | 2.10 | 0.80 |
| 2:C:141:HIS:NE2 | 2:C:332:ARG:HB3 | 1.97 | 0.80 |
| 2:C:328:LEU:CD1 | 2:C:433:THR:HB | 2.09 | 0.80 |
| 2:C:328:LEU:HD13 | 2:C:433:THR:CB | 2.09 | 0.80 |
| 2:C:457:ALA:HB3 | 2:C:538:GLN:HA | 1.64 | 0.80 |
| 3:D:671:LYS:O | 3:D:675:ARG:HG3 | 1.80 | 0.80 |
| 2:M:157:ARG:HD3 | 2:M:314:THR:CG2 | 2.11 | 0.80 |
| 2:M:437:ARG:NH2 | 2:M:488:ALA:HA | 1.96 | 0.80 |
| 3:N:638:LYS:HD3 | 3:N:932:ASP:OD2 | 1.81 | 0.80 |
| 3:N:728:LEU:HD12 | 3:N:729:HIS:H | 1.46 | 0.80 |
| 5:G:17:DA:C2' | 5:G:18:DC:H5' | 2.11 | 0.80 |
| 2:C:31:GLN:HB3 | 2:C:71:TYR:OH | 1.82 | 0.80 |
| 3:D:610:LYS:HB2 | 5:G:18:DC:OP2 | 1.81 | 0.80 |
| 7:I:3:DA:H1' | 7:I:4:DG:C5' | 2.10 | 0.80 |
| 2:M:304:LEU:HD23 | 2:M:305:PRO:HD3 | 1.60 | 0.80 |
| 2:C:831:ARG:HH12 | 2:C:1004:LYS:HG2 | 1.46 | 0.80 |
| 2:C:676:ILE:HG22 | 2:C:988:VAL:O | 1.82 | 0.80 |
| 2:C:697:ARG:O | 2:C:699:PHE:N | 2.14 | 0.80 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------------|-------------------|--------------------------|-------------------|
| 3:D:1191:PRO:O | 3:D:1373:ARG:NH1 | 2.14 | 0.80 |
| 3:D:50:PHE:O | 3:D:86:ARG:HA | 1.81 | 0.80 |
| 3:D:899:LEU:CD2 | 3:D:917:GLN:HG3 | 2.10 | 0.80 |
| 2:C:266:ARG:HA | 2:C:288:ARG:CD | 2.10 | 0.80 |
| 2:C:431:HIS:H | 2:C:434:HIS:CE1 | 2.00 | 0.80 |
| 2:C:683:ASN:O | 2:C:872:ASN:HB2 | 1.80 | 0.80 |
| 3:D:771:SER:HB3 | 3:D:778:LEU:HD13 | 1.64 | 0.80 |
| 1:A:42:ARG:NH1 | 1:B:34:VAL:HB | 1.97 | 0.80 |
| 3:D:1088:THR:HG23 | 3:D:1234:THR:CG2 | 2.12 | 0.80 |
| 3:D:1242:HIS:HB2 | 3:D:1251:ASP:HB2 | 1.64 | 0.80 |
| 3:D:1425:THR:O | 3:D:1429:LEU:HD13 | 1.81 | 0.80 |
| 3:N:181:ASP:HB3 | 3:N:441:ARG:CD | 2.11 | 0.80 |
| 3:N:615:ARG:O | 3:N:619:LEU:HG | 1.82 | 0.80 |
| 3:N:1213:ARG:HH22 | 4:O:14:ASP:HA | 1.44 | 0.80 |
| 1:B:212:ASN:O | 1:B:215:VAL:HG22 | 1.80 | 0.80 |
| 3:N:693:GLU:O | 4:O:48:MET:HE1 | 1.82 | 0.80 |
| 2:C:52:PHE:HZ | 2:C:68:PHE:HB2 | 1.37 | 0.79 |
| 3:D:1088:THR:HG23 | 3:D:1234:THR:HG23 | 1.63 | 0.79 |
| 3:D:565:ILE:HD12 | 3:D:565:ILE:N | 1.97 | 0.79 |
| 3:D:792:ILE:O | 3:D:878:GLY:HA3 | 1.82 | 0.79 |
| 3:N:136:ASP:CB | 3:N:137:PRO:HD3 | 2.11 | 0.79 |
| 3:N:1472:ILE:CD1 | 3:N:1472:ILE:H | 1.85 | 0.79 |
| 4:O:34:GLY:HA3 | 4:O:95:VAL:HB | 1.64 | 0.79 |
| 5:X:8:DC:H2 ⁺ | 5:X:9:DC:OP2 | 1.82 | 0.79 |
| 1:A:88:ARG:HD2 | 1:A:204:SER:O | 1.82 | 0.79 |
| 2:M:1067:TYR:O | 2:M:1071:ILE:HG12 | 1.82 | 0.79 |
| 2:M:89:THR:HG21 | 2:M:383:ARG:NH2 | 1.94 | 0.79 |
| 3:N:493:ARG:CZ | 3:N:1391:GLU:HA | 2.12 | 0.79 |
| 1:L:92:PRO:HA | 1:L:146:ARG:HH12 | 1.45 | 0.79 |
| 3:D:1096:ARG:NH2 | 3:D:1440:PHE:HD2 | 1.77 | 0.79 |
| 6:H:15:C:H6 | 6:H:15:C:OP2 | 1.66 | 0.79 |
| 1:K:177:VAL:O | 2:M:864:GLY:HA2 | 1.82 | 0.79 |
| 3:N:1166:LEU:HD23 | 3:N:1166:LEU:H | 1.48 | 0.79 |
| 1:A:106:PRO:HG3 | 1:A:134:GLU:CD | 2.03 | 0.79 |
| 2:C:831:ARG:NH1 | 2:C:1004:LYS:HG2 | 1.98 | 0.79 |
| 2:M:1000:MET:HB2 | 2:M:1002:GLU:HG2 | 1.63 | 0.79 |
| 2:M:693:GLU:CG | 2:M:697:ARG:HH21 | 1.95 | 0.79 |
| 3:N:1389:LEU:HG | 3:N:1390:LEU:H | 1.47 | 0.79 |
| 3:N:646:LYS:CD | 3:N:688:TRP:CZ2 | 2.66 | 0.79 |
| 2:C:498:GLN:OE1 | 3:D:1067:VAL:HB | 1.81 | 0.79 |
| 1:L:137:ARG:NH2 | 1:L:139:ASN:HB3 | 1.97 | 0.79 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 2:M:445:GLU:HA | 2:M:449:ILE:CD1 | 2.11 | 0.79 |
| 3:N:111:LYS:HG2 | 3:N:1448:THR:HG22 | 1.63 | 0.79 |
| 3:D:700:VAL:O | 3:D:715:ALA:HA | 1.82 | 0.79 |
| 1:L:26:GLU:HB2 | 1:L:27:PRO:HA | 1.61 | 0.79 |
| 2:M:398:THR:N | 2:M:633:GLN:HG2 | 1.97 | 0.79 |
| 2:M:939:ARG:HA | 2:M:939:ARG:NE | 1.97 | 0.79 |
| 3:N:1200:VAL:HG13 | 3:N:1204:CYS:HB2 | 1.64 | 0.79 |
| 7:Z:2:DT:H1' | 7:Z:3:DA:H5' | 1.63 | 0.79 |
| 3:D:960:LYS:CE | 3:D:964:LEU:HD12 | 2.12 | 0.79 |
| 3:N:754:PHE:CA | 4:O:24:ALA:HB1 | 2.08 | 0.79 |
| 3:D:17:LYS:O | 3:D:20:SER:HB3 | 1.81 | 0.79 |
| 4:O:43:GLU:HG3 | 4:O:44:GLU:H | 1.47 | 0.79 |
| 3:D:1096:ARG:NH2 | 3:D:1440:PHE:CD2 | 2.50 | 0.79 |
| 3:D:1112:CYS:N | 3:D:1201:CYS:HB3 | 1.98 | 0.79 |
| 2:M:396:ASP:HB3 | 2:M:406:HIS:CG | 2.17 | 0.79 |
| 2:C:1016:ILE:HG12 | 2:C:1017:THR:H | 1.48 | 0.78 |
| 2:C:332:ARG:CZ | 2:C:464:LEU:HG | 2.13 | 0.78 |
| 3:D:1003:VAL:HG13 | 3:D:1036:ARG:HD2 | 1.65 | 0.78 |
| 3:N:1016:PRO:HA | 3:N:1021:TYR:HE1 | 1.48 | 0.78 |
| 3:N:27:GLU:HB3 | 3:N:41:ARG:NH1 | 1.97 | 0.78 |
| 3:N:760:ARG:NH1 | 4:O:61:VAL:HG23 | 1.96 | 0.78 |
| 6:Y:6:C:H6 | 6:Y:6:C:O5' | 1.66 | 0.78 |
| 2:C:338:GLU:O | 2:C:341:THR:HG22 | 1.84 | 0.78 |
| 3:D:10:ILE:HG13 | 3:D:1434:TRP:CZ2 | 2.18 | 0.78 |
| 3:D:10:ILE:HG22 | 3:D:1451:ALA:CA | 2.13 | 0.78 |
| 4:E:70:THR:HB | 4:E:72:ARG:HG2 | 1.63 | 0.78 |
| 3:D:1093:TYR:CZ | 5:G:17:DA:H1' | 2.19 | 0.78 |
| 1:K:197:LEU:H | 1:K:197:LEU:HD23 | 1.47 | 0.78 |
| 2:M:927:GLY:HA2 | 2:M:930:LYS:HD3 | 1.63 | 0.78 |
| 3:N:501:ALA:HB1 | 3:N:1453:ALA:HB2 | 1.64 | 0.78 |
| 7:Z:16:DG:H2'' | 7:Z:17:DA:OP2 | 1.83 | 0.78 |
| 2:C:52:PHE:CE1 | 2:C:68:PHE:N | 2.51 | 0.78 |
| 2:C:436:GLY:HA2 | 2:C:539:VAL:HA | 1.65 | 0.78 |
| 3:D:902:LEU:N | 3:D:902:LEU:HD23 | 1.98 | 0.78 |
| 5:G:2:DT:H2' | 5:G:3:DC:C5 | 2.18 | 0.78 |
| 3:N:1018:ASN:HB3 | 3:N:1021:TYR:CB | 2.13 | 0.78 |
| 3:N:1277:ILE:HD12 | 3:N:1301:LYS:N | 1.99 | 0.78 |
| 3:N:1383:ASP:HB2 | 3:N:1416:ALA:HB3 | 1.65 | 0.78 |
| 3:D:637:LEU:HD11 | 3:D:642:CYS:CA | 2.14 | 0.78 |
| 2:M:1019:GLN:NE2 | 2:M:1058:ASP:OD1 | 2.17 | 0.78 |
| 3:N:1277:ILE:CD1 | 3:N:1301:LYS:HB2 | 2.13 | 0.78 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:N:705:ALA:CB | 3:N:706:PRO:HD3 | 2.10 | 0.78 |
| 2:C:758:ARG:HB3 | 2:C:788:THR:O | 1.82 | 0.78 |
| 1:A:46:SER:HB3 | 2:C:856:GLU:OE2 | 1.84 | 0.78 |
| 3:D:1205:TYR:CE2 | 3:D:1215:VAL:HG21 | 2.19 | 0.78 |
| 3:N:833:GLU:O | 3:N:834:THR:CG2 | 2.30 | 0.78 |
| 3:N:796:ARG:HH21 | 3:N:862:ASP:CG | 1.86 | 0.78 |
| 4:E:59:ASN:HB3 | 4:E:62:THR:OG1 | 1.83 | 0.78 |
| 7:I:6:DT:H2" | 7:I:7:DT:OP2 | 1.82 | 0.78 |
| 2:M:1074:GLU:HG2 | 2:M:1075:ASP:H | 1.48 | 0.78 |
| 2:M:140:ILE:O | 2:M:418:LEU:HD23 | 1.84 | 0.78 |
| 2:M:808:ARG:HH21 | 2:M:820:ARG:NH2 | 1.81 | 0.78 |
| 2:C:367:LEU:HB3 | 2:C:371:LYS:HE3 | 1.65 | 0.78 |
| 2:C:48:PHE:O | 2:C:52:PHE:CB | 2.29 | 0.78 |
| 3:D:1112:CYS:N | 3:D:1201:CYS:SG | 2.57 | 0.78 |
| 2:M:129:ILE:HG22 | 2:M:130:ASN:N | 1.97 | 0.78 |
| 2:M:683:ASN:O | 2:M:872:ASN:HB2 | 1.84 | 0.78 |
| 2:M:889:HIS:HE1 | 2:M:988:VAL:CG2 | 1.96 | 0.78 |
| 3:N:1098:LEU:O | 3:N:1102:THR:HG23 | 1.84 | 0.78 |
| 3:N:1240:THR:O | 3:N:1241:PHE:HB2 | 1.82 | 0.78 |
| 3:N:163:TYR:HD1 | 3:N:165:LYS:H | 1.31 | 0.78 |
| 3:N:171:LEU:CD1 | 3:N:195:VAL:CG2 | 2.61 | 0.78 |
| 3:D:1195:GLN:CG | 3:D:1196:THR:N | 2.47 | 0.78 |
| 2:M:603:VAL:HB | 2:M:647:GLN:H | 1.49 | 0.78 |
| 3:N:1131:SER:CB | 3:N:1133:ARG:HH21 | 1.96 | 0.78 |
| 3:N:1438:ALA:O | 3:N:1443:THR:HG22 | 1.83 | 0.78 |
| 2:M:1109:VAL:HG11 | 3:N:5:VAL:CG2 | 2.10 | 0.78 |
| 2:M:300:ASP:OD2 | 2:M:303:PHE:HB2 | 1.82 | 0.78 |
| 2:M:707:ARG:HD2 | 2:M:824:ARG:HD2 | 1.66 | 0.78 |
| 2:M:705:ILE:HG12 | 2:M:828:ALA:HB2 | 1.64 | 0.78 |
| 2:C:684:PHE:H | 2:C:687:ALA:HB3 | 1.47 | 0.78 |
| 1:L:201:THR:HG21 | 1:L:205:VAL:O | 1.84 | 0.78 |
| 2:M:626:ARG:HG3 | 2:M:639:GLN:HE21 | 1.49 | 0.78 |
| 3:N:501:ALA:CB | 3:N:1453:ALA:HB2 | 2.14 | 0.78 |
| 3:N:1106:VAL:HG11 | 3:N:1474:ALA:CB | 2.14 | 0.77 |
| 2:M:1095:LEU:CD2 | 3:N:603:LEU:HD13 | 2.15 | 0.77 |
| 3:N:646:LYS:CE | 3:N:688:TRP:CZ2 | 2.66 | 0.77 |
| 2:C:487:THR:HG22 | 2:C:489:THR:HG23 | 1.65 | 0.77 |
| 3:D:1018:ASN:HB3 | 3:D:1021:TYR:HB3 | 1.66 | 0.77 |
| 3:D:1197:ARG:HA | 3:D:1396:GLU:HG3 | 1.66 | 0.77 |
| 2:M:1045:ALA:HB1 | 2:M:1048:THR:HB | 1.66 | 0.77 |
| 3:N:1425:THR:O | 3:N:1429:LEU:HD13 | 1.84 | 0.77 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:Z:10:DG:H2'' | 7:Z:11:DG:OP2 | 1.85 | 0.77 |
| 2:C:796:GLU:HB2 | 2:C:1004:LYS:NZ | 1.99 | 0.77 |
| 2:C:408:ARG:HG3 | 2:C:454:SER:HB3 | 1.65 | 0.77 |
| 3:D:136:ASP:HB3 | 3:D:137:PRO:CD | 2.13 | 0.77 |
| 3:D:498:VAL:O | 3:D:501:ALA:HB3 | 1.84 | 0.77 |
| 1:L:212:ASN:O | 1:L:215:VAL:HG22 | 1.84 | 0.77 |
| 2:M:881:ASN:N | 2:M:881:ASN:HD22 | 1.81 | 0.77 |
| 3:N:1381:VAL:HG12 | 3:N:1382:THR:N | 1.99 | 0.77 |
| 3:N:457:GLY:O | 3:N:460:ALA:N | 2.18 | 0.77 |
| 3:N:704:ARG:HE | 3:N:706:PRO:HD2 | 1.50 | 0.77 |
| 1:A:43:ILE:HG22 | 1:A:47:SER:HB2 | 1.67 | 0.77 |
| 2:C:274:ARG:HG3 | 2:C:274:ARG:HH11 | 1.47 | 0.77 |
| 3:N:1468:LEU:HD23 | 3:N:1468:LEU:O | 1.83 | 0.77 |
| 3:N:41:ARG:HD3 | 3:N:42:ASP:N | 1.99 | 0.77 |
| 3:N:481:MET:HE3 | 3:N:1388:ARG:HB2 | 1.66 | 0.77 |
| 1:B:218:LEU:O | 1:B:222:LEU:HG | 1.85 | 0.77 |
| 2:C:688:ILE:CD1 | 2:C:847:GLY:HA3 | 2.15 | 0.77 |
| 2:C:861:LEU:CD2 | 2:C:863:ASP:HB3 | 2.15 | 0.77 |
| 2:C:966:LEU:HD21 | 2:C:986:PRO:HG2 | 1.65 | 0.77 |
| 5:G:20:DC:H2'' | 5:G:21:DG:H5' | 1.66 | 0.77 |
| 5:G:21:DG:H2'' | 5:G:22:DA:H5' | 1.66 | 0.77 |
| 2:M:697:ARG:O | 2:M:699:PHE:N | 2.17 | 0.77 |
| 3:N:646:LYS:CE | 3:N:688:TRP:CE2 | 2.68 | 0.77 |
| 1:B:34:VAL:HG22 | 1:B:181:VAL:HG21 | 1.65 | 0.77 |
| 2:C:265:ARG:H | 2:C:289:THR:HG21 | 1.47 | 0.77 |
| 3:D:1045:MET:HE2 | 3:D:1076:GLY:HA3 | 1.63 | 0.77 |
| 2:M:334:ARG:HB2 | 2:M:339:LEU:HD21 | 1.67 | 0.77 |
| 2:M:5:ARG:HB3 | 2:M:902:ILE:HB | 1.66 | 0.77 |
| 3:N:1438:ALA:CA | 3:N:1446:VAL:HG11 | 2.15 | 0.77 |
| 3:D:639:LEU:HD12 | 3:D:640:HIS:H | 1.49 | 0.77 |
| 5:G:28:DG:H8 | 5:G:28:DG:OP2 | 1.66 | 0.77 |
| 2:M:532:MET:HG2 | 2:M:533:ASP:N | 1.98 | 0.77 |
| 3:N:654:LYS:O | 3:N:658:LEU:HG | 1.84 | 0.77 |
| 3:N:792:ILE:O | 3:N:878:GLY:HA3 | 1.85 | 0.77 |
| 2:C:559:LEU:HD23 | 2:C:563:ASN:OD1 | 1.84 | 0.77 |
| 2:C:693:GLU:HG2 | 2:C:697:ARG:HH21 | 1.48 | 0.77 |
| 2:C:1095:LEU:HB3 | 2:C:1097:LEU:HD23 | 1.65 | 0.77 |
| 2:C:185:LYS:CG | 2:C:190:LYS:HG3 | 2.14 | 0.77 |
| 2:C:266:ARG:CA | 2:C:288:ARG:HD3 | 2.14 | 0.77 |
| 2:C:368:THR:HB | 2:C:369:PRO:HD3 | 1.66 | 0.77 |
| 2:M:617:ASP:CG | 2:M:619:ARG:HE | 1.88 | 0.77 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:N:660:LYS:CD | 3:N:694:VAL:HG22 | 2.14 | 0.77 |
| 7:Z:13:DA:H2'' | 7:Z:14:DG:OP2 | 1.82 | 0.77 |
| 2:C:151:ASP:OD1 | 2:C:152:PRO:HD2 | 1.84 | 0.77 |
| 2:C:409:ARG:HB3 | 2:C:454:SER:HG | 1.48 | 0.77 |
| 3:D:1440:PHE:O | 3:D:1441:GLN:HB2 | 1.85 | 0.77 |
| 2:C:1042:ALA:CB | 3:D:710:ARG:HB3 | 2.15 | 0.77 |
| 3:D:6:ARG:O | 3:D:7:LYS:HG3 | 1.85 | 0.77 |
| 2:M:1082:PRO:O | 2:M:1086:ARG:HG3 | 1.84 | 0.77 |
| 3:N:98:PRO:HG3 | 3:N:515:GLU:HB3 | 1.67 | 0.77 |
| 1:A:103:ALA:O | 1:A:138:LEU:HB3 | 1.85 | 0.76 |
| 1:A:175:ARG:HD3 | 1:A:176:ARG:HG2 | 1.67 | 0.76 |
| 3:D:7:LYS:HG2 | 3:D:1458:GLU:HA | 1.67 | 0.76 |
| 1:K:86:VAL:CG1 | 1:K:124:ASN:HB2 | 2.14 | 0.76 |
| 7:I:11:DG:H2' | 7:I:12:DT:H72 | 1.65 | 0.76 |
| 1:L:101:LEU:CD1 | 1:L:113:ASP:HB3 | 2.16 | 0.76 |
| 2:M:85:GLU:O | 2:M:824:ARG:NH2 | 2.18 | 0.76 |
| 3:N:1426:LYS:HA | 3:N:1429:LEU:HD22 | 1.68 | 0.76 |
| 3:N:618:LEU:CD1 | 3:N:1467:ILE:CG1 | 2.47 | 0.76 |
| 2:C:1094:ALA:HA | 3:D:518:PRO:HB2 | 1.65 | 0.76 |
| 1:K:112:ARG:HH11 | 1:K:112:ARG:HG2 | 1.50 | 0.76 |
| 3:N:167:GLU:OE1 | 3:N:198:ARG:NH2 | 2.18 | 0.76 |
| 2:C:1111:ILE:HG13 | 2:C:1112:PHE:H | 1.49 | 0.76 |
| 2:C:904:PRO:HD2 | 2:C:908:GLY:HA2 | 1.67 | 0.76 |
| 3:D:897:TRP:HB2 | 3:D:900:ILE:CD1 | 2.07 | 0.76 |
| 3:N:131:LYS:HG3 | 3:N:568:ARG:HG2 | 1.68 | 0.76 |
| 2:C:1032:PHE:O | 2:C:1036:GLU:HB2 | 1.84 | 0.76 |
| 3:N:1216:SER:HB3 | 4:O:15:SER:CA | 2.15 | 0.76 |
| 3:D:1109:GLU:CD | 3:D:1202:GLN:H | 1.88 | 0.76 |
| 3:D:1194:CYS:HB3 | 3:D:1373:ARG:HH12 | 1.48 | 0.76 |
| 3:D:705:ALA:CB | 6:H:14:G:N2 | 2.15 | 0.76 |
| 3:N:1238:MET:O | 3:N:1239:ARG:HG3 | 1.84 | 0.76 |
| 3:N:171:LEU:CG | 3:N:195:VAL:HG23 | 2.15 | 0.76 |
| 3:D:1154:GLU:O | 3:N:562:ALA:N | 2.17 | 0.76 |
| 2:C:304:LEU:CG | 2:C:305:PRO:HD3 | 2.15 | 0.76 |
| 2:C:328:LEU:HD22 | 2:C:433:THR:O | 1.85 | 0.76 |
| 2:C:404:LEU:HD22 | 2:C:591:SER:HB3 | 1.68 | 0.76 |
| 3:D:600:LEU:H | 3:D:600:LEU:CD1 | 1.99 | 0.76 |
| 1:A:72:LYS:HE3 | 2:C:641:PRO:O | 1.86 | 0.76 |
| 3:D:1112:CYS:N | 3:D:1201:CYS:CB | 2.47 | 0.76 |
| 3:D:615:ARG:HH12 | 3:D:1096:ARG:CZ | 1.99 | 0.76 |
| 2:M:703:ILE:H | 2:M:703:ILE:HD12 | 1.51 | 0.76 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 2:M:876:VAL:HG11 | 2:M:885:ILE:HD11 | 1.67 | 0.76 |
| 1:K:181:VAL:N | 2:M:937:ASP:OD1 | 2.18 | 0.76 |
| 3:N:796:ARG:HG3 | 3:N:861:GLN:O | 1.85 | 0.76 |
| 1:A:188:GLN:HG3 | 1:A:189:ARG:H | 1.51 | 0.76 |
| 2:C:939:ARG:HE | 2:C:939:ARG:HA | 1.49 | 0.76 |
| 3:D:1231:GLU:HB3 | 3:D:1232:PRO:HD3 | 1.66 | 0.76 |
| 3:D:897:TRP:HA | 3:D:900:ILE:HG13 | 1.62 | 0.76 |
| 2:C:48:PHE:O | 2:C:52:PHE:N | 2.19 | 0.76 |
| 2:C:679:PHE:H | 2:C:683:ASN:HD21 | 1.32 | 0.76 |
| 3:D:1380:GLU:HG2 | 3:D:1381:VAL:H | 1.50 | 0.76 |
| 4:E:36:LYS:H | 4:E:95:VAL:CG2 | 1.96 | 0.76 |
| 2:M:1012:PRO:HD3 | 2:M:1026:GLN:HG2 | 1.68 | 0.76 |
| 2:M:735:ARG:HH11 | 2:M:735:ARG:HG2 | 1.49 | 0.76 |
| 3:N:702:LEU:O | 3:N:713:ILE:HA | 1.86 | 0.76 |
| 2:C:943:VAL:HG23 | 2:C:985:GLY:H | 1.51 | 0.75 |
| 3:D:522:PRO:CA | 3:D:525:ARG:HH11 | 1.99 | 0.75 |
| 2:M:966:LEU:HD21 | 2:M:986:PRO:HG2 | 1.66 | 0.75 |
| 3:N:102:ILE:HD12 | 3:N:579:ASP:HB3 | 1.68 | 0.75 |
| 3:D:847:ASP:O | 3:D:851:LEU:HG | 1.85 | 0.75 |
| 2:M:129:ILE:HD13 | 2:M:134:ARG:HB2 | 1.68 | 0.75 |
| 2:M:677:MET:HB3 | 3:N:948:THR:HG21 | 1.68 | 0.75 |
| 2:M:684:PHE:CG | 2:M:685:GLU:N | 2.53 | 0.75 |
| 3:N:166:GLN:HA | 3:N:198:ARG:HB3 | 1.69 | 0.75 |
| 2:C:739:GLU:HG3 | 2:C:742:VAL:CB | 2.16 | 0.75 |
| 3:D:618:LEU:HD13 | 3:D:1439:SER:HB3 | 1.67 | 0.75 |
| 2:M:42:VAL:HA | 2:M:46:ALA:HB2 | 1.68 | 0.75 |
| 2:M:52:PHE:HE1 | 2:M:66:LEU:HG | 1.51 | 0.75 |
| 3:N:646:LYS:HD2 | 3:N:688:TRP:CZ2 | 2.22 | 0.75 |
| 1:A:43:ILE:HG22 | 1:A:47:SER:CB | 2.16 | 0.75 |
| 3:D:614:PHE:HE2 | 3:D:1443:THR:HB | 1.51 | 0.75 |
| 3:D:1446:VAL:HB | 3:D:1447:LEU:HD13 | 1.67 | 0.75 |
| 2:M:946:ARG:CZ | 2:M:984:GLU:HB2 | 2.17 | 0.75 |
| 3:N:166:GLN:CB | 3:N:198:ARG:HB3 | 2.16 | 0.75 |
| 3:N:646:LYS:HD2 | 3:N:688:TRP:CD2 | 2.22 | 0.75 |
| 2:C:285:LEU:HD23 | 2:C:285:LEU:O | 1.86 | 0.75 |
| 3:D:900:ILE:HD12 | 3:D:902:LEU:HD22 | 1.68 | 0.75 |
| 3:D:1209:LEU:HD21 | 4:E:16:LYS:NZ | 2.00 | 0.75 |
| 5:G:8:DC:H2' | 5:G:9:DC:OP2 | 1.85 | 0.75 |
| 3:N:1274:ILE:HG22 | 3:N:1301:LYS:NZ | 2.01 | 0.75 |
| 3:D:1190:SER:O | 3:D:1204:CYS:SG | 2.44 | 0.75 |
| 3:D:1481:VAL:HG12 | 4:E:21:VAL:HG21 | 1.68 | 0.75 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 2:M:1054:THR:OG1 | 2:M:1055:LEU:N | 2.19 | 0.75 |
| 2:C:928:LYS:HZ2 | 2:C:932:GLU:HG3 | 1.51 | 0.75 |
| 3:D:704:ARG:HA | 3:D:745:MET:CG | 2.13 | 0.75 |
| 2:M:1021:LEU:HD22 | 6:Y:5:C:O2 | 1.86 | 0.75 |
| 3:N:996:TRP:HA | 3:N:999:THR:HG22 | 1.69 | 0.75 |
| 3:D:696:HIS:CD2 | 4:E:59:ASN:CB | 2.69 | 0.75 |
| 2:M:129:ILE:HG22 | 2:M:130:ASN:H | 1.49 | 0.75 |
| 2:M:724:ARG:HG3 | 2:M:737:LEU:HD22 | 1.68 | 0.75 |
| 3:N:1211:MET:HG2 | 3:N:1212:ALA:H | 1.52 | 0.75 |
| 3:N:696:HIS:ND1 | 3:N:697:GLY:N | 2.35 | 0.75 |
| 3:D:1042:ARG:HG2 | 3:D:1061:PHE:CE1 | 2.19 | 0.75 |
| 3:D:608:SER:CB | 3:D:1442:ASN:O | 2.35 | 0.75 |
| 2:M:265:ARG:HB3 | 2:M:267:TYR:CG | 2.22 | 0.75 |
| 2:M:732:ALA:HA | 2:M:735:ARG:CZ | 2.17 | 0.75 |
| 3:N:1239:ARG:NH1 | 3:N:1239:ARG:HB2 | 2.02 | 0.75 |
| 1:L:185:ARG:NH2 | 3:N:688:TRP:HB2 | 2.00 | 0.75 |
| 2:C:304:LEU:HG | 2:C:305:PRO:HD3 | 1.68 | 0.74 |
| 2:C:976:ASP:CG | 2:C:979:THR:HG22 | 2.06 | 0.74 |
| 7:I:11:DG:H2" | 7:I:12:DT:OP2 | 1.86 | 0.74 |
| 1:L:52:ALA:HB1 | 1:L:170:VAL:H | 1.52 | 0.74 |
| 2:M:889:HIS:O | 2:M:892:LEU:HB3 | 1.87 | 0.74 |
| 3:N:1224:VAL:HA | 3:N:1227:GLN:OE1 | 1.87 | 0.74 |
| 3:N:1270:ALA:O | 3:N:1329:ALA:HB3 | 1.86 | 0.74 |
| 2:C:326:ASP:HB3 | 2:C:431:HIS:HB2 | 1.69 | 0.74 |
| 3:D:473:LEU:HG | 3:D:476:GLU:OE2 | 1.87 | 0.74 |
| 3:D:85:VAL:HB | 3:D:89:ARG:CZ | 2.17 | 0.74 |
| 2:M:479:VAL:HG11 | 2:M:503:LEU:HD11 | 1.70 | 0.74 |
| 2:M:580:MET:HB3 | 2:M:584:GLU:OE2 | 1.86 | 0.74 |
| 2:M:57:GLU:O | 2:M:62:GLY:HA3 | 1.87 | 0.74 |
| 3:N:1267:ARG:HG3 | 3:N:1271:LYS:HE2 | 1.68 | 0.74 |
| 3:N:1465:ASN:OD1 | 3:N:1473:PRO:CG | 2.34 | 0.74 |
| 4:O:5:GLY:HA3 | 4:O:8:LYS:HD2 | 1.69 | 0.74 |
| 2:C:52:PHE:CZ | 2:C:68:PHE:CA | 2.71 | 0.74 |
| 2:C:759:THR:HB | 2:C:785:VAL:HG22 | 1.69 | 0.74 |
| 3:D:7:LYS:HA | 3:D:1457:ASP:O | 1.87 | 0.74 |
| 1:L:62:LEU:HD12 | 1:L:63:HIS:H | 1.52 | 0.74 |
| 2:M:893:ALA:HB1 | 2:M:897:LEU:HD12 | 1.69 | 0.74 |
| 3:N:1369:GLU:O | 3:N:1372:VAL:HG12 | 1.87 | 0.74 |
| 3:N:36:THR:C | 3:N:38:LYS:H | 1.89 | 0.74 |
| 3:N:695:ILE:CD1 | 3:N:718:PRO:HB2 | 2.17 | 0.74 |
| 2:C:1032:PHE:CE2 | 2:C:1037:VAL:HA | 2.22 | 0.74 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 2:C:165:LEU:HG | 2:C:166:PRO:CA | 2.15 | 0.74 |
| 2:M:415:PRO:HD2 | 2:M:418:LEU:HD13 | 1.70 | 0.74 |
| 3:N:1262:LEU:HD23 | 3:N:1352:ILE:HG12 | 1.70 | 0.74 |
| 3:N:182:GLY:HA2 | 3:N:203:ALA:O | 1.87 | 0.74 |
| 3:N:553:ARG:O | 3:N:557:LEU:HG | 1.86 | 0.74 |
| 3:N:653:PHE:HB3 | 3:N:656:PHE:HB2 | 1.67 | 0.74 |
| 3:N:902:LEU:HD23 | 3:N:902:LEU:H | 1.52 | 0.74 |
| 2:C:930:LYS:HD2 | 2:C:960:GLU:OE1 | 1.88 | 0.74 |
| 3:D:899:LEU:CD2 | 3:D:917:GLN:CG | 2.64 | 0.74 |
| 1:L:124:ASN:ND2 | 1:L:127:LEU:HB2 | 2.00 | 0.74 |
| 3:N:87:ARG:HD3 | 3:N:524:LEU:HD11 | 1.68 | 0.74 |
| 1:A:87:VAL:HG21 | 1:A:144:VAL:HG11 | 1.70 | 0.74 |
| 2:C:759:THR:HB | 2:C:785:VAL:CG2 | 2.17 | 0.74 |
| 2:C:911:GLU:HB3 | 2:C:912:PRO:HD3 | 1.70 | 0.74 |
| 2:M:1054:THR:OG1 | 2:M:1055:LEU:HG | 1.87 | 0.74 |
| 2:M:328:LEU:HD11 | 2:M:434:HIS:CE1 | 2.22 | 0.74 |
| 3:N:607:LEU:HA | 3:N:613:ARG:CB | 2.18 | 0.74 |
| 3:D:907:GLU:O | 3:D:911:LEU:HD13 | 1.88 | 0.74 |
| 2:M:889:HIS:CE1 | 2:M:988:VAL:HG21 | 2.16 | 0.74 |
| 2:M:1046:ALA:HB2 | 3:N:1476:THR:HB | 1.69 | 0.74 |
| 4:O:37:ASN:HD22 | 4:O:37:ASN:N | 1.85 | 0.74 |
| 1:A:94:LEU:HD21 | 1:A:119:ASP:HB2 | 1.67 | 0.74 |
| 2:C:537:LYS:HD2 | 2:C:905:ILE:HD13 | 1.69 | 0.74 |
| 2:C:939:ARG:HD3 | 2:C:982:PRO:HD3 | 1.69 | 0.74 |
| 3:D:1166:LEU:HD23 | 3:D:1166:LEU:H | 1.53 | 0.74 |
| 3:D:641:GLN:HG2 | 3:D:717:GLN:HE21 | 1.51 | 0.74 |
| 3:D:785:ILE:HD12 | 3:D:785:ILE:H | 1.51 | 0.74 |
| 2:M:110:GLU:HG3 | 2:M:369:PRO:HG3 | 1.68 | 0.74 |
| 3:N:675:ARG:HA | 3:N:678:GLU:CD | 2.08 | 0.74 |
| 2:C:1090:LYS:HZ1 | 3:D:21:TRP:HB3 | 1.53 | 0.74 |
| 2:C:12:VAL:HB | 2:C:472:ARG:HH11 | 1.53 | 0.74 |
| 2:C:292:ARG:CG | 2:C:298:PHE:HA | 2.15 | 0.74 |
| 2:C:492:ASP:OD2 | 2:C:518:LYS:HB3 | 1.88 | 0.74 |
| 3:D:764:LEU:CD2 | 3:D:767:HIS:CE1 | 2.69 | 0.74 |
| 5:G:11:DC:H2" | 5:G:12:DA:OP2 | 1.86 | 0.74 |
| 1:K:188:GLN:HG3 | 1:K:189:ARG:H | 1.52 | 0.74 |
| 2:M:1060:ILE:HG23 | 2:M:1061:GLU:H | 1.52 | 0.74 |
| 2:M:541:SER:O | 2:M:545:ASN:ND2 | 2.21 | 0.74 |
| 3:N:171:LEU:HD11 | 3:N:195:VAL:CG2 | 2.18 | 0.74 |
| 3:N:925:GLU:OE1 | 4:O:7:ASP:OD2 | 2.06 | 0.74 |
| 1:A:43:ILE:CG2 | 1:A:47:SER:CB | 2.66 | 0.74 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:B:26:GLU:HB2 | 1:B:27:PRO:HA | 1.68 | 0.74 |
| 1:B:52:ALA:HB1 | 1:B:170:VAL:H | 1.53 | 0.74 |
| 3:D:531:ASP:OD1 | 6:H:4:G:H4' | 1.88 | 0.74 |
| 2:M:1114:GLY:H | 2:M:1115:LEU:HD12 | 1.53 | 0.74 |
| 3:N:1461:GLY:O | 3:N:1465:ASN:HB2 | 1.88 | 0.74 |
| 3:N:950:GLY:O | 3:N:953:ASP:HB2 | 1.87 | 0.74 |
| 1:A:222:LEU:HD23 | 1:B:219:ARG:CB | 2.18 | 0.73 |
| 1:B:30:ARG:HH11 | 1:B:30:ARG:HG2 | 1.52 | 0.73 |
| 2:C:423:ALA:HB1 | 7:I:1:DG:C5' | 2.15 | 0.73 |
| 3:D:102:ILE:HB | 3:D:579:ASP:OD1 | 1.88 | 0.73 |
| 3:D:600:LEU:HD12 | 3:D:600:LEU:N | 2.02 | 0.73 |
| 3:D:743:ASP:CG | 6:H:14:G:O2' | 2.26 | 0.73 |
| 3:D:864:VAL:HG12 | 3:D:865:THR:N | 2.04 | 0.73 |
| 3:D:1412:LYS:HB2 | 2:M:376:ARG:NH2 | 2.03 | 0.73 |
| 2:M:328:LEU:HD11 | 2:M:434:HIS:ND1 | 2.03 | 0.73 |
| 2:M:684:PHE:N | 2:M:687:ALA:HB3 | 2.02 | 0.73 |
| 2:M:987:ILE:CG2 | 3:N:948:THR:HG21 | 2.17 | 0.73 |
| 3:N:1152:GLU:OE2 | 3:N:1154:GLU:HG3 | 1.88 | 0.73 |
| 3:N:149:LYS:HE3 | 3:N:150:ARG:H | 1.52 | 0.73 |
| 3:N:97:THR:CG2 | 3:N:459:GLU:HB2 | 2.17 | 0.73 |
| 2:C:588:VAL:HG21 | 2:C:664:GLY:O | 1.89 | 0.73 |
| 3:D:11:ALA:HB1 | 3:D:507:ASN:OD1 | 1.89 | 0.73 |
| 3:D:6:ARG:HD2 | 3:D:1470:ARG:HH12 | 1.51 | 0.73 |
| 3:D:829:VAL:O | 3:D:835:SER:HB3 | 1.88 | 0.73 |
| 3:D:897:TRP:O | 3:D:900:ILE:HG13 | 1.88 | 0.73 |
| 3:D:996:TRP:HA | 3:D:999:THR:HG22 | 1.69 | 0.73 |
| 1:K:56:VAL:HG22 | 1:K:142:VAL:HG12 | 1.70 | 0.73 |
| 2:M:157:ARG:HD3 | 2:M:314:THR:HG21 | 1.71 | 0.73 |
| 3:N:1216:SER:CB | 4:O:15:SER:OG | 2.35 | 0.73 |
| 3:N:1274:ILE:CG2 | 3:N:1301:LYS:NZ | 2.51 | 0.73 |
| 3:N:1294:VAL:HG12 | 3:N:1319:VAL:HG23 | 1.70 | 0.73 |
| 2:C:345:ARG:HA | 2:C:348:LEU:HD22 | 1.67 | 0.73 |
| 2:C:52:PHE:HB3 | 2:C:53:PRO:HD3 | 1.69 | 0.73 |
| 3:D:729:HIS:O | 3:D:732:VAL:HG22 | 1.88 | 0.73 |
| 4:O:25:LYS:O | 4:O:29:GLN:HG3 | 1.89 | 0.73 |
| 7:Z:9:DT:H2'' | 7:Z:10:DG:OP2 | 1.88 | 0.73 |
| 2:C:139:GLN:O | 2:C:333:ILE:HA | 1.89 | 0.73 |
| 3:D:1216:SER:HB3 | 4:E:16:LYS:N | 2.01 | 0.73 |
| 3:D:1225:ALA:HA | 3:D:1367:HIS:ND1 | 2.02 | 0.73 |
| 3:D:1465:ASN:HD21 | 3:D:1470:ARG:HB3 | 1.52 | 0.73 |
| 3:D:65:ARG:H | 3:D:68:PHE:HE1 | 1.34 | 0.73 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 2:C:685:GLU:HG2 | 3:D:739:ASP:HB2 | 1.69 | 0.73 |
| 1:L:56:VAL:HG13 | 1:L:142:VAL:HG12 | 1.68 | 0.73 |
| 2:M:603:VAL:HB | 2:M:647:GLN:N | 2.03 | 0.73 |
| 3:N:1200:VAL:CG1 | 3:N:1204:CYS:HB2 | 2.17 | 0.73 |
| 3:N:699:VAL:HG21 | 3:N:760:ARG:HB3 | 1.70 | 0.73 |
| 3:N:87:ARG:CB | 3:N:523:ASP:HB2 | 2.19 | 0.73 |
| 2:C:1097:LEU:CD2 | 2:C:1097:LEU:H | 1.98 | 0.73 |
| 2:C:749:VAL:HG22 | 2:C:798:GLY:O | 1.89 | 0.73 |
| 3:D:702:LEU:O | 3:D:713:ILE:HA | 1.89 | 0.73 |
| 2:M:1095:LEU:HD21 | 3:N:603:LEU:CD1 | 2.17 | 0.73 |
| 2:M:861:LEU:HD23 | 2:M:862:PRO:N | 2.03 | 0.73 |
| 3:N:478:LEU:CD2 | 3:N:1388:ARG:HD3 | 2.19 | 0.73 |
| 3:N:520:LEU:HD11 | 3:N:524:LEU:HD23 | 1.68 | 0.73 |
| 3:N:705:ALA:HB3 | 3:N:706:PRO:CD | 2.14 | 0.73 |
| 1:A:42:ARG:HB2 | 1:B:35:THR:HG23 | 1.69 | 0.73 |
| 2:C:18:LEU:H | 2:C:18:LEU:CD1 | 2.00 | 0.73 |
| 2:C:16:PRO:O | 2:C:18:LEU:HD12 | 1.89 | 0.73 |
| 2:C:50:GLU:HB2 | 2:C:266:ARG:HH11 | 1.54 | 0.73 |
| 2:M:113:VAL:HG11 | 2:M:373:VAL:HG11 | 1.70 | 0.73 |
| 2:M:460:ARG:HG2 | 2:M:485:TYR:CE2 | 2.23 | 0.73 |
| 2:M:762:LYS:HE3 | 2:M:786:LYS:HE2 | 1.68 | 0.73 |
| 3:N:639:LEU:HA | 3:N:729:HIS:CD2 | 2.24 | 0.73 |
| 2:C:1035:MET:SD | 5:G:20:DC:H5' | 2.28 | 0.73 |
| 3:D:1034:GLN:O | 3:D:1038:LEU:CB | 2.34 | 0.73 |
| 2:M:265:ARG:H | 2:M:289:THR:HG21 | 0.64 | 0.73 |
| 2:M:674:VAL:HG23 | 2:M:869:VAL:HG13 | 1.69 | 0.73 |
| 3:N:1294:VAL:CG2 | 3:N:1301:LYS:HB3 | 2.18 | 0.73 |
| 2:C:352:ALA:O | 2:C:355:VAL:HG12 | 1.89 | 0.73 |
| 2:C:673:LEU:HB3 | 2:C:868:ASP:OD1 | 1.88 | 0.73 |
| 3:D:1103:HIS:CG | 3:D:1104:GLU:N | 2.57 | 0.73 |
| 3:D:8:VAL:HG21 | 3:D:1435:LEU:HD21 | 1.69 | 0.73 |
| 3:D:1438:ALA:HA | 3:D:1446:VAL:HG11 | 1.68 | 0.73 |
| 4:E:64:ALA:O | 4:E:68:LEU:HD22 | 1.88 | 0.73 |
| 3:D:739:ASP:N | 6:H:15:C:H5'' | 2.04 | 0.73 |
| 2:M:1016:ILE:HG12 | 2:M:1017:THR:N | 2.03 | 0.73 |
| 2:M:922:PHE:HB3 | 2:M:964:LYS:NZ | 2.04 | 0.73 |
| 3:N:1111:ASP:HA | 3:N:1201:CYS:HB2 | 1.69 | 0.73 |
| 3:N:481:MET:SD | 3:N:493:ARG:HB2 | 2.28 | 0.73 |
| 3:N:87:ARG:HB2 | 3:N:523:ASP:HB2 | 1.71 | 0.73 |
| 3:N:703:ASN:O | 3:N:745:MET:HB3 | 1.89 | 0.73 |
| 3:N:958:GLU:OE2 | 3:N:961:LYS:HD3 | 1.89 | 0.73 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 3:D:1342:GLU:HA | 3:D:1345:GLU:OE1 | 1.89 | 0.73 |
| 3:D:128:TYR:HE2 | 3:D:458:ALA:HA | 1.52 | 0.73 |
| 1:L:179:PHE:HB2 | 1:L:195:LEU:HD11 | 1.70 | 0.73 |
| 2:M:328:LEU:CD2 | 2:M:437:ARG:HD3 | 2.18 | 0.73 |
| 3:N:1107:VAL:HB | 3:N:1218:GLY:H | 1.53 | 0.73 |
| 1:B:102:LYS:HE2 | 1:B:139:ASN:HB2 | 1.70 | 0.73 |
| 3:D:615:ARG:HH22 | 3:D:1096:ARG:HD2 | 1.51 | 0.73 |
| 7:I:16:DG:H2'' | 7:I:17:DA:OP2 | 1.89 | 0.73 |
| 2:M:587:VAL:HG11 | 2:M:666:LEU:HD22 | 1.68 | 0.73 |
| 1:B:28:LEU:HB2 | 1:B:193:ASP:HB2 | 1.69 | 0.72 |
| 1:B:58:ILE:HD13 | 1:B:140:MET:HB3 | 1.70 | 0.72 |
| 2:C:1103:ASP:CG | 2:C:1104:GLU:H | 1.92 | 0.72 |
| 2:C:692:GLU:O | 2:C:696:LYS:HG3 | 1.89 | 0.72 |
| 2:C:630:ARG:HH21 | 2:C:707:ARG:H | 1.37 | 0.72 |
| 2:C:688:ILE:HD13 | 2:C:847:GLY:HA3 | 1.70 | 0.72 |
| 2:M:90:TYR:HE1 | 2:M:120:LEU:HD12 | 1.54 | 0.72 |
| 2:M:139:GLN:O | 2:M:333:ILE:HA | 1.89 | 0.72 |
| 1:A:43:ILE:HD13 | 1:B:32:PHE:HE2 | 1.53 | 0.72 |
| 2:C:460:ARG:HH22 | 2:C:468:ARG:NH1 | 1.87 | 0.72 |
| 3:D:1447:LEU:CD1 | 3:D:1447:LEU:N | 2.52 | 0.72 |
| 6:H:5:C:C6 | 6:H:5:C:O5' | 2.42 | 0.72 |
| 1:K:86:VAL:HG12 | 1:K:124:ASN:HB2 | 1.71 | 0.72 |
| 2:M:626:ARG:HG3 | 2:M:639:GLN:NE2 | 2.04 | 0.72 |
| 3:N:1194:CYS:SG | 3:N:1200:VAL:HG13 | 2.29 | 0.72 |
| 3:N:23:TYR:O | 3:N:49:ILE:HG23 | 1.89 | 0.72 |
| 3:N:899:LEU:HD23 | 3:N:921:ARG:HG3 | 1.72 | 0.72 |
| 3:N:1484:THR:HA | 4:O:76:GLY:O | 1.88 | 0.72 |
| 1:A:102:LYS:HB3 | 1:A:139:ASN:CG | 2.09 | 0.72 |
| 1:A:48:ILE:O | 1:A:148:VAL:HG13 | 1.87 | 0.72 |
| 2:C:64:LEU:HD12 | 2:C:100:LEU:HD11 | 1.71 | 0.72 |
| 2:C:281:LEU:HD12 | 2:C:309:TYR:CB | 2.19 | 0.72 |
| 2:C:333:ILE:O | 2:C:465:GLY:HA3 | 1.90 | 0.72 |
| 4:E:54:LEU:HD21 | 4:E:63:TRP:HE1 | 1.53 | 0.72 |
| 2:M:106:GLY:O | 2:M:107:LEU:HD23 | 1.89 | 0.72 |
| 3:N:434:ARG:HB3 | 3:N:434:ARG:HH11 | 1.54 | 0.72 |
| 2:C:143:SER:HB2 | 2:C:276:LYS:HE2 | 1.70 | 0.72 |
| 1:A:176:ARG:HH11 | 2:C:865:THR:HB | 1.54 | 0.72 |
| 2:C:678:PRO:HG3 | 2:C:873:PRO:HD2 | 1.71 | 0.72 |
| 3:D:714:GLN:HE21 | 3:D:765:SER:CB | 2.02 | 0.72 |
| 5:G:6:DT:H4' | 5:G:6:DT:OP1 | 1.87 | 0.72 |
| 3:D:486:ARG:HB2 | 5:G:8:DC:OP1 | 1.88 | 0.72 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 2:M:332:ARG:C | 2:M:333:ILE:HD12 | 2.09 | 0.72 |
| 2:M:627:ARG:HG3 | 2:M:628:PHE:H | 1.52 | 0.72 |
| 3:N:1097:LYS:O | 3:N:1101:VAL:HG22 | 1.89 | 0.72 |
| 3:N:104:PHE:HD2 | 3:N:1448:THR:HG23 | 1.53 | 0.72 |
| 5:X:3:DC:H2" | 5:X:4:DA:OP2 | 1.89 | 0.72 |
| 2:M:393:GLN:HG2 | 6:Y:10:G:H4' | 1.72 | 0.72 |
| 2:C:292:ARG:HB2 | 2:C:299:LYS:HG2 | 1.71 | 0.72 |
| 2:C:479:VAL:HG22 | 2:C:506:ASN:HA | 1.72 | 0.72 |
| 3:D:1388:ARG:N | 3:D:1388:ARG:HD2 | 2.05 | 0.72 |
| 3:D:1465:ASN:ND2 | 3:D:1470:ARG:HB3 | 2.04 | 0.72 |
| 2:M:304:LEU:CD2 | 2:M:305:PRO:HD3 | 2.19 | 0.72 |
| 2:M:630:ARG:HD2 | 2:M:634:GLY:HA2 | 1.71 | 0.72 |
| 2:M:684:PHE:H | 2:M:687:ALA:HB3 | 1.53 | 0.72 |
| 3:N:1023:MET:O | 3:N:1028:ALA:HB3 | 1.90 | 0.72 |
| 1:A:5:LYS:O | 1:A:8:ALA:HB2 | 1.90 | 0.72 |
| 2:C:274:ARG:HG3 | 2:C:274:ARG:NH1 | 2.02 | 0.72 |
| 2:C:395:LYS:NZ | 2:C:407:LYS:NZ | 2.38 | 0.72 |
| 3:D:645:PRO:HG2 | 3:D:724:GLN:O | 1.90 | 0.72 |
| 3:D:900:ILE:HD12 | 3:D:902:LEU:HD21 | 1.70 | 0.72 |
| 7:I:11:DG:C8 | 7:I:12:DT:H72 | 2.24 | 0.72 |
| 2:M:720:GLU:HG2 | 2:M:760:SER:CB | 2.19 | 0.72 |
| 2:M:694:LEU:HD11 | 2:M:868:ASP:HB3 | 1.70 | 0.72 |
| 2:M:678:PRO:HG3 | 2:M:873:PRO:HD2 | 1.70 | 0.72 |
| 3:N:776:GLU:OE1 | 3:N:912:LYS:HE2 | 1.89 | 0.72 |
| 2:C:89:THR:CA | 2:C:129:ILE:O | 2.36 | 0.72 |
| 2:C:183:SER:OG | 2:C:190:LYS:HG2 | 1.89 | 0.72 |
| 3:D:1031:ASN:HB3 | 3:D:1034:GLN:HB2 | 1.72 | 0.72 |
| 3:D:974:ILE:O | 3:D:977:ALA:HB3 | 1.89 | 0.72 |
| 2:C:444:PRO:HB3 | 6:H:12:U:OP1 | 1.90 | 0.72 |
| 7:I:2:DT:H2" | 7:I:3:DA:OP2 | 1.90 | 0.72 |
| 2:M:687:ALA:O | 2:M:688:ILE:CD1 | 2.37 | 0.72 |
| 3:N:134:VAL:HG12 | 3:N:152:LEU:HB3 | 1.72 | 0.72 |
| 3:N:477:LEU:HD12 | 3:N:496:LEU:CD1 | 2.14 | 0.72 |
| 3:N:806:PHE:CE1 | 3:N:813:LEU:HB3 | 2.25 | 0.72 |
| 5:X:16:DT:H2" | 5:X:17:DA:OP2 | 1.89 | 0.72 |
| 1:B:221:HIS:HA | 1:B:224:TYR:CD2 | 2.25 | 0.72 |
| 2:C:1040:LEU:HG | 2:C:1045:ALA:HB3 | 1.70 | 0.72 |
| 2:C:344:PHE:O | 2:C:348:LEU:HD13 | 1.88 | 0.72 |
| 3:D:1258:ARG:HH12 | 3:D:1329:ALA:CB | 1.98 | 0.72 |
| 3:D:613:ARG:O | 3:D:616:GLN:HB3 | 1.89 | 0.72 |
| 3:D:810:GLU:O | 3:D:813:LEU:HG | 1.90 | 0.72 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:D:95:LEU:HD23 | 3:D:96:ALA:H | 1.54 | 0.72 |
| 1:L:14:ARG:HB2 | 1:L:22:GLU:HB2 | 1.71 | 0.72 |
| 2:M:274:ARG:HD3 | 2:M:274:ARG:O | 1.89 | 0.72 |
| 3:N:1330:ILE:HD13 | 3:N:1347:TYR:CE1 | 2.25 | 0.72 |
| 3:N:1197:ARG:HA | 3:N:1396:GLU:HG3 | 1.70 | 0.72 |
| 3:N:502:PHE:CE1 | 3:N:509:PRO:HB3 | 2.25 | 0.72 |
| 3:N:917:GLN:HA | 3:N:920:LEU:HD12 | 1.70 | 0.72 |
| 4:O:26:ARG:O | 4:O:30:LEU:HD13 | 1.89 | 0.72 |
| 2:C:683:ASN:HA | 2:C:687:ALA:C | 2.10 | 0.72 |
| 2:C:86:LYS:HB3 | 2:C:813:VAL:HG23 | 1.70 | 0.72 |
| 1:L:101:LEU:HD11 | 1:L:113:ASP:HB3 | 1.72 | 0.72 |
| 2:M:260:LEU:HD12 | 2:M:261:ILE:N | 2.05 | 0.72 |
| 2:M:887:GLU:OE1 | 2:M:992:MET:HG3 | 1.90 | 0.72 |
| 3:N:1277:ILE:HD12 | 3:N:1301:LYS:CB | 2.19 | 0.72 |
| 3:N:513:ILE:HD12 | 3:N:513:ILE:O | 1.90 | 0.72 |
| 2:C:1003:ASP:CG | 2:C:1004:LYS:N | 2.43 | 0.72 |
| 2:C:397:GLU:OE2 | 2:C:632:ASN:HB2 | 1.90 | 0.72 |
| 2:C:979:THR:HG23 | 2:C:981:GLU:H | 1.53 | 0.72 |
| 3:D:708:LEU:HB3 | 3:D:1231:GLU:HB2 | 1.72 | 0.72 |
| 3:D:1380:GLU:HG2 | 3:D:1381:VAL:N | 2.05 | 0.72 |
| 3:D:1447:LEU:H | 3:D:1447:LEU:HD13 | 1.55 | 0.72 |
| 1:L:78:ILE:O | 1:L:82:LEU:HG | 1.89 | 0.72 |
| 2:M:580:MET:SD | 2:M:584:GLU:HG3 | 2.30 | 0.72 |
| 3:N:1322:GLY:O | 3:N:1323:GLN:HB2 | 1.89 | 0.72 |
| 2:C:252:LYS:HD3 | 2:C:296:GLY:HA2 | 1.71 | 0.71 |
| 2:C:44:ILE:O | 2:C:48:PHE:CD2 | 2.43 | 0.71 |
| 3:D:1033:GLN:CB | 3:D:1037:GLN:OE1 | 2.38 | 0.71 |
| 3:D:1042:ARG:CZ | 3:D:1073:SER:HB2 | 2.19 | 0.71 |
| 3:D:153:LEU:HD13 | 3:D:158:TYR:HB2 | 1.70 | 0.71 |
| 1:L:7:LYS:NZ | 1:L:186:LEU:HD13 | 2.04 | 0.71 |
| 2:M:1002:GLU:HA | 5:X:23:DG:H5" | 1.72 | 0.71 |
| 2:M:1013:TYR:CE1 | 2:M:1020:PRO:HG3 | 2.24 | 0.71 |
| 2:M:642:ARG:HG3 | 2:M:657:ASP:OD2 | 1.90 | 0.71 |
| 3:N:83:SER:O | 3:N:86:ARG:HB3 | 1.90 | 0.71 |
| 2:C:110:GLU:HG3 | 2:C:369:PRO:HG3 | 1.72 | 0.71 |
| 3:D:1265:ALA:O | 3:D:1266:ARG:HG3 | 1.89 | 0.71 |
| 3:D:554:LEU:HD11 | 3:D:558:LEU:HD21 | 1.72 | 0.71 |
| 2:C:1095:LEU:HG | 3:D:603:LEU:HD13 | 1.71 | 0.71 |
| 3:D:744:GLN:OE1 | 5:G:21:DG:N2 | 2.23 | 0.71 |
| 3:N:1258:ARG:O | 3:N:1262:LEU:HD13 | 1.89 | 0.71 |
| 1:A:57:TYR:CE2 | 1:A:161:ARG:HD2 | 2.26 | 0.71 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 2:C:410:ILE:HG22 | 2:C:453:THR:O | 1.90 | 0.71 |
| 2:C:541:SER:O | 2:C:545:ASN:ND2 | 2.24 | 0.71 |
| 4:E:68:LEU:HD12 | 4:E:73:LEU:HD13 | 1.71 | 0.71 |
| 7:I:1:DG:H3' | 7:I:1:DG:OP3 | 1.90 | 0.71 |
| 2:M:598:GLU:O | 2:M:651:LYS:HG3 | 1.90 | 0.71 |
| 2:M:754:ILE:CD1 | 2:M:791:ARG:HG2 | 2.17 | 0.71 |
| 3:N:1129:THR:CB | 3:N:1320:GLU:CG | 2.62 | 0.71 |
| 3:N:141:ILE:HD11 | 3:N:448:GLU:HG2 | 1.72 | 0.71 |
| 3:N:525:ARG:HB3 | 3:N:540:LEU:HD12 | 1.71 | 0.71 |
| 3:N:638:LYS:HD3 | 3:N:932:ASP:CG | 2.11 | 0.71 |
| 3:N:645:PRO:HA | 3:N:721:VAL:O | 1.90 | 0.71 |
| 2:C:861:LEU:HD22 | 2:C:863:ASP:HB3 | 1.73 | 0.71 |
| 3:D:524:LEU:N | 3:D:524:LEU:HD12 | 2.05 | 0.71 |
| 5:G:21:DG:H2'' | 5:G:22:DA:O5' | 1.88 | 0.71 |
| 6:H:8:G:H2' | 6:H:9:C:C6 | 2.25 | 0.71 |
| 2:M:90:TYR:O | 2:M:119:PRO:HA | 1.89 | 0.71 |
| 2:M:284:ARG:HG2 | 2:M:301:GLU:OE1 | 1.90 | 0.71 |
| 2:M:720:GLU:HG2 | 2:M:760:SER:HB3 | 1.71 | 0.71 |
| 3:N:1462:LEU:CD2 | 3:N:1473:PRO:HD2 | 2.20 | 0.71 |
| 3:N:809:PRO:HB2 | 3:N:812:ALA:HB2 | 1.73 | 0.71 |
| 2:C:1037:VAL:HG12 | 2:C:1041:GLU:OE2 | 1.89 | 0.71 |
| 3:D:799:LYS:O | 3:D:829:VAL:HG22 | 1.90 | 0.71 |
| 2:M:122:THR:HB | 2:M:124:ASP:OD1 | 1.91 | 0.71 |
| 2:M:276:LYS:HA | 2:M:280:LYS:HD2 | 1.71 | 0.71 |
| 2:M:334:ARG:O | 2:M:339:LEU:HD11 | 1.91 | 0.71 |
| 2:M:536:PRO:HB3 | 2:M:906:PHE:HD1 | 1.54 | 0.71 |
| 2:M:570:PRO:HD2 | 2:M:635:THR:HG21 | 1.72 | 0.71 |
| 3:N:1209:LEU:HD12 | 3:N:1216:SER:H | 1.56 | 0.71 |
| 3:N:696:HIS:CG | 3:N:697:GLY:H | 2.07 | 0.71 |
| 1:A:86:VAL:HG12 | 1:A:124:ASN:HB2 | 1.71 | 0.71 |
| 1:A:86:VAL:CG2 | 1:A:204:SER:HB2 | 2.21 | 0.71 |
| 2:C:122:THR:HB | 2:C:124:ASP:OD1 | 1.91 | 0.71 |
| 2:C:415:PRO:HD2 | 2:C:418:LEU:HD13 | 1.72 | 0.71 |
| 3:D:122:GLU:O | 3:D:126:VAL:HG23 | 1.91 | 0.71 |
| 5:G:19:DG:C2' | 5:G:20:DC:O5' | 2.38 | 0.71 |
| 2:M:21:ILE:HD12 | 2:M:21:ILE:H | 1.56 | 0.71 |
| 3:N:107:ASP:OD1 | 3:N:1445:HIS:HB2 | 1.90 | 0.71 |
| 3:N:1109:GLU:HG2 | 3:N:1201:CYS:CA | 2.19 | 0.71 |
| 3:N:133:ILE:HG23 | 3:N:456:MET:HB3 | 1.71 | 0.71 |
| 2:C:88:LEU:HD13 | 2:C:89:THR:H | 1.56 | 0.71 |
| 3:D:1095:THR:HA | 3:D:1098:LEU:HD13 | 1.73 | 0.71 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 3:D:1256:LEU:HG | 3:D:1260:ILE:CD1 | 2.21 | 0.71 |
| 3:N:646:LYS:CG | 3:N:688:TRP:CH2 | 2.73 | 0.71 |
| 6:Y:8:G:H2' | 6:Y:9:C:O4' | 1.91 | 0.71 |
| 2:C:409:ARG:HH12 | 2:C:444:PRO:HG3 | 1.55 | 0.71 |
| 2:C:674:VAL:CG2 | 2:C:869:VAL:HG13 | 2.20 | 0.71 |
| 2:C:687:ALA:C | 2:C:688:ILE:HD12 | 2.10 | 0.71 |
| 3:D:1114:THR:O | 3:D:1114:THR:HG23 | 1.90 | 0.71 |
| 2:M:511:GLU:O | 2:M:526:PRO:HD3 | 1.90 | 0.71 |
| 2:M:578:VAL:HG13 | 2:M:671:ASN:ND2 | 2.05 | 0.71 |
| 2:M:1046:ALA:HA | 3:N:1472:ILE:HD11 | 1.73 | 0.71 |
| 3:D:1177:ALA:O | 3:D:1180:ALA:HB3 | 1.91 | 0.71 |
| 3:D:1340:GLY:O | 3:D:1344:VAL:HG23 | 1.90 | 0.71 |
| 3:D:30:GLU:HB3 | 3:D:40:GLU:HG2 | 1.73 | 0.71 |
| 2:M:352:ALA:O | 2:M:355:VAL:HG12 | 1.90 | 0.71 |
| 3:N:840:LYS:HD3 | 3:N:841:TYR:OH | 1.90 | 0.71 |
| 3:N:847:ASP:O | 3:N:851:LEU:HG | 1.90 | 0.71 |
| 2:C:227:PHE:HD2 | 2:C:237:ARG:NE | 1.88 | 0.71 |
| 2:C:144:PRO:HG2 | 2:C:265:ARG:NH1 | 2.05 | 0.71 |
| 3:D:586:ARG:NH2 | 3:D:1442:ASN:OD1 | 2.24 | 0.71 |
| 2:M:236:ILE:HA | 2:M:239:PHE:HD2 | 1.56 | 0.71 |
| 3:N:136:ASP:HB3 | 3:N:137:PRO:CD | 2.21 | 0.71 |
| 3:N:57:GLU:HG2 | 3:N:58:CYS:N | 2.05 | 0.71 |
| 2:C:244:PRO:HD2 | 2:C:245:GLY:H | 1.56 | 0.70 |
| 2:C:431:HIS:CD2 | 2:C:433:THR:H | 2.08 | 0.70 |
| 3:D:1434:TRP:CZ3 | 3:D:1457:ASP:HB2 | 2.25 | 0.70 |
| 3:D:17:LYS:HG2 | 3:D:21:TRP:NE1 | 2.05 | 0.70 |
| 3:D:633:VAL:HG22 | 3:D:635:PRO:HD3 | 1.73 | 0.70 |
| 3:D:487:ALA:HB2 | 5:G:7:DA:C2' | 2.21 | 0.70 |
| 2:M:754:ILE:HD12 | 2:M:789:SER:HB2 | 1.72 | 0.70 |
| 2:M:677:MET:CB | 2:M:987:ILE:HD13 | 2.21 | 0.70 |
| 3:N:478:LEU:HD22 | 3:N:1388:ARG:HD3 | 1.73 | 0.70 |
| 1:A:35:THR:O | 1:A:39:PRO:HG2 | 1.90 | 0.70 |
| 2:C:190:LYS:HD2 | 2:C:190:LYS:H | 1.56 | 0.70 |
| 1:K:72:LYS:O | 2:M:608:GLY:HA2 | 1.91 | 0.70 |
| 2:M:1095:LEU:O | 2:M:1096:ALA:C | 2.30 | 0.70 |
| 2:M:140:ILE:HD13 | 2:M:331:ARG:HH21 | 1.56 | 0.70 |
| 2:M:455:LEU:CD1 | 2:M:456:ALA:O | 2.37 | 0.70 |
| 2:M:496:ILE:HA | 2:M:531:PHE:O | 1.92 | 0.70 |
| 2:M:676:ILE:CG2 | 2:M:988:VAL:HG22 | 2.21 | 0.70 |
| 2:M:753:ASP:HB2 | 2:M:792:VAL:HG21 | 1.72 | 0.70 |
| 3:N:101:HIS:ND1 | 3:N:103:TRP:HB2 | 2.06 | 0.70 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:N:653:PHE:CZ | 3:N:749:VAL:CG1 | 2.73 | 0.70 |
| 3:N:758:GLU:HB3 | 4:O:20:THR:CG2 | 2.21 | 0.70 |
| 5:X:23:DG:H2' | 5:X:24:DC:C6 | 2.26 | 0.70 |
| 1:A:18:ARG:O | 1:A:201:THR:OG1 | 2.09 | 0.70 |
| 2:M:1040:LEU:CD2 | 2:M:1049:LEU:HD13 | 2.21 | 0.70 |
| 2:M:676:ILE:HG21 | 2:M:988:VAL:HG22 | 1.72 | 0.70 |
| 3:N:783:ARG:NH2 | 3:N:1029:ARG:HD2 | 2.06 | 0.70 |
| 3:N:1366:LYS:HA | 3:N:1369:GLU:OE1 | 1.91 | 0.70 |
| 3:N:520:LEU:HD21 | 3:N:524:LEU:HB3 | 1.73 | 0.70 |
| 2:C:1008:ARG:HD2 | 2:C:1028:GLY:H | 1.56 | 0.70 |
| 3:D:1380:GLU:HB2 | 3:D:1420:LEU:HD11 | 1.73 | 0.70 |
| 2:M:903:SER:OG | 2:M:908:GLY:HA3 | 1.91 | 0.70 |
| 3:N:1109:GLU:CD | 3:N:1202:GLN:H | 1.95 | 0.70 |
| 3:N:650:LEU:O | 3:N:654:LYS:HB2 | 1.90 | 0.70 |
| 2:C:1007:ALA:HB1 | 3:D:652:LEU:CD1 | 2.21 | 0.70 |
| 2:C:273:GLY:HA2 | 2:C:276:LYS:HD2 | 1.72 | 0.70 |
| 3:D:1256:LEU:CD2 | 3:D:1260:ILE:HD11 | 2.21 | 0.70 |
| 3:D:528:VAL:HG12 | 3:D:529:GLN:N | 2.06 | 0.70 |
| 3:N:1084:THR:HG22 | 3:N:1087:ARG:HH22 | 1.57 | 0.70 |
| 3:N:1197:ARG:HB3 | 3:N:1396:GLU:CD | 2.11 | 0.70 |
| 3:D:1033:GLN:C | 3:D:1037:GLN:HB2 | 2.09 | 0.70 |
| 3:D:843:PHE:HB2 | 3:D:866:VAL:HG22 | 1.73 | 0.70 |
| 2:M:399:ASN:OD1 | 2:M:401:LEU:HB3 | 1.92 | 0.70 |
| 2:M:605:LYS:HD3 | 2:M:610:ARG:NH1 | 2.07 | 0.70 |
| 2:C:88:LEU:O | 2:C:129:ILE:O | 2.08 | 0.70 |
| 2:C:336:VAL:HA | 2:C:339:LEU:CD1 | 2.12 | 0.70 |
| 2:C:347:GLY:HA3 | 2:C:378:LEU:HD12 | 1.73 | 0.70 |
| 3:D:72:VAL:HG23 | 3:D:78:VAL:N | 2.06 | 0.70 |
| 4:E:27:ALA:O | 4:E:31:LEU:HG | 1.90 | 0.70 |
| 2:M:52:PHE:HB3 | 2:M:53:PRO:HD3 | 1.74 | 0.70 |
| 2:M:959:PRO:HA | 2:M:962:GLN:HG3 | 1.73 | 0.70 |
| 3:N:1093:TYR:CZ | 5:X:18:DC:H5'' | 2.27 | 0.70 |
| 1:A:63:HIS:CB | 2:C:746:GLY:HA2 | 2.21 | 0.70 |
| 3:D:1109:GLU:CB | 3:D:1201:CYS:HA | 2.22 | 0.70 |
| 4:E:13:VAL:HG21 | 4:E:19:LEU:HD13 | 1.74 | 0.70 |
| 2:M:90:TYR:CE1 | 2:M:120:LEU:HD12 | 2.26 | 0.70 |
| 3:N:1292:VAL:CG2 | 3:N:1311:LEU:HD13 | 2.21 | 0.70 |
| 3:N:1379:VAL:HG12 | 3:N:1419:PRO:HA | 1.72 | 0.70 |
| 6:Y:10:G:H2' | 6:Y:11:C:C6 | 2.26 | 0.70 |
| 2:C:21:ILE:HD12 | 2:C:21:ILE:H | 1.57 | 0.70 |
| 2:C:332:ARG:NH2 | 2:C:464:LEU:HG | 2.07 | 0.70 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:D:1003:VAL:HG11 | 3:D:1036:ARG:HH11 | 1.56 | 0.70 |
| 3:D:103:TRP:CH2 | 3:D:1444:THR:HA | 2.27 | 0.70 |
| 3:D:103:TRP:CZ3 | 3:D:1444:THR:HA | 2.27 | 0.70 |
| 3:D:1046:GLN:HG2 | 3:D:1052:THR:HG22 | 1.74 | 0.70 |
| 3:D:1100:ASP:HA | 3:D:1463:LYS:NZ | 2.06 | 0.70 |
| 2:M:861:LEU:HD21 | 2:M:925:TYR:CE2 | 2.27 | 0.70 |
| 3:N:206:ARG:HG2 | 3:N:394:LEU:HD22 | 1.72 | 0.70 |
| 4:O:54:LEU:HD23 | 4:O:58:PRO:CD | 2.19 | 0.70 |
| 2:C:1092:LEU:HD13 | 2:C:1099:VAL:HG21 | 1.74 | 0.70 |
| 4:E:27:ALA:HA | 4:E:30:LEU:HD13 | 1.74 | 0.70 |
| 5:G:24:DC:H6 | 5:G:24:DC:OP2 | 1.74 | 0.70 |
| 1:L:137:ARG:HH21 | 1:L:139:ASN:HB3 | 1.56 | 0.70 |
| 2:M:290:LEU:HG | 2:M:290:LEU:O | 1.92 | 0.70 |
| 2:M:328:LEU:HB2 | 2:M:488:ALA:CB | 2.21 | 0.70 |
| 3:N:56:TYR:OH | 3:N:69:GLU:HB2 | 1.91 | 0.70 |
| 3:D:615:ARG:HH22 | 3:D:1096:ARG:CD | 2.04 | 0.69 |
| 3:D:809:PRO:HB2 | 3:D:812:ALA:HB2 | 1.74 | 0.69 |
| 1:L:100:LEU:HB2 | 1:L:115:LEU:HD21 | 1.73 | 0.69 |
| 2:M:374:ASN:O | 2:M:377:PRO:HD2 | 1.92 | 0.69 |
| 3:N:480:GLU:OE1 | 3:N:488:ARG:HG3 | 1.91 | 0.69 |
| 2:C:12:VAL:HB | 2:C:472:ARG:NH1 | 2.07 | 0.69 |
| 3:D:30:GLU:HB3 | 3:D:40:GLU:CG | 2.22 | 0.69 |
| 2:M:1006:HIS:CE1 | 2:M:1027:PHE:HA | 2.26 | 0.69 |
| 2:M:1101:THR:HG21 | 2:M:1111:ILE:HG23 | 1.71 | 0.69 |
| 2:M:685:GLU:OE2 | 3:N:783:ARG:HD2 | 1.92 | 0.69 |
| 3:N:809:PRO:HB2 | 3:N:812:ALA:CB | 2.22 | 0.69 |
| 2:C:66:LEU:HD13 | 2:C:100:LEU:HB2 | 1.74 | 0.69 |
| 2:C:173:ASP:OD1 | 2:C:185:LYS:HB2 | 1.92 | 0.69 |
| 2:C:759:THR:HA | 2:C:786:LYS:O | 1.92 | 0.69 |
| 3:D:9:ARG:NH1 | 3:D:11:ALA:HB2 | 2.07 | 0.69 |
| 3:D:1146:GLY:HA3 | 3:D:1207:TYR:HB2 | 1.74 | 0.69 |
| 3:N:1129:THR:CG2 | 3:N:1130:ARG:N | 2.49 | 0.69 |
| 5:X:27:DC:P | 5:X:27:DC:H3' | 2.33 | 0.69 |
| 1:B:211:LEU:O | 1:B:215:VAL:HG13 | 1.92 | 0.69 |
| 2:C:328:LEU:HD21 | 2:C:434:HIS:HA | 1.74 | 0.69 |
| 1:A:65:PHE:CE1 | 2:C:799:ILE:HB | 2.27 | 0.69 |
| 3:D:525:ARG:HB2 | 3:D:538:SER:HB3 | 1.73 | 0.69 |
| 3:D:72:VAL:HG23 | 3:D:78:VAL:H | 1.56 | 0.69 |
| 2:M:584:GLU:HB2 | 2:M:666:LEU:H | 1.56 | 0.69 |
| 3:N:1353:GLN:O | 3:N:1357:ARG:HG3 | 1.93 | 0.69 |
| 3:N:465:LEU:CD2 | 3:N:510:GLU:HA | 2.22 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:D:1089:ALA:HA | 5:G:19:DG:H5' | 1.74 | 0.69 |
| 1:L:92:PRO:HA | 1:L:146:ARG:NH1 | 2.06 | 0.69 |
| 2:M:267:TYR:O | 2:M:267:TYR:HD2 | 1.73 | 0.69 |
| 2:M:557:ARG:HD2 | 2:M:560:MET:HG3 | 1.73 | 0.69 |
| 3:N:1239:ARG:HB2 | 3:N:1239:ARG:HH11 | 1.58 | 0.69 |
| 3:N:699:VAL:CG2 | 3:N:760:ARG:HB3 | 2.22 | 0.69 |
| 2:C:274:ARG:NH1 | 2:C:285:LEU:HD22 | 2.07 | 0.69 |
| 3:D:1197:ARG:HD3 | 3:D:1198:TYR:H | 1.58 | 0.69 |
| 3:D:678:GLU:HG3 | 3:D:679:ARG:HG3 | 1.74 | 0.69 |
| 3:D:696:HIS:NE2 | 4:E:59:ASN:HB2 | 2.06 | 0.69 |
| 5:G:7:DA:OP2 | 5:G:7:DA:H8 | 1.74 | 0.69 |
| 2:M:1115:LEU:N | 2:M:1115:LEU:HD12 | 2.06 | 0.69 |
| 2:M:969:GLN:OE1 | 3:N:952:ASP:HB2 | 1.93 | 0.69 |
| 2:C:554:ASP:OD2 | 2:C:556:ASN:HB3 | 1.92 | 0.69 |
| 2:C:776:SER:HA | 2:C:780:GLU:HB3 | 1.75 | 0.69 |
| 2:M:237:ARG:HH11 | 2:M:237:ARG:HB2 | 1.56 | 0.69 |
| 3:N:1031:ASN:OD1 | 3:N:1033:GLN:HB2 | 1.91 | 0.69 |
| 3:N:502:PHE:CE1 | 3:N:1452:ILE:HG23 | 2.28 | 0.69 |
| 3:N:198:ARG:HG3 | 3:N:198:ARG:O | 1.92 | 0.69 |
| 3:N:715:ALA:HB3 | 3:N:764:LEU:HA | 1.73 | 0.69 |
| 3:N:925:GLU:OE2 | 4:O:5:GLY:HA2 | 1.93 | 0.69 |
| 2:C:971:LYS:HA | 2:C:988:VAL:HA | 1.73 | 0.69 |
| 4:E:54:LEU:HA | 4:E:58:PRO:CG | 2.22 | 0.69 |
| 2:M:567:GLN:HE22 | 6:Y:13:C:H5'' | 1.58 | 0.69 |
| 3:N:957:PRO:HG2 | 3:N:1007:VAL:CG2 | 2.18 | 0.69 |
| 1:A:106:PRO:CG | 1:A:134:GLU:OE1 | 2.41 | 0.69 |
| 1:B:57:TYR:HE1 | 1:B:163:ASN:HB2 | 1.58 | 0.69 |
| 2:C:399:ASN:OD1 | 2:C:402:SER:N | 2.23 | 0.69 |
| 2:C:922:PHE:HB3 | 2:C:964:LYS:HZ1 | 1.58 | 0.69 |
| 3:D:1041:LEU:O | 3:D:1045:MET:HB2 | 1.93 | 0.69 |
| 4:E:45:ARG:HG2 | 4:E:46:PRO:HD2 | 1.74 | 0.69 |
| 2:M:442:GLU:HG2 | 2:M:454:SER:HB2 | 1.73 | 0.69 |
| 2:M:888:THR:O | 2:M:990:GLY:HA3 | 1.93 | 0.69 |
| 3:N:1106:VAL:HG11 | 3:N:1474:ALA:HB2 | 1.75 | 0.69 |
| 3:N:1281:VAL:N | 3:N:1317:ASP:O | 2.26 | 0.69 |
| 2:C:725:ASP:O | 2:C:727:PRO:HD3 | 1.92 | 0.69 |
| 2:C:830:LYS:O | 2:C:832:LYS:N | 2.26 | 0.69 |
| 3:D:1111:ASP:HA | 3:D:1201:CYS:HB2 | 1.75 | 0.69 |
| 3:D:758:GLU:HB3 | 3:D:762:GLN:HE21 | 1.57 | 0.69 |
| 1:L:38:ASN:HB3 | 1:L:39:PRO:HD3 | 1.75 | 0.69 |
| 2:M:644:VAL:HG22 | 2:M:647:GLN:OE1 | 1.92 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 2:M:674:VAL:HG12 | 2:M:990:GLY:O | 1.93 | 0.69 |
| 2:C:129:ILE:H | 2:C:129:ILE:CD1 | 2.06 | 0.69 |
| 2:C:723:THR:HG23 | 2:C:725:ASP:H | 1.57 | 0.69 |
| 3:D:1239:ARG:O | 3:D:1240:THR:HG23 | 1.92 | 0.69 |
| 5:G:5:DC:H2' | 5:G:6:DT:C4' | 2.23 | 0.69 |
| 7:I:11:DG:C2' | 7:I:12:DT:H72 | 2.22 | 0.69 |
| 3:N:153:LEU:HD12 | 3:N:153:LEU:O | 1.93 | 0.69 |
| 3:N:179:VAL:HG13 | 3:N:183:GLU:HB3 | 1.75 | 0.69 |
| 3:N:567:ILE:O | 3:N:571:LYS:HG2 | 1.93 | 0.69 |
| 3:N:625:TYR:HH | 3:N:655:PRO:HG2 | 1.58 | 0.69 |
| 1:B:38:ASN:HB3 | 1:B:39:PRO:HD3 | 1.73 | 0.68 |
| 2:C:329:GLY:C | 2:C:330:ASN:ND2 | 2.47 | 0.68 |
| 1:K:96:THR:OG1 | 1:K:143:ARG:HD2 | 1.92 | 0.68 |
| 1:L:195:LEU:HD12 | 1:L:196:THR:N | 2.08 | 0.68 |
| 2:M:1038:TRP:HA | 2:M:1041:GLU:OE1 | 1.93 | 0.68 |
| 2:M:64:LEU:CD2 | 2:M:359:MET:HG3 | 2.23 | 0.68 |
| 3:N:1225:ALA:HA | 3:N:1367:HIS:ND1 | 2.08 | 0.68 |
| 3:N:916:TYR:O | 3:N:920:LEU:HG | 1.93 | 0.68 |
| 3:N:710:ARG:HH12 | 4:O:16:LYS:NZ | 1.91 | 0.68 |
| 6:Y:9:C:O2' | 6:Y:10:G:H5' | 1.93 | 0.68 |
| 2:C:212:GLY:HA3 | 2:C:218:VAL:HG21 | 1.74 | 0.68 |
| 2:C:50:GLU:CB | 2:C:266:ARG:NH1 | 2.56 | 0.68 |
| 3:D:1335:LEU:HD21 | 3:D:1344:VAL:HA | 1.76 | 0.68 |
| 3:D:28:LYS:CG | 3:D:29:PRO:HD2 | 2.23 | 0.68 |
| 3:D:528:VAL:HG12 | 3:D:529:GLN:H | 1.58 | 0.68 |
| 3:D:638:LYS:HB2 | 3:D:641:GLN:NE2 | 2.08 | 0.68 |
| 2:M:332:ARG:HG2 | 2:M:333:ILE:N | 2.07 | 0.68 |
| 2:M:86:LYS:HB3 | 2:M:813:VAL:HG23 | 1.76 | 0.68 |
| 2:M:979:THR:HG23 | 2:M:981:GLU:H | 1.58 | 0.68 |
| 3:N:156:GLU:O | 3:N:160:GLU:HG3 | 1.93 | 0.68 |
| 3:N:1216:SER:HB3 | 4:O:15:SER:HA | 1.75 | 0.68 |
| 1:A:162:ILE:HG13 | 1:A:163:ASN:H | 1.57 | 0.68 |
| 1:A:206:THR:HG22 | 1:A:209:GLU:HG3 | 1.75 | 0.68 |
| 2:C:274:ARG:HG2 | 2:C:285:LEU:HD13 | 1.76 | 0.68 |
| 2:C:598:GLU:O | 2:C:651:LYS:HG3 | 1.94 | 0.68 |
| 2:C:1042:ALA:CB | 3:D:1227:GLN:HE22 | 1.90 | 0.68 |
| 2:M:1062:GLY:O | 2:M:1066:ALA:HB2 | 1.93 | 0.68 |
| 2:M:455:LEU:CD1 | 2:M:459:ALA:HB3 | 2.14 | 0.68 |
| 3:N:1129:THR:CB | 3:N:1320:GLU:HG3 | 2.21 | 0.68 |
| 3:N:1129:THR:HB | 3:N:1320:GLU:OE1 | 1.92 | 0.68 |
| 2:C:290:LEU:HB3 | 2:C:302:VAL:HG11 | 1.76 | 0.68 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:D:1167:SER:O | 3:D:1171:VAL:HG23 | 1.93 | 0.68 |
| 3:D:799:LYS:CB | 3:D:826:PRO:HG2 | 2.23 | 0.68 |
| 3:N:122:GLU:O | 3:N:126:VAL:HG23 | 1.93 | 0.68 |
| 1:B:87:VAL:HG21 | 1:B:144:VAL:HG11 | 1.75 | 0.68 |
| 2:C:1062:GLY:O | 2:C:1066:ALA:HB2 | 1.93 | 0.68 |
| 2:C:679:PHE:C | 3:D:943:THR:HG22 | 2.14 | 0.68 |
| 2:C:690:ILE:HG13 | 2:C:694:LEU:HD12 | 1.75 | 0.68 |
| 3:D:133:ILE:O | 3:D:152:LEU:HB2 | 1.92 | 0.68 |
| 3:D:897:TRP:HA | 3:D:900:ILE:HG12 | 0.69 | 0.68 |
| 2:M:266:ARG:HA | 2:M:288:ARG:HD3 | 1.75 | 0.68 |
| 2:M:725:ASP:O | 2:M:727:PRO:HD3 | 1.93 | 0.68 |
| 3:N:1109:GLU:HG2 | 3:N:1200:VAL:O | 1.94 | 0.68 |
| 3:N:1283:ILE:HD11 | 3:N:1314:LYS:HA | 1.75 | 0.68 |
| 3:N:1292:VAL:HG22 | 3:N:1311:LEU:HD13 | 1.74 | 0.68 |
| 2:C:1006:HIS:HD1 | 2:C:1027:PHE:HD1 | 1.40 | 0.68 |
| 2:C:185:LYS:HG2 | 2:C:190:LYS:HG3 | 1.75 | 0.68 |
| 3:D:1256:LEU:N | 3:D:1257:PRO:CD | 2.57 | 0.68 |
| 3:D:28:LYS:HB3 | 3:D:41:ARG:HD2 | 1.74 | 0.68 |
| 3:D:540:LEU:H | 3:D:540:LEU:HD12 | 1.58 | 0.68 |
| 1:B:49:PRO:HA | 1:B:148:VAL:HG12 | 1.75 | 0.68 |
| 2:C:1097:LEU:N | 2:C:1097:LEU:HD22 | 2.04 | 0.68 |
| 2:C:946:ARG:HA | 2:C:949:LYS:HD2 | 1.75 | 0.68 |
| 3:D:704:ARG:CA | 3:D:745:MET:HG2 | 2.21 | 0.68 |
| 2:M:367:LEU:HB3 | 2:M:371:LYS:HE3 | 1.76 | 0.68 |
| 3:N:1394:VAL:HB | 3:N:1397:LYS:HE2 | 1.76 | 0.68 |
| 3:N:152:LEU:HD23 | 3:N:152:LEU:H | 1.59 | 0.68 |
| 3:N:508:ARG:HB3 | 3:N:510:GLU:OE2 | 1.94 | 0.68 |
| 1:A:42:ARG:CZ | 1:B:34:VAL:HB | 2.24 | 0.68 |
| 2:C:630:ARG:HD3 | 2:C:705:ILE:CG2 | 2.24 | 0.68 |
| 3:D:47:GLU:HG2 | 3:D:53:ILE:HB | 1.74 | 0.68 |
| 3:D:9:ARG:HA | 3:D:1434:TRP:HH2 | 1.58 | 0.68 |
| 5:G:25:DG:H2' | 5:G:26:DC:C6 | 2.28 | 0.68 |
| 7:I:1:DG:H3' | 7:I:1:DG:P | 2.33 | 0.68 |
| 2:M:1109:VAL:HG21 | 3:N:5:VAL:HG13 | 1.76 | 0.68 |
| 2:M:690:ILE:HG12 | 2:M:691:SER:N | 2.08 | 0.68 |
| 1:A:13:VAL:HG12 | 1:A:14:ARG:N | 2.08 | 0.68 |
| 2:C:1016:ILE:HG12 | 2:C:1017:THR:HG23 | 1.76 | 0.68 |
| 2:C:274:ARG:NE | 2:C:278:GLU:OE2 | 2.27 | 0.68 |
| 2:C:358:ARG:HH22 | 2:C:374:ASN:HB3 | 1.59 | 0.68 |
| 3:D:554:LEU:HA | 3:D:557:LEU:HD12 | 1.76 | 0.68 |
| 1:K:171:PHE:O | 1:K:173:PRO:HD3 | 1.94 | 0.68 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 2:M:710:ILE:HD11 | 2:M:758:ARG:HE | 1.56 | 0.68 |
| 2:M:710:ILE:HD12 | 2:M:790:LEU:HB2 | 1.75 | 0.68 |
| 4:O:25:LYS:HA | 4:O:28:GLN:NE2 | 2.09 | 0.68 |
| 2:C:571:LEU:HD21 | 2:C:700:TYR:HA | 1.75 | 0.68 |
| 2:C:396:ASP:HA | 2:C:633:GLN:NE2 | 2.09 | 0.68 |
| 2:C:73:LEU:HB2 | 2:C:93:PRO:O | 1.94 | 0.68 |
| 2:C:889:HIS:O | 2:C:892:LEU:HB3 | 1.94 | 0.68 |
| 3:D:9:ARG:HA | 3:D:1455:LYS:O | 1.94 | 0.68 |
| 3:D:642:CYS:SG | 3:D:716:PHE:HB2 | 2.34 | 0.68 |
| 3:D:739:ASP:O | 3:D:743:ASP:CG | 2.32 | 0.68 |
| 4:E:26:ARG:O | 4:E:30:LEU:HD12 | 1.94 | 0.68 |
| 3:N:1223:ILE:O | 3:N:1227:GLN:HG3 | 1.94 | 0.68 |
| 3:N:646:LYS:NZ | 3:N:688:TRP:CE2 | 2.59 | 0.68 |
| 3:N:720:LEU:H | 3:N:720:LEU:HD12 | 1.57 | 0.68 |
| 3:D:1109:GLU:HG2 | 3:D:1201:CYS:CA | 2.21 | 0.67 |
| 3:D:701:LEU:H | 3:D:701:LEU:HD12 | 1.59 | 0.67 |
| 7:I:11:DG:O5' | 7:I:11:DG:H8 | 1.77 | 0.67 |
| 2:M:274:ARG:HH11 | 2:M:274:ARG:HG3 | 1.58 | 0.67 |
| 2:M:7:GLY:HA3 | 2:M:904:PRO:HG2 | 1.76 | 0.67 |
| 2:M:971:LYS:HA | 2:M:988:VAL:HA | 1.76 | 0.67 |
| 1:B:102:LYS:HD2 | 1:B:139:ASN:OD1 | 1.94 | 0.67 |
| 2:C:435:TYR:O | 2:C:437:ARG:HD2 | 1.93 | 0.67 |
| 2:M:378:LEU:HG | 2:M:382:ILE:HD11 | 1.76 | 0.67 |
| 3:N:1263:PHE:O | 3:N:1424:VAL:HG12 | 1.94 | 0.67 |
| 3:N:80:VAL:HG12 | 3:N:81:THR:O | 1.94 | 0.67 |
| 2:C:304:LEU:HD23 | 2:C:305:PRO:HD3 | 1.77 | 0.67 |
| 2:C:52:PHE:HE1 | 2:C:68:PHE:N | 1.91 | 0.67 |
| 3:D:1448:THR:O | 3:D:1452:ILE:HD13 | 1.95 | 0.67 |
| 3:D:505:SER:CB | 3:D:1453:ALA:HA | 2.24 | 0.67 |
| 3:D:619:LEU:HB2 | 3:D:621:LYS:NZ | 2.10 | 0.67 |
| 3:D:827:ILE:H | 3:D:827:ILE:HD12 | 1.60 | 0.67 |
| 6:H:4:G:H2' | 6:H:5:C:C6 | 2.29 | 0.67 |
| 3:N:1209:LEU:HD23 | 3:N:1210:SER:N | 2.08 | 0.67 |
| 3:N:104:PHE:CD2 | 3:N:1448:THR:HG23 | 2.29 | 0.67 |
| 7:Z:15:DT:H2'' | 7:Z:16:DG:OP2 | 1.94 | 0.67 |
| 1:A:31:GLY:O | 1:A:34:VAL:CG1 | 2.42 | 0.67 |
| 2:C:218:VAL:HG13 | 2:C:221:LEU:HD21 | 1.77 | 0.67 |
| 2:C:58:ASP:O | 2:C:59:LYS:CB | 2.42 | 0.67 |
| 3:D:1447:LEU:CD1 | 3:D:1447:LEU:H | 2.07 | 0.67 |
| 3:D:1457:ASP:O | 3:D:1459:LEU:HD12 | 1.93 | 0.67 |
| 3:D:41:ARG:C | 3:D:43:GLY:H | 1.97 | 0.67 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:D:785:ILE:HG23 | 3:D:938:GLY:HA3 | 1.76 | 0.67 |
| 2:M:1040:LEU:HG | 2:M:1045:ALA:HB3 | 1.76 | 0.67 |
| 2:M:1053:LEU:HD12 | 3:N:1469:GLY:HA2 | 1.76 | 0.67 |
| 2:M:189:ARG:HD3 | 2:M:190:LYS:H | 1.60 | 0.67 |
| 2:M:289:THR:O | 2:M:291:ALA:N | 2.28 | 0.67 |
| 2:M:580:MET:HB3 | 2:M:584:GLU:CD | 2.15 | 0.67 |
| 2:M:69:LEU:HB2 | 2:M:97:ARG:HB2 | 1.75 | 0.67 |
| 2:M:760:SER:O | 2:M:785:VAL:HG22 | 1.95 | 0.67 |
| 2:M:862:PRO:CB | 2:M:929:ARG:HH22 | 2.05 | 0.67 |
| 2:M:430:VAL:HG11 | 3:N:1075:HIS:HA | 1.75 | 0.67 |
| 3:N:206:ARG:HB2 | 3:N:392:SER:O | 1.94 | 0.67 |
| 3:N:486:ARG:O | 3:N:490:ALA:HB2 | 1.94 | 0.67 |
| 3:N:493:ARG:NH1 | 3:N:1391:GLU:HG2 | 2.09 | 0.67 |
| 3:N:732:VAL:HB | 3:N:736:PHE:HE1 | 1.59 | 0.67 |
| 2:M:420:ARG:HD2 | 7:Z:1:DG:C5' | 2.24 | 0.67 |
| 1:A:178:ALA:HB2 | 2:C:864:GLY:N | 2.10 | 0.67 |
| 1:A:63:HIS:HB3 | 2:C:746:GLY:HA3 | 1.77 | 0.67 |
| 2:C:151:ASP:HB2 | 2:C:157:ARG:O | 1.95 | 0.67 |
| 2:C:693:GLU:CG | 2:C:697:ARG:HH21 | 2.08 | 0.67 |
| 2:C:939:ARG:NE | 2:C:939:ARG:HA | 2.10 | 0.67 |
| 2:C:957:LYS:HB3 | 2:C:962:GLN:HG2 | 1.77 | 0.67 |
| 3:D:1031:ASN:HB3 | 3:D:1034:GLN:CB | 2.25 | 0.67 |
| 2:M:690:ILE:HG23 | 2:M:852:ILE:HA | 1.77 | 0.67 |
| 3:N:1481:VAL:HG13 | 4:O:18:ARG:HE | 1.58 | 0.67 |
| 2:C:595:LEU:O | 2:C:655:LEU:HG | 1.95 | 0.67 |
| 2:C:682:TYR:CZ | 3:D:635:PRO:HG2 | 2.29 | 0.67 |
| 2:C:937:ASP:HB3 | 2:C:940:GLU:HG3 | 1.76 | 0.67 |
| 3:D:646:LYS:HG3 | 3:D:647:ARG:N | 2.10 | 0.67 |
| 3:D:714:GLN:HE21 | 3:D:765:SER:HB3 | 1.60 | 0.67 |
| 2:M:841:ASN:HD21 | 2:M:884:GLN:HB3 | 1.60 | 0.67 |
| 3:N:1128:VAL:CB | 3:N:1133:ARG:HH22 | 2.04 | 0.67 |
| 3:N:1293:PHE:HB3 | 3:N:1295:GLU:HG3 | 1.74 | 0.67 |
| 3:N:1377:LYS:HG2 | 3:N:1377:LYS:O | 1.93 | 0.67 |
| 2:C:304:LEU:CD2 | 2:C:305:PRO:HD3 | 2.25 | 0.67 |
| 2:C:358:ARG:HH12 | 2:C:374:ASN:CG | 1.98 | 0.67 |
| 2:C:690:ILE:HG23 | 2:C:852:ILE:HA | 1.76 | 0.67 |
| 6:H:5:C:C6 | 6:H:5:C:H3' | 2.30 | 0.67 |
| 1:L:87:VAL:HG21 | 1:L:144:VAL:HG11 | 1.75 | 0.67 |
| 2:M:668:LEU:HD12 | 2:M:668:LEU:N | 2.09 | 0.67 |
| 3:N:166:GLN:CA | 3:N:198:ARG:HB3 | 2.24 | 0.67 |
| 2:C:89:THR:HG21 | 2:C:383:ARG:NH1 | 2.06 | 0.67 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 2:C:987:ILE:CG2 | 3:D:948:THR:HG21 | 2.23 | 0.67 |
| 3:D:950:GLY:O | 3:D:953:ASP:HB2 | 1.95 | 0.67 |
| 4:E:28:GLN:O | 4:E:32:ARG:NH1 | 2.27 | 0.67 |
| 1:L:80:LEU:HD12 | 1:L:83:LYS:NZ | 2.10 | 0.67 |
| 2:M:163:ILE:HD13 | 2:M:171:TRP:CH2 | 2.29 | 0.67 |
| 2:M:195:LEU:CD2 | 2:M:238:LEU:HG | 2.25 | 0.67 |
| 2:M:265:ARG:HB3 | 2:M:267:TYR:CD1 | 2.29 | 0.67 |
| 2:M:588:VAL:HG23 | 2:M:596:TYR:OH | 1.95 | 0.67 |
| 3:N:1061:PHE:HE1 | 3:N:1065:LEU:HD22 | 1.60 | 0.67 |
| 3:N:619:LEU:HB2 | 3:N:621:LYS:HZ3 | 1.60 | 0.67 |
| 2:C:69:LEU:CD1 | 2:C:97:ARG:HB3 | 2.20 | 0.67 |
| 2:M:267:TYR:CD2 | 2:M:267:TYR:O | 2.47 | 0.67 |
| 2:M:673:LEU:HD22 | 2:M:867:VAL:HG12 | 1.77 | 0.67 |
| 3:N:1259:VAL:HA | 3:N:1262:LEU:HD22 | 1.77 | 0.67 |
| 3:N:157:GLU:O | 3:N:160:GLU:HB2 | 1.95 | 0.67 |
| 3:N:434:ARG:HD2 | 3:N:435:VAL:H | 1.60 | 0.67 |
| 3:N:646:LYS:HG3 | 3:N:688:TRP:CH2 | 2.30 | 0.67 |
| 2:M:393:GLN:HE21 | 6:Y:10:G:H4' | 1.58 | 0.67 |
| 3:D:952:ASP:HA | 3:D:1062:ARG:NH2 | 2.10 | 0.67 |
| 2:M:144:PRO:HG2 | 2:M:265:ARG:HH11 | 1.59 | 0.67 |
| 2:M:941:VAL:HA | 2:M:944:LEU:HB2 | 1.75 | 0.67 |
| 3:N:639:LEU:HD12 | 3:N:640:HIS:N | 2.09 | 0.67 |
| 2:C:152:PRO:HD3 | 2:C:159:ILE:HD11 | 1.77 | 0.66 |
| 2:C:654:LEU:HD23 | 2:C:654:LEU:H | 1.59 | 0.66 |
| 3:D:1381:VAL:HB | 3:D:1389:LEU:O | 1.93 | 0.66 |
| 1:K:177:VAL:O | 2:M:864:GLY:CA | 2.43 | 0.66 |
| 1:K:88:ARG:HH22 | 1:K:90:LEU:HG | 1.59 | 0.66 |
| 2:M:703:ILE:HD12 | 2:M:703:ILE:N | 2.09 | 0.66 |
| 3:N:1431:THR:HG23 | 3:N:1433:SER:O | 1.96 | 0.66 |
| 2:C:800:VAL:HA | 2:C:827:VAL:HG22 | 1.78 | 0.66 |
| 3:D:1412:LYS:O | 3:D:1414:PRO:HD3 | 1.95 | 0.66 |
| 3:D:30:GLU:HB2 | 3:D:41:ARG:HG3 | 1.75 | 0.66 |
| 3:D:785:ILE:CG2 | 3:D:938:GLY:HA3 | 2.25 | 0.66 |
| 2:M:143:SER:CB | 2:M:276:LYS:HE2 | 2.24 | 0.66 |
| 3:N:1229:ILE:HD11 | 3:N:1367:HIS:HB3 | 1.78 | 0.66 |
| 3:N:525:ARG:HB2 | 3:N:538:SER:CB | 2.23 | 0.66 |
| 5:X:27:DC:H2' | 5:X:28:DG:C8 | 2.31 | 0.66 |
| 1:A:50:GLY:HA3 | 1:A:173:PRO:HG3 | 1.77 | 0.66 |
| 1:B:56:VAL:HG13 | 1:B:142:VAL:HG12 | 1.77 | 0.66 |
| 2:C:140:ILE:HG23 | 2:C:410:ILE:CD1 | 2.25 | 0.66 |
| 2:C:537:LYS:CD | 2:C:905:ILE:HD13 | 2.25 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:D:1255:GLY:C | 3:D:1257:PRO:HD2 | 2.16 | 0.66 |
| 3:D:1094:LEU:HD11 | 3:D:1260:ILE:HD12 | 1.77 | 0.66 |
| 3:D:919:PHE:HA | 3:D:927:THR:OG1 | 1.95 | 0.66 |
| 1:L:19:GLU:HG3 | 1:L:201:THR:O | 1.94 | 0.66 |
| 1:L:38:ASN:O | 1:L:41:ARG:HB3 | 1.95 | 0.66 |
| 2:M:580:MET:O | 2:M:902:ILE:HA | 1.95 | 0.66 |
| 2:M:905:ILE:HG22 | 2:M:906:PHE:N | 2.10 | 0.66 |
| 3:N:116:LEU:HB3 | 3:N:118:LEU:HD11 | 1.76 | 0.66 |
| 3:N:619:LEU:HB2 | 3:N:621:LYS:NZ | 2.10 | 0.66 |
| 3:N:646:LYS:CD | 3:N:688:TRP:CE2 | 2.78 | 0.66 |
| 1:B:123:MET:C | 1:B:125:PRO:HD3 | 2.16 | 0.66 |
| 2:C:148:PHE:HZ | 2:C:281:LEU:HD13 | 1.59 | 0.66 |
| 2:C:939:ARG:HD3 | 2:C:982:PRO:CD | 2.24 | 0.66 |
| 3:D:1213:ARG:HH12 | 4:E:11:GLY:HA2 | 1.59 | 0.66 |
| 1:L:102:LYS:HE2 | 1:L:139:ASN:HB2 | 1.77 | 0.66 |
| 3:N:166:GLN:HA | 3:N:198:ARG:CB | 2.26 | 0.66 |
| 3:N:1213:ARG:NH2 | 4:O:14:ASP:HA | 2.11 | 0.66 |
| 2:C:289:THR:O | 2:C:291:ALA:N | 2.28 | 0.66 |
| 3:D:57:GLU:HG2 | 3:D:58:CYS:N | 2.10 | 0.66 |
| 3:D:750:PRO:HB2 | 3:D:756:GLN:HA | 1.78 | 0.66 |
| 3:N:25:GLU:HB2 | 3:N:92:HIS:CE1 | 2.30 | 0.66 |
| 3:N:1476:THR:HG23 | 4:O:21:VAL:HG22 | 1.78 | 0.66 |
| 1:B:52:ALA:HB2 | 1:B:170:VAL:C | 2.16 | 0.66 |
| 2:C:326:ASP:HB2 | 2:C:431:HIS:HD1 | 1.58 | 0.66 |
| 2:C:433:THR:C | 2:C:435:TYR:H | 1.99 | 0.66 |
| 2:C:532:MET:HG2 | 2:C:533:ASP:N | 2.09 | 0.66 |
| 2:C:642:ARG:HG3 | 2:C:657:ASP:OD2 | 1.95 | 0.66 |
| 2:C:1045:ALA:HB2 | 3:D:763:MET:CE | 2.26 | 0.66 |
| 1:K:9:PRO:HB3 | 1:K:25:LEU:CG | 2.24 | 0.66 |
| 2:M:1087:VAL:O | 2:M:1091:GLU:HG3 | 1.96 | 0.66 |
| 2:M:579:VAL:HG13 | 2:M:842:ARG:NH2 | 2.10 | 0.66 |
| 2:M:751:PRO:HB3 | 2:M:794:PRO:HA | 1.78 | 0.66 |
| 3:N:1137:ARG:O | 3:N:1141:GLU:HG3 | 1.95 | 0.66 |
| 3:N:28:LYS:HB2 | 3:N:41:ARG:HD2 | 1.77 | 0.66 |
| 3:D:1097:LYS:O | 3:D:1101:VAL:HG22 | 1.95 | 0.66 |
| 3:D:1481:VAL:CG1 | 4:E:21:VAL:HG21 | 2.25 | 0.66 |
| 3:D:574:LEU:O | 3:D:578:VAL:HG23 | 1.96 | 0.66 |
| 3:D:613:ARG:HH11 | 3:D:616:GLN:HG2 | 1.59 | 0.66 |
| 2:M:1105:LYS:O | 2:M:1105:LYS:HD2 | 1.95 | 0.66 |
| 2:M:676:ILE:O | 2:M:676:ILE:HG23 | 1.95 | 0.66 |
| 1:A:153:ALA:HA | 1:A:156:HIS:NE2 | 2.11 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 3:D:526:PRO:O | 3:D:537:THR:HA | 1.94 | 0.66 |
| 3:N:1292:VAL:O | 3:N:1303:TYR:HB2 | 1.95 | 0.66 |
| 3:N:646:LYS:HB2 | 3:N:688:TRP:CH2 | 2.29 | 0.66 |
| 3:N:785:ILE:HD12 | 3:N:785:ILE:H | 1.61 | 0.66 |
| 4:O:54:LEU:HA | 4:O:58:PRO:CG | 2.24 | 0.66 |
| 1:A:197:LEU:HD23 | 1:A:197:LEU:H | 1.61 | 0.66 |
| 1:A:43:ILE:CG2 | 1:A:47:SER:OG | 2.44 | 0.66 |
| 2:C:1013:TYR:HA | 2:C:1020:PRO:HA | 1.76 | 0.66 |
| 2:C:1089:VAL:O | 2:C:1092:LEU:HB2 | 1.96 | 0.66 |
| 3:D:1084:THR:HA | 3:D:1087:ARG:HG2 | 1.78 | 0.66 |
| 3:D:1111:ASP:HB2 | 3:D:1203:LYS:HG3 | 1.78 | 0.66 |
| 1:L:101:LEU:HD23 | 1:L:101:LEU:C | 2.16 | 0.66 |
| 2:M:237:ARG:HH11 | 2:M:237:ARG:CB | 2.09 | 0.66 |
| 3:N:15:PRO:HA | 3:N:18:ILE:HG12 | 1.78 | 0.66 |
| 1:A:18:ARG:O | 1:A:207:PRO:HD3 | 1.95 | 0.66 |
| 2:C:73:LEU:HB3 | 2:C:94:LEU:HA | 1.78 | 0.66 |
| 2:C:939:ARG:HB3 | 2:C:982:PRO:HG3 | 1.78 | 0.66 |
| 3:D:1258:ARG:NH1 | 3:D:1329:ALA:HB1 | 2.04 | 0.66 |
| 1:L:52:ALA:HB2 | 1:L:170:VAL:C | 2.16 | 0.66 |
| 1:L:80:LEU:HG | 3:N:844:ALA:CA | 2.25 | 0.66 |
| 2:M:1001:VAL:HG11 | 5:X:24:DC:OP1 | 1.96 | 0.66 |
| 3:N:1268:PRO:HG3 | 3:N:1329:ALA:CB | 2.22 | 0.66 |
| 3:N:477:LEU:HD13 | 3:N:496:LEU:HB2 | 1.77 | 0.66 |
| 3:N:637:LEU:HD11 | 3:N:642:CYS:N | 2.11 | 0.66 |
| 1:A:42:ARG:HH12 | 1:B:34:VAL:HB | 1.59 | 0.65 |
| 2:C:8:ARG:HH21 | 2:C:10:ARG:NH2 | 1.94 | 0.65 |
| 2:C:459:ALA:HB1 | 2:C:467:ILE:CG2 | 2.25 | 0.65 |
| 2:C:957:LYS:HG2 | 2:C:961:GLU:HB2 | 1.77 | 0.65 |
| 3:D:108:VAL:CB | 3:D:109:PRO:HD3 | 2.26 | 0.65 |
| 3:D:1194:CYS:HB3 | 3:D:1373:ARG:NH1 | 2.09 | 0.65 |
| 3:D:10:ILE:CD1 | 3:D:1434:TRP:NE1 | 2.59 | 0.65 |
| 2:M:1009:SER:HB3 | 3:N:651:GLU:OE1 | 1.96 | 0.65 |
| 3:D:1408:ILE:O | 2:M:370:ALA:HB1 | 1.95 | 0.65 |
| 3:N:1375:MET:HB3 | 3:N:1422:MET:O | 1.96 | 0.65 |
| 3:N:1380:GLU:HA | 3:N:1391:GLU:O | 1.95 | 0.65 |
| 3:N:646:LYS:HD2 | 3:N:688:TRP:CH2 | 2.31 | 0.65 |
| 3:N:752:SER:OG | 3:N:754:PHE:HB3 | 1.96 | 0.65 |
| 3:N:882:PHE:HA | 3:N:885:ILE:HD12 | 1.78 | 0.65 |
| 2:C:134:ARG:NH1 | 2:C:387:SER:HA | 2.11 | 0.65 |
| 3:D:1380:GLU:HA | 3:D:1391:GLU:O | 1.96 | 0.65 |
| 3:D:89:ARG:O | 3:D:521:PRO:HG3 | 1.96 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 5:G:7:DA:H2' | 5:G:8:DC:OP2 | 1.94 | 0.65 |
| 1:L:79:ILE:HA | 1:L:82:LEU:HD12 | 1.78 | 0.65 |
| 2:M:313:LEU:HB2 | 2:M:321:GLU:CG | 2.25 | 0.65 |
| 2:M:445:GLU:CA | 2:M:449:ILE:HD12 | 2.25 | 0.65 |
| 2:M:732:ALA:HA | 2:M:735:ARG:NH2 | 2.10 | 0.65 |
| 3:N:41:ARG:HD3 | 3:N:42:ASP:H | 1.61 | 0.65 |
| 3:N:544:TYR:O | 3:N:548:ILE:HG12 | 1.96 | 0.65 |
| 3:N:693:GLU:CG | 4:O:48:MET:SD | 2.84 | 0.65 |
| 2:C:63:GLY:HA3 | 2:C:103:LYS:HG3 | 1.78 | 0.65 |
| 2:C:1081:VAL:HB | 2:C:1086:ARG:NE | 2.11 | 0.65 |
| 2:C:152:PRO:HD3 | 2:C:159:ILE:CD1 | 2.27 | 0.65 |
| 2:C:265:ARG:H | 2:C:289:THR:CG2 | 2.09 | 0.65 |
| 2:C:374:ASN:O | 2:C:377:PRO:HD2 | 1.96 | 0.65 |
| 2:C:34:VAL:HB | 2:C:38:LYS:HG3 | 1.78 | 0.65 |
| 3:D:1237:THR:HG22 | 3:D:1238:MET:H | 1.61 | 0.65 |
| 3:D:46:ASP:OD2 | 3:D:48:ARG:HB3 | 1.95 | 0.65 |
| 4:E:23:VAL:HG22 | 4:E:68:LEU:HD23 | 1.78 | 0.65 |
| 2:M:1092:LEU:HD13 | 2:M:1099:VAL:HG21 | 1.76 | 0.65 |
| 2:M:286:SER:HB3 | 2:M:299:LYS:HE3 | 1.78 | 0.65 |
| 2:M:86:LYS:O | 2:M:88:LEU:N | 2.28 | 0.65 |
| 3:N:1239:ARG:HG3 | 3:N:1240:THR:H | 1.62 | 0.65 |
| 3:N:1448:THR:O | 3:N:1452:ILE:HD13 | 1.96 | 0.65 |
| 1:L:188:GLN:CG | 3:N:685:ASP:OD2 | 2.41 | 0.65 |
| 3:N:73:CYS:SG | 3:N:75:ARG:HG3 | 2.35 | 0.65 |
| 3:N:792:ILE:HG12 | 3:N:878:GLY:CA | 2.27 | 0.65 |
| 2:C:831:ARG:CZ | 2:C:1004:LYS:HZ2 | 2.08 | 0.65 |
| 3:D:715:ALA:HB3 | 3:D:764:LEU:HA | 1.79 | 0.65 |
| 3:D:86:ARG:HG2 | 3:D:522:PRO:HG2 | 1.78 | 0.65 |
| 6:H:5:C:O5' | 6:H:5:C:H6 | 1.80 | 0.65 |
| 2:M:1095:LEU:O | 2:M:1097:LEU:N | 2.29 | 0.65 |
| 2:M:857:ASP:HB2 | 2:M:978:ARG:CG | 2.21 | 0.65 |
| 3:N:1129:THR:N | 3:N:1320:GLU:HG2 | 2.10 | 0.65 |
| 3:N:1441:GLN:CG | 3:N:1442:ASN:H | 2.09 | 0.65 |
| 3:N:86:ARG:O | 3:N:522:PRO:HD2 | 1.96 | 0.65 |
| 1:L:83:LYS:HD2 | 3:N:848:GLU:OE1 | 1.97 | 0.65 |
| 5:X:6:DT:H2' | 5:X:7:DA:C8 | 2.30 | 0.65 |
| 2:M:567:GLN:HE22 | 6:Y:13:C:C5' | 2.10 | 0.65 |
| 2:C:165:LEU:HB3 | 2:C:265:ARG:NH1 | 2.12 | 0.65 |
| 2:C:903:SER:OG | 2:C:908:GLY:HA3 | 1.95 | 0.65 |
| 3:D:97:THR:HB | 3:D:571:LYS:HE2 | 1.76 | 0.65 |
| 2:C:729:LEU:HD13 | 3:D:675:ARG:NH1 | 2.11 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 3:D:645:PRO:HA | 3:D:721:VAL:O | 1.97 | 0.65 |
| 2:M:653:ASP:OD1 | 2:M:654:LEU:HD23 | 1.97 | 0.65 |
| 3:N:784:ASP:HB3 | 3:N:939:PHE:HE2 | 1.60 | 0.65 |
| 3:D:1083:ASP:O | 3:D:1087:ARG:CG | 2.45 | 0.65 |
| 3:D:127:LEU:C | 3:D:127:LEU:HD12 | 2.16 | 0.65 |
| 3:D:109:PRO:HB3 | 3:D:494:LYS:HZ3 | 1.60 | 0.65 |
| 3:D:728:LEU:HD11 | 3:D:732:VAL:CG2 | 2.26 | 0.65 |
| 3:D:95:LEU:HD23 | 3:D:96:ALA:N | 2.11 | 0.65 |
| 2:M:486:MET:SD | 2:M:490:GLU:CB | 2.68 | 0.65 |
| 3:N:1100:ASP:OD2 | 3:N:1440:PHE:CB | 2.44 | 0.65 |
| 3:N:1284:GLU:HG3 | 3:N:1285:GLU:N | 2.12 | 0.65 |
| 3:N:1381:VAL:HG12 | 3:N:1382:THR:H | 1.60 | 0.65 |
| 3:N:1465:ASN:OD1 | 3:N:1473:PRO:HD3 | 1.96 | 0.65 |
| 3:N:394:LEU:HD23 | 3:N:394:LEU:H | 1.61 | 0.65 |
| 3:N:433:GLY:HA3 | 3:N:447:VAL:O | 1.97 | 0.65 |
| 3:N:24:GLY:HA3 | 3:N:49:ILE:HG12 | 1.78 | 0.65 |
| 2:M:1095:LEU:HD21 | 3:N:603:LEU:HD13 | 1.74 | 0.65 |
| 1:L:80:LEU:O | 3:N:844:ALA:HB2 | 1.96 | 0.65 |
| 2:C:537:LYS:NZ | 2:C:904:PRO:HB3 | 2.10 | 0.65 |
| 3:D:1033:GLN:O | 3:D:1037:GLN:N | 2.30 | 0.65 |
| 3:D:696:HIS:CG | 3:D:697:GLY:H | 2.13 | 0.65 |
| 3:D:741:ASP:O | 6:H:14:G:H5" | 1.96 | 0.65 |
| 3:D:808:THR:OG1 | 3:D:809:PRO:HD3 | 1.96 | 0.65 |
| 7:I:5:DC:C6 | 7:I:6:DT:H72 | 2.31 | 0.65 |
| 2:M:145:GLY:HA3 | 2:M:276:LYS:HD3 | 1.77 | 0.65 |
| 2:M:451:LEU:HB2 | 2:M:452:ILE:HD12 | 1.78 | 0.65 |
| 2:M:611:ILE:HD11 | 2:M:641:PRO:CG | 2.27 | 0.65 |
| 3:N:1264:GLU:O | 3:N:1266:ARG:N | 2.30 | 0.65 |
| 3:N:462:GLN:HG3 | 3:N:513:ILE:HG12 | 1.78 | 0.65 |
| 3:N:607:LEU:HA | 3:N:613:ARG:HB2 | 1.77 | 0.65 |
| 1:A:102:LYS:HA | 1:A:138:LEU:O | 1.97 | 0.65 |
| 2:C:145:GLY:HA3 | 2:C:276:LYS:HD3 | 1.78 | 0.65 |
| 2:C:86:LYS:O | 2:C:88:LEU:N | 2.29 | 0.65 |
| 3:D:615:ARG:NH2 | 3:D:1096:ARG:HD2 | 2.11 | 0.65 |
| 3:D:1496:GLU:O | 3:D:1499:ARG:HB2 | 1.97 | 0.65 |
| 2:C:1016:ILE:HG22 | 3:D:523:ASP:O | 1.97 | 0.65 |
| 3:D:52:PRO:CG | 3:D:80:VAL:HG13 | 2.27 | 0.65 |
| 3:D:862:ASP:O | 3:D:876:SER:HA | 1.96 | 0.65 |
| 2:M:1038:TRP:O | 2:M:1041:GLU:HB2 | 1.97 | 0.65 |
| 2:M:1056:LYS:HE3 | 3:N:751:LEU:CD1 | 2.18 | 0.65 |
| 3:N:1331:ASP:O | 3:N:1335:LEU:HB2 | 1.96 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:N:1438:ALA:HA | 3:N:1446:VAL:HG11 | 1.77 | 0.65 |
| 2:C:1042:ALA:HB3 | 3:D:710:ARG:HB3 | 1.78 | 0.65 |
| 3:D:10:ILE:HG13 | 3:D:1434:TRP:CE2 | 2.32 | 0.65 |
| 7:I:12:DT:H2'' | 7:I:13:DA:OP2 | 1.97 | 0.65 |
| 1:L:101:LEU:HB2 | 1:L:114:PHE:HA | 1.79 | 0.65 |
| 2:M:183:SER:HB2 | 2:M:190:LYS:HD3 | 1.78 | 0.65 |
| 3:N:1066:THR:HG22 | 3:N:1069:GLU:CD | 2.17 | 0.65 |
| 3:N:1114:THR:O | 3:N:1189:ARG:NH2 | 2.21 | 0.65 |
| 3:N:87:ARG:HD3 | 3:N:524:LEU:CD1 | 2.26 | 0.65 |
| 3:N:924:MET:N | 4:O:7:ASP:OD2 | 2.29 | 0.65 |
| 1:A:31:GLY:O | 1:A:34:VAL:HG12 | 1.96 | 0.65 |
| 2:C:1093:GLN:HB3 | 3:D:21:TRP:CE3 | 2.31 | 0.65 |
| 2:C:165:LEU:HA | 2:C:166:PRO:O | 1.97 | 0.65 |
| 2:C:276:LYS:HA | 2:C:280:LYS:HD2 | 1.78 | 0.65 |
| 2:C:342:ASP:O | 2:C:346:VAL:HG23 | 1.97 | 0.65 |
| 2:C:676:ILE:CG2 | 2:C:988:VAL:HG13 | 2.27 | 0.65 |
| 3:D:1237:THR:HB | 3:D:1359:GLN:NE2 | 2.11 | 0.65 |
| 4:E:54:LEU:HG | 4:E:58:PRO:CG | 2.24 | 0.65 |
| 6:H:6:C:N4 | 6:H:7:G:C6 | 2.65 | 0.65 |
| 1:K:58:ILE:HD13 | 1:K:140:MET:HB3 | 1.77 | 0.65 |
| 2:M:1032:PHE:O | 2:M:1036:GLU:HB2 | 1.97 | 0.65 |
| 3:N:501:ALA:CB | 3:N:1452:ILE:HG22 | 2.26 | 0.65 |
| 3:N:87:ARG:HB3 | 3:N:523:ASP:OD2 | 1.96 | 0.65 |
| 3:N:693:GLU:O | 4:O:48:MET:SD | 2.55 | 0.65 |
| 1:A:88:ARG:HH11 | 1:A:88:ARG:HG2 | 1.62 | 0.64 |
| 2:C:468:ARG:HD3 | 2:C:485:TYR:HB3 | 1.78 | 0.64 |
| 2:C:524:VAL:HG12 | 2:C:525:SER:H | 1.62 | 0.64 |
| 2:C:762:LYS:HD2 | 2:C:786:LYS:HB2 | 1.77 | 0.64 |
| 2:C:877:PRO:HG3 | 3:D:1023:MET:SD | 2.37 | 0.64 |
| 3:D:614:PHE:CZ | 3:D:1438:ALA:HB1 | 2.31 | 0.64 |
| 3:D:716:PHE:O | 3:D:718:PRO:HD3 | 1.97 | 0.64 |
| 3:D:8:VAL:CG2 | 3:D:1435:LEU:HD21 | 2.26 | 0.64 |
| 1:K:53:VAL:HG21 | 1:K:82:LEU:HB3 | 1.78 | 0.64 |
| 3:D:1412:LYS:CB | 2:M:376:ARG:HH21 | 2.09 | 0.64 |
| 2:M:583:LEU:O | 2:M:587:VAL:HG23 | 1.96 | 0.64 |
| 2:M:937:ASP:OD2 | 2:M:939:ARG:HG2 | 1.97 | 0.64 |
| 3:N:30:GLU:HB3 | 3:N:40:GLU:HG2 | 1.79 | 0.64 |
| 3:N:785:ILE:HD12 | 3:N:785:ILE:N | 2.12 | 0.64 |
| 3:N:862:ASP:O | 3:N:877:PRO:HD3 | 1.96 | 0.64 |
| 1:A:102:LYS:HB3 | 1:A:139:ASN:OD1 | 1.97 | 0.64 |
| 2:C:1048:THR:OG1 | 3:D:758:GLU:HG3 | 1.96 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 2:C:1060:ILE:HG23 | 2:C:1061:GLU:N | 2.12 | 0.64 |
| 2:C:244:PRO:CD | 2:C:245:GLY:H | 2.09 | 0.64 |
| 2:C:496:ILE:HA | 2:C:531:PHE:O | 1.97 | 0.64 |
| 2:C:899:GLN:HG3 | 2:C:901:TYR:OH | 1.97 | 0.64 |
| 3:D:7:LYS:CG | 3:D:1458:GLU:HA | 2.26 | 0.64 |
| 3:D:927:THR:O | 3:D:930:LEU:HB3 | 1.97 | 0.64 |
| 2:M:1008:ARG:HD2 | 2:M:1028:GLY:H | 1.61 | 0.64 |
| 2:M:260:LEU:HD12 | 2:M:261:ILE:HG13 | 1.77 | 0.64 |
| 2:M:487:THR:HB | 2:M:490:GLU:HG3 | 1.78 | 0.64 |
| 2:M:861:LEU:HD22 | 2:M:863:ASP:H | 1.60 | 0.64 |
| 3:N:98:PRO:HG2 | 3:N:462:GLN:OE1 | 1.97 | 0.64 |
| 1:A:32:PHE:HE1 | 1:B:221:HIS:NE2 | 1.80 | 0.64 |
| 2:C:1036:GLU:N | 2:C:1036:GLU:OE1 | 2.30 | 0.64 |
| 2:C:30:LEU:HD12 | 2:C:30:LEU:O | 1.97 | 0.64 |
| 3:D:111:LYS:HE2 | 3:D:1445:HIS:NE2 | 2.12 | 0.64 |
| 3:D:809:PRO:HB2 | 3:D:812:ALA:CB | 2.27 | 0.64 |
| 5:G:21:DG:C2' | 5:G:22:DA:O5' | 2.45 | 0.64 |
| 1:K:88:ARG:HH12 | 1:K:90:LEU:HD11 | 1.62 | 0.64 |
| 2:M:692:GLU:OE1 | 2:M:854:PRO:HB3 | 1.97 | 0.64 |
| 3:N:584:ASN:OD1 | 3:N:590:PRO:HD2 | 1.96 | 0.64 |
| 1:B:38:ASN:O | 1:B:41:ARG:HB3 | 1.97 | 0.64 |
| 2:M:129:ILE:HD12 | 2:M:129:ILE:N | 2.13 | 0.64 |
| 2:M:193:LEU:HD23 | 2:M:307:LEU:HD11 | 1.79 | 0.64 |
| 2:M:267:TYR:HB2 | 2:M:272:ALA:HB1 | 1.78 | 0.64 |
| 2:M:918:LEU:HD23 | 2:M:968:LEU:CA | 2.25 | 0.64 |
| 3:N:160:GLU:O | 3:N:163:TYR:N | 2.30 | 0.64 |
| 3:N:653:PHE:CZ | 3:N:749:VAL:HG13 | 2.32 | 0.64 |
| 3:N:840:LYS:HD3 | 3:N:841:TYR:CZ | 2.32 | 0.64 |
| 6:Y:9:C:C2' | 6:Y:10:G:H5' | 2.28 | 0.64 |
| 1:A:106:PRO:HG2 | 1:A:134:GLU:OE1 | 1.98 | 0.64 |
| 2:C:1090:LYS:HD2 | 3:D:90:MET:CG | 2.27 | 0.64 |
| 2:C:541:SER:OG | 2:C:543:ASN:N | 2.30 | 0.64 |
| 2:M:1032:PHE:CE2 | 2:M:1037:VAL:HA | 2.33 | 0.64 |
| 2:M:433:THR:C | 2:M:435:TYR:H | 2.00 | 0.64 |
| 2:M:462:ASP:HB3 | 2:M:468:ARG:HD2 | 1.79 | 0.64 |
| 2:M:486:MET:HG3 | 2:M:487:THR:O | 1.98 | 0.64 |
| 3:N:1432:LYS:HB2 | 3:N:1432:LYS:HZ3 | 1.62 | 0.64 |
| 3:N:153:LEU:HD13 | 3:N:158:TYR:HB2 | 1.78 | 0.64 |
| 3:N:464:LEU:O | 3:N:468:LEU:HG | 1.97 | 0.64 |
| 2:M:817:PRO:O | 3:N:532:GLY:HA2 | 1.97 | 0.64 |
| 3:N:73:CYS:SG | 3:N:76:CYS:N | 2.70 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:A:75:VAL:O | 1:A:79:ILE:HG23 | 1.98 | 0.64 |
| 2:C:1101:THR:C | 2:C:1102:LEU:HD12 | 2.17 | 0.64 |
| 2:C:148:PHE:CZ | 2:C:281:LEU:HD13 | 2.33 | 0.64 |
| 2:C:611:ILE:HD11 | 2:C:641:PRO:HG3 | 1.78 | 0.64 |
| 2:C:854:PRO:HB2 | 2:C:856:GLU:HG3 | 1.79 | 0.64 |
| 3:D:1229:ILE:HD11 | 3:D:1367:HIS:HB3 | 1.79 | 0.64 |
| 2:C:685:GLU:OE1 | 3:D:739:ASP:HB3 | 1.97 | 0.64 |
| 3:D:639:LEU:HG | 3:D:932:ASP:OD1 | 1.97 | 0.64 |
| 1:K:42:ARG:HH12 | 1:L:34:VAL:CG1 | 2.11 | 0.64 |
| 1:L:132:LEU:HG | 1:L:136:GLY:HA3 | 1.79 | 0.64 |
| 2:M:41:ASN:HB2 | 2:M:45:GLN:HG2 | 1.79 | 0.64 |
| 2:M:626:ARG:O | 2:M:638:ASP:HA | 1.98 | 0.64 |
| 1:K:42:ARG:CZ | 2:M:857:ASP:HB3 | 2.27 | 0.64 |
| 3:N:714:GLN:HE22 | 3:N:732:VAL:HG11 | 1.63 | 0.64 |
| 3:N:813:LEU:O | 3:N:817:GLU:HB2 | 1.97 | 0.64 |
| 5:X:27:DC:OP2 | 5:X:27:DC:C6 | 2.43 | 0.64 |
| 3:D:951:ILE:CD1 | 3:D:1062:ARG:HE | 2.09 | 0.64 |
| 3:D:709:HIS:HA | 3:D:1227:GLN:HB3 | 1.78 | 0.64 |
| 3:D:619:LEU:HD12 | 3:D:621:LYS:HZ1 | 1.62 | 0.64 |
| 7:I:17:DA:O5' | 7:I:17:DA:H8 | 1.80 | 0.64 |
| 2:M:1047:HIS:O | 2:M:1051:GLU:HG3 | 1.98 | 0.64 |
| 2:M:1090:LYS:NZ | 2:M:1112:PHE:HE1 | 1.90 | 0.64 |
| 2:M:269:LEU:HG | 2:M:288:ARG:HG2 | 1.79 | 0.64 |
| 3:N:1101:VAL:HG13 | 3:N:1428:ALA:CB | 2.24 | 0.64 |
| 3:N:116:LEU:HB3 | 3:N:118:LEU:CD1 | 2.28 | 0.64 |
| 3:N:628:ARG:HG3 | 3:N:628:ARG:HH11 | 1.63 | 0.64 |
| 3:D:1033:GLN:HB3 | 3:D:1037:GLN:OE1 | 1.98 | 0.64 |
| 3:D:1402:ALA:HB2 | 3:D:1415:VAL:HG21 | 1.79 | 0.64 |
| 3:D:1493:LYS:O | 3:D:1497:GLU:HG2 | 1.98 | 0.64 |
| 3:D:562:ALA:HB1 | 3:D:567:ILE:HD11 | 1.80 | 0.64 |
| 3:D:758:GLU:HB3 | 3:D:762:GLN:NE2 | 2.13 | 0.64 |
| 3:D:832:ARG:HD2 | 3:D:832:ARG:O | 1.97 | 0.64 |
| 7:I:15:DT:H2'' | 7:I:16:DG:OP2 | 1.98 | 0.64 |
| 2:M:1058:ASP:OD1 | 2:M:1084:SER:HB3 | 1.98 | 0.64 |
| 2:M:292:ARG:HB2 | 2:M:299:LYS:HG2 | 1.80 | 0.64 |
| 1:K:70:GLY:N | 2:M:607:ASP:OD1 | 2.28 | 0.64 |
| 2:M:911:GLU:HA | 2:M:914:ILE:HD12 | 1.80 | 0.64 |
| 3:N:187:LYS:HE2 | 3:N:199:LEU:HA | 1.80 | 0.64 |
| 1:A:165:ILE:O | 1:A:165:ILE:HG13 | 1.97 | 0.64 |
| 2:C:327:HIS:HA | 2:C:431:HIS:NE2 | 2.13 | 0.64 |
| 3:D:1239:ARG:HA | 3:D:1253:THR:HB | 1.80 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:D:1238:MET:O | 3:D:1253:THR:HG21 | 1.98 | 0.64 |
| 3:D:480:GLU:O | 3:D:484:PRO:HD2 | 1.98 | 0.64 |
| 3:D:704:ARG:HE | 3:D:705:ALA:HB3 | 1.62 | 0.64 |
| 2:M:396:ASP:CB | 2:M:406:HIS:CD2 | 2.80 | 0.64 |
| 3:N:696:HIS:CE1 | 4:O:62:THR:HG21 | 2.32 | 0.64 |
| 3:N:52:PRO:HB2 | 3:N:83:SER:HA | 1.79 | 0.64 |
| 3:N:860:LEU:HD23 | 3:N:877:PRO:HB2 | 1.80 | 0.64 |
| 1:A:50:GLY:CA | 1:A:173:PRO:HG3 | 2.28 | 0.64 |
| 2:C:15:LEU:HD12 | 2:C:15:LEU:N | 2.11 | 0.64 |
| 2:C:602:GLU:OE1 | 2:C:648:ARG:HG2 | 1.98 | 0.64 |
| 2:C:622:GLU:O | 2:C:624:PRO:HD3 | 1.98 | 0.64 |
| 2:C:888:THR:O | 2:C:990:GLY:HA3 | 1.98 | 0.64 |
| 3:D:133:ILE:HG12 | 3:D:456:MET:HB3 | 1.79 | 0.64 |
| 6:H:12:U:O5' | 6:H:12:U:H6 | 1.81 | 0.64 |
| 2:M:1032:PHE:O | 2:M:1033:GLY:O | 2.16 | 0.64 |
| 2:M:1111:ILE:HG13 | 2:M:1112:PHE:H | 1.62 | 0.64 |
| 2:M:124:ASP:OD1 | 2:M:126:SER:OG | 2.10 | 0.64 |
| 2:M:263:ASP:O | 2:M:264:PRO:O | 2.15 | 0.64 |
| 2:M:264:PRO:HB3 | 2:M:289:THR:HB | 1.78 | 0.64 |
| 3:N:1088:THR:HG21 | 5:X:19:DG:N2 | 2.13 | 0.64 |
| 3:N:456:MET:O | 3:N:459:GLU:HB3 | 1.98 | 0.64 |
| 3:N:45:PHE:CD1 | 3:N:522:PRO:HB3 | 2.33 | 0.64 |
| 3:N:550:ARG:HD3 | 3:N:570:GLU:OE1 | 1.97 | 0.64 |
| 1:B:179:PHE:HB2 | 1:B:195:LEU:HD11 | 1.80 | 0.63 |
| 2:C:1034:GLU:CD | 3:D:619:LEU:HD22 | 2.17 | 0.63 |
| 2:C:683:ASN:OD1 | 2:C:872:ASN:HB2 | 1.98 | 0.63 |
| 2:C:85:GLU:O | 2:C:824:ARG:NH2 | 2.31 | 0.63 |
| 3:D:1412:LYS:HB2 | 2:M:376:ARG:HH21 | 1.61 | 0.63 |
| 7:I:11:DG:C2' | 7:I:12:DT:C7 | 2.77 | 0.63 |
| 2:M:683:ASN:O | 2:M:683:ASN:ND2 | 2.24 | 0.63 |
| 2:M:854:PRO:HB2 | 2:M:856:GLU:HG3 | 1.79 | 0.63 |
| 3:N:1274:ILE:O | 3:N:1274:ILE:HD12 | 1.98 | 0.63 |
| 3:N:1345:GLU:O | 3:N:1349:VAL:HG23 | 1.98 | 0.63 |
| 3:N:1380:GLU:HG3 | 3:N:1381:VAL:H | 1.63 | 0.63 |
| 3:N:484:PRO:HB3 | 3:N:488:ARG:NH2 | 2.13 | 0.63 |
| 3:N:862:ASP:O | 3:N:876:SER:HA | 1.97 | 0.63 |
| 3:N:937:TYR:O | 3:N:941:PHE:HB2 | 1.98 | 0.63 |
| 3:D:104:PHE:CD2 | 3:D:1448:THR:HG23 | 2.33 | 0.63 |
| 3:D:54:LYS:O | 3:D:55:ASP:O | 2.17 | 0.63 |
| 3:D:704:ARG:HG3 | 3:D:705:ALA:N | 2.12 | 0.63 |
| 4:E:46:PRO:HB2 | 4:E:54:LEU:HD22 | 1.80 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 6:H:11:C:H2' | 6:H:12:U:C6 | 2.33 | 0.63 |
| 3:N:1389:LEU:HD12 | 3:N:1390:LEU:N | 2.13 | 0.63 |
| 3:N:1472:ILE:HD13 | 3:N:1472:ILE:N | 2.00 | 0.63 |
| 3:N:1485:GLN:HB2 | 4:O:79:LEU:HB3 | 1.80 | 0.63 |
| 3:N:33:ASN:OD1 | 3:N:35:ARG:HG3 | 1.98 | 0.63 |
| 3:N:899:LEU:HB3 | 3:N:917:GLN:HG2 | 1.80 | 0.63 |
| 1:B:101:LEU:HB2 | 1:B:114:PHE:HA | 1.79 | 0.63 |
| 2:C:1083:GLU:O | 2:C:1087:VAL:HG12 | 1.98 | 0.63 |
| 2:C:157:ARG:NH2 | 2:C:158:TYR:CE1 | 2.65 | 0.63 |
| 2:C:460:ARG:HG2 | 2:C:485:TYR:CE2 | 2.33 | 0.63 |
| 2:C:12:VAL:HG11 | 2:C:472:ARG:HD3 | 1.79 | 0.63 |
| 3:D:1410:GLU:OE2 | 2:M:373:VAL:HG12 | 1.98 | 0.63 |
| 3:D:1432:LYS:NZ | 3:D:1432:LYS:HB2 | 2.13 | 0.63 |
| 5:G:16:DT:H2'' | 5:G:17:DA:OP1 | 1.99 | 0.63 |
| 2:M:630:ARG:HH11 | 2:M:630:ARG:HG3 | 1.63 | 0.63 |
| 2:M:884:GLN:O | 2:M:992:MET:HE1 | 1.98 | 0.63 |
| 2:M:906:PHE:CD1 | 3:N:1067:VAL:HG22 | 2.32 | 0.63 |
| 3:N:1149:LEU:HD22 | 3:N:1151:ARG:O | 1.97 | 0.63 |
| 3:N:619:LEU:HD12 | 3:N:621:LYS:HZ1 | 1.63 | 0.63 |
| 1:A:154:GLU:N | 1:A:154:GLU:CD | 2.51 | 0.63 |
| 2:C:129:ILE:HG22 | 2:C:130:ASN:N | 2.13 | 0.63 |
| 2:C:216:GLU:HG2 | 2:C:219:GLN:OE1 | 1.98 | 0.63 |
| 2:C:264:PRO:HB3 | 2:C:289:THR:HB | 1.80 | 0.63 |
| 2:C:694:LEU:HD21 | 2:C:868:ASP:CB | 2.27 | 0.63 |
| 2:C:720:GLU:HG2 | 2:C:760:SER:CB | 2.28 | 0.63 |
| 3:D:1200:VAL:HG22 | 3:D:1373:ARG:HH12 | 1.62 | 0.63 |
| 2:C:836:GLY:HA3 | 3:D:724:GLN:OE1 | 1.98 | 0.63 |
| 2:C:1115:LEU:CD2 | 3:D:85:VAL:HG12 | 2.27 | 0.63 |
| 2:M:217:LEU:HD12 | 2:M:311:PHE:CD2 | 2.33 | 0.63 |
| 2:M:631:SER:HB3 | 2:M:635:THR:N | 2.11 | 0.63 |
| 3:N:521:PRO:CD | 3:N:524:LEU:HD22 | 2.26 | 0.63 |
| 3:N:565:ILE:H | 3:N:565:ILE:HD12 | 1.64 | 0.63 |
| 3:N:690:ALA:O | 3:N:694:VAL:HG23 | 1.98 | 0.63 |
| 3:N:695:ILE:O | 3:N:696:HIS:C | 2.37 | 0.63 |
| 3:N:834:THR:HA | 3:N:838:ARG:NH1 | 2.13 | 0.63 |
| 3:N:845:ASN:CG | 3:N:846:PRO:HD2 | 2.18 | 0.63 |
| 3:N:853:VAL:HA | 3:N:858:VAL:O | 1.99 | 0.63 |
| 5:X:7:DA:H2'' | 5:X:8:DC:C5' | 2.27 | 0.63 |
| 2:C:572:ILE:HG13 | 2:C:573:ARG:H | 1.64 | 0.63 |
| 2:C:31:GLN:HB3 | 2:C:71:TYR:HH | 1.64 | 0.63 |
| 3:D:1442:ASN:O | 3:D:1443:THR:HG23 | 1.99 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:M:1013:TYR:HE1 | 2:M:1020:PRO:HG3 | 1.63 | 0.63 |
| 2:M:1032:PHE:HE2 | 2:M:1037:VAL:HA | 1.64 | 0.63 |
| 2:M:694:LEU:HD21 | 2:M:868:ASP:OD2 | 1.98 | 0.63 |
| 3:N:398:ALA:CB | 3:N:447:VAL:HA | 2.26 | 0.63 |
| 3:N:97:THR:HG23 | 3:N:459:GLU:HB2 | 1.81 | 0.63 |
| 3:N:457:GLY:C | 3:N:459:GLU:N | 2.49 | 0.63 |
| 3:N:477:LEU:HD22 | 3:N:492:ALA:HB1 | 1.80 | 0.63 |
| 3:N:659:LYS:HE3 | 3:N:663:GLU:OE2 | 1.98 | 0.63 |
| 3:D:18:ILE:HD12 | 3:D:518:PRO:HG3 | 1.80 | 0.63 |
| 3:D:618:LEU:HD11 | 3:D:1463:LYS:HG3 | 1.80 | 0.63 |
| 3:D:638:LYS:HZ3 | 3:D:932:ASP:HB3 | 1.64 | 0.63 |
| 3:D:731:LEU:HD21 | 3:D:782:SER:H | 1.63 | 0.63 |
| 2:M:1013:TYR:HA | 2:M:1020:PRO:HA | 1.81 | 0.63 |
| 2:M:1085:PHE:O | 2:M:1088:LEU:HB3 | 1.99 | 0.63 |
| 2:M:496:ILE:HD12 | 2:M:496:ILE:N | 2.13 | 0.63 |
| 3:N:130:SER:O | 3:N:568:ARG:HD3 | 1.99 | 0.63 |
| 3:N:704:ARG:HG2 | 3:N:736:PHE:HB3 | 1.80 | 0.63 |
| 4:O:47:LYS:N | 4:O:54:LEU:HD13 | 2.13 | 0.63 |
| 1:B:9:PRO:HB3 | 1:B:25:LEU:HD21 | 1.79 | 0.63 |
| 2:C:1047:HIS:HB2 | 3:D:758:GLU:OE1 | 1.99 | 0.63 |
| 2:C:265:ARG:HG2 | 2:C:267:TYR:H | 1.64 | 0.63 |
| 2:C:50:GLU:CB | 2:C:266:ARG:CZ | 2.76 | 0.63 |
| 2:C:300:ASP:OD2 | 2:C:303:PHE:HB2 | 1.99 | 0.63 |
| 3:D:654:LYS:HB3 | 3:D:655:PRO:CD | 2.28 | 0.63 |
| 2:M:473:ARG:HG3 | 2:M:474:VAL:N | 2.11 | 0.63 |
| 2:M:498:GLN:CG | 2:M:516:ARG:HH21 | 2.12 | 0.63 |
| 2:M:77:PRO:HD3 | 2:M:93:PRO:HD3 | 1.80 | 0.63 |
| 3:N:115:LEU:C | 3:N:115:LEU:HD23 | 2.19 | 0.63 |
| 3:N:693:GLU:O | 4:O:48:MET:CE | 2.46 | 0.63 |
| 5:X:3:DC:O5' | 5:X:3:DC:H6 | 1.81 | 0.63 |
| 2:C:1056:LYS:HZ1 | 3:D:749:VAL:H | 1.44 | 0.63 |
| 2:C:692:GLU:CG | 2:C:696:LYS:HE3 | 2.20 | 0.63 |
| 2:C:580:MET:HE2 | 2:C:902:ILE:HG12 | 1.79 | 0.63 |
| 3:D:1453:ALA:O | 3:D:1455:LYS:N | 2.31 | 0.63 |
| 1:K:75:VAL:O | 1:K:79:ILE:HG23 | 1.97 | 0.63 |
| 1:L:123:MET:C | 1:L:125:PRO:HD3 | 2.19 | 0.63 |
| 2:M:422:ARG:HB3 | 7:Z:1:DG:N2 | 2.14 | 0.63 |
| 2:M:516:ARG:NH2 | 3:N:1068:LEU:HB2 | 2.14 | 0.63 |
| 3:N:1126:ASP:OD1 | 3:N:1129:THR:N | 2.32 | 0.63 |
| 3:N:1240:THR:O | 3:N:1241:PHE:CB | 2.47 | 0.63 |
| 3:N:12:LEU:HD23 | 3:N:13:ALA:H | 1.64 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:N:696:HIS:CG | 3:N:697:GLY:N | 2.67 | 0.63 |
| 2:C:516:ARG:HE | 3:D:1068:LEU:HD13 | 1.63 | 0.63 |
| 2:C:580:MET:O | 2:C:902:ILE:HA | 1.98 | 0.63 |
| 3:D:1083:ASP:O | 3:D:1087:ARG:HD3 | 1.99 | 0.63 |
| 3:D:850:LEU:HD12 | 3:D:850:LEU:H | 1.63 | 0.63 |
| 1:K:88:ARG:NH2 | 1:K:90:LEU:HG | 2.13 | 0.63 |
| 2:M:252:LYS:HD3 | 2:M:296:GLY:HA2 | 1.81 | 0.63 |
| 2:M:666:LEU:HG | 2:M:668:LEU:HD11 | 1.80 | 0.63 |
| 3:N:1111:ASP:OD1 | 3:N:1203:LYS:HB2 | 1.99 | 0.63 |
| 3:N:23:TYR:CE1 | 3:N:89:ARG:HG2 | 2.34 | 0.63 |
| 3:N:607:LEU:HA | 3:N:613:ARG:HB3 | 1.79 | 0.63 |
| 2:C:838:LYS:C | 2:C:839:LEU:HD23 | 2.20 | 0.62 |
| 3:D:1242:HIS:O | 3:D:1250:ALA:HA | 1.98 | 0.62 |
| 3:D:33:ASN:HB2 | 3:D:40:GLU:OE1 | 1.99 | 0.62 |
| 3:D:902:LEU:H | 3:D:902:LEU:CD2 | 2.05 | 0.62 |
| 7:I:11:DG:C8 | 7:I:11:DG:O5' | 2.52 | 0.62 |
| 3:N:1093:TYR:CE1 | 5:X:18:DC:C5' | 2.82 | 0.62 |
| 1:A:42:ARG:HB2 | 1:B:35:THR:CG2 | 2.29 | 0.62 |
| 2:C:831:ARG:NH2 | 2:C:1004:LYS:HZ2 | 1.96 | 0.62 |
| 2:C:682:TYR:CE2 | 3:D:635:PRO:HG2 | 2.34 | 0.62 |
| 2:C:557:ARG:NH2 | 2:C:879:ARG:HE | 1.97 | 0.62 |
| 2:C:893:ALA:O | 2:C:897:LEU:HG | 1.99 | 0.62 |
| 3:D:1003:VAL:HG13 | 3:D:1036:ARG:CD | 2.28 | 0.62 |
| 3:D:542:ASP:HB2 | 3:D:600:LEU:HD23 | 1.80 | 0.62 |
| 1:L:89:PHE:HB3 | 1:L:94:LEU:HD13 | 1.81 | 0.62 |
| 2:M:987:ILE:HD11 | 3:N:946:GLY:HA2 | 1.81 | 0.62 |
| 3:N:703:ASN:OD1 | 3:N:707:THR:HG23 | 1.99 | 0.62 |
| 3:N:750:PRO:HB2 | 3:N:756:GLN:HA | 1.81 | 0.62 |
| 3:N:770:LEU:HD22 | 3:N:775:GLY:O | 2.00 | 0.62 |
| 3:N:785:ILE:HG23 | 3:N:938:GLY:HA3 | 1.81 | 0.62 |
| 1:B:206:THR:HG23 | 1:B:208:LEU:H | 1.61 | 0.62 |
| 1:A:43:ILE:HD13 | 1:B:32:PHE:CE2 | 2.34 | 0.62 |
| 2:C:1046:ALA:C | 3:D:1472:ILE:HD11 | 2.19 | 0.62 |
| 2:C:263:ASP:O | 2:C:264:PRO:O | 2.17 | 0.62 |
| 2:C:45:GLN:O | 2:C:48:PHE:HB2 | 1.99 | 0.62 |
| 2:C:577:PRO:HG3 | 2:C:993:PHE:CE1 | 2.34 | 0.62 |
| 3:D:908:LYS:HB2 | 3:D:1027:GLY:HA3 | 1.79 | 0.62 |
| 3:D:1112:CYS:HB3 | 3:D:1195:GLN:CG | 2.11 | 0.62 |
| 3:D:1463:LYS:O | 3:D:1467:ILE:HG13 | 2.00 | 0.62 |
| 3:D:148:GLU:HB3 | 3:D:151:GLN:CB | 2.30 | 0.62 |
| 2:C:1102:LEU:O | 3:D:5:VAL:HG13 | 1.99 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 3:D:615:ARG:NH1 | 3:D:1096:ARG:CZ | 2.61 | 0.62 |
| 1:L:100:LEU:HB2 | 1:L:115:LEU:CD2 | 2.28 | 0.62 |
| 2:M:10:ARG:HA | 2:M:10:ARG:HH11 | 1.64 | 0.62 |
| 2:M:431:HIS:NE2 | 2:M:433:THR:OG1 | 2.32 | 0.62 |
| 2:M:524:VAL:HG12 | 2:M:525:SER:N | 2.14 | 0.62 |
| 2:M:52:PHE:CD2 | 2:M:68:PHE:HB2 | 2.34 | 0.62 |
| 3:N:98:PRO:O | 3:N:458:ALA:HB3 | 1.99 | 0.62 |
| 1:A:109:VAL:O | 1:A:110:LYS:HD3 | 1.98 | 0.62 |
| 3:D:1033:GLN:HB2 | 3:D:1037:GLN:OE1 | 1.99 | 0.62 |
| 3:D:119:SER:O | 3:D:121:THR:N | 2.33 | 0.62 |
| 3:D:474:GLU:O | 3:D:478:LEU:HG | 2.00 | 0.62 |
| 2:M:263:ASP:HB2 | 2:M:264:PRO:HD3 | 1.81 | 0.62 |
| 2:M:680:ASP:OD1 | 3:N:943:THR:HG21 | 1.98 | 0.62 |
| 2:M:683:ASN:HA | 2:M:687:ALA:C | 2.20 | 0.62 |
| 2:M:887:GLU:CD | 2:M:992:MET:HG3 | 2.19 | 0.62 |
| 3:N:1367:HIS:O | 3:N:1370:ILE:HG12 | 1.99 | 0.62 |
| 3:N:501:ALA:HB1 | 3:N:1453:ALA:CB | 2.29 | 0.62 |
| 3:N:700:VAL:HG22 | 3:N:718:PRO:CG | 2.29 | 0.62 |
| 3:N:1483:PHE:HB2 | 4:O:77:GLU:OE1 | 1.99 | 0.62 |
| 6:Y:4:G:H2' | 6:Y:5:C:H6 | 1.63 | 0.62 |
| 6:Y:6:C:H3' | 6:Y:7:G:H8 | 1.64 | 0.62 |
| 1:A:162:ILE:HG13 | 1:A:163:ASN:N | 2.15 | 0.62 |
| 2:C:1000:MET:C | 2:C:1002:GLU:H | 2.01 | 0.62 |
| 2:C:490:GLU:HA | 2:C:493:ARG:HD3 | 1.82 | 0.62 |
| 2:C:836:GLY:HA2 | 3:D:725:SER:HB3 | 1.80 | 0.62 |
| 2:C:897:LEU:HD21 | 2:C:921:ALA:HA | 1.82 | 0.62 |
| 3:D:1206:GLY:HA3 | 3:D:1366:LYS:NZ | 2.15 | 0.62 |
| 3:D:131:LYS:HG2 | 3:D:456:MET:HE1 | 1.82 | 0.62 |
| 1:B:175:ARG:HB3 | 3:D:847:ASP:OD2 | 1.99 | 0.62 |
| 1:K:101:LEU:HD13 | 1:K:114:PHE:CE1 | 2.35 | 0.62 |
| 3:N:132:TYR:HD2 | 3:N:154:THR:CB | 2.10 | 0.62 |
| 3:N:1459:LEU:HA | 3:N:1464:GLU:OE1 | 1.99 | 0.62 |
| 3:N:697:GLY:CA | 3:N:717:GLN:CD | 2.60 | 0.62 |
| 3:N:799:LYS:HB3 | 3:N:826:PRO:HG2 | 1.81 | 0.62 |
| 1:A:11:PHE:HA | 1:A:25:LEU:HD12 | 1.81 | 0.62 |
| 1:A:64:GLU:O | 1:A:75:VAL:HB | 1.98 | 0.62 |
| 2:C:1032:PHE:CZ | 2:C:1037:VAL:HA | 2.35 | 0.62 |
| 2:C:1087:VAL:O | 2:C:1091:GLU:HG3 | 2.00 | 0.62 |
| 2:C:470:PRO:HD3 | 2:C:485:TYR:CE2 | 2.35 | 0.62 |
| 2:C:729:LEU:HD13 | 3:D:675:ARG:HD2 | 1.81 | 0.62 |
| 3:D:530:VAL:HG13 | 6:H:5:C:OP1 | 1.99 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:D:56:TYR:O | 3:D:80:VAL:HG21 | 1.99 | 0.62 |
| 3:D:639:LEU:HD12 | 3:D:640:HIS:N | 2.15 | 0.62 |
| 3:D:704:ARG:HD3 | 3:D:738:ALA:HB2 | 1.82 | 0.62 |
| 5:G:3:DC:H2' | 5:G:4:DA:O5' | 2.00 | 0.62 |
| 2:C:393:GLN:HG2 | 6:H:10:G:O2' | 1.99 | 0.62 |
| 2:M:1058:ASP:OD1 | 2:M:1084:SER:OG | 2.16 | 0.62 |
| 2:M:274:ARG:NH2 | 2:M:284:ARG:HA | 2.15 | 0.62 |
| 2:M:15:LEU:HB2 | 2:M:586:ARG:HH12 | 1.65 | 0.62 |
| 3:N:119:SER:HB2 | 3:N:123:LEU:H | 1.65 | 0.62 |
| 3:N:1465:ASN:OD1 | 3:N:1473:PRO:CD | 2.46 | 0.62 |
| 3:N:63:TYR:CE1 | 3:N:73:CYS:HA | 2.35 | 0.62 |
| 1:B:99:LEU:HB3 | 1:B:114:PHE:CD2 | 2.35 | 0.62 |
| 2:C:708:TYR:CE2 | 2:C:793:PRO:HG2 | 2.35 | 0.62 |
| 2:C:90:TYR:HB2 | 2:C:128:ILE:HB | 1.82 | 0.62 |
| 3:D:464:LEU:O | 3:D:468:LEU:HG | 1.99 | 0.62 |
| 3:D:109:PRO:HB3 | 3:D:494:LYS:HZ1 | 1.60 | 0.62 |
| 5:G:5:DC:C2' | 5:G:6:DT:O5' | 2.46 | 0.62 |
| 1:L:201:THR:HG21 | 1:L:205:VAL:HG23 | 1.80 | 0.62 |
| 1:L:25:LEU:O | 1:L:28:LEU:HD21 | 1.99 | 0.62 |
| 3:N:1131:SER:HB2 | 3:N:1133:ARG:NH2 | 2.15 | 0.62 |
| 3:N:160:GLU:O | 3:N:164:GLY:N | 2.32 | 0.62 |
| 3:N:646:LYS:HD2 | 3:N:688:TRP:CE3 | 2.34 | 0.62 |
| 3:N:62:LYS:CG | 3:N:75:ARG:HD2 | 2.23 | 0.62 |
| 2:C:286:SER:HB3 | 2:C:299:LYS:HE3 | 1.80 | 0.62 |
| 2:C:139:GLN:CD | 2:C:418:LEU:HD22 | 2.20 | 0.62 |
| 2:C:524:VAL:HG12 | 2:C:525:SER:N | 2.15 | 0.62 |
| 3:D:1149:LEU:HD22 | 3:D:1151:ARG:O | 2.00 | 0.62 |
| 3:D:487:ALA:HB2 | 5:G:7:DA:H2' | 1.80 | 0.62 |
| 1:K:35:THR:O | 1:K:39:PRO:HG2 | 1.99 | 0.62 |
| 2:M:163:ILE:HD12 | 2:M:164:PRO:N | 2.13 | 0.62 |
| 2:M:172:ILE:H | 2:M:172:ILE:HD12 | 1.64 | 0.62 |
| 2:C:302:VAL:HG13 | 2:C:303:PHE:H | 1.65 | 0.62 |
| 3:D:1388:ARG:H | 3:D:1388:ARG:HD2 | 1.65 | 0.62 |
| 3:D:619:LEU:HB2 | 3:D:621:LYS:HZ3 | 1.65 | 0.62 |
| 2:M:395:LYS:HB3 | 2:M:397:GLU:OE2 | 2.00 | 0.62 |
| 2:M:679:PHE:O | 2:M:680:ASP:O | 2.18 | 0.62 |
| 3:N:486:ARG:HG2 | 3:N:1390:LEU:HD11 | 1.82 | 0.62 |
| 3:N:143:ASN:HA | 3:N:161:LEU:HD12 | 1.81 | 0.62 |
| 1:B:24:VAL:HG22 | 1:B:196:THR:HG22 | 1.81 | 0.62 |
| 2:C:328:LEU:HB2 | 2:C:433:THR:HB | 1.80 | 0.62 |
| 2:C:41:ASN:HB3 | 2:C:45:GLN:OE1 | 1.99 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 2:C:650:ARG:HG2 | 2:C:653:ASP:HB2 | 1.82 | 0.62 |
| 2:C:1046:ALA:O | 3:D:1472:ILE:HD11 | 1.99 | 0.62 |
| 2:C:988:VAL:HG11 | 3:D:949:ILE:O | 1.98 | 0.62 |
| 1:L:58:ILE:HD13 | 1:L:140:MET:HB3 | 1.81 | 0.62 |
| 2:M:1058:ASP:OD1 | 2:M:1084:SER:CB | 2.47 | 0.62 |
| 3:N:1131:SER:HB2 | 3:N:1133:ARG:HH21 | 1.65 | 0.62 |
| 3:N:1323:GLN:N | 3:N:1324:PRO:CD | 2.63 | 0.62 |
| 3:N:62:LYS:HG3 | 3:N:75:ARG:CD | 2.23 | 0.62 |
| 3:N:834:THR:HG22 | 3:N:838:ARG:HH11 | 1.64 | 0.62 |
| 4:O:70:THR:HG21 | 4:O:72:ARG:CZ | 2.30 | 0.62 |
| 1:A:188:GLN:HG3 | 1:A:189:ARG:N | 2.15 | 0.61 |
| 1:B:57:TYR:HB2 | 1:B:164:ALA:HB2 | 1.82 | 0.61 |
| 2:C:634:GLY:HA3 | 2:C:705:ILE:O | 2.00 | 0.61 |
| 2:C:710:ILE:HD12 | 2:C:790:LEU:HB2 | 1.82 | 0.61 |
| 2:C:945:ARG:O | 2:C:949:LYS:HG3 | 2.00 | 0.61 |
| 3:D:1114:THR:HG22 | 3:D:1195:GLN:HB3 | 1.80 | 0.61 |
| 3:D:1103:HIS:HA | 3:D:1223:ILE:HD11 | 1.81 | 0.61 |
| 3:D:498:VAL:HG12 | 3:D:502:PHE:HE1 | 1.64 | 0.61 |
| 3:D:879:ARG:HH12 | 3:D:905:PRO:HD3 | 1.65 | 0.61 |
| 1:K:121:GLU:HG2 | 1:K:122:ILE:N | 2.14 | 0.61 |
| 1:K:217:ILE:HG22 | 1:K:221:HIS:NE2 | 2.15 | 0.61 |
| 1:K:7:LYS:HD2 | 1:K:186:LEU:CD2 | 2.29 | 0.61 |
| 2:M:140:ILE:HG22 | 2:M:333:ILE:HG13 | 1.82 | 0.61 |
| 2:M:300:ASP:C | 2:M:302:VAL:H | 2.02 | 0.61 |
| 2:M:110:GLU:CG | 2:M:369:PRO:HG3 | 2.30 | 0.61 |
| 2:M:643:VAL:HG13 | 2:M:647:GLN:CD | 2.20 | 0.61 |
| 2:M:98:LEU:N | 2:M:98:LEU:HD12 | 2.15 | 0.61 |
| 3:N:744:GLN:HG3 | 3:N:744:GLN:O | 1.99 | 0.61 |
| 3:N:95:LEU:HB2 | 3:N:515:GLU:HA | 1.82 | 0.61 |
| 2:C:335:THR:O | 2:C:339:LEU:HG | 2.00 | 0.61 |
| 2:C:613:VAL:O | 2:C:620:LEU:HA | 2.00 | 0.61 |
| 3:D:1183:ILE:HG22 | 3:N:559:ALA:O | 2.00 | 0.61 |
| 4:E:54:LEU:CG | 4:E:58:PRO:HG2 | 2.26 | 0.61 |
| 7:I:8:DG:H2" | 7:I:9:DT:OP2 | 1.99 | 0.61 |
| 2:M:1088:LEU:HA | 2:M:1091:GLU:OE1 | 2.01 | 0.61 |
| 2:M:211:LEU:O | 2:M:211:LEU:HD12 | 2.00 | 0.61 |
| 2:M:586:ARG:HD2 | 2:M:590:ASP:OD2 | 2.00 | 0.61 |
| 2:M:647:GLN:O | 2:M:649:VAL:HG13 | 2.00 | 0.61 |
| 3:N:764:LEU:HD12 | 3:N:765:SER:N | 2.15 | 0.61 |
| 3:N:939:PHE:O | 3:N:942:SER:OG | 2.16 | 0.61 |
| 2:C:172:ILE:H | 2:C:172:ILE:HD12 | 1.64 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 2:C:265:ARG:HB3 | 2:C:267:TYR:CE2 | 2.35 | 0.61 |
| 2:C:492:ASP:HB3 | 2:C:518:LYS:HD2 | 1.81 | 0.61 |
| 2:C:714:ASP:OD2 | 2:C:820:ARG:HB2 | 2.00 | 0.61 |
| 3:D:1195:GLN:CG | 3:D:1196:THR:H | 2.11 | 0.61 |
| 3:D:774:SER:HB2 | 3:D:776:GLU:HG2 | 1.82 | 0.61 |
| 1:L:7:LYS:H22 | 1:L:186:LEU:HD13 | 1.65 | 0.61 |
| 2:M:1053:LEU:N | 2:M:1053:LEU:HD23 | 2.15 | 0.61 |
| 2:M:1050:GLN:O | 2:M:1054:THR:HG23 | 2.00 | 0.61 |
| 2:M:911:GLU:HB3 | 2:M:912:PRO:HD3 | 1.82 | 0.61 |
| 3:N:1110:ALA:O | 3:N:1111:ASP:C | 2.38 | 0.61 |
| 3:N:132:TYR:HA | 3:N:154:THR:HA | 1.82 | 0.61 |
| 3:N:171:LEU:HG | 3:N:195:VAL:HG23 | 1.80 | 0.61 |
| 3:N:457:GLY:O | 3:N:459:GLU:N | 2.34 | 0.61 |
| 3:N:952:ASP:HA | 3:N:1062:ARG:NH2 | 2.14 | 0.61 |
| 2:C:516:ARG:CZ | 3:D:1068:LEU:HD22 | 2.31 | 0.61 |
| 2:C:52:PHE:CE1 | 2:C:68:PHE:CB | 2.74 | 0.61 |
| 3:D:1109:GLU:OE1 | 3:D:1201:CYS:HB2 | 2.00 | 0.61 |
| 2:M:170:PRO:HD2 | 2:M:263:ASP:HB3 | 1.82 | 0.61 |
| 2:M:350:ARG:O | 2:M:353:ARG:HB3 | 2.01 | 0.61 |
| 2:M:52:PHE:CE1 | 2:M:66:LEU:HG | 2.33 | 0.61 |
| 3:N:1379:VAL:HA | 3:N:1420:LEU:HB2 | 1.82 | 0.61 |
| 3:N:502:PHE:CD1 | 3:N:1452:ILE:HG23 | 2.36 | 0.61 |
| 3:D:524:LEU:N | 3:D:524:LEU:CD1 | 2.62 | 0.61 |
| 3:D:583:ASP:OD1 | 3:D:586:ARG:HG2 | 2.01 | 0.61 |
| 3:D:833:GLU:O | 3:D:834:THR:CG2 | 2.36 | 0.61 |
| 3:D:983:LEU:CD1 | 3:D:988:ARG:HB2 | 2.30 | 0.61 |
| 1:K:156:HIS:ND1 | 1:K:157:GLY:N | 2.48 | 0.61 |
| 2:M:1052:MET:N | 2:M:1052:MET:SD | 2.72 | 0.61 |
| 2:M:165:LEU:HA | 2:M:166:PRO:O | 1.99 | 0.61 |
| 2:M:332:ARG:CZ | 2:M:464:LEU:HD11 | 2.30 | 0.61 |
| 2:M:569:VAL:HG21 | 2:M:702:SER:OG | 2.01 | 0.61 |
| 3:N:625:TYR:CD2 | 3:N:652:LEU:O | 2.54 | 0.61 |
| 1:A:43:ILE:O | 1:A:47:SER:N | 2.18 | 0.61 |
| 2:C:1032:PHE:O | 2:C:1033:GLY:O | 2.17 | 0.61 |
| 2:C:946:ARG:HB3 | 2:C:946:ARG:HH11 | 1.66 | 0.61 |
| 3:D:131:LYS:HG3 | 3:D:568:ARG:HG2 | 1.80 | 0.61 |
| 3:D:163:TYR:H | 3:D:163:TYR:HD1 | 1.46 | 0.61 |
| 3:D:743:ASP:OD1 | 6:H:14:G:O2' | 2.18 | 0.61 |
| 3:D:750:PRO:CB | 3:D:756:GLN:HA | 2.30 | 0.61 |
| 2:C:1115:LEU:HD23 | 3:D:85:VAL:HA | 1.83 | 0.61 |
| 3:D:87:ARG:HB2 | 3:D:524:LEU:HD11 | 1.81 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:D:93:ILE:HD12 | 3:D:517:VAL:HB | 1.83 | 0.61 |
| 1:K:42:ARG:HH12 | 1:L:34:VAL:HB | 1.64 | 0.61 |
| 1:K:72:LYS:HE3 | 2:M:641:PRO:HB2 | 1.81 | 0.61 |
| 2:M:1046:ALA:HB1 | 3:N:1471:LEU:CD1 | 2.26 | 0.61 |
| 2:M:1056:LYS:HD3 | 3:N:623:VAL:HG13 | 1.82 | 0.61 |
| 2:M:532:MET:CG | 2:M:533:ASP:N | 2.64 | 0.61 |
| 2:M:95:TYR:HD2 | 2:M:114:PHE:HB3 | 1.65 | 0.61 |
| 3:N:1256:LEU:HG | 3:N:1260:ILE:HD11 | 1.82 | 0.61 |
| 3:N:619:LEU:HD23 | 3:N:619:LEU:N | 2.16 | 0.61 |
| 1:B:150:TYR:HE2 | 1:B:168:ASP:HB3 | 1.66 | 0.61 |
| 2:C:239:PHE:CZ | 2:C:250:ARG:HD2 | 2.35 | 0.61 |
| 2:C:267:TYR:CG | 2:C:272:ALA:HB1 | 2.36 | 0.61 |
| 2:C:395:LYS:NZ | 2:C:407:LYS:HZ3 | 1.99 | 0.61 |
| 2:C:678:PRO:O | 3:D:943:THR:HA | 2.01 | 0.61 |
| 3:D:101:HIS:O | 3:D:105:VAL:HG23 | 2.01 | 0.61 |
| 3:D:1397:LYS:HZ2 | 3:D:1432:LYS:HE3 | 1.66 | 0.61 |
| 3:D:1106:VAL:HG11 | 3:D:1474:ALA:CB | 2.30 | 0.61 |
| 3:D:86:ARG:O | 3:D:521:PRO:HB3 | 1.99 | 0.61 |
| 1:L:32:PHE:O | 1:L:36:LEU:HG | 2.00 | 0.61 |
| 2:M:143:SER:HB2 | 2:M:276:LYS:CE | 2.28 | 0.61 |
| 2:M:16:PRO:O | 2:M:18:LEU:HD12 | 2.00 | 0.61 |
| 2:M:36:PRO:HB2 | 2:M:70:GLU:HG2 | 1.82 | 0.61 |
| 2:M:418:LEU:HD12 | 2:M:418:LEU:N | 2.16 | 0.61 |
| 2:M:613:VAL:O | 2:M:620:LEU:HA | 2.01 | 0.61 |
| 2:M:394:PHE:CE1 | 2:M:632:ASN:HB3 | 2.36 | 0.61 |
| 2:M:68:PHE:HE1 | 2:M:96:ALA:HB1 | 1.64 | 0.61 |
| 3:N:716:PHE:O | 3:N:718:PRO:HD3 | 2.01 | 0.61 |
| 2:C:1090:LYS:HD2 | 3:D:90:MET:SD | 2.41 | 0.61 |
| 2:C:799:ILE:C | 2:C:827:VAL:HG13 | 2.21 | 0.61 |
| 2:C:897:LEU:HD22 | 2:C:920:GLN:HE22 | 1.66 | 0.61 |
| 3:D:1110:ALA:O | 3:D:1111:ASP:C | 2.38 | 0.61 |
| 3:D:781:PRO:HB2 | 3:D:786:ILE:CG1 | 2.31 | 0.61 |
| 4:E:64:ALA:O | 4:E:68:LEU:HD13 | 2.01 | 0.61 |
| 1:K:221:HIS:HA | 1:K:224:TYR:CD2 | 2.36 | 0.61 |
| 2:M:20:GLU:HG2 | 2:M:21:ILE:HD12 | 1.82 | 0.61 |
| 2:M:30:LEU:HD12 | 2:M:30:LEU:O | 2.00 | 0.61 |
| 2:M:630:ARG:CD | 2:M:634:GLY:HA2 | 2.30 | 0.61 |
| 2:M:577:PRO:HG3 | 2:M:993:PHE:CE2 | 2.36 | 0.61 |
| 2:M:66:LEU:HD12 | 2:M:99:GLN:O | 2.01 | 0.61 |
| 3:N:105:VAL:HG22 | 3:N:112:ILE:HG21 | 1.82 | 0.61 |
| 3:N:187:LYS:CE | 3:N:199:LEU:HA | 2.30 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:N:661:MET:O | 3:N:664:LYS:O | 2.18 | 0.61 |
| 3:N:711:LEU:HD21 | 3:N:768:ASN:HB3 | 1.81 | 0.61 |
| 4:O:34:GLY:CA | 4:O:95:VAL:HB | 2.29 | 0.61 |
| 5:X:13:DA:C2' | 5:X:14:DG:OP2 | 2.44 | 0.61 |
| 1:A:56:VAL:HG13 | 1:A:142:VAL:HG12 | 1.83 | 0.61 |
| 1:A:226:SER:O | 1:A:228:PRO:HD3 | 1.99 | 0.61 |
| 3:D:105:VAL:HA | 3:D:112:ILE:CG2 | 2.31 | 0.61 |
| 3:D:1129:THR:HG23 | 3:D:1130:ARG:N | 2.16 | 0.61 |
| 3:D:119:SER:HB2 | 3:D:123:LEU:HB2 | 1.83 | 0.61 |
| 3:D:1264:GLU:HB3 | 3:D:1266:ARG:HD2 | 1.82 | 0.61 |
| 3:D:32:ILE:HG12 | 3:D:39:PRO:HA | 1.81 | 0.61 |
| 3:D:521:PRO:HD2 | 3:D:524:LEU:HD22 | 1.82 | 0.61 |
| 3:D:542:ASP:HA | 3:D:545:ARG:HH21 | 1.64 | 0.61 |
| 2:C:1056:LYS:NZ | 3:D:749:VAL:H | 1.99 | 0.61 |
| 3:D:774:SER:C | 3:D:776:GLU:H | 2.02 | 0.61 |
| 3:D:937:TYR:O | 3:D:941:PHE:HB2 | 2.01 | 0.61 |
| 7:I:4:DG:C2' | 7:I:5:DC:OP2 | 2.44 | 0.61 |
| 2:M:226:VAL:HG13 | 2:M:227:PHE:CD1 | 2.36 | 0.61 |
| 3:N:1177:ALA:O | 3:N:1180:ALA:HB3 | 1.99 | 0.61 |
| 3:N:119:SER:HB2 | 3:N:123:LEU:CB | 2.30 | 0.61 |
| 1:A:211:LEU:O | 1:A:215:VAL:HG23 | 2.01 | 0.61 |
| 1:B:101:LEU:HD11 | 1:B:113:ASP:HB3 | 1.83 | 0.61 |
| 2:C:15:LEU:H | 2:C:15:LEU:CD1 | 2.12 | 0.61 |
| 2:C:604:ALA:HB3 | 2:C:612:VAL:O | 2.01 | 0.61 |
| 2:C:98:LEU:N | 2:C:98:LEU:HD12 | 2.16 | 0.61 |
| 3:D:1398:TRP:HA | 3:D:1398:TRP:CE3 | 2.36 | 0.61 |
| 3:D:623:VAL:HG12 | 3:D:624:ASP:N | 2.16 | 0.61 |
| 1:L:89:PHE:HB3 | 1:L:94:LEU:CD1 | 2.31 | 0.61 |
| 2:M:775:ARG:NH1 | 2:M:782:ALA:HB1 | 2.16 | 0.61 |
| 3:N:1103:HIS:CE1 | 3:N:1463:LYS:HB3 | 2.36 | 0.61 |
| 3:N:1220:ALA:O | 3:N:1224:VAL:HG23 | 2.01 | 0.61 |
| 3:N:609:GLY:O | 3:N:615:ARG:CB | 2.49 | 0.61 |
| 3:N:774:SER:C | 3:N:776:GLU:H | 2.04 | 0.61 |
| 3:N:804:LEU:HD23 | 3:N:804:LEU:H | 1.64 | 0.61 |
| 7:Z:12:DT:H2'' | 7:Z:13:DA:H8 | 1.63 | 0.61 |
| 2:C:133:ASP:N | 2:C:133:ASP:OD2 | 2.33 | 0.60 |
| 2:C:395:LYS:CE | 2:C:407:LYS:HD2 | 2.31 | 0.60 |
| 2:C:409:ARG:HH12 | 2:C:444:PRO:CG | 2.14 | 0.60 |
| 3:D:490:ALA:O | 3:D:493:ARG:HG3 | 2.01 | 0.60 |
| 3:D:739:ASP:OD1 | 3:D:741:ASP:OD2 | 2.19 | 0.60 |
| 4:E:54:LEU:O | 4:E:54:LEU:HD23 | 2.00 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 2:M:606:VAL:HG22 | 2:M:645:VAL:HG13 | 1.83 | 0.60 |
| 2:M:604:ALA:HB3 | 2:M:612:VAL:O | 2.02 | 0.60 |
| 2:M:677:MET:HB3 | 2:M:987:ILE:HG21 | 1.82 | 0.60 |
| 3:N:111:LYS:CG | 3:N:1448:THR:HG22 | 2.31 | 0.60 |
| 3:N:9:ARG:HH12 | 3:N:11:ALA:HB2 | 1.65 | 0.60 |
| 3:D:1153:VAL:HG13 | 3:N:560:GLN:O | 2.00 | 0.60 |
| 3:N:623:VAL:HG12 | 3:N:624:ASP:N | 2.16 | 0.60 |
| 3:N:690:ALA:O | 3:N:693:GLU:HB3 | 2.01 | 0.60 |
| 5:X:15:DC:H6 | 5:X:15:DC:O5' | 1.84 | 0.60 |
| 1:A:106:PRO:HA | 1:A:133:GLU:O | 2.01 | 0.60 |
| 3:D:1161:GLU:HG2 | 3:D:1164:ARG:HB2 | 1.83 | 0.60 |
| 3:D:713:ILE:O | 3:D:714:GLN:HG3 | 2.01 | 0.60 |
| 2:M:15:LEU:HB2 | 2:M:586:ARG:NH1 | 2.15 | 0.60 |
| 3:N:171:LEU:HG | 3:N:195:VAL:CG2 | 2.31 | 0.60 |
| 3:N:845:ASN:O | 3:N:848:GLU:HB2 | 2.00 | 0.60 |
| 2:M:1075:ASP:CB | 4:O:32:ARG:NH2 | 2.64 | 0.60 |
| 2:C:300:ASP:C | 2:C:302:VAL:H | 2.04 | 0.60 |
| 2:C:409:ARG:NH1 | 2:C:444:PRO:HG3 | 2.15 | 0.60 |
| 2:C:50:GLU:HB2 | 2:C:266:ARG:CZ | 2.31 | 0.60 |
| 2:C:690:ILE:CG1 | 2:C:691:SER:N | 2.63 | 0.60 |
| 2:C:757:GLY:HA2 | 2:C:789:SER:HB3 | 1.82 | 0.60 |
| 3:D:1109:GLU:OE1 | 3:D:1111:ASP:N | 2.35 | 0.60 |
| 3:D:994:GLN:HG2 | 3:D:1243:THR:O | 2.01 | 0.60 |
| 3:D:1378:TYR:OH | 3:D:1431:THR:HA | 2.00 | 0.60 |
| 3:D:739:ASP:O | 3:D:743:ASP:OD1 | 2.18 | 0.60 |
| 2:M:44:ILE:CG2 | 2:M:45:GLN:N | 2.64 | 0.60 |
| 3:N:143:ASN:OD1 | 3:N:145:VAL:O | 2.19 | 0.60 |
| 1:L:176:ARG:NH1 | 3:N:884:ARG:HD3 | 2.15 | 0.60 |
| 1:A:112:ARG:HH21 | 1:A:125:PRO:CB | 2.13 | 0.60 |
| 3:D:134:VAL:HG12 | 3:D:152:LEU:HB3 | 1.82 | 0.60 |
| 3:D:84:ILE:HG13 | 3:D:85:VAL:N | 2.16 | 0.60 |
| 2:M:1001:VAL:HG21 | 5:X:24:DC:H5' | 1.83 | 0.60 |
| 2:M:89:THR:CA | 2:M:129:ILE:O | 2.43 | 0.60 |
| 2:M:677:MET:HB3 | 2:M:987:ILE:HD13 | 1.83 | 0.60 |
| 3:N:1033:GLN:CD | 3:N:1240:THR:CG2 | 2.68 | 0.60 |
| 3:N:1061:PHE:CE1 | 3:N:1065:LEU:HD22 | 2.36 | 0.60 |
| 3:N:1238:MET:C | 3:N:1239:ARG:HG2 | 2.22 | 0.60 |
| 3:N:166:GLN:HB3 | 3:N:198:ARG:HB3 | 1.83 | 0.60 |
| 3:N:87:ARG:HG3 | 3:N:88:TYR:CD2 | 2.36 | 0.60 |
| 3:N:919:PHE:HA | 3:N:927:THR:OG1 | 2.02 | 0.60 |
| 1:A:123:MET:C | 1:A:125:PRO:HD3 | 2.22 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:A:63:HIS:CE1 | 1:A:65:PHE:C | 2.74 | 0.60 |
| 1:B:78:ILE:O | 1:B:82:LEU:HG | 2.01 | 0.60 |
| 2:C:1016:ILE:CG1 | 2:C:1017:THR:H | 2.12 | 0.60 |
| 2:C:395:LYS:HZ1 | 2:C:407:LYS:NZ | 2.00 | 0.60 |
| 3:D:520:LEU:HD11 | 3:D:524:LEU:HD23 | 1.82 | 0.60 |
| 3:D:770:LEU:HD22 | 3:D:775:GLY:O | 2.01 | 0.60 |
| 1:K:50:GLY:HA3 | 1:K:173:PRO:HG3 | 1.83 | 0.60 |
| 2:M:101:ILE:HG23 | 2:M:107:LEU:HD22 | 1.81 | 0.60 |
| 2:M:1036:GLU:OE1 | 2:M:1036:GLU:N | 2.35 | 0.60 |
| 2:M:264:PRO:CB | 2:M:289:THR:HB | 2.32 | 0.60 |
| 3:N:1453:ALA:O | 3:N:1455:LYS:N | 2.33 | 0.60 |
| 3:N:52:PRO:HG2 | 3:N:85:VAL:CG2 | 2.31 | 0.60 |
| 3:N:578:VAL:O | 3:N:582:LEU:HG | 2.00 | 0.60 |
| 3:N:610:LYS:C | 3:N:615:ARG:CG | 2.52 | 0.60 |
| 4:O:36:LYS:HG2 | 4:O:95:VAL:CG2 | 2.31 | 0.60 |
| 2:M:1031:ARG:HB3 | 5:X:22:DA:OP1 | 2.01 | 0.60 |
| 1:B:170:VAL:HG11 | 3:D:848:GLU:OE2 | 2.01 | 0.60 |
| 1:B:30:ARG:NH1 | 1:B:30:ARG:HG2 | 2.12 | 0.60 |
| 3:D:1044:LEU:O | 3:D:1045:MET:C | 2.39 | 0.60 |
| 3:D:619:LEU:N | 3:D:619:LEU:HD23 | 2.16 | 0.60 |
| 3:D:641:GLN:HG2 | 3:D:717:GLN:NE2 | 2.15 | 0.60 |
| 3:D:804:LEU:HD12 | 3:D:830:ALA:O | 2.01 | 0.60 |
| 3:D:907:GLU:HG2 | 3:D:908:LYS:H | 1.66 | 0.60 |
| 2:M:305:PRO:HA | 2:M:308:ARG:HB2 | 1.83 | 0.60 |
| 2:M:690:ILE:HG22 | 2:M:851:LYS:O | 2.00 | 0.60 |
| 2:M:874:LEU:CD1 | 3:N:783:ARG:HB2 | 2.32 | 0.60 |
| 3:N:1422:MET:HE1 | 3:N:1427:SER:HA | 1.84 | 0.60 |
| 3:N:1468:LEU:HD22 | 3:N:1470:ARG:CB | 2.23 | 0.60 |
| 3:N:501:ALA:HB1 | 3:N:1453:ALA:CA | 2.31 | 0.60 |
| 3:N:526:PRO:O | 3:N:537:THR:HA | 2.00 | 0.60 |
| 3:N:642:CYS:SG | 3:N:716:PHE:HB2 | 2.42 | 0.60 |
| 3:N:712:GLY:O | 3:N:713:ILE:HG13 | 2.00 | 0.60 |
| 3:N:1216:SER:CB | 4:O:15:SER:HA | 2.31 | 0.60 |
| 5:X:26:DC:C2 | 5:X:27:DC:C5 | 2.89 | 0.60 |
| 7:Z:4:DG:C2' | 7:Z:5:DC:OP2 | 2.37 | 0.60 |
| 1:A:206:THR:HG23 | 1:A:208:LEU:H | 1.67 | 0.60 |
| 2:C:850:ALA:HA | 3:D:632:VAL:HG13 | 1.83 | 0.60 |
| 3:D:1059:SER:HB2 | 3:D:1065:LEU:HD12 | 1.84 | 0.60 |
| 3:D:1116:ASN:O | 3:D:1193:THR:HB | 2.01 | 0.60 |
| 3:D:1496:GLU:HA | 3:D:1499:ARG:NE | 2.15 | 0.60 |
| 3:D:706:PRO:CG | 5:G:19:DG:N2 | 2.64 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:D:845:ASN:O | 3:D:848:GLU:HB2 | 2.01 | 0.60 |
| 3:D:853:VAL:HA | 3:D:858:VAL:O | 2.01 | 0.60 |
| 1:L:7:LYS:HD3 | 1:L:7:LYS:O | 2.01 | 0.60 |
| 2:M:227:PHE:HD2 | 2:M:237:ARG:HD3 | 1.66 | 0.60 |
| 2:M:508:ILE:N | 2:M:508:ILE:HD13 | 2.16 | 0.60 |
| 2:M:692:GLU:HB2 | 2:M:853:LEU:O | 2.02 | 0.60 |
| 2:M:861:LEU:CD2 | 2:M:863:ASP:HB3 | 2.26 | 0.60 |
| 2:M:939:ARG:CA | 2:M:939:ARG:HE | 1.96 | 0.60 |
| 2:M:875:GLY:HA2 | 3:N:1029:ARG:HH21 | 1.67 | 0.60 |
| 3:N:488:ARG:HG2 | 3:N:488:ARG:HH11 | 1.66 | 0.60 |
| 3:N:682:ASP:O | 3:N:683:ILE:HG13 | 2.01 | 0.60 |
| 3:D:1003:VAL:HG13 | 3:D:1036:ARG:HG3 | 1.84 | 0.60 |
| 3:D:1353:GLN:O | 3:D:1357:ARG:HG3 | 2.01 | 0.60 |
| 3:D:1448:THR:O | 3:D:1452:ILE:CD1 | 2.50 | 0.60 |
| 3:D:522:PRO:CA | 3:D:525:ARG:NH1 | 2.61 | 0.60 |
| 1:L:48:ILE:HD13 | 1:L:210:ALA:HB1 | 1.84 | 0.60 |
| 2:M:1060:ILE:O | 2:M:1063:ARG:HG2 | 2.01 | 0.60 |
| 2:M:147:TYR:CE2 | 2:M:330:ASN:HB3 | 2.37 | 0.60 |
| 2:M:457:ALA:HB3 | 2:M:538:GLN:HA | 1.82 | 0.60 |
| 2:M:64:LEU:HD22 | 2:M:359:MET:CG | 2.25 | 0.60 |
| 2:M:887:GLU:OE2 | 2:M:992:MET:HE2 | 2.01 | 0.60 |
| 3:N:1377:LYS:HE2 | 3:N:1394:VAL:HG22 | 1.82 | 0.60 |
| 3:D:1154:GLU:HB2 | 3:N:562:ALA:C | 2.22 | 0.60 |
| 3:N:637:LEU:HD11 | 3:N:642:CYS:CA | 2.31 | 0.60 |
| 3:N:730:PRO:HG2 | 3:N:731:LEU:H | 1.67 | 0.60 |
| 2:M:22:GLN:OE1 | 2:M:336:VAL:HG21 | 2.02 | 0.60 |
| 2:M:397:GLU:CD | 2:M:632:ASN:HB2 | 2.22 | 0.60 |
| 2:M:426:ASP:HA | 2:M:429:ASP:OD2 | 2.02 | 0.60 |
| 2:M:841:ASN:ND2 | 2:M:884:GLN:HB3 | 2.16 | 0.60 |
| 3:N:1111:ASP:CG | 3:N:1203:LYS:HD2 | 2.22 | 0.60 |
| 3:N:1447:LEU:HD12 | 3:N:1447:LEU:N | 2.17 | 0.60 |
| 3:N:98:PRO:HA | 3:N:514:LEU:O | 2.01 | 0.60 |
| 3:N:637:LEU:HD21 | 3:N:642:CYS:HA | 1.84 | 0.60 |
| 3:N:646:LYS:CD | 3:N:688:TRP:CH2 | 2.85 | 0.60 |
| 3:N:704:ARG:CG | 3:N:736:PHE:HB3 | 2.31 | 0.60 |
| 3:N:732:VAL:HB | 3:N:736:PHE:CE1 | 2.37 | 0.60 |
| 4:O:32:ARG:HB2 | 4:O:32:ARG:NH1 | 2.17 | 0.60 |
| 2:C:384:GLU:O | 2:C:388:ARG:HB2 | 2.02 | 0.60 |
| 2:C:751:PRO:HB3 | 2:C:794:PRO:HA | 1.83 | 0.60 |
| 3:D:1348:LEU:O | 3:D:1352:ILE:HG13 | 2.01 | 0.60 |
| 3:D:817:GLU:O | 3:D:821:VAL:HG23 | 2.02 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:D:776:GLU:HB3 | 3:D:912:LYS:HE2 | 1.84 | 0.60 |
| 1:L:115:LEU:O | 1:L:115:LEU:HD12 | 2.01 | 0.60 |
| 2:M:1097:LEU:H | 2:M:1097:LEU:CD2 | 2.11 | 0.60 |
| 2:M:266:ARG:HA | 2:M:288:ARG:CD | 2.31 | 0.60 |
| 2:M:269:LEU:HG | 2:M:288:ARG:HA | 1.83 | 0.60 |
| 2:M:334:ARG:HA | 2:M:338:GLU:OE2 | 2.01 | 0.60 |
| 2:M:423:ALA:HB2 | 7:Z:1:DG:O4' | 2.02 | 0.60 |
| 2:M:492:ASP:HB3 | 2:M:518:LYS:CD | 2.29 | 0.60 |
| 2:M:843:HIS:CE1 | 2:M:884:GLN:CA | 2.84 | 0.60 |
| 3:N:1301:LYS:HG3 | 3:N:1303:TYR:CE1 | 2.37 | 0.60 |
| 3:N:1382:THR:HG21 | 3:N:1418:LYS:HE3 | 1.83 | 0.60 |
| 3:N:1462:LEU:HD22 | 3:N:1472:ILE:HG22 | 1.83 | 0.60 |
| 3:N:704:ARG:CB | 3:N:736:PHE:HB3 | 2.32 | 0.60 |
| 1:B:57:TYR:CE1 | 1:B:163:ASN:HB2 | 2.35 | 0.59 |
| 2:C:1000:MET:C | 2:C:1002:GLU:N | 2.55 | 0.59 |
| 2:C:140:ILE:HG23 | 2:C:410:ILE:HD11 | 1.84 | 0.59 |
| 2:C:267:TYR:O | 2:C:268:ASP:C | 2.39 | 0.59 |
| 2:C:328:LEU:C | 2:C:330:ASN:H | 2.05 | 0.59 |
| 2:C:56:GLU:HB3 | 2:C:359:MET:SD | 2.43 | 0.59 |
| 3:D:108:VAL:HB | 3:D:109:PRO:CD | 2.25 | 0.59 |
| 3:D:1252:ILE:O | 3:D:1252:ILE:HG23 | 2.02 | 0.59 |
| 3:D:1442:ASN:C | 3:D:1443:THR:HG23 | 2.22 | 0.59 |
| 3:D:577:ALA:O | 3:D:580:ALA:HB3 | 2.01 | 0.59 |
| 3:D:584:ASN:ND2 | 3:D:590:PRO:HD2 | 2.17 | 0.59 |
| 3:D:613:ARG:HA | 3:D:613:ARG:NE | 2.14 | 0.59 |
| 3:D:704:ARG:HH11 | 3:D:738:ALA:CB | 2.13 | 0.59 |
| 2:C:1045:ALA:HB2 | 3:D:763:MET:SD | 2.42 | 0.59 |
| 3:D:918:ALA:CB | 3:D:927:THR:HG23 | 2.31 | 0.59 |
| 4:E:30:LEU:HB3 | 4:E:35:PHE:CE1 | 2.37 | 0.59 |
| 1:L:56:VAL:HG12 | 1:L:57:TYR:N | 2.17 | 0.59 |
| 2:M:260:LEU:HD12 | 2:M:261:ILE:H | 1.67 | 0.59 |
| 2:M:274:ARG:HG2 | 2:M:285:LEU:HD13 | 1.83 | 0.59 |
| 2:M:498:GLN:HG2 | 2:M:516:ARG:HH21 | 1.67 | 0.59 |
| 2:M:52:PHE:O | 2:M:54:ILE:N | 2.35 | 0.59 |
| 2:M:735:ARG:HG2 | 2:M:735:ARG:NH1 | 2.14 | 0.59 |
| 2:M:825:VAL:HG12 | 2:M:827:VAL:HG23 | 1.83 | 0.59 |
| 3:N:1136:LYS:HB2 | 3:N:1139:ASP:OD2 | 2.02 | 0.59 |
| 3:N:539:ASP:HB3 | 3:N:600:LEU:HB3 | 1.84 | 0.59 |
| 3:N:646:LYS:HD2 | 3:N:688:TRP:CZ3 | 2.37 | 0.59 |
| 2:C:1012:PRO:HD3 | 2:C:1026:GLN:HG2 | 1.82 | 0.59 |
| 2:C:1060:ILE:O | 2:C:1063:ARG:HG2 | 2.02 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:D:1027:GLY:O | 3:D:1028:ALA:O | 2.20 | 0.59 |
| 3:D:1168:MET:HG3 | 3:D:1172:HIS:NE2 | 2.16 | 0.59 |
| 5:G:20:DC:H2'' | 5:G:21:DG:C5' | 2.30 | 0.59 |
| 2:M:1115:LEU:CD1 | 2:M:1115:LEU:H | 2.06 | 0.59 |
| 2:M:950:LEU:HB3 | 2:M:952:LEU:HD23 | 1.83 | 0.59 |
| 3:N:1167:SER:O | 3:N:1171:VAL:HG23 | 2.02 | 0.59 |
| 3:N:1496:GLU:O | 3:N:1500:LYS:HG3 | 2.02 | 0.59 |
| 2:C:1092:LEU:O | 2:C:1097:LEU:O | 2.20 | 0.59 |
| 2:C:1110:ASP:OD2 | 2:C:1112:PHE:O | 2.19 | 0.59 |
| 2:C:296:GLY:O | 2:C:298:PHE:CZ | 2.55 | 0.59 |
| 2:C:304:LEU:HD23 | 2:C:304:LEU:H | 1.67 | 0.59 |
| 2:C:559:LEU:CD2 | 2:C:563:ASN:OD1 | 2.50 | 0.59 |
| 2:C:516:ARG:NE | 3:D:1068:LEU:HD13 | 2.17 | 0.59 |
| 3:D:879:ARG:NH2 | 3:D:903:ASP:O | 2.35 | 0.59 |
| 4:E:9:LEU:HD11 | 4:E:69:LEU:HD12 | 1.84 | 0.59 |
| 1:L:211:LEU:O | 1:L:215:VAL:HG13 | 2.02 | 0.59 |
| 2:M:172:ILE:N | 2:M:172:ILE:HD12 | 2.18 | 0.59 |
| 2:M:474:VAL:HG23 | 2:M:478:VAL:O | 2.02 | 0.59 |
| 2:M:684:PHE:CE2 | 2:M:685:GLU:HB2 | 2.37 | 0.59 |
| 3:N:1446:VAL:CG1 | 3:N:1447:LEU:HD12 | 2.32 | 0.59 |
| 3:N:752:SER:HB3 | 3:N:755:ALA:HB3 | 1.84 | 0.59 |
| 3:N:800:LYS:HD2 | 3:N:804:LEU:HD13 | 1.85 | 0.59 |
| 4:O:13:VAL:HG12 | 4:O:15:SER:H | 1.66 | 0.59 |
| 5:X:9:DC:H2'' | 5:X:10:DA:H8 | 1.67 | 0.59 |
| 2:C:1016:ILE:CG1 | 2:C:1017:THR:N | 2.66 | 0.59 |
| 2:C:50:GLU:CG | 2:C:266:ARG:CD | 2.73 | 0.59 |
| 2:C:650:ARG:CG | 2:C:653:ASP:HB2 | 2.32 | 0.59 |
| 1:A:46:SER:CB | 2:C:856:GLU:OE2 | 2.50 | 0.59 |
| 2:C:881:ASN:O | 2:C:884:GLN:HG3 | 2.02 | 0.59 |
| 3:D:1041:LEU:HD12 | 3:D:1042:ARG:CZ | 2.33 | 0.59 |
| 3:D:1256:LEU:HD21 | 3:D:1260:ILE:HD11 | 1.84 | 0.59 |
| 3:D:33:ASN:HB2 | 3:D:40:GLU:CD | 2.23 | 0.59 |
| 3:D:984:THR:OG1 | 3:D:985:ASP:N | 2.36 | 0.59 |
| 4:E:4:PRO:HG2 | 4:E:66:LYS:NZ | 2.17 | 0.59 |
| 2:M:211:LEU:HD13 | 2:M:308:ARG:HA | 1.85 | 0.59 |
| 2:M:333:ILE:N | 2:M:333:ILE:HD12 | 2.17 | 0.59 |
| 2:M:584:GLU:CB | 2:M:666:LEU:HB3 | 2.33 | 0.59 |
| 2:M:876:VAL:H | 2:M:877:PRO:HD2 | 1.66 | 0.59 |
| 2:M:69:LEU:HD12 | 2:M:97:ARG:HB3 | 1.83 | 0.59 |
| 3:N:1207:TYR:O | 3:N:1215:VAL:HG23 | 2.02 | 0.59 |
| 3:N:166:GLN:HA | 3:N:198:ARG:HG2 | 1.84 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:N:683:ILE:HG22 | 3:N:684:LYS:N | 2.17 | 0.59 |
| 1:A:117:VAL:HB | 1:A:120:VAL:CG1 | 2.33 | 0.59 |
| 1:B:58:ILE:CD1 | 1:B:140:MET:HB3 | 2.31 | 0.59 |
| 2:C:110:GLU:OE1 | 2:C:113:VAL:HG22 | 2.02 | 0.59 |
| 3:D:1100:ASP:HA | 3:D:1463:LYS:HZ1 | 1.66 | 0.59 |
| 3:D:862:ASP:O | 3:D:877:PRO:HD3 | 2.03 | 0.59 |
| 5:G:15:DC:H1' | 5:G:16:DT:H5' | 1.84 | 0.59 |
| 7:I:3:DA:H2'' | 7:I:4:DG:O5' | 2.03 | 0.59 |
| 1:K:92:PRO:HG3 | 1:K:146:ARG:NH2 | 2.17 | 0.59 |
| 2:M:184:MET:O | 2:M:190:LYS:HA | 2.01 | 0.59 |
| 2:M:328:LEU:HB2 | 2:M:488:ALA:HB2 | 1.83 | 0.59 |
| 2:M:404:LEU:HA | 2:M:407:LYS:HD3 | 1.81 | 0.59 |
| 3:N:1189:ARG:HD2 | 3:N:1204:CYS:HA | 1.83 | 0.59 |
| 3:N:1209:LEU:HD21 | 4:O:16:LYS:HE3 | 1.84 | 0.59 |
| 3:N:792:ILE:HG23 | 3:N:793:THR:HG23 | 1.84 | 0.59 |
| 3:N:939:PHE:O | 3:N:943:THR:HG23 | 2.01 | 0.59 |
| 6:Y:11:C:O5' | 6:Y:11:C:H6 | 1.85 | 0.59 |
| 1:A:110:LYS:O | 1:A:111:ALA:C | 2.41 | 0.59 |
| 2:C:170:PRO:HD2 | 2:C:263:ASP:HB3 | 1.83 | 0.59 |
| 2:C:395:LYS:HZ1 | 2:C:407:LYS:HZ3 | 1.48 | 0.59 |
| 2:C:490:GLU:HA | 2:C:493:ARG:CD | 2.32 | 0.59 |
| 2:C:824:ARG:HD2 | 2:C:826:TYR:OH | 2.03 | 0.59 |
| 2:C:796:GLU:HB3 | 2:C:829:GLN:OE1 | 2.02 | 0.59 |
| 2:C:946:ARG:HB3 | 2:C:946:ARG:NH1 | 2.18 | 0.59 |
| 3:D:1045:MET:CE | 3:D:1076:GLY:CA | 2.74 | 0.59 |
| 3:D:1154:GLU:N | 3:N:561:GLY:HA3 | 2.18 | 0.59 |
| 3:D:1223:ILE:N | 3:D:1223:ILE:HD12 | 2.17 | 0.59 |
| 3:D:505:SER:HB3 | 3:D:1454:GLY:H | 1.67 | 0.59 |
| 3:D:989:TYR:CZ | 3:D:1051:GLU:CG | 2.76 | 0.59 |
| 2:M:715:THR:HG23 | 2:M:720:GLU:OE2 | 2.01 | 0.59 |
| 2:M:775:ARG:HD2 | 2:M:782:ALA:CB | 2.33 | 0.59 |
| 3:N:1175:ILE:O | 3:N:1179:GLU:HG3 | 2.02 | 0.59 |
| 3:N:1330:ILE:HD13 | 3:N:1347:TYR:HE1 | 1.67 | 0.59 |
| 3:N:199:LEU:HD23 | 3:N:200:ASP:N | 2.17 | 0.59 |
| 3:N:900:ILE:HG13 | 3:N:900:ILE:O | 2.01 | 0.59 |
| 2:C:106:GLY:O | 2:C:107:LEU:HD23 | 2.03 | 0.59 |
| 2:C:630:ARG:NE | 2:C:634:GLY:HA2 | 2.18 | 0.59 |
| 3:D:1431:THR:HG23 | 3:D:1433:SER:O | 2.02 | 0.59 |
| 3:D:465:LEU:HD13 | 3:D:510:GLU:HA | 1.83 | 0.59 |
| 5:G:2:DT:C2' | 5:G:3:DC:C5 | 2.85 | 0.59 |
| 6:H:9:C:H2' | 6:H:10:G:C1' | 2.33 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:K:24:VAL:HG22 | 1:K:196:THR:HG22 | 1.84 | 0.59 |
| 2:M:10:ARG:CA | 2:M:10:ARG:HH11 | 2.14 | 0.59 |
| 2:M:160:ALA:HB3 | 2:M:174:LEU:HB2 | 1.84 | 0.59 |
| 2:M:605:LYS:HD3 | 2:M:610:ARG:HH12 | 1.68 | 0.59 |
| 2:M:8:ARG:N | 2:M:907:ASP:OD2 | 2.35 | 0.59 |
| 3:N:653:PHE:CZ | 3:N:749:VAL:HG11 | 2.38 | 0.59 |
| 3:N:907:GLU:HG2 | 3:N:908:LYS:N | 2.17 | 0.59 |
| 2:C:408:ARG:HH21 | 2:C:455:LEU:HD12 | 1.67 | 0.59 |
| 2:C:455:LEU:HD13 | 2:C:459:ALA:HB3 | 1.85 | 0.59 |
| 3:D:484:PRO:HB3 | 3:D:488:ARG:NE | 2.18 | 0.59 |
| 3:D:23:TYR:O | 3:D:49:ILE:HG23 | 2.02 | 0.59 |
| 2:C:752:GLY:HA3 | 3:D:679:ARG:HA | 1.85 | 0.59 |
| 3:D:695:ILE:HD11 | 3:D:718:PRO:HB2 | 1.85 | 0.59 |
| 2:M:1082:PRO:O | 2:M:1085:PHE:HB3 | 2.02 | 0.59 |
| 2:M:1089:VAL:O | 2:M:1092:LEU:HB2 | 2.02 | 0.59 |
| 2:M:143:SER:O | 2:M:145:GLY:N | 2.36 | 0.59 |
| 2:M:753:ASP:HB2 | 2:M:792:VAL:CG2 | 2.32 | 0.59 |
| 2:M:906:PHE:CG | 3:N:1067:VAL:HG22 | 2.37 | 0.59 |
| 3:N:1370:ILE:O | 3:N:1374:GLN:HG2 | 2.03 | 0.59 |
| 3:N:750:PRO:HB3 | 3:N:755:ALA:O | 2.03 | 0.59 |
| 7:Z:12:DT:H71 | 7:Z:12:DT:OP2 | 2.02 | 0.59 |
| 1:A:87:VAL:HG21 | 1:A:144:VAL:CG1 | 2.33 | 0.59 |
| 2:C:130:ASN:HD21 | 2:C:383:ARG:NH2 | 2.01 | 0.59 |
| 2:C:582:GLY:C | 2:C:583:LEU:HD12 | 2.23 | 0.59 |
| 3:D:1146:GLY:CA | 3:D:1207:TYR:HB2 | 2.32 | 0.59 |
| 3:D:1442:ASN:ND2 | 5:G:16:DT:OP1 | 2.35 | 0.59 |
| 3:D:564:GLU:HA | 3:D:567:ILE:HD12 | 1.83 | 0.59 |
| 2:M:1048:THR:OG1 | 3:N:755:ALA:HB1 | 2.03 | 0.59 |
| 2:M:267:TYR:O | 2:M:268:ASP:C | 2.40 | 0.59 |
| 2:M:869:VAL:HG22 | 2:M:870:ILE:N | 2.17 | 0.59 |
| 3:N:112:ILE:HD11 | 3:N:116:LEU:HD12 | 1.83 | 0.59 |
| 3:N:135:LEU:HD11 | 3:N:147:VAL:HG23 | 1.85 | 0.59 |
| 3:N:137:PRO:HD2 | 3:N:453:ASP:CG | 2.23 | 0.59 |
| 3:N:896:ALA:O | 3:N:900:ILE:HG23 | 2.03 | 0.59 |
| 3:N:785:ILE:CD1 | 3:N:939:PHE:CE2 | 2.86 | 0.59 |
| 1:A:179:PHE:HB2 | 1:A:195:LEU:HD11 | 1.85 | 0.59 |
| 2:C:1008:ARG:HG2 | 2:C:1008:ARG:HH11 | 1.66 | 0.59 |
| 2:C:1093:GLN:O | 3:D:21:TRP:HZ3 | 1.86 | 0.59 |
| 2:C:679:PHE:O | 2:C:680:ASP:O | 2.20 | 0.59 |
| 3:D:1106:VAL:HG12 | 3:D:1107:VAL:N | 2.18 | 0.59 |
| 3:D:1397:LYS:NZ | 3:D:1432:LYS:HE3 | 2.18 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 5:G:17:DA:OP1 | 5:G:17:DA:O4' | 2.21 | 0.59 |
| 3:D:1096:ARG:HH12 | 5:G:18:DC:P | 2.25 | 0.59 |
| 2:M:1092:LEU:HB3 | 2:M:1099:VAL:HG23 | 1.85 | 0.59 |
| 2:M:304:LEU:CG | 2:M:305:PRO:HD3 | 2.33 | 0.59 |
| 2:M:340:MET:O | 2:M:340:MET:SD | 2.61 | 0.59 |
| 2:M:504:GLU:HB2 | 2:M:507:ARG:HB3 | 1.85 | 0.59 |
| 2:M:889:HIS:CE1 | 2:M:988:VAL:CG2 | 2.81 | 0.59 |
| 3:N:1446:VAL:HG12 | 3:N:1447:LEU:HD12 | 1.85 | 0.59 |
| 3:N:33:ASN:HB2 | 3:N:40:GLU:OE1 | 2.02 | 0.59 |
| 3:N:792:ILE:HD11 | 3:N:881:LEU:HB3 | 1.85 | 0.59 |
| 2:C:269:LEU:HD12 | 2:C:288:ARG:HG3 | 1.84 | 0.58 |
| 2:C:2:GLU:O | 2:C:3:ILE:HD13 | 2.03 | 0.58 |
| 2:C:346:VAL:O | 2:C:350:ARG:HG3 | 2.03 | 0.58 |
| 2:C:541:SER:OG | 2:C:542:VAL:N | 2.36 | 0.58 |
| 2:C:647:GLN:O | 2:C:649:VAL:HG13 | 2.04 | 0.58 |
| 2:C:753:ASP:O | 2:C:792:VAL:HG23 | 2.02 | 0.58 |
| 3:D:1347:TYR:CE2 | 3:D:1351:GLU:HG2 | 2.38 | 0.58 |
| 3:D:1468:LEU:HD22 | 3:D:1470:ARG:HG3 | 1.85 | 0.58 |
| 3:D:1492:LEU:HD12 | 3:D:1493:LYS:HE3 | 1.85 | 0.58 |
| 3:D:19:ARG:HG3 | 3:D:19:ARG:HH11 | 1.67 | 0.58 |
| 6:H:6:C:C5 | 6:H:7:G:N7 | 2.71 | 0.58 |
| 1:L:206:THR:HG23 | 1:L:208:LEU:H | 1.67 | 0.58 |
| 2:M:680:ASP:N | 3:N:943:THR:HG22 | 2.18 | 0.58 |
| 3:N:581:LEU:CD2 | 3:N:581:LEU:H | 2.15 | 0.58 |
| 3:N:583:ASP:OD1 | 3:N:586:ARG:HG2 | 2.03 | 0.58 |
| 3:N:671:LYS:O | 3:N:675:ARG:HG3 | 2.03 | 0.58 |
| 5:X:12:DA:C2 | 5:X:13:DA:C4 | 2.91 | 0.58 |
| 2:C:999:HIS:ND1 | 2:C:1003:ASP:HB2 | 2.18 | 0.58 |
| 2:C:272:ALA:O | 2:C:276:LYS:HE3 | 2.03 | 0.58 |
| 2:C:290:LEU:H | 2:C:290:LEU:HD23 | 1.67 | 0.58 |
| 2:C:496:ILE:HD12 | 2:C:496:ILE:N | 2.18 | 0.58 |
| 2:C:555:ALA:O | 2:C:558:ALA:HB3 | 2.03 | 0.58 |
| 3:D:1033:GLN:O | 3:D:1037:GLN:CA | 2.51 | 0.58 |
| 3:D:1236:LEU:HD23 | 3:D:1236:LEU:O | 2.03 | 0.58 |
| 3:D:741:ASP:O | 6:H:14:G:C5' | 2.50 | 0.58 |
| 2:M:684:PHE:CZ | 2:M:685:GLU:HB2 | 2.38 | 0.58 |
| 3:N:139:GLY:O | 3:N:147:VAL:HB | 2.04 | 0.58 |
| 2:C:1063:ARG:HG3 | 2:C:1064:ASN:N | 2.17 | 0.58 |
| 2:C:682:TYR:O | 2:C:850:ALA:HB3 | 2.02 | 0.58 |
| 2:C:756:VAL:HB | 2:C:790:LEU:HB3 | 1.86 | 0.58 |
| 1:A:177:VAL:O | 2:C:864:GLY:HA2 | 2.03 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:D:33:ASN:HB2 | 3:D:40:GLU:OE2 | 2.04 | 0.58 |
| 3:D:473:LEU:N | 3:D:473:LEU:HD12 | 2.19 | 0.58 |
| 2:C:1034:GLU:HB3 | 3:D:619:LEU:HB3 | 1.86 | 0.58 |
| 2:C:1010:THR:HA | 3:D:624:ASP:OD1 | 2.03 | 0.58 |
| 2:M:1022:GLY:HA3 | 2:M:1026:GLN:O | 2.03 | 0.58 |
| 2:M:170:PRO:HG2 | 2:M:258:TYR:CE2 | 2.38 | 0.58 |
| 2:M:430:VAL:CG1 | 3:N:1075:HIS:HA | 2.33 | 0.58 |
| 2:M:510:ALA:HB3 | 2:M:513:VAL:CG2 | 2.32 | 0.58 |
| 2:M:873:PRO:O | 2:M:877:PRO:HD2 | 2.03 | 0.58 |
| 3:N:1114:THR:O | 3:N:1114:THR:CG2 | 2.50 | 0.58 |
| 3:N:465:LEU:HD22 | 3:N:510:GLU:CA | 2.32 | 0.58 |
| 3:N:619:LEU:HD12 | 3:N:621:LYS:NZ | 2.18 | 0.58 |
| 3:N:686:GLU:HA | 3:N:689:ASP:OD2 | 2.02 | 0.58 |
| 2:M:1013:TYR:O | 6:Y:4:G:O6 | 2.21 | 0.58 |
| 2:C:302:VAL:C | 2:C:305:PRO:HD2 | 2.23 | 0.58 |
| 2:C:345:ARG:HA | 2:C:348:LEU:HB2 | 1.85 | 0.58 |
| 2:C:431:HIS:CG | 2:C:432:ARG:N | 2.71 | 0.58 |
| 3:D:1115:THR:HG22 | 3:D:1151:ARG:HH21 | 1.67 | 0.58 |
| 2:C:1039:ALA:HA | 3:D:1227:GLN:OE1 | 2.03 | 0.58 |
| 2:C:1056:LYS:HE2 | 3:D:625:TYR:HB2 | 1.86 | 0.58 |
| 3:D:917:GLN:HA | 3:D:920:LEU:HD12 | 1.84 | 0.58 |
| 4:E:50:THR:HB | 4:E:51:LEU:HD23 | 1.85 | 0.58 |
| 3:D:1266:ARG:HH22 | 7:I:4:DG:H4' | 1.68 | 0.58 |
| 2:M:762:LYS:HD3 | 2:M:784:ASP:O | 2.03 | 0.58 |
| 3:N:1293:PHE:CD2 | 3:N:1300:SER:HB2 | 2.39 | 0.58 |
| 3:N:1422:MET:CE | 3:N:1427:SER:HA | 2.34 | 0.58 |
| 3:N:618:LEU:CD1 | 3:N:1467:ILE:HD11 | 2.32 | 0.58 |
| 3:N:641:GLN:HB3 | 3:N:717:GLN:O | 2.04 | 0.58 |
| 3:D:152:LEU:H | 3:D:152:LEU:HD23 | 1.66 | 0.58 |
| 2:M:1021:LEU:HD22 | 6:Y:5:C:H2' | 1.86 | 0.58 |
| 2:M:108:ILE:HD11 | 2:M:365:ASP:OD1 | 2.03 | 0.58 |
| 2:M:1098:ASP:HB2 | 3:N:21:TRP:HZ2 | 1.68 | 0.58 |
| 2:M:676:ILE:O | 2:M:676:ILE:HG12 | 2.04 | 0.58 |
| 1:A:88:ARG:HG2 | 1:A:88:ARG:NH1 | 2.15 | 0.58 |
| 2:C:1090:LYS:HE2 | 2:C:1112:PHE:CE1 | 2.38 | 0.58 |
| 2:C:151:ASP:OD2 | 2:C:175:GLU:OE2 | 2.22 | 0.58 |
| 2:C:436:GLY:H | 2:C:539:VAL:HG13 | 1.69 | 0.58 |
| 2:C:944:LEU:O | 2:C:948:GLU:HG3 | 2.03 | 0.58 |
| 3:D:1190:SER:OG | 3:D:1369:GLU:OE2 | 2.21 | 0.58 |
| 3:D:1194:CYS:SG | 3:D:1200:VAL:HA | 2.44 | 0.58 |
| 3:D:1465:ASN:ND2 | 3:D:1470:ARG:CB | 2.66 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 3:D:619:LEU:HD12 | 3:D:621:LYS:NZ | 2.18 | 0.58 |
| 2:M:493:ARG:HB2 | 2:M:494:TYR:CE1 | 2.38 | 0.58 |
| 2:M:479:VAL:CG2 | 2:M:506:ASN:HA | 2.33 | 0.58 |
| 2:M:570:PRO:HD2 | 2:M:635:THR:CG2 | 2.33 | 0.58 |
| 2:M:791:ARG:HH11 | 2:M:791:ARG:HB3 | 1.68 | 0.58 |
| 2:M:752:GLY:H | 2:M:792:VAL:HB | 1.68 | 0.58 |
| 3:N:1389:LEU:CD1 | 3:N:1390:LEU:H | 2.15 | 0.58 |
| 3:N:412:GLY:O | 3:N:434:ARG:HD3 | 2.04 | 0.58 |
| 3:N:662:GLU:O | 3:N:664:LYS:O | 2.21 | 0.58 |
| 1:A:38:ASN:O | 1:A:42:ARG:HG3 | 2.03 | 0.58 |
| 2:C:328:LEU:HD22 | 2:C:433:THR:C | 2.23 | 0.58 |
| 2:C:695:LEU:HD21 | 2:C:832:LYS:HG2 | 1.85 | 0.58 |
| 2:C:94:LEU:HD12 | 2:C:95:TYR:N | 2.19 | 0.58 |
| 3:D:1191:PRO:C | 3:D:1373:ARG:HH11 | 2.07 | 0.58 |
| 3:D:1377:LYS:HE2 | 3:D:1378:TYR:CZ | 2.39 | 0.58 |
| 3:D:1440:PHE:O | 3:D:1441:GLN:CB | 2.52 | 0.58 |
| 3:D:486:ARG:HA | 3:D:489:ARG:CG | 2.32 | 0.58 |
| 3:D:701:LEU:N | 3:D:701:LEU:HD12 | 2.17 | 0.58 |
| 2:C:423:ALA:HB2 | 7:I:1:DG:H5' | 1.84 | 0.58 |
| 1:L:36:LEU:O | 1:L:39:PRO:HD2 | 2.04 | 0.58 |
| 2:M:18:LEU:H | 2:M:18:LEU:HD12 | 1.68 | 0.58 |
| 2:M:439:CYS:SG | 2:M:541:SER:N | 2.71 | 0.58 |
| 4:O:54:LEU:HG | 4:O:58:PRO:HG2 | 1.84 | 0.58 |
| 2:C:211:LEU:CD1 | 2:C:308:ARG:HA | 2.32 | 0.58 |
| 2:C:422:ARG:O | 7:I:1:DG:C4 | 2.57 | 0.58 |
| 2:C:502:PRO:HB2 | 2:C:509:ALA:HB3 | 1.85 | 0.58 |
| 3:D:1213:ARG:NH1 | 4:E:11:GLY:HA2 | 2.18 | 0.58 |
| 3:D:1371:VAL:O | 3:D:1374:GLN:HB2 | 2.04 | 0.58 |
| 3:D:41:ARG:HD3 | 3:D:43:GLY:N | 2.19 | 0.58 |
| 2:C:1056:LYS:HB3 | 3:D:623:VAL:HG13 | 1.86 | 0.58 |
| 1:L:153:ALA:HA | 1:L:156:HIS:CE1 | 2.38 | 0.58 |
| 2:M:263:ASP:C | 2:M:264:PRO:O | 2.42 | 0.58 |
| 2:M:493:ARG:NH2 | 2:M:494:TYR:OH | 2.37 | 0.58 |
| 2:M:88:LEU:O | 2:M:129:ILE:O | 2.20 | 0.58 |
| 3:N:1236:LEU:O | 3:N:1237:THR:OG1 | 2.21 | 0.58 |
| 3:N:1440:PHE:O | 3:N:1441:GLN:HB3 | 2.04 | 0.58 |
| 3:N:412:GLY:HA2 | 3:N:434:ARG:NE | 2.19 | 0.58 |
| 3:N:489:ARG:NH2 | 3:N:1389:LEU:HD21 | 2.19 | 0.58 |
| 2:M:1075:ASP:HB2 | 4:O:32:ARG:NH2 | 2.19 | 0.58 |
| 4:O:61:VAL:O | 4:O:65:MET:HG3 | 2.03 | 0.58 |
| 6:Y:5:C:C2' | 6:Y:5:C:O2 | 2.48 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:153:ALA:HA | 1:B:156:HIS:CE1 | 2.38 | 0.58 |
| 1:B:179:PHE:N | 1:B:179:PHE:CD2 | 2.72 | 0.58 |
| 2:C:1022:GLY:HA3 | 2:C:1026:GLN:O | 2.03 | 0.58 |
| 2:C:185:LYS:HD3 | 2:C:190:LYS:NZ | 2.18 | 0.58 |
| 3:D:1147:ARG:NH2 | 3:D:1369:GLU:OE2 | 2.36 | 0.58 |
| 3:D:641:GLN:HA | 3:D:717:GLN:H | 1.68 | 0.58 |
| 2:M:1101:THR:HB | 2:M:1109:VAL:HB | 1.86 | 0.58 |
| 2:M:141:HIS:HD2 | 2:M:332:ARG:O | 1.87 | 0.58 |
| 3:N:1403:LEU:O | 3:N:1407:LEU:HB2 | 2.03 | 0.58 |
| 1:A:43:ILE:HG23 | 1:A:47:SER:CB | 2.34 | 0.58 |
| 2:C:110:GLU:CG | 2:C:369:PRO:HG3 | 2.33 | 0.58 |
| 2:C:54:ILE:HG12 | 2:C:64:LEU:HD23 | 1.86 | 0.58 |
| 2:C:683:ASN:HA | 2:C:687:ALA:O | 2.03 | 0.58 |
| 2:C:953:VAL:HG11 | 2:C:962:GLN:HB3 | 1.86 | 0.58 |
| 2:C:922:PHE:HB3 | 2:C:964:LYS:HZ2 | 1.68 | 0.58 |
| 2:C:919:ALA:CA | 2:C:968:LEU:HD21 | 2.34 | 0.58 |
| 3:D:1433:SER:HB2 | 3:D:1457:ASP:OD1 | 2.04 | 0.58 |
| 3:D:918:ALA:HB1 | 3:D:927:THR:HG23 | 1.84 | 0.58 |
| 6:H:9:C:C2' | 6:H:10:G:O4' | 2.47 | 0.58 |
| 1:K:106:PRO:HA | 1:K:133:GLU:O | 2.04 | 0.58 |
| 1:L:25:LEU:O | 1:L:25:LEU:HD23 | 2.04 | 0.58 |
| 2:M:113:VAL:HG12 | 2:M:115:LEU:HD23 | 1.86 | 0.58 |
| 2:M:871:LEU:O | 2:M:873:PRO:HD3 | 2.04 | 0.58 |
| 2:M:872:ASN:OD1 | 2:M:874:LEU:HB2 | 2.03 | 0.58 |
| 3:N:58:CYS:SG | 3:N:62:LYS:N | 2.77 | 0.58 |
| 3:N:843:PHE:HB2 | 3:N:866:VAL:CG2 | 2.29 | 0.58 |
| 2:M:677:MET:HB3 | 3:N:948:THR:CG2 | 2.33 | 0.58 |
| 2:C:688:ILE:HG22 | 2:C:689:VAL:N | 2.19 | 0.57 |
| 2:C:694:LEU:O | 2:C:699:PHE:HB2 | 2.03 | 0.57 |
| 2:C:896:PHE:O | 2:C:924:VAL:HG11 | 2.03 | 0.57 |
| 3:D:1019:PRO:O | 3:D:1023:MET:HB2 | 2.03 | 0.57 |
| 3:D:1087:ARG:NE | 3:D:1236:LEU:CD1 | 2.67 | 0.57 |
| 3:D:524:LEU:O | 3:D:526:PRO:HD3 | 2.04 | 0.57 |
| 2:M:101:ILE:HD12 | 2:M:107:LEU:HD22 | 1.84 | 0.57 |
| 2:M:189:ARG:HD3 | 2:M:190:LYS:N | 2.18 | 0.57 |
| 2:M:713:ARG:HB3 | 2:M:720:GLU:OE2 | 2.03 | 0.57 |
| 2:M:984:GLU:HG2 | 3:N:944:THR:O | 2.04 | 0.57 |
| 3:N:659:LYS:O | 3:N:663:GLU:HG2 | 2.04 | 0.57 |
| 3:N:695:ILE:O | 3:N:698:LYS:N | 2.37 | 0.57 |
| 3:N:918:ALA:CB | 3:N:927:THR:HG23 | 2.33 | 0.57 |
| 1:A:86:VAL:HG23 | 1:A:204:SER:HB2 | 1.87 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:A:70:GLY:H | 2:C:607:ASP:CG | 2.06 | 0.57 |
| 2:C:1067:TYR:O | 2:C:1071:ILE:HG12 | 2.03 | 0.57 |
| 2:C:136:ILE:HD13 | 2:C:392:SER:OG | 2.03 | 0.57 |
| 2:C:498:GLN:HE22 | 3:D:1067:VAL:HG11 | 1.69 | 0.57 |
| 2:C:976:ASP:OD1 | 2:C:978:ARG:HB2 | 2.04 | 0.57 |
| 3:D:47:GLU:HB3 | 3:D:51:GLY:O | 2.05 | 0.57 |
| 3:D:526:PRO:HD2 | 3:D:538:SER:HB2 | 1.85 | 0.57 |
| 1:L:101:LEU:HD12 | 1:L:113:ASP:C | 2.25 | 0.57 |
| 2:M:1031:ARG:HG2 | 5:X:21:DG:H5" | 1.85 | 0.57 |
| 2:M:706:GLU:CG | 2:M:708:TYR:CZ | 2.82 | 0.57 |
| 2:M:971:LYS:HG2 | 2:M:988:VAL:HG12 | 1.86 | 0.57 |
| 3:N:453:ASP:HB3 | 3:N:455:ARG:NH2 | 2.08 | 0.57 |
| 3:N:814:ALA:CB | 3:N:818:ARG:HH21 | 2.00 | 0.57 |
| 3:N:807:ALA:HA | 3:N:833:GLU:HG3 | 1.86 | 0.57 |
| 3:N:860:LEU:O | 3:N:877:PRO:HD2 | 2.04 | 0.57 |
| 1:A:42:ARG:NH2 | 1:B:34:VAL:HB | 2.19 | 0.57 |
| 2:C:1095:LEU:CD2 | 3:D:603:LEU:HD13 | 2.34 | 0.57 |
| 2:C:799:ILE:O | 2:C:827:VAL:HG13 | 2.04 | 0.57 |
| 3:D:1093:TYR:OH | 3:D:1440:PHE:CE2 | 2.56 | 0.57 |
| 2:C:1046:ALA:CA | 3:D:1472:ILE:HD11 | 2.34 | 0.57 |
| 3:D:45:PHE:CD1 | 3:D:522:PRO:HB3 | 2.39 | 0.57 |
| 2:C:1003:ASP:O | 3:D:724:GLN:NE2 | 2.37 | 0.57 |
| 1:L:34:VAL:HG22 | 1:L:181:VAL:HG21 | 1.85 | 0.57 |
| 2:M:1083:GLU:O | 2:M:1087:VAL:HG12 | 2.04 | 0.57 |
| 2:M:302:VAL:O | 2:M:305:PRO:HD2 | 2.04 | 0.57 |
| 2:M:328:LEU:CD1 | 2:M:433:THR:HB | 2.28 | 0.57 |
| 2:M:384:GLU:HA | 2:M:388:ARG:HD3 | 1.86 | 0.57 |
| 2:M:683:ASN:HD22 | 2:M:683:ASN:C | 2.05 | 0.57 |
| 3:N:703:ASN:CG | 3:N:713:ILE:HD11 | 2.24 | 0.57 |
| 3:N:850:LEU:H | 3:N:850:LEU:HD12 | 1.69 | 0.57 |
| 1:B:115:LEU:O | 1:B:115:LEU:HD12 | 2.04 | 0.57 |
| 2:C:143:SER:O | 2:C:145:GLY:N | 2.38 | 0.57 |
| 2:C:460:ARG:NH2 | 2:C:468:ARG:HH11 | 2.02 | 0.57 |
| 2:C:12:VAL:CB | 2:C:472:ARG:HH11 | 2.15 | 0.57 |
| 2:C:487:THR:CG2 | 2:C:489:THR:HG23 | 2.35 | 0.57 |
| 2:C:9:ILE:HD12 | 2:C:9:ILE:O | 2.05 | 0.57 |
| 3:D:1424:VAL:HG13 | 3:D:1425:THR:N | 2.20 | 0.57 |
| 3:D:549:ASN:HB2 | 3:D:550:ARG:HH21 | 1.69 | 0.57 |
| 3:D:575:GLN:O | 3:D:578:VAL:HB | 2.05 | 0.57 |
| 3:D:774:SER:C | 3:D:776:GLU:N | 2.57 | 0.57 |
| 3:D:85:VAL:HB | 3:D:89:ARG:NH1 | 2.19 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 3:D:87:ARG:HB2 | 3:D:524:LEU:CD1 | 2.35 | 0.57 |
| 4:E:34:GLY:CA | 4:E:95:VAL:HB | 2.34 | 0.57 |
| 6:H:6:C:O5' | 6:H:6:C:H6 | 1.87 | 0.57 |
| 6:H:7:G:H2' | 6:H:8:G:O4' | 2.04 | 0.57 |
| 2:M:816:LYS:HB2 | 2:M:819:VAL:HG21 | 1.86 | 0.57 |
| 3:N:1381:VAL:CG1 | 3:N:1382:THR:N | 2.67 | 0.57 |
| 3:N:417:PRO:HD2 | 3:N:432:TYR:CZ | 2.40 | 0.57 |
| 3:N:443:VAL:HG13 | 3:N:445:ARG:NH2 | 2.20 | 0.57 |
| 3:N:6:ARG:O | 3:N:7:LYS:HG3 | 2.05 | 0.57 |
| 1:A:153:ALA:HA | 1:A:156:HIS:CE1 | 2.39 | 0.57 |
| 2:C:1092:LEU:HB3 | 2:C:1099:VAL:HG23 | 1.87 | 0.57 |
| 3:D:785:ILE:HG22 | 3:D:789:LEU:HD11 | 1.87 | 0.57 |
| 3:D:919:PHE:HZ | 3:D:1211:MET:HG3 | 1.67 | 0.57 |
| 1:K:73:GLU:CD | 1:K:73:GLU:H | 2.05 | 0.57 |
| 2:M:203:ASP:O | 2:M:207:LEU:HB2 | 2.04 | 0.57 |
| 2:M:137:VAL:O | 2:M:391:LEU:HD21 | 2.04 | 0.57 |
| 2:M:584:GLU:HB3 | 2:M:666:LEU:HB3 | 1.86 | 0.57 |
| 1:K:67:THR:HG21 | 2:M:609:ASN:OD1 | 2.04 | 0.57 |
| 3:N:1389:LEU:CG | 3:N:1390:LEU:N | 2.66 | 0.57 |
| 3:N:134:VAL:HG12 | 3:N:152:LEU:CB | 2.34 | 0.57 |
| 1:A:171:PHE:O | 1:A:173:PRO:HD3 | 2.04 | 0.57 |
| 2:C:676:ILE:O | 2:C:676:ILE:HG23 | 2.05 | 0.57 |
| 3:D:644:LEU:HD12 | 3:D:645:PRO:N | 2.19 | 0.57 |
| 3:D:649:ALA:HA | 3:D:652:LEU:HD22 | 1.87 | 0.57 |
| 3:D:704:ARG:HG2 | 3:D:736:PHE:HB3 | 1.85 | 0.57 |
| 5:G:28:DG:OP2 | 5:G:28:DG:C8 | 2.54 | 0.57 |
| 3:N:1176:LYS:HA | 3:N:1179:GLU:OE1 | 2.05 | 0.57 |
| 3:N:1239:ARG:HG3 | 3:N:1240:THR:N | 2.19 | 0.57 |
| 3:N:1380:GLU:O | 3:N:1417:TRP:HB2 | 2.04 | 0.57 |
| 2:M:1091:GLU:OE1 | 3:N:613:ARG:HG2 | 2.05 | 0.57 |
| 3:N:927:THR:O | 3:N:930:LEU:HB3 | 2.04 | 0.57 |
| 2:C:1031:ARG:HE | 3:D:621:LYS:HD2 | 1.70 | 0.57 |
| 2:C:1046:ALA:HB2 | 3:D:1476:THR:H | 1.68 | 0.57 |
| 2:C:1095:LEU:O | 2:C:1096:ALA:C | 2.43 | 0.57 |
| 2:C:183:SER:CB | 2:C:190:LYS:HG2 | 2.35 | 0.57 |
| 2:C:462:ASP:HB3 | 2:C:468:ARG:NE | 2.20 | 0.57 |
| 2:C:489:THR:OG1 | 2:C:490:GLU:N | 2.37 | 0.57 |
| 2:C:676:ILE:O | 2:C:676:ILE:HG12 | 2.03 | 0.57 |
| 3:D:1207:TYR:O | 3:D:1215:VAL:HG23 | 2.03 | 0.57 |
| 3:D:506:GLY:O | 3:D:507:ASN:C | 2.43 | 0.57 |
| 3:D:936:TYR:O | 3:D:939:PHE:HB2 | 2.03 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 4:E:30:LEU:O | 4:E:35:PHE:HA | 2.04 | 0.57 |
| 2:M:221:LEU:HG | 2:M:222:MET:HG3 | 1.86 | 0.57 |
| 2:M:431:HIS:CD2 | 2:M:433:THR:HG1 | 2.21 | 0.57 |
| 2:M:839:LEU:HD23 | 2:M:996:LYS:HA | 1.86 | 0.57 |
| 3:N:1106:VAL:HG11 | 3:N:1474:ALA:HB1 | 1.87 | 0.57 |
| 3:N:456:MET:CA | 3:N:460:ALA:HB2 | 2.30 | 0.57 |
| 3:N:792:ILE:HG12 | 3:N:878:GLY:HA3 | 1.85 | 0.57 |
| 2:M:1115:LEU:HD22 | 3:N:88:TYR:HD1 | 1.70 | 0.57 |
| 5:X:13:DA:O5' | 5:X:13:DA:H2' | 2.04 | 0.57 |
| 5:X:17:DA:H2'' | 5:X:18:DC:OP2 | 2.03 | 0.57 |
| 1:B:221:HIS:HA | 1:B:224:TYR:HD2 | 1.66 | 0.57 |
| 1:B:89:PHE:HB3 | 1:B:94:LEU:HD12 | 1.86 | 0.57 |
| 2:C:1056:LYS:HD3 | 3:D:623:VAL:HG13 | 1.86 | 0.57 |
| 2:C:226:VAL:HG13 | 2:C:227:PHE:CD1 | 2.39 | 0.57 |
| 2:C:301:GLU:O | 2:C:305:PRO:HG2 | 2.04 | 0.57 |
| 2:C:367:LEU:HB3 | 2:C:371:LYS:CE | 2.35 | 0.57 |
| 3:D:1192:LEU:HD23 | 3:D:1373:ARG:HB2 | 1.86 | 0.57 |
| 3:D:1205:TYR:HE2 | 3:D:1215:VAL:HG21 | 1.67 | 0.57 |
| 2:C:1042:ALA:HB3 | 3:D:710:ARG:CB | 2.35 | 0.57 |
| 5:G:22:DA:H2' | 5:G:23:DG:C8 | 2.39 | 0.57 |
| 1:L:73:GLU:HG3 | 1:L:130:ALA:CB | 2.35 | 0.57 |
| 2:M:174:LEU:HD22 | 2:M:193:LEU:HD21 | 1.87 | 0.57 |
| 2:M:367:LEU:O | 2:M:372:LEU:HD13 | 2.05 | 0.57 |
| 3:N:1274:ILE:HG21 | 3:N:1301:LYS:HZ2 | 1.70 | 0.57 |
| 3:N:109:PRO:HG2 | 3:N:1445:HIS:CE1 | 2.40 | 0.57 |
| 3:N:159:ARG:HG2 | 3:N:163:TYR:CE2 | 2.40 | 0.57 |
| 3:N:628:ARG:HG3 | 3:N:628:ARG:NH1 | 2.18 | 0.57 |
| 3:N:899:LEU:HD22 | 3:N:917:GLN:CG | 2.34 | 0.57 |
| 3:N:767:HIS:HA | 3:N:924:MET:SD | 2.45 | 0.57 |
| 1:A:107:LYS:O | 1:A:132:LEU:HB2 | 2.05 | 0.57 |
| 2:C:88:LEU:CD1 | 2:C:89:THR:H | 2.17 | 0.57 |
| 3:D:1209:LEU:HD21 | 4:E:16:LYS:CE | 2.34 | 0.57 |
| 3:D:1236:LEU:O | 3:D:1237:THR:O | 2.22 | 0.57 |
| 3:D:524:LEU:CD1 | 3:D:524:LEU:H | 2.17 | 0.57 |
| 3:D:897:TRP:C | 3:D:900:ILE:HG13 | 2.24 | 0.57 |
| 2:M:1105:LYS:NZ | 2:M:1107:ASN:HB2 | 2.20 | 0.57 |
| 2:M:285:LEU:O | 2:M:285:LEU:HD23 | 2.03 | 0.57 |
| 2:M:452:ILE:N | 2:M:452:ILE:HD12 | 2.19 | 0.57 |
| 2:M:643:VAL:HG13 | 2:M:647:GLN:OE1 | 2.05 | 0.57 |
| 2:M:843:HIS:HE1 | 2:M:887:GLU:OE2 | 1.88 | 0.57 |
| 3:N:1017:PHE:HA | 3:N:1022:VAL:HG21 | 1.85 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|----------------------------|---------------------------|--------------------------|-------------------|
| 3:N:1396:GLU:O | 3:N:1400:VAL:HG23 | 2.05 | 0.57 |
| 3:N:183:GLU:HG2 | 3:N:184:GLU:H | 1.66 | 0.57 |
| 3:N:36:THR:C | 3:N:38:LYS:N | 2.58 | 0.57 |
| 3:N:563:PRO:CG | 3:N:566:ILE:HD12 | 2.35 | 0.57 |
| 3:N:87:ARG:HB2 | 3:N:524:LEU:CD1 | 2.34 | 0.57 |
| 1:B:41:ARG:HG3 | 1:B:177:VAL:HG21 | 1.87 | 0.57 |
| 2:C:274:ARG:HG3 | 2:C:285:LEU:HD22 | 1.86 | 0.57 |
| 2:C:304:LEU:HG | 2:C:305:PRO:CD | 2.33 | 0.57 |
| 3:D:1403:LEU:O | 3:D:1407:LEU:HB2 | 2.05 | 0.57 |
| 3:D:477:LEU:HD22 | 3:D:492:ALA:HB1 | 1.86 | 0.57 |
| 2:C:409:ARG:NH2 | 6:H:11:C:H5 ^{''} | 2.20 | 0.57 |
| 1:L:84:GLU:CD | 3:N:845:ASN:HB2 | 2.25 | 0.57 |
| 2:M:312:ALA:CB | 2:M:318:PRO:HG2 | 2.32 | 0.57 |
| 2:M:41:ASN:HB2 | 2:M:45:GLN:CG | 2.35 | 0.57 |
| 3:N:199:LEU:HD23 | 3:N:200:ASP:H | 1.70 | 0.57 |
| 3:N:697:GLY:HA2 | 3:N:717:GLN:OE1 | 2.05 | 0.57 |
| 3:N:52:PRO:HG2 | 3:N:85:VAL:HG23 | 1.87 | 0.57 |
| 4:O:57:ASP:H | 4:O:58:PRO:HD3 | 1.69 | 0.57 |
| 7:Z:1:DG:P | 7:Z:1:DG:C3 ['] | 2.92 | 0.57 |
| 2:C:1081:VAL:CB | 2:C:1086:ARG:HE | 2.15 | 0.56 |
| 2:C:50:GLU:CA | 2:C:266:ARG:NH1 | 2.68 | 0.56 |
| 2:C:584:GLU:HB3 | 2:C:666:LEU:HB3 | 1.87 | 0.56 |
| 2:C:957:LYS:HD3 | 2:C:961:GLU:HB3 | 1.85 | 0.56 |
| 3:D:1044:LEU:O | 3:D:1044:LEU:HD23 | 2.05 | 0.56 |
| 3:D:1135:ARG:HD2 | 3:D:1140:ILE:HG13 | 1.86 | 0.56 |
| 3:D:45:PHE:HD1 | 3:D:522:PRO:HB3 | 1.69 | 0.56 |
| 3:D:505:SER:OG | 3:D:1453:ALA:HA | 2.05 | 0.56 |
| 3:D:883:ALA:O | 3:D:886:VAL:HB | 2.05 | 0.56 |
| 7:I:11:DG:H2 ^{''} | 7:I:12:DT:C6 | 2.40 | 0.56 |
| 1:K:197:LEU:N | 1:K:197:LEU:HD23 | 2.18 | 0.56 |
| 3:N:574:LEU:O | 3:N:578:VAL:HG23 | 2.04 | 0.56 |
| 3:N:625:TYR:CE2 | 3:N:655:PRO:HG2 | 2.39 | 0.56 |
| 3:N:700:VAL:HG22 | 3:N:718:PRO:HG3 | 1.87 | 0.56 |
| 3:N:701:LEU:H | 3:N:701:LEU:CD1 | 2.12 | 0.56 |
| 3:N:752:SER:HB3 | 3:N:755:ALA:CB | 2.35 | 0.56 |
| 3:N:843:PHE:HD2 | 3:N:848:GLU:HB3 | 1.70 | 0.56 |
| 3:N:947:ILE:HD12 | 3:N:947:ILE:O | 2.04 | 0.56 |
| 1:A:65:PHE:CD1 | 1:A:65:PHE:N | 2.73 | 0.56 |
| 2:C:181:VAL:HG12 | 2:C:182:VAL:N | 2.20 | 0.56 |
| 2:C:350:ARG:O | 2:C:353:ARG:HB3 | 2.05 | 0.56 |
| 2:C:44:ILE:O | 2:C:48:PHE:CG | 2.57 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 2:C:48:PHE:HB3 | 2:C:52:PHE:CD2 | 2.40 | 0.56 |
| 2:C:757:GLY:HA2 | 2:C:789:SER:CB | 2.35 | 0.56 |
| 2:C:861:LEU:HG | 2:C:862:PRO:CD | 2.31 | 0.56 |
| 2:C:966:LEU:CD2 | 2:C:986:PRO:HG2 | 2.35 | 0.56 |
| 3:D:1041:LEU:HD12 | 3:D:1042:ARG:NH2 | 2.20 | 0.56 |
| 3:D:1066:THR:HG22 | 3:D:1069:GLU:CG | 2.35 | 0.56 |
| 3:D:1108:ARG:N | 3:D:1108:ARG:HD3 | 2.20 | 0.56 |
| 3:D:1205:TYR:CD2 | 3:D:1215:VAL:HG21 | 2.40 | 0.56 |
| 3:D:9:ARG:HA | 3:D:1434:TRP:CH2 | 2.40 | 0.56 |
| 3:D:983:LEU:HD12 | 3:D:988:ARG:HB2 | 1.86 | 0.56 |
| 5:G:3:DC:O5' | 5:G:3:DC:H6 | 1.88 | 0.56 |
| 1:K:107:LYS:O | 1:K:132:LEU:HB2 | 2.05 | 0.56 |
| 1:K:111:ALA:HB3 | 1:K:124:ASN:O | 2.05 | 0.56 |
| 1:K:176:ARG:HG3 | 1:K:200:TRP:CE3 | 2.39 | 0.56 |
| 2:M:148:PHE:HE1 | 2:M:309:TYR:HD2 | 1.53 | 0.56 |
| 3:N:1146:GLY:CA | 3:N:1207:TYR:HB2 | 2.35 | 0.56 |
| 3:N:495:ARG:O | 3:N:499:VAL:HG23 | 2.04 | 0.56 |
| 3:N:610:LYS:CA | 3:N:615:ARG:HG2 | 2.36 | 0.56 |
| 3:N:666:ILE:HG23 | 3:N:684:LYS:NZ | 2.19 | 0.56 |
| 3:N:90:MET:HE1 | 3:N:520:LEU:HA | 1.87 | 0.56 |
| 1:A:222:LEU:HD22 | 1:B:219:ARG:HG3 | 1.86 | 0.56 |
| 1:A:38:ASN:HB3 | 1:A:39:PRO:HD3 | 1.86 | 0.56 |
| 2:C:44:ILE:HG23 | 2:C:344:PHE:CE1 | 2.40 | 0.56 |
| 2:C:73:LEU:C | 2:C:73:LEU:HD12 | 2.25 | 0.56 |
| 3:D:1435:LEU:CD2 | 3:D:1459:LEU:HD11 | 2.35 | 0.56 |
| 3:D:30:GLU:HB3 | 3:D:40:GLU:HB3 | 1.87 | 0.56 |
| 3:D:41:ARG:C | 3:D:43:GLY:N | 2.58 | 0.56 |
| 4:E:34:GLY:HA3 | 4:E:95:VAL:HB | 1.86 | 0.56 |
| 7:I:1:DG:H2" | 7:I:2:DT:OP2 | 2.05 | 0.56 |
| 2:M:627:ARG:O | 2:M:638:ASP:HB3 | 2.05 | 0.56 |
| 2:M:753:ASP:O | 2:M:792:VAL:N | 2.33 | 0.56 |
| 3:N:1023:MET:O | 3:N:1028:ALA:CB | 2.53 | 0.56 |
| 3:N:600:LEU:H | 3:N:600:LEU:CD1 | 2.09 | 0.56 |
| 3:N:613:ARG:NE | 3:N:613:ARG:HA | 2.20 | 0.56 |
| 3:N:752:SER:O | 3:N:756:GLN:N | 2.37 | 0.56 |
| 1:B:83:LYS:HD3 | 1:B:168:ASP:O | 2.06 | 0.56 |
| 2:C:218:VAL:HG13 | 2:C:221:LEU:CD2 | 2.36 | 0.56 |
| 2:C:26:TYR:O | 2:C:30:LEU:HG | 2.06 | 0.56 |
| 2:C:52:PHE:HZ | 2:C:68:PHE:CB | 2.00 | 0.56 |
| 2:C:939:ARG:HE | 2:C:939:ARG:CA | 2.16 | 0.56 |
| 3:D:1330:ILE:CD1 | 3:D:1347:TYR:OH | 2.50 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 3:D:1379:VAL:CG1 | 3:D:1419:PRO:HA | 2.33 | 0.56 |
| 3:D:72:VAL:CG2 | 3:D:77:GLY:HA2 | 2.35 | 0.56 |
| 3:D:897:TRP:CA | 3:D:900:ILE:HG13 | 2.24 | 0.56 |
| 3:D:95:LEU:CD2 | 3:D:96:ALA:N | 2.68 | 0.56 |
| 4:E:25:LYS:HA | 4:E:28:GLN:OE1 | 2.04 | 0.56 |
| 1:K:132:LEU:HD23 | 1:K:136:GLY:O | 2.04 | 0.56 |
| 1:L:47:SER:OG | 1:L:217:ILE:HG12 | 2.05 | 0.56 |
| 2:M:1000:MET:O | 2:M:1003:ASP:HB3 | 2.05 | 0.56 |
| 2:M:1035:MET:HA | 2:M:1038:TRP:CE3 | 2.40 | 0.56 |
| 2:M:343:GLN:HG2 | 2:M:385:PHE:CG | 2.40 | 0.56 |
| 3:N:1124:GLN:OE1 | 3:N:1135:ARG:HG2 | 2.06 | 0.56 |
| 3:N:119:SER:HB2 | 3:N:123:LEU:HB2 | 1.88 | 0.56 |
| 3:N:764:LEU:HD23 | 3:N:767:HIS:HE1 | 1.66 | 0.56 |
| 3:N:804:LEU:N | 3:N:804:LEU:HD23 | 2.20 | 0.56 |
| 3:N:834:THR:HG22 | 3:N:838:ARG:NH1 | 2.18 | 0.56 |
| 6:Y:8:G:H3' | 6:Y:8:G:C8 | 2.41 | 0.56 |
| 7:Z:7:DT:H2'' | 7:Z:8:DG:C8 | 2.40 | 0.56 |
| 1:A:88:ARG:CD | 1:A:204:SER:O | 2.53 | 0.56 |
| 1:A:222:LEU:CD2 | 1:B:219:ARG:HG3 | 2.34 | 0.56 |
| 3:D:1044:LEU:O | 3:D:1045:MET:O | 2.23 | 0.56 |
| 3:D:133:ILE:HA | 3:D:456:MET:HB2 | 1.86 | 0.56 |
| 3:D:133:ILE:HG22 | 3:D:134:VAL:N | 2.20 | 0.56 |
| 3:D:1461:GLY:O | 3:D:1473:PRO:HG2 | 2.04 | 0.56 |
| 3:D:32:ILE:HG23 | 3:D:38:LYS:O | 2.06 | 0.56 |
| 3:D:455:ARG:HB3 | 3:D:459:GLU:HG2 | 1.88 | 0.56 |
| 4:E:45:ARG:HD3 | 4:E:55:PHE:CD2 | 2.41 | 0.56 |
| 2:M:181:VAL:HG12 | 2:M:182:VAL:N | 2.21 | 0.56 |
| 2:M:36:PRO:CG | 2:M:70:GLU:HB3 | 2.30 | 0.56 |
| 3:N:1192:LEU:HD13 | 3:N:1345:GLU:HG2 | 1.86 | 0.56 |
| 3:N:1274:ILE:CG2 | 3:N:1301:LYS:HZ2 | 2.19 | 0.56 |
| 3:N:154:THR:HG21 | 3:N:157:GLU:OE2 | 2.06 | 0.56 |
| 3:N:503:LEU:O | 3:N:504:ASP:C | 2.44 | 0.56 |
| 3:N:72:VAL:HG23 | 3:N:78:VAL:H | 1.70 | 0.56 |
| 2:M:848:VAL:HG23 | 3:N:740:PHE:O | 2.04 | 0.56 |
| 4:O:26:ARG:CZ | 4:O:73:LEU:HD21 | 2.36 | 0.56 |
| 2:M:420:ARG:HD2 | 7:Z:1:DG:H5' | 1.87 | 0.56 |
| 1:B:101:LEU:HD23 | 1:B:101:LEU:C | 2.26 | 0.56 |
| 2:C:184:MET:O | 2:C:190:LYS:HA | 2.05 | 0.56 |
| 2:C:195:LEU:CD2 | 2:C:238:LEU:HG | 2.36 | 0.56 |
| 2:C:265:ARG:HB3 | 2:C:267:TYR:CG | 2.39 | 0.56 |
| 2:C:356:ARG:NH1 | 2:C:356:ARG:HB2 | 2.20 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 2:C:617:ASP:CG | 2:C:619:ARG:HE | 2.07 | 0.56 |
| 5:G:2:DT:H2' | 5:G:3:DC:C6 | 2.41 | 0.56 |
| 5:G:6:DT:C2' | 5:G:7:DA:OP2 | 2.41 | 0.56 |
| 1:K:112:ARG:NH1 | 1:K:112:ARG:HG2 | 2.19 | 0.56 |
| 2:M:1016:ILE:CD1 | 2:M:1016:ILE:H | 2.09 | 0.56 |
| 2:M:1090:LYS:HA | 2:M:1093:GLN:HB2 | 1.87 | 0.56 |
| 2:M:681:GLY:HA3 | 3:N:939:PHE:CE1 | 2.40 | 0.56 |
| 2:M:706:GLU:HG2 | 2:M:708:TYR:CE2 | 2.38 | 0.56 |
| 3:N:1016:PRO:HA | 3:N:1021:TYR:CE1 | 2.36 | 0.56 |
| 3:N:116:LEU:HD22 | 3:N:118:LEU:HD21 | 1.87 | 0.56 |
| 2:M:393:GLN:HE21 | 6:Y:10:G:C4' | 2.18 | 0.56 |
| 7:Z:14:DG:H2' | 7:Z:15:DT:OP2 | 2.05 | 0.56 |
| 1:A:106:PRO:HG3 | 1:A:134:GLU:OE1 | 2.04 | 0.56 |
| 1:A:48:ILE:CD1 | 1:A:174:VAL:HG21 | 2.36 | 0.56 |
| 1:B:32:PHE:O | 1:B:36:LEU:HG | 2.04 | 0.56 |
| 2:C:144:PRO:HA | 2:C:163:ILE:O | 2.05 | 0.56 |
| 2:C:135:VAL:O | 2:C:392:SER:HA | 2.06 | 0.56 |
| 2:C:627:ARG:HG3 | 2:C:628:PHE:H | 1.70 | 0.56 |
| 2:C:84:ARG:HA | 2:C:131:GLY:HA2 | 1.87 | 0.56 |
| 2:C:6:PHE:O | 2:C:8:ARG:HD2 | 2.05 | 0.56 |
| 2:C:878:SER:CB | 3:D:1029:ARG:NH1 | 2.68 | 0.56 |
| 3:D:1088:THR:HG23 | 3:D:1234:THR:HG21 | 1.88 | 0.56 |
| 3:D:1135:ARG:HB3 | 3:D:1140:ILE:HD11 | 1.86 | 0.56 |
| 3:D:1382:THR:OG1 | 3:D:1418:LYS:HE3 | 2.06 | 0.56 |
| 3:D:1447:LEU:O | 3:D:1448:THR:C | 2.44 | 0.56 |
| 3:D:658:LEU:HA | 3:D:661:MET:HG3 | 1.87 | 0.56 |
| 3:D:9:ARG:HH11 | 3:D:1454:GLY:CA | 2.19 | 0.56 |
| 6:H:5:C:C6 | 6:H:5:C:C3' | 2.88 | 0.56 |
| 7:I:5:DC:C2' | 7:I:6:DT:OP2 | 2.41 | 0.56 |
| 2:M:1051:GLU:OE2 | 3:N:755:ALA:HB3 | 2.05 | 0.56 |
| 2:M:183:SER:HG | 2:M:190:LYS:HZ2 | 1.54 | 0.56 |
| 2:M:328:LEU:HD22 | 2:M:433:THR:CG2 | 2.30 | 0.56 |
| 3:N:1238:MET:C | 3:N:1239:ARG:CG | 2.74 | 0.56 |
| 3:N:443:VAL:HG13 | 3:N:445:ARG:HH22 | 1.70 | 0.56 |
| 2:C:399:ASN:O | 2:C:402:SER:N | 2.39 | 0.56 |
| 2:C:79:PRO:HG2 | 2:C:82:GLU:CG | 2.35 | 0.56 |
| 3:D:1106:VAL:O | 3:D:1108:ARG:HD3 | 2.06 | 0.56 |
| 3:D:1223:ILE:N | 3:D:1223:ILE:CD1 | 2.69 | 0.56 |
| 3:D:752:SER:O | 3:D:756:GLN:N | 2.38 | 0.56 |
| 4:E:28:GLN:CB | 4:E:32:ARG:HH12 | 2.18 | 0.56 |
| 1:L:102:LYS:CD | 1:L:139:ASN:HB2 | 2.36 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 2:M:63:GLY:CA | 2:M:103:LYS:HG3 | 2.35 | 0.56 |
| 2:M:191:PHE:HB2 | 2:M:241:LEU:HD11 | 1.87 | 0.56 |
| 2:M:261:ILE:CD1 | 2:M:262:ALA:H | 2.18 | 0.56 |
| 2:M:200:LEU:HD13 | 2:M:300:ASP:OD1 | 2.05 | 0.56 |
| 2:M:328:LEU:HD13 | 2:M:433:THR:CB | 2.30 | 0.56 |
| 2:M:700:TYR:HB3 | 2:M:833:LEU:HD13 | 1.86 | 0.56 |
| 2:M:723:THR:HG23 | 2:M:725:ASP:HB2 | 1.87 | 0.56 |
| 2:M:682:TYR:O | 2:M:850:ALA:HB3 | 2.05 | 0.56 |
| 3:N:875:THR:CG2 | 3:N:876:SER:N | 2.69 | 0.56 |
| 7:Z:11:DG:H2' | 7:Z:11:DG:OP2 | 2.06 | 0.56 |
| 2:M:420:ARG:HD2 | 7:Z:1:DG:H5'' | 1.88 | 0.56 |
| 1:A:102:LYS:HG3 | 1:A:102:LYS:O | 2.05 | 0.56 |
| 1:B:73:GLU:OE1 | 1:B:130:ALA:HA | 2.06 | 0.56 |
| 2:C:162:ILE:CB | 2:C:172:ILE:HB | 2.33 | 0.56 |
| 2:C:354:GLY:HA2 | 2:C:357:GLU:OE2 | 2.06 | 0.56 |
| 2:C:728:HIS:O | 2:C:729:LEU:HG | 2.06 | 0.56 |
| 3:D:1138:ALA:HB1 | 3:D:1362:LYS:HE3 | 1.87 | 0.56 |
| 5:G:7:DA:OP2 | 5:G:7:DA:C8 | 2.58 | 0.56 |
| 1:K:213:GLN:O | 1:K:217:ILE:HG13 | 2.06 | 0.56 |
| 1:K:86:VAL:HG13 | 1:K:124:ASN:HB2 | 1.88 | 0.56 |
| 1:L:28:LEU:HD12 | 1:L:193:ASP:HB3 | 1.88 | 0.56 |
| 2:M:1038:TRP:HA | 2:M:1041:GLU:CG | 2.35 | 0.56 |
| 2:M:176:VAL:HG12 | 2:M:182:VAL:HG13 | 1.88 | 0.56 |
| 2:M:195:LEU:HD21 | 2:M:238:LEU:HG | 1.87 | 0.56 |
| 2:M:472:ARG:HH21 | 2:M:532:MET:HE1 | 1.71 | 0.56 |
| 2:M:394:PHE:CZ | 2:M:632:ASN:OD1 | 2.58 | 0.56 |
| 2:M:754:ILE:HD11 | 2:M:791:ARG:CZ | 2.35 | 0.56 |
| 3:N:1115:THR:HG21 | 3:N:1151:ARG:HH21 | 1.70 | 0.56 |
| 3:N:1280:VAL:HA | 3:N:1318:TYR:CA | 2.32 | 0.56 |
| 3:N:551:ASN:O | 3:N:554:LEU:HB3 | 2.05 | 0.56 |
| 6:Y:6:C:C6 | 6:Y:6:C:O5' | 2.53 | 0.56 |
| 2:C:396:ASP:HB2 | 2:C:406:HIS:CD2 | 2.41 | 0.56 |
| 2:C:12:VAL:HG11 | 2:C:472:ARG:CD | 2.36 | 0.56 |
| 3:D:1344:VAL:O | 3:D:1348:LEU:HD13 | 2.06 | 0.56 |
| 3:D:1446:VAL:HB | 3:D:1447:LEU:CD1 | 2.36 | 0.56 |
| 3:D:525:ARG:HG2 | 3:D:525:ARG:O | 2.06 | 0.56 |
| 3:D:813:LEU:HD12 | 3:D:813:LEU:C | 2.26 | 0.56 |
| 3:D:828:LYS:HE2 | 3:D:862:ASP:OD2 | 2.06 | 0.56 |
| 1:L:102:LYS:HG3 | 1:L:138:LEU:O | 2.06 | 0.56 |
| 2:M:1101:THR:OG1 | 2:M:1109:VAL:O | 2.24 | 0.56 |
| 2:M:438:ILE:N | 2:M:438:ILE:HD12 | 2.21 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 2:M:394:PHE:HE1 | 2:M:632:ASN:HB3 | 1.70 | 0.56 |
| 3:N:1103:HIS:CG | 3:N:1104:GLU:H | 2.24 | 0.56 |
| 3:N:1211:MET:HG2 | 3:N:1212:ALA:N | 2.19 | 0.56 |
| 3:N:1274:ILE:CD1 | 3:N:1276:GLU:HG2 | 2.22 | 0.56 |
| 3:N:1281:VAL:HG23 | 3:N:1319:VAL:HG21 | 1.87 | 0.56 |
| 3:N:501:ALA:HB1 | 3:N:1452:ILE:HG22 | 1.86 | 0.56 |
| 3:N:989:TYR:O | 3:N:993:LEU:HG | 2.06 | 0.56 |
| 2:C:196:LEU:O | 2:C:199:VAL:HB | 2.06 | 0.56 |
| 2:C:281:LEU:HD11 | 2:C:306:THR:HA | 1.88 | 0.56 |
| 2:C:460:ARG:HH22 | 2:C:468:ARG:HH11 | 1.49 | 0.56 |
| 2:C:49:ARG:N | 2:C:52:PHE:HB2 | 2.21 | 0.56 |
| 3:D:1377:LYS:HG2 | 3:D:1378:TYR:CE1 | 2.40 | 0.56 |
| 3:D:128:TYR:CE2 | 3:D:458:ALA:HB2 | 2.41 | 0.56 |
| 3:D:22:SER:OG | 3:D:92:HIS:ND1 | 2.37 | 0.56 |
| 4:E:25:LYS:O | 4:E:29:GLN:HG3 | 2.06 | 0.56 |
| 2:M:141:HIS:O | 2:M:331:ARG:HA | 2.05 | 0.56 |
| 3:N:957:PRO:HG3 | 3:N:1007:VAL:HG22 | 1.85 | 0.56 |
| 3:N:1268:PRO:HG2 | 3:N:1270:ALA:O | 2.06 | 0.56 |
| 3:N:525:ARG:HG2 | 3:N:525:ARG:O | 2.06 | 0.56 |
| 3:N:87:ARG:HB3 | 3:N:523:ASP:HB2 | 1.89 | 0.56 |
| 3:N:902:LEU:HD23 | 3:N:902:LEU:N | 2.21 | 0.56 |
| 4:O:80:VAL:HG13 | 4:O:81:PRO:HD2 | 1.88 | 0.56 |
| 2:C:876:VAL:HG11 | 2:C:885:ILE:HD11 | 1.87 | 0.55 |
| 3:D:1125:PRO:O | 3:D:1131:SER:O | 2.23 | 0.55 |
| 3:D:54:LYS:HG2 | 3:D:57:GLU:CD | 2.26 | 0.55 |
| 3:D:696:HIS:HD2 | 4:E:59:ASN:N | 2.01 | 0.55 |
| 3:D:899:LEU:HD23 | 3:D:917:GLN:HG3 | 1.86 | 0.55 |
| 3:D:925:GLU:HB3 | 4:E:6:ILE:HG22 | 1.87 | 0.55 |
| 2:M:368:THR:HB | 2:M:369:PRO:HD3 | 1.87 | 0.55 |
| 2:M:74:GLY:O | 2:M:76:PRO:HD3 | 2.06 | 0.55 |
| 2:M:757:GLY:HA2 | 2:M:789:SER:HB3 | 1.88 | 0.55 |
| 3:N:1191:PRO:O | 3:N:1373:ARG:NH1 | 2.39 | 0.55 |
| 3:N:502:PHE:CZ | 3:N:509:PRO:HB3 | 2.41 | 0.55 |
| 3:N:767:HIS:CD2 | 4:O:6:ILE:CG1 | 2.87 | 0.55 |
| 2:C:265:ARG:HD3 | 2:C:267:TYR:HB3 | 1.88 | 0.55 |
| 2:C:975:TYR:HA | 2:C:982:PRO:HA | 1.87 | 0.55 |
| 3:D:1003:VAL:HG21 | 3:D:1036:ARG:NH1 | 2.21 | 0.55 |
| 3:D:136:ASP:CG | 3:D:137:PRO:HD3 | 2.26 | 0.55 |
| 3:D:521:PRO:HB2 | 3:D:524:LEU:HD13 | 1.87 | 0.55 |
| 4:E:54:LEU:HD23 | 4:E:58:PRO:HD2 | 1.88 | 0.55 |
| 2:M:584:GLU:O | 2:M:588:VAL:HG13 | 2.05 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:N:1146:GLY:HA3 | 3:N:1207:TYR:HB2 | 1.88 | 0.55 |
| 3:N:1484:THR:HG23 | 4:O:76:GLY:O | 2.06 | 0.55 |
| 3:N:465:LEU:HD13 | 3:N:510:GLU:HA | 1.88 | 0.55 |
| 3:N:482:LYS:HE2 | 3:N:1384:PRO:CD | 2.31 | 0.55 |
| 3:N:774:SER:C | 3:N:776:GLU:N | 2.57 | 0.55 |
| 1:A:110:LYS:O | 1:A:112:ARG:N | 2.39 | 0.55 |
| 2:C:1058:ASP:HB3 | 2:C:1082:PRO:HB3 | 1.88 | 0.55 |
| 2:C:433:THR:O | 2:C:435:TYR:N | 2.37 | 0.55 |
| 2:C:688:ILE:CG2 | 2:C:689:VAL:N | 2.70 | 0.55 |
| 2:C:833:LEU:CD1 | 2:C:996:LYS:HE2 | 2.36 | 0.55 |
| 3:D:1183:ILE:HA | 3:N:559:ALA:O | 2.06 | 0.55 |
| 3:D:1223:ILE:HD11 | 3:D:1462:LEU:HD11 | 1.88 | 0.55 |
| 3:D:62:LYS:HE2 | 3:D:62:LYS:HA | 1.88 | 0.55 |
| 3:D:994:GLN:HA | 3:D:997:THR:OG1 | 2.06 | 0.55 |
| 1:K:38:ASN:ND2 | 2:M:978:ARG:O | 2.40 | 0.55 |
| 3:N:786:ILE:HG21 | 3:N:1027:GLY:H | 1.70 | 0.55 |
| 3:N:1277:ILE:HD12 | 3:N:1301:LYS:CA | 2.37 | 0.55 |
| 3:N:638:LYS:HB2 | 3:N:641:GLN:OE1 | 2.06 | 0.55 |
| 2:C:1085:PHE:CE2 | 3:D:1468:LEU:HA | 2.42 | 0.55 |
| 2:C:157:ARG:NH2 | 2:C:158:TYR:HE1 | 2.05 | 0.55 |
| 2:C:274:ARG:CG | 2:C:285:LEU:HD13 | 2.36 | 0.55 |
| 2:C:395:LYS:NZ | 2:C:407:LYS:HZ2 | 2.04 | 0.55 |
| 2:C:430:VAL:HB | 3:D:1078:ARG:CZ | 2.36 | 0.55 |
| 2:C:958:THR:OG1 | 2:C:961:GLU:HG2 | 2.06 | 0.55 |
| 3:D:1003:VAL:HG13 | 3:D:1036:ARG:CG | 2.36 | 0.55 |
| 3:D:118:LEU:O | 3:D:120:ALA:N | 2.39 | 0.55 |
| 3:D:1147:ARG:HH12 | 3:D:1190:SER:HA | 1.71 | 0.55 |
| 3:D:1465:ASN:HD21 | 3:D:1470:ARG:CB | 2.19 | 0.55 |
| 3:D:826:PRO:HD2 | 3:D:829:VAL:CG2 | 2.35 | 0.55 |
| 5:G:12:DA:H2" | 5:G:13:DA:OP2 | 2.05 | 0.55 |
| 1:L:174:VAL:HG13 | 1:L:200:TRP:O | 2.06 | 0.55 |
| 1:L:26:GLU:OE2 | 1:L:26:GLU:N | 2.39 | 0.55 |
| 2:M:1058:ASP:HB3 | 2:M:1082:PRO:HB3 | 1.88 | 0.55 |
| 2:M:265:ARG:C | 2:M:267:TYR:H | 2.10 | 0.55 |
| 2:M:881:ASN:N | 2:M:881:ASN:ND2 | 2.49 | 0.55 |
| 2:M:5:ARG:CB | 2:M:902:ILE:HB | 2.33 | 0.55 |
| 3:N:1277:ILE:CG1 | 3:N:1301:LYS:HB2 | 2.35 | 0.55 |
| 3:N:493:ARG:NH2 | 3:N:1391:GLU:HA | 2.21 | 0.55 |
| 2:M:1046:ALA:CB | 3:N:1476:THR:HB | 2.36 | 0.55 |
| 3:N:163:TYR:CE1 | 3:N:165:LYS:HA | 2.42 | 0.55 |
| 3:N:457:GLY:O | 3:N:458:ALA:C | 2.44 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:Z:11:DG:C2' | 7:Z:12:DT:OP2 | 2.49 | 0.55 |
| 1:A:117:VAL:HB | 1:A:120:VAL:HG12 | 1.89 | 0.55 |
| 1:A:65:PHE:CD1 | 2:C:801:VAL:HG12 | 2.40 | 0.55 |
| 3:D:684:LYS:O | 3:D:687:VAL:HG23 | 2.07 | 0.55 |
| 3:D:764:LEU:HD23 | 3:D:767:HIS:HE1 | 1.60 | 0.55 |
| 4:E:46:PRO:CB | 4:E:54:LEU:HD22 | 2.36 | 0.55 |
| 1:L:102:LYS:HG2 | 1:L:104:GLU:OE2 | 2.06 | 0.55 |
| 2:M:274:ARG:HH21 | 2:M:284:ARG:HA | 1.72 | 0.55 |
| 2:M:269:LEU:CG | 2:M:288:ARG:HG2 | 2.37 | 0.55 |
| 2:M:211:LEU:CD1 | 2:M:308:ARG:HA | 2.37 | 0.55 |
| 2:M:409:ARG:HA | 2:M:454:SER:CA | 2.26 | 0.55 |
| 2:M:466:PHE:O | 2:M:468:ARG:HG3 | 2.06 | 0.55 |
| 2:M:45:GLN:O | 2:M:48:PHE:HB2 | 2.06 | 0.55 |
| 3:N:1084:THR:CG2 | 3:N:1087:ARG:HH22 | 2.18 | 0.55 |
| 3:N:1441:GLN:CD | 3:N:1442:ASN:H | 2.10 | 0.55 |
| 3:N:584:ASN:ND2 | 3:N:590:PRO:HD2 | 2.22 | 0.55 |
| 3:N:625:TYR:HE2 | 3:N:655:PRO:HD2 | 1.72 | 0.55 |
| 5:X:16:DT:C2' | 5:X:17:DA:OP2 | 2.51 | 0.55 |
| 2:M:422:ARG:CB | 7:Z:1:DG:C2 | 2.85 | 0.55 |
| 2:C:205:GLU:OE2 | 2:C:206:THR:HG22 | 2.07 | 0.55 |
| 2:C:243:ARG:HG3 | 2:C:243:ARG:HH11 | 1.71 | 0.55 |
| 1:A:180:GLN:NE2 | 2:C:937:ASP:HB2 | 2.21 | 0.55 |
| 3:D:1095:THR:HG22 | 3:D:1098:LEU:HD22 | 1.89 | 0.55 |
| 3:D:1256:LEU:N | 3:D:1257:PRO:HD2 | 2.21 | 0.55 |
| 3:D:18:ILE:O | 3:D:22:SER:HB3 | 2.07 | 0.55 |
| 3:D:781:PRO:HB2 | 3:D:786:ILE:HG12 | 1.87 | 0.55 |
| 1:K:156:HIS:ND1 | 1:K:158:ILE:HG12 | 2.21 | 0.55 |
| 1:L:102:LYS:CE | 1:L:139:ASN:HB2 | 2.37 | 0.55 |
| 1:L:79:ILE:HA | 1:L:82:LEU:CD1 | 2.36 | 0.55 |
| 2:M:861:LEU:HD23 | 2:M:863:ASP:N | 2.16 | 0.55 |
| 3:N:1271:LYS:HZ1 | 3:N:1331:ASP:HB2 | 1.69 | 0.55 |
| 3:N:133:ILE:HG12 | 3:N:456:MET:HB3 | 1.89 | 0.55 |
| 3:N:666:ILE:HG23 | 3:N:684:LYS:HZ2 | 1.71 | 0.55 |
| 3:N:703:ASN:CB | 3:N:713:ILE:HG12 | 2.36 | 0.55 |
| 3:N:711:LEU:CD1 | 3:N:778:LEU:HD23 | 2.27 | 0.55 |
| 5:X:2:DT:H2' | 5:X:3:DC:C5 | 2.42 | 0.55 |
| 1:A:43:ILE:C | 1:A:47:SER:HB2 | 2.27 | 0.55 |
| 1:B:25:LEU:O | 1:B:28:LEU:HD21 | 2.07 | 0.55 |
| 2:C:385:PHE:O | 2:C:389:SER:HB3 | 2.07 | 0.55 |
| 2:C:431:HIS:N | 2:C:434:HIS:ND1 | 2.55 | 0.55 |
| 2:C:474:VAL:HG23 | 2:C:478:VAL:O | 2.07 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 2:C:44:ILE:HG22 | 2:C:48:PHE:CE2 | 2.42 | 0.55 |
| 1:A:65:PHE:CZ | 2:C:799:ILE:HB | 2.41 | 0.55 |
| 3:D:1154:GLU:HB2 | 3:N:562:ALA:N | 2.22 | 0.55 |
| 3:D:1340:GLY:O | 3:D:1343:ALA:HB3 | 2.07 | 0.55 |
| 3:D:925:GLU:HB2 | 4:E:2:ALA:HB3 | 1.89 | 0.55 |
| 3:D:9:ARG:HH11 | 3:D:1454:GLY:HA3 | 1.71 | 0.55 |
| 2:M:707:ARG:HD2 | 2:M:824:ARG:CD | 2.37 | 0.55 |
| 2:M:739:GLU:HB2 | 2:M:742:VAL:HB | 1.89 | 0.55 |
| 3:N:1372:VAL:HG13 | 3:N:1373:ARG:N | 2.21 | 0.55 |
| 1:L:84:GLU:OE1 | 3:N:845:ASN:HB2 | 2.07 | 0.55 |
| 5:X:19:DG:C2' | 5:X:20:DC:H5' | 2.33 | 0.55 |
| 2:M:409:ARG:NH2 | 6:Y:12:U:OP1 | 2.40 | 0.55 |
| 1:B:101:LEU:HD12 | 1:B:113:ASP:C | 2.27 | 0.55 |
| 2:C:1090:LYS:HZ2 | 3:D:21:TRP:HB3 | 1.71 | 0.55 |
| 2:C:41:ASN:CB | 2:C:45:GLN:OE1 | 2.53 | 0.55 |
| 2:C:673:LEU:HD22 | 2:C:867:VAL:HG12 | 1.89 | 0.55 |
| 2:C:679:PHE:O | 2:C:680:ASP:C | 2.45 | 0.55 |
| 2:C:756:VAL:O | 2:C:789:SER:HB3 | 2.06 | 0.55 |
| 3:D:23:TYR:CE1 | 3:D:89:ARG:HG2 | 2.42 | 0.55 |
| 3:D:552:ASN:O | 3:D:556:LYS:HG3 | 2.07 | 0.55 |
| 3:D:606:ILE:O | 3:D:613:ARG:HB2 | 2.06 | 0.55 |
| 3:D:704:ARG:NE | 3:D:705:ALA:HB3 | 2.22 | 0.55 |
| 3:D:826:PRO:HD2 | 3:D:829:VAL:HG22 | 1.89 | 0.55 |
| 4:E:60:ALA:O | 4:E:63:TRP:HB2 | 2.07 | 0.55 |
| 2:M:1101:THR:C | 2:M:1102:LEU:HD12 | 2.26 | 0.55 |
| 2:M:163:ILE:HD13 | 2:M:171:TRP:CZ3 | 2.42 | 0.55 |
| 2:M:693:GLU:HG2 | 2:M:697:ARG:HH21 | 1.69 | 0.55 |
| 2:M:854:PRO:HB2 | 2:M:856:GLU:CG | 2.37 | 0.55 |
| 2:M:936:VAL:CA | 2:M:940:GLU:OE2 | 2.52 | 0.55 |
| 3:N:1059:SER:CB | 3:N:1065:LEU:HA | 2.36 | 0.55 |
| 3:N:112:ILE:O | 3:N:116:LEU:N | 2.33 | 0.55 |
| 3:N:111:LYS:NZ | 3:N:1449:GLU:HG3 | 2.22 | 0.55 |
| 3:N:41:ARG:C | 3:N:43:GLY:H | 2.09 | 0.55 |
| 3:N:728:LEU:CD1 | 3:N:729:HIS:H | 2.16 | 0.55 |
| 3:N:81:THR:HB | 3:N:85:VAL:HG22 | 1.88 | 0.55 |
| 2:M:680:ASP:N | 3:N:943:THR:CG2 | 2.70 | 0.55 |
| 5:X:9:DC:O5' | 5:X:9:DC:H6 | 1.90 | 0.55 |
| 1:A:102:LYS:CB | 1:A:139:ASN:OD1 | 2.55 | 0.55 |
| 2:C:267:TYR:HB2 | 2:C:272:ALA:HB1 | 1.89 | 0.55 |
| 2:C:52:PHE:HZ | 2:C:68:PHE:CA | 2.19 | 0.55 |
| 2:C:905:ILE:HG22 | 2:C:906:PHE:N | 2.22 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 2:C:976:ASP:CB | 2:C:979:THR:HG22 | 2.37 | 0.55 |
| 3:D:708:LEU:HB3 | 3:D:1231:GLU:CB | 2.35 | 0.55 |
| 3:D:704:ARG:HD2 | 3:D:745:MET:SD | 2.47 | 0.55 |
| 1:K:96:THR:HB | 1:K:145:ASP:OD2 | 2.06 | 0.55 |
| 2:M:145:GLY:CA | 2:M:276:LYS:HD3 | 2.37 | 0.55 |
| 2:M:750:LYS:HD2 | 2:M:750:LYS:N | 2.21 | 0.55 |
| 2:M:799:ILE:C | 2:M:827:VAL:HG13 | 2.25 | 0.55 |
| 2:M:853:LEU:HB2 | 2:M:858:MET:HE3 | 1.88 | 0.55 |
| 2:M:905:ILE:N | 2:M:905:ILE:CD1 | 2.70 | 0.55 |
| 3:N:1281:VAL:HG21 | 3:N:1313:VAL:HG21 | 1.88 | 0.55 |
| 3:N:135:LEU:HA | 3:N:453:ASP:O | 2.07 | 0.55 |
| 3:N:1461:GLY:O | 3:N:1473:PRO:HG2 | 2.07 | 0.55 |
| 3:N:171:LEU:HD21 | 3:N:194:GLY:HA3 | 1.89 | 0.55 |
| 3:N:26:VAL:HG13 | 3:N:43:GLY:O | 2.06 | 0.55 |
| 3:N:618:LEU:CD1 | 3:N:1467:ILE:HD13 | 2.36 | 0.55 |
| 3:N:703:ASN:HA | 3:N:713:ILE:HG12 | 1.88 | 0.55 |
| 3:N:72:VAL:HG23 | 3:N:78:VAL:N | 2.22 | 0.55 |
| 3:N:827:ILE:N | 3:N:827:ILE:HD12 | 2.22 | 0.55 |
| 2:C:141:HIS:O | 2:C:331:ARG:HA | 2.06 | 0.55 |
| 2:C:394:PHE:CZ | 5:G:25:DG:H4' | 2.42 | 0.55 |
| 3:D:1034:GLN:O | 3:D:1038:LEU:N | 2.39 | 0.55 |
| 3:D:1189:ARG:HG3 | 3:D:1189:ARG:HH11 | 1.72 | 0.55 |
| 3:D:704:ARG:NH1 | 3:D:738:ALA:CB | 2.70 | 0.55 |
| 3:D:798:GLU:HG2 | 3:D:799:LYS:N | 2.22 | 0.55 |
| 3:D:960:LYS:O | 3:D:964:LEU:HB2 | 2.07 | 0.55 |
| 7:I:11:DG:C2' | 7:I:12:DT:OP2 | 2.49 | 0.55 |
| 3:N:1274:ILE:HG21 | 3:N:1301:LYS:HD2 | 1.88 | 0.55 |
| 3:D:1154:GLU:H | 3:N:561:GLY:HA3 | 1.72 | 0.55 |
| 3:N:907:GLU:O | 3:N:911:LEU:HD12 | 2.07 | 0.55 |
| 7:Z:3:DA:C1' | 7:Z:4:DG:H5' | 2.23 | 0.55 |
| 1:A:13:VAL:CG1 | 1:A:14:ARG:N | 2.70 | 0.54 |
| 1:B:100:LEU:HB2 | 1:B:115:LEU:CD2 | 2.37 | 0.54 |
| 1:B:9:PRO:HB3 | 1:B:25:LEU:CD2 | 2.36 | 0.54 |
| 2:C:739:GLU:HB2 | 2:C:742:VAL:HB | 1.89 | 0.54 |
| 2:C:79:PRO:HG2 | 2:C:82:GLU:HG3 | 1.89 | 0.54 |
| 3:D:30:GLU:CD | 3:D:40:GLU:HG2 | 2.27 | 0.54 |
| 2:M:1074:GLU:CG | 2:M:1075:ASP:H | 2.18 | 0.54 |
| 2:M:1092:LEU:O | 2:M:1097:LEU:O | 2.25 | 0.54 |
| 2:M:713:ARG:HG2 | 2:M:714:ASP:N | 2.22 | 0.54 |
| 3:N:1384:PRO:HG3 | 3:N:1389:LEU:N | 2.22 | 0.54 |
| 3:N:631:ILE:HG12 | 3:N:743:ASP:O | 2.07 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:N:845:ASN:ND2 | 3:N:846:PRO:HD2 | 2.22 | 0.54 |
| 3:N:98:PRO:CG | 3:N:462:GLN:OE1 | 2.55 | 0.54 |
| 1:B:92:PRO:HA | 1:B:146:ARG:NH1 | 2.23 | 0.54 |
| 2:C:141:HIS:CD2 | 2:C:332:ARG:HB3 | 2.43 | 0.54 |
| 2:C:160:ALA:HB3 | 2:C:174:LEU:HD12 | 1.90 | 0.54 |
| 2:C:31:GLN:NE2 | 2:C:38:LYS:O | 2.40 | 0.54 |
| 3:D:770:LEU:HB2 | 3:D:1210:SER:O | 2.08 | 0.54 |
| 3:D:9:ARG:HG3 | 3:D:1455:LYS:O | 2.06 | 0.54 |
| 1:L:152:PRO:HB2 | 1:L:155:LYS:HB2 | 1.88 | 0.54 |
| 2:M:393:GLN:CG | 6:Y:10:G:H4' | 2.37 | 0.54 |
| 2:M:433:THR:O | 2:M:435:TYR:N | 2.37 | 0.54 |
| 2:M:490:GLU:CB | 2:M:493:ARG:HH11 | 2.04 | 0.54 |
| 3:N:1276:GLU:HA | 3:N:1301:LYS:HG2 | 1.88 | 0.54 |
| 3:N:135:LEU:CD1 | 3:N:147:VAL:HG23 | 2.37 | 0.54 |
| 3:N:478:LEU:HD23 | 3:N:1388:ARG:HD3 | 1.88 | 0.54 |
| 3:N:1393:GLN:HB2 | 3:N:1398:TRP:CZ2 | 2.42 | 0.54 |
| 3:N:1435:LEU:HD22 | 3:N:1457:ASP:CG | 2.28 | 0.54 |
| 3:N:1447:LEU:O | 3:N:1448:THR:C | 2.45 | 0.54 |
| 3:N:134:VAL:O | 3:N:454:ALA:HA | 2.07 | 0.54 |
| 3:N:13:ALA:O | 3:N:511:TRP:HB3 | 2.07 | 0.54 |
| 3:D:1154:GLU:C | 3:N:562:ALA:H | 2.11 | 0.54 |
| 1:A:154:GLU:OE2 | 1:A:154:GLU:N | 2.39 | 0.54 |
| 1:A:43:ILE:O | 1:A:47:SER:HB2 | 2.06 | 0.54 |
| 2:C:400:PRO:HA | 2:C:403:SER:OG | 2.07 | 0.54 |
| 2:C:49:ARG:CA | 2:C:52:PHE:HB2 | 2.37 | 0.54 |
| 2:C:49:ARG:HA | 2:C:52:PHE:HB2 | 1.88 | 0.54 |
| 2:C:442:GLU:OE2 | 2:C:543:ASN:HB3 | 2.08 | 0.54 |
| 2:C:676:ILE:HG23 | 3:D:948:THR:HB | 1.90 | 0.54 |
| 2:C:90:TYR:C | 2:C:91:GLN:HG3 | 2.27 | 0.54 |
| 2:C:1007:ALA:HB1 | 3:D:652:LEU:HD13 | 1.88 | 0.54 |
| 3:D:741:ASP:OD2 | 6:H:14:G:O3' | 2.25 | 0.54 |
| 6:H:7:G:C2' | 6:H:8:G:H5' | 2.36 | 0.54 |
| 2:M:550:LEU:HG | 3:N:1070:TYR:HE1 | 1.71 | 0.54 |
| 2:M:767:PRO:HB3 | 2:M:772:ARG:NH2 | 2.23 | 0.54 |
| 3:N:1281:VAL:HG21 | 3:N:1313:VAL:HG11 | 1.89 | 0.54 |
| 3:N:660:LYS:HD2 | 3:N:694:VAL:CG2 | 2.35 | 0.54 |
| 6:Y:4:G:O5' | 6:Y:4:G:H8 | 1.90 | 0.54 |
| 1:A:50:GLY:HA3 | 1:A:171:PHE:O | 2.06 | 0.54 |
| 2:C:1013:TYR:HD1 | 2:C:1020:PRO:HG3 | 1.72 | 0.54 |
| 2:C:223:ASP:OD2 | 2:C:224:GLU:HG2 | 2.07 | 0.54 |
| 2:C:290:LEU:N | 2:C:290:LEU:HD23 | 2.22 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 2:C:48:PHE:HB3 | 2:C:52:PHE:HD2 | 1.72 | 0.54 |
| 2:C:922:PHE:HD2 | 2:C:964:LYS:HZ2 | 1.55 | 0.54 |
| 3:D:42:ASP:O | 3:D:43:GLY:O | 2.25 | 0.54 |
| 2:M:1000:MET:CB | 2:M:1002:GLU:HG2 | 2.33 | 0.54 |
| 2:M:183:SER:OG | 2:M:190:LYS:HG2 | 2.08 | 0.54 |
| 2:M:757:GLY:HA2 | 2:M:789:SER:CB | 2.37 | 0.54 |
| 3:N:136:ASP:CB | 3:N:137:PRO:CD | 2.81 | 0.54 |
| 3:N:14:SER:O | 3:N:17:LYS:N | 2.41 | 0.54 |
| 3:N:433:GLY:HA2 | 3:N:449:SER:O | 2.08 | 0.54 |
| 7:Z:13:DA:C2' | 7:Z:14:DG:OP2 | 2.53 | 0.54 |
| 1:A:57:TYR:HE1 | 1:A:163:ASN:HB2 | 1.72 | 0.54 |
| 2:C:796:GLU:CB | 2:C:1004:LYS:HZ3 | 2.16 | 0.54 |
| 2:C:118:ILE:HG22 | 2:C:382:ILE:HD13 | 1.89 | 0.54 |
| 2:C:410:ILE:HG22 | 2:C:453:THR:HG23 | 1.89 | 0.54 |
| 2:C:458:TYR:HB3 | 2:C:485:TYR:OH | 2.08 | 0.54 |
| 2:C:557:ARG:NH1 | 2:C:560:MET:HG3 | 2.23 | 0.54 |
| 2:C:55:GLU:OE2 | 2:C:57:GLU:HB2 | 2.08 | 0.54 |
| 2:C:896:PHE:CE2 | 2:C:925:TYR:HA | 2.42 | 0.54 |
| 3:D:1472:ILE:O | 3:D:1477:GLY:HA3 | 2.07 | 0.54 |
| 3:D:36:THR:C | 3:D:38:LYS:H | 2.09 | 0.54 |
| 3:D:47:GLU:CG | 3:D:53:ILE:HB | 2.38 | 0.54 |
| 1:K:89:PHE:HB3 | 1:K:94:LEU:HD13 | 1.89 | 0.54 |
| 2:M:1001:VAL:CG2 | 5:X:24:DC:H5' | 2.38 | 0.54 |
| 2:M:243:ARG:N | 2:M:244:PRO:HD3 | 2.21 | 0.54 |
| 3:N:631:ILE:HB | 3:N:740:PHE:HE2 | 1.73 | 0.54 |
| 3:N:82:LYS:HA | 3:N:82:LYS:CE | 2.37 | 0.54 |
| 2:M:1115:LEU:HD22 | 3:N:88:TYR:CD1 | 2.42 | 0.54 |
| 3:N:918:ALA:HB1 | 3:N:927:THR:HG23 | 1.88 | 0.54 |
| 5:X:26:DC:C4 | 5:X:27:DC:N4 | 2.75 | 0.54 |
| 1:A:4:SER:HA | 1:A:7:LYS:HE2 | 1.90 | 0.54 |
| 2:C:693:GLU:HA | 2:C:696:LYS:HD2 | 1.90 | 0.54 |
| 3:D:502:PHE:CE2 | 3:D:509:PRO:HB3 | 2.43 | 0.54 |
| 3:D:690:ALA:O | 3:D:694:VAL:HG23 | 2.07 | 0.54 |
| 1:L:58:ILE:HD11 | 1:L:140:MET:SD | 2.47 | 0.54 |
| 2:M:202:TYR:OH | 2:M:304:LEU:HD22 | 2.08 | 0.54 |
| 2:M:402:SER:HA | 2:M:566:THR:CG2 | 2.33 | 0.54 |
| 2:M:709:GLU:HG3 | 2:M:824:ARG:HG3 | 1.90 | 0.54 |
| 3:N:1031:ASN:O | 3:N:1033:GLN:N | 2.39 | 0.54 |
| 3:N:181:ASP:HA | 3:N:205:TYR:CD1 | 2.43 | 0.54 |
| 3:N:41:ARG:NH1 | 3:N:42:ASP:HB3 | 2.23 | 0.54 |
| 3:N:63:TYR:CD1 | 3:N:73:CYS:HA | 2.43 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 1:B:14:ARG:HB2 | 1:B:22:GLU:HB2 | 1.90 | 0.54 |
| 1:B:25:LEU:HD23 | 1:B:28:LEU:HD21 | 1.89 | 0.54 |
| 2:C:1087:VAL:HG23 | 3:D:524:LEU:CD2 | 2.38 | 0.54 |
| 2:C:435:TYR:CE1 | 2:C:539:VAL:HG21 | 2.42 | 0.54 |
| 2:C:510:ALA:O | 2:C:513:VAL:HG23 | 2.08 | 0.54 |
| 2:C:36:PRO:HB2 | 2:C:70:GLU:CG | 2.38 | 0.54 |
| 3:D:1256:LEU:O | 3:D:1257:PRO:C | 2.46 | 0.54 |
| 3:D:704:ARG:HH11 | 3:D:738:ALA:HB2 | 1.72 | 0.54 |
| 5:G:10:DA:H2'' | 5:G:11:DC:OP2 | 2.08 | 0.54 |
| 2:M:405:ARG:C | 2:M:407:LYS:N | 2.60 | 0.54 |
| 2:M:512:ARG:HD3 | 2:M:523:ILE:CD1 | 2.38 | 0.54 |
| 2:M:622:GLU:O | 2:M:624:PRO:HD3 | 2.08 | 0.54 |
| 2:M:630:ARG:O | 2:M:630:ARG:HG3 | 2.08 | 0.54 |
| 2:M:758:ARG:NH1 | 2:M:788:THR:HB | 2.22 | 0.54 |
| 3:N:1109:GLU:CD | 3:N:1202:GLN:N | 2.61 | 0.54 |
| 3:N:154:THR:CG2 | 3:N:157:GLU:OE2 | 2.56 | 0.54 |
| 3:N:503:LEU:O | 3:N:506:GLY:N | 2.40 | 0.54 |
| 3:N:834:THR:HB | 3:N:838:ARG:HB2 | 1.90 | 0.54 |
| 4:O:30:LEU:O | 4:O:35:PHE:HA | 2.08 | 0.54 |
| 3:N:1096:ARG:NH2 | 5:X:18:DC:OP1 | 2.37 | 0.54 |
| 6:Y:5:C:C6 | 6:Y:5:C:O5' | 2.61 | 0.54 |
| 1:A:222:LEU:CD2 | 1:B:219:ARG:CB | 2.86 | 0.54 |
| 2:C:185:LYS:HG3 | 2:C:190:LYS:HG3 | 1.90 | 0.54 |
| 2:C:263:ASP:C | 2:C:264:PRO:O | 2.46 | 0.54 |
| 2:C:897:LEU:O | 2:C:899:GLN:HG2 | 2.08 | 0.54 |
| 3:D:1066:THR:HG23 | 3:D:1069:GLU:H | 1.72 | 0.54 |
| 3:D:1106:VAL:HG11 | 3:D:1474:ALA:HB1 | 1.88 | 0.54 |
| 3:D:1398:TRP:HA | 3:D:1398:TRP:HE3 | 1.73 | 0.54 |
| 3:D:683:ILE:N | 3:D:683:ILE:HD12 | 2.23 | 0.54 |
| 5:G:2:DT:OP2 | 5:G:2:DT:H4' | 2.07 | 0.54 |
| 1:K:185:ARG:O | 1:K:185:ARG:HG3 | 2.08 | 0.54 |
| 1:K:19:GLU:HA | 1:K:201:THR:O | 2.07 | 0.54 |
| 1:L:55:SER:OG | 1:L:166:PRO:HA | 2.07 | 0.54 |
| 2:M:267:TYR:CE1 | 2:M:273:GLY:HA3 | 2.43 | 0.54 |
| 2:M:148:PHE:CE1 | 2:M:309:TYR:HD2 | 2.26 | 0.54 |
| 2:M:73:LEU:HD12 | 2:M:74:GLY:N | 2.23 | 0.54 |
| 2:M:5:ARG:HA | 2:M:902:ILE:O | 2.08 | 0.54 |
| 2:M:975:TYR:HA | 2:M:982:PRO:HA | 1.90 | 0.54 |
| 3:N:1211:MET:CE | 3:N:1213:ARG:HB3 | 2.38 | 0.54 |
| 3:N:1283:ILE:HB | 3:N:1315:ASP:OD1 | 2.08 | 0.54 |
| 3:N:493:ARG:HH22 | 3:N:1392:GLY:H | 1.54 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:N:65:ARG:HG3 | 3:N:66:GLN:H | 1.72 | 0.54 |
| 1:A:39:PRO:HG3 | 1:B:39:PRO:HG2 | 1.87 | 0.54 |
| 1:A:89:PHE:C | 1:A:90:LEU:HD12 | 2.29 | 0.54 |
| 3:D:1492:LEU:HD12 | 3:D:1493:LYS:CE | 2.38 | 0.54 |
| 1:K:193:ASP:HA | 2:M:938:LYS:HZ3 | 1.72 | 0.54 |
| 2:M:157:ARG:HD3 | 2:M:314:THR:HG22 | 1.90 | 0.54 |
| 2:M:399:ASN:O | 2:M:402:SER:N | 2.41 | 0.54 |
| 2:M:503:LEU:HD23 | 2:M:507:ARG:O | 2.07 | 0.54 |
| 2:M:512:ARG:HD3 | 2:M:523:ILE:HD11 | 1.89 | 0.54 |
| 2:M:842:ARG:HG3 | 2:M:995:MET:HE2 | 1.90 | 0.54 |
| 3:N:1031:ASN:ND2 | 3:N:1034:GLN:HG3 | 2.23 | 0.54 |
| 3:N:964:LEU:O | 3:N:968:ASP:HB2 | 2.08 | 0.54 |
| 3:N:970:LYS:HD3 | 3:N:995:LEU:HD13 | 1.89 | 0.54 |
| 2:C:1081:VAL:HB | 2:C:1086:ARG:HH21 | 1.73 | 0.54 |
| 2:C:18:LEU:HD12 | 2:C:18:LEU:N | 2.15 | 0.54 |
| 2:C:739:GLU:CB | 2:C:742:VAL:HB | 2.37 | 0.54 |
| 2:C:926:PHE:CD2 | 2:C:960:GLU:OE2 | 2.61 | 0.54 |
| 3:D:1031:ASN:CB | 3:D:1034:GLN:HB3 | 2.38 | 0.54 |
| 3:D:117:ASP:HB2 | 3:D:495:ARG:CZ | 2.37 | 0.54 |
| 3:D:1197:ARG:HB3 | 3:D:1396:GLU:OE2 | 2.08 | 0.54 |
| 3:D:487:ALA:N | 5:G:8:DC:OP2 | 2.41 | 0.54 |
| 5:G:16:DT:C2 | 5:G:17:DA:N7 | 2.75 | 0.54 |
| 2:M:471:TYR:CE2 | 2:M:496:ILE:HG21 | 2.42 | 0.54 |
| 2:M:754:ILE:HD12 | 2:M:789:SER:CB | 2.37 | 0.54 |
| 3:N:1098:LEU:HD23 | 3:N:1226:ALA:CA | 2.30 | 0.54 |
| 3:N:148:GLU:HG2 | 3:N:151:GLN:HB2 | 1.90 | 0.54 |
| 3:N:568:ARG:HE | 3:N:572:ARG:HG2 | 1.73 | 0.54 |
| 3:N:683:ILE:CG2 | 3:N:684:LYS:N | 2.71 | 0.54 |
| 4:O:16:LYS:HG2 | 4:O:17:TYR:N | 2.22 | 0.54 |
| 1:A:124:ASN:OD1 | 1:A:127:LEU:HB2 | 2.08 | 0.53 |
| 1:B:179:PHE:HD2 | 1:B:179:PHE:N | 2.06 | 0.53 |
| 1:B:184:THR:O | 1:B:192:LEU:HB2 | 2.08 | 0.53 |
| 2:C:460:ARG:HG3 | 2:C:460:ARG:HH11 | 1.74 | 0.53 |
| 2:C:433:THR:HG21 | 2:C:488:ALA:HB1 | 1.90 | 0.53 |
| 3:D:1114:THR:CG2 | 3:D:1114:THR:O | 2.56 | 0.53 |
| 3:D:41:ARG:HD3 | 3:D:42:ASP:N | 2.23 | 0.53 |
| 3:D:814:ALA:HB1 | 3:D:818:ARG:NH2 | 2.13 | 0.53 |
| 2:C:1018:GLN:HG2 | 3:D:87:ARG:NH2 | 2.23 | 0.53 |
| 1:K:99:LEU:HB2 | 1:K:142:VAL:HG23 | 1.90 | 0.53 |
| 1:L:179:PHE:CD2 | 1:L:179:PHE:N | 2.74 | 0.53 |
| 2:M:1102:LEU:O | 3:N:5:VAL:CG1 | 2.56 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 2:M:198:ARG:HD2 | 2:M:204:GLN:OE1 | 2.07 | 0.53 |
| 2:M:679:PHE:O | 2:M:680:ASP:C | 2.46 | 0.53 |
| 3:N:36:THR:O | 3:N:38:LYS:N | 2.39 | 0.53 |
| 3:N:117:ASP:HB2 | 3:N:495:ARG:HH12 | 1.73 | 0.53 |
| 4:O:45:ARG:HG2 | 4:O:46:PRO:HD2 | 1.90 | 0.53 |
| 1:B:52:ALA:HB2 | 1:B:170:VAL:O | 2.07 | 0.53 |
| 2:C:1006:HIS:HA | 2:C:1027:PHE:HD1 | 1.73 | 0.53 |
| 2:C:1040:LEU:HD23 | 2:C:1049:LEU:CD1 | 2.37 | 0.53 |
| 2:C:265:ARG:HG2 | 2:C:267:TYR:N | 2.22 | 0.53 |
| 2:C:274:ARG:HH21 | 2:C:284:ARG:HA | 1.73 | 0.53 |
| 2:C:516:ARG:NE | 3:D:1068:LEU:HD22 | 2.22 | 0.53 |
| 2:C:714:ASP:OD1 | 2:C:719:PRO:HG3 | 2.08 | 0.53 |
| 2:C:893:ALA:HB1 | 2:C:897:LEU:HD12 | 1.90 | 0.53 |
| 3:D:54:LYS:HG2 | 3:D:57:GLU:OE1 | 2.08 | 0.53 |
| 4:E:57:ASP:H | 4:E:58:PRO:HD3 | 1.73 | 0.53 |
| 1:K:174:VAL:HG22 | 1:K:201:THR:HG22 | 1.89 | 0.53 |
| 1:K:42:ARG:HH12 | 1:L:34:VAL:CB | 2.21 | 0.53 |
| 1:L:26:GLU:HB3 | 1:L:194:LYS:HA | 1.90 | 0.53 |
| 2:M:143:SER:OG | 2:M:147:TYR:OH | 2.24 | 0.53 |
| 3:N:505:SER:OG | 3:N:1454:GLY:N | 2.41 | 0.53 |
| 3:N:1484:THR:HG23 | 4:O:76:GLY:C | 2.29 | 0.53 |
| 2:M:1075:ASP:OD2 | 4:O:31:LEU:HD13 | 2.07 | 0.53 |
| 1:A:49:PRO:HB3 | 1:A:148:VAL:HG22 | 1.91 | 0.53 |
| 1:B:206:THR:HG22 | 1:B:209:GLU:H | 1.73 | 0.53 |
| 2:C:1040:LEU:HD23 | 2:C:1049:LEU:HD13 | 1.90 | 0.53 |
| 2:C:22:GLN:C | 2:C:121:MET:HE1 | 2.27 | 0.53 |
| 2:C:327:HIS:HA | 2:C:431:HIS:CD2 | 2.44 | 0.53 |
| 2:C:31:GLN:NE2 | 2:C:38:LYS:HB2 | 2.24 | 0.53 |
| 2:C:395:LYS:O | 2:C:397:GLU:HG3 | 2.08 | 0.53 |
| 2:C:693:GLU:O | 2:C:697:ARG:HG2 | 2.08 | 0.53 |
| 3:D:107:ASP:O | 3:D:108:VAL:C | 2.46 | 0.53 |
| 3:D:1200:VAL:HG12 | 3:D:1201:CYS:O | 2.09 | 0.53 |
| 3:D:1107:VAL:HG12 | 3:D:1217:ILE:HG23 | 1.90 | 0.53 |
| 3:D:741:ASP:OD2 | 6:H:14:G:H5'' | 2.09 | 0.53 |
| 4:E:23:VAL:O | 4:E:26:ARG:HB3 | 2.08 | 0.53 |
| 7:I:11:DG:H2' | 7:I:12:DT:C7 | 2.37 | 0.53 |
| 2:M:1034:GLU:HA | 2:M:1037:VAL:HG23 | 1.90 | 0.53 |
| 2:M:406:HIS:CD2 | 2:M:409:ARG:HH21 | 2.26 | 0.53 |
| 2:M:437:ARG:CZ | 2:M:488:ALA:HA | 2.38 | 0.53 |
| 2:M:697:ARG:HG3 | 2:M:697:ARG:O | 2.09 | 0.53 |
| 2:M:939:ARG:HD3 | 2:M:982:PRO:HD3 | 1.89 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 3:N:1296:SER:C | 3:N:1298:GLY:H | 2.10 | 0.53 |
| 4:O:54:LEU:O | 4:O:54:LEU:HD23 | 2.08 | 0.53 |
| 7:Z:1:DG:H3' | 7:Z:1:DG:OP1 | 2.08 | 0.53 |
| 2:C:1035:MET:HE1 | 5:G:19:DG:H4' | 1.91 | 0.53 |
| 2:C:172:ILE:HD12 | 2:C:172:ILE:N | 2.23 | 0.53 |
| 2:C:676:ILE:HG21 | 2:C:988:VAL:HG13 | 1.88 | 0.53 |
| 3:D:1033:GLN:C | 3:D:1037:GLN:CB | 2.69 | 0.53 |
| 3:D:701:LEU:O | 3:D:747:VAL:HG23 | 2.08 | 0.53 |
| 3:D:857:ILE:HG22 | 3:D:858:VAL:HG13 | 1.91 | 0.53 |
| 1:K:34:VAL:HG13 | 1:K:35:THR:N | 2.22 | 0.53 |
| 2:M:1048:THR:O | 2:M:1052:MET:SD | 2.66 | 0.53 |
| 2:M:17:PRO:O | 2:M:20:GLU:HB3 | 2.08 | 0.53 |
| 3:N:1122:LEU:HD13 | 3:N:1184:GLN:O | 2.08 | 0.53 |
| 3:N:482:LYS:CE | 3:N:1384:PRO:HD2 | 2.34 | 0.53 |
| 3:N:520:LEU:CD1 | 3:N:521:PRO:HD2 | 2.38 | 0.53 |
| 3:N:55:ASP:HB3 | 3:N:82:LYS:NZ | 2.24 | 0.53 |
| 3:N:701:LEU:C | 3:N:702:LEU:HD12 | 2.29 | 0.53 |
| 1:A:223:THR:C | 1:A:225:PHE:H | 2.11 | 0.53 |
| 1:A:63:HIS:HE1 | 1:A:65:PHE:O | 1.91 | 0.53 |
| 1:B:36:LEU:O | 1:B:39:PRO:HD2 | 2.09 | 0.53 |
| 1:B:48:ILE:HD13 | 1:B:210:ALA:HB1 | 1.91 | 0.53 |
| 2:C:122:THR:HB | 2:C:124:ASP:CG | 2.29 | 0.53 |
| 2:C:124:ASP:OD1 | 2:C:126:SER:N | 2.25 | 0.53 |
| 2:C:140:ILE:HG23 | 2:C:410:ILE:HD13 | 1.90 | 0.53 |
| 2:C:164:PRO:HD2 | 2:C:170:PRO:O | 2.08 | 0.53 |
| 2:C:336:VAL:N | 2:C:339:LEU:HD12 | 2.23 | 0.53 |
| 2:C:431:HIS:N | 2:C:434:HIS:CE1 | 2.72 | 0.53 |
| 3:D:1197:ARG:CD | 3:D:1198:TYR:H | 2.21 | 0.53 |
| 3:D:133:ILE:HA | 3:D:456:MET:CB | 2.37 | 0.53 |
| 3:D:695:ILE:O | 3:D:696:HIS:C | 2.46 | 0.53 |
| 3:D:880:ILE:HD13 | 3:D:880:ILE:O | 2.08 | 0.53 |
| 3:D:949:ILE:HD11 | 3:D:1023:MET:HE3 | 1.90 | 0.53 |
| 1:K:152:PRO:HD2 | 1:K:155:LYS:HB2 | 1.90 | 0.53 |
| 1:L:59:GLU:HB2 | 1:L:137:ARG:HH22 | 1.73 | 0.53 |
| 2:M:570:PRO:CD | 2:M:635:THR:HG21 | 2.36 | 0.53 |
| 2:M:758:ARG:HG2 | 2:M:788:THR:OG1 | 2.08 | 0.53 |
| 2:M:972:VAL:HG23 | 2:M:974:LEU:HD13 | 1.90 | 0.53 |
| 3:N:1019:PRO:O | 3:N:1023:MET:HB2 | 2.08 | 0.53 |
| 3:N:113:GLY:O | 3:N:116:LEU:O | 2.26 | 0.53 |
| 3:N:1365:ASP:O | 3:N:1369:GLU:HG3 | 2.09 | 0.53 |
| 3:N:143:ASN:OD1 | 3:N:145:VAL:HG12 | 2.08 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:N:111:LYS:HE2 | 3:N:1445:HIS:CD2 | 2.44 | 0.53 |
| 3:N:1472:ILE:O | 3:N:1477:GLY:HA3 | 2.08 | 0.53 |
| 3:N:701:LEU:N | 3:N:701:LEU:HD12 | 2.12 | 0.53 |
| 5:X:26:DC:N3 | 5:X:27:DC:N4 | 2.56 | 0.53 |
| 2:C:1062:GLY:O | 2:C:1066:ALA:CB | 2.57 | 0.53 |
| 2:C:503:LEU:HD23 | 2:C:507:ARG:O | 2.08 | 0.53 |
| 2:C:537:LYS:HZ1 | 2:C:904:PRO:HB3 | 1.74 | 0.53 |
| 2:C:572:ILE:HG23 | 2:C:703:ILE:HD13 | 1.89 | 0.53 |
| 3:D:1102:THR:O | 3:D:1103:HIS:C | 2.46 | 0.53 |
| 3:D:493:ARG:HD2 | 3:D:493:ARG:C | 2.29 | 0.53 |
| 5:G:9:DC:H6 | 5:G:9:DC:O5' | 1.89 | 0.53 |
| 2:M:1013:TYR:CD2 | 2:M:1063:ARG:NH2 | 2.77 | 0.53 |
| 2:M:292:ARG:HH11 | 2:M:299:LYS:HD3 | 1.74 | 0.53 |
| 2:M:460:ARG:HG2 | 2:M:485:TYR:CD2 | 2.43 | 0.53 |
| 2:M:683:ASN:HB2 | 2:M:872:ASN:HB2 | 1.89 | 0.53 |
| 3:N:1441:GLN:HG2 | 3:N:1442:ASN:H | 1.73 | 0.53 |
| 3:N:400:VAL:HG22 | 3:N:443:VAL:HG21 | 1.91 | 0.53 |
| 3:N:688:TRP:HA | 3:N:688:TRP:CE3 | 2.44 | 0.53 |
| 3:N:756:GLN:HG3 | 4:O:61:VAL:HG21 | 1.90 | 0.53 |
| 6:Y:1:C:H2' | 6:Y:2:C:C6 | 2.44 | 0.53 |
| 1:A:199:ILE:N | 1:A:199:ILE:HD12 | 2.24 | 0.53 |
| 1:A:57:TYR:CZ | 1:A:161:ARG:HG2 | 2.43 | 0.53 |
| 1:A:62:LEU:HD12 | 1:A:62:LEU:N | 2.23 | 0.53 |
| 1:B:24:VAL:CG1 | 1:B:196:THR:HG22 | 2.36 | 0.53 |
| 2:C:195:LEU:O | 2:C:199:VAL:HG23 | 2.08 | 0.53 |
| 2:C:561:GLY:O | 2:C:565:GLN:HG3 | 2.07 | 0.53 |
| 2:C:762:LYS:NZ | 2:C:786:LYS:HG3 | 2.24 | 0.53 |
| 3:D:465:LEU:HA | 3:D:468:LEU:HD12 | 1.91 | 0.53 |
| 3:D:720:LEU:H | 3:D:720:LEU:HD12 | 1.74 | 0.53 |
| 3:D:983:LEU:H | 3:D:983:LEU:CD2 | 2.22 | 0.53 |
| 1:L:105:GLY:O | 1:L:132:LEU:HB3 | 2.08 | 0.53 |
| 2:M:1033:GLY:O | 2:M:1037:VAL:HG23 | 2.08 | 0.53 |
| 2:M:1081:VAL:HB | 2:M:1086:ARG:HE | 1.74 | 0.53 |
| 2:M:251:ASP:C | 2:M:252:LYS:HG3 | 2.28 | 0.53 |
| 2:M:295:ASP:HB2 | 2:M:297:GLU:OE2 | 2.09 | 0.53 |
| 2:M:139:GLN:CD | 2:M:415:PRO:HD3 | 2.29 | 0.53 |
| 2:M:581:THR:C | 2:M:902:ILE:HG23 | 2.29 | 0.53 |
| 3:N:1132:LEU:N | 3:N:1132:LEU:HD12 | 2.24 | 0.53 |
| 3:N:1118:ILE:HG13 | 3:N:1192:LEU:HD12 | 1.90 | 0.53 |
| 3:N:568:ARG:HG3 | 3:N:572:ARG:HE | 1.72 | 0.53 |
| 3:N:871:LYS:CB | 3:N:873:LEU:HD21 | 2.39 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 6:Y:9:C:H2' | 6:Y:10:G:H5' | 1.91 | 0.53 |
| 2:C:1037:VAL:O | 2:C:1041:GLU:HG3 | 2.09 | 0.53 |
| 2:C:18:LEU:HD13 | 2:C:590:ASP:CG | 2.29 | 0.53 |
| 2:C:617:ASP:CG | 2:C:619:ARG:HH21 | 2.12 | 0.53 |
| 3:D:16:GLU:HA | 3:D:19:ARG:HG2 | 1.89 | 0.53 |
| 3:D:483:HIS:HB2 | 3:D:484:PRO:CD | 2.34 | 0.53 |
| 3:D:6:ARG:C | 3:D:7:LYS:HG3 | 2.29 | 0.53 |
| 4:E:28:GLN:C | 4:E:32:ARG:HH12 | 2.12 | 0.53 |
| 3:D:698:LYS:HD2 | 4:E:59:ASN:OD1 | 2.09 | 0.53 |
| 7:I:3:DA:C1' | 7:I:4:DG:H5' | 2.21 | 0.53 |
| 1:K:223:THR:C | 1:K:225:PHE:H | 2.11 | 0.53 |
| 2:M:135:VAL:O | 2:M:392:SER:HA | 2.08 | 0.53 |
| 2:M:195:LEU:HG | 2:M:238:LEU:HG | 1.90 | 0.53 |
| 2:M:244:PRO:HG2 | 2:M:246:ASP:OD2 | 2.08 | 0.53 |
| 2:M:603:VAL:O | 2:M:646:GLY:HA2 | 2.09 | 0.53 |
| 2:M:714:ASP:OD2 | 2:M:820:ARG:HB2 | 2.09 | 0.53 |
| 2:M:7:GLY:HA2 | 2:M:907:ASP:O | 2.09 | 0.53 |
| 2:M:878:SER:OG | 3:N:1029:ARG:NH2 | 2.42 | 0.53 |
| 3:N:1093:TYR:HE2 | 3:N:1440:PHE:HE2 | 1.57 | 0.53 |
| 3:N:1096:ARG:HH22 | 5:X:18:DC:P | 2.32 | 0.53 |
| 5:X:13:DA:O5' | 5:X:13:DA:C2' | 2.55 | 0.53 |
| 1:A:106:PRO:CG | 1:A:134:GLU:CD | 2.74 | 0.53 |
| 1:A:170:VAL:O | 1:A:170:VAL:HG23 | 2.09 | 0.53 |
| 2:C:145:GLY:CA | 2:C:276:LYS:HD3 | 2.39 | 0.53 |
| 2:C:332:ARG:HG2 | 2:C:333:ILE:N | 2.23 | 0.53 |
| 2:C:688:ILE:HD11 | 2:C:847:GLY:HA3 | 1.90 | 0.53 |
| 3:D:52:PRO:HD2 | 3:D:85:VAL:HG23 | 1.89 | 0.53 |
| 3:D:907:GLU:OE1 | 3:D:909:ASN:HB2 | 2.09 | 0.53 |
| 4:E:54:LEU:CA | 4:E:58:PRO:HG2 | 2.36 | 0.53 |
| 6:H:6:C:C5 | 6:H:7:G:C5 | 2.97 | 0.53 |
| 1:K:50:GLY:CA | 1:K:173:PRO:HG3 | 2.38 | 0.53 |
| 1:K:199:ILE:HD12 | 1:K:199:ILE:N | 2.23 | 0.53 |
| 2:M:274:ARG:NH1 | 2:M:274:ARG:HG3 | 2.23 | 0.53 |
| 2:M:302:VAL:O | 2:M:306:THR:HG23 | 2.09 | 0.53 |
| 2:M:26:TYR:O | 2:M:30:LEU:HG | 2.09 | 0.53 |
| 2:M:345:ARG:HA | 2:M:348:LEU:HB2 | 1.90 | 0.53 |
| 3:N:133:ILE:HG22 | 3:N:134:VAL:H | 1.74 | 0.53 |
| 3:N:136:ASP:CG | 3:N:137:PRO:HD3 | 2.29 | 0.53 |
| 3:N:708:LEU:HB3 | 3:N:1231:GLU:HB2 | 1.90 | 0.53 |
| 3:N:901:GLN:HG3 | 3:N:901:GLN:O | 2.09 | 0.53 |
| 3:N:767:HIS:NE2 | 4:O:6:ILE:HD13 | 2.23 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 1:B:23:PHE:HZ | 1:B:207:PRO:HB2 | 1.74 | 0.53 |
| 1:B:59:GLU:HG2 | 1:B:139:ASN:HD22 | 1.73 | 0.53 |
| 2:C:1105:LYS:O | 2:C:1105:LYS:HD2 | 2.08 | 0.53 |
| 2:C:532:MET:CG | 2:C:533:ASP:N | 2.71 | 0.53 |
| 2:C:683:ASN:O | 2:C:872:ASN:CB | 2.53 | 0.53 |
| 2:C:69:LEU:HD12 | 2:C:97:ARG:CB | 2.24 | 0.53 |
| 2:C:850:ALA:HA | 3:D:632:VAL:CG1 | 2.39 | 0.53 |
| 3:D:799:LYS:HE2 | 3:D:824:ASN:O | 2.08 | 0.53 |
| 3:D:875:THR:HG22 | 3:D:876:SER:N | 2.24 | 0.53 |
| 3:D:897:TRP:CA | 3:D:900:ILE:CD1 | 2.81 | 0.53 |
| 3:D:911:LEU:O | 3:D:915:VAL:HG23 | 2.09 | 0.53 |
| 1:K:96:THR:O | 1:K:96:THR:HG23 | 2.07 | 0.53 |
| 2:M:129:ILE:CD1 | 2:M:134:ARG:HB2 | 2.36 | 0.53 |
| 2:M:791:ARG:O | 2:M:793:PRO:HD3 | 2.09 | 0.53 |
| 2:M:861:LEU:HD23 | 2:M:862:PRO:CD | 2.38 | 0.53 |
| 2:M:6:PHE:HD1 | 2:M:903:SER:HA | 1.74 | 0.53 |
| 2:M:976:ASP:OD1 | 2:M:978:ARG:HB2 | 2.08 | 0.53 |
| 2:M:516:ARG:NH1 | 3:N:1068:LEU:HD22 | 2.23 | 0.53 |
| 3:N:1068:LEU:O | 3:N:1072:ILE:HG12 | 2.09 | 0.53 |
| 3:N:107:ASP:CG | 3:N:109:PRO:HD2 | 2.28 | 0.53 |
| 3:N:117:ASP:CG | 3:N:117:ASP:O | 2.48 | 0.53 |
| 3:N:1438:ALA:HA | 3:N:1446:VAL:HG21 | 1.90 | 0.53 |
| 3:N:19:ARG:HH21 | 3:N:516:ALA:CB | 1.99 | 0.53 |
| 3:N:470:LEU:HD12 | 3:N:503:LEU:CD2 | 2.39 | 0.53 |
| 1:A:73:GLU:H | 1:A:73:GLU:CD | 2.11 | 0.52 |
| 2:C:165:LEU:HB3 | 2:C:265:ARG:CZ | 2.39 | 0.52 |
| 2:C:211:LEU:HD13 | 2:C:308:ARG:HA | 1.91 | 0.52 |
| 2:C:250:ARG:HD3 | 2:C:253:ALA:HB3 | 1.89 | 0.52 |
| 2:C:403:SER:O | 2:C:407:LYS:HG3 | 2.09 | 0.52 |
| 2:C:752:GLY:O | 3:D:679:ARG:HG2 | 2.08 | 0.52 |
| 3:D:1045:MET:HG2 | 3:D:1073:SER:HA | 1.91 | 0.52 |
| 3:D:50:PHE:CD2 | 3:D:521:PRO:HA | 2.44 | 0.52 |
| 3:D:553:ARG:O | 3:D:557:LEU:HG | 2.09 | 0.52 |
| 3:D:706:PRO:HG2 | 6:H:15:C:O2 | 2.08 | 0.52 |
| 3:D:900:ILE:O | 3:D:902:LEU:HD22 | 2.08 | 0.52 |
| 1:K:50:GLY:HA3 | 1:K:171:PHE:O | 2.09 | 0.52 |
| 1:L:46:SER:O | 1:L:148:VAL:HB | 2.09 | 0.52 |
| 2:M:230:ARG:HH11 | 2:M:230:ARG:HG2 | 1.75 | 0.52 |
| 2:M:405:ARG:NH1 | 2:M:566:THR:HG21 | 2.24 | 0.52 |
| 2:M:683:ASN:HA | 2:M:687:ALA:O | 2.10 | 0.52 |
| 2:M:684:PHE:HD2 | 3:N:740:PHE:HD1 | 1.57 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 2:M:83:CYS:HA | 2:M:88:LEU:HB2 | 1.92 | 0.52 |
| 2:M:843:HIS:CE1 | 2:M:887:GLU:OE2 | 2.62 | 0.52 |
| 3:N:1280:VAL:HB | 3:N:1316:GLY:O | 2.09 | 0.52 |
| 3:N:1395:LEU:HD23 | 3:N:1396:GLU:N | 2.24 | 0.52 |
| 6:Y:6:C:N4 | 6:Y:7:G:C6 | 2.77 | 0.52 |
| 2:C:1056:LYS:HD3 | 3:D:623:VAL:CG1 | 2.39 | 0.52 |
| 2:C:264:PRO:HB3 | 2:C:289:THR:CB | 2.39 | 0.52 |
| 2:C:398:THR:HB | 2:C:399:ASN:HD22 | 1.73 | 0.52 |
| 2:C:644:VAL:HG22 | 2:C:647:GLN:OE1 | 2.09 | 0.52 |
| 2:C:71:TYR:H | 2:C:71:TYR:HD2 | 1.54 | 0.52 |
| 3:D:1103:HIS:CD2 | 3:D:1104:GLU:H | 2.25 | 0.52 |
| 3:D:1380:GLU:CG | 3:D:1381:VAL:H | 2.20 | 0.52 |
| 3:D:486:ARG:O | 3:D:490:ALA:HB2 | 2.08 | 0.52 |
| 3:D:618:LEU:HD12 | 3:D:1467:ILE:HD11 | 1.89 | 0.52 |
| 3:D:637:LEU:HD21 | 3:D:642:CYS:HA | 1.91 | 0.52 |
| 3:D:705:ALA:HB1 | 6:H:14:G:C2 | 2.27 | 0.52 |
| 1:K:49:PRO:HA | 1:K:148:VAL:HG22 | 1.91 | 0.52 |
| 2:M:211:LEU:HD13 | 2:M:308:ARG:CG | 2.39 | 0.52 |
| 2:M:758:ARG:CZ | 2:M:788:THR:HB | 2.39 | 0.52 |
| 2:M:878:SER:HB3 | 3:N:1029:ARG:HG3 | 1.91 | 0.52 |
| 3:N:539:ASP:N | 3:N:539:ASP:OD2 | 2.36 | 0.52 |
| 2:C:1038:TRP:O | 2:C:1041:GLU:HB2 | 2.08 | 0.52 |
| 2:C:185:LYS:HD3 | 2:C:190:LYS:HZ3 | 1.75 | 0.52 |
| 2:C:260:LEU:HD12 | 2:C:261:ILE:N | 2.24 | 0.52 |
| 2:C:6:PHE:N | 2:C:6:PHE:CD1 | 2.76 | 0.52 |
| 2:C:846:LYS:HD3 | 6:H:14:G:OP1 | 2.09 | 0.52 |
| 2:C:862:PRO:HA | 2:C:975:TYR:CE1 | 2.45 | 0.52 |
| 3:D:1045:MET:HE2 | 3:D:1076:GLY:CA | 2.34 | 0.52 |
| 3:D:1094:LEU:HD22 | 3:D:1256:LEU:HD11 | 1.90 | 0.52 |
| 3:D:1388:ARG:CD | 3:D:1388:ARG:H | 2.22 | 0.52 |
| 3:D:25:GLU:HG3 | 3:D:92:HIS:O | 2.09 | 0.52 |
| 3:D:30:GLU:HB3 | 3:D:40:GLU:CB | 2.39 | 0.52 |
| 3:D:134:VAL:HG22 | 3:D:455:ARG:O | 2.08 | 0.52 |
| 3:D:860:LEU:HB2 | 3:D:861:GLN:OE1 | 2.10 | 0.52 |
| 5:G:7:DA:H2' | 5:G:8:DC:C6 | 2.44 | 0.52 |
| 7:I:5:DC:O5' | 7:I:5:DC:H6 | 1.91 | 0.52 |
| 1:K:189:ARG:HG3 | 1:K:189:ARG:HH11 | 1.74 | 0.52 |
| 2:M:1008:ARG:HA | 3:N:651:GLU:OE2 | 2.09 | 0.52 |
| 2:M:274:ARG:HG3 | 2:M:285:LEU:HD22 | 1.91 | 0.52 |
| 2:M:428:ARG:NH1 | 2:M:449:ILE:HG22 | 2.24 | 0.52 |
| 2:M:7:GLY:N | 2:M:904:PRO:HD2 | 2.13 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:N:785:ILE:HD11 | 3:N:939:PHE:CE2 | 2.45 | 0.52 |
| 4:O:23:VAL:HG22 | 4:O:68:LEU:HD22 | 1.91 | 0.52 |
| 2:C:305:PRO:HA | 2:C:308:ARG:HB2 | 1.92 | 0.52 |
| 2:C:66:LEU:HD12 | 2:C:99:GLN:O | 2.10 | 0.52 |
| 2:C:635:THR:O | 2:C:705:ILE:HD12 | 2.09 | 0.52 |
| 3:D:1440:PHE:CG | 3:D:1441:GLN:N | 2.77 | 0.52 |
| 3:D:1462:LEU:N | 3:D:1462:LEU:HD23 | 2.25 | 0.52 |
| 3:D:29:PRO:HD3 | 3:D:548:ILE:HG21 | 1.92 | 0.52 |
| 3:D:30:GLU:HB2 | 3:D:41:ARG:CG | 2.39 | 0.52 |
| 3:D:630:VAL:HG12 | 3:D:631:ILE:N | 2.23 | 0.52 |
| 2:C:1042:ALA:HB1 | 3:D:710:ARG:HB3 | 1.89 | 0.52 |
| 3:D:764:LEU:HD11 | 3:D:766:ALA:HB3 | 1.91 | 0.52 |
| 2:C:567:GLN:NE2 | 6:H:12:U:O2' | 2.41 | 0.52 |
| 2:M:1062:GLY:O | 2:M:1066:ALA:CB | 2.57 | 0.52 |
| 2:M:12:VAL:HG22 | 2:M:13:ILE:HG23 | 1.90 | 0.52 |
| 2:M:395:LYS:HE2 | 2:M:403:SER:CB | 2.31 | 0.52 |
| 2:M:436:GLY:HA2 | 2:M:539:VAL:HA | 1.92 | 0.52 |
| 2:M:714:ASP:OD1 | 2:M:820:ARG:HD2 | 2.09 | 0.52 |
| 2:M:6:PHE:CD1 | 2:M:903:SER:HA | 2.45 | 0.52 |
| 2:M:77:PRO:HD2 | 2:M:91:GLN:O | 2.09 | 0.52 |
| 3:N:1147:ARG:HH22 | 3:N:1369:GLU:CD | 2.13 | 0.52 |
| 3:N:646:LYS:CB | 3:N:688:TRP:CH2 | 2.93 | 0.52 |
| 3:N:99:ALA:HA | 3:N:458:ALA:CB | 2.40 | 0.52 |
| 1:A:161:ARG:HB2 | 1:A:161:ARG:NH1 | 2.25 | 0.52 |
| 2:C:1030:GLN:OE1 | 3:D:628:ARG:HD3 | 2.09 | 0.52 |
| 1:A:180:GLN:CD | 2:C:937:ASP:HB2 | 2.29 | 0.52 |
| 3:D:1084:THR:CA | 3:D:1087:ARG:HG2 | 2.40 | 0.52 |
| 3:D:1335:LEU:HD12 | 3:D:1335:LEU:O | 2.09 | 0.52 |
| 3:D:1388:ARG:CD | 3:D:1388:ARG:N | 2.68 | 0.52 |
| 3:D:613:ARG:HH11 | 3:D:616:GLN:CG | 2.20 | 0.52 |
| 3:D:714:GLN:HB3 | 3:D:765:SER:HB3 | 1.91 | 0.52 |
| 5:G:6:DT:C4' | 5:G:6:DT:OP1 | 2.54 | 0.52 |
| 1:K:206:THR:HG23 | 1:K:209:GLU:H | 1.73 | 0.52 |
| 2:M:397:GLU:C | 2:M:633:GLN:HG2 | 2.30 | 0.52 |
| 2:M:422:ARG:HB3 | 7:Z:1:DG:N3 | 2.24 | 0.52 |
| 2:M:433:THR:HG22 | 2:M:437:ARG:NH1 | 2.24 | 0.52 |
| 2:M:518:LYS:HB3 | 2:M:518:LYS:NZ | 2.23 | 0.52 |
| 2:M:524:VAL:HG12 | 2:M:525:SER:H | 1.74 | 0.52 |
| 1:K:72:LYS:O | 2:M:608:GLY:CA | 2.58 | 0.52 |
| 2:M:767:PRO:CB | 2:M:772:ARG:HH21 | 2.22 | 0.52 |
| 3:N:1106:VAL:HG12 | 3:N:1107:VAL:N | 2.24 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 3:N:1340:GLY:O | 3:N:1344:VAL:HG22 | 2.10 | 0.52 |
| 3:N:405:ASP:HB2 | 3:N:423:ASP:OD1 | 2.09 | 0.52 |
| 3:N:697:GLY:O | 3:N:699:VAL:HG13 | 2.09 | 0.52 |
| 2:M:685:GLU:OE2 | 3:N:783:ARG:NH1 | 2.43 | 0.52 |
| 3:N:804:LEU:HD12 | 3:N:830:ALA:O | 2.10 | 0.52 |
| 6:Y:6:C:C4 | 6:Y:7:G:C6 | 2.98 | 0.52 |
| 1:A:35:THR:HG21 | 1:B:43:ILE:HG12 | 1.92 | 0.52 |
| 2:C:92:ALA:HB2 | 2:C:120:LEU:HD21 | 1.92 | 0.52 |
| 2:C:405:ARG:C | 2:C:407:LYS:N | 2.59 | 0.52 |
| 2:C:439:CYS:SG | 2:C:541:SER:HB3 | 2.49 | 0.52 |
| 2:C:957:LYS:CG | 2:C:961:GLU:HB2 | 2.40 | 0.52 |
| 2:C:987:ILE:HG12 | 3:D:948:THR:CG2 | 2.39 | 0.52 |
| 3:D:794:GLN:OE1 | 3:D:905:PRO:HG2 | 2.09 | 0.52 |
| 2:M:1014:SER:O | 2:M:1017:THR:O | 2.27 | 0.52 |
| 2:M:1031:ARG:HA | 3:N:621:LYS:O | 2.09 | 0.52 |
| 2:M:384:GLU:O | 2:M:388:ARG:HB2 | 2.09 | 0.52 |
| 2:M:387:SER:OG | 2:M:388:ARG:HD2 | 2.10 | 0.52 |
| 2:M:83:CYS:HA | 2:M:88:LEU:CB | 2.39 | 0.52 |
| 2:M:905:ILE:N | 2:M:905:ILE:HD12 | 2.25 | 0.52 |
| 3:N:1102:THR:O | 3:N:1103:HIS:C | 2.46 | 0.52 |
| 3:N:1441:GLN:CG | 3:N:1442:ASN:N | 2.73 | 0.52 |
| 3:N:806:PHE:HE1 | 3:N:813:LEU:HB3 | 1.74 | 0.52 |
| 3:N:820:GLU:HA | 3:N:825:ALA:O | 2.09 | 0.52 |
| 3:N:838:ARG:HG2 | 3:N:838:ARG:HH11 | 1.74 | 0.52 |
| 5:X:12:DA:C2 | 5:X:13:DA:C2 | 2.97 | 0.52 |
| 1:A:54:THR:HB | 1:A:143:ARG:CG | 2.39 | 0.52 |
| 2:C:1037:VAL:CG1 | 2:C:1041:GLU:OE2 | 2.58 | 0.52 |
| 2:C:532:MET:HE3 | 2:C:533:ASP:O | 2.10 | 0.52 |
| 2:C:724:ARG:HG2 | 2:C:724:ARG:O | 2.09 | 0.52 |
| 2:C:862:PRO:HD2 | 2:C:925:TYR:OH | 2.09 | 0.52 |
| 3:D:1200:VAL:CG1 | 3:D:1201:CYS:N | 2.72 | 0.52 |
| 3:D:42:ASP:OD2 | 3:D:48:ARG:NH2 | 2.33 | 0.52 |
| 3:D:530:VAL:O | 3:D:531:ASP:OD1 | 2.28 | 0.52 |
| 2:C:729:LEU:HD13 | 3:D:675:ARG:HH11 | 1.74 | 0.52 |
| 2:C:1043:TYR:HE1 | 3:D:710:ARG:O | 1.92 | 0.52 |
| 1:K:206:THR:CG2 | 1:K:209:GLU:H | 2.22 | 0.52 |
| 2:M:328:LEU:H | 2:M:328:LEU:HD13 | 1.74 | 0.52 |
| 2:M:405:ARG:NH2 | 2:M:566:THR:HG21 | 2.24 | 0.52 |
| 2:M:674:VAL:CG2 | 2:M:869:VAL:HG13 | 2.39 | 0.52 |
| 2:M:577:PRO:HG3 | 2:M:993:PHE:CZ | 2.45 | 0.52 |
| 3:N:1326:THR:C | 3:N:1327:ARG:HG3 | 2.29 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:N:143:ASN:CG | 3:N:145:VAL:H | 2.12 | 0.52 |
| 3:N:472:ALA:HA | 3:N:475:LYS:HD3 | 1.91 | 0.52 |
| 3:N:646:LYS:NZ | 3:N:688:TRP:CD1 | 2.70 | 0.52 |
| 1:A:178:ALA:HB3 | 1:A:198:ARG:HG3 | 1.92 | 0.52 |
| 1:A:7:LYS:HG2 | 1:A:7:LYS:O | 2.08 | 0.52 |
| 1:B:28:LEU:HG | 1:B:193:ASP:O | 2.10 | 0.52 |
| 2:C:829:GLN:O | 2:C:831:ARG:N | 2.41 | 0.52 |
| 2:C:553:ASP:OD1 | 2:C:843:HIS:ND1 | 2.41 | 0.52 |
| 3:D:1225:ALA:HA | 3:D:1367:HIS:CE1 | 2.45 | 0.52 |
| 3:D:1435:LEU:HD13 | 3:D:1457:ASP:OD2 | 2.09 | 0.52 |
| 3:D:699:VAL:HG22 | 3:D:756:GLN:OE1 | 2.09 | 0.52 |
| 3:D:50:PHE:O | 3:D:89:ARG:HD2 | 2.10 | 0.52 |
| 5:G:13:DA:O5' | 5:G:13:DA:H2' | 2.10 | 0.52 |
| 1:K:123:MET:C | 1:K:125:PRO:HD3 | 2.30 | 0.52 |
| 2:M:10:ARG:N | 2:M:10:ARG:HH11 | 2.08 | 0.52 |
| 2:M:328:LEU:H | 2:M:328:LEU:CD1 | 2.23 | 0.52 |
| 3:N:107:ASP:OD2 | 3:N:1445:HIS:HA | 2.10 | 0.52 |
| 3:N:1087:ARG:HG2 | 3:N:1087:ARG:HH11 | 1.74 | 0.52 |
| 3:N:1166:LEU:HD12 | 3:N:1171:VAL:HG22 | 1.92 | 0.52 |
| 3:N:520:LEU:HD11 | 3:N:524:LEU:CD2 | 2.40 | 0.52 |
| 3:N:563:PRO:HG3 | 3:N:566:ILE:HD12 | 1.92 | 0.52 |
| 3:N:821:VAL:HG22 | 3:N:840:LYS:NZ | 2.25 | 0.52 |
| 5:X:17:DA:H2'' | 5:X:17:DA:O5' | 2.09 | 0.52 |
| 3:N:1088:THR:HG21 | 5:X:19:DG:C2 | 2.45 | 0.52 |
| 2:C:426:ASP:HA | 2:C:429:ASP:OD2 | 2.10 | 0.52 |
| 2:C:634:GLY:O | 2:C:705:ILE:HB | 2.10 | 0.52 |
| 2:C:902:ILE:O | 2:C:904:PRO:HD3 | 2.10 | 0.52 |
| 3:D:1153:VAL:HA | 3:N:561:GLY:HA3 | 1.92 | 0.52 |
| 3:D:17:LYS:HG2 | 3:D:21:TRP:HE1 | 1.75 | 0.52 |
| 2:C:729:LEU:CD1 | 3:D:675:ARG:HD2 | 2.40 | 0.52 |
| 3:D:781:PRO:HG2 | 3:D:911:LEU:HD23 | 1.92 | 0.52 |
| 5:G:10:DA:H2'' | 5:G:11:DC:C6 | 2.45 | 0.52 |
| 5:G:16:DT:H1' | 5:G:17:DA:OP1 | 2.09 | 0.52 |
| 1:K:56:VAL:HG12 | 1:K:57:TYR:N | 2.25 | 0.52 |
| 2:M:1034:GLU:HG2 | 3:N:619:LEU:HD13 | 1.92 | 0.52 |
| 2:M:1078:GLU:HA | 2:M:1078:GLU:OE1 | 2.10 | 0.52 |
| 2:M:396:ASP:CG | 2:M:396:ASP:O | 2.48 | 0.52 |
| 2:M:523:ILE:O | 2:M:523:ILE:HG23 | 2.10 | 0.52 |
| 2:M:841:ASN:ND2 | 2:M:843:HIS:ND1 | 2.57 | 0.52 |
| 3:N:1189:ARG:HH11 | 3:N:1189:ARG:HG3 | 1.74 | 0.52 |
| 3:N:1267:ARG:HD3 | 3:N:1268:PRO:O | 2.09 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:N:445:ARG:HG2 | 3:N:445:ARG:HH11 | 1.74 | 0.52 |
| 3:N:480:GLU:O | 3:N:489:ARG:HB2 | 2.10 | 0.52 |
| 4:O:54:LEU:CG | 4:O:58:PRO:HG2 | 2.40 | 0.52 |
| 1:A:104:GLU:OE1 | 1:A:137:ARG:HA | 2.09 | 0.52 |
| 1:B:101:LEU:HD12 | 1:B:114:PHE:N | 2.25 | 0.52 |
| 1:B:206:THR:HG23 | 1:B:208:LEU:N | 2.25 | 0.52 |
| 1:B:43:ILE:HG13 | 1:B:218:LEU:HD13 | 1.91 | 0.52 |
| 2:C:333:ILE:HD12 | 2:C:333:ILE:N | 2.25 | 0.52 |
| 2:C:626:ARG:O | 2:C:638:ASP:HA | 2.09 | 0.52 |
| 2:C:855:VAL:HA | 2:C:858:MET:HG2 | 1.90 | 0.52 |
| 2:C:957:LYS:CD | 2:C:961:GLU:HB2 | 2.40 | 0.52 |
| 3:D:608:SER:HA | 3:D:1443:THR:HG21 | 1.92 | 0.52 |
| 3:D:1447:LEU:HD12 | 3:D:1447:LEU:N | 2.24 | 0.52 |
| 3:D:133:ILE:HB | 3:D:153:LEU:O | 2.08 | 0.52 |
| 3:D:54:LYS:O | 3:D:55:ASP:C | 2.48 | 0.52 |
| 3:D:834:THR:HG22 | 3:D:838:ARG:NH1 | 2.17 | 0.52 |
| 3:D:22:SER:HG | 3:D:92:HIS:CG | 2.28 | 0.52 |
| 5:G:3:DC:O5' | 5:G:3:DC:C6 | 2.63 | 0.52 |
| 1:L:62:LEU:CD1 | 1:L:63:HIS:H | 2.21 | 0.52 |
| 2:M:142:ARG:HE | 2:M:325:ILE:HG23 | 1.74 | 0.52 |
| 2:M:162:ILE:HD12 | 2:M:172:ILE:HB | 1.92 | 0.52 |
| 2:M:265:ARG:HG2 | 2:M:267:TYR:HB3 | 1.91 | 0.52 |
| 2:M:328:LEU:N | 2:M:328:LEU:CD1 | 2.73 | 0.52 |
| 2:M:937:ASP:OD2 | 2:M:939:ARG:CG | 2.58 | 0.52 |
| 2:M:939:ARG:HG3 | 2:M:975:TYR:CE2 | 2.45 | 0.52 |
| 3:N:1011:PHE:HB3 | 3:N:1021:TYR:CG | 2.45 | 0.52 |
| 3:N:1229:ILE:HD11 | 3:N:1367:HIS:CB | 2.40 | 0.52 |
| 3:N:123:LEU:O | 3:N:126:VAL:HB | 2.10 | 0.52 |
| 3:N:1445:HIS:CD2 | 3:N:1449:GLU:HB2 | 2.45 | 0.52 |
| 3:N:1486:VAL:CG2 | 4:O:29:GLN:HE22 | 2.23 | 0.52 |
| 3:N:415:VAL:HG12 | 3:N:416:ALA:N | 2.25 | 0.52 |
| 3:N:473:LEU:HA | 3:N:476:GLU:HB2 | 1.92 | 0.52 |
| 3:N:626:SER:O | 3:N:652:LEU:HD11 | 2.10 | 0.52 |
| 3:N:703:ASN:CA | 3:N:713:ILE:HG12 | 2.40 | 0.52 |
| 3:N:838:ARG:N | 3:N:838:ARG:HD2 | 2.25 | 0.52 |
| 3:N:87:ARG:HB2 | 3:N:524:LEU:HD12 | 1.92 | 0.52 |
| 3:N:899:LEU:HD13 | 3:N:914:LEU:HD23 | 1.92 | 0.52 |
| 2:C:1031:ARG:NE | 3:D:621:LYS:HD2 | 2.25 | 0.51 |
| 2:C:1038:TRP:HD1 | 2:C:1041:GLU:OE2 | 1.93 | 0.51 |
| 2:C:124:ASP:OD1 | 2:C:125:GLY:N | 2.43 | 0.51 |
| 2:C:39:ARG:HD2 | 2:C:39:ARG:H | 1.75 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 2:C:409:ARG:NH1 | 2:C:444:PRO:CG | 2.73 | 0.51 |
| 2:C:460:ARG:HG2 | 2:C:485:TYR:CD2 | 2.45 | 0.51 |
| 2:C:634:GLY:O | 2:C:705:ILE:N | 2.36 | 0.51 |
| 3:D:1105:ILE:HG12 | 3:D:1374:GLN:NE2 | 2.25 | 0.51 |
| 3:D:1111:ASP:CG | 3:D:1203:LYS:HD2 | 2.31 | 0.51 |
| 3:D:1127:GLU:O | 3:D:1128:VAL:HG23 | 2.10 | 0.51 |
| 3:D:1347:TYR:CZ | 3:D:1351:GLU:HG2 | 2.45 | 0.51 |
| 3:D:696:HIS:CG | 3:D:697:GLY:N | 2.79 | 0.51 |
| 3:D:640:HIS:HE2 | 3:D:717:GLN:CD | 2.13 | 0.51 |
| 4:E:59:ASN:O | 4:E:63:TRP:CD1 | 2.64 | 0.51 |
| 3:D:1409:ALA:HA | 2:M:370:ALA:CB | 2.40 | 0.51 |
| 2:M:494:TYR:N | 2:M:494:TYR:CD1 | 2.77 | 0.51 |
| 2:M:442:GLU:OE2 | 2:M:543:ASN:HB3 | 2.09 | 0.51 |
| 2:M:881:ASN:O | 2:M:884:GLN:HG3 | 2.10 | 0.51 |
| 2:M:941:VAL:HA | 2:M:944:LEU:HD12 | 1.91 | 0.51 |
| 3:N:29:PRO:HD3 | 3:N:548:ILE:HG21 | 1.92 | 0.51 |
| 3:N:502:PHE:CZ | 3:N:1452:ILE:HG13 | 2.45 | 0.51 |
| 3:N:729:HIS:ND1 | 3:N:730:PRO:HD2 | 2.25 | 0.51 |
| 7:Z:12:DT:O5' | 7:Z:12:DT:H6 | 1.93 | 0.51 |
| 2:C:265:ARG:C | 2:C:267:TYR:H | 2.11 | 0.51 |
| 2:C:395:LYS:HZ2 | 2:C:407:LYS:NZ | 2.06 | 0.51 |
| 2:C:328:LEU:CB | 2:C:433:THR:HB | 2.40 | 0.51 |
| 2:C:572:ILE:HG13 | 2:C:573:ARG:N | 2.25 | 0.51 |
| 2:C:713:ARG:HB3 | 2:C:720:GLU:OE2 | 2.10 | 0.51 |
| 2:C:964:LYS:O | 2:C:968:LEU:HG | 2.11 | 0.51 |
| 3:D:1237:THR:HB | 3:D:1359:GLN:CD | 2.31 | 0.51 |
| 3:D:786:ILE:HA | 3:D:789:LEU:HD12 | 1.92 | 0.51 |
| 3:D:983:LEU:HG | 3:D:984:THR:N | 2.24 | 0.51 |
| 1:K:101:LEU:HB2 | 1:K:114:PHE:HA | 1.91 | 0.51 |
| 2:M:1092:LEU:HB3 | 2:M:1099:VAL:CG2 | 2.40 | 0.51 |
| 2:M:1102:LEU:O | 3:N:5:VAL:HG12 | 2.10 | 0.51 |
| 2:M:1103:ASP:CG | 2:M:1104:GLU:H | 2.13 | 0.51 |
| 2:M:578:VAL:HG13 | 2:M:671:ASN:CG | 2.31 | 0.51 |
| 2:M:905:ILE:H | 2:M:905:ILE:CD1 | 2.23 | 0.51 |
| 2:M:988:VAL:HG11 | 3:N:949:ILE:O | 2.10 | 0.51 |
| 3:N:1292:VAL:HG22 | 3:N:1311:LEU:CD1 | 2.40 | 0.51 |
| 3:N:34:TYR:CD2 | 3:N:34:TYR:N | 2.78 | 0.51 |
| 3:N:434:ARG:HB3 | 3:N:434:ARG:NH1 | 2.24 | 0.51 |
| 3:N:115:LEU:HD12 | 3:N:498:VAL:HG12 | 1.91 | 0.51 |
| 3:N:584:ASN:CG | 3:N:590:PRO:HD2 | 2.30 | 0.51 |
| 3:N:782:SER:O | 3:N:786:ILE:HB | 2.10 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:N:868:TYR:CE1 | 3:N:869:MET:HG3 | 2.45 | 0.51 |
| 1:A:33:GLY:O | 1:A:195:LEU:HD22 | 2.10 | 0.51 |
| 1:A:42:ARG:HH12 | 1:B:34:VAL:CG1 | 2.23 | 0.51 |
| 1:B:219:ARG:HA | 1:B:222:LEU:HD12 | 1.92 | 0.51 |
| 2:C:1038:TRP:HA | 2:C:1041:GLU:HB2 | 1.92 | 0.51 |
| 2:C:214:TYR:HE1 | 2:C:311:PHE:HB3 | 1.75 | 0.51 |
| 2:C:21:ILE:HD12 | 2:C:21:ILE:N | 2.23 | 0.51 |
| 2:C:326:ASP:O | 2:C:431:HIS:CD2 | 2.62 | 0.51 |
| 2:C:837:ASP:HA | 2:C:999:HIS:CE1 | 2.45 | 0.51 |
| 3:D:1211:MET:SD | 3:D:1213:ARG:HG2 | 2.51 | 0.51 |
| 3:D:1330:ILE:HD13 | 3:D:1347:TYR:CZ | 2.46 | 0.51 |
| 3:D:629:SER:HB3 | 3:D:726:ILE:CD1 | 2.40 | 0.51 |
| 3:D:917:GLN:O | 3:D:920:LEU:HB2 | 2.09 | 0.51 |
| 6:H:12:U:C6 | 6:H:12:U:H3' | 2.45 | 0.51 |
| 1:L:122:ILE:HG22 | 1:L:124:ASN:H | 1.76 | 0.51 |
| 2:M:336:VAL:HA | 2:M:339:LEU:HD12 | 1.92 | 0.51 |
| 3:N:112:ILE:HD12 | 3:N:116:LEU:HB2 | 1.93 | 0.51 |
| 3:N:1380:GLU:HB2 | 3:N:1420:LEU:HD11 | 1.92 | 0.51 |
| 3:N:1466:VAL:O | 3:N:1469:GLY:N | 2.42 | 0.51 |
| 3:N:529:GLN:HB2 | 3:N:535:PHE:CZ | 2.46 | 0.51 |
| 3:N:545:ARG:NH1 | 3:N:545:ARG:HB3 | 2.26 | 0.51 |
| 3:N:733:CYS:HB3 | 3:N:738:ALA:O | 2.10 | 0.51 |
| 2:M:1075:ASP:HB3 | 4:O:32:ARG:NH2 | 2.25 | 0.51 |
| 2:M:1001:VAL:HG21 | 5:X:24:DC:C5' | 2.39 | 0.51 |
| 5:X:3:DC:C2' | 5:X:4:DA:OP2 | 2.53 | 0.51 |
| 7:Z:17:DA:O5' | 7:Z:17:DA:H8 | 1.94 | 0.51 |
| 1:B:9:PRO:HB3 | 1:B:25:LEU:CG | 2.40 | 0.51 |
| 2:C:52:PHE:CE2 | 2:C:68:PHE:CB | 2.72 | 0.51 |
| 2:C:631:SER:HA | 2:C:637:LEU:HD11 | 1.93 | 0.51 |
| 2:C:668:LEU:O | 2:C:993:PHE:CZ | 2.64 | 0.51 |
| 3:D:800:LYS:HD2 | 3:D:804:LEU:HD22 | 1.92 | 0.51 |
| 4:E:28:GLN:HB3 | 4:E:32:ARG:NH1 | 2.20 | 0.51 |
| 5:G:16:DT:C2' | 5:G:17:DA:OP1 | 2.58 | 0.51 |
| 6:H:15:C:C6 | 6:H:15:C:OP2 | 2.56 | 0.51 |
| 7:I:11:DG:P | 7:I:11:DG:H8 | 2.34 | 0.51 |
| 1:L:80:LEU:HD12 | 1:L:83:LYS:HZ1 | 1.76 | 0.51 |
| 2:M:101:ILE:HG22 | 2:M:102:HIS:N | 2.24 | 0.51 |
| 2:M:767:PRO:HB3 | 2:M:772:ARG:HH21 | 1.74 | 0.51 |
| 3:N:1031:ASN:OD1 | 3:N:1033:GLN:CB | 2.57 | 0.51 |
| 3:N:1114:THR:CB | 3:N:1195:GLN:HB3 | 2.36 | 0.51 |
| 3:N:1280:VAL:HG12 | 3:N:1318:TYR:N | 2.26 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 3:N:160:GLU:HB3 | 3:N:165:LYS:HB2 | 1.92 | 0.51 |
| 3:N:114:THR:O | 3:N:495:ARG:HG3 | 2.10 | 0.51 |
| 2:C:1115:LEU:HD22 | 3:D:88:TYR:CE1 | 2.46 | 0.51 |
| 2:C:17:PRO:O | 2:C:20:GLU:HB3 | 2.10 | 0.51 |
| 2:C:334:ARG:HB2 | 2:C:339:LEU:HD21 | 1.93 | 0.51 |
| 2:C:405:ARG:HG3 | 2:C:442:GLU:OE1 | 2.09 | 0.51 |
| 2:C:460:ARG:NH1 | 2:C:462:ASP:HA | 2.25 | 0.51 |
| 2:C:603:VAL:HB | 2:C:647:GLN:H | 1.75 | 0.51 |
| 2:C:726:ILE:HD13 | 2:C:734:LEU:HG | 1.92 | 0.51 |
| 2:C:737:LEU:HD21 | 2:C:741:GLY:C | 2.30 | 0.51 |
| 3:D:1263:PHE:HB3 | 3:D:1424:VAL:CG1 | 2.40 | 0.51 |
| 3:D:804:LEU:CD1 | 3:D:830:ALA:O | 2.58 | 0.51 |
| 7:I:11:DG:H2'' | 7:I:12:DT:C7 | 2.40 | 0.51 |
| 1:K:66:SER:O | 1:K:75:VAL:HG23 | 2.11 | 0.51 |
| 2:M:144:PRO:HA | 2:M:163:ILE:O | 2.11 | 0.51 |
| 2:M:397:GLU:OE2 | 2:M:632:ASN:HB2 | 2.10 | 0.51 |
| 2:M:927:GLY:CA | 2:M:930:LYS:HD3 | 2.36 | 0.51 |
| 2:M:516:ARG:CZ | 3:N:1068:LEU:HB2 | 2.40 | 0.51 |
| 3:N:520:LEU:HG | 3:N:521:PRO:N | 2.24 | 0.51 |
| 3:D:1153:VAL:HG13 | 3:N:561:GLY:CA | 2.41 | 0.51 |
| 3:N:715:ALA:HB3 | 3:N:764:LEU:CA | 2.40 | 0.51 |
| 7:Z:15:DT:C2' | 7:Z:16:DG:OP2 | 2.57 | 0.51 |
| 1:A:197:LEU:HD23 | 1:A:197:LEU:N | 2.26 | 0.51 |
| 2:C:134:ARG:NH2 | 2:C:392:SER:O | 2.44 | 0.51 |
| 2:C:869:VAL:HG22 | 2:C:870:ILE:N | 2.24 | 0.51 |
| 3:D:1017:PHE:HA | 3:D:1022:VAL:CG2 | 2.40 | 0.51 |
| 3:D:131:LYS:HG3 | 3:D:568:ARG:CG | 2.41 | 0.51 |
| 3:D:732:VAL:HG23 | 3:D:736:PHE:HE1 | 1.76 | 0.51 |
| 4:E:47:LYS:N | 4:E:54:LEU:HD13 | 2.26 | 0.51 |
| 1:K:92:PRO:HG3 | 1:K:146:ARG:HH22 | 1.76 | 0.51 |
| 1:L:71:VAL:HG22 | 1:L:132:LEU:HD12 | 1.93 | 0.51 |
| 2:M:260:LEU:HB3 | 2:M:291:ALA:HB2 | 1.90 | 0.51 |
| 2:M:265:ARG:HD3 | 2:M:267:TYR:HB3 | 1.92 | 0.51 |
| 2:M:211:LEU:HD13 | 2:M:308:ARG:HG3 | 1.92 | 0.51 |
| 2:M:833:LEU:HD12 | 2:M:996:LYS:HE2 | 1.92 | 0.51 |
| 2:M:71:TYR:HA | 2:M:96:ALA:CB | 2.41 | 0.51 |
| 3:N:107:ASP:O | 3:N:108:VAL:C | 2.46 | 0.51 |
| 3:N:1236:LEU:C | 3:N:1237:THR:OG1 | 2.49 | 0.51 |
| 3:N:33:ASN:HB2 | 3:N:40:GLU:CD | 2.30 | 0.51 |
| 3:N:680:GLN:O | 3:N:683:ILE:HD12 | 2.10 | 0.51 |
| 7:Z:2:DT:H2'' | 7:Z:3:DA:OP2 | 2.10 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 1:A:161:ARG:HB2 | 1:A:161:ARG:CZ | 2.40 | 0.51 |
| 1:A:26:GLU:HB2 | 1:A:27:PRO:HA | 1.91 | 0.51 |
| 2:C:1103:ASP:CG | 2:C:1104:GLU:N | 2.63 | 0.51 |
| 2:C:854:PRO:HB2 | 2:C:856:GLU:CG | 2.40 | 0.51 |
| 2:C:928:LYS:HZ1 | 2:C:932:GLU:HG3 | 1.73 | 0.51 |
| 3:D:1011:PHE:HB3 | 3:D:1021:TYR:CG | 2.46 | 0.51 |
| 3:D:1377:LYS:O | 3:D:1377:LYS:HG3 | 2.10 | 0.51 |
| 2:C:684:PHE:HB3 | 3:D:740:PHE:CE1 | 2.46 | 0.51 |
| 3:D:925:GLU:HG2 | 3:D:926:LYS:N | 2.24 | 0.51 |
| 1:K:54:THR:HB | 1:K:143:ARG:CG | 2.40 | 0.51 |
| 2:M:1102:LEU:HA | 2:M:1107:ASN:O | 2.11 | 0.51 |
| 2:M:140:ILE:CD1 | 2:M:331:ARG:HH21 | 2.23 | 0.51 |
| 2:M:430:VAL:HG13 | 2:M:430:VAL:O | 2.10 | 0.51 |
| 2:M:435:TYR:O | 2:M:437:ARG:HD2 | 2.11 | 0.51 |
| 2:M:691:SER:HB3 | 2:M:868:ASP:O | 2.10 | 0.51 |
| 2:M:756:VAL:O | 2:M:789:SER:HB3 | 2.10 | 0.51 |
| 2:M:854:PRO:CB | 2:M:856:GLU:HG3 | 2.41 | 0.51 |
| 3:N:166:GLN:HA | 3:N:198:ARG:CG | 2.40 | 0.51 |
| 3:N:136:ASP:OD2 | 3:N:467:GLU:OE1 | 2.29 | 0.51 |
| 3:N:625:TYR:CE2 | 3:N:652:LEU:O | 2.64 | 0.51 |
| 3:N:695:ILE:HD11 | 3:N:718:PRO:CB | 2.31 | 0.51 |
| 3:N:704:ARG:HB3 | 3:N:736:PHE:HD2 | 1.76 | 0.51 |
| 1:A:176:ARG:HG3 | 1:A:200:TRP:CE3 | 2.45 | 0.51 |
| 1:A:65:PHE:HE1 | 2:C:799:ILE:HG21 | 1.76 | 0.51 |
| 2:C:274:ARG:O | 2:C:274:ARG:HD3 | 2.09 | 0.51 |
| 2:C:456:ALA:HB1 | 2:C:538:GLN:O | 2.11 | 0.51 |
| 3:D:116:LEU:HD22 | 3:D:118:LEU:HD11 | 1.92 | 0.51 |
| 3:D:1198:TYR:OH | 3:D:1432:LYS:NZ | 2.36 | 0.51 |
| 3:D:1383:ASP:CB | 3:D:1416:ALA:HB3 | 2.41 | 0.51 |
| 2:C:1046:ALA:HB1 | 3:D:1472:ILE:HG12 | 1.91 | 0.51 |
| 3:D:148:GLU:HB3 | 3:D:151:GLN:HB3 | 1.93 | 0.51 |
| 3:D:924:MET:HB3 | 4:E:6:ILE:CG2 | 2.41 | 0.51 |
| 3:D:1266:ARG:NH2 | 7:I:4:DG:O3' | 2.44 | 0.51 |
| 1:K:115:LEU:HD12 | 1:K:116:PRO:HD2 | 1.93 | 0.51 |
| 1:K:56:VAL:CG2 | 1:K:142:VAL:HG12 | 2.38 | 0.51 |
| 1:K:195:LEU:HD12 | 1:K:196:THR:H | 1.76 | 0.51 |
| 2:M:129:ILE:CD1 | 2:M:129:ILE:N | 2.73 | 0.51 |
| 2:M:557:ARG:NH1 | 2:M:560:MET:HG3 | 2.26 | 0.51 |
| 2:M:584:GLU:HB2 | 2:M:666:LEU:N | 2.24 | 0.51 |
| 3:N:128:TYR:HB3 | 3:N:129:PHE:CD1 | 2.46 | 0.51 |
| 3:N:1395:LEU:HA | 3:N:1398:TRP:HD1 | 1.75 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 3:N:1464:GLU:CG | 3:N:1465:ASN:N | 2.73 | 0.51 |
| 3:N:538:SER:O | 3:N:540:LEU:N | 2.44 | 0.51 |
| 3:N:710:ARG:HG3 | 3:N:711:LEU:N | 2.26 | 0.51 |
| 5:X:12:DA:N3 | 5:X:13:DA:C5 | 2.78 | 0.51 |
| 1:A:11:PHE:CA | 1:A:25:LEU:HD12 | 2.40 | 0.51 |
| 1:A:140:MET:SD | 1:A:142:VAL:HG13 | 2.50 | 0.51 |
| 1:B:83:LYS:HE2 | 1:B:168:ASP:HB2 | 1.92 | 0.51 |
| 2:C:158:TYR:CD1 | 2:C:313:LEU:HD21 | 2.46 | 0.51 |
| 2:C:286:SER:HB3 | 2:C:299:LYS:CE | 2.41 | 0.51 |
| 2:C:612:VAL:HG22 | 2:C:622:GLU:HA | 1.92 | 0.51 |
| 2:C:678:PRO:HG2 | 3:D:947:ILE:HD11 | 1.93 | 0.51 |
| 3:D:127:LEU:HB2 | 3:D:132:TYR:HB2 | 1.92 | 0.51 |
| 3:D:502:PHE:HB3 | 3:D:509:PRO:HD3 | 1.92 | 0.51 |
| 2:C:1095:LEU:CG | 3:D:603:LEU:HD13 | 2.40 | 0.51 |
| 1:K:226:SER:O | 1:K:228:PRO:HD3 | 2.10 | 0.51 |
| 2:M:1034:GLU:HA | 2:M:1037:VAL:CG2 | 2.41 | 0.51 |
| 2:M:1059:ASP:O | 2:M:1063:ARG:HD3 | 2.11 | 0.51 |
| 2:M:26:TYR:CD2 | 2:M:121:MET:HB2 | 2.46 | 0.51 |
| 2:M:350:ARG:HA | 2:M:353:ARG:NH2 | 2.26 | 0.51 |
| 2:M:532:MET:HG2 | 2:M:533:ASP:O | 2.09 | 0.51 |
| 2:M:553:ASP:HA | 2:M:881:ASN:HA | 1.93 | 0.51 |
| 3:N:1399:ASP:O | 3:N:1403:LEU:CG | 2.59 | 0.51 |
| 3:N:1445:HIS:O | 3:N:1446:VAL:C | 2.49 | 0.51 |
| 3:N:610:LYS:HA | 3:N:615:ARG:NE | 2.25 | 0.51 |
| 3:N:868:TYR:CD1 | 3:N:869:MET:HG3 | 2.46 | 0.51 |
| 5:X:12:DA:N3 | 5:X:13:DA:C4 | 2.78 | 0.51 |
| 1:A:36:LEU:O | 1:A:39:PRO:HD2 | 2.10 | 0.51 |
| 1:B:86:VAL:HG12 | 1:B:124:ASN:HB2 | 1.92 | 0.51 |
| 2:C:430:VAL:O | 2:C:430:VAL:HG13 | 2.10 | 0.51 |
| 2:C:483:VAL:HG12 | 2:C:484:VAL:N | 2.25 | 0.51 |
| 2:C:674:VAL:CB | 2:C:869:VAL:HG13 | 2.41 | 0.51 |
| 3:D:806:PHE:O | 3:D:808:THR:N | 2.44 | 0.51 |
| 3:D:91:GLY:O | 3:D:518:PRO:HA | 2.11 | 0.51 |
| 5:G:2:DT:C2' | 5:G:3:DC:C6 | 2.94 | 0.51 |
| 7:I:3:DA:N3 | 7:I:4:DG:O4' | 2.44 | 0.51 |
| 1:L:179:PHE:HD2 | 1:L:179:PHE:N | 2.09 | 0.51 |
| 1:L:33:GLY:O | 1:L:195:LEU:HD22 | 2.11 | 0.51 |
| 3:N:126:VAL:O | 3:N:130:SER:HB3 | 2.11 | 0.51 |
| 3:N:1274:ILE:HG21 | 3:N:1301:LYS:NZ | 2.24 | 0.51 |
| 3:N:473:LEU:HA | 3:N:476:GLU:OE2 | 2.10 | 0.51 |
| 3:N:488:ARG:HG2 | 3:N:488:ARG:NH1 | 2.25 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 3:N:695:ILE:O | 3:N:698:LYS:HB2 | 2.11 | 0.51 |
| 3:N:82:LYS:HB3 | 3:N:84:ILE:HG23 | 1.93 | 0.51 |
| 5:X:13:DA:C6 | 5:X:14:DG:C6 | 2.99 | 0.51 |
| 3:N:610:LYS:HE3 | 5:X:20:DC:OP2 | 2.11 | 0.51 |
| 6:Y:8:G:C3' | 6:Y:8:G:C8 | 2.94 | 0.51 |
| 2:C:191:PHE:HB2 | 2:C:241:LEU:CD1 | 2.39 | 0.50 |
| 2:C:328:LEU:N | 2:C:328:LEU:HD12 | 2.26 | 0.50 |
| 2:C:39:ARG:O | 2:C:41:ASN:N | 2.43 | 0.50 |
| 2:C:690:ILE:HG22 | 2:C:851:LYS:O | 2.11 | 0.50 |
| 2:C:894:GLY:O | 2:C:898:GLY:N | 2.43 | 0.50 |
| 3:D:1093:TYR:OH | 3:D:1440:PHE:HE2 | 1.93 | 0.50 |
| 2:C:1045:ALA:HB2 | 3:D:763:MET:HE3 | 1.91 | 0.50 |
| 3:D:799:LYS:HD3 | 3:D:826:PRO:HG3 | 1.93 | 0.50 |
| 3:D:897:TRP:C | 3:D:900:ILE:CG1 | 2.80 | 0.50 |
| 3:D:93:ILE:O | 3:D:516:ALA:HA | 2.11 | 0.50 |
| 5:G:5:DC:O5' | 5:G:5:DC:H6 | 1.94 | 0.50 |
| 1:K:174:VAL:HG22 | 1:K:201:THR:CG2 | 2.41 | 0.50 |
| 2:M:267:TYR:CZ | 2:M:273:GLY:HA3 | 2.45 | 0.50 |
| 2:M:894:GLY:O | 2:M:898:GLY:N | 2.44 | 0.50 |
| 3:N:1122:LEU:HD13 | 3:N:1185:GLU:HA | 1.94 | 0.50 |
| 3:N:1168:MET:HG3 | 3:N:1172:HIS:NE2 | 2.25 | 0.50 |
| 3:N:127:LEU:HB3 | 3:N:132:TYR:HD1 | 1.75 | 0.50 |
| 3:N:1348:LEU:HD13 | 3:N:1348:LEU:H | 1.75 | 0.50 |
| 3:N:160:GLU:HA | 3:N:163:TYR:CE1 | 2.46 | 0.50 |
| 3:N:609:GLY:O | 3:N:615:ARG:HD3 | 2.11 | 0.50 |
| 2:M:1056:LYS:CE | 3:N:751:LEU:HD11 | 2.21 | 0.50 |
| 3:N:754:PHE:HD1 | 4:O:28:GLN:OE1 | 1.93 | 0.50 |
| 4:O:41:GLU:N | 4:O:42:PRO:CD | 2.74 | 0.50 |
| 5:X:9:DC:H2' | 5:X:10:DA:C8 | 2.46 | 0.50 |
| 7:Z:1:DG:C3' | 7:Z:1:DG:OP3 | 2.54 | 0.50 |
| 2:C:64:LEU:CD2 | 2:C:359:MET:HG3 | 2.34 | 0.50 |
| 3:D:2:LYS:O | 3:D:2:LYS:HG2 | 2.10 | 0.50 |
| 3:D:33:ASN:ND2 | 3:D:35:ARG:HH12 | 2.08 | 0.50 |
| 3:D:566:ILE:HA | 3:D:569:ASN:HB2 | 1.93 | 0.50 |
| 3:D:728:LEU:HG | 3:D:729:HIS:O | 2.11 | 0.50 |
| 3:D:902:LEU:N | 3:D:902:LEU:CD2 | 2.67 | 0.50 |
| 3:D:924:MET:N | 4:E:7:ASP:OD2 | 2.44 | 0.50 |
| 3:D:730:PRO:HG3 | 3:D:939:PHE:HZ | 1.76 | 0.50 |
| 4:E:40:LEU:CD2 | 4:E:67:GLU:HA | 2.31 | 0.50 |
| 3:D:744:GLN:NE2 | 5:G:21:DG:N2 | 2.51 | 0.50 |
| 2:C:394:PHE:CE2 | 5:G:25:DG:H4' | 2.46 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 5:G:7:DA:C2' | 5:G:8:DC:OP2 | 2.59 | 0.50 |
| 1:K:88:ARG:HH12 | 1:K:90:LEU:CD1 | 2.24 | 0.50 |
| 1:L:76:VAL:O | 1:L:80:LEU:HB2 | 2.11 | 0.50 |
| 2:M:775:ARG:CZ | 2:M:782:ALA:HB1 | 2.41 | 0.50 |
| 2:M:942:GLU:O | 2:M:946:ARG:HG3 | 2.11 | 0.50 |
| 3:N:132:TYR:CD2 | 3:N:154:THR:CB | 2.94 | 0.50 |
| 3:N:34:TYR:HD2 | 3:N:34:TYR:N | 2.10 | 0.50 |
| 3:N:583:ASP:CG | 3:N:586:ARG:HG2 | 2.32 | 0.50 |
| 2:M:685:GLU:HG2 | 3:N:739:ASP:HB2 | 1.93 | 0.50 |
| 3:N:860:LEU:HA | 3:N:877:PRO:CB | 2.33 | 0.50 |
| 3:N:87:ARG:O | 3:N:524:LEU:HD11 | 2.11 | 0.50 |
| 5:X:27:DC:H2' | 5:X:28:DG:H8 | 1.76 | 0.50 |
| 3:N:598:ARG:HD3 | 6:Y:8:G:H4' | 1.92 | 0.50 |
| 7:Z:6:DT:C2' | 7:Z:7:DT:H72 | 2.41 | 0.50 |
| 2:C:1030:GLN:OE1 | 5:G:22:DA:H5'' | 2.11 | 0.50 |
| 2:C:438:ILE:HD12 | 2:C:438:ILE:N | 2.26 | 0.50 |
| 2:C:831:ARG:CZ | 2:C:1004:LYS:NZ | 2.73 | 0.50 |
| 2:C:897:LEU:HD21 | 2:C:921:ALA:CA | 2.42 | 0.50 |
| 2:C:939:ARG:HB3 | 2:C:982:PRO:CG | 2.41 | 0.50 |
| 3:D:1443:THR:O | 3:D:1447:LEU:HD22 | 2.11 | 0.50 |
| 3:D:1468:LEU:HD22 | 3:D:1470:ARG:HB2 | 1.94 | 0.50 |
| 3:D:550:ARG:N | 3:D:550:ARG:HE | 2.10 | 0.50 |
| 3:D:582:LEU:HD23 | 3:D:603:LEU:CD1 | 2.42 | 0.50 |
| 3:D:704:ARG:HG2 | 3:D:736:PHE:CB | 2.42 | 0.50 |
| 4:E:36:LYS:HB2 | 4:E:95:VAL:CG2 | 2.41 | 0.50 |
| 4:E:57:ASP:N | 4:E:58:PRO:HD3 | 2.26 | 0.50 |
| 6:H:12:U:C6 | 6:H:12:U:C3' | 2.95 | 0.50 |
| 2:M:1012:PRO:HD3 | 2:M:1026:GLN:CG | 2.40 | 0.50 |
| 3:N:1115:THR:CG2 | 3:N:1151:ARG:NH2 | 2.75 | 0.50 |
| 3:N:133:ILE:O | 3:N:152:LEU:HB2 | 2.10 | 0.50 |
| 3:N:554:LEU:O | 3:N:558:LEU:HG | 2.11 | 0.50 |
| 3:N:575:GLN:O | 3:N:578:VAL:HB | 2.11 | 0.50 |
| 3:N:728:LEU:HG | 3:N:729:HIS:N | 2.26 | 0.50 |
| 3:N:807:ALA:HA | 3:N:833:GLU:CG | 2.42 | 0.50 |
| 1:B:56:VAL:HG12 | 1:B:57:TYR:N | 2.26 | 0.50 |
| 2:C:1081:VAL:CG2 | 2:C:1086:ARG:HH21 | 2.24 | 0.50 |
| 2:C:182:VAL:CG1 | 2:C:193:LEU:HD13 | 2.41 | 0.50 |
| 2:C:312:ALA:CB | 2:C:318:PRO:HG2 | 2.36 | 0.50 |
| 2:C:869:VAL:CG2 | 2:C:870:ILE:N | 2.74 | 0.50 |
| 2:C:996:LYS:C | 2:C:997:LEU:HD22 | 2.32 | 0.50 |
| 3:D:1128:VAL:O | 3:D:1129:THR:HG22 | 2.12 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:D:1399:ASP:O | 3:D:1403:LEU:HD12 | 2.11 | 0.50 |
| 3:D:1433:SER:HB2 | 3:D:1457:ASP:OD2 | 2.11 | 0.50 |
| 2:C:1016:ILE:CG2 | 3:D:526:PRO:HG3 | 2.42 | 0.50 |
| 3:D:820:GLU:HA | 3:D:825:ALA:O | 2.12 | 0.50 |
| 4:E:41:GLU:HG2 | 4:E:42:PRO:CD | 2.38 | 0.50 |
| 2:M:1008:ARG:HH21 | 2:M:1012:PRO:N | 2.10 | 0.50 |
| 2:M:1053:LEU:H | 2:M:1053:LEU:HD23 | 1.76 | 0.50 |
| 3:N:1393:GLN:HB2 | 3:N:1398:TRP:HZ2 | 1.76 | 0.50 |
| 3:N:420:VAL:HG12 | 3:N:421:LEU:N | 2.26 | 0.50 |
| 3:N:513:ILE:C | 3:N:513:ILE:HD12 | 2.31 | 0.50 |
| 3:N:6:ARG:HH11 | 3:N:6:ARG:HG2 | 1.76 | 0.50 |
| 7:Z:14:DG:C2' | 7:Z:15:DT:OP2 | 2.59 | 0.50 |
| 1:A:57:TYR:CE1 | 1:A:163:ASN:HB2 | 2.45 | 0.50 |
| 2:C:355:VAL:HG13 | 2:C:356:ARG:N | 2.27 | 0.50 |
| 2:C:431:HIS:HD2 | 2:C:433:THR:H | 1.58 | 0.50 |
| 2:C:502:PRO:O | 2:C:503:LEU:HG | 2.12 | 0.50 |
| 2:C:580:MET:HB3 | 2:C:584:GLU:CD | 2.32 | 0.50 |
| 3:D:103:TRP:CD2 | 3:D:1444:THR:HG23 | 2.46 | 0.50 |
| 3:D:1059:SER:CB | 3:D:1065:LEU:HA | 2.42 | 0.50 |
| 3:D:1197:ARG:CG | 3:D:1198:TYR:H | 2.25 | 0.50 |
| 2:C:1046:ALA:CB | 3:D:1476:THR:H | 2.25 | 0.50 |
| 3:D:133:ILE:HG12 | 3:D:456:MET:CB | 2.42 | 0.50 |
| 3:D:498:VAL:HG12 | 3:D:502:PHE:CE1 | 2.44 | 0.50 |
| 3:D:966:GLU:O | 3:D:969:ARG:HG2 | 2.11 | 0.50 |
| 2:M:410:ILE:N | 2:M:453:THR:O | 2.40 | 0.50 |
| 2:M:861:LEU:HD22 | 2:M:863:ASP:CB | 2.29 | 0.50 |
| 3:N:15:PRO:O | 3:N:19:ARG:HG2 | 2.11 | 0.50 |
| 3:N:28:LYS:CB | 3:N:41:ARG:HD2 | 2.42 | 0.50 |
| 3:N:54:LYS:HG3 | 3:N:55:ASP:N | 2.26 | 0.50 |
| 3:N:644:LEU:HD12 | 3:N:645:PRO:HD2 | 1.94 | 0.50 |
| 3:N:761:ILE:O | 3:N:767:HIS:ND1 | 2.45 | 0.50 |
| 3:N:840:LYS:HB3 | 3:N:841:TYR:CZ | 2.47 | 0.50 |
| 3:N:867:ARG:C | 3:N:867:ARG:HD2 | 2.31 | 0.50 |
| 1:A:148:VAL:HG12 | 1:A:149:GLY:N | 2.27 | 0.50 |
| 1:A:56:VAL:HG12 | 1:A:57:TYR:N | 2.27 | 0.50 |
| 2:C:121:MET:CE | 2:C:125:GLY:HA2 | 2.42 | 0.50 |
| 2:C:140:ILE:HG22 | 2:C:333:ILE:HG13 | 1.93 | 0.50 |
| 2:C:144:PRO:HB2 | 2:C:267:TYR:CE1 | 2.47 | 0.50 |
| 2:C:930:LYS:HD2 | 2:C:960:GLU:CD | 2.31 | 0.50 |
| 3:D:1101:VAL:HG13 | 3:D:1428:ALA:CB | 2.33 | 0.50 |
| 3:D:550:ARG:O | 3:D:554:LEU:N | 2.44 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:D:696:HIS:NE2 | 4:E:59:ASN:N | 2.60 | 0.50 |
| 3:D:704:ARG:NH1 | 3:D:738:ALA:HB2 | 2.26 | 0.50 |
| 3:D:953:ASP:O | 3:D:955:VAL:HG23 | 2.12 | 0.50 |
| 5:G:24:DC:C2' | 5:G:25:DG:C8 | 2.94 | 0.50 |
| 3:D:704:ARG:HH22 | 6:H:14:G:H2' | 1.75 | 0.50 |
| 1:K:58:ILE:CD1 | 1:K:140:MET:HB3 | 2.42 | 0.50 |
| 1:K:99:LEU:N | 1:K:99:LEU:HD12 | 2.27 | 0.50 |
| 1:L:25:LEU:CD2 | 1:L:195:LEU:HB3 | 2.41 | 0.50 |
| 2:M:1013:TYR:CG | 2:M:1063:ARG:NH2 | 2.80 | 0.50 |
| 2:M:164:PRO:HD2 | 2:M:170:PRO:O | 2.10 | 0.50 |
| 2:M:944:LEU:O | 2:M:948:GLU:HG3 | 2.12 | 0.50 |
| 3:N:1103:HIS:CG | 3:N:1104:GLU:N | 2.80 | 0.50 |
| 3:N:1153:VAL:O | 3:N:1160:LEU:HG | 2.12 | 0.50 |
| 3:N:134:VAL:HG22 | 3:N:455:ARG:O | 2.12 | 0.50 |
| 3:N:470:LEU:N | 3:N:470:LEU:HD23 | 2.27 | 0.50 |
| 3:N:550:ARG:O | 3:N:554:LEU:HB2 | 2.11 | 0.50 |
| 3:N:711:LEU:C | 3:N:713:ILE:H | 2.14 | 0.50 |
| 3:N:810:GLU:HA | 3:N:813:LEU:HD23 | 1.93 | 0.50 |
| 4:O:54:LEU:O | 4:O:58:PRO:HD2 | 2.12 | 0.50 |
| 1:B:50:GLY:O | 1:B:146:ARG:HA | 2.12 | 0.50 |
| 2:C:129:ILE:HD13 | 2:C:129:ILE:H | 1.76 | 0.50 |
| 2:C:298:PHE:N | 2:C:298:PHE:CD1 | 2.77 | 0.50 |
| 2:C:575:GLN:C | 2:C:667:ALA:HB1 | 2.32 | 0.50 |
| 2:C:753:ASP:O | 2:C:792:VAL:N | 2.38 | 0.50 |
| 3:D:1017:PHE:HA | 3:D:1022:VAL:HG21 | 1.94 | 0.50 |
| 3:D:1107:VAL:O | 3:D:1218:GLY:N | 2.45 | 0.50 |
| 3:D:1468:LEU:HD22 | 3:D:1470:ARG:CB | 2.41 | 0.50 |
| 3:D:470:LEU:HB2 | 3:D:503:LEU:HD21 | 1.93 | 0.50 |
| 3:D:596:SER:O | 3:D:598:ARG:N | 2.43 | 0.50 |
| 3:D:899:LEU:CD2 | 3:D:917:GLN:HB3 | 2.32 | 0.50 |
| 6:H:15:C:H3' | 6:H:16:A:C5' | 2.41 | 0.50 |
| 1:L:57:TYR:HB2 | 1:L:164:ALA:HB2 | 1.93 | 0.50 |
| 2:M:151:ASP:HB2 | 2:M:157:ARG:O | 2.12 | 0.50 |
| 2:M:199:VAL:CG1 | 2:M:235:LEU:HG | 2.42 | 0.50 |
| 2:M:706:GLU:HG2 | 2:M:708:TYR:OH | 2.12 | 0.50 |
| 2:M:759:THR:HB | 2:M:785:VAL:HG11 | 1.94 | 0.50 |
| 2:M:861:LEU:HD21 | 2:M:925:TYR:CZ | 2.47 | 0.50 |
| 2:M:987:ILE:HG12 | 3:N:948:THR:CG2 | 2.42 | 0.50 |
| 2:M:500:ASN:OD1 | 3:N:1067:VAL:HG23 | 2.12 | 0.50 |
| 3:N:1389:LEU:HD11 | 3:N:1390:LEU:HG | 1.94 | 0.50 |
| 3:N:15:PRO:HA | 3:N:18:ILE:CG1 | 2.41 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 3:N:850:LEU:HD22 | 3:N:884:ARG:NH2 | 2.27 | 0.50 |
| 4:O:62:THR:HA | 4:O:65:MET:SD | 2.52 | 0.50 |
| 6:Y:4:G:O2' | 6:Y:5:C:H5' | 2.12 | 0.50 |
| 1:A:198:ARG:HH22 | 2:C:932:GLU:HB3 | 1.77 | 0.50 |
| 2:C:490:GLU:OE1 | 2:C:493:ARG:NH1 | 2.45 | 0.50 |
| 2:C:86:LYS:HD3 | 2:C:813:VAL:HB | 1.93 | 0.50 |
| 3:D:1083:ASP:O | 3:D:1087:ARG:CD | 2.59 | 0.50 |
| 3:D:919:PHE:CZ | 3:D:1211:MET:HG3 | 2.46 | 0.50 |
| 3:D:679:ARG:HB2 | 3:D:682:ASP:OD1 | 2.11 | 0.50 |
| 3:D:774:SER:HB3 | 3:D:1362:LYS:O | 2.11 | 0.50 |
| 3:D:860:LEU:O | 3:D:876:SER:OG | 2.30 | 0.50 |
| 2:C:1090:LYS:CE | 3:D:90:MET:HG3 | 2.42 | 0.50 |
| 4:E:26:ARG:NH2 | 4:E:37:ASN:O | 2.44 | 0.50 |
| 1:K:178:ALA:HB3 | 1:K:198:ARG:HG3 | 1.94 | 0.50 |
| 1:K:180:GLN:OE1 | 2:M:929:ARG:NE | 2.44 | 0.50 |
| 2:M:1057:SER:HB2 | 3:N:622:ARG:O | 2.11 | 0.50 |
| 2:M:187:ASN:O | 2:M:188:LYS:HG3 | 2.11 | 0.50 |
| 2:M:437:ARG:NH1 | 2:M:491:GLU:OE2 | 2.44 | 0.50 |
| 2:M:690:ILE:CG1 | 2:M:691:SER:N | 2.74 | 0.50 |
| 3:N:107:ASP:CG | 3:N:1445:HIS:HA | 2.31 | 0.50 |
| 3:N:1275:SER:O | 3:N:1276:GLU:HB2 | 2.11 | 0.50 |
| 3:N:1271:LYS:HZ2 | 3:N:1331:ASP:HB2 | 1.75 | 0.50 |
| 3:N:394:LEU:HD23 | 3:N:394:LEU:N | 2.27 | 0.50 |
| 3:N:568:ARG:O | 3:N:572:ARG:HG3 | 2.12 | 0.50 |
| 3:N:757:ALA:O | 3:N:761:ILE:HG13 | 2.11 | 0.50 |
| 3:N:877:PRO:O | 3:N:880:ILE:HG22 | 2.12 | 0.50 |
| 4:O:37:ASN:HD22 | 4:O:37:ASN:H | 1.54 | 0.50 |
| 1:A:34:VAL:HG13 | 1:B:42:ARG:HE | 1.77 | 0.50 |
| 2:C:1093:GLN:HA | 2:C:1097:LEU:O | 2.11 | 0.50 |
| 2:C:146:VAL:HG22 | 2:C:162:ILE:HG12 | 1.92 | 0.50 |
| 2:C:455:LEU:HD12 | 2:C:456:ALA:O | 2.12 | 0.50 |
| 2:C:630:ARG:HG2 | 2:C:826:TYR:HE2 | 1.74 | 0.50 |
| 2:C:768:THR:O | 2:C:772:ARG:HB2 | 2.10 | 0.50 |
| 3:D:502:PHE:CD2 | 3:D:1452:ILE:HG23 | 2.47 | 0.50 |
| 3:D:827:ILE:HD12 | 3:D:827:ILE:N | 2.26 | 0.50 |
| 4:E:28:GLN:C | 4:E:32:ARG:NH1 | 2.65 | 0.50 |
| 2:M:1092:LEU:O | 2:M:1095:LEU:O | 2.30 | 0.50 |
| 2:M:119:PRO:HG2 | 2:M:386:PHE:CE2 | 2.47 | 0.50 |
| 2:M:456:ALA:HB1 | 2:M:538:GLN:O | 2.12 | 0.50 |
| 2:M:937:ASP:CB | 2:M:940:GLU:HG3 | 2.42 | 0.50 |
| 3:N:1033:GLN:CD | 3:N:1240:THR:HG22 | 2.32 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 3:N:81:THR:HG22 | 3:N:82:LYS:H | 1.75 | 0.50 |
| 4:O:54:LEU:CD2 | 4:O:63:TRP:NE1 | 2.70 | 0.50 |
| 1:A:54:THR:HB | 1:A:143:ARG:HG3 | 1.94 | 0.49 |
| 1:B:59:GLU:HB2 | 1:B:137:ARG:HH22 | 1.77 | 0.49 |
| 2:C:66:LEU:HD22 | 2:C:372:LEU:HD23 | 1.93 | 0.49 |
| 2:C:460:ARG:NH2 | 2:C:468:ARG:NH1 | 2.58 | 0.49 |
| 2:C:515:ALA:O | 2:C:516:ARG:HD3 | 2.11 | 0.49 |
| 2:C:603:VAL:O | 2:C:646:GLY:HA2 | 2.12 | 0.49 |
| 2:C:98:LEU:H | 2:C:98:LEU:HD12 | 1.77 | 0.49 |
| 3:D:134:VAL:HG12 | 3:D:152:LEU:CB | 2.42 | 0.49 |
| 3:D:563:PRO:HG2 | 3:D:563:PRO:O | 2.12 | 0.49 |
| 3:D:581:LEU:H | 3:D:581:LEU:HD23 | 1.77 | 0.49 |
| 2:M:129:ILE:CG2 | 2:M:130:ASN:H | 2.21 | 0.49 |
| 2:M:39:ARG:O | 2:M:41:ASN:N | 2.44 | 0.49 |
| 2:M:640:ARG:HG2 | 2:M:640:ARG:NH1 | 2.26 | 0.49 |
| 2:M:862:PRO:HD3 | 2:M:973:VAL:O | 2.12 | 0.49 |
| 3:N:101:HIS:CE1 | 3:N:103:TRP:HB2 | 2.46 | 0.49 |
| 3:N:564:GLU:HA | 3:N:567:ILE:HD12 | 1.94 | 0.49 |
| 2:M:1104:GLU:OE1 | 3:N:6:ARG:HD3 | 2.11 | 0.49 |
| 3:N:750:PRO:CB | 3:N:756:GLN:HA | 2.42 | 0.49 |
| 3:N:714:GLN:HB3 | 3:N:765:SER:HB2 | 1.94 | 0.49 |
| 3:N:785:ILE:CD1 | 3:N:785:ILE:H | 2.24 | 0.49 |
| 3:N:843:PHE:O | 3:N:866:VAL:HG13 | 2.12 | 0.49 |
| 7:Z:11:DG:OP2 | 7:Z:11:DG:C8 | 2.53 | 0.49 |
| 1:B:124:ASN:N | 1:B:125:PRO:HD3 | 2.26 | 0.49 |
| 1:B:21:GLY:O | 1:B:23:PHE:CE2 | 2.64 | 0.49 |
| 2:C:1013:TYR:CD1 | 2:C:1020:PRO:HG3 | 2.47 | 0.49 |
| 2:C:328:LEU:HB2 | 2:C:433:THR:CG2 | 2.42 | 0.49 |
| 2:C:758:ARG:HG2 | 2:C:788:THR:OG1 | 2.12 | 0.49 |
| 2:C:748:GLU:HA | 2:C:799:ILE:HD13 | 1.94 | 0.49 |
| 2:C:943:VAL:HG23 | 2:C:985:GLY:N | 2.25 | 0.49 |
| 3:D:1031:ASN:CB | 3:D:1034:GLN:CB | 2.89 | 0.49 |
| 3:D:1116:ASN:O | 3:D:1193:THR:CB | 2.60 | 0.49 |
| 3:D:1472:ILE:C | 3:D:1474:ALA:H | 2.15 | 0.49 |
| 3:D:50:PHE:CG | 3:D:522:PRO:HG3 | 2.46 | 0.49 |
| 3:D:660:LYS:CD | 3:D:694:VAL:HG22 | 2.32 | 0.49 |
| 3:D:743:ASP:HA | 6:H:14:G:C1' | 2.42 | 0.49 |
| 7:I:8:DG:H2'' | 7:I:9:DT:C6 | 2.47 | 0.49 |
| 2:M:113:VAL:CG1 | 2:M:373:VAL:HG11 | 2.41 | 0.49 |
| 2:M:704:HIS:O | 2:M:828:ALA:HA | 2.12 | 0.49 |
| 2:M:846:LYS:HE3 | 6:Y:14:G:OP1 | 2.12 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:N:1236:LEU:CD2 | 3:N:1359:GLN:HG3 | 2.42 | 0.49 |
| 3:N:133:ILE:HG22 | 3:N:134:VAL:N | 2.27 | 0.49 |
| 3:N:14:SER:HB2 | 3:N:17:LYS:HB2 | 1.93 | 0.49 |
| 3:N:97:THR:HG21 | 3:N:459:GLU:HB2 | 1.94 | 0.49 |
| 3:N:472:ALA:HA | 3:N:475:LYS:CD | 2.43 | 0.49 |
| 3:N:486:ARG:O | 3:N:490:ALA:CB | 2.59 | 0.49 |
| 3:N:608:SER:C | 3:N:612:GLY:HA3 | 2.32 | 0.49 |
| 3:N:634:GLY:O | 3:N:637:LEU:HB3 | 2.12 | 0.49 |
| 5:X:3:DC:C6 | 5:X:3:DC:O5' | 2.64 | 0.49 |
| 2:C:1016:ILE:HD13 | 2:C:1016:ILE:H | 1.76 | 0.49 |
| 2:C:157:ARG:HD3 | 2:C:314:THR:HG22 | 1.94 | 0.49 |
| 2:C:324:ASP:O | 2:C:327:HIS:HB2 | 2.12 | 0.49 |
| 2:C:938:LYS:NZ | 2:C:938:LYS:HB2 | 2.26 | 0.49 |
| 3:D:1440:PHE:CE2 | 5:G:17:DA:OP2 | 2.65 | 0.49 |
| 3:D:1438:ALA:CB | 3:D:1447:LEU:HD11 | 2.41 | 0.49 |
| 1:K:29:GLU:HB2 | 1:K:32:PHE:CE1 | 2.48 | 0.49 |
| 1:L:52:ALA:HB2 | 1:L:170:VAL:O | 2.12 | 0.49 |
| 2:M:1095:LEU:CD2 | 3:N:603:LEU:CD1 | 2.83 | 0.49 |
| 2:M:597:ALA:HB2 | 2:M:655:LEU:HD21 | 1.95 | 0.49 |
| 2:M:728:HIS:NE2 | 2:M:775:ARG:NH1 | 2.59 | 0.49 |
| 3:N:1372:VAL:CG1 | 3:N:1373:ARG:N | 2.75 | 0.49 |
| 3:N:1399:ASP:O | 3:N:1403:LEU:HD12 | 2.11 | 0.49 |
| 3:N:1375:MET:SD | 3:N:1424:VAL:N | 2.86 | 0.49 |
| 3:N:501:ALA:HB3 | 3:N:1452:ILE:HG22 | 1.92 | 0.49 |
| 3:N:1465:ASN:HD21 | 3:N:1470:ARG:NE | 2.10 | 0.49 |
| 3:N:630:VAL:HG12 | 3:N:631:ILE:N | 2.27 | 0.49 |
| 3:N:697:GLY:CA | 3:N:717:GLN:OE1 | 2.61 | 0.49 |
| 3:N:821:VAL:HG22 | 3:N:840:LYS:HZ1 | 1.77 | 0.49 |
| 6:Y:10:G:O2' | 6:Y:11:C:H5' | 2.12 | 0.49 |
| 6:Y:11:C:O2' | 6:Y:12:U:H5' | 2.13 | 0.49 |
| 6:Y:8:G:H2' | 6:Y:9:C:O5' | 2.13 | 0.49 |
| 1:A:2:LEU:O | 1:A:6:LEU:HB3 | 2.11 | 0.49 |
| 1:B:62:LEU:HD12 | 1:B:62:LEU:H | 1.77 | 0.49 |
| 2:C:261:ILE:CD1 | 2:C:262:ALA:H | 2.26 | 0.49 |
| 2:C:926:PHE:HE2 | 2:C:960:GLU:OE1 | 1.96 | 0.49 |
| 3:D:1380:GLU:CG | 3:D:1381:VAL:N | 2.75 | 0.49 |
| 3:D:10:ILE:CD1 | 3:D:1447:LEU:HG | 2.43 | 0.49 |
| 3:D:1435:LEU:CB | 3:D:1464:GLU:HB3 | 2.42 | 0.49 |
| 3:D:711:LEU:C | 3:D:713:ILE:H | 2.15 | 0.49 |
| 1:L:186:LEU:O | 1:L:188:GLN:N | 2.45 | 0.49 |
| 2:M:1040:LEU:HD23 | 2:M:1049:LEU:CB | 2.42 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 2:M:1068:GLU:O | 2:M:1071:ILE:HB | 2.13 | 0.49 |
| 2:M:405:ARG:NH2 | 2:M:409:ARG:NH2 | 2.61 | 0.49 |
| 2:M:444:PRO:O | 2:M:449:ILE:HD12 | 2.11 | 0.49 |
| 2:M:607:ASP:HB3 | 2:M:610:ARG:H | 1.77 | 0.49 |
| 3:N:1115:THR:HG21 | 3:N:1151:ARG:NH2 | 2.27 | 0.49 |
| 3:N:187:LYS:CE | 3:N:199:LEU:HG | 2.42 | 0.49 |
| 3:N:95:LEU:HB2 | 3:N:515:GLU:CA | 2.42 | 0.49 |
| 3:N:62:LYS:HD2 | 3:N:75:ARG:NH1 | 2.26 | 0.49 |
| 3:N:731:LEU:HD22 | 3:N:779:ALA:O | 2.12 | 0.49 |
| 3:N:781:PRO:HB2 | 3:N:786:ILE:HG13 | 1.95 | 0.49 |
| 1:L:80:LEU:HD11 | 3:N:842:VAL:HG12 | 1.94 | 0.49 |
| 3:N:880:ILE:HD13 | 3:N:880:ILE:O | 2.11 | 0.49 |
| 3:N:883:ALA:O | 3:N:886:VAL:HB | 2.13 | 0.49 |
| 3:N:935:LYS:HG2 | 3:N:936:TYR:N | 2.28 | 0.49 |
| 2:C:101:ILE:HG23 | 2:C:107:LEU:HD22 | 1.95 | 0.49 |
| 2:C:412:ALA:HB3 | 2:C:451:LEU:HB3 | 1.95 | 0.49 |
| 2:C:583:LEU:O | 2:C:587:VAL:HG23 | 2.11 | 0.49 |
| 2:C:18:LEU:HD22 | 2:C:590:ASP:HB2 | 1.95 | 0.49 |
| 2:C:733:ALA:HB2 | 3:D:679:ARG:NH1 | 2.26 | 0.49 |
| 2:C:762:LYS:HZ2 | 2:C:786:LYS:HA | 1.78 | 0.49 |
| 2:C:71:TYR:HA | 2:C:96:ALA:HB2 | 1.94 | 0.49 |
| 3:D:1209:LEU:HD21 | 4:E:16:LYS:HE3 | 1.95 | 0.49 |
| 3:D:1466:VAL:HG12 | 3:D:1467:ILE:N | 2.27 | 0.49 |
| 3:D:16:GLU:CD | 3:D:16:GLU:H | 2.16 | 0.49 |
| 3:D:50:PHE:C | 3:D:86:ARG:HA | 2.32 | 0.49 |
| 3:D:916:TYR:O | 3:D:920:LEU:HG | 2.13 | 0.49 |
| 3:D:960:LYS:CE | 3:D:964:LEU:CD1 | 2.79 | 0.49 |
| 1:K:102:LYS:HA | 1:K:138:LEU:O | 2.13 | 0.49 |
| 1:L:159:LYS:N | 1:L:159:LYS:HE3 | 2.27 | 0.49 |
| 1:L:24:VAL:HG22 | 1:L:196:THR:HB | 1.93 | 0.49 |
| 2:M:115:LEU:HB3 | 2:M:375:SER:OG | 2.12 | 0.49 |
| 2:M:405:ARG:C | 2:M:407:LYS:H | 2.16 | 0.49 |
| 2:M:42:VAL:CA | 2:M:46:ALA:HB2 | 2.41 | 0.49 |
| 3:N:1415:VAL:HG23 | 3:N:1415:VAL:O | 2.11 | 0.49 |
| 3:N:1493:LYS:O | 3:N:1497:GLU:HG2 | 2.13 | 0.49 |
| 3:N:160:GLU:HG2 | 3:N:165:LYS:CG | 2.37 | 0.49 |
| 3:D:1153:VAL:CG1 | 3:N:560:GLN:O | 2.61 | 0.49 |
| 3:N:1219:GLU:OE1 | 4:O:17:TYR:HE2 | 1.95 | 0.49 |
| 3:N:1484:THR:CA | 4:O:76:GLY:O | 2.60 | 0.49 |
| 7:Z:12:DT:C2' | 7:Z:13:DA:C8 | 2.89 | 0.49 |
| 1:A:28:LEU:O | 1:A:192:LEU:HD22 | 2.11 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:A:48:ILE:HD12 | 1:A:174:VAL:CG2 | 2.42 | 0.49 |
| 2:C:352:ALA:C | 2:C:355:VAL:HG12 | 2.32 | 0.49 |
| 2:C:603:VAL:HB | 2:C:647:GLN:N | 2.27 | 0.49 |
| 2:C:704:HIS:O | 2:C:828:ALA:HA | 2.11 | 0.49 |
| 3:D:615:ARG:HH22 | 3:D:1096:ARG:NH1 | 2.10 | 0.49 |
| 3:D:1223:ILE:HD11 | 3:D:1462:LEU:CD1 | 2.42 | 0.49 |
| 3:D:128:TYR:CE2 | 3:D:458:ALA:CB | 2.96 | 0.49 |
| 3:D:4:GLU:HG2 | 3:D:1470:ARG:NE | 2.28 | 0.49 |
| 3:D:705:ALA:CB | 3:D:706:PRO:CD | 2.71 | 0.49 |
| 2:C:1035:MET:CG | 5:G:20:DC:H5' | 2.41 | 0.49 |
| 5:G:24:DC:H2' | 5:G:25:DG:C8 | 2.48 | 0.49 |
| 6:H:11:C:H2' | 6:H:12:U:C5 | 2.47 | 0.49 |
| 1:K:117:VAL:O | 1:K:120:VAL:HG12 | 2.13 | 0.49 |
| 2:M:561:GLY:O | 2:M:565:GLN:HG3 | 2.13 | 0.49 |
| 2:M:861:LEU:HG | 2:M:862:PRO:HD2 | 1.93 | 0.49 |
| 2:M:973:VAL:O | 2:M:974:LEU:CD1 | 2.50 | 0.49 |
| 3:N:1160:LEU:N | 3:N:1160:LEU:HD23 | 2.27 | 0.49 |
| 3:N:1280:VAL:HG12 | 3:N:1318:TYR:CA | 2.43 | 0.49 |
| 2:M:1053:LEU:CD1 | 3:N:1469:GLY:HA2 | 2.40 | 0.49 |
| 3:N:1462:LEU:HD22 | 3:N:1472:ILE:CG2 | 2.42 | 0.49 |
| 2:M:1043:TYR:CZ | 3:N:710:ARG:HD3 | 2.48 | 0.49 |
| 3:N:764:LEU:HB3 | 3:N:767:HIS:ND1 | 2.28 | 0.49 |
| 4:O:23:VAL:HG22 | 4:O:68:LEU:CD2 | 2.43 | 0.49 |
| 1:A:38:ASN:N | 1:A:39:PRO:CD | 2.76 | 0.49 |
| 1:A:9:PRO:HB3 | 1:A:25:LEU:CD2 | 2.43 | 0.49 |
| 1:B:66:SER:O | 1:B:75:VAL:HG23 | 2.13 | 0.49 |
| 1:B:79:ILE:HA | 1:B:82:LEU:CD1 | 2.43 | 0.49 |
| 2:C:460:ARG:O | 2:C:460:ARG:HG3 | 2.12 | 0.49 |
| 2:C:47:ALA:HB2 | 2:C:345:ARG:HH11 | 1.78 | 0.49 |
| 2:C:511:GLU:O | 2:C:526:PRO:HD3 | 2.12 | 0.49 |
| 2:C:532:MET:HG2 | 2:C:533:ASP:O | 2.12 | 0.49 |
| 2:C:36:PRO:CG | 2:C:70:GLU:HB3 | 2.37 | 0.49 |
| 2:C:941:VAL:HA | 2:C:944:LEU:HB2 | 1.94 | 0.49 |
| 2:C:998:TYR:HE2 | 2:C:1000:MET:HG3 | 1.78 | 0.49 |
| 3:D:1112:CYS:SG | 3:D:1201:CYS:N | 2.78 | 0.49 |
| 3:D:1168:MET:HE3 | 3:D:1171:VAL:HB | 1.94 | 0.49 |
| 3:D:1436:SER:O | 3:D:1439:SER:OG | 2.27 | 0.49 |
| 3:D:155:ASP:O | 3:D:159:ARG:HB2 | 2.12 | 0.49 |
| 3:D:683:ILE:H | 3:D:683:ILE:HD12 | 1.77 | 0.49 |
| 3:D:916:TYR:CE2 | 3:D:920:LEU:HD11 | 2.47 | 0.49 |
| 2:C:422:ARG:HG2 | 7:I:1:DG:C6 | 2.47 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 1:K:74:ASP:O | 1:K:78:ILE:HG13 | 2.12 | 0.49 |
| 2:M:630:ARG:HD2 | 2:M:631:SER:O | 2.12 | 0.49 |
| 2:M:564:MET:HE1 | 2:M:840:ALA:O | 2.12 | 0.49 |
| 3:N:1094:LEU:HD12 | 3:N:1097:LYS:CD | 2.37 | 0.49 |
| 3:N:1283:ILE:HD12 | 3:N:1315:ASP:OD2 | 2.13 | 0.49 |
| 3:D:1154:GLU:OE2 | 3:N:563:PRO:HA | 2.12 | 0.49 |
| 3:N:704:ARG:NE | 3:N:706:PRO:HD2 | 2.25 | 0.49 |
| 3:N:764:LEU:CD2 | 3:N:767:HIS:CE1 | 2.88 | 0.49 |
| 3:N:899:LEU:HD22 | 3:N:917:GLN:HB3 | 1.95 | 0.49 |
| 1:A:96:THR:OG1 | 1:A:143:ARG:HD2 | 2.12 | 0.49 |
| 1:B:102:LYS:HG3 | 1:B:138:LEU:O | 2.13 | 0.49 |
| 1:B:140:MET:O | 1:B:140:MET:HG2 | 2.13 | 0.49 |
| 2:C:12:VAL:HG13 | 2:C:13:ILE:N | 2.27 | 0.49 |
| 2:C:470:PRO:HD3 | 2:C:485:TYR:CZ | 2.48 | 0.49 |
| 2:C:49:ARG:O | 2:C:53:PRO:HD2 | 2.13 | 0.49 |
| 3:D:1098:LEU:HD23 | 3:D:1226:ALA:CA | 2.37 | 0.49 |
| 3:D:1231:GLU:OE1 | 3:D:1232:PRO:HD3 | 2.13 | 0.49 |
| 3:D:1495:ILE:O | 3:D:1499:ARG:HG3 | 2.12 | 0.49 |
| 3:D:939:PHE:O | 3:D:943:THR:HG23 | 2.13 | 0.49 |
| 1:K:23:PHE:O | 1:K:197:LEU:HD23 | 2.13 | 0.49 |
| 1:K:11:PHE:HD1 | 1:K:25:LEU:HD13 | 1.77 | 0.49 |
| 1:L:50:GLY:O | 1:L:146:ARG:HA | 2.12 | 0.49 |
| 2:M:162:ILE:CB | 2:M:172:ILE:HB | 2.37 | 0.49 |
| 2:M:141:HIS:NE2 | 2:M:332:ARG:HB3 | 2.27 | 0.49 |
| 2:M:555:ALA:O | 2:M:558:ALA:HB3 | 2.13 | 0.49 |
| 2:M:636:ALA:O | 2:M:637:LEU:HD23 | 2.13 | 0.49 |
| 3:N:1200:VAL:CG1 | 3:N:1201:CYS:N | 2.76 | 0.49 |
| 3:N:1485:GLN:NE2 | 4:O:80:VAL:O | 2.46 | 0.49 |
| 3:N:478:LEU:O | 3:N:1388:ARG:NH2 | 2.45 | 0.49 |
| 3:N:771:SER:O | 3:N:774:SER:O | 2.30 | 0.49 |
| 2:M:969:GLN:HE22 | 3:N:952:ASP:HB3 | 1.78 | 0.49 |
| 3:N:9:ARG:HG2 | 3:N:9:ARG:HH11 | 1.78 | 0.49 |
| 3:N:1481:VAL:HG22 | 4:O:18:ARG:NH2 | 2.28 | 0.49 |
| 1:B:186:LEU:O | 1:B:188:GLN:N | 2.46 | 0.49 |
| 2:C:334:ARG:HA | 2:C:338:GLU:OE2 | 2.12 | 0.49 |
| 2:C:437:ARG:HG2 | 2:C:467:ILE:O | 2.13 | 0.49 |
| 2:C:585:GLU:O | 2:C:588:VAL:HG22 | 2.13 | 0.49 |
| 2:C:68:PHE:C | 2:C:69:LEU:HD23 | 2.33 | 0.49 |
| 2:C:739:GLU:HG3 | 2:C:742:VAL:CG1 | 2.42 | 0.49 |
| 2:C:854:PRO:HB2 | 2:C:856:GLU:CD | 2.32 | 0.49 |
| 3:D:1231:GLU:CB | 3:D:1232:PRO:HD3 | 2.41 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 3:D:128:TYR:CE2 | 3:D:458:ALA:HA | 2.41 | 0.49 |
| 3:D:54:LYS:HG3 | 3:D:55:ASP:N | 2.28 | 0.49 |
| 3:D:583:ASP:CG | 3:D:586:ARG:HG2 | 2.34 | 0.49 |
| 2:M:1001:VAL:HB | 5:X:23:DG:O3' | 2.12 | 0.49 |
| 2:M:139:GLN:HG2 | 2:M:418:LEU:HD22 | 1.93 | 0.49 |
| 2:M:468:ARG:CZ | 2:M:485:TYR:O | 2.61 | 0.49 |
| 2:M:583:LEU:HD12 | 2:M:583:LEU:N | 2.28 | 0.49 |
| 2:M:603:VAL:HG21 | 2:M:647:GLN:HB3 | 1.93 | 0.49 |
| 1:K:67:THR:OG1 | 2:M:609:ASN:ND2 | 2.46 | 0.49 |
| 2:M:611:ILE:HG13 | 2:M:625:LEU:HD11 | 1.95 | 0.49 |
| 2:M:732:ALA:O | 2:M:735:ARG:HG3 | 2.13 | 0.49 |
| 2:M:941:VAL:O | 2:M:944:LEU:HB2 | 2.13 | 0.49 |
| 3:N:1176:LYS:O | 3:N:1179:GLU:HB2 | 2.13 | 0.49 |
| 3:N:1366:LYS:O | 3:N:1370:ILE:HG12 | 2.12 | 0.49 |
| 3:N:1381:VAL:CG1 | 3:N:1382:THR:H | 2.22 | 0.49 |
| 3:N:177:ALA:HB3 | 3:N:205:TYR:OH | 2.13 | 0.49 |
| 3:N:6:ARG:C | 3:N:7:LYS:HG3 | 2.33 | 0.49 |
| 3:N:795:VAL:HG13 | 3:N:863:VAL:HG22 | 1.95 | 0.49 |
| 4:O:36:LYS:HG2 | 4:O:95:VAL:HG22 | 1.94 | 0.49 |
| 1:A:36:LEU:C | 1:A:39:PRO:HD2 | 2.34 | 0.49 |
| 1:B:59:GLU:HB2 | 1:B:137:ARG:HH12 | 1.78 | 0.49 |
| 2:C:1008:ARG:NH2 | 2:C:1012:PRO:N | 2.61 | 0.49 |
| 2:C:22:GLN:O | 2:C:121:MET:HE1 | 2.13 | 0.49 |
| 2:C:437:ARG:NH1 | 2:C:488:ALA:HA | 2.28 | 0.49 |
| 2:C:685:GLU:OE1 | 3:D:739:ASP:CB | 2.60 | 0.49 |
| 3:D:133:ILE:O | 3:D:153:LEU:N | 2.46 | 0.49 |
| 3:D:1472:ILE:C | 3:D:1474:ALA:N | 2.66 | 0.49 |
| 3:D:145:VAL:HG13 | 3:D:148:GLU:OE1 | 2.12 | 0.49 |
| 3:D:703:ASN:OD1 | 3:D:704:ARG:O | 2.31 | 0.49 |
| 5:G:7:DA:H2' | 5:G:8:DC:H6 | 1.77 | 0.49 |
| 2:M:1037:VAL:O | 2:M:1041:GLU:HG3 | 2.13 | 0.49 |
| 2:M:483:VAL:HG12 | 2:M:484:VAL:N | 2.28 | 0.49 |
| 2:M:682:TYR:O | 2:M:850:ALA:CB | 2.61 | 0.49 |
| 2:M:690:ILE:CG2 | 2:M:852:ILE:HA | 2.42 | 0.49 |
| 3:N:1084:THR:HA | 3:N:1087:ARG:NH2 | 2.28 | 0.49 |
| 3:N:986:ARG:HE | 3:N:1310:ARG:HH12 | 1.60 | 0.49 |
| 3:N:1450:ALA:O | 3:N:1453:ALA:O | 2.30 | 0.49 |
| 3:N:701:LEU:HD13 | 3:N:748:HIS:HB2 | 1.95 | 0.49 |
| 3:N:792:ILE:HG23 | 3:N:793:THR:N | 2.28 | 0.49 |
| 3:N:814:ALA:O | 3:N:818:ARG:HG3 | 2.13 | 0.49 |
| 3:N:864:VAL:HG12 | 3:N:865:THR:N | 2.18 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 5:X:19:DG:H2'' | 5:X:20:DC:C5' | 2.37 | 0.49 |
| 1:A:63:HIS:CE1 | 1:A:65:PHE:O | 2.66 | 0.48 |
| 1:A:9:PRO:HB3 | 1:A:25:LEU:HD21 | 1.93 | 0.48 |
| 2:C:1014:SER:O | 2:C:1017:THR:O | 2.30 | 0.48 |
| 2:C:1035:MET:C | 3:D:707:THR:HB | 2.33 | 0.48 |
| 2:C:452:ILE:N | 2:C:452:ILE:HD12 | 2.27 | 0.48 |
| 2:C:510:ALA:HB3 | 2:C:513:VAL:CG2 | 2.43 | 0.48 |
| 2:C:578:VAL:O | 2:C:900:ARG:HG2 | 2.13 | 0.48 |
| 2:C:630:ARG:HG2 | 2:C:826:TYR:CE2 | 2.47 | 0.48 |
| 2:C:759:THR:HB | 2:C:785:VAL:CG1 | 2.43 | 0.48 |
| 3:D:1087:ARG:NE | 3:D:1236:LEU:CD2 | 2.65 | 0.48 |
| 3:D:739:ASP:H | 6:H:15:C:C5' | 2.16 | 0.48 |
| 3:D:757:ALA:O | 3:D:761:ILE:HG13 | 2.12 | 0.48 |
| 3:D:796:ARG:HB2 | 3:D:828:LYS:CD | 2.36 | 0.48 |
| 3:D:853:VAL:HG22 | 3:D:858:VAL:HG23 | 1.94 | 0.48 |
| 5:G:3:DC:H1' | 5:G:4:DA:H5' | 1.95 | 0.48 |
| 1:K:26:GLU:HB2 | 1:K:27:PRO:HA | 1.94 | 0.48 |
| 1:L:58:ILE:HG21 | 1:L:61:VAL:HG23 | 1.94 | 0.48 |
| 2:M:1022:GLY:CA | 2:M:1026:GLN:O | 2.61 | 0.48 |
| 2:M:603:VAL:CB | 2:M:647:GLN:H | 2.23 | 0.48 |
| 3:N:1239:ARG:NH1 | 3:N:1239:ARG:CB | 2.73 | 0.48 |
| 3:N:1496:GLU:CD | 3:N:1500:LYS:HE3 | 2.33 | 0.48 |
| 3:N:414:ARG:N | 3:N:414:ARG:HD2 | 2.28 | 0.48 |
| 3:N:55:ASP:CA | 3:N:82:LYS:HE2 | 2.43 | 0.48 |
| 3:N:853:VAL:HG22 | 3:N:858:VAL:HG23 | 1.95 | 0.48 |
| 4:O:37:ASN:N | 4:O:37:ASN:ND2 | 2.56 | 0.48 |
| 2:C:1088:LEU:HD23 | 2:C:1088:LEU:O | 2.12 | 0.48 |
| 2:C:199:VAL:CG1 | 2:C:235:LEU:HG | 2.40 | 0.48 |
| 2:C:292:ARG:CD | 2:C:298:PHE:HA | 2.43 | 0.48 |
| 2:C:523:ILE:HG23 | 2:C:523:ILE:O | 2.13 | 0.48 |
| 2:C:572:ILE:HG23 | 2:C:703:ILE:CD1 | 2.43 | 0.48 |
| 2:C:737:LEU:HD21 | 2:C:741:GLY:CA | 2.43 | 0.48 |
| 3:D:128:TYR:HE2 | 3:D:458:ALA:CA | 2.25 | 0.48 |
| 3:D:134:VAL:O | 3:D:454:ALA:HA | 2.13 | 0.48 |
| 3:D:1394:VAL:HB | 3:D:1397:LYS:HE2 | 1.95 | 0.48 |
| 3:D:1442:ASN:CG | 3:D:1444:THR:OG1 | 2.52 | 0.48 |
| 3:D:39:PRO:O | 3:D:40:GLU:O | 2.31 | 0.48 |
| 3:D:743:ASP:HA | 6:H:14:G:H1' | 1.96 | 0.48 |
| 3:D:877:PRO:O | 3:D:880:ILE:HG22 | 2.13 | 0.48 |
| 3:D:937:TYR:N | 3:D:937:TYR:CD1 | 2.81 | 0.48 |
| 2:C:1031:ARG:HD3 | 5:G:21:DG:OP1 | 2.13 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:K:206:THR:HG22 | 1:K:209:GLU:HG3 | 1.95 | 0.48 |
| 1:L:43:ILE:HG23 | 1:L:47:SER:CB | 2.43 | 0.48 |
| 1:L:58:ILE:HG22 | 1:L:61:VAL:H | 1.77 | 0.48 |
| 2:M:195:LEU:CG | 2:M:238:LEU:HG | 2.43 | 0.48 |
| 2:M:853:LEU:HB2 | 2:M:858:MET:CE | 2.43 | 0.48 |
| 3:N:1066:THR:HG23 | 3:N:1069:GLU:H | 1.79 | 0.48 |
| 3:N:1281:VAL:HG12 | 3:N:1314:LYS:O | 2.13 | 0.48 |
| 3:N:1263:PHE:CE1 | 3:N:1352:ILE:HD13 | 2.48 | 0.48 |
| 3:N:159:ARG:HG2 | 3:N:163:TYR:HE2 | 1.78 | 0.48 |
| 3:N:28:LYS:O | 3:N:43:GLY:HA2 | 2.13 | 0.48 |
| 3:N:584:ASN:HD21 | 3:N:590:PRO:HD2 | 1.78 | 0.48 |
| 3:N:728:LEU:CG | 3:N:729:HIS:N | 2.76 | 0.48 |
| 3:N:631:ILE:HD12 | 3:N:740:PHE:CE2 | 2.48 | 0.48 |
| 3:N:813:LEU:HD12 | 3:N:814:ALA:N | 2.28 | 0.48 |
| 2:C:272:ALA:O | 2:C:276:LYS:CE | 2.60 | 0.48 |
| 2:C:277:ALA:O | 2:C:278:GLU:C | 2.51 | 0.48 |
| 2:C:265:ARG:N | 2:C:289:THR:HG21 | 2.22 | 0.48 |
| 2:C:814:GLU:O | 2:C:814:GLU:HG3 | 2.13 | 0.48 |
| 2:C:926:PHE:HD2 | 2:C:960:GLU:OE2 | 1.96 | 0.48 |
| 3:D:1090:ASP:O | 3:D:1094:LEU:HB2 | 2.13 | 0.48 |
| 3:D:1161:GLU:CD | 3:D:1161:GLU:H | 2.17 | 0.48 |
| 3:D:1378:TYR:CD1 | 3:D:1422:MET:SD | 3.06 | 0.48 |
| 3:D:50:PHE:CD2 | 3:D:522:PRO:HD3 | 2.48 | 0.48 |
| 3:D:676:MET:O | 3:D:676:MET:SD | 2.71 | 0.48 |
| 2:M:31:GLN:HG2 | 2:M:34:VAL:HG23 | 1.94 | 0.48 |
| 2:M:343:GLN:HG2 | 2:M:385:PHE:CD1 | 2.48 | 0.48 |
| 2:M:535:SER:N | 2:M:538:GLN:OE1 | 2.41 | 0.48 |
| 2:M:551:GLU:OE1 | 2:M:906:PHE:HA | 2.14 | 0.48 |
| 2:M:692:GLU:HB2 | 2:M:854:PRO:HA | 1.96 | 0.48 |
| 2:M:854:PRO:HB2 | 2:M:856:GLU:CD | 2.33 | 0.48 |
| 2:M:882:LEU:HD23 | 2:M:885:ILE:HG13 | 1.94 | 0.48 |
| 2:M:897:LEU:HD21 | 2:M:921:ALA:HA | 1.96 | 0.48 |
| 3:N:1274:ILE:CG2 | 3:N:1301:LYS:HZ1 | 2.14 | 0.48 |
| 3:N:607:LEU:HD23 | 3:N:613:ARG:CB | 2.38 | 0.48 |
| 3:N:693:GLU:HA | 4:O:48:MET:SD | 2.53 | 0.48 |
| 3:N:838:ARG:NH1 | 3:N:838:ARG:HG2 | 2.27 | 0.48 |
| 1:A:19:GLU:HA | 1:A:201:THR:O | 2.13 | 0.48 |
| 2:C:1012:PRO:HD3 | 2:C:1026:GLN:CG | 2.43 | 0.48 |
| 2:C:193:LEU:N | 2:C:193:LEU:HD12 | 2.28 | 0.48 |
| 2:C:650:ARG:HG2 | 2:C:653:ASP:OD2 | 2.14 | 0.48 |
| 3:D:1068:LEU:O | 3:D:1072:ILE:HG12 | 2.14 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 2:C:1038:TRP:CE2 | 3:D:1099:VAL:HG21 | 2.48 | 0.48 |
| 3:D:1154:GLU:N | 3:N:561:GLY:CA | 2.76 | 0.48 |
| 3:D:1209:LEU:HD21 | 4:E:16:LYS:HZ2 | 1.75 | 0.48 |
| 3:D:1102:THR:O | 3:D:1222:GLY:HA3 | 2.13 | 0.48 |
| 3:D:136:ASP:CB | 3:D:137:PRO:CD | 2.77 | 0.48 |
| 3:D:704:ARG:CG | 3:D:705:ALA:N | 2.77 | 0.48 |
| 6:H:4:G:C5 | 6:H:5:C:C4 | 3.02 | 0.48 |
| 2:M:324:ASP:O | 2:M:327:HIS:HB2 | 2.13 | 0.48 |
| 2:M:598:GLU:O | 2:M:651:LYS:HE3 | 2.14 | 0.48 |
| 2:M:630:ARG:CG | 2:M:630:ARG:HH11 | 2.26 | 0.48 |
| 2:M:571:LEU:HD21 | 2:M:700:TYR:HA | 1.94 | 0.48 |
| 2:M:861:LEU:HD13 | 2:M:865:THR:CG2 | 2.43 | 0.48 |
| 3:N:109:PRO:O | 3:N:111:LYS:HD2 | 2.13 | 0.48 |
| 3:N:1147:ARG:NH2 | 3:N:1369:GLU:OE2 | 2.43 | 0.48 |
| 3:N:1404:ASN:OD1 | 3:N:1408:ILE:HD12 | 2.14 | 0.48 |
| 3:N:1442:ASN:OD1 | 3:N:1444:THR:HB | 2.13 | 0.48 |
| 3:N:682:ASP:C | 3:N:683:ILE:HG13 | 2.34 | 0.48 |
| 3:N:806:PHE:O | 3:N:808:THR:N | 2.46 | 0.48 |
| 4:O:49:GLN:HA | 4:O:51:LEU:O | 2.13 | 0.48 |
| 1:A:42:ARG:HH12 | 1:B:34:VAL:CB | 2.23 | 0.48 |
| 1:B:79:ILE:HA | 1:B:82:LEU:HD12 | 1.94 | 0.48 |
| 2:C:1045:ALA:CB | 3:D:763:MET:HE3 | 2.44 | 0.48 |
| 2:C:1063:ARG:CG | 2:C:1064:ASN:N | 2.75 | 0.48 |
| 2:C:846:LYS:HB3 | 3:D:741:ASP:HB2 | 1.95 | 0.48 |
| 3:D:1197:ARG:HB3 | 3:D:1396:GLU:CD | 2.33 | 0.48 |
| 3:D:1462:LEU:O | 3:D:1466:VAL:N | 2.46 | 0.48 |
| 3:D:154:THR:O | 3:D:158:TYR:HB3 | 2.13 | 0.48 |
| 3:D:715:ALA:HB3 | 3:D:764:LEU:CA | 2.43 | 0.48 |
| 3:D:744:GLN:C | 3:D:745:MET:HG3 | 2.34 | 0.48 |
| 5:G:3:DC:H6 | 5:G:3:DC:OP2 | 1.97 | 0.48 |
| 1:L:101:LEU:HD12 | 1:L:113:ASP:HB3 | 1.92 | 0.48 |
| 1:L:184:THR:O | 1:L:192:LEU:HB2 | 2.12 | 0.48 |
| 1:L:26:GLU:CB | 1:L:27:PRO:HA | 2.32 | 0.48 |
| 2:M:1088:LEU:HD23 | 2:M:1088:LEU:C | 2.33 | 0.48 |
| 2:M:163:ILE:C | 2:M:163:ILE:HD12 | 2.34 | 0.48 |
| 2:M:333:ILE:N | 2:M:333:ILE:CD1 | 2.76 | 0.48 |
| 2:M:344:PHE:CE2 | 2:M:378:LEU:HD11 | 2.48 | 0.48 |
| 2:M:350:ARG:HA | 2:M:353:ARG:HH21 | 1.78 | 0.48 |
| 3:N:1381:VAL:HB | 3:N:1389:LEU:O | 2.13 | 0.48 |
| 3:N:1395:LEU:O | 3:N:1398:TRP:HB2 | 2.13 | 0.48 |
| 3:N:609:GLY:C | 3:N:611:GLN:N | 2.65 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 5:X:20:DC:H2' | 5:X:21:DG:C8 | 2.48 | 0.48 |
| 1:A:51:THR:HB | 1:A:87:VAL:HG23 | 1.94 | 0.48 |
| 2:C:313:LEU:HG | 2:C:314:THR:N | 2.25 | 0.48 |
| 2:C:893:ALA:HB1 | 2:C:897:LEU:CD1 | 2.44 | 0.48 |
| 2:C:942:GLU:O | 2:C:946:ARG:HG3 | 2.13 | 0.48 |
| 2:C:957:LYS:HD3 | 2:C:961:GLU:CB | 2.42 | 0.48 |
| 2:C:922:PHE:CZ | 2:C:963:LEU:HB3 | 2.49 | 0.48 |
| 2:C:861:LEU:HA | 2:C:974:LEU:HD12 | 1.95 | 0.48 |
| 3:D:1468:LEU:HD13 | 3:D:1470:ARG:HD3 | 1.96 | 0.48 |
| 3:D:925:GLU:OE1 | 4:E:5:GLY:CA | 2.62 | 0.48 |
| 7:I:9:DT:H2'' | 7:I:10:DG:OP2 | 2.12 | 0.48 |
| 7:I:2:DT:OP2 | 7:I:2:DT:H2' | 2.13 | 0.48 |
| 7:I:2:DT:O4 | 7:I:3:DA:N6 | 2.47 | 0.48 |
| 2:M:91:GLN:HB3 | 2:M:118:ILE:C | 2.33 | 0.48 |
| 2:M:169:GLY:O | 2:M:170:PRO:O | 2.31 | 0.48 |
| 2:M:302:VAL:HG13 | 2:M:303:PHE:N | 2.29 | 0.48 |
| 2:M:211:LEU:CB | 2:M:308:ARG:HD2 | 2.37 | 0.48 |
| 2:M:455:LEU:HD12 | 2:M:456:ALA:N | 2.28 | 0.48 |
| 2:M:49:ARG:HH11 | 2:M:68:PHE:HD2 | 1.61 | 0.48 |
| 2:M:692:GLU:CB | 2:M:854:PRO:HA | 2.43 | 0.48 |
| 2:M:725:ASP:HB3 | 2:M:783:ARG:HH22 | 1.78 | 0.48 |
| 3:N:1227:GLN:C | 3:N:1229:ILE:N | 2.66 | 0.48 |
| 3:N:1389:LEU:CD1 | 3:N:1390:LEU:N | 2.76 | 0.48 |
| 3:N:1504:GLU:O | 3:N:1505:ALA:C | 2.52 | 0.48 |
| 3:N:552:ASN:O | 3:N:556:LYS:HG3 | 2.13 | 0.48 |
| 4:O:54:LEU:O | 4:O:63:TRP:HZ2 | 1.97 | 0.48 |
| 1:A:43:ILE:CG2 | 1:A:47:SER:HB2 | 2.34 | 0.48 |
| 1:B:142:VAL:HG23 | 1:B:142:VAL:O | 2.14 | 0.48 |
| 1:B:150:TYR:CE1 | 1:B:170:VAL:HG12 | 2.48 | 0.48 |
| 3:D:503:LEU:O | 3:D:506:GLY:N | 2.47 | 0.48 |
| 3:D:695:ILE:O | 3:D:698:LYS:N | 2.47 | 0.48 |
| 2:C:1090:LYS:HE3 | 3:D:90:MET:HG3 | 1.96 | 0.48 |
| 2:M:1016:ILE:HD13 | 2:M:1016:ILE:N | 2.18 | 0.48 |
| 2:M:164:PRO:CD | 2:M:170:PRO:O | 2.62 | 0.48 |
| 2:M:236:ILE:N | 2:M:236:ILE:HD12 | 2.28 | 0.48 |
| 2:M:265:ARG:HG2 | 2:M:267:TYR:H | 1.78 | 0.48 |
| 2:M:292:ARG:HD2 | 2:M:299:LYS:HE2 | 1.94 | 0.48 |
| 2:M:302:VAL:HG13 | 2:M:303:PHE:H | 1.77 | 0.48 |
| 2:M:428:ARG:NH2 | 2:M:451:LEU:HD11 | 2.28 | 0.48 |
| 2:M:603:VAL:CG2 | 2:M:647:GLN:HB3 | 2.44 | 0.48 |
| 2:M:724:ARG:HG2 | 2:M:724:ARG:O | 2.13 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 2:M:726:ILE:HD12 | 2:M:726:ILE:N | 2.29 | 0.48 |
| 3:N:1350:GLU:OE2 | 3:N:1354:LYS:HE3 | 2.14 | 0.48 |
| 3:N:618:LEU:HD11 | 3:N:1467:ILE:HD11 | 1.95 | 0.48 |
| 3:N:525:ARG:H | 3:N:525:ARG:HD3 | 1.78 | 0.48 |
| 3:N:631:ILE:HD11 | 3:N:743:ASP:HB2 | 1.94 | 0.48 |
| 6:Y:8:G:C8 | 6:Y:8:G:OP2 | 2.66 | 0.48 |
| 7:Z:3:DA:H1' | 7:Z:4:DG:C5' | 2.24 | 0.48 |
| 1:A:57:TYR:CE1 | 1:A:161:ARG:HG2 | 2.49 | 0.48 |
| 1:B:76:VAL:O | 1:B:80:LEU:HB2 | 2.14 | 0.48 |
| 2:C:1053:LEU:HD13 | 3:D:1469:GLY:HA2 | 1.94 | 0.48 |
| 2:C:1074:GLU:HG2 | 2:C:1075:ASP:H | 1.79 | 0.48 |
| 2:C:244:PRO:CD | 2:C:245:GLY:N | 2.74 | 0.48 |
| 2:C:722:ILE:HG23 | 2:C:722:ILE:O | 2.13 | 0.48 |
| 2:C:730:SER:O | 2:C:734:LEU:HD13 | 2.13 | 0.48 |
| 3:D:104:PHE:CE2 | 3:D:1448:THR:HG23 | 2.49 | 0.48 |
| 3:D:1197:ARG:HD3 | 3:D:1198:TYR:N | 2.27 | 0.48 |
| 3:D:1194:CYS:CB | 3:D:1204:CYS:SG | 2.98 | 0.48 |
| 3:D:1227:GLN:C | 3:D:1229:ILE:N | 2.67 | 0.48 |
| 3:D:155:ASP:HA | 3:D:158:TYR:HD2 | 1.78 | 0.48 |
| 3:D:615:ARG:NH2 | 3:D:1096:ARG:NH1 | 2.62 | 0.48 |
| 3:D:618:LEU:CD1 | 3:D:1463:LYS:HG3 | 2.43 | 0.48 |
| 3:D:794:GLN:OE1 | 3:D:905:PRO:CG | 2.62 | 0.48 |
| 1:L:102:LYS:HD2 | 1:L:139:ASN:HB2 | 1.96 | 0.48 |
| 1:L:176:ARG:HH22 | 3:N:884:ARG:HG3 | 1.78 | 0.48 |
| 2:M:375:SER:HB3 | 2:M:379:GLU:OE1 | 2.13 | 0.48 |
| 2:M:713:ARG:HG2 | 2:M:714:ASP:H | 1.78 | 0.48 |
| 2:M:903:SER:O | 2:M:904:PRO:O | 2.32 | 0.48 |
| 3:N:1223:ILE:O | 3:N:1226:ALA:HB3 | 2.13 | 0.48 |
| 3:N:41:ARG:HH11 | 3:N:42:ASP:HB3 | 1.77 | 0.48 |
| 3:N:57:GLU:HG2 | 3:N:58:CYS:H | 1.79 | 0.48 |
| 3:N:700:VAL:O | 3:N:715:ALA:HA | 2.14 | 0.48 |
| 3:N:95:LEU:HD12 | 3:N:515:GLU:CA | 2.44 | 0.48 |
| 4:O:72:ARG:HB2 | 4:O:73:LEU:HD12 | 1.96 | 0.48 |
| 7:Z:1:DG:C2' | 7:Z:2:DT:H71 | 2.43 | 0.48 |
| 7:Z:6:DT:H2'' | 7:Z:7:DT:C7 | 2.44 | 0.48 |
| 1:A:30:ARG:NH1 | 1:A:191:ASP:HB2 | 2.29 | 0.48 |
| 1:A:42:ARG:NH1 | 2:C:978:ARG:HA | 2.29 | 0.48 |
| 1:A:63:HIS:ND1 | 1:A:65:PHE:HD1 | 2.11 | 0.48 |
| 1:A:96:THR:HA | 1:A:144:VAL:O | 2.14 | 0.48 |
| 2:C:182:VAL:HB | 2:C:193:LEU:HD13 | 1.94 | 0.48 |
| 2:C:394:PHE:CE1 | 2:C:632:ASN:HB3 | 2.48 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 3:D:554:LEU:HG | 3:D:558:LEU:HG | 1.96 | 0.48 |
| 2:C:1115:LEU:HD22 | 3:D:88:TYR:CD1 | 2.48 | 0.48 |
| 1:K:9:PRO:HB3 | 1:K:25:LEU:CD2 | 2.44 | 0.48 |
| 2:M:1009:SER:OG | 2:M:1010:THR:N | 2.47 | 0.48 |
| 2:M:1074:GLU:HG2 | 2:M:1075:ASP:N | 2.23 | 0.48 |
| 2:M:279:GLU:HG3 | 2:M:280:LYS:N | 2.28 | 0.48 |
| 2:M:304:LEU:HG | 2:M:305:PRO:HD3 | 1.95 | 0.48 |
| 2:M:340:MET:C | 2:M:340:MET:SD | 2.93 | 0.48 |
| 2:M:561:GLY:O | 2:M:564:MET:HG2 | 2.14 | 0.48 |
| 2:M:94:LEU:HD12 | 2:M:95:TYR:H | 1.79 | 0.48 |
| 3:N:1283:ILE:HG22 | 3:N:1284:GLU:N | 2.28 | 0.48 |
| 3:N:206:ARG:HG2 | 3:N:394:LEU:CD2 | 2.43 | 0.48 |
| 3:N:525:ARG:CB | 3:N:540:LEU:HD12 | 2.42 | 0.48 |
| 3:N:577:ALA:O | 3:N:581:LEU:CD2 | 2.61 | 0.48 |
| 3:N:585:GLY:C | 3:N:587:ARG:N | 2.65 | 0.48 |
| 3:N:58:CYS:SG | 3:N:61:GLY:CA | 3.02 | 0.48 |
| 3:N:838:ARG:H | 3:N:838:ARG:HD2 | 1.78 | 0.48 |
| 3:N:970:LYS:O | 3:N:974:ILE:HG13 | 2.13 | 0.48 |
| 4:O:3:GLU:HA | 4:O:3:GLU:OE1 | 2.13 | 0.48 |
| 6:Y:4:G:H2' | 6:Y:5:C:O5' | 2.14 | 0.48 |
| 1:B:20:TYR:HE2 | 1:B:198:ARG:HB2 | 1.78 | 0.48 |
| 2:C:31:GLN:CD | 2:C:71:TYR:OH | 2.51 | 0.48 |
| 2:C:432:ARG:NH1 | 2:C:520:GLU:OE1 | 2.47 | 0.48 |
| 2:C:460:ARG:HH12 | 2:C:462:ASP:CA | 2.27 | 0.48 |
| 2:C:515:ALA:C | 2:C:516:ARG:HD3 | 2.34 | 0.48 |
| 2:C:579:VAL:HG13 | 2:C:842:ARG:NH2 | 2.17 | 0.48 |
| 2:C:862:PRO:HB2 | 2:C:929:ARG:HH12 | 1.78 | 0.48 |
| 3:D:1102:THR:OG1 | 3:D:1222:GLY:O | 2.27 | 0.48 |
| 3:D:525:ARG:HG3 | 3:D:541:ASN:OD1 | 2.14 | 0.48 |
| 3:D:676:MET:SD | 3:D:684:LYS:HE3 | 2.54 | 0.48 |
| 3:D:698:LYS:CD | 4:E:59:ASN:OD1 | 2.62 | 0.48 |
| 3:D:891:GLU:O | 3:D:893:GLU:N | 2.46 | 0.48 |
| 3:D:892:ASP:OD2 | 3:D:895:VAL:HG23 | 2.14 | 0.48 |
| 3:D:951:ILE:CG2 | 3:D:952:ASP:N | 2.77 | 0.48 |
| 3:D:1266:ARG:NH2 | 7:I:4:DG:H4' | 2.29 | 0.48 |
| 1:K:80:LEU:HD23 | 1:K:80:LEU:O | 2.13 | 0.48 |
| 2:M:261:ILE:HD13 | 2:M:262:ALA:H | 1.78 | 0.48 |
| 2:M:512:ARG:HB3 | 2:M:523:ILE:HD11 | 1.94 | 0.48 |
| 2:M:759:THR:HB | 2:M:785:VAL:CG1 | 2.44 | 0.48 |
| 2:M:86:LYS:HD3 | 2:M:813:VAL:CB | 2.32 | 0.48 |
| 2:M:939:ARG:CA | 2:M:939:ARG:NE | 2.64 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 2:M:877:PRO:HG3 | 3:N:1023:MET:SD | 2.54 | 0.48 |
| 3:N:152:LEU:HD23 | 3:N:152:LEU:N | 2.26 | 0.48 |
| 3:D:1154:GLU:H | 3:N:561:GLY:CA | 2.26 | 0.48 |
| 3:N:710:ARG:HH12 | 4:O:16:LYS:HZ3 | 1.62 | 0.48 |
| 3:N:845:ASN:CG | 3:N:846:PRO:CD | 2.82 | 0.48 |
| 3:N:51:GLY:HA3 | 3:N:86:ARG:HA | 1.95 | 0.48 |
| 1:B:9:PRO:HB3 | 1:B:25:LEU:HG | 1.95 | 0.47 |
| 2:C:589:ARG:HA | 2:C:596:TYR:CZ | 2.49 | 0.47 |
| 3:D:1094:LEU:CD2 | 3:D:1256:LEU:HD11 | 2.44 | 0.47 |
| 3:D:456:MET:O | 3:D:459:GLU:HB3 | 2.14 | 0.47 |
| 3:D:651:GLU:O | 3:D:654:LYS:HB2 | 2.14 | 0.47 |
| 3:D:730:PRO:O | 3:D:733:CYS:SG | 2.72 | 0.47 |
| 3:D:834:THR:HA | 3:D:838:ARG:NH1 | 2.28 | 0.47 |
| 3:D:864:VAL:CG1 | 3:D:865:THR:H | 2.13 | 0.47 |
| 3:D:744:GLN:CG | 5:G:21:DG:H21 | 2.19 | 0.47 |
| 1:K:109:VAL:HG23 | 1:K:132:LEU:HD13 | 1.96 | 0.47 |
| 1:K:193:ASP:HA | 2:M:938:LYS:NZ | 2.29 | 0.47 |
| 1:L:89:PHE:HE2 | 1:L:146:ARG:HB3 | 1.79 | 0.47 |
| 2:M:837:ASP:HA | 2:M:999:HIS:CE1 | 2.49 | 0.47 |
| 2:M:878:SER:OG | 3:N:1029:ARG:NE | 2.47 | 0.47 |
| 3:N:486:ARG:HA | 3:N:489:ARG:CG | 2.39 | 0.47 |
| 3:N:808:THR:OG1 | 3:N:809:PRO:HD3 | 2.14 | 0.47 |
| 3:N:829:VAL:O | 3:N:835:SER:HB3 | 2.14 | 0.47 |
| 3:N:871:LYS:HB2 | 3:N:873:LEU:HD21 | 1.94 | 0.47 |
| 2:M:988:VAL:HG11 | 3:N:950:GLY:HA2 | 1.96 | 0.47 |
| 3:N:996:TRP:HA | 3:N:999:THR:CG2 | 2.42 | 0.47 |
| 1:B:49:PRO:CA | 1:B:148:VAL:HG12 | 2.42 | 0.47 |
| 1:B:22:GLU:OE2 | 1:B:198:ARG:HB3 | 2.14 | 0.47 |
| 2:C:431:HIS:CD2 | 2:C:432:ARG:N | 2.83 | 0.47 |
| 2:C:408:ARG:NH2 | 2:C:456:ALA:O | 2.46 | 0.47 |
| 2:C:66:LEU:HD12 | 2:C:99:GLN:C | 2.35 | 0.47 |
| 2:C:701:THR:HG21 | 2:C:830:LYS:HD2 | 1.95 | 0.47 |
| 2:C:926:PHE:HA | 2:C:929:ARG:HB2 | 1.96 | 0.47 |
| 3:D:103:TRP:O | 3:D:107:ASP:HB2 | 2.12 | 0.47 |
| 3:D:1354:LYS:HA | 3:D:1357:ARG:HD2 | 1.96 | 0.47 |
| 3:D:645:PRO:HB2 | 3:D:648:MET:HG3 | 1.97 | 0.47 |
| 3:D:897:TRP:CB | 3:D:900:ILE:CD1 | 2.79 | 0.47 |
| 3:D:21:TRP:HE3 | 3:D:90:MET:SD | 2.37 | 0.47 |
| 3:D:924:MET:HB3 | 4:E:6:ILE:HG23 | 1.96 | 0.47 |
| 1:K:112:ARG:NH1 | 1:K:112:ARG:CG | 2.77 | 0.47 |
| 1:L:137:ARG:O | 1:L:137:ARG:HD3 | 2.14 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 2:M:1069:ALA:O | 2:M:1072:LYS:HB3 | 2.14 | 0.47 |
| 2:M:19:THR:HG22 | 2:M:19:THR:O | 2.15 | 0.47 |
| 2:M:35:PRO:C | 2:M:37:GLU:H | 2.17 | 0.47 |
| 2:M:433:THR:C | 2:M:435:TYR:N | 2.67 | 0.47 |
| 2:M:502:PRO:HB2 | 2:M:509:ALA:HB3 | 1.96 | 0.47 |
| 2:M:692:GLU:O | 2:M:696:LYS:HG3 | 2.14 | 0.47 |
| 2:M:693:GLU:HG3 | 2:M:697:ARG:HH21 | 1.76 | 0.47 |
| 3:N:1100:ASP:HB3 | 3:N:1428:ALA:HB1 | 1.96 | 0.47 |
| 3:N:1303:TYR:O | 3:N:1305:LEU:HD23 | 2.13 | 0.47 |
| 3:N:8:VAL:HG12 | 3:N:9:ARG:N | 2.29 | 0.47 |
| 5:X:13:DA:O5' | 5:X:13:DA:H8 | 1.97 | 0.47 |
| 1:A:133:GLU:HG2 | 1:A:134:GLU:H | 1.80 | 0.47 |
| 2:C:287:GLY:O | 2:C:288:ARG:C | 2.52 | 0.47 |
| 3:D:1066:THR:HG22 | 3:D:1069:GLU:HB2 | 1.95 | 0.47 |
| 2:C:838:LYS:HZ3 | 3:D:742:GLY:HA3 | 1.79 | 0.47 |
| 5:G:5:DC:O5' | 5:G:5:DC:C6 | 2.67 | 0.47 |
| 2:M:272:ALA:O | 2:M:276:LYS:NZ | 2.46 | 0.47 |
| 2:M:259:GLY:HA2 | 2:M:290:LEU:O | 2.13 | 0.47 |
| 3:D:1409:ALA:HA | 2:M:370:ALA:HB1 | 1.95 | 0.47 |
| 2:M:442:GLU:HG2 | 2:M:454:SER:CB | 2.41 | 0.47 |
| 2:M:90:TYR:HB2 | 2:M:128:ILE:HB | 1.96 | 0.47 |
| 2:M:966:LEU:HD21 | 2:M:986:PRO:CG | 2.39 | 0.47 |
| 3:N:1017:PHE:HA | 3:N:1022:VAL:CG2 | 2.43 | 0.47 |
| 3:N:1128:VAL:C | 3:N:1129:THR:HG22 | 2.34 | 0.47 |
| 3:N:1293:PHE:CE1 | 3:N:1302:GLU:HA | 2.49 | 0.47 |
| 3:N:1424:VAL:HG13 | 3:N:1425:THR:N | 2.30 | 0.47 |
| 3:N:480:GLU:O | 3:N:484:PRO:HD2 | 2.14 | 0.47 |
| 2:M:969:GLN:NE2 | 3:N:952:ASP:CB | 2.77 | 0.47 |
| 4:O:73:LEU:HD12 | 4:O:73:LEU:N | 2.30 | 0.47 |
| 5:X:2:DT:H4' | 5:X:2:DT:OP2 | 2.14 | 0.47 |
| 1:A:24:VAL:HG22 | 1:A:196:THR:HG22 | 1.94 | 0.47 |
| 1:A:82:LEU:O | 1:A:85:LEU:HB3 | 2.13 | 0.47 |
| 2:C:1047:HIS:HA | 2:C:1050:GLN:HB3 | 1.97 | 0.47 |
| 2:C:160:ALA:HB3 | 2:C:174:LEU:HB2 | 1.97 | 0.47 |
| 2:C:20:GLU:HG2 | 2:C:21:ILE:CD1 | 2.39 | 0.47 |
| 2:C:553:ASP:OD2 | 2:C:883:GLY:HA3 | 2.15 | 0.47 |
| 2:C:919:ALA:HA | 2:C:968:LEU:HD21 | 1.96 | 0.47 |
| 3:D:1200:VAL:HG12 | 3:D:1201:CYS:N | 2.29 | 0.47 |
| 3:D:1206:GLY:HA3 | 3:D:1366:LYS:HZ1 | 1.79 | 0.47 |
| 3:D:1211:MET:SD | 3:D:1213:ARG:HD3 | 2.55 | 0.47 |
| 3:D:1087:ARG:HB3 | 3:D:1236:LEU:HD13 | 1.96 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 3:D:947:ILE:HD12 | 3:D:947:ILE:O | 2.14 | 0.47 |
| 1:L:98:THR:HG22 | 1:L:100:LEU:HD21 | 1.96 | 0.47 |
| 1:L:226:SER:O | 1:L:228:PRO:HD3 | 2.14 | 0.47 |
| 2:M:378:LEU:HG | 2:M:382:ILE:CD1 | 2.43 | 0.47 |
| 2:M:720:GLU:HA | 2:M:759:THR:O | 2.13 | 0.47 |
| 2:M:80:GLN:N | 2:M:90:TYR:HE2 | 2.12 | 0.47 |
| 2:M:876:VAL:O | 2:M:879:ARG:O | 2.32 | 0.47 |
| 2:M:876:VAL:N | 2:M:877:PRO:HD2 | 2.29 | 0.47 |
| 2:M:902:ILE:O | 2:M:902:ILE:HG22 | 2.13 | 0.47 |
| 3:N:1109:GLU:CB | 3:N:1201:CYS:HA | 2.44 | 0.47 |
| 3:N:1479:ASP:CG | 3:N:1482:ARG:NH2 | 2.67 | 0.47 |
| 3:N:470:LEU:HD12 | 3:N:503:LEU:HG | 1.95 | 0.47 |
| 3:N:549:ASN:O | 3:N:553:ARG:HB2 | 2.14 | 0.47 |
| 3:N:890:VAL:HG23 | 3:N:890:VAL:O | 2.14 | 0.47 |
| 4:O:13:VAL:HG21 | 4:O:19:LEU:HB2 | 1.96 | 0.47 |
| 1:A:102:LYS:CA | 1:A:138:LEU:O | 2.61 | 0.47 |
| 1:A:58:ILE:HD13 | 1:A:140:MET:HB3 | 1.96 | 0.47 |
| 2:C:1020:PRO:HD2 | 3:D:622:ARG:O | 2.15 | 0.47 |
| 2:C:151:ASP:HA | 2:C:159:ILE:HG12 | 1.95 | 0.47 |
| 2:C:184:MET:SD | 2:C:191:PHE:HE1 | 2.37 | 0.47 |
| 2:C:18:LEU:HD22 | 2:C:590:ASP:CB | 2.44 | 0.47 |
| 2:C:736:ASP:O | 2:C:744:ARG:HG2 | 2.15 | 0.47 |
| 2:C:77:PRO:HD2 | 2:C:91:GLN:O | 2.15 | 0.47 |
| 2:C:987:ILE:HG12 | 3:D:948:THR:HG23 | 1.96 | 0.47 |
| 3:D:783:ARG:HB3 | 3:D:1028:ALA:O | 2.15 | 0.47 |
| 3:D:1112:CYS:CA | 3:D:1195:GLN:HG2 | 2.42 | 0.47 |
| 3:D:1234:THR:O | 3:D:1235:GLN:C | 2.51 | 0.47 |
| 3:D:1377:LYS:HG2 | 3:D:1378:TYR:CD1 | 2.49 | 0.47 |
| 3:D:1379:VAL:HA | 3:D:1420:LEU:HB2 | 1.96 | 0.47 |
| 3:D:543:LEU:HD23 | 3:D:546:ARG:HD2 | 1.97 | 0.47 |
| 3:D:576:GLU:CD | 3:D:576:GLU:C | 2.72 | 0.47 |
| 3:D:606:ILE:O | 3:D:613:ARG:N | 2.47 | 0.47 |
| 3:D:640:HIS:NE2 | 3:D:717:GLN:CD | 2.68 | 0.47 |
| 3:D:932:ASP:HA | 3:D:935:LYS:HD3 | 1.96 | 0.47 |
| 4:E:68:LEU:CD1 | 4:E:68:LEU:N | 2.77 | 0.47 |
| 2:C:444:PRO:HB3 | 6:H:12:U:P | 2.54 | 0.47 |
| 7:I:7:DT:H2" | 7:I:8:DG:H8 | 1.79 | 0.47 |
| 1:K:11:PHE:HA | 1:K:25:LEU:HD12 | 1.95 | 0.47 |
| 1:K:165:ILE:HG13 | 1:K:165:ILE:O | 2.15 | 0.47 |
| 1:K:220:GLU:O | 1:K:223:THR:HG22 | 2.14 | 0.47 |
| 1:L:173:PRO:HB2 | 1:L:205:VAL:HG22 | 1.96 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:L:25:LEU:HD23 | 1:L:195:LEU:HB3 | 1.95 | 0.47 |
| 2:M:15:LEU:HD12 | 2:M:15:LEU:H | 1.78 | 0.47 |
| 2:M:334:ARG:HB2 | 2:M:339:LEU:CD2 | 2.41 | 0.47 |
| 2:M:825:VAL:HG12 | 2:M:827:VAL:CG2 | 2.44 | 0.47 |
| 2:M:902:ILE:O | 2:M:904:PRO:HD3 | 2.15 | 0.47 |
| 2:M:971:LYS:CE | 2:M:988:VAL:HG12 | 2.31 | 0.47 |
| 3:N:1100:ASP:OD2 | 3:N:1440:PHE:CG | 2.68 | 0.47 |
| 3:N:1100:ASP:OD2 | 3:N:1440:PHE:HB3 | 2.14 | 0.47 |
| 3:N:1161:GLU:H | 3:N:1161:GLU:CD | 2.17 | 0.47 |
| 3:N:1257:PRO:HA | 3:N:1260:ILE:HG12 | 1.96 | 0.47 |
| 3:N:1322:GLY:O | 3:N:1323:GLN:CB | 2.59 | 0.47 |
| 3:N:90:MET:CE | 3:N:520:LEU:HA | 2.44 | 0.47 |
| 3:N:545:ARG:CZ | 3:N:545:ARG:CB | 2.92 | 0.47 |
| 3:N:587:ARG:C | 3:N:588:GLY:O | 2.52 | 0.47 |
| 3:N:688:TRP:HA | 3:N:688:TRP:HE3 | 1.79 | 0.47 |
| 2:C:1003:ASP:CG | 2:C:1004:LYS:H | 2.17 | 0.47 |
| 2:C:1090:LYS:O | 2:C:1094:ALA:N | 2.47 | 0.47 |
| 2:C:302:VAL:HG13 | 2:C:303:PHE:N | 2.28 | 0.47 |
| 2:C:642:ARG:CG | 2:C:657:ASP:OD2 | 2.63 | 0.47 |
| 3:D:1138:ALA:O | 3:D:1141:GLU:N | 2.48 | 0.47 |
| 3:D:1141:GLU:HG2 | 3:D:1168:MET:HE2 | 1.97 | 0.47 |
| 3:D:1264:GLU:HA | 3:D:1423:GLY:HA3 | 1.96 | 0.47 |
| 3:D:1424:VAL:HG13 | 3:D:1425:THR:H | 1.78 | 0.47 |
| 3:D:731:LEU:HD21 | 3:D:782:SER:N | 2.28 | 0.47 |
| 3:D:738:ALA:HA | 6:H:15:C:C4' | 2.40 | 0.47 |
| 3:D:812:ALA:HB1 | 3:D:816:HIS:CD2 | 2.49 | 0.47 |
| 3:D:845:ASN:CG | 3:D:846:PRO:HD2 | 2.35 | 0.47 |
| 3:D:84:ILE:O | 3:D:87:ARG:HG3 | 2.14 | 0.47 |
| 3:D:925:GLU:OE2 | 4:E:5:GLY:N | 2.48 | 0.47 |
| 1:K:179:PHE:HB2 | 1:K:195:LEU:HD11 | 1.96 | 0.47 |
| 2:M:1014:SER:CB | 2:M:1017:THR:O | 2.59 | 0.47 |
| 2:M:121:MET:HE2 | 2:M:125:GLY:O | 2.14 | 0.47 |
| 2:M:211:LEU:HD13 | 2:M:308:ARG:CD | 2.44 | 0.47 |
| 2:M:355:VAL:HG13 | 2:M:356:ARG:N | 2.28 | 0.47 |
| 2:M:421:GLU:HG3 | 2:M:421:GLU:O | 2.14 | 0.47 |
| 2:M:639:GLN:O | 2:M:641:PRO:HD3 | 2.15 | 0.47 |
| 2:M:749:VAL:C | 2:M:750:LYS:HD2 | 2.35 | 0.47 |
| 3:N:1227:GLN:C | 3:N:1229:ILE:H | 2.18 | 0.47 |
| 3:N:1292:VAL:HG11 | 3:N:1313:VAL:CG1 | 2.45 | 0.47 |
| 3:N:1330:ILE:CD1 | 3:N:1347:TYR:CE1 | 2.97 | 0.47 |
| 3:N:17:LYS:O | 3:N:20:SER:HB3 | 2.14 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 3:N:117:ASP:HB2 | 3:N:495:ARG:HH22 | 1.80 | 0.47 |
| 2:M:685:GLU:HG2 | 3:N:739:ASP:CB | 2.45 | 0.47 |
| 3:N:988:ARG:HD2 | 3:N:988:ARG:C | 2.35 | 0.47 |
| 2:C:128:ILE:HG22 | 2:C:128:ILE:O | 2.15 | 0.47 |
| 2:C:31:GLN:HG2 | 2:C:34:VAL:HG23 | 1.97 | 0.47 |
| 2:C:578:VAL:HG13 | 2:C:671:ASN:CG | 2.35 | 0.47 |
| 2:C:786:LYS:HG2 | 2:C:787:ASP:N | 2.29 | 0.47 |
| 1:A:65:PHE:CE1 | 2:C:799:ILE:CB | 2.97 | 0.47 |
| 2:C:83:CYS:SG | 2:C:90:TYR:HD2 | 2.37 | 0.47 |
| 3:D:1255:GLY:CA | 3:D:1257:PRO:HD2 | 2.45 | 0.47 |
| 3:D:131:LYS:HZ2 | 3:D:564:GLU:HB3 | 1.80 | 0.47 |
| 3:D:1354:LYS:HE3 | 3:D:1357:ARG:NH1 | 2.30 | 0.47 |
| 3:D:1381:VAL:HG12 | 3:D:1382:THR:N | 2.29 | 0.47 |
| 3:D:1468:LEU:HD13 | 3:D:1470:ARG:HB2 | 1.96 | 0.47 |
| 3:D:907:GLU:CD | 3:D:909:ASN:HB2 | 2.35 | 0.47 |
| 1:K:42:ARG:NH2 | 2:M:857:ASP:HB3 | 2.29 | 0.47 |
| 1:K:64:GLU:HA | 1:K:75:VAL:HG11 | 1.95 | 0.47 |
| 1:K:92:PRO:HA | 1:K:146:ARG:NH1 | 2.28 | 0.47 |
| 2:M:269:LEU:CB | 2:M:288:ARG:HG2 | 2.44 | 0.47 |
| 2:M:390:GLN:H | 2:M:390:GLN:HG3 | 1.38 | 0.47 |
| 2:M:433:THR:CG2 | 2:M:488:ALA:HB1 | 2.44 | 0.47 |
| 2:M:433:THR:HG21 | 2:M:488:ALA:HB1 | 1.97 | 0.47 |
| 2:M:557:ARG:HD2 | 2:M:557:ARG:HA | 1.70 | 0.47 |
| 2:M:694:LEU:HD21 | 2:M:868:ASP:HB3 | 1.96 | 0.47 |
| 2:M:757:GLY:HA2 | 2:M:789:SER:OG | 2.14 | 0.47 |
| 2:M:910:LYS:O | 2:M:914:ILE:HG13 | 2.15 | 0.47 |
| 2:M:937:ASP:O | 2:M:941:VAL:HG23 | 2.15 | 0.47 |
| 3:N:1126:ASP:HB2 | 3:N:1129:THR:O | 2.15 | 0.47 |
| 3:N:112:ILE:O | 3:N:112:ILE:HD12 | 2.15 | 0.47 |
| 3:N:1161:GLU:HG2 | 3:N:1164:ARG:HB2 | 1.95 | 0.47 |
| 3:N:1389:LEU:CD1 | 3:N:1390:LEU:HG | 2.45 | 0.47 |
| 3:N:457:GLY:C | 3:N:459:GLU:H | 2.17 | 0.47 |
| 3:N:465:LEU:CD1 | 3:N:510:GLU:HA | 2.45 | 0.47 |
| 3:N:771:SER:HA | 3:N:778:LEU:HD22 | 1.96 | 0.47 |
| 3:N:812:ALA:HB1 | 3:N:816:HIS:CD2 | 2.50 | 0.47 |
| 2:M:969:GLN:NE2 | 3:N:952:ASP:HB3 | 2.29 | 0.47 |
| 2:C:1056:LYS:HE3 | 3:D:751:LEU:HG | 1.97 | 0.47 |
| 2:C:1101:THR:OG1 | 2:C:1109:VAL:HB | 2.13 | 0.47 |
| 2:C:1112:PHE:CD1 | 2:C:1116:ALA:HB2 | 2.50 | 0.47 |
| 2:C:206:THR:HG23 | 2:C:207:LEU:N | 2.30 | 0.47 |
| 2:C:607:ASP:HB3 | 2:C:610:ARG:H | 1.79 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 2:C:861:LEU:HD21 | 2:C:925:TYR:CZ | 2.49 | 0.47 |
| 2:C:922:PHE:HB2 | 2:C:967:PHE:CD2 | 2.50 | 0.47 |
| 3:D:1263:PHE:CE2 | 3:D:1371:VAL:HG11 | 2.49 | 0.47 |
| 3:D:493:ARG:HG3 | 3:D:494:LYS:N | 2.30 | 0.47 |
| 3:D:550:ARG:HA | 3:D:553:ARG:HB3 | 1.97 | 0.47 |
| 3:D:712:GLY:C | 3:D:713:ILE:HG13 | 2.35 | 0.47 |
| 3:D:644:LEU:C | 3:D:721:VAL:HG22 | 2.35 | 0.47 |
| 2:C:983:ILE:HG23 | 3:D:944:THR:HA | 1.96 | 0.47 |
| 4:E:48:MET:N | 4:E:54:LEU:HB2 | 2.29 | 0.47 |
| 1:K:92:PRO:N | 1:K:146:ARG:HH12 | 2.13 | 0.47 |
| 2:M:146:VAL:HG13 | 2:M:161:SER:O | 2.15 | 0.47 |
| 2:M:185:LYS:HG2 | 2:M:188:LYS:O | 2.14 | 0.47 |
| 2:M:170:PRO:CG | 2:M:258:TYR:HE2 | 2.27 | 0.47 |
| 2:M:461:VAL:CG1 | 2:M:465:GLY:HA2 | 2.45 | 0.47 |
| 2:M:518:LYS:CB | 2:M:518:LYS:NZ | 2.77 | 0.47 |
| 2:M:620:LEU:O | 2:M:620:LEU:HD12 | 2.15 | 0.47 |
| 2:M:629:TYR:HB2 | 2:M:637:LEU:HB2 | 1.97 | 0.47 |
| 2:M:730:SER:O | 2:M:734:LEU:HD13 | 2.15 | 0.47 |
| 2:M:3:ILE:HD13 | 2:M:900:ARG:HB3 | 1.97 | 0.47 |
| 3:N:1166:LEU:N | 3:N:1166:LEU:HD23 | 2.24 | 0.47 |
| 3:N:1438:ALA:N | 3:N:1446:VAL:HG11 | 2.29 | 0.47 |
| 3:N:637:LEU:HD11 | 3:N:641:GLN:C | 2.34 | 0.47 |
| 3:N:641:GLN:HA | 3:N:717:GLN:H | 1.80 | 0.47 |
| 3:N:752:SER:OG | 3:N:754:PHE:CB | 2.62 | 0.47 |
| 3:N:850:LEU:HD22 | 3:N:884:ARG:HH21 | 1.80 | 0.47 |
| 1:A:28:LEU:HD13 | 1:A:32:PHE:CB | 2.29 | 0.47 |
| 1:A:48:ILE:CD1 | 1:A:174:VAL:CG2 | 2.92 | 0.47 |
| 1:A:32:PHE:CD1 | 1:B:221:HIS:NE2 | 2.72 | 0.47 |
| 2:C:1034:GLU:O | 2:C:1037:VAL:N | 2.48 | 0.47 |
| 2:C:169:GLY:O | 2:C:170:PRO:O | 2.33 | 0.47 |
| 2:C:292:ARG:HD3 | 2:C:298:PHE:HA | 1.97 | 0.47 |
| 2:C:395:LYS:HZ2 | 2:C:407:LYS:HZ2 | 1.62 | 0.47 |
| 2:C:433:THR:C | 2:C:435:TYR:N | 2.66 | 0.47 |
| 2:C:409:ARG:CA | 2:C:454:SER:HA | 2.33 | 0.47 |
| 2:C:967:PHE:HD1 | 2:C:972:VAL:HG12 | 1.80 | 0.47 |
| 3:D:10:ILE:O | 3:D:1451:ALA:HA | 2.14 | 0.47 |
| 3:D:1459:LEU:HD22 | 3:D:1468:LEU:HD12 | 1.97 | 0.47 |
| 3:D:1496:GLU:CD | 3:D:1500:LYS:HE3 | 2.35 | 0.47 |
| 3:D:615:ARG:HD2 | 3:D:615:ARG:HA | 1.74 | 0.47 |
| 1:K:176:ARG:HG3 | 1:K:200:TRP:HE3 | 1.80 | 0.47 |
| 1:K:188:GLN:HG3 | 1:K:189:ARG:N | 2.25 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:K:55:SER:H | 1:K:143:ARG:HB3 | 1.80 | 0.47 |
| 2:M:332:ARG:CG | 2:M:333:ILE:N | 2.77 | 0.47 |
| 2:M:971:LYS:HE3 | 2:M:988:VAL:CG1 | 2.32 | 0.47 |
| 2:M:971:LYS:HE2 | 2:M:986:PRO:O | 2.15 | 0.47 |
| 3:N:1236:LEU:O | 3:N:1237:THR:CB | 2.63 | 0.47 |
| 3:N:1460:ILE:O | 3:N:1464:GLU:OE2 | 2.33 | 0.47 |
| 3:N:603:LEU:O | 3:N:604:THR:C | 2.53 | 0.47 |
| 3:N:658:LEU:HA | 3:N:661:MET:HG3 | 1.96 | 0.47 |
| 3:N:699:VAL:HB | 3:N:716:PHE:O | 2.15 | 0.47 |
| 3:N:799:LYS:HE2 | 3:N:824:ASN:O | 2.15 | 0.47 |
| 3:N:974:ILE:HG12 | 3:N:991:GLN:OE1 | 2.15 | 0.47 |
| 4:O:57:ASP:N | 4:O:58:PRO:HD3 | 2.29 | 0.47 |
| 2:C:1012:PRO:CD | 2:C:1026:GLN:HG2 | 2.45 | 0.47 |
| 2:C:1111:ILE:HG13 | 2:C:1112:PHE:N | 2.25 | 0.47 |
| 2:C:264:PRO:CB | 2:C:289:THR:HB | 2.45 | 0.47 |
| 2:C:833:LEU:HD12 | 2:C:996:LYS:HE2 | 1.97 | 0.47 |
| 2:C:553:ASP:HA | 2:C:881:ASN:HA | 1.96 | 0.47 |
| 2:C:994:ILE:HG22 | 2:C:995:MET:N | 2.30 | 0.47 |
| 3:D:1123:PHE:HA | 3:D:1133:ARG:O | 2.15 | 0.47 |
| 3:D:603:LEU:O | 3:D:607:LEU:HG | 2.15 | 0.47 |
| 3:D:813:LEU:O | 3:D:817:GLU:HB2 | 2.14 | 0.47 |
| 3:D:943:THR:OG1 | 3:D:944:THR:N | 2.48 | 0.47 |
| 7:I:1:DG:OP3 | 7:I:1:DG:C3' | 2.62 | 0.47 |
| 1:K:58:ILE:HB | 1:K:61:VAL:HB | 1.96 | 0.47 |
| 2:M:1066:ALA:O | 2:M:1070:ILE:HG13 | 2.15 | 0.47 |
| 2:M:170:PRO:HG2 | 2:M:258:TYR:CD2 | 2.50 | 0.47 |
| 2:M:455:LEU:C | 2:M:455:LEU:HD12 | 2.36 | 0.47 |
| 2:M:700:TYR:O | 2:M:833:LEU:HB2 | 2.15 | 0.47 |
| 3:N:1282:ARG:HA | 3:N:1315:ASP:HA | 1.97 | 0.47 |
| 3:N:1313:VAL:HG21 | 3:N:1319:VAL:HG11 | 1.97 | 0.47 |
| 3:N:860:LEU:HD23 | 3:N:877:PRO:CB | 2.45 | 0.47 |
| 4:O:40:LEU:HD23 | 4:O:72:ARG:HE | 1.79 | 0.47 |
| 2:M:393:GLN:HG2 | 6:Y:10:G:O2' | 2.14 | 0.47 |
| 1:A:216:GLU:O | 1:A:220:GLU:HB2 | 2.14 | 0.47 |
| 1:B:47:SER:OG | 1:B:217:ILE:HG12 | 2.14 | 0.47 |
| 2:C:442:GLU:HG2 | 2:C:454:SER:CB | 2.44 | 0.47 |
| 2:C:12:VAL:CG1 | 2:C:472:ARG:HD3 | 2.45 | 0.47 |
| 2:C:607:ASP:OD2 | 2:C:608:GLY:N | 2.47 | 0.47 |
| 2:C:607:ASP:HB2 | 2:C:610:ARG:NH1 | 2.29 | 0.47 |
| 2:C:903:SER:O | 2:C:904:PRO:O | 2.33 | 0.47 |
| 3:D:1093:TYR:HE2 | 3:D:1096:ARG:CZ | 2.28 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:D:1209:LEU:HD23 | 3:D:1211:MET:N | 2.12 | 0.47 |
| 3:D:128:TYR:HB3 | 3:D:129:PHE:CD1 | 2.50 | 0.47 |
| 3:D:1435:LEU:HB2 | 3:D:1464:GLU:HB3 | 1.95 | 0.47 |
| 3:D:1219:GLU:HB2 | 4:E:17:TYR:HE2 | 1.79 | 0.47 |
| 1:K:19:GLU:O | 1:K:201:THR:N | 2.40 | 0.47 |
| 1:L:176:ARG:O | 1:L:200:TRP:HE3 | 1.98 | 0.47 |
| 2:M:1054:THR:O | 2:M:1056:LYS:N | 2.48 | 0.47 |
| 2:M:327:HIS:HE1 | 2:M:489:THR:HA | 1.80 | 0.47 |
| 2:M:468:ARG:HA | 2:M:486:MET:O | 2.14 | 0.47 |
| 2:M:603:VAL:HG12 | 2:M:646:GLY:H | 1.80 | 0.47 |
| 3:N:1031:ASN:O | 3:N:1032:PRO:C | 2.53 | 0.47 |
| 3:N:1223:ILE:N | 3:N:1223:ILE:HD12 | 2.30 | 0.47 |
| 3:N:149:LYS:HG3 | 3:N:149:LYS:H | 1.41 | 0.47 |
| 3:N:187:LYS:HG3 | 3:N:198:ARG:C | 2.35 | 0.47 |
| 3:N:206:ARG:HB2 | 3:N:392:SER:C | 2.35 | 0.47 |
| 3:N:786:ILE:HD13 | 3:N:1027:GLY:HA3 | 1.97 | 0.47 |
| 3:N:911:LEU:O | 3:N:915:VAL:HG23 | 2.14 | 0.47 |
| 3:N:925:GLU:O | 3:N:928:ALA:HB3 | 2.15 | 0.47 |
| 3:N:941:PHE:O | 3:N:945:SER:HB3 | 2.15 | 0.47 |
| 4:O:38:THR:OG1 | 4:O:39:VAL:N | 2.48 | 0.47 |
| 5:X:5:DC:H2'' | 5:X:6:DT:O5' | 2.15 | 0.47 |
| 1:A:9:PRO:HB3 | 1:A:25:LEU:HG | 1.96 | 0.46 |
| 1:B:73:GLU:HB3 | 1:B:77:GLU:CG | 2.45 | 0.46 |
| 2:C:1022:GLY:CA | 2:C:1026:GLN:O | 2.62 | 0.46 |
| 2:C:423:ALA:CB | 7:I:1:DG:C5' | 2.78 | 0.46 |
| 2:C:578:VAL:HG13 | 2:C:671:ASN:CB | 2.45 | 0.46 |
| 2:C:627:ARG:O | 2:C:638:ASP:HB3 | 2.15 | 0.46 |
| 2:C:7:GLY:HA3 | 2:C:907:ASP:OD2 | 2.14 | 0.46 |
| 2:C:832:LYS:O | 2:C:833:LEU:C | 2.53 | 0.46 |
| 3:D:1102:THR:O | 3:D:1103:HIS:O | 2.33 | 0.46 |
| 3:D:41:ARG:HD3 | 3:D:43:GLY:H | 1.80 | 0.46 |
| 3:D:964:LEU:O | 3:D:968:ASP:HB2 | 2.14 | 0.46 |
| 5:G:2:DT:OP1 | 5:G:2:DT:H6 | 1.98 | 0.46 |
| 7:I:7:DT:H2'' | 7:I:8:DG:OP2 | 2.14 | 0.46 |
| 1:L:109:VAL:O | 1:L:129:ILE:HG12 | 2.14 | 0.46 |
| 1:L:162:ILE:HD11 | 1:L:163:ASN:ND2 | 2.30 | 0.46 |
| 2:M:162:ILE:HD12 | 2:M:172:ILE:CB | 2.45 | 0.46 |
| 2:M:356:ARG:NH1 | 2:M:356:ARG:HB2 | 2.30 | 0.46 |
| 2:M:35:PRO:C | 2:M:37:GLU:N | 2.67 | 0.46 |
| 2:M:580:MET:SD | 2:M:584:GLU:CG | 3.00 | 0.46 |
| 2:M:589:ARG:HA | 2:M:596:TYR:CE1 | 2.50 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:N:1107:VAL:O | 3:N:1218:GLY:N | 2.48 | 0.46 |
| 3:N:1381:VAL:HA | 3:N:1417:TRP:HA | 1.96 | 0.46 |
| 3:N:1443:THR:HA | 3:N:1446:VAL:HG21 | 1.97 | 0.46 |
| 3:N:728:LEU:HG | 3:N:729:HIS:O | 2.14 | 0.46 |
| 3:N:736:PHE:CD1 | 3:N:736:PHE:N | 2.79 | 0.46 |
| 3:N:704:ARG:CZ | 3:N:737:ASN:O | 2.62 | 0.46 |
| 4:O:34:GLY:O | 4:O:37:ASN:ND2 | 2.48 | 0.46 |
| 1:A:127:LEU:HG | 1:A:129:ILE:HD13 | 1.97 | 0.46 |
| 1:B:184:THR:O | 1:B:192:LEU:HD12 | 2.16 | 0.46 |
| 1:B:185:ARG:HG2 | 1:B:186:LEU:N | 2.29 | 0.46 |
| 2:C:1006:HIS:HA | 2:C:1027:PHE:CD1 | 2.50 | 0.46 |
| 2:C:1087:VAL:HG13 | 2:C:1088:LEU:N | 2.31 | 0.46 |
| 2:C:139:GLN:OE1 | 2:C:418:LEU:HD22 | 2.14 | 0.46 |
| 2:C:257:VAL:C | 2:C:259:GLY:H | 2.19 | 0.46 |
| 2:C:328:LEU:HB2 | 2:C:433:THR:CB | 2.44 | 0.46 |
| 2:C:499:ALA:HA | 2:C:532:MET:SD | 2.55 | 0.46 |
| 2:C:606:VAL:HG21 | 2:C:645:VAL:HG22 | 1.96 | 0.46 |
| 2:C:724:ARG:NH2 | 2:C:734:LEU:O | 2.48 | 0.46 |
| 2:C:737:LEU:HA | 2:C:743:VAL:HA | 1.97 | 0.46 |
| 3:D:10:ILE:O | 3:D:1450:ALA:O | 2.32 | 0.46 |
| 3:D:1445:HIS:O | 3:D:1446:VAL:C | 2.53 | 0.46 |
| 2:C:1034:GLU:OE1 | 3:D:619:LEU:HD22 | 2.15 | 0.46 |
| 2:C:1039:ALA:HB2 | 3:D:707:THR:HG22 | 1.96 | 0.46 |
| 3:D:771:SER:O | 3:D:774:SER:O | 2.33 | 0.46 |
| 3:D:800:LYS:HG3 | 3:D:829:VAL:HG12 | 1.98 | 0.46 |
| 4:E:41:GLU:N | 4:E:42:PRO:CD | 2.77 | 0.46 |
| 5:G:23:DG:C2 | 6:H:11:C:O2 | 2.68 | 0.46 |
| 1:L:57:TYR:CE2 | 1:L:161:ARG:HG2 | 2.51 | 0.46 |
| 1:L:43:ILE:HG23 | 1:L:47:SER:HB3 | 1.97 | 0.46 |
| 2:M:139:GLN:OE1 | 2:M:414:GLY:HA3 | 2.15 | 0.46 |
| 2:M:257:VAL:C | 2:M:259:GLY:H | 2.19 | 0.46 |
| 2:M:437:ARG:O | 2:M:438:ILE:HD12 | 2.14 | 0.46 |
| 2:M:402:SER:HB3 | 2:M:566:THR:O | 2.16 | 0.46 |
| 2:M:605:LYS:O | 2:M:611:ILE:HA | 2.15 | 0.46 |
| 2:M:575:GLN:C | 2:M:667:ALA:HB1 | 2.36 | 0.46 |
| 3:N:115:LEU:HD23 | 3:N:115:LEU:O | 2.15 | 0.46 |
| 3:N:1447:LEU:HA | 3:N:1450:ALA:HB3 | 1.97 | 0.46 |
| 3:N:693:GLU:CA | 4:O:48:MET:CE | 2.83 | 0.46 |
| 1:B:65:PHE:CD1 | 1:B:65:PHE:N | 2.83 | 0.46 |
| 2:C:1093:GLN:O | 3:D:21:TRP:CZ3 | 2.68 | 0.46 |
| 2:C:1095:LEU:CB | 2:C:1097:LEU:HD23 | 2.42 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 2:C:1101:THR:O | 2:C:1102:LEU:HD12 | 2.16 | 0.46 |
| 2:C:304:LEU:N | 2:C:305:PRO:CD | 2.78 | 0.46 |
| 3:D:1027:GLY:O | 3:D:1028:ALA:C | 2.54 | 0.46 |
| 3:D:1109:GLU:HG2 | 3:D:1202:GLN:N | 2.29 | 0.46 |
| 3:D:1378:TYR:HH | 3:D:1431:THR:HA | 1.79 | 0.46 |
| 3:D:1433:SER:CA | 3:D:1457:ASP:OD2 | 2.64 | 0.46 |
| 3:D:30:GLU:CB | 3:D:41:ARG:HG3 | 2.45 | 0.46 |
| 4:E:95:VAL:O | 4:E:96:GLU:HB2 | 2.15 | 0.46 |
| 1:K:27:PRO:HG2 | 1:K:186:LEU:HD13 | 1.97 | 0.46 |
| 1:K:213:GLN:O | 1:K:216:GLU:HB2 | 2.15 | 0.46 |
| 2:M:5:ARG:HB3 | 2:M:902:ILE:CB | 2.43 | 0.46 |
| 2:M:691:SER:HA | 2:M:858:MET:CE | 2.44 | 0.46 |
| 2:M:874:LEU:HD11 | 3:N:783:ARG:HB2 | 1.97 | 0.46 |
| 3:N:1122:LEU:HD11 | 3:N:1186:VAL:HG23 | 1.96 | 0.46 |
| 3:N:1200:VAL:HG12 | 3:N:1201:CYS:O | 2.14 | 0.46 |
| 3:N:1292:VAL:HG23 | 3:N:1305:LEU:CG | 2.37 | 0.46 |
| 3:N:1438:ALA:CB | 3:N:1446:VAL:HG11 | 2.45 | 0.46 |
| 3:N:55:ASP:O | 3:N:81:THR:O | 2.33 | 0.46 |
| 3:N:891:GLU:O | 3:N:893:GLU:N | 2.49 | 0.46 |
| 2:C:1012:PRO:HB2 | 2:C:1021:LEU:O | 2.16 | 0.46 |
| 2:C:259:GLY:HA2 | 2:C:290:LEU:O | 2.15 | 0.46 |
| 2:C:295:ASP:C | 2:C:297:GLU:H | 2.18 | 0.46 |
| 2:C:676:ILE:CG2 | 2:C:988:VAL:HG22 | 2.44 | 0.46 |
| 2:C:724:ARG:HD2 | 2:C:737:LEU:O | 2.16 | 0.46 |
| 3:D:1042:ARG:NE | 3:D:1073:SER:HB2 | 2.30 | 0.46 |
| 3:D:1206:GLY:HA3 | 3:D:1366:LYS:HZ2 | 1.80 | 0.46 |
| 4:E:45:ARG:HG2 | 4:E:46:PRO:CD | 2.45 | 0.46 |
| 4:E:85:LEU:HD23 | 4:E:85:LEU:C | 2.36 | 0.46 |
| 1:L:76:VAL:O | 1:L:79:ILE:HG12 | 2.15 | 0.46 |
| 2:M:1053:LEU:HD12 | 3:N:1469:GLY:CA | 2.44 | 0.46 |
| 2:M:95:TYR:CD2 | 2:M:114:PHE:HB3 | 2.49 | 0.46 |
| 2:M:287:GLY:O | 2:M:288:ARG:C | 2.53 | 0.46 |
| 2:M:692:GLU:CD | 2:M:854:PRO:HA | 2.36 | 0.46 |
| 2:M:869:VAL:CG2 | 2:M:870:ILE:N | 2.78 | 0.46 |
| 3:N:112:ILE:HD11 | 3:N:116:LEU:CD1 | 2.45 | 0.46 |
| 3:N:1129:THR:CB | 3:N:1320:GLU:OE1 | 2.62 | 0.46 |
| 3:N:1396:GLU:O | 3:N:1399:ASP:HB2 | 2.16 | 0.46 |
| 3:N:455:ARG:HD2 | 3:N:455:ARG:N | 2.30 | 0.46 |
| 3:N:675:ARG:HA | 3:N:678:GLU:OE2 | 2.16 | 0.46 |
| 3:N:741:ASP:OD2 | 3:N:743:ASP:OD2 | 2.33 | 0.46 |
| 3:N:774:SER:OG | 3:N:776:GLU:HB2 | 2.15 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:N:840:LYS:HB3 | 3:N:841:TYR:CE2 | 2.51 | 0.46 |
| 3:N:698:LYS:HE2 | 4:O:59:ASN:OD1 | 2.16 | 0.46 |
| 1:A:34:VAL:HG13 | 1:A:35:THR:N | 2.30 | 0.46 |
| 1:B:59:GLU:CB | 1:B:137:ARG:HH22 | 2.27 | 0.46 |
| 2:C:1091:GLU:O | 2:C:1094:ALA:HB3 | 2.15 | 0.46 |
| 2:C:1115:LEU:CD1 | 2:C:1115:LEU:N | 2.78 | 0.46 |
| 2:C:130:ASN:HD21 | 2:C:383:ARG:HH21 | 1.64 | 0.46 |
| 2:C:310:LEU:O | 2:C:314:THR:HG23 | 2.16 | 0.46 |
| 2:C:468:ARG:CB | 2:C:485:TYR:HB3 | 2.45 | 0.46 |
| 2:C:580:MET:CE | 2:C:902:ILE:HG12 | 2.46 | 0.46 |
| 2:C:918:LEU:O | 2:C:967:PHE:HE2 | 1.99 | 0.46 |
| 3:D:1341:PRO:C | 3:D:1343:ALA:N | 2.69 | 0.46 |
| 3:D:1433:SER:HA | 3:D:1457:ASP:OD2 | 2.16 | 0.46 |
| 3:D:1468:LEU:HD23 | 3:D:1468:LEU:O | 2.15 | 0.46 |
| 3:D:949:ILE:HD13 | 3:D:1019:PRO:HB2 | 1.97 | 0.46 |
| 5:G:10:DA:H2'' | 5:G:11:DC:H6 | 1.80 | 0.46 |
| 6:H:6:C:C4 | 6:H:7:G:C6 | 3.03 | 0.46 |
| 1:K:49:PRO:CA | 1:K:148:VAL:HG22 | 2.46 | 0.46 |
| 1:L:165:ILE:HG13 | 1:L:165:ILE:O | 2.16 | 0.46 |
| 2:M:221:LEU:HG | 2:M:222:MET:N | 2.30 | 0.46 |
| 2:M:291:ALA:O | 2:M:292:ARG:HB2 | 2.15 | 0.46 |
| 2:M:437:ARG:CZ | 2:M:491:GLU:OE2 | 2.64 | 0.46 |
| 2:M:754:ILE:HA | 2:M:791:ARG:HA | 1.98 | 0.46 |
| 3:N:1112:CYS:HB2 | 3:N:1195:GLN:HG2 | 1.98 | 0.46 |
| 3:N:1225:ALA:O | 3:N:1229:ILE:HG13 | 2.15 | 0.46 |
| 3:N:623:VAL:CG1 | 3:N:624:ASP:N | 2.79 | 0.46 |
| 3:N:658:LEU:O | 3:N:661:MET:HB2 | 2.14 | 0.46 |
| 3:N:785:ILE:HD12 | 3:N:939:PHE:CE2 | 2.51 | 0.46 |
| 4:O:23:VAL:O | 4:O:26:ARG:HB3 | 2.15 | 0.46 |
| 6:Y:5:C:H2' | 6:Y:6:C:OP1 | 2.15 | 0.46 |
| 2:C:263:ASP:HB2 | 2:C:264:PRO:CD | 2.39 | 0.46 |
| 2:C:326:ASP:O | 2:C:431:HIS:CG | 2.69 | 0.46 |
| 2:C:358:ARG:NH1 | 2:C:374:ASN:OD1 | 2.46 | 0.46 |
| 2:C:73:LEU:CB | 2:C:93:PRO:O | 2.61 | 0.46 |
| 2:C:966:LEU:HD12 | 2:C:966:LEU:HA | 1.77 | 0.46 |
| 3:D:1127:GLU:O | 3:D:1128:VAL:CG2 | 2.63 | 0.46 |
| 3:D:1164:ARG:HG2 | 3:D:1165:TYR:N | 2.31 | 0.46 |
| 3:D:1336:LEU:HD12 | 3:D:1340:GLY:HA2 | 1.98 | 0.46 |
| 3:D:1096:ARG:NH2 | 3:D:1440:PHE:CE2 | 2.84 | 0.46 |
| 3:D:33:ASN:HD21 | 3:D:35:ARG:HH12 | 1.64 | 0.46 |
| 3:D:704:ARG:HB2 | 3:D:745:MET:CE | 2.46 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 3:D:758:GLU:CB | 3:D:762:GLN:HE21 | 2.27 | 0.46 |
| 7:I:17:DA:C8 | 7:I:17:DA:O5' | 2.66 | 0.46 |
| 1:K:11:PHE:CA | 1:K:25:LEU:HD12 | 2.46 | 0.46 |
| 2:M:151:ASP:OD1 | 2:M:152:PRO:HD2 | 2.16 | 0.46 |
| 2:M:284:ARG:HG2 | 2:M:301:GLU:CD | 2.36 | 0.46 |
| 2:M:342:ASP:HA | 2:M:345:ARG:HD3 | 1.97 | 0.46 |
| 2:M:428:ARG:NE | 2:M:451:LEU:HD21 | 2.31 | 0.46 |
| 2:M:616:GLU:OE1 | 2:M:616:GLU:HA | 2.16 | 0.46 |
| 2:M:680:ASP:HB2 | 2:M:682:TYR:CE2 | 2.51 | 0.46 |
| 2:M:773:LEU:O | 2:M:777:ILE:HG13 | 2.15 | 0.46 |
| 3:N:1379:VAL:CG1 | 3:N:1419:PRO:HA | 2.41 | 0.46 |
| 3:N:160:GLU:CB | 3:N:165:LYS:HB2 | 2.45 | 0.46 |
| 3:N:19:ARG:HE | 3:N:516:ALA:HB1 | 1.80 | 0.46 |
| 4:O:8:LYS:O | 4:O:12:MET:HG3 | 2.14 | 0.46 |
| 1:B:6:LEU:O | 1:B:8:ALA:N | 2.47 | 0.46 |
| 2:C:212:GLY:HA3 | 2:C:218:VAL:CG2 | 2.46 | 0.46 |
| 2:C:157:ARG:NH1 | 2:C:314:THR:O | 2.46 | 0.46 |
| 2:C:560:MET:O | 2:C:564:MET:HG2 | 2.15 | 0.46 |
| 2:C:679:PHE:N | 2:C:683:ASN:HD21 | 2.07 | 0.46 |
| 3:D:100:ALA:N | 3:D:128:TYR:OH | 2.49 | 0.46 |
| 2:C:1093:GLN:HB3 | 3:D:21:TRP:CZ3 | 2.50 | 0.46 |
| 3:D:521:PRO:HD2 | 3:D:524:LEU:CD2 | 2.45 | 0.46 |
| 2:C:1035:MET:O | 3:D:707:THR:HB | 2.15 | 0.46 |
| 7:I:10:DG:C2' | 7:I:11:DG:OP2 | 2.44 | 0.46 |
| 1:K:70:GLY:H | 2:M:607:ASP:CG | 2.17 | 0.46 |
| 1:K:94:LEU:HD11 | 1:K:119:ASP:CB | 2.46 | 0.46 |
| 1:L:73:GLU:OE1 | 1:L:130:ALA:HA | 2.16 | 0.46 |
| 2:M:395:LYS:HG2 | 2:M:397:GLU:HG3 | 1.97 | 0.46 |
| 2:M:510:ALA:O | 2:M:513:VAL:HG23 | 2.15 | 0.46 |
| 2:M:839:LEU:CD2 | 2:M:996:LYS:HA | 2.46 | 0.46 |
| 3:N:1066:THR:HG22 | 3:N:1069:GLU:HB2 | 1.98 | 0.46 |
| 3:N:1277:ILE:HB | 3:N:1294:VAL:CG2 | 2.45 | 0.46 |
| 3:N:1364:HIS:ND1 | 3:N:1365:ASP:N | 2.64 | 0.46 |
| 3:N:1399:ASP:O | 3:N:1403:LEU:HG | 2.15 | 0.46 |
| 3:N:1462:LEU:O | 3:N:1466:VAL:N | 2.45 | 0.46 |
| 5:X:23:DG:H2' | 5:X:24:DC:H6 | 1.78 | 0.46 |
| 2:M:1021:LEU:HD13 | 6:Y:5:C:O2 | 2.16 | 0.46 |
| 1:B:74:ASP:HB3 | 3:D:872:ARG:NH2 | 2.21 | 0.46 |
| 2:C:1010:THR:HG22 | 2:C:1011:GLY:N | 2.31 | 0.46 |
| 2:C:101:ILE:CD1 | 2:C:107:LEU:HD22 | 2.46 | 0.46 |
| 2:C:141:HIS:O | 2:C:331:ARG:HB3 | 2.15 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 2:C:54:ILE:HG12 | 2:C:64:LEU:CD2 | 2.45 | 0.46 |
| 2:C:726:ILE:HD12 | 2:C:726:ILE:N | 2.31 | 0.46 |
| 2:C:868:ASP:N | 2:C:868:ASP:OD1 | 2.49 | 0.46 |
| 3:D:1087:ARG:NE | 3:D:1236:LEU:HD11 | 2.30 | 0.46 |
| 3:D:133:ILE:HG23 | 3:D:456:MET:HB3 | 1.97 | 0.46 |
| 3:D:163:TYR:N | 3:D:163:TYR:HD1 | 2.13 | 0.46 |
| 2:C:1098:ASP:OD1 | 3:D:17:LYS:HD3 | 2.16 | 0.46 |
| 3:D:610:LYS:O | 3:D:615:ARG:CG | 2.54 | 0.46 |
| 3:D:660:LYS:HZ3 | 3:D:660:LYS:HB2 | 1.80 | 0.46 |
| 3:D:711:LEU:C | 3:D:713:ILE:N | 2.69 | 0.46 |
| 1:K:220:GLU:O | 1:K:224:TYR:CE2 | 2.69 | 0.46 |
| 1:L:206:THR:HG22 | 1:L:209:GLU:H | 1.79 | 0.46 |
| 1:L:48:ILE:CD1 | 1:L:210:ALA:HB1 | 2.45 | 0.46 |
| 2:M:101:ILE:HG23 | 2:M:107:LEU:CD2 | 2.45 | 0.46 |
| 2:M:277:ALA:O | 2:M:278:GLU:C | 2.54 | 0.46 |
| 2:M:650:ARG:CG | 2:M:653:ASP:HB2 | 2.36 | 0.46 |
| 2:M:874:LEU:HD13 | 3:N:783:ARG:HB2 | 1.98 | 0.46 |
| 2:M:549:PHE:CE2 | 2:M:886:LEU:HB3 | 2.51 | 0.46 |
| 3:N:1117:TYR:HE2 | 3:N:1151:ARG:NH1 | 2.13 | 0.46 |
| 3:N:1158:VAL:HG12 | 3:N:1159:ARG:N | 2.31 | 0.46 |
| 3:N:1281:VAL:CG1 | 3:N:1282:ARG:N | 2.79 | 0.46 |
| 3:N:471:GLU:OE1 | 3:N:471:GLU:N | 2.33 | 0.46 |
| 3:N:484:PRO:HB3 | 3:N:488:ARG:CZ | 2.45 | 0.46 |
| 3:N:711:LEU:C | 3:N:713:ILE:N | 2.69 | 0.46 |
| 3:N:796:ARG:HB2 | 3:N:828:LYS:HD2 | 1.97 | 0.46 |
| 4:O:15:SER:O | 4:O:18:ARG:HB3 | 2.16 | 0.46 |
| 1:A:31:GLY:O | 1:A:34:VAL:HG13 | 2.15 | 0.46 |
| 2:C:300:ASP:O | 2:C:304:LEU:CD2 | 2.64 | 0.46 |
| 2:C:329:GLY:O | 2:C:330:ASN:ND2 | 2.39 | 0.46 |
| 3:D:1197:ARG:NH1 | 3:D:1198:TYR:HD1 | 2.14 | 0.46 |
| 3:D:127:LEU:HD12 | 3:D:127:LEU:O | 2.15 | 0.46 |
| 3:D:1372:VAL:HA | 3:D:1375:MET:CE | 2.45 | 0.46 |
| 3:D:1397:LYS:CE | 3:D:1432:LYS:HZ1 | 2.29 | 0.46 |
| 3:D:1445:HIS:O | 3:D:1448:THR:HB | 2.16 | 0.46 |
| 3:D:1487:VAL:HG12 | 3:D:1488:ASP:N | 2.30 | 0.46 |
| 3:D:554:LEU:HG | 3:D:558:LEU:HD11 | 1.98 | 0.46 |
| 2:M:266:ARG:CA | 2:M:288:ARG:HD3 | 2.45 | 0.46 |
| 2:M:313:LEU:HA | 2:M:321:GLU:OE1 | 2.15 | 0.46 |
| 2:M:140:ILE:HA | 2:M:332:ARG:O | 2.15 | 0.46 |
| 2:M:673:LEU:HB3 | 2:M:868:ASP:OD1 | 2.16 | 0.46 |
| 2:M:737:LEU:HA | 2:M:743:VAL:HA | 1.97 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 2:M:94:LEU:HD12 | 2:M:95:TYR:N | 2.30 | 0.46 |
| 3:N:1259:VAL:O | 3:N:1263:PHE:HD1 | 1.98 | 0.46 |
| 3:N:1341:PRO:C | 3:N:1343:ALA:N | 2.68 | 0.46 |
| 3:N:1394:VAL:O | 3:N:1397:LYS:HB3 | 2.15 | 0.46 |
| 3:N:1438:ALA:HB2 | 3:N:1446:VAL:HG11 | 1.98 | 0.46 |
| 3:N:136:ASP:OD2 | 3:N:467:GLU:CD | 2.54 | 0.46 |
| 3:N:712:GLY:C | 3:N:713:ILE:HG13 | 2.36 | 0.46 |
| 3:N:917:GLN:O | 3:N:920:LEU:HB2 | 2.16 | 0.46 |
| 3:N:950:GLY:N | 3:N:953:ASP:OD1 | 2.49 | 0.46 |
| 4:O:41:GLU:HG2 | 4:O:42:PRO:HD3 | 1.98 | 0.46 |
| 4:O:48:MET:N | 4:O:54:LEU:HB2 | 2.31 | 0.46 |
| 5:X:17:DA:C2' | 5:X:17:DA:O5' | 2.61 | 0.46 |
| 7:Z:3:DA:H2'' | 7:Z:4:DG:OP2 | 2.16 | 0.46 |
| 1:A:117:VAL:O | 1:A:120:VAL:HG12 | 2.16 | 0.46 |
| 1:A:30:ARG:HH11 | 1:A:191:ASP:HB2 | 1.80 | 0.46 |
| 2:C:1032:PHE:CE2 | 2:C:1037:VAL:HG22 | 2.51 | 0.46 |
| 2:C:185:LYS:HG2 | 2:C:188:LYS:O | 2.16 | 0.46 |
| 2:C:136:ILE:HG21 | 2:C:336:VAL:HG13 | 1.98 | 0.46 |
| 2:C:141:HIS:HB3 | 2:C:418:LEU:HD23 | 1.98 | 0.46 |
| 2:C:543:ASN:OD1 | 2:C:543:ASN:C | 2.54 | 0.46 |
| 3:D:105:VAL:HA | 3:D:112:ILE:HG21 | 1.98 | 0.46 |
| 3:D:1153:VAL:CA | 3:N:561:GLY:HA3 | 2.45 | 0.46 |
| 3:D:1450:ALA:O | 3:D:1453:ALA:O | 2.33 | 0.46 |
| 3:D:25:GLU:HB2 | 3:D:92:HIS:CE1 | 2.50 | 0.46 |
| 3:D:676:MET:SD | 3:D:682:ASP:O | 2.74 | 0.46 |
| 3:D:925:GLU:OE1 | 4:E:6:ILE:N | 2.45 | 0.46 |
| 4:E:4:PRO:HG2 | 4:E:66:LYS:HZ2 | 1.80 | 0.46 |
| 1:L:59:GLU:HB2 | 1:L:137:ARG:NH2 | 2.30 | 0.46 |
| 2:M:683:ASN:ND2 | 2:M:683:ASN:C | 2.68 | 0.46 |
| 3:N:1209:LEU:HD21 | 4:O:16:LYS:CE | 2.45 | 0.46 |
| 3:N:1294:VAL:CG1 | 3:N:1319:VAL:HG21 | 2.27 | 0.46 |
| 5:X:10:DA:H2'' | 5:X:11:DC:O5' | 2.16 | 0.46 |
| 5:X:10:DA:H1' | 5:X:11:DC:H5' | 1.97 | 0.46 |
| 5:X:12:DA:C2 | 5:X:13:DA:C5 | 3.04 | 0.46 |
| 7:Z:6:DT:H2'' | 7:Z:7:DT:OP2 | 2.16 | 0.46 |
| 1:A:2:LEU:HA | 1:A:6:LEU:HD22 | 1.98 | 0.45 |
| 2:C:301:GLU:HA | 2:C:304:LEU:HD21 | 1.98 | 0.45 |
| 2:C:307:LEU:HD12 | 2:C:307:LEU:HA | 1.74 | 0.45 |
| 2:C:136:ILE:CG2 | 2:C:336:VAL:HG22 | 2.46 | 0.45 |
| 2:C:458:TYR:O | 2:C:459:ALA:C | 2.54 | 0.45 |
| 2:C:589:ARG:HA | 2:C:596:TYR:OH | 2.16 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------------|--------------------------|-------------------|
| 2:C:937:ASP:OD2 | 2:C:938:LYS:N | 2.49 | 0.45 |
| 3:D:1031:ASN:HA | 3:D:1032:PRO:HD3 | 1.51 | 0.45 |
| 3:D:10:ILE:HD11 | 3:D:1434:TRP:HE1 | 1.80 | 0.45 |
| 3:D:554:LEU:CD1 | 3:D:558:LEU:HD21 | 2.44 | 0.45 |
| 3:D:629:SER:HB3 | 3:D:726:ILE:HD11 | 1.98 | 0.45 |
| 1:K:96:THR:HA | 1:K:144:VAL:O | 2.16 | 0.45 |
| 2:M:1038:TRP:HA | 2:M:1041:GLU:CD | 2.36 | 0.45 |
| 2:M:1060:ILE:HG23 | 2:M:1061:GLU:N | 2.26 | 0.45 |
| 2:M:313:LEU:CD1 | 2:M:321:GLU:HG2 | 2.36 | 0.45 |
| 2:M:673:LEU:HD23 | 2:M:674:VAL:N | 2.31 | 0.45 |
| 2:M:692:GLU:OE1 | 2:M:854:PRO:HA | 2.16 | 0.45 |
| 3:N:1094:LEU:O | 3:N:1097:LYS:HB2 | 2.16 | 0.45 |
| 3:N:116:LEU:O | 3:N:118:LEU:N | 2.49 | 0.45 |
| 3:N:121:THR:OG1 | 7:Z:8:DG:H5 ⁷ | 2.16 | 0.45 |
| 3:N:1105:ILE:HB | 3:N:1222:GLY:HA3 | 1.98 | 0.45 |
| 3:N:1232:PRO:O | 3:N:1234:THR:N | 2.40 | 0.45 |
| 3:N:1256:LEU:HB3 | 3:N:1257:PRO:HD3 | 1.98 | 0.45 |
| 3:N:431:VAL:HG12 | 3:N:432:TYR:N | 2.30 | 0.45 |
| 3:D:1154:GLU:HB2 | 3:N:562:ALA:CA | 2.47 | 0.45 |
| 3:N:613:ARG:O | 3:N:616:GLN:HB3 | 2.16 | 0.45 |
| 3:N:637:LEU:HD11 | 3:N:642:CYS:HA | 1.97 | 0.45 |
| 3:N:762:GLN:HE22 | 4:O:17:TYR:HD1 | 1.65 | 0.45 |
| 3:N:76:CYS:SG | 3:N:76:CYS:O | 2.74 | 0.45 |
| 2:M:677:MET:CB | 3:N:948:THR:CG2 | 2.94 | 0.45 |
| 4:O:64:ALA:O | 4:O:68:LEU:HD13 | 2.16 | 0.45 |
| 2:C:1054:THR:O | 2:C:1056:LYS:N | 2.49 | 0.45 |
| 2:C:159:ILE:HG21 | 2:C:175:GLU:OE2 | 2.16 | 0.45 |
| 2:C:442:GLU:CD | 2:C:543:ASN:HD22 | 2.20 | 0.45 |
| 2:C:547:ILE:HB | 2:C:550:LEU:HD13 | 1.96 | 0.45 |
| 2:C:603:VAL:HB | 2:C:646:GLY:N | 2.31 | 0.45 |
| 3:D:1058:ARG:HB3 | 3:D:1058:ARG:CZ | 2.45 | 0.45 |
| 3:D:1263:PHE:HE2 | 3:D:1371:VAL:HG11 | 1.80 | 0.45 |
| 3:D:1428:ALA:O | 3:D:1431:THR:HG22 | 2.16 | 0.45 |
| 3:D:646:LYS:HD2 | 3:D:688:TRP:CZ2 | 2.51 | 0.45 |
| 3:D:773:ALA:HA | 3:D:1367:HIS:HE2 | 1.80 | 0.45 |
| 3:D:807:ALA:HA | 3:D:833:GLU:HB2 | 1.97 | 0.45 |
| 3:D:935:LYS:HE2 | 3:D:936:TYR:HB2 | 1.98 | 0.45 |
| 1:L:14:ARG:HH21 | 1:L:22:GLU:CD | 2.19 | 0.45 |
| 2:M:142:ARG:HA | 2:M:331:ARG:HA | 1.97 | 0.45 |
| 2:M:71:TYR:HA | 2:M:96:ALA:HB2 | 1.98 | 0.45 |
| 2:M:84:ARG:HA | 2:M:131:GLY:HA2 | 1.96 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 2:M:92:ALA:HB2 | 2:M:120:LEU:HD11 | 1.97 | 0.45 |
| 3:N:1172:HIS:HA | 3:N:1175:ILE:HD12 | 1.97 | 0.45 |
| 3:N:520:LEU:HD12 | 3:N:521:PRO:HD2 | 1.96 | 0.45 |
| 3:N:713:ILE:C | 3:N:714:GLN:HG3 | 2.36 | 0.45 |
| 3:N:796:ARG:NH2 | 3:N:859:ASP:HB2 | 2.32 | 0.45 |
| 3:N:895:VAL:O | 3:N:895:VAL:HG12 | 2.16 | 0.45 |
| 2:C:162:ILE:CG2 | 2:C:172:ILE:HD13 | 2.47 | 0.45 |
| 2:C:25:SER:O | 2:C:29:ALA:HB2 | 2.17 | 0.45 |
| 2:C:141:HIS:CD2 | 2:C:332:ARG:O | 2.70 | 0.45 |
| 2:C:137:VAL:CG2 | 2:C:391:LEU:HG | 2.46 | 0.45 |
| 2:C:677:MET:SD | 2:C:987:ILE:HD13 | 2.55 | 0.45 |
| 2:C:720:GLU:OE1 | 2:C:758:ARG:HD2 | 2.16 | 0.45 |
| 2:C:854:PRO:HG2 | 2:C:857:ASP:OD2 | 2.17 | 0.45 |
| 2:C:889:HIS:NE2 | 2:C:970:GLY:HA3 | 2.31 | 0.45 |
| 3:D:1144:LEU:HD22 | 3:D:1186:VAL:HG11 | 1.97 | 0.45 |
| 3:D:1115:THR:CG2 | 3:D:1151:ARG:HH21 | 2.30 | 0.45 |
| 3:D:1189:ARG:HG3 | 3:D:1189:ARG:NH1 | 2.31 | 0.45 |
| 3:D:1407:LEU:HD23 | 2:M:361:MET:SD | 2.56 | 0.45 |
| 3:D:623:VAL:CG1 | 3:D:624:ASP:N | 2.79 | 0.45 |
| 3:D:6:ARG:HD2 | 3:D:1470:ARG:NH1 | 2.27 | 0.45 |
| 1:K:38:ASN:O | 1:K:42:ARG:HG3 | 2.16 | 0.45 |
| 1:L:183:ASP:HA | 1:L:192:LEU:O | 2.16 | 0.45 |
| 1:L:179:PHE:HB3 | 1:L:197:LEU:HD12 | 1.98 | 0.45 |
| 1:L:58:ILE:HD13 | 1:L:139:ASN:O | 2.16 | 0.45 |
| 2:M:183:SER:CB | 2:M:190:LYS:HD3 | 2.45 | 0.45 |
| 2:M:200:LEU:HD13 | 2:M:300:ASP:CG | 2.36 | 0.45 |
| 2:M:317:VAL:C | 2:M:319:GLY:N | 2.68 | 0.45 |
| 2:M:378:LEU:O | 2:M:382:ILE:HG13 | 2.16 | 0.45 |
| 2:M:599:GLU:OE2 | 2:M:619:ARG:NH2 | 2.49 | 0.45 |
| 2:M:601:GLY:HA3 | 2:M:615:TYR:HA | 1.98 | 0.45 |
| 2:M:92:ALA:CB | 2:M:120:LEU:HD21 | 2.47 | 0.45 |
| 3:N:1223:ILE:O | 3:N:1226:ALA:N | 2.49 | 0.45 |
| 3:N:1268:PRO:CG | 3:N:1329:ALA:CB | 2.93 | 0.45 |
| 3:N:1445:HIS:NE2 | 3:N:1449:GLU:CD | 2.70 | 0.45 |
| 3:N:1481:VAL:O | 3:N:1483:PHE:N | 2.50 | 0.45 |
| 3:N:480:GLU:OE1 | 3:N:488:ARG:CG | 2.60 | 0.45 |
| 3:N:499:VAL:O | 3:N:500:ARG:C | 2.54 | 0.45 |
| 3:N:703:ASN:ND2 | 3:N:713:ILE:HD11 | 2.32 | 0.45 |
| 2:M:984:GLU:HG3 | 3:N:791:TYR:OH | 2.16 | 0.45 |
| 3:N:799:LYS:CB | 3:N:826:PRO:HG2 | 2.46 | 0.45 |
| 3:N:827:ILE:H | 3:N:827:ILE:HD12 | 1.80 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:B:101:LEU:CD1 | 1:B:113:ASP:HB3 | 2.45 | 0.45 |
| 1:B:105:GLY:O | 1:B:132:LEU:HB3 | 2.16 | 0.45 |
| 1:B:22:GLU:O | 1:B:23:PHE:CD1 | 2.69 | 0.45 |
| 1:A:43:ILE:CD1 | 1:B:32:PHE:HE2 | 2.26 | 0.45 |
| 2:C:1095:LEU:HD23 | 3:D:582:LEU:HD22 | 1.98 | 0.45 |
| 2:C:129:ILE:HG22 | 2:C:130:ASN:H | 1.78 | 0.45 |
| 2:C:267:TYR:CB | 2:C:272:ALA:HB1 | 2.47 | 0.45 |
| 2:C:895:TYR:N | 2:C:991:GLN:NE2 | 2.64 | 0.45 |
| 3:D:1041:LEU:HD13 | 3:D:1045:MET:HB2 | 1.98 | 0.45 |
| 3:D:1093:TYR:CE2 | 3:D:1096:ARG:CZ | 3.00 | 0.45 |
| 3:D:1189:ARG:HA | 3:D:1189:ARG:HD3 | 1.63 | 0.45 |
| 3:D:1191:PRO:HB3 | 3:D:1200:VAL:HG21 | 1.99 | 0.45 |
| 3:D:1227:GLN:C | 3:D:1229:ILE:H | 2.19 | 0.45 |
| 3:D:9:ARG:NH1 | 3:D:1454:GLY:HA3 | 2.31 | 0.45 |
| 3:D:612:GLY:H | 3:D:615:ARG:CB | 2.29 | 0.45 |
| 3:D:625:TYR:HB3 | 3:D:749:VAL:CG2 | 2.46 | 0.45 |
| 6:H:9:C:H2' | 6:H:10:G:C8 | 2.52 | 0.45 |
| 7:I:2:DT:H3' | 7:I:2:DT:P | 2.57 | 0.45 |
| 7:I:5:DC:H1' | 7:I:6:DT:O5' | 2.16 | 0.45 |
| 1:K:111:ALA:O | 1:K:122:ILE:HD13 | 2.17 | 0.45 |
| 1:K:56:VAL:HG13 | 1:K:142:VAL:HG12 | 1.97 | 0.45 |
| 2:M:677:MET:HA | 3:N:948:THR:HG22 | 1.98 | 0.45 |
| 2:M:738:ASP:HB2 | 2:M:744:ARG:HB3 | 1.98 | 0.45 |
| 2:M:754:ILE:HG12 | 2:M:791:ARG:NH1 | 2.31 | 0.45 |
| 3:N:1009:LYS:HE3 | 3:N:1013:GLU:OE2 | 2.16 | 0.45 |
| 3:N:1031:ASN:C | 3:N:1033:GLN:N | 2.69 | 0.45 |
| 3:N:1066:THR:HG22 | 3:N:1069:GLU:CG | 2.46 | 0.45 |
| 3:N:1127:GLU:O | 3:N:1128:VAL:HG23 | 2.17 | 0.45 |
| 3:N:1189:ARG:HD3 | 3:N:1190:SER:H | 1.82 | 0.45 |
| 3:N:45:PHE:CE1 | 3:N:522:PRO:HB3 | 2.51 | 0.45 |
| 3:N:699:VAL:HG21 | 3:N:760:ARG:CB | 2.44 | 0.45 |
| 3:N:760:ARG:HH11 | 4:O:61:VAL:CG2 | 2.07 | 0.45 |
| 3:N:1486:VAL:HG21 | 4:O:29:GLN:HE22 | 1.81 | 0.45 |
| 6:Y:7:G:H2' | 6:Y:7:G:N3 | 2.32 | 0.45 |
| 7:Z:6:DT:H2' | 7:Z:7:DT:H72 | 1.98 | 0.45 |
| 1:A:35:THR:HG23 | 1:B:42:ARG:HB2 | 1.98 | 0.45 |
| 2:C:714:ASP:HB2 | 2:C:818:GLY:O | 2.17 | 0.45 |
| 2:C:875:GLY:O | 2:C:879:ARG:HD2 | 2.15 | 0.45 |
| 3:D:1115:THR:HG22 | 3:D:1151:ARG:NH2 | 2.32 | 0.45 |
| 3:D:485:SER:O | 3:D:489:ARG:HB3 | 2.17 | 0.45 |
| 3:D:525:ARG:HB2 | 3:D:538:SER:CB | 2.44 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:D:528:VAL:CG1 | 3:D:529:GLN:H | 2.28 | 0.45 |
| 3:D:542:ASP:HB2 | 3:D:600:LEU:CD2 | 2.45 | 0.45 |
| 2:C:838:LYS:HZ3 | 3:D:742:GLY:CA | 2.30 | 0.45 |
| 3:D:895:VAL:HA | 3:D:898:GLU:OE1 | 2.15 | 0.45 |
| 4:E:47:LYS:HA | 4:E:54:LEU:HB3 | 1.99 | 0.45 |
| 5:G:14:DG:H2'' | 5:G:15:DC:OP2 | 2.16 | 0.45 |
| 3:D:741:ASP:C | 6:H:14:G:H5'' | 2.37 | 0.45 |
| 7:I:11:DG:H8 | 7:I:11:DG:OP2 | 2.00 | 0.45 |
| 1:K:34:VAL:HG13 | 1:K:35:THR:H | 1.82 | 0.45 |
| 1:L:86:VAL:HG12 | 1:L:124:ASN:HB2 | 1.98 | 0.45 |
| 2:M:1098:ASP:HB2 | 3:N:21:TRP:CZ2 | 2.50 | 0.45 |
| 2:M:119:PRO:HG2 | 2:M:386:PHE:CD2 | 2.51 | 0.45 |
| 2:M:691:SER:CB | 2:M:868:ASP:O | 2.65 | 0.45 |
| 2:M:694:LEU:O | 2:M:699:PHE:HB2 | 2.16 | 0.45 |
| 2:M:832:LYS:O | 2:M:834:GLN:N | 2.49 | 0.45 |
| 2:M:700:TYR:HB2 | 2:M:833:LEU:HD22 | 1.98 | 0.45 |
| 3:N:1109:GLU:OE2 | 3:N:1217:ILE:HG12 | 2.17 | 0.45 |
| 3:N:1330:ILE:HB | 3:N:1347:TYR:OH | 2.16 | 0.45 |
| 3:N:143:ASN:HA | 3:N:161:LEU:CD1 | 2.45 | 0.45 |
| 3:N:650:LEU:O | 3:N:654:LYS:CB | 2.64 | 0.45 |
| 3:N:860:LEU:HD22 | 3:N:881:LEU:HD23 | 1.97 | 0.45 |
| 4:O:54:LEU:CA | 4:O:58:PRO:HG2 | 2.38 | 0.45 |
| 5:X:7:DA:H4' | 5:X:7:DA:OP1 | 2.16 | 0.45 |
| 2:C:459:ALA:HB1 | 2:C:467:ILE:HG21 | 1.98 | 0.45 |
| 2:C:588:VAL:HG23 | 2:C:596:TYR:OH | 2.17 | 0.45 |
| 2:C:783:ARG:NH2 | 2:C:785:VAL:HG11 | 2.32 | 0.45 |
| 3:D:1194:CYS:HB2 | 3:D:1204:CYS:CB | 2.46 | 0.45 |
| 3:D:1264:GLU:O | 3:D:1265:ALA:C | 2.53 | 0.45 |
| 3:D:1389:LEU:HD12 | 3:D:1390:LEU:H | 1.81 | 0.45 |
| 3:D:1442:ASN:HB3 | 3:D:1444:THR:H | 1.82 | 0.45 |
| 3:D:483:HIS:ND1 | 3:D:483:HIS:N | 2.65 | 0.45 |
| 1:K:49:PRO:HB3 | 1:K:148:VAL:HG22 | 1.97 | 0.45 |
| 1:L:143:ARG:HD2 | 1:L:160:ASP:OD2 | 2.17 | 0.45 |
| 2:M:292:ARG:HG2 | 2:M:298:PHE:HA | 1.97 | 0.45 |
| 2:M:376:ARG:CB | 2:M:377:PRO:HD3 | 2.47 | 0.45 |
| 2:M:564:MET:CE | 2:M:840:ALA:HB3 | 2.46 | 0.45 |
| 2:M:589:ARG:HA | 2:M:596:TYR:CZ | 2.52 | 0.45 |
| 2:M:6:PHE:HD1 | 2:M:902:ILE:O | 2.00 | 0.45 |
| 2:M:810:ASP:HA | 2:M:811:PRO:HD3 | 1.81 | 0.45 |
| 3:N:1216:SER:OG | 4:O:15:SER:HA | 2.16 | 0.45 |
| 3:N:1348:LEU:CD1 | 3:N:1348:LEU:N | 2.79 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 3:N:1464:GLU:HG3 | 3:N:1465:ASN:N | 2.31 | 0.45 |
| 3:N:186:VAL:HG12 | 3:N:187:LYS:N | 2.32 | 0.45 |
| 3:N:462:GLN:HA | 3:N:513:ILE:HG21 | 1.98 | 0.45 |
| 3:N:577:ALA:O | 3:N:581:LEU:HD23 | 2.17 | 0.45 |
| 3:N:606:ILE:CG2 | 3:N:607:LEU:N | 2.80 | 0.45 |
| 3:N:700:VAL:HG22 | 3:N:718:PRO:HG2 | 1.98 | 0.45 |
| 2:M:684:PHE:HD2 | 3:N:740:PHE:CD1 | 2.34 | 0.45 |
| 3:N:787:LEU:HA | 3:N:787:LEU:HD12 | 1.73 | 0.45 |
| 3:N:52:PRO:HG2 | 3:N:85:VAL:HG21 | 1.97 | 0.45 |
| 5:X:17:DA:H2'' | 5:X:18:DC:O5' | 2.16 | 0.45 |
| 7:Z:5:DC:C2' | 7:Z:6:DT:H71 | 2.46 | 0.45 |
| 2:C:1053:LEU:HD13 | 3:D:1466:VAL:O | 2.16 | 0.45 |
| 2:C:157:ARG:HD3 | 2:C:314:THR:CG2 | 2.46 | 0.45 |
| 2:C:21:ILE:H | 2:C:21:ILE:CD1 | 2.28 | 0.45 |
| 2:C:144:PRO:HB2 | 2:C:267:TYR:HE1 | 1.81 | 0.45 |
| 2:C:396:ASP:HA | 2:C:633:GLN:HE22 | 1.82 | 0.45 |
| 2:C:405:ARG:C | 2:C:407:LYS:H | 2.20 | 0.45 |
| 2:C:431:HIS:CG | 2:C:432:ARG:H | 2.34 | 0.45 |
| 2:C:745:ILE:HD11 | 2:C:803:THR:OG1 | 2.16 | 0.45 |
| 2:C:905:ILE:N | 2:C:905:ILE:HD12 | 2.32 | 0.45 |
| 3:D:631:ILE:HG12 | 3:D:743:ASP:O | 2.17 | 0.45 |
| 3:D:634:GLY:HA2 | 3:D:727:GLN:OE1 | 2.16 | 0.45 |
| 3:D:804:LEU:HD23 | 3:D:804:LEU:H | 1.81 | 0.45 |
| 4:E:13:VAL:CG2 | 4:E:19:LEU:HD13 | 2.45 | 0.45 |
| 5:G:2:DT:C4' | 5:G:2:DT:OP2 | 2.64 | 0.45 |
| 6:H:11:C:O2' | 6:H:12:U:H5' | 2.16 | 0.45 |
| 1:L:186:LEU:O | 1:L:186:LEU:HD23 | 2.17 | 0.45 |
| 2:M:1012:PRO:HB2 | 2:M:1021:LEU:O | 2.17 | 0.45 |
| 2:M:1048:THR:OG1 | 3:N:755:ALA:CB | 2.64 | 0.45 |
| 2:M:434:HIS:ND1 | 2:M:434:HIS:N | 2.63 | 0.45 |
| 2:M:693:GLU:HA | 2:M:696:LYS:HE3 | 1.98 | 0.45 |
| 2:M:73:LEU:C | 2:M:73:LEU:HD12 | 2.37 | 0.45 |
| 1:K:192:LEU:O | 2:M:938:LYS:NZ | 2.50 | 0.45 |
| 3:N:1138:ALA:O | 3:N:1141:GLU:N | 2.50 | 0.45 |
| 3:N:1341:PRO:C | 3:N:1343:ALA:H | 2.19 | 0.45 |
| 3:N:1380:GLU:HG3 | 3:N:1381:VAL:N | 2.30 | 0.45 |
| 3:N:143:ASN:CG | 3:N:144:GLY:N | 2.69 | 0.45 |
| 3:N:117:ASP:HB2 | 3:N:495:ARG:NH1 | 2.31 | 0.45 |
| 3:N:568:ARG:HE | 3:N:572:ARG:CG | 2.29 | 0.45 |
| 3:N:608:SER:O | 3:N:612:GLY:HA3 | 2.16 | 0.45 |
| 3:N:771:SER:HB3 | 3:N:778:LEU:CD1 | 2.31 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:N:789:LEU:HD13 | 3:N:934:LEU:HD22 | 1.98 | 0.45 |
| 3:N:847:ASP:O | 3:N:848:GLU:C | 2.54 | 0.45 |
| 1:A:221:HIS:HA | 1:A:224:TYR:CD2 | 2.51 | 0.45 |
| 1:B:102:LYS:HG2 | 1:B:104:GLU:OE2 | 2.17 | 0.45 |
| 2:C:390:GLN:OE1 | 2:C:413:LEU:HD13 | 2.17 | 0.45 |
| 2:C:438:ILE:O | 2:C:440:PRO:HD3 | 2.15 | 0.45 |
| 2:C:473:ARG:HA | 2:C:531:PHE:CD1 | 2.52 | 0.45 |
| 2:C:635:THR:C | 2:C:705:ILE:HD12 | 2.37 | 0.45 |
| 2:C:757:GLY:HA2 | 2:C:789:SER:OG | 2.17 | 0.45 |
| 2:C:834:GLN:HG2 | 2:C:837:ASP:OD1 | 2.17 | 0.45 |
| 3:D:11:ALA:HA | 3:D:1451:ALA:O | 2.15 | 0.45 |
| 3:D:1468:LEU:HD22 | 3:D:1470:ARG:CG | 2.47 | 0.45 |
| 3:D:30:GLU:O | 3:D:40:GLU:HB3 | 2.16 | 0.45 |
| 3:D:465:LEU:HD21 | 3:D:509:PRO:HB2 | 1.98 | 0.45 |
| 3:D:636:GLN:H | 3:D:636:GLN:HG2 | 1.47 | 0.45 |
| 3:D:799:LYS:HD3 | 3:D:826:PRO:CG | 2.47 | 0.45 |
| 3:D:918:ALA:HA | 3:D:922:LEU:CD1 | 2.47 | 0.45 |
| 3:D:977:ALA:O | 3:D:980:MET:O | 2.34 | 0.45 |
| 1:K:101:LEU:HD13 | 1:K:114:PHE:CZ | 2.51 | 0.45 |
| 1:K:42:ARG:NH1 | 1:L:34:VAL:HB | 2.29 | 0.45 |
| 1:K:64:GLU:CG | 1:K:76:VAL:HG22 | 2.47 | 0.45 |
| 1:K:95:GLN:O | 1:K:145:ASP:HA | 2.17 | 0.45 |
| 2:M:18:LEU:H | 2:M:18:LEU:CD1 | 2.29 | 0.45 |
| 2:M:191:PHE:CE2 | 2:M:238:LEU:HD21 | 2.52 | 0.45 |
| 2:M:355:VAL:CG1 | 2:M:356:ARG:N | 2.80 | 0.45 |
| 2:M:706:GLU:HB3 | 2:M:708:TYR:CE1 | 2.52 | 0.45 |
| 2:M:808:ARG:NH2 | 2:M:820:ARG:HH21 | 2.00 | 0.45 |
| 3:N:1114:THR:O | 3:N:1114:THR:HG23 | 2.16 | 0.45 |
| 3:N:474:GLU:O | 3:N:478:LEU:HG | 2.16 | 0.45 |
| 3:N:54:LYS:HG3 | 3:N:55:ASP:H | 1.82 | 0.45 |
| 5:X:13:DA:OP2 | 5:X:13:DA:H8 | 2.00 | 0.45 |
| 1:A:42:ARG:HE | 1:A:42:ARG:HB3 | 1.49 | 0.45 |
| 1:B:78:ILE:HG23 | 1:B:129:ILE:HG22 | 1.97 | 0.45 |
| 1:B:210:ALA:O | 1:B:213:GLN:HB2 | 2.16 | 0.45 |
| 2:C:64:LEU:CD1 | 2:C:100:LEU:HD11 | 2.44 | 0.45 |
| 2:C:1036:GLU:HA | 3:D:707:THR:CG2 | 2.31 | 0.45 |
| 2:C:1084:SER:O | 2:C:1088:LEU:HB2 | 2.17 | 0.45 |
| 2:C:395:LYS:O | 2:C:397:GLU:N | 2.49 | 0.45 |
| 2:C:605:LYS:O | 2:C:611:ILE:HA | 2.17 | 0.45 |
| 2:C:587:VAL:HG11 | 2:C:666:LEU:HD22 | 1.99 | 0.45 |
| 2:C:682:TYR:O | 2:C:850:ALA:CB | 2.65 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------------|-------------------|--------------------------|-------------------|
| 2:C:720:GLU:HA | 2:C:759:THR:O | 2.16 | 0.45 |
| 2:C:831:ARG:NH2 | 2:C:1004:LYS:HG3 | 2.32 | 0.45 |
| 3:D:1071:PHE:O | 3:D:1074:SER:HB3 | 2.16 | 0.45 |
| 3:D:107:ASP:O | 3:D:110:SER:N | 2.50 | 0.45 |
| 3:D:34:TYR:CG | 3:D:35:ARG:N | 2.85 | 0.45 |
| 3:D:795:VAL:HG13 | 3:D:863:VAL:HG22 | 1.99 | 0.45 |
| 3:D:804:LEU:HD23 | 3:D:804:LEU:N | 2.32 | 0.45 |
| 4:E:13:VAL:HG12 | 4:E:15:SER:H | 1.80 | 0.45 |
| 1:K:117:VAL:HB | 1:K:120:VAL:CG1 | 2.46 | 0.45 |
| 1:L:124:ASN:N | 1:L:125:PRO:HD3 | 2.30 | 0.45 |
| 2:M:140:ILE:C | 2:M:140:ILE:HD12 | 2.38 | 0.45 |
| 2:M:136:ILE:HG21 | 2:M:336:VAL:HG13 | 1.98 | 0.45 |
| 2:M:832:LYS:O | 2:M:833:LEU:C | 2.54 | 0.45 |
| 3:N:1260:ILE:HD13 | 3:N:1260:ILE:N | 2.32 | 0.45 |
| 3:N:1311:LEU:N | 3:N:1311:LEU:HD23 | 2.31 | 0.45 |
| 3:N:142:LEU:O | 3:N:161:LEU:HD11 | 2.17 | 0.45 |
| 3:N:28:LYS:HD2 | 3:N:41:ARG:CZ | 2.47 | 0.45 |
| 3:N:467:GLU:H | 3:N:467:GLU:HG3 | 1.56 | 0.45 |
| 3:N:481:MET:O | 3:N:489:ARG:HD2 | 2.17 | 0.45 |
| 3:N:666:ILE:CG2 | 3:N:684:LYS:NZ | 2.79 | 0.45 |
| 3:N:935:LYS:HE2 | 3:N:935:LYS:HB3 | 1.71 | 0.45 |
| 3:N:1485:GLN:N | 4:O:76:GLY:O | 2.50 | 0.45 |
| 5:X:6:DT:H2 ⁺ | 5:X:7:DA:H8 | 1.79 | 0.45 |
| 1:A:61:VAL:HG12 | 1:A:62:LEU:N | 2.32 | 0.45 |
| 2:C:35:PRO:C | 2:C:37:GLU:N | 2.70 | 0.45 |
| 2:C:630:ARG:HD3 | 2:C:705:ILE:HG22 | 1.96 | 0.45 |
| 3:D:1153:VAL:HG12 | 3:D:1160:LEU:HD12 | 1.99 | 0.45 |
| 3:D:1256:LEU:O | 3:D:1259:VAL:N | 2.49 | 0.45 |
| 3:D:10:ILE:HD12 | 3:D:1434:TRP:NE1 | 2.31 | 0.45 |
| 3:D:1496:GLU:HA | 3:D:1499:ARG:HE | 1.80 | 0.45 |
| 3:D:41:ARG:O | 3:D:43:GLY:N | 2.49 | 0.45 |
| 3:D:493:ARG:HG3 | 3:D:494:LYS:H | 1.82 | 0.45 |
| 3:D:796:ARG:HG3 | 3:D:861:GLN:O | 2.16 | 0.45 |
| 3:D:8:VAL:HB | 3:D:1435:LEU:HD11 | 1.99 | 0.45 |
| 3:D:914:LEU:O | 3:D:914:LEU:HD23 | 2.16 | 0.45 |
| 4:E:36:LYS:HE2 | 4:E:36:LYS:HA | 1.99 | 0.45 |
| 1:K:38:ASN:HD21 | 2:M:978:ARG:C | 2.20 | 0.45 |
| 1:L:30:ARG:HH11 | 1:L:30:ARG:HG2 | 1.82 | 0.45 |
| 2:M:310:LEU:HG | 2:M:311:PHE:HD2 | 1.82 | 0.45 |
| 2:M:994:ILE:HG22 | 2:M:995:MET:N | 2.32 | 0.45 |
| 3:N:1151:ARG:HA | 3:N:1162:GLU:HG2 | 1.99 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 3:N:1279:GLY:O | 3:N:1318:TYR:HA | 2.16 | 0.45 |
| 3:N:42:ASP:O | 3:N:43:GLY:O | 2.34 | 0.45 |
| 3:N:401:TYR:O | 3:N:443:VAL:HG23 | 2.17 | 0.45 |
| 3:N:470:LEU:HD12 | 3:N:503:LEU:HD21 | 1.98 | 0.45 |
| 3:N:586:ARG:HD3 | 3:N:586:ARG:HA | 1.79 | 0.45 |
| 3:N:792:ILE:O | 3:N:792:ILE:HG12 | 2.17 | 0.45 |
| 3:N:813:LEU:C | 3:N:813:LEU:HD12 | 2.37 | 0.45 |
| 3:N:827:ILE:HG23 | 3:N:837:GLY:HA2 | 1.99 | 0.45 |
| 5:X:17:DA:H1' | 5:X:18:DC:H5' | 1.99 | 0.45 |
| 5:X:26:DC:H2' | 5:X:26:DC:O2 | 2.17 | 0.45 |
| 5:X:2:DT:H2'' | 5:X:3:DC:C6 | 2.53 | 0.45 |
| 6:Y:8:G:H8 | 6:Y:8:G:OP2 | 2.00 | 0.45 |
| 6:Y:8:G:P | 6:Y:8:G:H8 | 2.40 | 0.45 |
| 1:A:174:VAL:HG22 | 1:A:201:THR:HG22 | 1.99 | 0.44 |
| 1:B:153:ALA:HA | 1:B:156:HIS:NE2 | 2.32 | 0.44 |
| 1:B:173:PRO:HB2 | 1:B:205:VAL:HG22 | 1.99 | 0.44 |
| 1:B:7:LYS:HD3 | 1:B:7:LYS:O | 2.16 | 0.44 |
| 2:C:1035:MET:CB | 2:C:1036:GLU:OE1 | 2.65 | 0.44 |
| 2:C:20:GLU:CG | 2:C:21:ILE:HD12 | 2.39 | 0.44 |
| 2:C:395:LYS:HE3 | 2:C:407:LYS:CD | 2.40 | 0.44 |
| 2:C:680:ASP:N | 3:D:943:THR:HG22 | 2.32 | 0.44 |
| 2:C:79:PRO:CG | 2:C:82:GLU:HG3 | 2.46 | 0.44 |
| 2:C:816:LYS:HB2 | 2:C:819:VAL:HG21 | 1.99 | 0.44 |
| 2:C:907:ASP:O | 2:C:907:ASP:CG | 2.55 | 0.44 |
| 2:C:957:LYS:CD | 2:C:961:GLU:CB | 2.95 | 0.44 |
| 3:D:1046:GLN:HG2 | 3:D:1052:THR:CG2 | 2.44 | 0.44 |
| 3:D:1109:GLU:OE2 | 3:D:1202:GLN:HB2 | 2.17 | 0.44 |
| 3:D:1366:LYS:O | 3:D:1370:ILE:HG12 | 2.17 | 0.44 |
| 3:D:531:ASP:O | 3:D:533:GLY:N | 2.50 | 0.44 |
| 2:C:733:ALA:HB2 | 3:D:679:ARG:CZ | 2.47 | 0.44 |
| 3:D:952:ASP:HA | 3:D:1062:ARG:HH21 | 1.82 | 0.44 |
| 1:K:48:ILE:HD13 | 1:K:210:ALA:HB1 | 1.99 | 0.44 |
| 1:K:54:THR:HG22 | 1:K:158:ILE:HG13 | 2.00 | 0.44 |
| 1:L:108:GLU:HB3 | 1:L:128:HIS:HE1 | 1.82 | 0.44 |
| 1:L:59:GLU:CG | 1:L:137:ARG:HH22 | 2.30 | 0.44 |
| 2:M:129:ILE:CG2 | 2:M:130:ASN:N | 2.68 | 0.44 |
| 2:M:21:ILE:CD1 | 2:M:21:ILE:H | 2.29 | 0.44 |
| 2:M:685:GLU:OE1 | 3:N:739:ASP:HB3 | 2.18 | 0.44 |
| 2:M:873:PRO:O | 2:M:877:PRO:CD | 2.66 | 0.44 |
| 2:M:553:ASP:OD2 | 2:M:883:GLY:HA3 | 2.17 | 0.44 |
| 2:M:893:ALA:HB1 | 2:M:897:LEU:CD1 | 2.45 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:N:1108:ARG:O | 3:N:1109:GLU:HB3 | 2.17 | 0.44 |
| 3:N:1468:LEU:C | 3:N:1468:LEU:HD23 | 2.37 | 0.44 |
| 3:N:14:SER:O | 3:N:15:PRO:C | 2.54 | 0.44 |
| 2:M:1098:ASP:CG | 3:N:17:LYS:HD3 | 2.37 | 0.44 |
| 3:N:524:LEU:HD12 | 3:N:524:LEU:N | 2.31 | 0.44 |
| 3:N:76:CYS:O | 3:N:78:VAL:N | 2.51 | 0.44 |
| 4:O:43:GLU:HG3 | 4:O:44:GLU:N | 2.25 | 0.44 |
| 4:O:94:PRO:O | 4:O:96:GLU:HG3 | 2.17 | 0.44 |
| 7:Z:5:DC:C2' | 7:Z:6:DT:OP2 | 2.53 | 0.44 |
| 1:A:76:VAL:O | 1:A:79:ILE:HG13 | 2.18 | 0.44 |
| 1:B:24:VAL:HG22 | 1:B:196:THR:CG2 | 2.46 | 0.44 |
| 2:C:1054:THR:HG21 | 2:C:1079:PRO:HB3 | 2.00 | 0.44 |
| 2:C:183:SER:HA | 2:C:190:LYS:HB3 | 2.00 | 0.44 |
| 2:C:170:PRO:CD | 2:C:263:ASP:HB3 | 2.47 | 0.44 |
| 2:C:134:ARG:HH11 | 2:C:387:SER:HA | 1.80 | 0.44 |
| 2:C:409:ARG:CB | 2:C:454:SER:OG | 2.43 | 0.44 |
| 2:C:46:ALA:C | 2:C:48:PHE:N | 2.70 | 0.44 |
| 2:C:439:CYS:SG | 2:C:540:PHE:HA | 2.56 | 0.44 |
| 2:C:874:LEU:O | 2:C:877:PRO:HD2 | 2.16 | 0.44 |
| 2:C:971:LYS:HG2 | 2:C:988:VAL:CB | 2.48 | 0.44 |
| 3:D:1042:ARG:HE | 3:D:1073:SER:CB | 2.30 | 0.44 |
| 3:D:1078:ARG:HD3 | 3:D:1078:ARG:HA | 1.81 | 0.44 |
| 3:D:14:SER:O | 3:D:15:PRO:C | 2.55 | 0.44 |
| 3:D:47:GLU:CD | 3:D:53:ILE:HB | 2.37 | 0.44 |
| 3:D:654:LYS:CB | 3:D:655:PRO:HD3 | 2.35 | 0.44 |
| 3:D:658:LEU:O | 3:D:661:MET:HB2 | 2.18 | 0.44 |
| 3:D:680:GLN:HA | 3:D:683:ILE:CD1 | 2.47 | 0.44 |
| 3:D:642:CYS:SG | 3:D:716:PHE:CB | 3.03 | 0.44 |
| 4:E:64:ALA:C | 4:E:68:LEU:HD22 | 2.37 | 0.44 |
| 3:D:739:ASP:OD1 | 6:H:15:C:C5' | 2.65 | 0.44 |
| 1:L:179:PHE:H | 1:L:179:PHE:HD2 | 1.64 | 0.44 |
| 2:M:1040:LEU:HD12 | 2:M:1040:LEU:HA | 1.84 | 0.44 |
| 2:M:1049:LEU:O | 2:M:1053:LEU:HG | 2.17 | 0.44 |
| 2:M:212:GLY:HA3 | 2:M:218:VAL:HG21 | 1.99 | 0.44 |
| 2:M:252:LYS:HB3 | 2:M:298:PHE:CZ | 2.53 | 0.44 |
| 2:M:352:ALA:C | 2:M:355:VAL:HG12 | 2.37 | 0.44 |
| 2:M:44:ILE:HG21 | 2:M:71:TYR:CD1 | 2.52 | 0.44 |
| 2:M:586:ARG:NH1 | 2:M:590:ASP:OD2 | 2.49 | 0.44 |
| 2:M:5:ARG:CA | 2:M:902:ILE:HB | 2.48 | 0.44 |
| 2:M:838:LYS:HG3 | 2:M:997:LEU:HB2 | 1.99 | 0.44 |
| 3:N:1293:PHE:HB3 | 3:N:1295:GLU:CG | 2.44 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 3:N:134:VAL:HG22 | 3:N:460:ALA:HB1 | 1.99 | 0.44 |
| 3:N:587:ARG:O | 3:N:588:GLY:O | 2.34 | 0.44 |
| 3:N:84:ILE:O | 3:N:87:ARG:N | 2.48 | 0.44 |
| 3:N:885:ILE:O | 3:N:888:GLU:HB2 | 2.16 | 0.44 |
| 3:N:899:LEU:HD22 | 3:N:917:GLN:CB | 2.47 | 0.44 |
| 3:N:900:ILE:CD1 | 3:N:902:LEU:HD22 | 2.47 | 0.44 |
| 2:C:101:ILE:HG23 | 2:C:107:LEU:CD2 | 2.48 | 0.44 |
| 2:C:1081:VAL:HB | 2:C:1086:ARG:NH2 | 2.33 | 0.44 |
| 2:C:334:ARG:HB2 | 2:C:339:LEU:CD2 | 2.47 | 0.44 |
| 2:C:355:VAL:CG1 | 2:C:356:ARG:N | 2.80 | 0.44 |
| 2:C:326:ASP:CB | 2:C:431:HIS:ND1 | 2.73 | 0.44 |
| 2:C:541:SER:OG | 2:C:543:ASN:HB3 | 2.16 | 0.44 |
| 3:D:1146:GLY:HA3 | 3:D:1207:TYR:CB | 2.45 | 0.44 |
| 3:D:128:TYR:HB3 | 3:D:129:PHE:HD1 | 1.83 | 0.44 |
| 3:D:1395:LEU:O | 3:D:1398:TRP:HB2 | 2.18 | 0.44 |
| 3:D:1461:GLY:O | 3:D:1465:ASN:HB2 | 2.16 | 0.44 |
| 3:D:660:LYS:O | 3:D:663:GLU:HB2 | 2.18 | 0.44 |
| 3:D:84:ILE:HA | 3:D:87:ARG:HG2 | 1.99 | 0.44 |
| 3:D:895:VAL:HA | 3:D:898:GLU:CD | 2.38 | 0.44 |
| 3:D:930:LEU:O | 3:D:933:ALA:HB3 | 2.18 | 0.44 |
| 3:D:941:PHE:O | 3:D:945:SER:HB3 | 2.17 | 0.44 |
| 3:D:696:HIS:HD2 | 4:E:59:ASN:CB | 2.26 | 0.44 |
| 4:E:27:ALA:HB1 | 4:E:60:ALA:CB | 2.46 | 0.44 |
| 5:G:14:DG:C2' | 5:G:15:DC:OP2 | 2.65 | 0.44 |
| 6:H:6:C:OP2 | 6:H:6:C:H5 | 2.00 | 0.44 |
| 7:I:10:DG:C2 | 7:I:11:DG:C4 | 3.06 | 0.44 |
| 7:I:11:DG:C4 | 7:I:12:DT:C4 | 3.05 | 0.44 |
| 7:I:5:DC:O5' | 7:I:5:DC:C6 | 2.69 | 0.44 |
| 1:L:58:ILE:HD13 | 1:L:58:ILE:HA | 1.91 | 0.44 |
| 2:M:1084:SER:O | 2:M:1088:LEU:HB2 | 2.17 | 0.44 |
| 2:M:1095:LEU:HD21 | 3:N:603:LEU:HD12 | 1.98 | 0.44 |
| 2:M:302:VAL:C | 2:M:305:PRO:HD2 | 2.38 | 0.44 |
| 2:M:661:SER:HA | 2:M:665:PHE:O | 2.18 | 0.44 |
| 2:M:685:GLU:O | 2:M:686:ASP:OD2 | 2.35 | 0.44 |
| 3:N:1164:ARG:HG2 | 3:N:1165:TYR:N | 2.33 | 0.44 |
| 3:N:400:VAL:CG2 | 3:N:443:VAL:HG21 | 2.47 | 0.44 |
| 3:N:833:GLU:OE1 | 3:N:833:GLU:HA | 2.17 | 0.44 |
| 2:M:676:ILE:O | 3:N:948:THR:HB | 2.18 | 0.44 |
| 3:N:1484:THR:CG2 | 4:O:76:GLY:O | 2.65 | 0.44 |
| 5:X:13:DA:O5' | 5:X:13:DA:C8 | 2.70 | 0.44 |
| 5:X:2:DT:C2' | 5:X:3:DC:C5 | 3.00 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 5:X:8:DC:H2' | 5:X:9:DC:C5 | 2.52 | 0.44 |
| 1:A:175:ARG:HE | 1:A:176:ARG:HB3 | 1.83 | 0.44 |
| 2:C:45:GLN:HA | 2:C:48:PHE:HD2 | 1.82 | 0.44 |
| 2:C:468:ARG:HB2 | 2:C:485:TYR:HD2 | 1.82 | 0.44 |
| 2:C:831:ARG:NH1 | 2:C:1004:LYS:CG | 2.76 | 0.44 |
| 2:C:876:VAL:H | 2:C:877:PRO:HD2 | 1.81 | 0.44 |
| 2:C:959:PRO:HA | 2:C:962:GLN:HG3 | 1.98 | 0.44 |
| 3:D:1124:GLN:HA | 3:D:1125:PRO:HD3 | 1.78 | 0.44 |
| 3:D:1132:LEU:N | 3:D:1132:LEU:HD12 | 2.32 | 0.44 |
| 3:D:1255:GLY:HA3 | 3:D:1257:PRO:HD2 | 1.98 | 0.44 |
| 3:D:30:GLU:CB | 3:D:40:GLU:HG2 | 2.46 | 0.44 |
| 3:D:503:LEU:O | 3:D:504:ASP:C | 2.54 | 0.44 |
| 1:K:123:MET:O | 1:K:125:PRO:HD3 | 2.16 | 0.44 |
| 2:M:351:LEU:HD13 | 2:M:374:ASN:O | 2.18 | 0.44 |
| 2:M:333:ILE:HD13 | 2:M:465:GLY:O | 2.18 | 0.44 |
| 2:M:275:TYR:OH | 2:M:489:THR:HG21 | 2.17 | 0.44 |
| 3:N:104:PHE:HD2 | 3:N:1448:THR:CG2 | 2.28 | 0.44 |
| 3:N:1192:LEU:HD13 | 3:N:1345:GLU:CG | 2.48 | 0.44 |
| 3:N:1281:VAL:HG11 | 3:N:1313:VAL:CG1 | 2.36 | 0.44 |
| 3:N:1367:HIS:C | 3:N:1370:ILE:HG12 | 2.38 | 0.44 |
| 3:N:183:GLU:CG | 3:N:184:GLU:N | 2.76 | 0.44 |
| 3:N:551:ASN:O | 3:N:555:LYS:HG3 | 2.18 | 0.44 |
| 3:N:567:ILE:HG22 | 3:N:571:LYS:HE3 | 2.00 | 0.44 |
| 3:N:703:ASN:HB2 | 3:N:713:ILE:HG12 | 1.99 | 0.44 |
| 3:N:868:TYR:HB2 | 3:N:873:LEU:HD12 | 1.97 | 0.44 |
| 1:A:133:GLU:HG2 | 1:A:134:GLU:N | 2.32 | 0.44 |
| 1:A:20:TYR:HE2 | 1:A:198:ARG:HB2 | 1.82 | 0.44 |
| 1:B:179:PHE:HB3 | 1:B:197:LEU:HD12 | 1.99 | 0.44 |
| 1:B:62:LEU:HD12 | 1:B:63:HIS:H | 1.82 | 0.44 |
| 2:C:101:ILE:HG22 | 2:C:102:HIS:N | 2.32 | 0.44 |
| 2:C:1074:GLU:CG | 2:C:1075:ASP:H | 2.31 | 0.44 |
| 2:C:405:ARG:NH2 | 2:C:409:ARG:CZ | 2.80 | 0.44 |
| 2:C:48:PHE:O | 2:C:52:PHE:CA | 2.64 | 0.44 |
| 2:C:897:LEU:CD2 | 2:C:920:GLN:HE22 | 2.30 | 0.44 |
| 3:D:1434:TRP:HZ3 | 3:D:1455:LYS:HB3 | 1.73 | 0.44 |
| 3:D:28:LYS:HB3 | 3:D:41:ARG:NH1 | 2.32 | 0.44 |
| 3:D:473:LEU:HA | 3:D:476:GLU:HB2 | 2.00 | 0.44 |
| 3:D:631:ILE:O | 3:D:632:VAL:HG23 | 2.17 | 0.44 |
| 3:D:698:LYS:HE3 | 3:D:698:LYS:HB3 | 1.66 | 0.44 |
| 3:D:853:VAL:HG11 | 3:D:860:LEU:HD21 | 1.98 | 0.44 |
| 4:E:54:LEU:O | 4:E:63:TRP:HZ2 | 2.01 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 7:I:11:DG:H2' | 7:I:12:DT:H6 | 1.82 | 0.44 |
| 1:L:101:LEU:HG | 1:L:102:LYS:N | 2.33 | 0.44 |
| 1:L:170:VAL:HG11 | 3:N:848:GLU:OE2 | 2.18 | 0.44 |
| 1:L:50:GLY:HA3 | 1:L:171:PHE:O | 2.17 | 0.44 |
| 1:L:90:LEU:HG | 1:L:91:ASN:HD22 | 1.82 | 0.44 |
| 2:M:18:LEU:N | 2:M:18:LEU:HD12 | 2.31 | 0.44 |
| 2:M:141:HIS:O | 2:M:331:ARG:CB | 2.66 | 0.44 |
| 2:M:663:ASN:C | 2:M:665:PHE:H | 2.21 | 0.44 |
| 2:M:768:THR:HB | 2:M:771:GLU:CB | 2.32 | 0.44 |
| 2:M:79:PRO:HG2 | 2:M:82:GLU:CB | 2.38 | 0.44 |
| 2:M:5:ARG:HA | 2:M:902:ILE:HB | 2.00 | 0.44 |
| 2:M:946:ARG:NH1 | 2:M:984:GLU:HB2 | 2.33 | 0.44 |
| 3:N:115:LEU:HB2 | 3:N:498:VAL:HG11 | 2.00 | 0.44 |
| 3:N:1236:LEU:CD1 | 3:N:1256:LEU:HB2 | 2.38 | 0.44 |
| 3:N:111:LYS:HE3 | 3:N:1449:GLU:N | 2.32 | 0.44 |
| 3:N:160:GLU:O | 3:N:161:LEU:C | 2.56 | 0.44 |
| 3:N:531:ASP:C | 3:N:533:GLY:H | 2.20 | 0.44 |
| 3:N:792:ILE:HG12 | 3:N:878:GLY:HA2 | 1.98 | 0.44 |
| 3:N:1209:LEU:CD2 | 4:O:16:LYS:HE3 | 2.47 | 0.44 |
| 5:X:22:DA:H2 | 6:Y:12:U:O2 | 2.00 | 0.44 |
| 2:M:393:GLN:NE2 | 6:Y:10:G:H4' | 2.31 | 0.44 |
| 7:Z:1:DG:OP1 | 7:Z:1:DG:C3' | 2.65 | 0.44 |
| 1:A:9:PRO:HD2 | 1:B:224:TYR:CE1 | 2.53 | 0.44 |
| 2:C:1008:ARG:NH2 | 2:C:1012:PRO:O | 2.51 | 0.44 |
| 2:C:1032:PHE:O | 2:C:1036:GLU:CB | 2.61 | 0.44 |
| 2:C:943:VAL:CG2 | 2:C:986:PRO:HD3 | 2.48 | 0.44 |
| 2:C:1046:ALA:HB1 | 3:D:1472:ILE:CG1 | 2.48 | 0.44 |
| 3:D:1481:VAL:O | 3:D:1483:PHE:N | 2.50 | 0.44 |
| 3:D:26:VAL:HG11 | 3:D:44:LEU:CD2 | 2.36 | 0.44 |
| 3:D:565:ILE:CD1 | 3:D:565:ILE:H | 1.97 | 0.44 |
| 3:D:631:ILE:HD13 | 3:D:743:ASP:HB2 | 1.93 | 0.44 |
| 3:D:851:LEU:N | 3:D:851:LEU:HD23 | 2.31 | 0.44 |
| 3:D:85:VAL:HG23 | 3:D:86:ARG:N | 2.32 | 0.44 |
| 5:G:9:DC:H2' | 5:G:10:DA:C8 | 2.53 | 0.44 |
| 1:L:62:LEU:HD12 | 1:L:62:LEU:H | 1.83 | 0.44 |
| 2:M:114:PHE:CG | 2:M:114:PHE:O | 2.70 | 0.44 |
| 2:M:186:VAL:HG23 | 2:M:187:ASN:N | 2.22 | 0.44 |
| 2:M:31:GLN:HE21 | 2:M:38:LYS:HB2 | 1.82 | 0.44 |
| 2:M:468:ARG:HB2 | 2:M:485:TYR:HB3 | 1.99 | 0.44 |
| 2:M:762:LYS:HD2 | 2:M:786:LYS:CG | 2.48 | 0.44 |
| 2:M:752:GLY:N | 2:M:792:VAL:HB | 2.31 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 2:M:875:GLY:HA2 | 3:N:1029:ARG:HH22 | 1.75 | 0.44 |
| 2:M:676:ILE:HG22 | 2:M:988:VAL:HG22 | 2.00 | 0.44 |
| 3:N:101:HIS:O | 3:N:105:VAL:HG23 | 2.18 | 0.44 |
| 3:N:1102:THR:O | 3:N:1222:GLY:HA3 | 2.18 | 0.44 |
| 4:O:51:LEU:HG | 4:O:53:GLY:H | 1.83 | 0.44 |
| 7:Z:3:DA:H2' | 7:Z:3:DA:O5' | 2.18 | 0.44 |
| 1:A:74:ASP:O | 1:A:75:VAL:C | 2.53 | 0.44 |
| 2:C:1035:MET:HB2 | 2:C:1036:GLU:OE1 | 2.17 | 0.44 |
| 2:C:110:GLU:HG3 | 2:C:369:PRO:CG | 2.45 | 0.44 |
| 2:C:144:PRO:O | 2:C:267:TYR:HE1 | 2.01 | 0.44 |
| 2:C:64:LEU:HD13 | 2:C:359:MET:HG3 | 1.98 | 0.44 |
| 2:C:497:ALA:HA | 2:C:515:ALA:HA | 1.99 | 0.44 |
| 2:C:860:HIS:CE1 | 2:C:975:TYR:HB2 | 2.53 | 0.44 |
| 2:C:971:LYS:HG2 | 2:C:988:VAL:HG12 | 1.99 | 0.44 |
| 3:D:1351:GLU:OE1 | 3:D:1351:GLU:HA | 2.18 | 0.44 |
| 3:D:1399:ASP:O | 3:D:1403:LEU:HB2 | 2.18 | 0.44 |
| 3:D:506:GLY:O | 3:D:508:ARG:N | 2.50 | 0.44 |
| 3:D:531:ASP:C | 3:D:533:GLY:H | 2.21 | 0.44 |
| 3:D:776:GLU:OE1 | 3:D:912:LYS:HE2 | 2.18 | 0.44 |
| 3:D:785:ILE:HG23 | 3:D:938:GLY:CA | 2.47 | 0.44 |
| 3:D:895:VAL:HG12 | 3:D:895:VAL:O | 2.16 | 0.44 |
| 3:D:896:ALA:O | 3:D:900:ILE:HG23 | 2.17 | 0.44 |
| 3:D:918:ALA:HA | 3:D:922:LEU:HD12 | 2.00 | 0.44 |
| 4:E:3:GLU:OE1 | 4:E:3:GLU:HA | 2.18 | 0.44 |
| 5:G:3:DC:C6 | 5:G:3:DC:OP2 | 2.71 | 0.44 |
| 7:I:1:DG:H3' | 7:I:1:DG:OP1 | 2.17 | 0.44 |
| 1:K:217:ILE:HG22 | 1:K:221:HIS:HE2 | 1.83 | 0.44 |
| 1:K:62:LEU:HD12 | 1:K:62:LEU:N | 2.33 | 0.44 |
| 1:L:104:GLU:HA | 1:L:136:GLY:O | 2.18 | 0.44 |
| 2:M:342:ASP:O | 2:M:345:ARG:HG2 | 2.17 | 0.44 |
| 2:M:395:LYS:O | 2:M:633:GLN:OE1 | 2.35 | 0.44 |
| 2:M:643:VAL:CG1 | 2:M:644:VAL:N | 2.80 | 0.44 |
| 3:N:1109:GLU:OE2 | 3:N:1202:GLN:HB2 | 2.18 | 0.44 |
| 3:N:1128:VAL:O | 3:N:1129:THR:C | 2.56 | 0.44 |
| 3:N:1239:ARG:CZ | 3:N:1239:ARG:CB | 2.96 | 0.44 |
| 3:N:1341:PRO:O | 3:N:1343:ALA:N | 2.51 | 0.44 |
| 3:N:185:VAL:HG13 | 3:N:189:GLN:OE1 | 2.18 | 0.44 |
| 3:N:204:LEU:O | 3:N:393:ILE:HG23 | 2.18 | 0.44 |
| 3:N:66:GLN:O | 3:N:68:PHE:N | 2.51 | 0.44 |
| 3:N:868:TYR:HB2 | 3:N:873:LEU:CD1 | 2.47 | 0.44 |
| 2:M:983:ILE:HG22 | 3:N:946:GLY:CA | 2.48 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 4:O:37:ASN:HA | 4:O:93:TYR:CD2 | 2.53 | 0.44 |
| 3:N:925:GLU:N | 4:O:7:ASP:OD2 | 2.51 | 0.44 |
| 1:A:176:ARG:HH11 | 2:C:865:THR:CB | 2.25 | 0.44 |
| 1:A:20:TYR:CE2 | 1:A:198:ARG:HB2 | 2.52 | 0.44 |
| 1:B:101:LEU:HD13 | 1:B:114:PHE:CD1 | 2.52 | 0.44 |
| 2:C:15:LEU:HA | 2:C:458:TYR:CE2 | 2.53 | 0.44 |
| 2:C:612:VAL:HG13 | 2:C:621:VAL:O | 2.18 | 0.44 |
| 2:C:918:LEU:HD23 | 2:C:968:LEU:CA | 2.39 | 0.44 |
| 2:C:71:TYR:HA | 2:C:96:ALA:CB | 2.47 | 0.44 |
| 3:D:123:LEU:O | 3:D:124:GLU:C | 2.54 | 0.44 |
| 3:D:1412:LYS:HB2 | 2:M:376:ARG:CZ | 2.48 | 0.44 |
| 3:D:502:PHE:CE2 | 3:D:1452:ILE:HG13 | 2.53 | 0.44 |
| 3:D:554:LEU:HG | 3:D:558:LEU:CG | 2.47 | 0.44 |
| 3:D:644:LEU:HD12 | 3:D:645:PRO:CD | 2.48 | 0.44 |
| 5:G:19:DG:H2'' | 5:G:20:DC:C5' | 2.48 | 0.44 |
| 1:K:222:LEU:HD23 | 1:L:219:ARG:CA | 2.48 | 0.44 |
| 1:K:64:GLU:O | 1:K:76:VAL:HG23 | 2.18 | 0.44 |
| 2:M:16:PRO:O | 2:M:18:LEU:N | 2.50 | 0.44 |
| 2:M:721:ARG:HG3 | 2:M:721:ARG:HH11 | 1.82 | 0.44 |
| 2:M:817:PRO:C | 2:M:819:VAL:H | 2.21 | 0.44 |
| 3:N:794:GLN:HG2 | 3:N:1017:PHE:CE2 | 2.53 | 0.44 |
| 3:N:1128:VAL:O | 3:N:1129:THR:HG22 | 2.18 | 0.44 |
| 3:N:9:ARG:NH1 | 3:N:11:ALA:HB2 | 2.32 | 0.44 |
| 3:N:127:LEU:HD12 | 3:N:128:TYR:N | 2.33 | 0.44 |
| 3:N:400:VAL:O | 3:N:400:VAL:HG13 | 2.17 | 0.44 |
| 3:N:87:ARG:HA | 3:N:521:PRO:HB3 | 1.98 | 0.44 |
| 3:N:639:LEU:N | 3:N:729:HIS:NE2 | 2.66 | 0.44 |
| 3:N:55:ASP:HA | 3:N:82:LYS:HE2 | 2.00 | 0.44 |
| 1:A:110:LYS:C | 1:A:112:ARG:N | 2.71 | 0.44 |
| 1:B:76:VAL:HA | 1:B:79:ILE:CD1 | 2.48 | 0.44 |
| 2:C:16:PRO:O | 2:C:18:LEU:N | 2.51 | 0.44 |
| 2:C:22:GLN:NE2 | 2:C:136:ILE:O | 2.51 | 0.44 |
| 2:C:195:LEU:HD21 | 2:C:238:LEU:HG | 2.00 | 0.44 |
| 2:C:242:LEU:HD23 | 2:C:242:LEU:HA | 1.89 | 0.44 |
| 2:C:328:LEU:C | 2:C:330:ASN:N | 2.70 | 0.44 |
| 2:C:402:SER:HB2 | 2:C:566:THR:O | 2.17 | 0.44 |
| 2:C:752:GLY:H | 2:C:792:VAL:HB | 1.83 | 0.44 |
| 2:C:876:VAL:O | 2:C:879:ARG:O | 2.35 | 0.44 |
| 3:D:1197:ARG:CZ | 3:D:1198:TYR:CD1 | 3.01 | 0.44 |
| 3:D:1264:GLU:CD | 3:D:1425:THR:HB | 2.38 | 0.44 |
| 3:D:15:PRO:O | 3:D:18:ILE:HB | 2.18 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:D:14:SER:O | 3:D:17:LYS:N | 2.50 | 0.44 |
| 3:D:714:GLN:HE21 | 3:D:765:SER:HB2 | 1.80 | 0.44 |
| 6:H:6:C:N4 | 6:H:7:G:O6 | 2.51 | 0.44 |
| 1:K:71:VAL:O | 2:M:608:GLY:N | 2.51 | 0.44 |
| 1:K:78:ILE:O | 1:K:81:ASN:N | 2.51 | 0.44 |
| 1:L:83:LYS:HE2 | 1:L:168:ASP:OD2 | 2.18 | 0.44 |
| 1:L:42:ARG:HH11 | 1:L:42:ARG:HG2 | 1.83 | 0.44 |
| 2:M:431:HIS:CB | 2:M:434:HIS:CE1 | 2.81 | 0.44 |
| 2:M:15:LEU:HA | 2:M:458:TYR:CE2 | 2.53 | 0.44 |
| 2:M:493:ARG:HB2 | 2:M:494:TYR:CD1 | 2.53 | 0.44 |
| 2:M:478:VAL:HA | 2:M:506:ASN:O | 2.18 | 0.44 |
| 2:M:707:ARG:HD2 | 2:M:826:TYR:OH | 2.18 | 0.44 |
| 2:M:922:PHE:CB | 2:M:964:LYS:NZ | 2.79 | 0.44 |
| 3:N:1195:GLN:O | 3:N:1196:THR:C | 2.57 | 0.44 |
| 3:N:1313:VAL:HG21 | 3:N:1319:VAL:CG1 | 2.48 | 0.44 |
| 3:N:396:VAL:HB | 3:N:447:VAL:HG12 | 1.99 | 0.44 |
| 3:N:506:GLY:O | 3:N:507:ASN:C | 2.57 | 0.44 |
| 1:B:100:LEU:HB2 | 1:B:115:LEU:HD21 | 2.00 | 0.43 |
| 1:B:29:GLU:HB3 | 1:B:30:ARG:H | 1.72 | 0.43 |
| 2:C:260:LEU:HD21 | 2:C:293:PHE:CE2 | 2.52 | 0.43 |
| 2:C:130:ASN:OD1 | 2:C:383:ARG:NH2 | 2.51 | 0.43 |
| 2:C:435:TYR:C | 2:C:437:ARG:H | 2.22 | 0.43 |
| 2:C:410:ILE:N | 2:C:453:THR:O | 2.42 | 0.43 |
| 2:C:468:ARG:HA | 2:C:486:MET:O | 2.17 | 0.43 |
| 2:C:473:ARG:HA | 2:C:531:PHE:CE1 | 2.53 | 0.43 |
| 2:C:643:VAL:HG13 | 2:C:647:GLN:CD | 2.39 | 0.43 |
| 3:D:1087:ARG:HE | 3:D:1236:LEU:CD1 | 2.29 | 0.43 |
| 3:D:1119:SER:O | 3:D:1121:PRO:HD3 | 2.17 | 0.43 |
| 3:D:1242:HIS:O | 3:D:1251:ASP:N | 2.42 | 0.43 |
| 3:D:1364:HIS:CE1 | 3:D:1366:LYS:HG3 | 2.53 | 0.43 |
| 3:D:608:SER:HB3 | 3:D:1443:THR:HG23 | 1.99 | 0.43 |
| 3:D:8:VAL:HG23 | 3:D:1459:LEU:CD1 | 2.48 | 0.43 |
| 3:D:850:LEU:HD12 | 3:D:850:LEU:N | 2.31 | 0.43 |
| 1:K:218:LEU:O | 1:K:222:LEU:HD13 | 2.18 | 0.43 |
| 1:L:28:LEU:HD11 | 1:L:195:LEU:H | 1.83 | 0.43 |
| 2:M:157:ARG:HG3 | 2:M:158:TYR:H | 1.83 | 0.43 |
| 2:M:191:PHE:CD2 | 2:M:241:LEU:HD13 | 2.53 | 0.43 |
| 2:M:286:SER:HB3 | 2:M:299:LYS:CE | 2.47 | 0.43 |
| 2:M:456:ALA:HB3 | 2:M:459:ALA:HB2 | 1.99 | 0.43 |
| 3:N:1273:VAL:HG23 | 3:N:1274:ILE:N | 2.33 | 0.43 |
| 3:N:1281:VAL:HG23 | 3:N:1319:VAL:CG2 | 2.47 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:N:1354:LYS:HA | 3:N:1357:ARG:HD2 | 1.99 | 0.43 |
| 3:N:1483:PHE:O | 4:O:77:GLU:HA | 2.18 | 0.43 |
| 3:N:52:PRO:HG2 | 3:N:82:LYS:O | 2.18 | 0.43 |
| 3:N:795:VAL:HG23 | 3:N:879:ARG:NH1 | 2.33 | 0.43 |
| 6:Y:4:G:H2' | 6:Y:5:C:C6 | 2.49 | 0.43 |
| 1:A:18:ARG:HB2 | 1:A:203:GLY:HA2 | 2.00 | 0.43 |
| 1:A:90:LEU:HD13 | 1:A:119:ASP:O | 2.19 | 0.43 |
| 1:A:9:PRO:HB3 | 1:A:25:LEU:CG | 2.48 | 0.43 |
| 2:C:1040:LEU:HA | 2:C:1040:LEU:HD12 | 1.71 | 0.43 |
| 2:C:1040:LEU:CG | 2:C:1045:ALA:HB3 | 2.44 | 0.43 |
| 2:C:553:ASP:N | 2:C:553:ASP:OD2 | 2.51 | 0.43 |
| 2:C:706:GLU:HG2 | 2:C:708:TYR:CZ | 2.53 | 0.43 |
| 2:C:721:ARG:HH11 | 2:C:721:ARG:HG3 | 1.83 | 0.43 |
| 2:C:953:VAL:O | 2:C:955:PRO:HD3 | 2.18 | 0.43 |
| 3:D:100:ALA:CB | 3:D:128:TYR:OH | 2.65 | 0.43 |
| 3:D:1041:LEU:CD1 | 3:D:1045:MET:HB2 | 2.47 | 0.43 |
| 3:D:1268:PRO:HB2 | 3:D:1329:ALA:HB3 | 1.99 | 0.43 |
| 3:D:1225:ALA:CA | 3:D:1367:HIS:ND1 | 2.77 | 0.43 |
| 3:D:30:GLU:OE1 | 3:D:30:GLU:HA | 2.18 | 0.43 |
| 3:D:521:PRO:CD | 3:D:524:LEU:HD22 | 2.46 | 0.43 |
| 3:D:620:GLY:O | 3:D:621:LYS:HD3 | 2.18 | 0.43 |
| 3:D:758:GLU:CB | 3:D:762:GLN:NE2 | 2.81 | 0.43 |
| 3:D:796:ARG:HH21 | 3:D:862:ASP:CG | 2.20 | 0.43 |
| 3:D:832:ARG:C | 3:D:832:ARG:HD2 | 2.36 | 0.43 |
| 3:D:847:ASP:O | 3:D:851:LEU:CG | 2.63 | 0.43 |
| 3:D:1209:LEU:HD11 | 4:E:16:LYS:HD2 | 2.00 | 0.43 |
| 4:E:40:LEU:HD21 | 4:E:67:GLU:CA | 2.36 | 0.43 |
| 2:M:289:THR:O | 2:M:290:LEU:C | 2.57 | 0.43 |
| 2:M:392:SER:O | 2:M:393:GLN:HG3 | 2.19 | 0.43 |
| 2:M:762:LYS:HD2 | 2:M:786:LYS:HG3 | 1.99 | 0.43 |
| 2:M:785:VAL:HG13 | 2:M:786:LYS:N | 2.33 | 0.43 |
| 3:N:1311:LEU:H | 3:N:1311:LEU:HD23 | 1.82 | 0.43 |
| 3:N:470:LEU:H | 3:N:470:LEU:HD23 | 1.82 | 0.43 |
| 3:N:736:PHE:HD1 | 3:N:736:PHE:H | 1.62 | 0.43 |
| 3:N:761:ILE:HD12 | 4:O:20:THR:HA | 2.01 | 0.43 |
| 1:A:109:VAL:HG23 | 1:A:132:LEU:HD13 | 2.00 | 0.43 |
| 1:A:217:ILE:HG22 | 1:A:221:HIS:NE2 | 2.33 | 0.43 |
| 1:B:152:PRO:HB2 | 1:B:155:LYS:HB2 | 2.00 | 0.43 |
| 1:B:43:ILE:HG23 | 1:B:47:SER:CB | 2.47 | 0.43 |
| 2:C:203:ASP:HB2 | 2:C:205:GLU:OE2 | 2.18 | 0.43 |
| 2:C:334:ARG:HG2 | 2:C:338:GLU:OE1 | 2.19 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:C:479:VAL:CG2 | 2:C:506:ASN:HA | 2.44 | 0.43 |
| 2:C:708:TYR:HE2 | 2:C:793:PRO:HG2 | 1.83 | 0.43 |
| 2:C:90:TYR:CD1 | 2:C:120:LEU:HB2 | 2.54 | 0.43 |
| 3:D:1137:ARG:O | 3:D:1141:GLU:HG3 | 2.18 | 0.43 |
| 3:D:1189:ARG:HD2 | 3:D:1190:SER:H | 1.84 | 0.43 |
| 3:D:128:TYR:CZ | 3:D:458:ALA:HB2 | 2.54 | 0.43 |
| 3:D:1100:ASP:CA | 3:D:1463:LYS:HZ1 | 2.30 | 0.43 |
| 3:D:731:LEU:HA | 3:D:731:LEU:HD23 | 1.70 | 0.43 |
| 3:D:787:LEU:HD21 | 3:D:947:ILE:HD11 | 2.00 | 0.43 |
| 3:D:85:VAL:O | 3:D:88:TYR:HB2 | 2.18 | 0.43 |
| 1:K:186:LEU:O | 1:K:188:GLN:N | 2.50 | 0.43 |
| 1:K:45:LEU:N | 1:K:45:LEU:HD12 | 2.33 | 0.43 |
| 1:L:159:LYS:H | 1:L:159:LYS:HE3 | 1.83 | 0.43 |
| 1:L:80:LEU:C | 3:N:844:ALA:HB2 | 2.38 | 0.43 |
| 2:M:101:ILE:CD1 | 2:M:107:LEU:HD22 | 2.48 | 0.43 |
| 2:M:76:PRO:HG3 | 2:M:120:LEU:HD11 | 2.01 | 0.43 |
| 2:M:157:ARG:HG3 | 2:M:158:TYR:N | 2.33 | 0.43 |
| 2:M:304:LEU:O | 2:M:308:ARG:HB2 | 2.19 | 0.43 |
| 2:M:486:MET:HG3 | 2:M:487:THR:N | 2.32 | 0.43 |
| 2:M:677:MET:HE1 | 2:M:678:PRO:O | 2.18 | 0.43 |
| 2:M:987:ILE:HG12 | 3:N:948:THR:HG23 | 2.00 | 0.43 |
| 3:N:145:VAL:HG22 | 3:N:146:PRO:HD2 | 2.00 | 0.43 |
| 3:N:136:ASP:HB3 | 3:N:453:ASP:HB2 | 2.00 | 0.43 |
| 3:N:812:ALA:O | 3:N:816:HIS:HB2 | 2.18 | 0.43 |
| 1:L:175:ARG:HB3 | 3:N:847:ASP:OD2 | 2.19 | 0.43 |
| 3:N:960:LYS:O | 3:N:964:LEU:HB2 | 2.19 | 0.43 |
| 3:N:966:GLU:O | 3:N:969:ARG:HG2 | 2.18 | 0.43 |
| 4:O:54:LEU:HD22 | 4:O:63:TRP:HE1 | 1.78 | 0.43 |
| 4:O:9:LEU:HD23 | 4:O:12:MET:SD | 2.57 | 0.43 |
| 7:Z:4:DG:C2 | 7:Z:5:DC:C2 | 3.07 | 0.43 |
| 1:A:117:VAL:HB | 1:A:120:VAL:HG11 | 1.99 | 0.43 |
| 1:A:28:LEU:CD2 | 1:A:32:PHE:CD1 | 2.59 | 0.43 |
| 1:B:11:PHE:HB2 | 1:B:25:LEU:HD12 | 2.01 | 0.43 |
| 2:C:1072:LYS:HE2 | 2:C:1072:LYS:HB3 | 1.81 | 0.43 |
| 2:C:300:ASP:C | 2:C:302:VAL:N | 2.71 | 0.43 |
| 2:C:275:TYR:OH | 2:C:329:GLY:O | 2.36 | 0.43 |
| 2:C:338:GLU:C | 2:C:341:THR:HG22 | 2.38 | 0.43 |
| 2:C:35:PRO:C | 2:C:37:GLU:H | 2.22 | 0.43 |
| 2:C:836:GLY:HA2 | 3:D:725:SER:CB | 2.45 | 0.43 |
| 2:C:686:ASP:HB3 | 2:C:846:LYS:O | 2.18 | 0.43 |
| 3:D:10:ILE:CD1 | 3:D:1434:TRP:HE1 | 2.31 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 3:D:1189:ARG:CZ | 3:D:1204:CYS:SG | 3.05 | 0.43 |
| 3:D:1258:ARG:NH1 | 3:D:1329:ALA:CB | 2.71 | 0.43 |
| 2:C:1016:ILE:CG2 | 3:D:524:LEU:O | 2.66 | 0.43 |
| 3:D:543:LEU:HD11 | 3:D:600:LEU:HB2 | 2.00 | 0.43 |
| 3:D:637:LEU:HD11 | 3:D:642:CYS:C | 2.38 | 0.43 |
| 3:D:698:LYS:NZ | 3:D:756:GLN:HG2 | 2.33 | 0.43 |
| 3:D:732:VAL:CG2 | 3:D:736:PHE:HE1 | 2.30 | 0.43 |
| 3:D:812:ALA:O | 3:D:816:HIS:HB2 | 2.19 | 0.43 |
| 3:D:23:TYR:CZ | 3:D:89:ARG:HG2 | 2.53 | 0.43 |
| 1:L:18:ARG:O | 1:L:207:PRO:HD3 | 2.18 | 0.43 |
| 1:L:36:LEU:C | 1:L:39:PRO:HD2 | 2.38 | 0.43 |
| 1:L:56:VAL:CG1 | 1:L:57:TYR:N | 2.81 | 0.43 |
| 2:M:1045:ALA:HA | 3:N:758:GLU:CD | 2.38 | 0.43 |
| 2:M:129:ILE:CD1 | 2:M:129:ILE:H | 2.30 | 0.43 |
| 2:M:265:ARG:CD | 2:M:267:TYR:HB3 | 2.49 | 0.43 |
| 2:M:430:VAL:HG13 | 3:N:1075:HIS:ND1 | 2.33 | 0.43 |
| 2:M:44:ILE:HG21 | 2:M:71:TYR:CE1 | 2.53 | 0.43 |
| 2:M:498:GLN:HG3 | 2:M:516:ARG:HH21 | 1.81 | 0.43 |
| 2:M:604:ALA:O | 2:M:645:VAL:HG12 | 2.18 | 0.43 |
| 2:M:884:GLN:O | 2:M:992:MET:CE | 2.65 | 0.43 |
| 3:N:1205:TYR:CE2 | 3:N:1215:VAL:HG21 | 2.53 | 0.43 |
| 3:N:104:PHE:HA | 3:N:1448:THR:HG23 | 2.01 | 0.43 |
| 3:N:1491:THR:O | 3:N:1494:ALA:HB3 | 2.18 | 0.43 |
| 3:N:502:PHE:CD1 | 3:N:509:PRO:HB3 | 2.53 | 0.43 |
| 3:N:563:PRO:HG2 | 3:N:566:ILE:HD12 | 2.01 | 0.43 |
| 2:M:1008:ARG:O | 3:N:624:ASP:O | 2.36 | 0.43 |
| 3:N:771:SER:CB | 3:N:778:LEU:HD13 | 2.31 | 0.43 |
| 1:L:65:PHE:CE1 | 3:N:813:LEU:HD13 | 2.53 | 0.43 |
| 4:O:36:LYS:HG2 | 4:O:95:VAL:HG21 | 1.99 | 0.43 |
| 5:X:19:DG:C2' | 5:X:20:DC:C5' | 2.96 | 0.43 |
| 7:Z:4:DG:C5 | 7:Z:5:DC:C4 | 3.06 | 0.43 |
| 1:A:139:ASN:HD22 | 1:A:140:MET:N | 2.17 | 0.43 |
| 2:C:1090:LYS:HE2 | 2:C:1112:PHE:HE1 | 1.81 | 0.43 |
| 2:C:146:VAL:HG13 | 2:C:161:SER:O | 2.18 | 0.43 |
| 2:C:460:ARG:HG3 | 2:C:460:ARG:NH1 | 2.33 | 0.43 |
| 2:C:817:PRO:C | 2:C:819:VAL:H | 2.22 | 0.43 |
| 2:C:861:LEU:CG | 2:C:862:PRO:HD2 | 2.34 | 0.43 |
| 3:D:8:VAL:O | 3:D:1434:TRP:HH2 | 2.02 | 0.43 |
| 2:C:1106:ASP:CG | 3:D:1456:LYS:HD3 | 2.38 | 0.43 |
| 3:D:148:GLU:HB3 | 3:D:151:GLN:HB2 | 1.99 | 0.43 |
| 3:D:731:LEU:HD21 | 3:D:785:ILE:HD13 | 1.99 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 3:D:924:MET:SD | 4:E:6:ILE:HG12 | 2.59 | 0.43 |
| 6:H:7:G:C2' | 6:H:8:G:C5' | 2.96 | 0.43 |
| 1:K:170:VAL:HG23 | 1:K:170:VAL:O | 2.18 | 0.43 |
| 1:K:26:GLU:CB | 1:K:27:PRO:HA | 2.49 | 0.43 |
| 1:L:100:LEU:HD22 | 1:L:141:GLU:HB3 | 2.00 | 0.43 |
| 2:M:1102:LEU:HB2 | 3:N:7:LYS:O | 2.19 | 0.43 |
| 2:M:252:LYS:NZ | 2:M:296:GLY:HA3 | 2.34 | 0.43 |
| 2:M:300:ASP:C | 2:M:302:VAL:N | 2.70 | 0.43 |
| 2:M:31:GLN:O | 2:M:31:GLN:OE1 | 2.37 | 0.43 |
| 2:M:375:SER:O | 2:M:379:GLU:OE1 | 2.37 | 0.43 |
| 2:M:431:HIS:HB3 | 2:M:434:HIS:CD2 | 2.52 | 0.43 |
| 2:M:581:THR:OG1 | 2:M:583:LEU:HD13 | 2.19 | 0.43 |
| 3:N:1009:LYS:O | 3:N:1012:GLU:HB3 | 2.19 | 0.43 |
| 2:M:878:SER:OG | 3:N:1029:ARG:CZ | 2.67 | 0.43 |
| 3:N:620:GLY:O | 3:N:621:LYS:HD3 | 2.18 | 0.43 |
| 3:N:885:ILE:H | 3:N:885:ILE:HG13 | 1.70 | 0.43 |
| 3:N:973:GLN:O | 3:N:977:ALA:HB2 | 2.18 | 0.43 |
| 7:Z:1:DG:C4 | 7:Z:2:DT:C7 | 3.02 | 0.43 |
| 1:A:206:THR:HG22 | 1:A:209:GLU:H | 1.82 | 0.43 |
| 1:A:213:GLN:O | 1:A:217:ILE:HG13 | 2.18 | 0.43 |
| 1:A:78:ILE:O | 1:A:82:LEU:HG | 2.17 | 0.43 |
| 1:B:64:GLU:HG2 | 1:B:64:GLU:O | 2.19 | 0.43 |
| 2:C:1038:TRP:CH2 | 3:D:1096:ARG:HA | 2.53 | 0.43 |
| 2:C:1046:ALA:HA | 3:D:1472:ILE:HG13 | 2.01 | 0.43 |
| 2:C:1096:ALA:HB2 | 3:D:101:HIS:CD2 | 2.53 | 0.43 |
| 2:C:143:SER:HB2 | 2:C:276:LYS:CE | 2.44 | 0.43 |
| 2:C:289:THR:O | 2:C:290:LEU:C | 2.56 | 0.43 |
| 2:C:344:PHE:CZ | 2:C:348:LEU:HD11 | 2.53 | 0.43 |
| 2:C:349:ALA:O | 2:C:353:ARG:HB2 | 2.19 | 0.43 |
| 2:C:462:ASP:HB3 | 2:C:468:ARG:CZ | 2.48 | 0.43 |
| 2:C:92:ALA:CB | 2:C:120:LEU:HD21 | 2.49 | 0.43 |
| 2:C:943:VAL:HG22 | 2:C:986:PRO:HD3 | 2.00 | 0.43 |
| 3:D:1223:ILE:O | 3:D:1226:ALA:N | 2.52 | 0.43 |
| 3:D:1468:LEU:CD2 | 3:D:1470:ARG:HG3 | 2.48 | 0.43 |
| 3:D:530:VAL:O | 6:H:4:G:C5' | 2.59 | 0.43 |
| 3:D:686:GLU:HA | 3:D:689:ASP:OD2 | 2.18 | 0.43 |
| 3:D:925:GLU:O | 3:D:928:ALA:HB3 | 2.18 | 0.43 |
| 4:E:85:LEU:HD23 | 4:E:85:LEU:O | 2.19 | 0.43 |
| 1:K:180:GLN:HA | 2:M:937:ASP:OD1 | 2.19 | 0.43 |
| 1:K:195:LEU:HD12 | 1:K:196:THR:N | 2.34 | 0.43 |
| 1:K:198:ARG:HD3 | 1:K:200:TRP:CH2 | 2.54 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 2:M:537:LYS:HG3 | 2:M:905:ILE:HG12 | 2.01 | 0.43 |
| 2:M:56:GLU:OE2 | 2:M:59:LYS:HD2 | 2.18 | 0.43 |
| 2:M:677:MET:HB3 | 2:M:987:ILE:CG2 | 2.47 | 0.43 |
| 3:N:118:LEU:O | 3:N:120:ALA:N | 2.51 | 0.43 |
| 3:N:1256:LEU:N | 3:N:1257:PRO:CD | 2.82 | 0.43 |
| 3:N:1394:VAL:HG12 | 3:N:1397:LYS:H | 1.83 | 0.43 |
| 3:N:163:TYR:HE1 | 3:N:165:LYS:HA | 1.81 | 0.43 |
| 3:N:17:LYS:HG2 | 3:N:21:TRP:CE2 | 2.53 | 0.43 |
| 1:A:86:VAL:HG13 | 1:A:86:VAL:O | 2.19 | 0.43 |
| 1:B:124:ASN:ND2 | 1:B:127:LEU:HB2 | 2.34 | 0.43 |
| 1:B:173:PRO:HB3 | 1:B:204:SER:HB3 | 2.00 | 0.43 |
| 1:B:198:ARG:NH2 | 3:D:888:GLU:OE2 | 2.52 | 0.43 |
| 1:B:42:ARG:HH11 | 1:B:42:ARG:HG2 | 1.84 | 0.43 |
| 1:B:73:GLU:HB3 | 1:B:77:GLU:HG3 | 2.00 | 0.43 |
| 2:C:1040:LEU:HB3 | 2:C:1049:LEU:HD13 | 2.00 | 0.43 |
| 2:C:404:LEU:HD13 | 2:C:591:SER:HB2 | 2.00 | 0.43 |
| 2:C:725:ASP:HB3 | 2:C:783:ARG:NH2 | 2.34 | 0.43 |
| 2:C:878:SER:HB3 | 3:D:1029:ARG:HD2 | 2.00 | 0.43 |
| 3:D:1000:THR:O | 3:D:1003:VAL:HG12 | 2.19 | 0.43 |
| 3:D:1336:LEU:HB2 | 3:D:1344:VAL:HG21 | 2.01 | 0.43 |
| 3:D:522:PRO:N | 3:D:525:ARG:NH1 | 2.67 | 0.43 |
| 3:D:671:LYS:HB3 | 3:D:671:LYS:HE2 | 1.59 | 0.43 |
| 3:D:749:VAL:HA | 3:D:750:PRO:HD3 | 1.87 | 0.43 |
| 3:D:8:VAL:O | 3:D:1457:ASP:N | 2.35 | 0.43 |
| 4:E:54:LEU:CD2 | 4:E:63:TRP:HE1 | 2.24 | 0.43 |
| 1:L:149:GLY:O | 1:L:171:PHE:HB2 | 2.19 | 0.43 |
| 1:L:150:TYR:HH | 3:N:843:PHE:HE2 | 1.65 | 0.43 |
| 2:M:115:LEU:HD22 | 2:M:373:VAL:CG1 | 2.49 | 0.43 |
| 2:M:663:ASN:C | 2:M:665:PHE:N | 2.72 | 0.43 |
| 2:M:710:ILE:HB | 2:M:790:LEU:HD22 | 2.01 | 0.43 |
| 2:M:843:HIS:ND1 | 2:M:884:GLN:HB3 | 2.32 | 0.43 |
| 2:M:906:PHE:CE2 | 3:N:1067:VAL:HA | 2.54 | 0.43 |
| 3:N:1166:LEU:CD2 | 3:N:1166:LEU:H | 2.18 | 0.43 |
| 3:N:15:PRO:CA | 3:N:18:ILE:HG12 | 2.47 | 0.43 |
| 3:N:754:PHE:CG | 4:O:24:ALA:HB1 | 2.54 | 0.43 |
| 6:Y:6:C:N4 | 6:Y:7:G:O6 | 2.51 | 0.43 |
| 1:A:135:GLY:O | 1:A:137:ARG:HG3 | 2.19 | 0.43 |
| 1:A:13:VAL:CG1 | 1:A:14:ARG:H | 2.30 | 0.43 |
| 1:A:152:PRO:CB | 1:A:154:GLU:OE1 | 2.61 | 0.43 |
| 1:A:48:ILE:CG2 | 1:A:173:PRO:HD2 | 2.48 | 0.43 |
| 1:A:186:LEU:O | 1:A:188:GLN:N | 2.52 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 2:C:358:ARG:NE | 2:C:371:LYS:O | 2.52 | 0.43 |
| 2:C:583:LEU:N | 2:C:583:LEU:HD12 | 2.34 | 0.43 |
| 2:C:596:TYR:C | 2:C:655:LEU:HD11 | 2.39 | 0.43 |
| 2:C:661:SER:HA | 2:C:665:PHE:O | 2.19 | 0.43 |
| 2:C:68:PHE:O | 2:C:69:LEU:HD23 | 2.19 | 0.43 |
| 3:D:1433:SER:HB2 | 3:D:1457:ASP:CG | 2.38 | 0.43 |
| 3:D:521:PRO:C | 3:D:525:ARG:NH1 | 2.72 | 0.43 |
| 3:D:760:ARG:NH1 | 4:E:62:THR:HG23 | 2.34 | 0.43 |
| 3:D:7:LYS:HE2 | 3:D:1458:GLU:OE2 | 2.18 | 0.43 |
| 5:G:3:DC:P | 5:G:3:DC:H6 | 2.42 | 0.43 |
| 5:G:7:DA:H8 | 5:G:7:DA:P | 2.42 | 0.43 |
| 7:I:17:DA:P | 7:I:17:DA:H8 | 2.42 | 0.43 |
| 1:K:55:SER:N | 1:K:143:ARG:HB3 | 2.34 | 0.43 |
| 1:L:221:HIS:HA | 1:L:224:TYR:CD2 | 2.53 | 0.43 |
| 1:L:73:GLU:H | 1:L:73:GLU:HG2 | 1.52 | 0.43 |
| 2:M:326:ASP:HB3 | 2:M:431:HIS:CG | 2.52 | 0.43 |
| 2:M:349:ALA:O | 2:M:353:ARG:HB2 | 2.18 | 0.43 |
| 2:M:395:LYS:CG | 2:M:397:GLU:HG3 | 2.49 | 0.43 |
| 2:M:436:GLY:O | 2:M:456:ALA:HB3 | 2.18 | 0.43 |
| 2:M:524:VAL:CG1 | 2:M:525:SER:N | 2.80 | 0.43 |
| 2:M:686:ASP:HB3 | 2:M:846:LYS:O | 2.19 | 0.43 |
| 2:M:68:PHE:O | 2:M:69:LEU:HD23 | 2.17 | 0.43 |
| 2:M:723:THR:CG2 | 2:M:725:ASP:HB2 | 2.48 | 0.43 |
| 2:M:939:ARG:HG3 | 2:M:975:TYR:HE2 | 1.84 | 0.43 |
| 3:N:953:ASP:OD1 | 3:N:1019:PRO:HG2 | 2.19 | 0.43 |
| 3:N:1191:PRO:HA | 3:N:1194:CYS:HB2 | 2.00 | 0.43 |
| 3:N:1200:VAL:HG13 | 3:N:1204:CYS:CB | 2.41 | 0.43 |
| 3:N:1205:TYR:CE1 | 3:N:1366:LYS:HD3 | 2.54 | 0.43 |
| 3:N:1382:THR:CG2 | 3:N:1418:LYS:HE3 | 2.47 | 0.43 |
| 3:N:520:LEU:HG | 3:N:521:PRO:CD | 2.48 | 0.43 |
| 3:N:55:ASP:HB3 | 3:N:82:LYS:HE2 | 2.01 | 0.43 |
| 3:N:87:ARG:HB3 | 3:N:523:ASP:CB | 2.48 | 0.43 |
| 3:N:789:LEU:CD1 | 3:N:934:LEU:HD22 | 2.49 | 0.43 |
| 4:O:33:HIS:CE1 | 4:O:89:MET:HG2 | 2.53 | 0.43 |
| 1:B:172:SER:HA | 1:B:173:PRO:HD3 | 1.74 | 0.43 |
| 2:C:1092:LEU:O | 2:C:1095:LEU:O | 2.37 | 0.43 |
| 2:C:205:GLU:H | 2:C:205:GLU:HG3 | 1.60 | 0.43 |
| 2:C:265:ARG:C | 2:C:267:TYR:N | 2.72 | 0.43 |
| 2:C:398:THR:HB | 2:C:399:ASN:ND2 | 2.33 | 0.43 |
| 2:C:409:ARG:HA | 2:C:454:SER:CA | 2.33 | 0.43 |
| 2:C:749:VAL:HG23 | 2:C:749:VAL:O | 2.19 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:D:1031:ASN:HB2 | 3:D:1034:GLN:HB3 | 2.01 | 0.43 |
| 3:D:1200:VAL:HG22 | 3:D:1373:ARG:NH1 | 2.31 | 0.43 |
| 3:D:1363:LEU:H | 3:D:1363:LEU:HD23 | 1.82 | 0.43 |
| 2:C:1098:ASP:HB2 | 3:D:21:TRP:HZ2 | 1.83 | 0.43 |
| 3:D:499:VAL:O | 3:D:500:ARG:C | 2.57 | 0.43 |
| 3:D:513:ILE:O | 3:D:513:ILE:HD12 | 2.18 | 0.43 |
| 3:D:91:GLY:C | 3:D:519:VAL:HG23 | 2.39 | 0.43 |
| 3:D:630:VAL:O | 3:D:726:ILE:N | 2.46 | 0.43 |
| 3:D:630:VAL:CG1 | 3:D:631:ILE:N | 2.82 | 0.43 |
| 3:D:709:HIS:HA | 3:D:1227:GLN:CB | 2.48 | 0.43 |
| 3:D:731:LEU:HD22 | 3:D:780:LYS:O | 2.19 | 0.43 |
| 3:D:970:LYS:O | 3:D:974:ILE:HG13 | 2.19 | 0.43 |
| 3:D:705:ALA:HB2 | 6:H:14:G:H21 | 1.61 | 0.43 |
| 1:L:76:VAL:HA | 1:L:79:ILE:HG12 | 2.01 | 0.43 |
| 2:M:113:VAL:CG1 | 2:M:115:LEU:HD23 | 2.49 | 0.43 |
| 2:M:195:LEU:O | 2:M:199:VAL:HG23 | 2.19 | 0.43 |
| 2:M:724:ARG:NH2 | 2:M:734:LEU:O | 2.52 | 0.43 |
| 2:M:718:GLY:HA3 | 2:M:761:PHE:CE1 | 2.54 | 0.43 |
| 2:M:903:SER:O | 2:M:904:PRO:C | 2.56 | 0.43 |
| 3:N:1107:VAL:HG23 | 3:N:1219:GLU:O | 2.17 | 0.43 |
| 3:N:1280:VAL:O | 3:N:1294:VAL:HA | 2.19 | 0.43 |
| 3:N:1348:LEU:N | 3:N:1348:LEU:HD13 | 2.34 | 0.43 |
| 3:N:155:ASP:O | 3:N:159:ARG:HB2 | 2.19 | 0.43 |
| 3:N:434:ARG:HH12 | 3:N:436:GLU:HG3 | 1.84 | 0.43 |
| 3:N:581:LEU:O | 3:N:603:LEU:HG | 2.19 | 0.43 |
| 3:N:610:LYS:HA | 3:N:615:ARG:CD | 2.49 | 0.43 |
| 3:N:657:LEU:HD13 | 3:N:691:LEU:HD13 | 2.01 | 0.43 |
| 3:N:704:ARG:HG3 | 3:N:705:ALA:N | 2.34 | 0.43 |
| 3:N:645:PRO:HB3 | 3:N:723:GLY:O | 2.19 | 0.43 |
| 3:N:699:VAL:HG22 | 3:N:760:ARG:HB3 | 1.99 | 0.43 |
| 3:N:811:GLU:O | 3:N:815:ALA:HB3 | 2.19 | 0.43 |
| 2:M:987:ILE:HA | 3:N:948:THR:OG1 | 2.18 | 0.43 |
| 3:N:950:GLY:H | 3:N:953:ASP:HB2 | 1.82 | 0.43 |
| 4:O:32:ARG:HB2 | 4:O:32:ARG:CZ | 2.49 | 0.43 |
| 1:A:57:TYR:CZ | 1:A:161:ARG:HD2 | 2.52 | 0.43 |
| 1:A:198:ARG:C | 1:A:199:ILE:HD12 | 2.39 | 0.43 |
| 2:C:1038:TRP:O | 2:C:1042:ALA:N | 2.48 | 0.43 |
| 2:C:115:LEU:H | 2:C:115:LEU:HG | 1.60 | 0.43 |
| 2:C:288:ARG:HG3 | 2:C:288:ARG:NH1 | 2.33 | 0.43 |
| 2:C:341:THR:O | 2:C:345:ARG:HG2 | 2.19 | 0.43 |
| 3:D:1084:THR:HA | 3:D:1087:ARG:CG | 2.48 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:D:615:ARG:NH1 | 3:D:1096:ARG:NE | 2.52 | 0.43 |
| 3:D:1442:ASN:O | 3:D:1443:THR:OG1 | 2.33 | 0.43 |
| 3:D:1442:ASN:O | 3:D:1443:THR:CB | 2.66 | 0.43 |
| 3:D:465:LEU:HD22 | 3:D:510:GLU:HA | 1.99 | 0.43 |
| 3:D:771:SER:HA | 3:D:772:PRO:HD3 | 1.90 | 0.43 |
| 4:E:36:LYS:HB2 | 4:E:95:VAL:HG22 | 2.01 | 0.43 |
| 2:C:444:PRO:CB | 6:H:12:U:OP1 | 2.64 | 0.43 |
| 2:M:1055:LEU:HD23 | 2:M:1062:GLY:HA3 | 2.01 | 0.43 |
| 2:M:1118:LYS:O | 2:M:1119:ARG:O | 2.37 | 0.43 |
| 2:M:217:LEU:HD11 | 2:M:314:THR:OG1 | 2.19 | 0.43 |
| 2:M:610:ARG:HG3 | 2:M:610:ARG:HH11 | 1.82 | 0.43 |
| 2:M:6:PHE:CD1 | 2:M:6:PHE:N | 2.86 | 0.43 |
| 2:M:762:LYS:HG3 | 2:M:786:LYS:CE | 2.49 | 0.43 |
| 2:M:537:LYS:CD | 2:M:905:ILE:HD13 | 2.38 | 0.43 |
| 2:M:966:LEU:HA | 2:M:966:LEU:HD12 | 1.84 | 0.43 |
| 3:N:1149:LEU:HD13 | 3:N:1151:ARG:O | 2.19 | 0.43 |
| 3:N:1330:ILE:HB | 3:N:1347:TYR:CZ | 2.53 | 0.43 |
| 3:N:1344:VAL:O | 3:N:1345:GLU:C | 2.56 | 0.43 |
| 3:N:581:LEU:HD23 | 3:N:581:LEU:N | 2.22 | 0.43 |
| 1:A:81:ASN:O | 1:A:84:GLU:HB3 | 2.19 | 0.42 |
| 1:A:9:PRO:HG2 | 1:B:224:TYR:CG | 2.54 | 0.42 |
| 2:C:1031:ARG:HA | 3:D:621:LYS:O | 2.19 | 0.42 |
| 2:C:1102:LEU:HA | 2:C:1107:ASN:O | 2.18 | 0.42 |
| 2:C:48:PHE:CB | 2:C:52:PHE:HD2 | 2.31 | 0.42 |
| 2:C:408:ARG:NH1 | 2:C:542:VAL:HG23 | 2.34 | 0.42 |
| 2:C:606:VAL:CG2 | 2:C:645:VAL:HG22 | 2.49 | 0.42 |
| 3:D:1155:VAL:HB | 3:D:1156:LEU:H | 1.62 | 0.42 |
| 3:D:119:SER:C | 3:D:121:THR:N | 2.72 | 0.42 |
| 3:D:122:GLU:HG2 | 3:D:126:VAL:HG23 | 2.01 | 0.42 |
| 3:D:1341:PRO:C | 3:D:1343:ALA:H | 2.22 | 0.42 |
| 3:D:1393:GLN:CB | 3:D:1398:TRP:HZ2 | 2.32 | 0.42 |
| 3:D:1437:ALA:C | 3:D:1446:VAL:HG11 | 2.38 | 0.42 |
| 3:D:1479:ASP:OD2 | 3:D:1482:ARG:NH2 | 2.52 | 0.42 |
| 3:D:40:GLU:OE1 | 3:D:40:GLU:HA | 2.18 | 0.42 |
| 3:D:502:PHE:CD2 | 3:D:509:PRO:HD3 | 2.54 | 0.42 |
| 3:D:582:LEU:HD23 | 3:D:603:LEU:HD12 | 1.99 | 0.42 |
| 2:M:1038:TRP:HA | 2:M:1041:GLU:HG3 | 2.00 | 0.42 |
| 2:M:520:GLU:OE2 | 2:M:521:PRO:HD2 | 2.19 | 0.42 |
| 2:M:582:GLY:C | 2:M:583:LEU:HD12 | 2.40 | 0.42 |
| 2:M:578:VAL:HG13 | 2:M:671:ASN:CB | 2.49 | 0.42 |
| 3:N:1094:LEU:HA | 3:N:1094:LEU:HD12 | 1.87 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:N:1271:LYS:HZ3 | 3:N:1331:ASP:HB2 | 1.80 | 0.42 |
| 3:N:104:PHE:HA | 3:N:1448:THR:CG2 | 2.48 | 0.42 |
| 3:N:104:PHE:CG | 3:N:512:MET:SD | 3.12 | 0.42 |
| 3:N:521:PRO:HA | 3:N:522:PRO:HD3 | 1.86 | 0.42 |
| 3:N:625:TYR:HE2 | 3:N:655:PRO:CD | 2.32 | 0.42 |
| 3:N:774:SER:O | 3:N:776:GLU:N | 2.52 | 0.42 |
| 3:N:639:LEU:HG | 3:N:932:ASP:OD1 | 2.18 | 0.42 |
| 3:N:972:LEU:HA | 3:N:975:GLU:HB2 | 2.00 | 0.42 |
| 4:O:25:LYS:HA | 4:O:28:GLN:HE21 | 1.81 | 0.42 |
| 1:A:66:SER:O | 1:A:75:VAL:HG23 | 2.18 | 0.42 |
| 1:A:99:LEU:HB3 | 1:A:114:PHE:CD2 | 2.54 | 0.42 |
| 2:C:796:GLU:CB | 2:C:1004:LYS:NZ | 2.75 | 0.42 |
| 2:C:1083:GLU:C | 2:C:1085:PHE:N | 2.71 | 0.42 |
| 2:C:328:LEU:HD13 | 2:C:433:THR:CA | 2.49 | 0.42 |
| 2:C:345:ARG:CA | 2:C:348:LEU:HD22 | 2.45 | 0.42 |
| 2:C:368:THR:HB | 2:C:369:PRO:CD | 2.43 | 0.42 |
| 2:C:460:ARG:HH12 | 2:C:462:ASP:HA | 1.84 | 0.42 |
| 2:C:697:ARG:HG3 | 2:C:697:ARG:O | 2.18 | 0.42 |
| 2:C:79:PRO:O | 2:C:83:CYS:SG | 2.67 | 0.42 |
| 3:D:1129:THR:HG23 | 3:D:1130:ARG:H | 1.81 | 0.42 |
| 3:D:1369:GLU:O | 3:D:1370:ILE:C | 2.57 | 0.42 |
| 3:D:1396:GLU:O | 3:D:1399:ASP:HB2 | 2.19 | 0.42 |
| 2:C:1046:ALA:HB3 | 3:D:1476:THR:OG1 | 2.19 | 0.42 |
| 3:D:549:ASN:CB | 3:D:550:ARG:HH21 | 2.31 | 0.42 |
| 3:D:618:LEU:HD13 | 3:D:1439:SER:CB | 2.43 | 0.42 |
| 3:D:904:VAL:HA | 3:D:905:PRO:HD3 | 1.89 | 0.42 |
| 3:D:916:TYR:OH | 3:D:1145:TYR:HE2 | 2.02 | 0.42 |
| 2:C:971:LYS:NZ | 3:D:953:ASP:OD1 | 2.50 | 0.42 |
| 2:C:422:ARG:HB3 | 7:I:1:DG:C6 | 2.54 | 0.42 |
| 1:L:108:GLU:HB3 | 1:L:128:HIS:CE1 | 2.54 | 0.42 |
| 1:L:83:LYS:O | 1:L:170:VAL:HG21 | 2.19 | 0.42 |
| 1:L:206:THR:HG23 | 1:L:208:LEU:N | 2.33 | 0.42 |
| 2:M:1101:THR:O | 2:M:1102:LEU:HD12 | 2.18 | 0.42 |
| 2:M:141:HIS:O | 2:M:331:ARG:CA | 2.66 | 0.42 |
| 2:M:25:SER:OG | 2:M:335:THR:HB | 2.19 | 0.42 |
| 2:M:459:ALA:HB1 | 2:M:467:ILE:CG2 | 2.49 | 0.42 |
| 2:M:493:ARG:CZ | 2:M:494:TYR:OH | 2.68 | 0.42 |
| 2:M:520:GLU:O | 2:M:522:VAL:HG23 | 2.18 | 0.42 |
| 3:N:1082:ALA:O | 3:N:1085:ALA:HB3 | 2.19 | 0.42 |
| 3:N:111:LYS:HZ1 | 3:N:1449:GLU:CG | 2.32 | 0.42 |
| 3:N:90:MET:HE2 | 3:N:521:PRO:HD3 | 2.00 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:N:525:ARG:CD | 3:N:525:ARG:H | 2.31 | 0.42 |
| 3:N:662:GLU:C | 3:N:664:LYS:O | 2.58 | 0.42 |
| 3:N:66:GLN:O | 3:N:69:GLU:N | 2.51 | 0.42 |
| 3:N:764:LEU:HB3 | 3:N:767:HIS:CE1 | 2.54 | 0.42 |
| 3:N:864:VAL:CG1 | 3:N:865:THR:H | 2.21 | 0.42 |
| 6:Y:8:G:H3' | 6:Y:8:G:H8 | 1.80 | 0.42 |
| 1:B:101:LEU:HB2 | 1:B:114:PHE:CG | 2.53 | 0.42 |
| 1:B:137:ARG:C | 1:B:137:ARG:HD3 | 2.39 | 0.42 |
| 2:C:584:GLU:H | 2:C:584:GLU:CD | 2.22 | 0.42 |
| 2:C:701:THR:HG21 | 2:C:830:LYS:CD | 2.49 | 0.42 |
| 2:C:72:ARG:NE | 2:C:95:TYR:HE1 | 2.17 | 0.42 |
| 3:D:1103:HIS:O | 3:D:1105:ILE:N | 2.52 | 0.42 |
| 3:D:1106:VAL:HG12 | 3:D:1107:VAL:H | 1.83 | 0.42 |
| 3:D:1191:PRO:O | 3:D:1193:THR:N | 2.52 | 0.42 |
| 3:D:1225:ALA:O | 3:D:1229:ILE:HG13 | 2.19 | 0.42 |
| 3:D:1442:ASN:O | 3:D:1443:THR:CG2 | 2.67 | 0.42 |
| 3:D:54:LYS:CG | 3:D:57:GLU:HB3 | 2.49 | 0.42 |
| 3:D:662:GLU:HA | 3:D:667:ALA:O | 2.19 | 0.42 |
| 3:D:731:LEU:CD2 | 3:D:782:SER:N | 2.83 | 0.42 |
| 3:D:907:GLU:CD | 3:D:909:ASN:H | 2.21 | 0.42 |
| 4:E:68:LEU:HD13 | 4:E:68:LEU:N | 2.34 | 0.42 |
| 3:D:924:MET:CG | 4:E:6:ILE:HG21 | 2.50 | 0.42 |
| 1:K:117:VAL:HB | 1:K:120:VAL:HG12 | 2.01 | 0.42 |
| 1:K:35:THR:HG23 | 1:L:42:ARG:HB2 | 2.01 | 0.42 |
| 1:L:75:VAL:O | 1:L:79:ILE:HG23 | 2.19 | 0.42 |
| 2:M:1090:LYS:HA | 2:M:1090:LYS:HD3 | 1.84 | 0.42 |
| 2:M:15:LEU:N | 2:M:15:LEU:HD12 | 2.34 | 0.42 |
| 2:M:56:GLU:HB3 | 2:M:359:MET:SD | 2.59 | 0.42 |
| 2:M:369:PRO:O | 2:M:373:VAL:HG23 | 2.19 | 0.42 |
| 3:N:1114:THR:C | 3:N:1189:ARG:HH21 | 2.15 | 0.42 |
| 3:N:131:LYS:C | 3:N:132:TYR:CG | 2.92 | 0.42 |
| 3:N:1442:ASN:O | 3:N:1446:VAL:HG21 | 2.13 | 0.42 |
| 3:N:204:LEU:HB2 | 3:N:394:LEU:CD2 | 2.48 | 0.42 |
| 3:N:564:GLU:OE2 | 3:N:567:ILE:HD12 | 2.19 | 0.42 |
| 3:N:736:PHE:O | 3:N:738:ALA:N | 2.53 | 0.42 |
| 3:N:829:VAL:O | 3:N:831:GLY:N | 2.48 | 0.42 |
| 3:N:960:LYS:O | 3:N:960:LYS:HG2 | 2.20 | 0.42 |
| 1:A:88:ARG:HH11 | 1:A:88:ARG:CG | 2.30 | 0.42 |
| 1:A:91:ASN:HA | 1:A:92:PRO:HD3 | 1.92 | 0.42 |
| 1:B:24:VAL:HG12 | 1:B:26:GLU:OE2 | 2.19 | 0.42 |
| 2:C:185:LYS:HB3 | 2:C:188:LYS:O | 2.19 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 2:C:198:ARG:HD2 | 2:C:204:GLN:OE1 | 2.19 | 0.42 |
| 2:C:399:ASN:O | 2:C:400:PRO:C | 2.57 | 0.42 |
| 2:C:437:ARG:NH1 | 2:C:491:GLU:OE2 | 2.53 | 0.42 |
| 2:C:412:ALA:CB | 2:C:451:LEU:HB3 | 2.50 | 0.42 |
| 2:C:459:ALA:HB1 | 2:C:467:ILE:HG23 | 1.98 | 0.42 |
| 2:C:674:VAL:HG11 | 2:C:992:MET:HB3 | 2.02 | 0.42 |
| 2:C:683:ASN:CA | 2:C:687:ALA:HB3 | 2.48 | 0.42 |
| 3:D:1011:PHE:CG | 3:D:1021:TYR:HB2 | 2.54 | 0.42 |
| 3:D:31:THR:C | 3:D:32:ILE:HG13 | 2.39 | 0.42 |
| 3:D:500:ARG:HA | 3:D:500:ARG:HD2 | 1.87 | 0.42 |
| 3:D:520:LEU:HD21 | 3:D:524:LEU:HB3 | 2.01 | 0.42 |
| 3:D:800:LYS:HG3 | 3:D:829:VAL:CG1 | 2.49 | 0.42 |
| 3:D:949:ILE:HD11 | 3:D:1023:MET:CE | 2.48 | 0.42 |
| 1:K:64:GLU:O | 1:K:75:VAL:HB | 2.18 | 0.42 |
| 1:L:73:GLU:HG3 | 1:L:130:ALA:HB2 | 2.00 | 0.42 |
| 1:L:176:ARG:HG3 | 1:L:200:TRP:CE3 | 2.55 | 0.42 |
| 1:L:90:LEU:HG | 1:L:91:ASN:ND2 | 2.34 | 0.42 |
| 2:M:1081:VAL:CG1 | 2:M:1086:ARG:HG2 | 2.50 | 0.42 |
| 2:M:185:LYS:HB3 | 2:M:188:LYS:O | 2.19 | 0.42 |
| 2:M:269:LEU:HG | 2:M:288:ARG:CA | 2.47 | 0.42 |
| 2:M:43:GLY:O | 2:M:47:ALA:N | 2.37 | 0.42 |
| 2:M:603:VAL:HG11 | 2:M:645:VAL:HA | 2.01 | 0.42 |
| 3:N:1112:CYS:O | 3:N:1189:ARG:NH2 | 2.51 | 0.42 |
| 3:N:1380:GLU:HB2 | 3:N:1420:LEU:CD1 | 2.50 | 0.42 |
| 3:N:28:LYS:HB2 | 3:N:41:ARG:CD | 2.48 | 0.42 |
| 3:N:396:VAL:O | 3:N:398:ALA:N | 2.52 | 0.42 |
| 3:N:50:PHE:CD2 | 3:N:522:PRO:HD3 | 2.54 | 0.42 |
| 3:N:676:MET:O | 3:N:676:MET:SD | 2.77 | 0.42 |
| 3:N:732:VAL:O | 3:N:736:PHE:HD1 | 2.01 | 0.42 |
| 3:N:972:LEU:HG | 3:N:976:GLN:OE1 | 2.20 | 0.42 |
| 7:Z:5:DC:H2' | 7:Z:6:DT:H71 | 2.01 | 0.42 |
| 1:A:26:GLU:CB | 1:A:27:PRO:HA | 2.49 | 0.42 |
| 1:B:3:ASP:HB3 | 1:B:4:SER:H | 1.67 | 0.42 |
| 2:C:1001:VAL:O | 2:C:1001:VAL:HG12 | 2.18 | 0.42 |
| 2:C:1081:VAL:CB | 2:C:1086:ARG:HH21 | 2.32 | 0.42 |
| 2:C:1089:VAL:O | 2:C:1092:LEU:CB | 2.67 | 0.42 |
| 2:C:394:PHE:O | 2:C:406:HIS:CE1 | 2.72 | 0.42 |
| 2:C:601:GLY:HA3 | 2:C:615:TYR:HA | 2.01 | 0.42 |
| 2:C:630:ARG:HD3 | 2:C:705:ILE:HG21 | 1.98 | 0.42 |
| 2:C:700:TYR:O | 2:C:833:LEU:HB2 | 2.19 | 0.42 |
| 2:C:841:ASN:N | 2:C:841:ASN:HD22 | 2.17 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 3:D:105:VAL:HA | 3:D:112:ILE:HG22 | 1.99 | 0.42 |
| 3:D:549:ASN:O | 3:D:553:ARG:CB | 2.68 | 0.42 |
| 3:D:618:LEU:HD11 | 3:D:1463:LYS:HE2 | 2.01 | 0.42 |
| 3:D:657:LEU:O | 3:D:661:MET:HG2 | 2.19 | 0.42 |
| 3:D:770:LEU:HA | 3:D:777:PRO:HA | 2.00 | 0.42 |
| 3:D:847:ASP:O | 3:D:848:GLU:C | 2.57 | 0.42 |
| 3:D:84:ILE:CG1 | 3:D:85:VAL:N | 2.81 | 0.42 |
| 4:E:27:ALA:HB1 | 4:E:60:ALA:HB1 | 2.01 | 0.42 |
| 4:E:9:LEU:HD21 | 4:E:69:LEU:HD12 | 2.00 | 0.42 |
| 4:E:92:LEU:O | 4:E:94:PRO:HD3 | 2.19 | 0.42 |
| 1:K:193:ASP:CG | 2:M:938:LYS:NZ | 2.72 | 0.42 |
| 1:K:38:ASN:N | 1:K:39:PRO:CD | 2.83 | 0.42 |
| 1:K:54:THR:HB | 1:K:143:ARG:HG2 | 2.00 | 0.42 |
| 1:K:99:LEU:N | 1:K:99:LEU:CD1 | 2.82 | 0.42 |
| 1:L:52:ALA:HB1 | 1:L:170:VAL:N | 2.27 | 0.42 |
| 2:M:118:ILE:HA | 2:M:119:PRO:HD3 | 1.90 | 0.42 |
| 2:M:191:PHE:CE2 | 2:M:238:LEU:HD11 | 2.54 | 0.42 |
| 2:M:394:PHE:CE1 | 2:M:632:ASN:OD1 | 2.73 | 0.42 |
| 2:M:606:VAL:HG21 | 2:M:645:VAL:HG22 | 2.01 | 0.42 |
| 2:M:677:MET:O | 2:M:870:ILE:HG22 | 2.19 | 0.42 |
| 2:M:987:ILE:HG23 | 3:N:948:THR:CG2 | 2.38 | 0.42 |
| 3:N:1304:LYS:C | 3:N:1305:LEU:HD23 | 2.40 | 0.42 |
| 3:N:1351:GLU:OE1 | 3:N:1351:GLU:HA | 2.20 | 0.42 |
| 3:N:484:PRO:HB3 | 3:N:488:ARG:HH21 | 1.80 | 0.42 |
| 3:N:521:PRO:O | 3:N:524:LEU:HB2 | 2.19 | 0.42 |
| 3:N:52:PRO:CG | 3:N:80:VAL:HG13 | 2.50 | 0.42 |
| 5:X:27:DC:H3' | 5:X:27:DC:OP1 | 2.19 | 0.42 |
| 6:Y:11:C:H2' | 6:Y:12:U:O4' | 2.20 | 0.42 |
| 1:A:58:ILE:HB | 1:A:61:VAL:HB | 2.00 | 0.42 |
| 1:B:154:GLU:O | 1:B:154:GLU:HG2 | 2.19 | 0.42 |
| 1:B:9:PRO:HB2 | 1:B:25:LEU:HD11 | 2.00 | 0.42 |
| 2:C:182:VAL:HG11 | 2:C:193:LEU:HD22 | 2.02 | 0.42 |
| 2:C:202:TYR:CZ | 2:C:304:LEU:HD13 | 2.54 | 0.42 |
| 2:C:49:ARG:O | 2:C:53:PRO:CD | 2.68 | 0.42 |
| 2:C:408:ARG:NH1 | 2:C:542:VAL:CG2 | 2.82 | 0.42 |
| 2:C:658:GLY:N | 2:C:661:SER:OG | 2.52 | 0.42 |
| 2:C:739:GLU:O | 2:C:742:VAL:N | 2.52 | 0.42 |
| 2:C:832:LYS:O | 2:C:834:GLN:N | 2.53 | 0.42 |
| 3:D:1095:THR:O | 3:D:1098:LEU:HB2 | 2.19 | 0.42 |
| 3:D:1135:ARG:HB3 | 3:D:1140:ILE:CG1 | 2.49 | 0.42 |
| 3:D:1259:VAL:O | 3:D:1263:PHE:HD1 | 2.02 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 3:D:127:LEU:CD1 | 3:D:127:LEU:C | 2.85 | 0.42 |
| 3:D:1344:VAL:O | 3:D:1345:GLU:C | 2.58 | 0.42 |
| 3:D:1412:LYS:C | 3:D:1414:PRO:HD3 | 2.40 | 0.42 |
| 3:D:454:ALA:O | 3:D:455:ARG:HG3 | 2.19 | 0.42 |
| 3:D:774:SER:O | 3:D:776:GLU:N | 2.53 | 0.42 |
| 3:D:51:GLY:N | 3:D:86:ARG:HG3 | 2.34 | 0.42 |
| 3:D:879:ARG:HH12 | 3:D:905:PRO:CD | 2.32 | 0.42 |
| 4:E:49:GLN:HA | 4:E:51:LEU:O | 2.19 | 0.42 |
| 1:K:38:ASN:HB3 | 1:K:39:PRO:HD3 | 2.00 | 0.42 |
| 1:L:94:LEU:HD11 | 1:L:119:ASP:HB2 | 2.00 | 0.42 |
| 2:M:1105:LYS:O | 2:M:1107:ASN:N | 2.53 | 0.42 |
| 2:M:170:PRO:HG2 | 2:M:258:TYR:HE2 | 1.84 | 0.42 |
| 2:M:399:ASN:O | 2:M:400:PRO:C | 2.57 | 0.42 |
| 2:M:518:LYS:HB3 | 2:M:518:LYS:HZ3 | 1.83 | 0.42 |
| 2:M:553:ASP:OD1 | 2:M:843:HIS:HD2 | 2.02 | 0.42 |
| 2:M:63:GLY:O | 2:M:65:VAL:HG23 | 2.19 | 0.42 |
| 2:M:6:PHE:CD2 | 2:M:909:ALA:HB2 | 2.55 | 0.42 |
| 2:M:75:GLU:O | 2:M:93:PRO:CD | 2.68 | 0.42 |
| 2:M:887:GLU:HB3 | 2:M:992:MET:CE | 2.49 | 0.42 |
| 3:N:1329:ALA:C | 3:N:1330:ILE:HG13 | 2.40 | 0.42 |
| 3:N:1341:PRO:HA | 3:N:1344:VAL:HG23 | 2.01 | 0.42 |
| 3:N:1397:LYS:HE3 | 3:N:1432:LYS:HZ2 | 1.85 | 0.42 |
| 3:N:401:TYR:OH | 3:N:430:ASP:OD2 | 2.37 | 0.42 |
| 3:N:540:LEU:HA | 3:N:543:LEU:HD12 | 2.00 | 0.42 |
| 2:M:1056:LYS:CD | 3:N:623:VAL:HG13 | 2.49 | 0.42 |
| 7:Z:7:DT:H2' | 7:Z:8:DG:OP2 | 2.18 | 0.42 |
| 1:A:111:ALA:O | 1:A:114:PHE:HD1 | 2.02 | 0.42 |
| 2:C:1033:GLY:O | 2:C:1037:VAL:HG23 | 2.19 | 0.42 |
| 2:C:1105:LYS:O | 2:C:1107:ASN:N | 2.53 | 0.42 |
| 2:C:328:LEU:CD1 | 2:C:328:LEU:H | 2.32 | 0.42 |
| 2:C:579:VAL:CG1 | 2:C:842:ARG:HH22 | 2.20 | 0.42 |
| 3:D:1176:LYS:O | 3:D:1179:GLU:HB2 | 2.19 | 0.42 |
| 3:D:1266:ARG:O | 3:D:1268:PRO:HD3 | 2.20 | 0.42 |
| 3:D:1336:LEU:O | 3:D:1340:GLY:N | 2.50 | 0.42 |
| 3:D:1401:GLU:OE2 | 3:D:1415:VAL:HG11 | 2.19 | 0.42 |
| 2:C:1009:SER:HB3 | 3:D:651:GLU:O | 2.19 | 0.42 |
| 3:D:771:SER:HB3 | 3:D:778:LEU:HD22 | 2.01 | 0.42 |
| 4:E:24:ALA:O | 4:E:28:GLN:HG3 | 2.19 | 0.42 |
| 1:K:158:ILE:H | 1:K:166:PRO:CG | 2.32 | 0.42 |
| 1:K:178:ALA:HB2 | 2:M:864:GLY:CA | 2.48 | 0.42 |
| 1:L:25:LEU:HG | 1:L:28:LEU:HD21 | 2.01 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 1:L:31:GLY:O | 1:L:35:THR:OG1 | 2.36 | 0.42 |
| 2:M:1032:PHE:O | 2:M:1036:GLU:CD | 2.58 | 0.42 |
| 2:M:1052:MET:SD | 2:M:1056:LYS:HD2 | 2.59 | 0.42 |
| 2:M:1088:LEU:O | 2:M:1091:GLU:HB2 | 2.20 | 0.42 |
| 2:M:13:ILE:HA | 2:M:14:PRO:HD3 | 1.86 | 0.42 |
| 2:M:197:LEU:HD22 | 2:M:202:TYR:CD2 | 2.55 | 0.42 |
| 2:M:259:GLY:O | 2:M:290:LEU:O | 2.37 | 0.42 |
| 2:M:408:ARG:HH21 | 2:M:455:LEU:CD1 | 2.33 | 0.42 |
| 2:M:575:GLN:N | 2:M:670:GLN:OE1 | 2.53 | 0.42 |
| 2:M:683:ASN:O | 2:M:872:ASN:CB | 2.63 | 0.42 |
| 2:M:969:GLN:CD | 3:N:952:ASP:HB2 | 2.39 | 0.42 |
| 3:N:108:VAL:HB | 3:N:109:PRO:CD | 2.37 | 0.42 |
| 3:N:1168:MET:HG3 | 3:N:1172:HIS:CE1 | 2.54 | 0.42 |
| 3:N:1258:ARG:NE | 3:N:1262:LEU:HD11 | 2.33 | 0.42 |
| 3:N:1417:TRP:CD1 | 3:N:1418:LYS:N | 2.88 | 0.42 |
| 3:N:481:MET:CE | 3:N:493:ARG:HA | 2.50 | 0.42 |
| 3:N:689:ASP:O | 3:N:692:GLU:HB3 | 2.19 | 0.42 |
| 4:O:59:ASN:HB3 | 4:O:62:THR:OG1 | 2.20 | 0.42 |
| 7:Z:4:DG:C4 | 7:Z:5:DC:C5 | 3.07 | 0.42 |
| 1:A:78:ILE:O | 1:A:81:ASN:N | 2.52 | 0.42 |
| 1:B:76:VAL:HA | 1:B:79:ILE:HD11 | 2.02 | 0.42 |
| 2:C:192:PRO:C | 2:C:193:LEU:HD12 | 2.40 | 0.42 |
| 2:C:260:LEU:HD21 | 2:C:293:PHE:CZ | 2.54 | 0.42 |
| 2:C:473:ARG:HG3 | 2:C:474:VAL:N | 2.34 | 0.42 |
| 2:C:693:GLU:HG2 | 2:C:697:ARG:NH2 | 2.26 | 0.42 |
| 2:C:863:ASP:OD2 | 2:C:863:ASP:C | 2.58 | 0.42 |
| 2:C:863:ASP:CG | 2:C:865:THR:HG22 | 2.40 | 0.42 |
| 3:D:117:ASP:HB2 | 3:D:495:ARG:HH12 | 1.80 | 0.42 |
| 3:D:1377:LYS:HE2 | 3:D:1378:TYR:OH | 2.20 | 0.42 |
| 3:D:107:ASP:OD2 | 3:D:1445:HIS:CD2 | 2.72 | 0.42 |
| 2:C:1046:ALA:HA | 3:D:1472:ILE:HD11 | 2.01 | 0.42 |
| 3:D:33:ASN:O | 3:D:36:THR:O | 2.37 | 0.42 |
| 3:D:612:GLY:H | 3:D:615:ARG:HB2 | 1.84 | 0.42 |
| 3:D:644:LEU:HD12 | 3:D:645:PRO:HD2 | 2.02 | 0.42 |
| 3:D:880:ILE:O | 3:D:883:ALA:HB3 | 2.19 | 0.42 |
| 3:D:951:ILE:HD12 | 3:D:1062:ARG:NE | 2.22 | 0.42 |
| 4:E:31:LEU:HB2 | 4:E:32:ARG:H | 1.69 | 0.42 |
| 5:G:12:DA:C2' | 5:G:13:DA:OP2 | 2.67 | 0.42 |
| 2:M:338:GLU:C | 2:M:341:THR:HG22 | 2.39 | 0.42 |
| 2:M:941:VAL:CA | 2:M:944:LEU:HB2 | 2.48 | 0.42 |
| 3:N:1231:GLU:HB3 | 3:N:1232:PRO:HD3 | 2.02 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 3:N:1397:LYS:CE | 3:N:1432:LYS:HZ2 | 2.33 | 0.42 |
| 3:N:1466:VAL:C | 3:N:1469:GLY:H | 2.23 | 0.42 |
| 3:N:603:LEU:HD23 | 3:N:603:LEU:HA | 1.83 | 0.42 |
| 3:N:764:LEU:HD12 | 3:N:765:SER:H | 1.83 | 0.42 |
| 1:A:65:PHE:HE1 | 2:C:799:ILE:CG2 | 2.32 | 0.42 |
| 1:B:104:GLU:HA | 1:B:136:GLY:O | 2.19 | 0.42 |
| 2:C:1098:ASP:HB2 | 3:D:13:ALA:HB2 | 2.01 | 0.42 |
| 2:C:50:GLU:HA | 2:C:266:ARG:NE | 2.27 | 0.42 |
| 2:C:520:GLU:HA | 2:C:521:PRO:HD3 | 1.86 | 0.42 |
| 2:C:768:THR:HG22 | 2:C:771:GLU:H | 1.84 | 0.42 |
| 2:C:768:THR:HA | 2:C:769:PRO:HD3 | 1.88 | 0.42 |
| 2:C:878:SER:HB3 | 3:D:1029:ARG:NH1 | 2.35 | 0.42 |
| 3:D:1071:PHE:CD1 | 3:D:1071:PHE:O | 2.73 | 0.42 |
| 3:D:528:VAL:O | 3:D:535:PHE:CD2 | 2.72 | 0.42 |
| 3:D:613:ARG:HA | 3:D:613:ARG:HD3 | 1.74 | 0.42 |
| 3:D:743:ASP:N | 3:D:743:ASP:OD2 | 2.53 | 0.42 |
| 4:E:27:ALA:HA | 4:E:30:LEU:CD1 | 2.48 | 0.42 |
| 6:H:5:C:O2 | 6:H:5:C:H2' | 2.14 | 0.42 |
| 2:M:1047:HIS:CE1 | 3:N:754:PHE:CE1 | 3.07 | 0.42 |
| 2:M:247:PRO:HA | 2:M:248:PRO:HD3 | 1.88 | 0.42 |
| 2:M:252:LYS:HB3 | 2:M:298:PHE:HZ | 1.83 | 0.42 |
| 2:M:31:GLN:O | 2:M:31:GLN:CG | 2.68 | 0.42 |
| 2:M:431:HIS:CD2 | 2:M:434:HIS:CE1 | 3.08 | 0.42 |
| 2:M:711:GLU:HG2 | 2:M:822:VAL:HG12 | 2.02 | 0.42 |
| 3:N:1284:GLU:HG3 | 3:N:1286:THR:H | 1.84 | 0.42 |
| 3:N:1383:ASP:HB2 | 3:N:1416:ALA:CB | 2.42 | 0.42 |
| 3:N:1432:LYS:HB2 | 3:N:1432:LYS:NZ | 2.34 | 0.42 |
| 3:N:484:PRO:O | 3:N:489:ARG:CD | 2.68 | 0.42 |
| 3:N:625:TYR:HD2 | 3:N:652:LEU:O | 1.99 | 0.42 |
| 3:N:644:LEU:O | 3:N:720:LEU:HA | 2.20 | 0.42 |
| 5:X:13:DA:C4 | 5:X:14:DG:N7 | 2.88 | 0.42 |
| 1:A:112:ARG:NH2 | 1:A:125:PRO:HB2 | 2.24 | 0.42 |
| 1:A:218:LEU:HD23 | 1:B:222:LEU:HD22 | 2.01 | 0.42 |
| 1:B:150:TYR:CE2 | 1:B:168:ASP:HB3 | 2.52 | 0.42 |
| 1:B:76:VAL:O | 1:B:79:ILE:HG12 | 2.20 | 0.42 |
| 2:C:269:LEU:HB2 | 2:C:288:ARG:HG3 | 2.02 | 0.42 |
| 2:C:39:ARG:O | 2:C:40:GLU:C | 2.58 | 0.42 |
| 2:C:430:VAL:HG13 | 3:D:1075:HIS:ND1 | 2.35 | 0.42 |
| 2:C:583:LEU:N | 2:C:583:LEU:CD1 | 2.83 | 0.42 |
| 2:C:64:LEU:HD13 | 2:C:359:MET:CG | 2.50 | 0.42 |
| 2:C:675:ALA:HB2 | 2:C:867:VAL:HG11 | 2.01 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 2:C:688:ILE:HD13 | 2:C:847:GLY:CA | 2.43 | 0.42 |
| 2:C:738:ASP:HB2 | 2:C:744:ARG:HB3 | 2.01 | 0.42 |
| 2:C:974:LEU:HA | 2:C:974:LEU:HD12 | 1.92 | 0.42 |
| 3:D:1112:CYS:O | 3:D:1189:ARG:NH2 | 2.50 | 0.42 |
| 3:D:1336:LEU:HA | 3:D:1344:VAL:HG22 | 2.02 | 0.42 |
| 3:D:1389:LEU:O | 3:D:1390:LEU:C | 2.58 | 0.42 |
| 3:D:1447:LEU:O | 3:D:1450:ALA:N | 2.53 | 0.42 |
| 3:D:1223:ILE:CD1 | 3:D:1462:LEU:HD11 | 2.49 | 0.42 |
| 3:D:646:LYS:O | 3:D:649:ALA:HB3 | 2.20 | 0.42 |
| 3:D:62:LYS:HB2 | 3:D:73:CYS:SG | 2.60 | 0.42 |
| 3:D:1093:TYR:OH | 5:G:17:DA:H1' | 2.20 | 0.42 |
| 7:I:1:DG:P | 7:I:1:DG:C3' | 3.06 | 0.42 |
| 1:K:109:VAL:HG21 | 1:K:138:LEU:HD23 | 2.02 | 0.42 |
| 2:M:1034:GLU:CD | 2:M:1038:TRP:CZ2 | 2.93 | 0.42 |
| 2:M:437:ARG:HH22 | 2:M:488:ALA:HA | 1.81 | 0.42 |
| 2:M:751:PRO:HA | 2:M:792:VAL:HG12 | 2.02 | 0.42 |
| 2:M:700:TYR:CB | 2:M:833:LEU:HD22 | 2.49 | 0.42 |
| 2:M:677:MET:HB2 | 2:M:987:ILE:HD13 | 2.00 | 0.42 |
| 3:N:109:PRO:O | 3:N:111:LYS:N | 2.52 | 0.42 |
| 3:N:1257:PRO:O | 3:N:1260:ILE:HG12 | 2.19 | 0.42 |
| 3:N:1271:LYS:NZ | 3:N:1331:ASP:CB | 2.68 | 0.42 |
| 3:N:1296:SER:C | 3:N:1298:GLY:N | 2.73 | 0.42 |
| 3:N:149:LYS:HE3 | 3:N:150:ARG:N | 2.26 | 0.42 |
| 3:N:520:LEU:HG | 3:N:521:PRO:HD2 | 2.01 | 0.42 |
| 3:N:640:HIS:CD2 | 3:N:641:GLN:HG3 | 2.55 | 0.42 |
| 3:N:739:ASP:OD1 | 3:N:739:ASP:N | 2.53 | 0.42 |
| 3:N:777:PRO:O | 3:N:780:LYS:HE2 | 2.20 | 0.42 |
| 7:Z:14:DG:C5 | 7:Z:15:DT:H73 | 2.54 | 0.42 |
| 1:B:102:LYS:CE | 1:B:139:ASN:HB2 | 2.44 | 0.41 |
| 2:C:1105:LYS:NZ | 2:C:1107:ASN:HB2 | 2.34 | 0.41 |
| 2:C:1114:GLY:C | 2:C:1115:LEU:HD12 | 2.41 | 0.41 |
| 2:C:187:ASN:OD1 | 2:C:188:LYS:HE2 | 2.19 | 0.41 |
| 2:C:191:PHE:O | 2:C:193:LEU:HD12 | 2.20 | 0.41 |
| 2:C:275:TYR:OH | 2:C:489:THR:HG21 | 2.19 | 0.41 |
| 2:C:328:LEU:CD1 | 2:C:328:LEU:N | 2.83 | 0.41 |
| 2:C:404:LEU:O | 2:C:407:LYS:HB2 | 2.20 | 0.41 |
| 2:C:630:ARG:HD2 | 2:C:634:GLY:CA | 2.21 | 0.41 |
| 2:C:670:GLN:NE2 | 2:C:699:PHE:HD2 | 2.18 | 0.41 |
| 2:C:861:LEU:HD21 | 2:C:925:TYR:HE2 | 1.79 | 0.41 |
| 2:C:926:PHE:CE2 | 2:C:930:LYS:HD2 | 2.55 | 0.41 |
| 3:D:1154:GLU:CD | 3:N:563:PRO:HA | 2.40 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 3:D:1189:ARG:CD | 3:D:1204:CYS:SG | 3.00 | 0.41 |
| 3:D:486:ARG:O | 3:D:490:ALA:CB | 2.68 | 0.41 |
| 3:D:100:ALA:HB2 | 3:D:513:ILE:HG22 | 2.02 | 0.41 |
| 3:D:92:HIS:HA | 3:D:517:VAL:O | 2.20 | 0.41 |
| 3:D:97:THR:HG23 | 3:D:98:PRO:HD2 | 2.01 | 0.41 |
| 1:K:211:LEU:O | 1:K:215:VAL:HG23 | 2.20 | 0.41 |
| 1:L:201:THR:CG2 | 1:L:205:VAL:HG23 | 2.50 | 0.41 |
| 2:M:817:PRO:O | 3:N:532:GLY:CA | 2.67 | 0.41 |
| 2:M:926:PHE:HA | 2:M:929:ARG:HB2 | 2.01 | 0.41 |
| 3:N:1323:GLN:N | 3:N:1324:PRO:HD3 | 2.34 | 0.41 |
| 3:N:1331:ASP:HA | 3:N:1332:PRO:HD3 | 1.76 | 0.41 |
| 3:N:1401:GLU:C | 3:N:1401:GLU:CD | 2.79 | 0.41 |
| 3:N:1447:LEU:O | 3:N:1450:ALA:N | 2.53 | 0.41 |
| 3:N:1483:PHE:O | 4:O:77:GLU:O | 2.38 | 0.41 |
| 3:N:187:LYS:HE2 | 3:N:199:LEU:HG | 2.01 | 0.41 |
| 3:N:204:LEU:HD12 | 3:N:394:LEU:HG | 2.02 | 0.41 |
| 3:N:413:ASP:O | 3:N:435:VAL:HG23 | 2.20 | 0.41 |
| 3:N:181:ASP:HB2 | 3:N:441:ARG:HD3 | 1.94 | 0.41 |
| 3:N:654:LYS:N | 3:N:655:PRO:CD | 2.82 | 0.41 |
| 2:M:676:ILE:HD13 | 3:N:949:ILE:O | 2.19 | 0.41 |
| 7:Z:2:DT:C1' | 7:Z:3:DA:H5' | 2.41 | 0.41 |
| 1:A:123:MET:O | 1:A:125:PRO:HD3 | 2.21 | 0.41 |
| 2:C:267:TYR:CE2 | 2:C:289:THR:HG23 | 2.55 | 0.41 |
| 2:C:668:LEU:H | 2:C:668:LEU:HD12 | 1.84 | 0.41 |
| 2:C:634:GLY:O | 2:C:705:ILE:CB | 2.68 | 0.41 |
| 3:D:1237:THR:HG22 | 3:D:1238:MET:HG3 | 2.01 | 0.41 |
| 3:D:550:ARG:HA | 3:D:550:ARG:HD3 | 1.71 | 0.41 |
| 3:D:759:ALA:HA | 3:D:763:MET:HB2 | 2.02 | 0.41 |
| 3:D:928:ALA:C | 3:D:930:LEU:N | 2.73 | 0.41 |
| 4:E:8:LYS:O | 4:E:12:MET:HG3 | 2.19 | 0.41 |
| 3:D:706:PRO:HG3 | 5:G:19:DG:N2 | 2.35 | 0.41 |
| 1:L:101:LEU:CD2 | 1:L:101:LEU:C | 2.84 | 0.41 |
| 1:L:59:GLU:CB | 1:L:137:ARG:HH22 | 2.33 | 0.41 |
| 2:M:1090:LYS:O | 2:M:1094:ALA:N | 2.47 | 0.41 |
| 2:M:140:ILE:HD13 | 2:M:331:ARG:NH2 | 2.31 | 0.41 |
| 2:M:288:ARG:HG3 | 2:M:288:ARG:HH11 | 1.83 | 0.41 |
| 2:M:368:THR:N | 2:M:369:PRO:CD | 2.83 | 0.41 |
| 2:M:793:PRO:O | 2:M:794:PRO:C | 2.58 | 0.41 |
| 3:N:1123:PHE:HA | 3:N:1133:ARG:O | 2.20 | 0.41 |
| 3:N:1195:GLN:HG3 | 3:N:1196:THR:N | 2.35 | 0.41 |
| 3:N:131:LYS:O | 3:N:132:TYR:CD2 | 2.73 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 3:N:147:VAL:HG13 | 3:N:147:VAL:O | 2.20 | 0.41 |
| 3:N:30:GLU:HB2 | 3:N:41:ARG:HG3 | 2.01 | 0.41 |
| 3:N:539:ASP:O | 3:N:541:ASN:N | 2.53 | 0.41 |
| 3:N:587:ARG:HG2 | 3:N:587:ARG:HH11 | 1.85 | 0.41 |
| 3:N:609:GLY:O | 3:N:615:ARG:CG | 2.68 | 0.41 |
| 3:N:633:VAL:HG22 | 3:N:634:GLY:N | 2.35 | 0.41 |
| 3:N:783:ARG:O | 3:N:787:LEU:HB2 | 2.19 | 0.41 |
| 3:N:847:ASP:HA | 3:N:850:LEU:HD13 | 2.02 | 0.41 |
| 3:N:698:LYS:CE | 4:O:59:ASN:OD1 | 2.68 | 0.41 |
| 2:C:140:ILE:HD12 | 2:C:140:ILE:O | 2.21 | 0.41 |
| 2:C:584:GLU:HB2 | 2:C:666:LEU:H | 1.84 | 0.41 |
| 2:C:694:LEU:O | 2:C:697:ARG:O | 2.38 | 0.41 |
| 3:D:1114:THR:CG2 | 3:D:1195:GLN:HB3 | 2.46 | 0.41 |
| 3:D:1264:GLU:OE2 | 3:D:1425:THR:HB | 2.21 | 0.41 |
| 3:D:18:ILE:HG23 | 3:D:518:PRO:HG3 | 2.02 | 0.41 |
| 3:D:493:ARG:CG | 3:D:494:LYS:N | 2.83 | 0.41 |
| 3:D:764:LEU:HD12 | 3:D:765:SER:N | 2.35 | 0.41 |
| 3:D:7:LYS:HG2 | 3:D:1458:GLU:CA | 2.44 | 0.41 |
| 3:D:983:LEU:CG | 3:D:984:THR:N | 2.82 | 0.41 |
| 3:D:99:ALA:HA | 3:D:458:ALA:CB | 2.50 | 0.41 |
| 3:D:924:MET:HG2 | 4:E:6:ILE:HG21 | 2.01 | 0.41 |
| 5:G:24:DC:H2'' | 5:G:25:DG:C8 | 2.55 | 0.41 |
| 1:K:38:ASN:HB2 | 2:M:980:GLY:HA3 | 2.03 | 0.41 |
| 1:L:123:MET:HG2 | 1:L:123:MET:H | 1.55 | 0.41 |
| 2:M:1051:GLU:OE2 | 3:N:752:SER:N | 2.53 | 0.41 |
| 2:M:1112:PHE:N | 2:M:1112:PHE:CD2 | 2.85 | 0.41 |
| 2:M:170:PRO:CG | 2:M:258:TYR:CE2 | 3.03 | 0.41 |
| 2:M:285:LEU:HD11 | 2:M:288:ARG:O | 2.21 | 0.41 |
| 2:M:264:PRO:CB | 2:M:289:THR:CB | 2.96 | 0.41 |
| 2:M:141:HIS:CD2 | 2:M:332:ARG:O | 2.71 | 0.41 |
| 2:M:393:GLN:HG2 | 6:Y:10:G:C4' | 2.45 | 0.41 |
| 2:M:677:MET:HA | 2:M:678:PRO:HD3 | 1.88 | 0.41 |
| 3:N:1129:THR:CG2 | 3:N:1130:ARG:H | 2.01 | 0.41 |
| 3:N:1211:MET:HE2 | 3:N:1213:ARG:HB3 | 2.02 | 0.41 |
| 3:N:1401:GLU:CD | 3:N:1415:VAL:HG11 | 2.41 | 0.41 |
| 3:N:407:VAL:HG12 | 3:N:408:GLU:N | 2.35 | 0.41 |
| 3:N:51:GLY:HA3 | 3:N:86:ARG:CA | 2.50 | 0.41 |
| 3:N:606:ILE:O | 3:N:613:ARG:HB2 | 2.20 | 0.41 |
| 3:N:845:ASN:N | 3:N:848:GLU:HG3 | 2.36 | 0.41 |
| 5:X:26:DC:C2' | 5:X:26:DC:O2 | 2.65 | 0.41 |
| 7:Z:10:DG:C2 | 7:Z:11:DG:C4 | 3.08 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:B:58:ILE:HD13 | 1:B:58:ILE:HA | 1.89 | 0.41 |
| 2:C:13:ILE:HA | 2:C:14:PRO:HD3 | 1.89 | 0.41 |
| 2:C:189:ARG:HA | 2:C:189:ARG:NE | 2.34 | 0.41 |
| 2:C:208:ALA:HB1 | 2:C:218:VAL:HG11 | 2.02 | 0.41 |
| 2:C:140:ILE:HA | 2:C:332:ARG:O | 2.20 | 0.41 |
| 2:C:532:MET:CE | 2:C:533:ASP:O | 2.68 | 0.41 |
| 2:C:905:ILE:N | 2:C:905:ILE:CD1 | 2.84 | 0.41 |
| 2:C:946:ARG:HH11 | 2:C:946:ARG:CB | 2.31 | 0.41 |
| 3:D:1154:GLU:HB2 | 3:N:562:ALA:H | 1.82 | 0.41 |
| 3:D:1158:VAL:HG12 | 3:D:1159:ARG:N | 2.35 | 0.41 |
| 3:D:1094:LEU:CD1 | 3:D:1260:ILE:HD12 | 2.49 | 0.41 |
| 3:D:1344:VAL:HG12 | 3:D:1348:LEU:CD1 | 2.51 | 0.41 |
| 3:D:609:GLY:O | 3:D:615:ARG:HD3 | 2.20 | 0.41 |
| 3:D:741:ASP:O | 6:H:14:G:H5' | 2.20 | 0.41 |
| 4:E:5:GLY:HA3 | 4:E:8:LYS:HD2 | 2.02 | 0.41 |
| 1:K:23:PHE:HB2 | 1:K:197:LEU:HG | 2.01 | 0.41 |
| 1:K:20:TYR:HD2 | 1:K:199:ILE:O | 2.03 | 0.41 |
| 1:K:94:LEU:HD11 | 1:K:119:ASP:HB3 | 2.02 | 0.41 |
| 1:L:201:THR:HG22 | 1:L:203:GLY:H | 1.85 | 0.41 |
| 2:M:1040:LEU:HD23 | 2:M:1049:LEU:HB2 | 2.02 | 0.41 |
| 2:M:1081:VAL:O | 2:M:1086:ARG:NE | 2.54 | 0.41 |
| 2:M:265:ARG:C | 2:M:267:TYR:N | 2.73 | 0.41 |
| 2:M:403:SER:OG | 2:M:404:LEU:N | 2.53 | 0.41 |
| 2:M:39:ARG:O | 2:M:40:GLU:C | 2.58 | 0.41 |
| 2:M:461:VAL:HG13 | 2:M:465:GLY:HA2 | 2.01 | 0.41 |
| 2:M:535:SER:O | 2:M:538:GLN:OE1 | 2.38 | 0.41 |
| 2:M:714:ASP:OD1 | 2:M:719:PRO:HB3 | 2.19 | 0.41 |
| 2:M:723:THR:C | 2:M:725:ASP:H | 2.24 | 0.41 |
| 2:M:737:LEU:HD23 | 2:M:737:LEU:O | 2.19 | 0.41 |
| 2:M:557:ARG:NH1 | 2:M:844:GLY:O | 2.53 | 0.41 |
| 2:M:88:LEU:HA | 2:M:88:LEU:HD13 | 1.82 | 0.41 |
| 2:M:89:THR:O | 2:M:91:GLN:HG3 | 2.19 | 0.41 |
| 2:M:959:PRO:CA | 2:M:962:GLN:HG3 | 2.44 | 0.41 |
| 3:N:1103:HIS:O | 3:N:1105:ILE:N | 2.53 | 0.41 |
| 3:N:753:SER:HB3 | 4:O:27:ALA:HB3 | 2.02 | 0.41 |
| 3:N:784:ASP:HB3 | 3:N:939:PHE:CE2 | 2.48 | 0.41 |
| 3:N:835:SER:N | 3:N:838:ARG:HD3 | 2.35 | 0.41 |
| 3:N:586:ARG:NH2 | 5:X:16:DT:OP1 | 2.53 | 0.41 |
| 7:Z:8:DG:H2'' | 7:Z:9:DT:OP2 | 2.19 | 0.41 |
| 1:A:137:ARG:HG3 | 1:A:137:ARG:HH11 | 1.85 | 0.41 |
| 2:C:121:MET:HE2 | 2:C:125:GLY:HA2 | 2.02 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 2:C:267:TYR:HE2 | 2:C:289:THR:HG23 | 1.86 | 0.41 |
| 2:C:272:ALA:O | 2:C:276:LYS:NZ | 2.51 | 0.41 |
| 2:C:31:GLN:OE1 | 2:C:31:GLN:O | 2.39 | 0.41 |
| 2:C:766:GLU:HA | 2:C:767:PRO:HD3 | 1.87 | 0.41 |
| 2:C:890:LEU:HD21 | 2:C:901:TYR:CD1 | 2.55 | 0.41 |
| 2:C:862:PRO:HD3 | 2:C:973:VAL:O | 2.21 | 0.41 |
| 2:C:976:ASP:HB2 | 2:C:981:GLU:O | 2.20 | 0.41 |
| 3:D:1041:LEU:HD13 | 3:D:1045:MET:CB | 2.50 | 0.41 |
| 3:D:1365:ASP:O | 3:D:1366:LYS:C | 2.59 | 0.41 |
| 3:D:500:ARG:O | 3:D:501:ALA:C | 2.58 | 0.41 |
| 3:D:97:THR:CB | 3:D:571:LYS:HE2 | 2.45 | 0.41 |
| 3:D:741:ASP:OD1 | 6:H:15:C:OP1 | 2.37 | 0.41 |
| 3:D:910:SER:OG | 3:D:911:LEU:HD12 | 2.20 | 0.41 |
| 3:D:918:ALA:HB3 | 3:D:927:THR:HG23 | 2.01 | 0.41 |
| 3:D:785:ILE:HG22 | 3:D:938:GLY:HA3 | 2.02 | 0.41 |
| 3:D:982:PHE:C | 3:D:982:PHE:CD2 | 2.93 | 0.41 |
| 5:G:8:DC:C2' | 5:G:9:DC:OP2 | 2.55 | 0.41 |
| 7:I:8:DG:O5' | 7:I:8:DG:C2' | 2.68 | 0.41 |
| 1:K:178:ALA:HB3 | 1:K:198:ARG:CG | 2.50 | 0.41 |
| 1:L:201:THR:CG2 | 1:L:205:VAL:O | 2.61 | 0.41 |
| 2:M:1066:ALA:O | 2:M:1069:ALA:HB3 | 2.21 | 0.41 |
| 2:M:265:ARG:CG | 2:M:267:TYR:HB3 | 2.51 | 0.41 |
| 2:M:267:TYR:CB | 2:M:272:ALA:HB1 | 2.49 | 0.41 |
| 2:M:295:ASP:C | 2:M:297:GLU:H | 2.23 | 0.41 |
| 2:M:46:ALA:C | 2:M:48:PHE:N | 2.71 | 0.41 |
| 2:M:612:VAL:HG22 | 2:M:622:GLU:HA | 2.02 | 0.41 |
| 2:M:650:ARG:HD2 | 2:M:653:ASP:OD2 | 2.20 | 0.41 |
| 2:M:922:PHE:HB3 | 2:M:964:LYS:HZ2 | 1.85 | 0.41 |
| 3:N:107:ASP:OD2 | 3:N:109:PRO:HD2 | 2.20 | 0.41 |
| 3:N:117:ASP:CB | 3:N:495:ARG:HH22 | 2.33 | 0.41 |
| 3:N:1447:LEU:CD1 | 3:N:1447:LEU:N | 2.83 | 0.41 |
| 3:N:171:LEU:CG | 3:N:195:VAL:CG2 | 2.89 | 0.41 |
| 3:N:564:GLU:HA | 3:N:567:ILE:CD1 | 2.50 | 0.41 |
| 3:N:778:LEU:HD12 | 3:N:778:LEU:HA | 1.79 | 0.41 |
| 3:N:928:ALA:C | 3:N:930:LEU:N | 2.72 | 0.41 |
| 3:N:949:ILE:HD13 | 3:N:1019:PRO:HB2 | 2.01 | 0.41 |
| 1:B:106:PRO:HG3 | 1:B:133:GLU:O | 2.20 | 0.41 |
| 2:C:115:LEU:O | 2:C:115:LEU:HD12 | 2.20 | 0.41 |
| 2:C:176:VAL:HG12 | 2:C:182:VAL:HG13 | 2.01 | 0.41 |
| 2:C:634:GLY:CA | 2:C:705:ILE:O | 2.67 | 0.41 |
| 2:C:754:ILE:HA | 2:C:791:ARG:HA | 2.02 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 2:C:759:THR:HB | 2:C:785:VAL:HG13 | 2.02 | 0.41 |
| 2:C:75:GLU:O | 2:C:93:PRO:CD | 2.68 | 0.41 |
| 2:C:72:ARG:CZ | 2:C:95:TYR:HE1 | 2.33 | 0.41 |
| 2:C:9:ILE:CD1 | 2:C:9:ILE:O | 2.69 | 0.41 |
| 2:C:878:SER:HB2 | 3:D:1029:ARG:NH1 | 2.36 | 0.41 |
| 3:D:1046:GLN:HG2 | 3:D:1052:THR:CA | 2.49 | 0.41 |
| 3:D:1074:SER:O | 3:D:1078:ARG:HB2 | 2.20 | 0.41 |
| 3:D:1147:ARG:NH1 | 3:D:1189:ARG:O | 2.53 | 0.41 |
| 3:D:1154:GLU:CA | 3:N:562:ALA:H | 2.34 | 0.41 |
| 3:D:1265:ALA:C | 3:D:1266:ARG:HG3 | 2.40 | 0.41 |
| 3:D:1460:ILE:CG1 | 3:D:1460:ILE:O | 2.61 | 0.41 |
| 3:D:153:LEU:O | 3:D:153:LEU:HD12 | 2.21 | 0.41 |
| 3:D:163:TYR:N | 3:D:163:TYR:CD1 | 2.82 | 0.41 |
| 3:D:487:ALA:HB2 | 5:G:8:DC:OP2 | 2.20 | 0.41 |
| 3:D:549:ASN:O | 3:D:553:ARG:N | 2.46 | 0.41 |
| 3:D:750:PRO:HB3 | 3:D:756:GLN:HA | 2.03 | 0.41 |
| 3:D:770:LEU:HD23 | 3:D:777:PRO:HA | 2.02 | 0.41 |
| 7:I:4:DG:O5' | 7:I:4:DG:H2' | 2.21 | 0.41 |
| 1:K:101:LEU:O | 1:K:101:LEU:HD23 | 2.20 | 0.41 |
| 1:K:39:PRO:O | 1:K:43:ILE:HG12 | 2.20 | 0.41 |
| 1:L:176:ARG:NH2 | 3:N:884:ARG:HG3 | 2.36 | 0.41 |
| 1:L:80:LEU:O | 3:N:844:ALA:CB | 2.65 | 0.41 |
| 1:L:90:LEU:H | 1:L:94:LEU:HD12 | 1.86 | 0.41 |
| 2:M:1008:ARG:HH21 | 2:M:1012:PRO:CD | 2.33 | 0.41 |
| 2:M:1039:ALA:O | 2:M:1042:ALA:HB3 | 2.21 | 0.41 |
| 2:M:430:VAL:O | 2:M:430:VAL:HG22 | 2.21 | 0.41 |
| 2:M:402:SER:HB2 | 2:M:566:THR:HG22 | 2.02 | 0.41 |
| 2:M:630:ARG:CG | 2:M:630:ARG:NH1 | 2.81 | 0.41 |
| 2:M:754:ILE:CD1 | 2:M:791:ARG:CZ | 2.98 | 0.41 |
| 2:M:799:ILE:O | 2:M:827:VAL:HG13 | 2.20 | 0.41 |
| 2:M:937:ASP:H | 2:M:940:GLU:HG3 | 1.86 | 0.41 |
| 3:N:1109:GLU:CD | 3:N:1201:CYS:HA | 2.41 | 0.41 |
| 3:N:1267:ARG:HG2 | 3:N:1268:PRO:HD2 | 2.02 | 0.41 |
| 3:N:1394:VAL:CB | 3:N:1397:LYS:HE2 | 2.48 | 0.41 |
| 3:N:1465:ASN:HD22 | 3:N:1465:ASN:HA | 1.58 | 0.41 |
| 3:N:477:LEU:HD22 | 3:N:492:ALA:CB | 2.48 | 0.41 |
| 3:N:62:LYS:HD2 | 3:N:75:ARG:HH11 | 1.86 | 0.41 |
| 3:N:704:ARG:HE | 3:N:706:PRO:CD | 2.25 | 0.41 |
| 3:N:80:VAL:HG12 | 3:N:81:THR:N | 2.36 | 0.41 |
| 3:N:881:LEU:O | 3:N:885:ILE:HG13 | 2.21 | 0.41 |
| 4:O:13:VAL:HG12 | 4:O:14:ASP:N | 2.34 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 6:Y:5:C:C2' | 6:Y:6:C:OP1 | 2.69 | 0.41 |
| 1:A:101:LEU:HD23 | 1:A:101:LEU:O | 2.20 | 0.41 |
| 1:A:110:LYS:HB2 | 1:A:112:ARG:HG2 | 2.02 | 0.41 |
| 1:B:36:LEU:C | 1:B:39:PRO:HD2 | 2.41 | 0.41 |
| 2:C:264:PRO:CB | 2:C:289:THR:CB | 2.98 | 0.41 |
| 2:C:317:VAL:C | 2:C:319:GLY:N | 2.68 | 0.41 |
| 2:C:668:LEU:N | 2:C:668:LEU:HD12 | 2.36 | 0.41 |
| 2:C:573:ARG:HB2 | 2:C:670:GLN:HE22 | 1.86 | 0.41 |
| 2:C:75:GLU:O | 2:C:93:PRO:HD3 | 2.20 | 0.41 |
| 3:D:100:ALA:HB3 | 3:D:128:TYR:OH | 2.20 | 0.41 |
| 2:C:882:LEU:HD12 | 3:D:1061:PHE:C | 2.40 | 0.41 |
| 3:D:1083:ASP:C | 3:D:1087:ARG:HG2 | 2.35 | 0.41 |
| 3:D:147:VAL:HG13 | 3:D:147:VAL:O | 2.20 | 0.41 |
| 2:C:1030:GLN:HE22 | 3:D:628:ARG:HG2 | 1.85 | 0.41 |
| 3:D:662:GLU:HG3 | 3:D:668:PRO:O | 2.20 | 0.41 |
| 1:L:101:LEU:HD13 | 1:L:114:PHE:CD1 | 2.56 | 0.41 |
| 1:L:158:ILE:CG2 | 1:L:159:LYS:N | 2.83 | 0.41 |
| 2:M:1111:ILE:H | 2:M:1111:ILE:HG12 | 1.46 | 0.41 |
| 2:M:141:HIS:O | 2:M:331:ARG:HB3 | 2.21 | 0.41 |
| 2:M:364:GLU:HB3 | 2:M:365:ASP:H | 1.77 | 0.41 |
| 2:M:412:ALA:HB1 | 2:M:419:THR:HG21 | 2.03 | 0.41 |
| 3:N:912:LYS:NZ | 3:N:1362:LYS:NZ | 2.68 | 0.41 |
| 3:N:25:GLU:HG3 | 3:N:92:HIS:O | 2.21 | 0.41 |
| 3:N:41:ARG:C | 3:N:43:GLY:N | 2.72 | 0.41 |
| 3:N:52:PRO:HG3 | 3:N:80:VAL:HG13 | 2.02 | 0.41 |
| 3:N:55:ASP:CB | 3:N:82:LYS:HE2 | 2.50 | 0.41 |
| 3:N:704:ARG:HD3 | 3:N:738:ALA:HB2 | 2.03 | 0.41 |
| 3:N:653:PHE:HZ | 3:N:749:VAL:HG13 | 1.83 | 0.41 |
| 3:N:829:VAL:HG12 | 3:N:830:ALA:N | 2.35 | 0.41 |
| 3:N:871:LYS:HB3 | 3:N:871:LYS:HE2 | 1.83 | 0.41 |
| 3:N:962:GLN:O | 3:N:965:GLU:HB3 | 2.21 | 0.41 |
| 1:A:56:VAL:HG22 | 1:A:142:VAL:HG12 | 2.03 | 0.41 |
| 2:C:160:ALA:CB | 2:C:174:LEU:HD12 | 2.50 | 0.41 |
| 2:C:186:VAL:HG23 | 2:C:187:ASN:N | 2.22 | 0.41 |
| 2:C:352:ALA:HA | 2:C:355:VAL:CG1 | 2.51 | 0.41 |
| 2:C:518:LYS:NZ | 2:C:518:LYS:CB | 2.83 | 0.41 |
| 2:C:524:VAL:CG1 | 2:C:525:SER:H | 2.32 | 0.41 |
| 2:C:754:ILE:HG12 | 2:C:791:ARG:NH1 | 2.36 | 0.41 |
| 3:D:1046:GLN:HG2 | 3:D:1052:THR:CB | 2.51 | 0.41 |
| 3:D:1086:LEU:N | 3:D:1086:LEU:HD12 | 2.35 | 0.41 |
| 3:D:1225:ALA:HA | 3:D:1367:HIS:CG | 2.56 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:D:1264:GLU:HB3 | 3:D:1266:ARG:CD | 2.50 | 0.41 |
| 3:D:1489:GLN:HG2 | 3:D:1489:GLN:H | 1.56 | 0.41 |
| 3:D:36:THR:C | 3:D:38:LYS:N | 2.73 | 0.41 |
| 3:D:481:MET:O | 3:D:489:ARG:HB2 | 2.20 | 0.41 |
| 3:D:880:ILE:CG2 | 3:D:881:LEU:N | 2.84 | 0.41 |
| 3:D:907:GLU:OE2 | 3:D:909:ASN:HB2 | 2.21 | 0.41 |
| 3:D:792:ILE:HD12 | 3:D:941:PHE:CZ | 2.56 | 0.41 |
| 3:D:988:ARG:O | 3:D:992:ILE:HG13 | 2.20 | 0.41 |
| 5:G:2:DT:OP1 | 5:G:2:DT:O4' | 2.39 | 0.41 |
| 1:K:45:LEU:CD1 | 1:K:45:LEU:N | 2.84 | 0.41 |
| 2:M:474:VAL:HG23 | 2:M:478:VAL:C | 2.40 | 0.41 |
| 2:M:683:ASN:CA | 2:M:687:ALA:HB3 | 2.51 | 0.41 |
| 2:M:903:SER:C | 2:M:904:PRO:O | 2.58 | 0.41 |
| 2:M:905:ILE:HG22 | 2:M:906:PHE:CD1 | 2.56 | 0.41 |
| 3:N:1033:GLN:O | 3:N:1036:ARG:HB3 | 2.21 | 0.41 |
| 3:N:1294:VAL:O | 3:N:1300:SER:HA | 2.20 | 0.41 |
| 3:N:1365:ASP:O | 3:N:1366:LYS:C | 2.59 | 0.41 |
| 3:N:455:ARG:HB3 | 3:N:459:GLU:HG2 | 2.02 | 0.41 |
| 3:N:117:ASP:HB2 | 3:N:495:ARG:NH2 | 2.36 | 0.41 |
| 3:N:522:PRO:CA | 3:N:525:ARG:NH1 | 2.72 | 0.41 |
| 3:N:549:ASN:O | 3:N:553:ARG:CB | 2.69 | 0.41 |
| 3:N:918:ALA:HB3 | 3:N:927:THR:HG23 | 2.01 | 0.41 |
| 4:O:21:VAL:O | 4:O:24:ALA:HB3 | 2.21 | 0.41 |
| 2:M:1002:GLU:CA | 5:X:23:DG:H5'' | 2.46 | 0.41 |
| 5:X:3:DC:O5' | 5:X:3:DC:H2' | 2.21 | 0.41 |
| 7:Z:2:DT:H1' | 7:Z:3:DA:C5' | 2.43 | 0.41 |
| 7:Z:3:DA:O5' | 7:Z:3:DA:C2' | 2.69 | 0.41 |
| 1:A:101:LEU:HB2 | 1:A:114:PHE:HA | 2.03 | 0.41 |
| 1:A:222:LEU:HD23 | 1:B:219:ARG:CG | 2.50 | 0.41 |
| 1:B:59:GLU:CG | 1:B:137:ARG:HH22 | 2.33 | 0.41 |
| 2:C:1014:SER:N | 2:C:1019:GLN:O | 2.53 | 0.41 |
| 2:C:1042:ALA:N | 3:D:1223:ILE:HG21 | 2.36 | 0.41 |
| 2:C:93:PRO:HA | 2:C:117:HIS:CE1 | 2.56 | 0.41 |
| 2:C:20:GLU:CG | 2:C:21:ILE:N | 2.84 | 0.41 |
| 2:C:293:PHE:N | 2:C:293:PHE:CD1 | 2.89 | 0.41 |
| 2:C:2:GLU:C | 2:C:3:ILE:HD13 | 2.41 | 0.41 |
| 3:D:1096:ARG:NH1 | 5:G:18:DC:OP1 | 2.54 | 0.41 |
| 3:D:1131:SER:C | 3:D:1132:LEU:HD12 | 2.41 | 0.41 |
| 3:D:1408:ILE:HG23 | 2:M:371:LYS:CA | 2.51 | 0.41 |
| 3:D:145:VAL:HG23 | 3:D:146:PRO:HD2 | 2.03 | 0.41 |
| 3:D:15:PRO:HB2 | 3:D:16:GLU:OE2 | 2.20 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 3:D:696:HIS:CD2 | 4:E:59:ASN:CA | 3.04 | 0.41 |
| 3:D:708:LEU:O | 3:D:1227:GLN:HG2 | 2.21 | 0.41 |
| 3:D:932:ASP:O | 3:D:935:LYS:CE | 2.69 | 0.41 |
| 5:G:13:DA:O5' | 5:G:13:DA:C2' | 2.67 | 0.41 |
| 1:L:141:GLU:HG2 | 1:L:141:GLU:H | 1.73 | 0.41 |
| 2:M:1004:LYS:HA | 2:M:1004:LYS:HD3 | 1.77 | 0.41 |
| 2:M:1034:GLU:HB2 | 2:M:1038:TRP:CE2 | 2.56 | 0.41 |
| 2:M:1111:ILE:HG13 | 2:M:1112:PHE:N | 2.33 | 0.41 |
| 2:M:66:LEU:HD12 | 2:M:99:GLN:C | 2.40 | 0.41 |
| 3:N:1200:VAL:HG12 | 3:N:1201:CYS:N | 2.36 | 0.41 |
| 3:N:1257:PRO:O | 3:N:1261:GLU:HG3 | 2.21 | 0.41 |
| 3:N:401:TYR:HB3 | 3:N:427:VAL:HG13 | 2.02 | 0.41 |
| 3:N:452:ILE:HG23 | 3:N:452:ILE:O | 2.20 | 0.41 |
| 3:N:875:THR:CG2 | 3:N:879:ARG:HB2 | 2.51 | 0.41 |
| 3:N:880:ILE:CG2 | 3:N:881:LEU:N | 2.83 | 0.41 |
| 3:N:95:LEU:HD23 | 3:N:95:LEU:HA | 1.83 | 0.41 |
| 5:X:4:DA:O5' | 5:X:4:DA:H2' | 2.21 | 0.41 |
| 1:A:32:PHE:O | 1:A:36:LEU:HG | 2.21 | 0.41 |
| 2:C:1115:LEU:CD2 | 3:D:88:TYR:CD1 | 3.04 | 0.41 |
| 2:C:18:LEU:N | 2:C:18:LEU:CD1 | 2.76 | 0.41 |
| 2:C:35:PRO:HA | 2:C:36:PRO:HD3 | 1.92 | 0.41 |
| 2:C:650:ARG:HG3 | 2:C:653:ASP:HB2 | 2.03 | 0.41 |
| 2:C:578:VAL:HG13 | 2:C:671:ASN:HB3 | 2.02 | 0.41 |
| 2:C:858:MET:HE2 | 2:C:870:ILE:HD11 | 2.03 | 0.41 |
| 3:D:1046:GLN:HG2 | 3:D:1052:THR:HA | 2.03 | 0.41 |
| 2:C:1046:ALA:HA | 3:D:1472:ILE:CD1 | 2.51 | 0.41 |
| 3:D:25:GLU:HG2 | 3:D:26:VAL:N | 2.36 | 0.41 |
| 3:D:528:VAL:CG1 | 3:D:529:GLN:N | 2.76 | 0.41 |
| 3:D:781:PRO:O | 3:D:786:ILE:HD11 | 2.21 | 0.41 |
| 3:D:807:ALA:HA | 3:D:833:GLU:CB | 2.51 | 0.41 |
| 3:D:875:THR:HG22 | 3:D:876:SER:H | 1.86 | 0.41 |
| 3:D:899:LEU:HD22 | 3:D:917:GLN:HG2 | 1.93 | 0.41 |
| 3:D:900:ILE:O | 3:D:900:ILE:HD12 | 2.21 | 0.41 |
| 3:D:998:GLU:HG3 | 3:D:1247:ALA:HB2 | 2.02 | 0.41 |
| 3:D:706:PRO:HG2 | 5:G:19:DG:N2 | 2.35 | 0.41 |
| 7:I:8:DG:C2' | 7:I:9:DT:OP2 | 2.65 | 0.41 |
| 1:K:112:ARG:NH2 | 1:K:125:PRO:HB2 | 2.36 | 0.41 |
| 1:K:124:ASN:OD1 | 1:K:127:LEU:HB2 | 2.21 | 0.41 |
| 1:K:42:ARG:HH12 | 1:L:34:VAL:HG12 | 1.86 | 0.41 |
| 1:L:199:ILE:HG22 | 1:L:200:TRP:N | 2.35 | 0.41 |
| 1:L:86:VAL:O | 1:L:86:VAL:HG13 | 2.21 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 2:M:1105:LYS:HG3 | 2:M:1105:LYS:H | 1.68 | 0.41 |
| 2:M:163:ILE:O | 2:M:163:ILE:HG13 | 2.21 | 0.41 |
| 2:M:31:GLN:NE2 | 2:M:35:PRO:O | 2.54 | 0.41 |
| 2:M:408:ARG:NH2 | 2:M:455:LEU:CD1 | 2.84 | 0.41 |
| 2:M:437:ARG:NH2 | 2:M:491:GLU:OE2 | 2.54 | 0.41 |
| 2:M:952:LEU:HD13 | 2:M:952:LEU:HA | 1.97 | 0.41 |
| 3:N:1108:ARG:HD3 | 3:N:1108:ARG:N | 2.36 | 0.41 |
| 3:N:129:PHE:O | 3:N:572:ARG:HG2 | 2.21 | 0.41 |
| 3:N:1340:GLY:O | 3:N:1343:ALA:HB3 | 2.20 | 0.41 |
| 3:N:1364:HIS:CE1 | 3:N:1366:LYS:HG3 | 2.55 | 0.41 |
| 3:N:143:ASN:OD1 | 3:N:145:VAL:N | 2.50 | 0.41 |
| 3:N:552:ASN:O | 3:N:555:LYS:HB2 | 2.20 | 0.41 |
| 3:N:646:LYS:CG | 3:N:688:TRP:CZ2 | 3.03 | 0.41 |
| 6:Y:7:G:H2' | 6:Y:8:G:O5' | 2.21 | 0.41 |
| 7:Z:5:DC:H2' | 7:Z:5:DC:O5' | 2.21 | 0.41 |
| 1:A:42:ARG:CD | 1:B:35:THR:HA | 2.39 | 0.41 |
| 1:B:76:VAL:HA | 1:B:79:ILE:HG12 | 2.03 | 0.41 |
| 2:C:468:ARG:HB2 | 2:C:485:TYR:HB3 | 2.02 | 0.41 |
| 2:C:764:GLU:OE2 | 6:H:2:C:H4' | 2.21 | 0.41 |
| 3:D:1239:ARG:O | 3:D:1239:ARG:HD3 | 2.21 | 0.41 |
| 3:D:1383:ASP:HB3 | 3:D:1416:ALA:HB3 | 2.02 | 0.41 |
| 3:D:1491:THR:O | 3:D:1495:ILE:HD13 | 2.21 | 0.41 |
| 3:D:502:PHE:CE2 | 3:D:1452:ILE:HG23 | 2.56 | 0.41 |
| 3:D:551:ASN:OD1 | 3:D:555:LYS:HE3 | 2.21 | 0.41 |
| 3:D:550:ARG:HD3 | 3:D:553:ARG:HD2 | 2.03 | 0.41 |
| 3:D:576:GLU:OE2 | 3:D:576:GLU:O | 2.39 | 0.41 |
| 3:D:625:TYR:OH | 3:D:655:PRO:HG2 | 2.20 | 0.41 |
| 3:D:22:SER:HB2 | 3:D:92:HIS:HB3 | 2.03 | 0.41 |
| 5:G:7:DA:C5 | 5:G:8:DC:C4 | 3.09 | 0.41 |
| 1:L:66:SER:O | 1:L:75:VAL:HG23 | 2.21 | 0.41 |
| 2:M:1091:GLU:O | 2:M:1094:ALA:HB3 | 2.21 | 0.41 |
| 2:M:1089:VAL:HG13 | 2:M:1099:VAL:HB | 2.03 | 0.41 |
| 2:M:310:LEU:HD12 | 2:M:314:THR:CG2 | 2.51 | 0.41 |
| 2:M:428:ARG:HH11 | 2:M:449:ILE:HG22 | 1.85 | 0.41 |
| 2:M:762:LYS:CE | 2:M:786:LYS:HG3 | 2.51 | 0.41 |
| 2:M:861:LEU:HD23 | 2:M:862:PRO:HD2 | 2.02 | 0.41 |
| 3:N:112:ILE:CD1 | 3:N:116:LEU:HD12 | 2.49 | 0.41 |
| 3:N:1350:GLU:OE2 | 3:N:1357:ARG:CZ | 2.69 | 0.41 |
| 3:N:1369:GLU:O | 3:N:1370:ILE:C | 2.58 | 0.41 |
| 3:N:1405:GLU:O | 3:N:1405:GLU:HG3 | 2.20 | 0.41 |
| 3:N:1412:LYS:HE2 | 3:N:1414:PRO:HG3 | 2.03 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 3:N:1465:ASN:CB | 3:N:1473:PRO:HD3 | 2.50 | 0.41 |
| 3:N:159:ARG:O | 3:N:162:ARG:HB3 | 2.21 | 0.41 |
| 3:N:481:MET:O | 3:N:489:ARG:CD | 2.69 | 0.41 |
| 3:N:653:PHE:O | 3:N:657:LEU:N | 2.45 | 0.41 |
| 3:N:951:ILE:HG22 | 3:N:952:ASP:N | 2.36 | 0.41 |
| 1:B:40:LEU:O | 1:B:44:LEU:HG | 2.21 | 0.40 |
| 2:C:1035:MET:SD | 5:G:20:DC:C5' | 3.04 | 0.40 |
| 2:C:101:ILE:HD12 | 2:C:107:LEU:HD22 | 2.02 | 0.40 |
| 2:C:165:LEU:HB3 | 2:C:265:ARG:HH12 | 1.84 | 0.40 |
| 2:C:165:LEU:O | 2:C:265:ARG:NE | 2.54 | 0.40 |
| 2:C:19:THR:HG22 | 2:C:19:THR:O | 2.20 | 0.40 |
| 2:C:414:GLY:C | 2:C:416:GLY:N | 2.75 | 0.40 |
| 2:C:499:ALA:HA | 2:C:532:MET:CE | 2.50 | 0.40 |
| 2:C:557:ARG:HH11 | 2:C:560:MET:HG3 | 1.85 | 0.40 |
| 2:C:677:MET:HA | 2:C:678:PRO:HD3 | 1.86 | 0.40 |
| 2:C:994:ILE:HG22 | 2:C:995:MET:H | 1.86 | 0.40 |
| 2:C:516:ARG:HD2 | 3:D:1068:LEU:HD22 | 2.02 | 0.40 |
| 3:D:1488:ASP:OD2 | 3:D:1491:THR:OG1 | 2.36 | 0.40 |
| 3:D:675:ARG:O | 3:D:678:GLU:CD | 2.59 | 0.40 |
| 3:D:800:LYS:HD2 | 3:D:804:LEU:HD13 | 2.03 | 0.40 |
| 3:D:978:TYR:HA | 3:D:983:LEU:HD21 | 2.03 | 0.40 |
| 3:D:983:LEU:H | 3:D:983:LEU:HD23 | 1.85 | 0.40 |
| 7:I:8:DG:O5' | 7:I:8:DG:H2' | 2.21 | 0.40 |
| 1:K:221:HIS:HA | 1:K:224:TYR:CE2 | 2.56 | 0.40 |
| 1:L:227:ASN:HA | 1:L:228:PRO:HD3 | 1.71 | 0.40 |
| 2:M:12:VAL:HG13 | 2:M:13:ILE:N | 2.36 | 0.40 |
| 2:M:334:ARG:HH22 | 2:M:342:ASP:CB | 2.33 | 0.40 |
| 2:M:572:ILE:H | 2:M:572:ILE:HG13 | 1.57 | 0.40 |
| 2:M:88:LEU:HD22 | 2:M:814:GLU:HG2 | 2.03 | 0.40 |
| 2:M:881:ASN:OD1 | 2:M:884:GLN:CD | 2.60 | 0.40 |
| 2:M:985:GLY:HA2 | 2:M:986:PRO:HD3 | 1.91 | 0.40 |
| 3:N:1059:SER:HB2 | 3:N:1065:LEU:HA | 2.01 | 0.40 |
| 3:N:1209:LEU:HG | 3:N:1219:GLU:OE2 | 2.21 | 0.40 |
| 3:N:131:LYS:O | 3:N:132:TYR:CG | 2.75 | 0.40 |
| 3:N:133:ILE:O | 3:N:153:LEU:N | 2.49 | 0.40 |
| 3:N:1389:LEU:O | 3:N:1390:LEU:C | 2.60 | 0.40 |
| 3:N:1451:ALA:O | 3:N:1452:ILE:C | 2.60 | 0.40 |
| 3:N:494:LYS:O | 3:N:494:LYS:HG2 | 2.21 | 0.40 |
| 3:N:565:ILE:CD1 | 3:N:565:ILE:H | 2.29 | 0.40 |
| 1:A:178:ALA:HB3 | 1:A:198:ARG:CG | 2.51 | 0.40 |
| 1:B:79:ILE:HA | 1:B:82:LEU:HG | 2.02 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:B:75:VAL:O | 1:B:79:ILE:HG23 | 2.21 | 0.40 |
| 2:C:1004:LYS:HA | 2:C:1004:LYS:HD3 | 1.72 | 0.40 |
| 2:C:1046:ALA:CB | 3:D:1472:ILE:CG1 | 2.99 | 0.40 |
| 2:C:1090:LYS:HD2 | 3:D:90:MET:HG2 | 2.03 | 0.40 |
| 3:D:1038:LEU:CD1 | 3:D:1042:ARG:HH11 | 2.34 | 0.40 |
| 3:D:1089:ALA:O | 3:D:1093:TYR:HB2 | 2.20 | 0.40 |
| 3:D:109:PRO:O | 3:D:110:SER:C | 2.58 | 0.40 |
| 3:D:1225:ALA:CB | 3:D:1367:HIS:ND1 | 2.84 | 0.40 |
| 3:D:519:VAL:HA | 3:D:544:TYR:OH | 2.21 | 0.40 |
| 2:C:1071:ILE:O | 3:D:659:LYS:HD3 | 2.21 | 0.40 |
| 5:G:22:DA:H2 | 6:H:12:U:O2 | 2.04 | 0.40 |
| 1:K:56:VAL:HG13 | 1:K:142:VAL:CG1 | 2.51 | 0.40 |
| 1:K:222:LEU:HD23 | 1:L:219:ARG:HA | 2.03 | 0.40 |
| 1:K:76:VAL:HA | 1:K:79:ILE:HG12 | 2.03 | 0.40 |
| 1:L:86:VAL:CG1 | 1:L:124:ASN:HB2 | 2.52 | 0.40 |
| 1:L:213:GLN:O | 1:L:217:ILE:HD13 | 2.22 | 0.40 |
| 2:M:221:LEU:HG | 2:M:222:MET:H | 1.86 | 0.40 |
| 2:M:306:THR:OG1 | 2:M:307:LEU:N | 2.55 | 0.40 |
| 2:M:411:SER:OG | 2:M:412:ALA:N | 2.53 | 0.40 |
| 2:M:452:ILE:N | 2:M:452:ILE:CD1 | 2.84 | 0.40 |
| 2:M:540:PHE:HB3 | 2:M:544:THR:CG2 | 2.50 | 0.40 |
| 2:M:863:ASP:O | 2:M:865:THR:N | 2.53 | 0.40 |
| 3:N:1112:CYS:HB2 | 3:N:1195:GLN:CG | 2.52 | 0.40 |
| 3:N:1213:ARG:NH2 | 4:O:14:ASP:CA | 2.83 | 0.40 |
| 3:N:1219:GLU:OE1 | 4:O:17:TYR:CE2 | 2.73 | 0.40 |
| 3:N:1227:GLN:O | 3:N:1229:ILE:N | 2.53 | 0.40 |
| 2:M:1096:ALA:O | 3:N:13:ALA:HB2 | 2.22 | 0.40 |
| 3:N:160:GLU:O | 3:N:162:ARG:N | 2.55 | 0.40 |
| 3:N:473:LEU:HD12 | 3:N:473:LEU:N | 2.36 | 0.40 |
| 3:N:475:LYS:HA | 3:N:478:LEU:HD12 | 2.02 | 0.40 |
| 3:N:691:LEU:C | 3:N:693:GLU:N | 2.75 | 0.40 |
| 1:A:107:LYS:NZ | 1:A:113:ASP:OD2 | 2.49 | 0.40 |
| 1:A:134:GLU:C | 1:A:136:GLY:N | 2.72 | 0.40 |
| 1:A:80:LEU:C | 1:A:80:LEU:HD23 | 2.41 | 0.40 |
| 1:A:11:PHE:HB3 | 1:B:227:ASN:O | 2.21 | 0.40 |
| 2:C:1008:ARG:NH2 | 2:C:1011:GLY:C | 2.74 | 0.40 |
| 2:C:1014:SER:CB | 2:C:1017:THR:O | 2.62 | 0.40 |
| 2:C:1086:ARG:HH22 | 2:C:1113:GLU:HG2 | 1.86 | 0.40 |
| 2:C:243:ARG:NH1 | 2:C:243:ARG:HG3 | 2.35 | 0.40 |
| 2:C:26:TYR:HD2 | 2:C:121:MET:HB2 | 1.85 | 0.40 |
| 2:C:292:ARG:CB | 2:C:299:LYS:HG2 | 2.45 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 2:C:31:GLN:HG2 | 2:C:34:VAL:CG2 | 2.51 | 0.40 |
| 2:C:399:ASN:CG | 2:C:402:SER:HB3 | 2.36 | 0.40 |
| 2:C:684:PHE:HB3 | 3:D:740:PHE:HE1 | 1.84 | 0.40 |
| 3:D:1190:SER:C | 3:D:1204:CYS:SG | 3.00 | 0.40 |
| 3:D:19:ARG:HG3 | 3:D:19:ARG:NH1 | 2.36 | 0.40 |
| 3:D:660:LYS:HB2 | 3:D:660:LYS:NZ | 2.35 | 0.40 |
| 3:D:87:ARG:N | 3:D:523:ASP:OD2 | 2.55 | 0.40 |
| 3:D:888:GLU:O | 3:D:889:ALA:C | 2.57 | 0.40 |
| 3:D:916:TYR:HH | 3:D:1145:TYR:HE2 | 1.68 | 0.40 |
| 4:E:4:PRO:O | 4:E:5:GLY:C | 2.60 | 0.40 |
| 1:K:11:PHE:CD1 | 1:K:25:LEU:HD13 | 2.55 | 0.40 |
| 1:K:29:GLU:HB3 | 1:K:30:ARG:H | 1.69 | 0.40 |
| 1:L:195:LEU:HD12 | 1:L:196:THR:H | 1.83 | 0.40 |
| 2:M:1084:SER:HA | 2:M:1087:VAL:HG12 | 2.03 | 0.40 |
| 2:M:175:GLU:O | 2:M:183:SER:HB3 | 2.21 | 0.40 |
| 2:M:458:TYR:O | 2:M:459:ALA:C | 2.57 | 0.40 |
| 2:M:473:ARG:HG2 | 2:M:473:ARG:NH1 | 2.36 | 0.40 |
| 2:M:517:ARG:HB3 | 2:M:518:LYS:H | 1.66 | 0.40 |
| 2:M:640:ARG:HH11 | 2:M:640:ARG:CG | 2.35 | 0.40 |
| 2:M:663:ASN:HB2 | 2:M:665:PHE:CE1 | 2.57 | 0.40 |
| 2:M:816:LYS:O | 2:M:819:VAL:HB | 2.21 | 0.40 |
| 2:M:707:ARG:CD | 2:M:824:ARG:CD | 2.99 | 0.40 |
| 2:M:826:TYR:N | 2:M:826:TYR:CD1 | 2.89 | 0.40 |
| 2:M:937:ASP:N | 2:M:940:GLU:OE2 | 2.52 | 0.40 |
| 3:N:1271:LYS:HD3 | 3:N:1273:VAL:CG1 | 2.51 | 0.40 |
| 3:N:1294:VAL:HG23 | 3:N:1301:LYS:HB3 | 2.01 | 0.40 |
| 3:N:1305:LEU:HD12 | 3:N:1311:LEU:HB3 | 2.03 | 0.40 |
| 3:N:1463:LYS:HB2 | 3:N:1463:LYS:HE3 | 1.84 | 0.40 |
| 3:N:30:GLU:HA | 3:N:30:GLU:OE1 | 2.21 | 0.40 |
| 3:N:646:LYS:O | 3:N:649:ALA:HB3 | 2.22 | 0.40 |
| 3:N:678:GLU:C | 3:N:679:ARG:HG3 | 2.41 | 0.40 |
| 3:N:753:SER:HB3 | 4:O:27:ALA:CB | 2.51 | 0.40 |
| 3:N:951:ILE:CG2 | 3:N:952:ASP:N | 2.83 | 0.40 |
| 1:A:20:TYR:HD2 | 1:A:199:ILE:O | 2.05 | 0.40 |
| 1:A:219:ARG:HA | 1:A:222:LEU:HD13 | 2.04 | 0.40 |
| 2:C:214:TYR:OH | 2:C:308:ARG:O | 2.38 | 0.40 |
| 2:C:328:LEU:CG | 2:C:433:THR:HB | 2.50 | 0.40 |
| 2:C:470:PRO:HB2 | 2:C:534:VAL:HG21 | 2.04 | 0.40 |
| 2:C:863:ASP:O | 2:C:865:THR:N | 2.54 | 0.40 |
| 3:D:1042:ARG:HE | 3:D:1073:SER:HB2 | 1.86 | 0.40 |
| 3:D:1156:LEU:HD12 | 3:D:1177:ALA:HB2 | 2.04 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 3:D:1339:LYS:HG2 | 3:D:1343:ALA:HB2 | 2.03 | 0.40 |
| 3:D:1435:LEU:HD13 | 3:D:1457:ASP:CG | 2.41 | 0.40 |
| 3:D:619:LEU:CD1 | 3:D:621:LYS:HZ1 | 2.31 | 0.40 |
| 3:D:788:GLY:O | 3:D:792:ILE:HG22 | 2.21 | 0.40 |
| 3:D:796:ARG:NH2 | 3:D:859:ASP:HB2 | 2.36 | 0.40 |
| 3:D:925:GLU:OE1 | 4:E:5:GLY:N | 2.54 | 0.40 |
| 4:E:54:LEU:HD21 | 4:E:63:TRP:NE1 | 2.28 | 0.40 |
| 4:E:68:LEU:CD1 | 4:E:73:LEU:HD13 | 2.46 | 0.40 |
| 5:G:13:DA:C2' | 5:G:14:DG:OP2 | 2.43 | 0.40 |
| 2:M:1105:LYS:HZ3 | 2:M:1107:ASN:HB2 | 1.85 | 0.40 |
| 2:M:172:ILE:HG22 | 2:M:173:ASP:N | 2.36 | 0.40 |
| 2:M:269:LEU:HG | 2:M:288:ARG:CG | 2.48 | 0.40 |
| 3:D:1408:ILE:HG23 | 2:M:371:LYS:N | 2.37 | 0.40 |
| 2:M:567:GLN:HE22 | 6:Y:13:C:H5' | 1.86 | 0.40 |
| 2:M:650:ARG:CD | 2:M:653:ASP:OD2 | 2.70 | 0.40 |
| 2:M:692:GLU:OE1 | 2:M:854:PRO:CB | 2.68 | 0.40 |
| 2:M:970:GLY:O | 2:M:988:VAL:HB | 2.21 | 0.40 |
| 3:N:111:LYS:HE3 | 3:N:1449:GLU:CA | 2.52 | 0.40 |
| 3:N:1401:GLU:OE2 | 3:N:1402:ALA:N | 2.54 | 0.40 |
| 3:N:111:LYS:HZ2 | 3:N:1449:GLU:HG3 | 1.84 | 0.40 |
| 3:N:480:GLU:OE2 | 3:N:484:PRO:HG2 | 2.21 | 0.40 |
| 3:N:568:ARG:HH21 | 3:N:572:ARG:HA | 1.87 | 0.40 |
| 3:N:812:ALA:O | 3:N:816:HIS:CG | 2.75 | 0.40 |
| 4:O:41:GLU:OE1 | 4:O:42:PRO:HD3 | 2.21 | 0.40 |
| 4:O:47:LYS:N | 4:O:54:LEU:CD1 | 2.83 | 0.40 |
| 7:Z:9:DT:C2' | 7:Z:10:DG:OP2 | 2.61 | 0.40 |
| 1:B:99:LEU:HB2 | 1:B:142:VAL:CG2 | 2.51 | 0.40 |
| 2:C:1040:LEU:HD23 | 2:C:1049:LEU:HB2 | 2.02 | 0.40 |
| 2:C:1092:LEU:HB3 | 2:C:1099:VAL:CG2 | 2.52 | 0.40 |
| 2:C:137:VAL:O | 2:C:391:LEU:HD21 | 2.21 | 0.40 |
| 2:C:243:ARG:N | 2:C:244:PRO:HD3 | 2.36 | 0.40 |
| 2:C:251:ASP:HB3 | 2:C:252:LYS:HG3 | 2.03 | 0.40 |
| 2:C:260:LEU:HB3 | 2:C:291:ALA:HB2 | 1.98 | 0.40 |
| 2:C:256:TYR:CE1 | 2:C:293:PHE:HB2 | 2.57 | 0.40 |
| 2:C:31:GLN:NE2 | 2:C:38:LYS:CB | 2.84 | 0.40 |
| 2:C:409:ARG:HB3 | 2:C:454:SER:CB | 2.45 | 0.40 |
| 2:C:498:GLN:O | 2:C:532:MET:SD | 2.80 | 0.40 |
| 3:D:1093:TYR:CE2 | 3:D:1096:ARG:NH1 | 2.90 | 0.40 |
| 3:D:1094:LEU:HD11 | 3:D:1260:ILE:CD1 | 2.49 | 0.40 |
| 3:D:1135:ARG:HD3 | 3:D:1139:ASP:CB | 2.51 | 0.40 |
| 3:D:16:GLU:CD | 3:D:16:GLU:N | 2.75 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 3:D:901:GLN:H | 3:D:901:GLN:HG2 | 1.71 | 0.40 |
| 4:E:28:GLN:HA | 4:E:31:LEU:HD12 | 2.03 | 0.40 |
| 4:E:36:LYS:NZ | 4:E:45:ARG:HH22 | 2.18 | 0.40 |
| 5:G:6:DT:H2' | 5:G:7:DA:C8 | 2.57 | 0.40 |
| 1:K:210:ALA:HA | 1:K:213:GLN:OE1 | 2.21 | 0.40 |
| 1:K:36:LEU:C | 1:K:39:PRO:HD2 | 2.42 | 0.40 |
| 2:M:162:ILE:CG2 | 2:M:172:ILE:HD13 | 2.51 | 0.40 |
| 2:M:394:PHE:CZ | 2:M:632:ASN:CG | 2.95 | 0.40 |
| 2:M:435:TYR:C | 2:M:437:ARG:H | 2.24 | 0.40 |
| 2:M:497:ALA:HA | 2:M:515:ALA:HA | 2.04 | 0.40 |
| 2:M:694:LEU:HD22 | 2:M:699:PHE:CD1 | 2.57 | 0.40 |
| 2:M:69:LEU:HD12 | 2:M:97:ARG:CB | 2.48 | 0.40 |
| 2:M:922:PHE:HB3 | 2:M:964:LYS:HZ1 | 1.82 | 0.40 |
| 3:N:1443:THR:HA | 3:N:1446:VAL:CG2 | 2.52 | 0.40 |
| 3:N:827:ILE:HG22 | 3:N:827:ILE:O | 2.21 | 0.40 |
| 4:O:41:GLU:O | 4:O:42:PRO:O | 2.39 | 0.40 |
| 5:X:11:DC:O5' | 5:X:11:DC:H2' | 2.22 | 0.40 |
| 5:X:25:DG:H2' | 5:X:26:DC:C6 | 2.56 | 0.40 |
| 2:M:423:ALA:HB2 | 7:Z:1:DG:C1' | 2.51 | 0.40 |

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles | |
|-----|-------|------------------|-----------|-----------|----------|-------------|----|
| 1 | A | 227/315 (72%) | 194 (86%) | 24 (11%) | 9 (4%) | 3 | 26 |
| 1 | B | 227/315 (72%) | 195 (86%) | 23 (10%) | 9 (4%) | 3 | 26 |
| 1 | K | 227/315 (72%) | 193 (85%) | 26 (12%) | 8 (4%) | 3 | 29 |
| 1 | L | 227/315 (72%) | 201 (88%) | 17 (8%) | 9 (4%) | 3 | 26 |
| 2 | C | 1117/1119 (100%) | 893 (80%) | 151 (14%) | 73 (6%) | 1 | 18 |

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| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles | |
|-----|-------|------------------|------------|-----------|----------|-------------|----|
| 2 | M | 1117/1119 (100%) | 889 (80%) | 153 (14%) | 75 (7%) | 1 | 18 |
| 3 | D | 1143/1524 (75%) | 903 (79%) | 167 (15%) | 73 (6%) | 1 | 19 |
| 3 | N | 1280/1524 (84%) | 1011 (79%) | 190 (15%) | 79 (6%) | 1 | 19 |
| 4 | E | 93/99 (94%) | 67 (72%) | 15 (16%) | 11 (12%) | 0 | 6 |
| 4 | O | 93/99 (94%) | 69 (74%) | 13 (14%) | 11 (12%) | 0 | 6 |
| All | All | 5751/6744 (85%) | 4615 (80%) | 779 (14%) | 357 (6%) | 1 | 19 |

All (357) Ramachandran outliers are listed below:

| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 1 | A | 3 | ASP |
| 1 | A | 29 | GLU |
| 1 | A | 118 | ALA |
| 1 | A | 133 | GLU |
| 1 | A | 187 | GLY |
| 1 | B | 187 | GLY |
| 2 | C | 59 | LYS |
| 2 | C | 87 | ASP |
| 2 | C | 129 | ILE |
| 2 | C | 164 | PRO |
| 2 | C | 170 | PRO |
| 2 | C | 223 | ASP |
| 2 | C | 231 | PRO |
| 2 | C | 244 | PRO |
| 2 | C | 253 | ALA |
| 2 | C | 262 | ALA |
| 2 | C | 288 | ARG |
| 2 | C | 290 | LEU |
| 2 | C | 292 | ARG |
| 2 | C | 369 | PRO |
| 2 | C | 434 | HIS |
| 2 | C | 457 | ALA |
| 2 | C | 517 | ARG |
| 2 | C | 627 | ARG |
| 2 | C | 680 | ASP |
| 2 | C | 684 | PHE |
| 2 | C | 698 | ASP |
| 2 | C | 727 | PRO |
| 2 | C | 1005 | MET |
| 2 | C | 1033 | GLY |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 2 | C | 1106 | ASP |
| 3 | D | 40 | GLU |
| 3 | D | 55 | ASP |
| 3 | D | 120 | ALA |
| 3 | D | 136 | ASP |
| 3 | D | 705 | ALA |
| 3 | D | 725 | SER |
| 3 | D | 735 | ALA |
| 3 | D | 1028 | ALA |
| 3 | D | 1032 | PRO |
| 3 | D | 1237 | THR |
| 3 | D | 1389 | LEU |
| 3 | D | 1446 | VAL |
| 4 | E | 22 | VAL |
| 4 | E | 42 | PRO |
| 4 | E | 43 | GLU |
| 4 | E | 58 | PRO |
| 4 | E | 95 | VAL |
| 1 | K | 3 | ASP |
| 1 | K | 29 | GLU |
| 1 | K | 118 | ALA |
| 1 | K | 133 | GLU |
| 1 | K | 187 | GLY |
| 1 | L | 187 | GLY |
| 2 | M | 44 | ILE |
| 2 | M | 87 | ASP |
| 2 | M | 129 | ILE |
| 2 | M | 164 | PRO |
| 2 | M | 170 | PRO |
| 2 | M | 223 | ASP |
| 2 | M | 231 | PRO |
| 2 | M | 244 | PRO |
| 2 | M | 253 | ALA |
| 2 | M | 262 | ALA |
| 2 | M | 288 | ARG |
| 2 | M | 290 | LEU |
| 2 | M | 369 | PRO |
| 2 | M | 457 | ALA |
| 2 | M | 517 | ARG |
| 2 | M | 680 | ASP |
| 2 | M | 684 | PHE |
| 2 | M | 698 | ASP |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 2 | M | 727 | PRO |
| 2 | M | 905 | ILE |
| 2 | M | 1005 | MET |
| 2 | M | 1033 | GLY |
| 2 | M | 1096 | ALA |
| 2 | M | 1106 | ASP |
| 2 | M | 1113 | GLU |
| 3 | N | 40 | GLU |
| 3 | N | 43 | GLY |
| 3 | N | 55 | ASP |
| 3 | N | 136 | ASP |
| 3 | N | 167 | GLU |
| 3 | N | 539 | ASP |
| 3 | N | 1265 | ALA |
| 3 | N | 1323 | GLN |
| 3 | N | 1389 | LEU |
| 3 | N | 1408 | ILE |
| 3 | N | 1446 | VAL |
| 4 | O | 22 | VAL |
| 4 | O | 42 | PRO |
| 4 | O | 43 | GLU |
| 4 | O | 58 | PRO |
| 2 | C | 40 | GLU |
| 2 | C | 80 | GLN |
| 2 | C | 138 | SER |
| 2 | C | 144 | PRO |
| 2 | C | 152 | PRO |
| 2 | C | 156 | GLY |
| 2 | C | 178 | PRO |
| 2 | C | 205 | GLU |
| 2 | C | 251 | ASP |
| 2 | C | 261 | ILE |
| 2 | C | 264 | PRO |
| 2 | C | 268 | ASP |
| 2 | C | 325 | ILE |
| 2 | C | 366 | SER |
| 2 | C | 465 | GLY |
| 2 | C | 548 | PRO |
| 2 | C | 593 | ALA |
| 2 | C | 762 | LYS |
| 2 | C | 765 | SER |
| 2 | C | 831 | ARG |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 2 | C | 864 | GLY |
| 2 | C | 905 | ILE |
| 2 | C | 908 | GLY |
| 2 | C | 1055 | LEU |
| 3 | D | 43 | GLY |
| 3 | D | 98 | PRO |
| 3 | D | 530 | VAL |
| 3 | D | 532 | GLY |
| 3 | D | 564 | GLU |
| 3 | D | 620 | GLY |
| 3 | D | 652 | LEU |
| 3 | D | 803 | GLY |
| 3 | D | 807 | ALA |
| 3 | D | 822 | ALA |
| 3 | D | 924 | MET |
| 3 | D | 1045 | MET |
| 3 | D | 1104 | GLU |
| 3 | D | 1161 | GLU |
| 3 | D | 1197 | ARG |
| 3 | D | 1408 | ILE |
| 3 | D | 1410 | GLU |
| 3 | D | 1441 | GLN |
| 3 | D | 1454 | GLY |
| 1 | L | 125 | PRO |
| 2 | M | 40 | GLU |
| 2 | M | 80 | GLN |
| 2 | M | 138 | SER |
| 2 | M | 144 | PRO |
| 2 | M | 152 | PRO |
| 2 | M | 156 | GLY |
| 2 | M | 178 | PRO |
| 2 | M | 261 | ILE |
| 2 | M | 264 | PRO |
| 2 | M | 292 | ARG |
| 2 | M | 325 | ILE |
| 2 | M | 434 | HIS |
| 2 | M | 465 | GLY |
| 2 | M | 593 | ALA |
| 2 | M | 627 | ARG |
| 2 | M | 740 | GLU |
| 2 | M | 864 | GLY |
| 2 | M | 908 | GLY |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 2 | M | 984 | GLU |
| 2 | M | 1055 | LEU |
| 3 | N | 31 | THR |
| 3 | N | 59 | ALA |
| 3 | N | 67 | ARG |
| 3 | N | 77 | GLY |
| 3 | N | 110 | SER |
| 3 | N | 117 | ASP |
| 3 | N | 120 | ALA |
| 3 | N | 486 | ARG |
| 3 | N | 620 | GLY |
| 3 | N | 735 | ALA |
| 3 | N | 803 | GLY |
| 3 | N | 807 | ALA |
| 3 | N | 844 | ALA |
| 3 | N | 1104 | GLU |
| 3 | N | 1306 | PRO |
| 3 | N | 1332 | PRO |
| 3 | N | 1385 | GLY |
| 3 | N | 1410 | GLU |
| 3 | N | 1454 | GLY |
| 3 | N | 1482 | ARG |
| 1 | A | 157 | GLY |
| 1 | B | 29 | GLU |
| 1 | B | 118 | ALA |
| 1 | B | 125 | PRO |
| 2 | C | 188 | LYS |
| 2 | C | 278 | GLU |
| 2 | C | 646 | GLY |
| 2 | C | 738 | ASP |
| 2 | C | 740 | GLU |
| 2 | C | 904 | PRO |
| 2 | C | 984 | GLU |
| 2 | C | 1114 | GLY |
| 3 | D | 3 | LYS |
| 3 | D | 31 | THR |
| 3 | D | 119 | SER |
| 3 | D | 137 | PRO |
| 3 | D | 140 | ALA |
| 3 | D | 507 | ASN |
| 3 | D | 522 | PRO |
| 3 | D | 594 | PRO |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 3 | D | 834 | THR |
| 3 | D | 844 | ALA |
| 3 | D | 869 | MET |
| 3 | D | 1111 | ASP |
| 3 | D | 1125 | PRO |
| 3 | D | 1138 | ALA |
| 3 | D | 1196 | THR |
| 3 | D | 1208 | ASP |
| 3 | D | 1385 | GLY |
| 3 | D | 1407 | LEU |
| 4 | E | 5 | GLY |
| 4 | E | 82 | GLU |
| 1 | L | 3 | ASP |
| 1 | L | 29 | GLU |
| 1 | L | 191 | ASP |
| 2 | M | 10 | ARG |
| 2 | M | 251 | ASP |
| 2 | M | 268 | ASP |
| 2 | M | 363 | SER |
| 2 | M | 366 | SER |
| 2 | M | 462 | ASP |
| 2 | M | 548 | PRO |
| 2 | M | 762 | LYS |
| 2 | M | 767 | PRO |
| 3 | N | 34 | TYR |
| 3 | N | 37 | LEU |
| 3 | N | 96 | ALA |
| 3 | N | 98 | PRO |
| 3 | N | 137 | PRO |
| 3 | N | 160 | GLU |
| 3 | N | 564 | GLU |
| 3 | N | 594 | PRO |
| 3 | N | 696 | HIS |
| 3 | N | 822 | ALA |
| 3 | N | 834 | THR |
| 3 | N | 869 | MET |
| 3 | N | 1067 | VAL |
| 3 | N | 1111 | ASP |
| 3 | N | 1125 | PRO |
| 3 | N | 1161 | GLU |
| 3 | N | 1197 | ARG |
| 3 | N | 1237 | THR |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 3 | N | 1315 | ASP |
| 3 | N | 1390 | LEU |
| 3 | N | 1407 | LEU |
| 4 | O | 40 | LEU |
| 1 | B | 73 | GLU |
| 2 | C | 18 | LEU |
| 2 | C | 111 | ASP |
| 2 | C | 462 | ASP |
| 2 | C | 1000 | MET |
| 2 | C | 1079 | PRO |
| 3 | D | 37 | LEU |
| 3 | D | 42 | ASP |
| 3 | D | 503 | LEU |
| 3 | D | 808 | THR |
| 3 | D | 1103 | HIS |
| 3 | D | 1207 | TYR |
| 3 | D | 1240 | THR |
| 3 | D | 1348 | LEU |
| 3 | D | 1390 | LEU |
| 3 | D | 1482 | ARG |
| 4 | E | 32 | ARG |
| 4 | E | 40 | LEU |
| 4 | E | 55 | PHE |
| 1 | K | 157 | GLY |
| 1 | L | 118 | ALA |
| 2 | M | 53 | PRO |
| 2 | M | 111 | ASP |
| 2 | M | 188 | LYS |
| 2 | M | 205 | GLU |
| 2 | M | 326 | ASP |
| 2 | M | 646 | GLY |
| 2 | M | 904 | PRO |
| 2 | M | 1079 | PRO |
| 2 | M | 1114 | GLY |
| 3 | N | 119 | SER |
| 3 | N | 397 | LYS |
| 3 | N | 504 | ASP |
| 3 | N | 530 | VAL |
| 3 | N | 751 | LEU |
| 3 | N | 808 | THR |
| 3 | N | 924 | MET |
| 3 | N | 1276 | GLU |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 3 | N | 1457 | ASP |
| 4 | O | 55 | PHE |
| 4 | O | 82 | GLU |
| 1 | B | 3 | ASP |
| 1 | B | 9 | PRO |
| 1 | B | 47 | SER |
| 2 | C | 39 | ARG |
| 2 | C | 74 | GLY |
| 3 | D | 124 | GLU |
| 1 | K | 224 | TYR |
| 1 | L | 9 | PRO |
| 1 | L | 126 | ASP |
| 2 | M | 18 | LEU |
| 2 | M | 39 | ARG |
| 2 | M | 74 | GLY |
| 2 | M | 141 | HIS |
| 2 | M | 467 | ILE |
| 2 | M | 1027 | PHE |
| 3 | N | 507 | ASN |
| 3 | N | 540 | LEU |
| 3 | N | 705 | ALA |
| 3 | N | 757 | ALA |
| 3 | N | 1138 | ALA |
| 3 | N | 1155 | VAL |
| 3 | N | 1341 | PRO |
| 3 | N | 1355 | VAL |
| 4 | O | 5 | GLY |
| 1 | A | 9 | PRO |
| 1 | A | 224 | TYR |
| 2 | C | 1024 | LYS |
| 3 | D | 108 | VAL |
| 3 | D | 523 | ASP |
| 3 | D | 751 | LEU |
| 3 | D | 920 | LEU |
| 3 | D | 1155 | VAL |
| 3 | D | 1205 | TYR |
| 4 | E | 57 | ASP |
| 2 | M | 377 | PRO |
| 2 | M | 400 | PRO |
| 2 | M | 765 | SER |
| 3 | N | 503 | LEU |
| 3 | N | 522 | PRO |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 3 | N | 604 | THR |
| 3 | N | 668 | PRO |
| 3 | N | 1327 | ARG |
| 4 | O | 16 | LYS |
| 4 | O | 57 | ASP |
| 1 | B | 10 | VAL |
| 2 | C | 377 | PRO |
| 2 | C | 400 | PRO |
| 2 | C | 812 | GLY |
| 3 | D | 1341 | PRO |
| 3 | D | 1370 | ILE |
| 1 | K | 125 | PRO |
| 2 | M | 812 | GLY |
| 3 | N | 1128 | VAL |
| 3 | N | 1349 | VAL |
| 2 | C | 467 | ILE |
| 3 | D | 146 | PRO |
| 3 | D | 499 | VAL |
| 3 | N | 588 | GLY |
| 2 | C | 263 | ASP |
| 3 | D | 1050 | GLY |
| 1 | L | 10 | VAL |
| 2 | M | 113 | VAL |
| 3 | N | 548 | ILE |
| 1 | A | 125 | PRO |
| 2 | C | 113 | VAL |
| 2 | C | 128 | ILE |
| 2 | C | 424 | GLY |
| 3 | D | 1349 | VAL |
| 2 | M | 424 | GLY |
| 3 | N | 499 | VAL |
| 4 | O | 81 | PRO |
| 3 | D | 668 | PRO |

5.3.2 Protein sidechains [i](#)

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

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

| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles | |
|-----|-------|-----------------|------------|-----------|-------------|----|
| 1 | A | 202/273 (74%) | 178 (88%) | 24 (12%) | 5 | 23 |
| 1 | B | 202/273 (74%) | 182 (90%) | 20 (10%) | 8 | 29 |
| 1 | K | 202/273 (74%) | 182 (90%) | 20 (10%) | 8 | 29 |
| 1 | L | 202/273 (74%) | 182 (90%) | 20 (10%) | 8 | 29 |
| 2 | C | 941/941 (100%) | 790 (84%) | 151 (16%) | 2 | 15 |
| 2 | M | 941/941 (100%) | 794 (84%) | 147 (16%) | 2 | 16 |
| 3 | D | 968/1279 (76%) | 806 (83%) | 162 (17%) | 2 | 14 |
| 3 | N | 1088/1279 (85%) | 919 (84%) | 169 (16%) | 2 | 16 |
| 4 | E | 84/88 (96%) | 70 (83%) | 14 (17%) | 2 | 14 |
| 4 | O | 84/88 (96%) | 70 (83%) | 14 (17%) | 2 | 14 |
| All | All | 4914/5708 (86%) | 4173 (85%) | 741 (15%) | 3 | 17 |

All (741) residues with a non-rotameric sidechain are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | A | 20 | TYR |
| 1 | A | 26 | GLU |
| 1 | A | 54 | THR |
| 1 | A | 65 | PHE |
| 1 | A | 69 | PRO |
| 1 | A | 96 | THR |
| 1 | A | 100 | LEU |
| 1 | A | 101 | LEU |
| 1 | A | 104 | GLU |
| 1 | A | 113 | ASP |
| 1 | A | 123 | MET |
| 1 | A | 126 | ASP |
| 1 | A | 139 | ASN |
| 1 | A | 141 | GLU |
| 1 | A | 143 | ARG |
| 1 | A | 154 | GLU |
| 1 | A | 168 | ASP |
| 1 | A | 175 | ARG |
| 1 | A | 189 | ARG |
| 1 | A | 193 | ASP |
| 1 | A | 197 | LEU |
| 1 | A | 206 | THR |
| 1 | A | 219 | ARG |
| 1 | A | 226 | SER |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | B | 3 | ASP |
| 1 | B | 20 | TYR |
| 1 | B | 62 | LEU |
| 1 | B | 73 | GLU |
| 1 | B | 81 | ASN |
| 1 | B | 96 | THR |
| 1 | B | 123 | MET |
| 1 | B | 124 | ASN |
| 1 | B | 140 | MET |
| 1 | B | 159 | LYS |
| 1 | B | 161 | ARG |
| 1 | B | 163 | ASN |
| 1 | B | 176 | ARG |
| 1 | B | 179 | PHE |
| 1 | B | 189 | ARG |
| 1 | B | 193 | ASP |
| 1 | B | 201 | THR |
| 1 | B | 206 | THR |
| 1 | B | 215 | VAL |
| 1 | B | 226 | SER |
| 2 | C | 5 | ARG |
| 2 | C | 30 | LEU |
| 2 | C | 33 | ASP |
| 2 | C | 34 | VAL |
| 2 | C | 39 | ARG |
| 2 | C | 48 | PHE |
| 2 | C | 51 | THR |
| 2 | C | 67 | ASP |
| 2 | C | 71 | TYR |
| 2 | C | 72 | ARG |
| 2 | C | 75 | GLU |
| 2 | C | 80 | GLN |
| 2 | C | 81 | ASP |
| 2 | C | 87 | ASP |
| 2 | C | 88 | LEU |
| 2 | C | 91 | GLN |
| 2 | C | 94 | LEU |
| 2 | C | 95 | TYR |
| 2 | C | 98 | LEU |
| 2 | C | 103 | LYS |
| 2 | C | 104 | ASP |
| 2 | C | 115 | LEU |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 2 | C | 117 | HIS |
| 2 | C | 129 | ILE |
| 2 | C | 133 | ASP |
| 2 | C | 141 | HIS |
| 2 | C | 142 | ARG |
| 2 | C | 158 | TYR |
| 2 | C | 170 | PRO |
| 2 | C | 173 | ASP |
| 2 | C | 183 | SER |
| 2 | C | 188 | LYS |
| 2 | C | 190 | LYS |
| 2 | C | 191 | PHE |
| 2 | C | 196 | LEU |
| 2 | C | 198 | ARG |
| 2 | C | 205 | GLU |
| 2 | C | 209 | ARG |
| 2 | C | 237 | ARG |
| 2 | C | 238 | LEU |
| 2 | C | 239 | PHE |
| 2 | C | 243 | ARG |
| 2 | C | 252 | LYS |
| 2 | C | 266 | ARG |
| 2 | C | 267 | TYR |
| 2 | C | 268 | ASP |
| 2 | C | 274 | ARG |
| 2 | C | 275 | TYR |
| 2 | C | 281 | LEU |
| 2 | C | 285 | LEU |
| 2 | C | 286 | SER |
| 2 | C | 289 | THR |
| 2 | C | 290 | LEU |
| 2 | C | 292 | ARG |
| 2 | C | 293 | PHE |
| 2 | C | 297 | GLU |
| 2 | C | 298 | PHE |
| 2 | C | 306 | THR |
| 2 | C | 308 | ARG |
| 2 | C | 309 | TYR |
| 2 | C | 313 | LEU |
| 2 | C | 321 | GLU |
| 2 | C | 322 | VAL |
| 2 | C | 327 | HIS |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 2 | C | 330 | ASN |
| 2 | C | 345 | ARG |
| 2 | C | 359 | MET |
| 2 | C | 365 | ASP |
| 2 | C | 367 | LEU |
| 2 | C | 376 | ARG |
| 2 | C | 392 | SER |
| 2 | C | 398 | THR |
| 2 | C | 400 | PRO |
| 2 | C | 404 | LEU |
| 2 | C | 419 | THR |
| 2 | C | 422 | ARG |
| 2 | C | 425 | PHE |
| 2 | C | 433 | THR |
| 2 | C | 443 | THR |
| 2 | C | 453 | THR |
| 2 | C | 458 | TYR |
| 2 | C | 469 | THR |
| 2 | C | 481 | ASP |
| 2 | C | 486 | MET |
| 2 | C | 492 | ASP |
| 2 | C | 498 | GLN |
| 2 | C | 500 | ASN |
| 2 | C | 503 | LEU |
| 2 | C | 506 | ASN |
| 2 | C | 533 | ASP |
| 2 | C | 537 | LYS |
| 2 | C | 541 | SER |
| 2 | C | 548 | PRO |
| 2 | C | 557 | ARG |
| 2 | C | 578 | VAL |
| 2 | C | 584 | GLU |
| 2 | C | 599 | GLU |
| 2 | C | 606 | VAL |
| 2 | C | 617 | ASP |
| 2 | C | 620 | LEU |
| 2 | C | 632 | ASN |
| 2 | C | 635 | THR |
| 2 | C | 640 | ARG |
| 2 | C | 645 | VAL |
| 2 | C | 654 | LEU |
| 2 | C | 668 | LEU |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 2 | C | 680 | ASP |
| 2 | C | 693 | GLU |
| 2 | C | 695 | LEU |
| 2 | C | 699 | PHE |
| 2 | C | 701 | THR |
| 2 | C | 714 | ASP |
| 2 | C | 727 | PRO |
| 2 | C | 728 | HIS |
| 2 | C | 738 | ASP |
| 2 | C | 739 | GLU |
| 2 | C | 766 | GLU |
| 2 | C | 780 | GLU |
| 2 | C | 784 | ASP |
| 2 | C | 785 | VAL |
| 2 | C | 796 | GLU |
| 2 | C | 805 | ARG |
| 2 | C | 837 | ASP |
| 2 | C | 839 | LEU |
| 2 | C | 841 | ASN |
| 2 | C | 856 | GLU |
| 2 | C | 858 | MET |
| 2 | C | 862 | PRO |
| 2 | C | 863 | ASP |
| 2 | C | 868 | ASP |
| 2 | C | 884 | GLN |
| 2 | C | 907 | ASP |
| 2 | C | 918 | LEU |
| 2 | C | 938 | LYS |
| 2 | C | 939 | ARG |
| 2 | C | 950 | LEU |
| 2 | C | 958 | THR |
| 2 | C | 963 | LEU |
| 2 | C | 988 | VAL |
| 2 | C | 999 | HIS |
| 2 | C | 1002 | GLU |
| 2 | C | 1003 | ASP |
| 2 | C | 1005 | MET |
| 2 | C | 1016 | ILE |
| 2 | C | 1026 | GLN |
| 2 | C | 1035 | MET |
| 2 | C | 1050 | GLN |
| 2 | C | 1074 | GLU |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 2 | C | 1090 | LYS |
| 2 | C | 1105 | LYS |
| 2 | C | 1115 | LEU |
| 3 | D | 4 | GLU |
| 3 | D | 6 | ARG |
| 3 | D | 21 | TRP |
| 3 | D | 29 | PRO |
| 3 | D | 41 | ARG |
| 3 | D | 47 | GLU |
| 3 | D | 60 | CYS |
| 3 | D | 64 | LYS |
| 3 | D | 68 | PHE |
| 3 | D | 74 | GLU |
| 3 | D | 75 | ARG |
| 3 | D | 80 | VAL |
| 3 | D | 87 | ARG |
| 3 | D | 95 | LEU |
| 3 | D | 101 | HIS |
| 3 | D | 108 | VAL |
| 3 | D | 116 | LEU |
| 3 | D | 123 | LEU |
| 3 | D | 124 | GLU |
| 3 | D | 127 | LEU |
| 3 | D | 128 | TYR |
| 3 | D | 130 | SER |
| 3 | D | 135 | LEU |
| 3 | D | 142 | LEU |
| 3 | D | 149 | LYS |
| 3 | D | 157 | GLU |
| 3 | D | 162 | ARG |
| 3 | D | 163 | TYR |
| 3 | D | 455 | ARG |
| 3 | D | 456 | MET |
| 3 | D | 465 | LEU |
| 3 | D | 485 | SER |
| 3 | D | 493 | ARG |
| 3 | D | 504 | ASP |
| 3 | D | 507 | ASN |
| 3 | D | 512 | MET |
| 3 | D | 525 | ARG |
| 3 | D | 531 | ASP |
| 3 | D | 537 | THR |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 3 | D | 538 | SER |
| 3 | D | 544 | TYR |
| 3 | D | 550 | ARG |
| 3 | D | 565 | ILE |
| 3 | D | 594 | PRO |
| 3 | D | 605 | ASP |
| 3 | D | 613 | ARG |
| 3 | D | 619 | LEU |
| 3 | D | 624 | ASP |
| 3 | D | 636 | GLN |
| 3 | D | 639 | LEU |
| 3 | D | 641 | GLN |
| 3 | D | 651 | GLU |
| 3 | D | 652 | LEU |
| 3 | D | 660 | LYS |
| 3 | D | 676 | MET |
| 3 | D | 686 | GLU |
| 3 | D | 688 | TRP |
| 3 | D | 701 | LEU |
| 3 | D | 704 | ARG |
| 3 | D | 709 | HIS |
| 3 | D | 734 | GLU |
| 3 | D | 736 | PHE |
| 3 | D | 743 | ASP |
| 3 | D | 749 | VAL |
| 3 | D | 754 | PHE |
| 3 | D | 758 | GLU |
| 3 | D | 763 | MET |
| 3 | D | 764 | LEU |
| 3 | D | 783 | ARG |
| 3 | D | 784 | ASP |
| 3 | D | 792 | ILE |
| 3 | D | 800 | LYS |
| 3 | D | 805 | GLU |
| 3 | D | 813 | LEU |
| 3 | D | 863 | VAL |
| 3 | D | 879 | ARG |
| 3 | D | 880 | ILE |
| 3 | D | 888 | GLU |
| 3 | D | 892 | ASP |
| 3 | D | 897 | TRP |
| 3 | D | 899 | LEU |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 3 | D | 900 | ILE |
| 3 | D | 902 | LEU |
| 3 | D | 907 | GLU |
| 3 | D | 922 | LEU |
| 3 | D | 925 | GLU |
| 3 | D | 935 | LYS |
| 3 | D | 937 | TYR |
| 3 | D | 940 | THR |
| 3 | D | 941 | PHE |
| 3 | D | 942 | SER |
| 3 | D | 951 | ILE |
| 3 | D | 959 | GLU |
| 3 | D | 964 | LEU |
| 3 | D | 978 | TYR |
| 3 | D | 983 | LEU |
| 3 | D | 985 | ASP |
| 3 | D | 988 | ARG |
| 3 | D | 991 | GLN |
| 3 | D | 1001 | GLU |
| 3 | D | 1005 | GLN |
| 3 | D | 1008 | PHE |
| 3 | D | 1019 | PRO |
| 3 | D | 1026 | SER |
| 3 | D | 1036 | ARG |
| 3 | D | 1038 | LEU |
| 3 | D | 1039 | CYS |
| 3 | D | 1041 | LEU |
| 3 | D | 1042 | ARG |
| 3 | D | 1044 | LEU |
| 3 | D | 1052 | THR |
| 3 | D | 1062 | ARG |
| 3 | D | 1068 | LEU |
| 3 | D | 1087 | ARG |
| 3 | D | 1088 | THR |
| 3 | D | 1095 | THR |
| 3 | D | 1100 | ASP |
| 3 | D | 1108 | ARG |
| 3 | D | 1112 | CYS |
| 3 | D | 1119 | SER |
| 3 | D | 1130 | ARG |
| 3 | D | 1133 | ARG |
| 3 | D | 1149 | LEU |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 3 | D | 1151 | ARG |
| 3 | D | 1161 | GLU |
| 3 | D | 1166 | LEU |
| 3 | D | 1169 | ASP |
| 3 | D | 1179 | GLU |
| 3 | D | 1189 | ARG |
| 3 | D | 1196 | THR |
| 3 | D | 1197 | ARG |
| 3 | D | 1204 | CYS |
| 3 | D | 1207 | TYR |
| 3 | D | 1209 | LEU |
| 3 | D | 1231 | GLU |
| 3 | D | 1236 | LEU |
| 3 | D | 1237 | THR |
| 3 | D | 1238 | MET |
| 3 | D | 1239 | ARG |
| 3 | D | 1240 | THR |
| 3 | D | 1269 | LYS |
| 3 | D | 1382 | THR |
| 3 | D | 1389 | LEU |
| 3 | D | 1391 | GLU |
| 3 | D | 1396 | GLU |
| 3 | D | 1399 | ASP |
| 3 | D | 1431 | THR |
| 3 | D | 1432 | LYS |
| 3 | D | 1436 | SER |
| 3 | D | 1439 | SER |
| 3 | D | 1441 | GLN |
| 3 | D | 1442 | ASN |
| 3 | D | 1447 | LEU |
| 3 | D | 1462 | LEU |
| 3 | D | 1464 | GLU |
| 3 | D | 1465 | ASN |
| 3 | D | 1472 | ILE |
| 3 | D | 1485 | GLN |
| 3 | D | 1488 | ASP |
| 3 | D | 1489 | GLN |
| 3 | D | 1496 | GLU |
| 3 | D | 1501 | GLU |
| 4 | E | 10 | PHE |
| 4 | E | 14 | ASP |
| 4 | E | 35 | PHE |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 4 | E | 43 | GLU |
| 4 | E | 51 | LEU |
| 4 | E | 57 | ASP |
| 4 | E | 62 | THR |
| 4 | E | 68 | LEU |
| 4 | E | 69 | LEU |
| 4 | E | 70 | THR |
| 4 | E | 77 | GLU |
| 4 | E | 78 | ASN |
| 4 | E | 83 | ASP |
| 4 | E | 89 | MET |
| 1 | K | 5 | LYS |
| 1 | K | 16 | GLN |
| 1 | K | 18 | ARG |
| 1 | K | 22 | GLU |
| 1 | K | 26 | GLU |
| 1 | K | 54 | THR |
| 1 | K | 55 | SER |
| 1 | K | 60 | ASP |
| 1 | K | 65 | PHE |
| 1 | K | 101 | LEU |
| 1 | K | 112 | ARG |
| 1 | K | 123 | MET |
| 1 | K | 143 | ARG |
| 1 | K | 155 | LYS |
| 1 | K | 168 | ASP |
| 1 | K | 175 | ARG |
| 1 | K | 189 | ARG |
| 1 | K | 193 | ASP |
| 1 | K | 198 | ARG |
| 1 | K | 219 | ARG |
| 1 | L | 5 | LYS |
| 1 | L | 7 | LYS |
| 1 | L | 20 | TYR |
| 1 | L | 25 | LEU |
| 1 | L | 62 | LEU |
| 1 | L | 73 | GLU |
| 1 | L | 119 | ASP |
| 1 | L | 123 | MET |
| 1 | L | 124 | ASN |
| 1 | L | 126 | ASP |
| 1 | L | 137 | ARG |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 1 | L | 141 | GLU |
| 1 | L | 145 | ASP |
| 1 | L | 159 | LYS |
| 1 | L | 161 | ARG |
| 1 | L | 163 | ASN |
| 1 | L | 179 | PHE |
| 1 | L | 184 | THR |
| 1 | L | 186 | LEU |
| 1 | L | 206 | THR |
| 2 | M | 9 | ILE |
| 2 | M | 10 | ARG |
| 2 | M | 30 | LEU |
| 2 | M | 34 | VAL |
| 2 | M | 48 | PHE |
| 2 | M | 49 | ARG |
| 2 | M | 52 | PHE |
| 2 | M | 56 | GLU |
| 2 | M | 75 | GLU |
| 2 | M | 88 | LEU |
| 2 | M | 89 | THR |
| 2 | M | 91 | GLN |
| 2 | M | 95 | TYR |
| 2 | M | 98 | LEU |
| 2 | M | 104 | ASP |
| 2 | M | 110 | GLU |
| 2 | M | 112 | GLU |
| 2 | M | 115 | LEU |
| 2 | M | 130 | ASN |
| 2 | M | 141 | HIS |
| 2 | M | 144 | PRO |
| 2 | M | 158 | TYR |
| 2 | M | 163 | ILE |
| 2 | M | 170 | PRO |
| 2 | M | 173 | ASP |
| 2 | M | 178 | PRO |
| 2 | M | 179 | ASN |
| 2 | M | 186 | VAL |
| 2 | M | 190 | LYS |
| 2 | M | 191 | PHE |
| 2 | M | 198 | ARG |
| 2 | M | 205 | GLU |
| 2 | M | 210 | GLU |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 2 | M | 221 | LEU |
| 2 | M | 226 | VAL |
| 2 | M | 237 | ARG |
| 2 | M | 238 | LEU |
| 2 | M | 252 | LYS |
| 2 | M | 261 | ILE |
| 2 | M | 266 | ARG |
| 2 | M | 267 | TYR |
| 2 | M | 268 | ASP |
| 2 | M | 274 | ARG |
| 2 | M | 275 | TYR |
| 2 | M | 285 | LEU |
| 2 | M | 286 | SER |
| 2 | M | 289 | THR |
| 2 | M | 293 | PHE |
| 2 | M | 297 | GLU |
| 2 | M | 298 | PHE |
| 2 | M | 308 | ARG |
| 2 | M | 309 | TYR |
| 2 | M | 310 | LEU |
| 2 | M | 328 | LEU |
| 2 | M | 358 | ARG |
| 2 | M | 359 | MET |
| 2 | M | 360 | LEU |
| 2 | M | 367 | LEU |
| 2 | M | 376 | ARG |
| 2 | M | 379 | GLU |
| 2 | M | 383 | ARG |
| 2 | M | 390 | GLN |
| 2 | M | 396 | ASP |
| 2 | M | 421 | GLU |
| 2 | M | 422 | ARG |
| 2 | M | 433 | THR |
| 2 | M | 455 | LEU |
| 2 | M | 463 | GLU |
| 2 | M | 490 | GLU |
| 2 | M | 491 | GLU |
| 2 | M | 503 | LEU |
| 2 | M | 517 | ARG |
| 2 | M | 528 | GLU |
| 2 | M | 533 | ASP |
| 2 | M | 554 | ASP |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 2 | M | 557 | ARG |
| 2 | M | 572 | ILE |
| 2 | M | 578 | VAL |
| 2 | M | 579 | VAL |
| 2 | M | 585 | GLU |
| 2 | M | 586 | ARG |
| 2 | M | 588 | VAL |
| 2 | M | 595 | LEU |
| 2 | M | 632 | ASN |
| 2 | M | 633 | GLN |
| 2 | M | 635 | THR |
| 2 | M | 640 | ARG |
| 2 | M | 645 | VAL |
| 2 | M | 668 | LEU |
| 2 | M | 677 | MET |
| 2 | M | 679 | PHE |
| 2 | M | 683 | ASN |
| 2 | M | 688 | ILE |
| 2 | M | 693 | GLU |
| 2 | M | 699 | PHE |
| 2 | M | 703 | ILE |
| 2 | M | 719 | PRO |
| 2 | M | 725 | ASP |
| 2 | M | 730 | SER |
| 2 | M | 738 | ASP |
| 2 | M | 749 | VAL |
| 2 | M | 766 | GLU |
| 2 | M | 780 | GLU |
| 2 | M | 781 | LYS |
| 2 | M | 784 | ASP |
| 2 | M | 785 | VAL |
| 2 | M | 787 | ASP |
| 2 | M | 791 | ARG |
| 2 | M | 805 | ARG |
| 2 | M | 824 | ARG |
| 2 | M | 834 | GLN |
| 2 | M | 837 | ASP |
| 2 | M | 856 | GLU |
| 2 | M | 862 | PRO |
| 2 | M | 863 | ASP |
| 2 | M | 868 | ASP |
| 2 | M | 878 | SER |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 2 | M | 881 | ASN |
| 2 | M | 884 | GLN |
| 2 | M | 904 | PRO |
| 2 | M | 923 | GLU |
| 2 | M | 929 | ARG |
| 2 | M | 937 | ASP |
| 2 | M | 938 | LYS |
| 2 | M | 939 | ARG |
| 2 | M | 942 | GLU |
| 2 | M | 950 | LEU |
| 2 | M | 958 | THR |
| 2 | M | 960 | GLU |
| 2 | M | 963 | LEU |
| 2 | M | 988 | VAL |
| 2 | M | 999 | HIS |
| 2 | M | 1003 | ASP |
| 2 | M | 1005 | MET |
| 2 | M | 1006 | HIS |
| 2 | M | 1016 | ILE |
| 2 | M | 1021 | LEU |
| 2 | M | 1035 | MET |
| 2 | M | 1052 | MET |
| 2 | M | 1053 | LEU |
| 2 | M | 1070 | ILE |
| 2 | M | 1079 | PRO |
| 2 | M | 1104 | GLU |
| 2 | M | 1105 | LYS |
| 2 | M | 1110 | ASP |
| 2 | M | 1111 | ILE |
| 2 | M | 1115 | LEU |
| 3 | N | 6 | ARG |
| 3 | N | 12 | LEU |
| 3 | N | 21 | TRP |
| 3 | N | 34 | TYR |
| 3 | N | 41 | ARG |
| 3 | N | 56 | TYR |
| 3 | N | 60 | CYS |
| 3 | N | 64 | LYS |
| 3 | N | 67 | ARG |
| 3 | N | 68 | PHE |
| 3 | N | 69 | GLU |
| 3 | N | 74 | GLU |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 3 | N | 76 | CYS |
| 3 | N | 80 | VAL |
| 3 | N | 82 | LYS |
| 3 | N | 85 | VAL |
| 3 | N | 87 | ARG |
| 3 | N | 103 | TRP |
| 3 | N | 112 | ILE |
| 3 | N | 116 | LEU |
| 3 | N | 118 | LEU |
| 3 | N | 124 | GLU |
| 3 | N | 127 | LEU |
| 3 | N | 128 | TYR |
| 3 | N | 135 | LEU |
| 3 | N | 145 | VAL |
| 3 | N | 148 | GLU |
| 3 | N | 149 | LYS |
| 3 | N | 150 | ARG |
| 3 | N | 156 | GLU |
| 3 | N | 157 | GLU |
| 3 | N | 161 | LEU |
| 3 | N | 163 | TYR |
| 3 | N | 197 | SER |
| 3 | N | 199 | LEU |
| 3 | N | 405 | ASP |
| 3 | N | 434 | ARG |
| 3 | N | 438 | ASP |
| 3 | N | 445 | ARG |
| 3 | N | 453 | ASP |
| 3 | N | 455 | ARG |
| 3 | N | 456 | MET |
| 3 | N | 465 | LEU |
| 3 | N | 467 | GLU |
| 3 | N | 470 | LEU |
| 3 | N | 476 | GLU |
| 3 | N | 481 | MET |
| 3 | N | 493 | ARG |
| 3 | N | 512 | MET |
| 3 | N | 525 | ARG |
| 3 | N | 537 | THR |
| 3 | N | 539 | ASP |
| 3 | N | 547 | LEU |
| 3 | N | 550 | ARG |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 3 | N | 581 | LEU |
| 3 | N | 594 | PRO |
| 3 | N | 600 | LEU |
| 3 | N | 611 | GLN |
| 3 | N | 619 | LEU |
| 3 | N | 639 | LEU |
| 3 | N | 641 | GLN |
| 3 | N | 651 | GLU |
| 3 | N | 652 | LEU |
| 3 | N | 660 | LYS |
| 3 | N | 666 | ILE |
| 3 | N | 682 | ASP |
| 3 | N | 688 | TRP |
| 3 | N | 701 | LEU |
| 3 | N | 707 | THR |
| 3 | N | 709 | HIS |
| 3 | N | 710 | ARG |
| 3 | N | 727 | GLN |
| 3 | N | 736 | PHE |
| 3 | N | 743 | ASP |
| 3 | N | 749 | VAL |
| 3 | N | 758 | GLU |
| 3 | N | 763 | MET |
| 3 | N | 783 | ARG |
| 3 | N | 805 | GLU |
| 3 | N | 808 | THR |
| 3 | N | 817 | GLU |
| 3 | N | 833 | GLU |
| 3 | N | 838 | ARG |
| 3 | N | 855 | HIS |
| 3 | N | 863 | VAL |
| 3 | N | 876 | SER |
| 3 | N | 880 | ILE |
| 3 | N | 881 | LEU |
| 3 | N | 888 | GLU |
| 3 | N | 891 | GLU |
| 3 | N | 892 | ASP |
| 3 | N | 897 | TRP |
| 3 | N | 902 | LEU |
| 3 | N | 914 | LEU |
| 3 | N | 922 | LEU |
| 3 | N | 925 | GLU |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 3 | N | 939 | PHE |
| 3 | N | 941 | PHE |
| 3 | N | 951 | ILE |
| 3 | N | 959 | GLU |
| 3 | N | 975 | GLU |
| 3 | N | 982 | PHE |
| 3 | N | 990 | ASP |
| 3 | N | 991 | GLN |
| 3 | N | 1029 | ARG |
| 3 | N | 1031 | ASN |
| 3 | N | 1062 | ARG |
| 3 | N | 1087 | ARG |
| 3 | N | 1090 | ASP |
| 3 | N | 1101 | VAL |
| 3 | N | 1108 | ARG |
| 3 | N | 1114 | THR |
| 3 | N | 1115 | THR |
| 3 | N | 1124 | GLN |
| 3 | N | 1130 | ARG |
| 3 | N | 1135 | ARG |
| 3 | N | 1149 | LEU |
| 3 | N | 1151 | ARG |
| 3 | N | 1159 | ARG |
| 3 | N | 1160 | LEU |
| 3 | N | 1161 | GLU |
| 3 | N | 1166 | LEU |
| 3 | N | 1183 | ILE |
| 3 | N | 1189 | ARG |
| 3 | N | 1197 | ARG |
| 3 | N | 1207 | TYR |
| 3 | N | 1210 | SER |
| 3 | N | 1237 | THR |
| 3 | N | 1238 | MET |
| 3 | N | 1239 | ARG |
| 3 | N | 1262 | LEU |
| 3 | N | 1267 | ARG |
| 3 | N | 1275 | SER |
| 3 | N | 1282 | ARG |
| 3 | N | 1285 | GLU |
| 3 | N | 1287 | GLU |
| 3 | N | 1288 | GLU |
| 3 | N | 1291 | SER |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 3 | N | 1297 | GLU |
| 3 | N | 1299 | PHE |
| 3 | N | 1300 | SER |
| 3 | N | 1305 | LEU |
| 3 | N | 1311 | LEU |
| 3 | N | 1315 | ASP |
| 3 | N | 1317 | ASP |
| 3 | N | 1319 | VAL |
| 3 | N | 1320 | GLU |
| 3 | N | 1326 | THR |
| 3 | N | 1337 | GLU |
| 3 | N | 1344 | VAL |
| 3 | N | 1348 | LEU |
| 3 | N | 1373 | ARG |
| 3 | N | 1376 | MET |
| 3 | N | 1383 | ASP |
| 3 | N | 1386 | ASP |
| 3 | N | 1389 | LEU |
| 3 | N | 1391 | GLU |
| 3 | N | 1412 | LYS |
| 3 | N | 1422 | MET |
| 3 | N | 1431 | THR |
| 3 | N | 1432 | LYS |
| 3 | N | 1434 | TRP |
| 3 | N | 1435 | LEU |
| 3 | N | 1441 | GLN |
| 3 | N | 1465 | ASN |
| 3 | N | 1472 | ILE |
| 3 | N | 1485 | GLN |
| 3 | N | 1488 | ASP |
| 3 | N | 1496 | GLU |
| 4 | O | 37 | ASN |
| 4 | O | 38 | THR |
| 4 | O | 46 | PRO |
| 4 | O | 48 | MET |
| 4 | O | 51 | LEU |
| 4 | O | 54 | LEU |
| 4 | O | 56 | ASP |
| 4 | O | 57 | ASP |
| 4 | O | 58 | PRO |
| 4 | O | 70 | THR |
| 4 | O | 72 | ARG |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 4 | O | 77 | GLU |
| 4 | O | 81 | PRO |
| 4 | O | 83 | ASP |

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (13) such sidechains are listed below:

| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 2 | C | 31 | GLN |
| 2 | C | 393 | GLN |
| 3 | D | 714 | GLN |
| 3 | D | 1227 | GLN |
| 2 | M | 393 | GLN |
| 2 | M | 406 | HIS |
| 2 | M | 567 | GLN |
| 2 | M | 841 | ASN |
| 2 | M | 889 | HIS |
| 3 | N | 714 | GLN |
| 3 | N | 1031 | ASN |
| 3 | N | 1034 | GLN |
| 4 | O | 37 | ASN |

5.3.3 RNA [i](#)

| Mol | Chain | Analysed | Backbone Outliers | Pucker Outliers |
|-----|-------|-------------|-------------------|-----------------|
| 6 | H | 15/16 (93%) | 5 (33%) | 1 (6%) |
| 6 | Y | 14/16 (87%) | 3 (21%) | 1 (7%) |
| All | All | 29/32 (90%) | 8 (27%) | 2 (6%) |

All (8) RNA backbone outliers are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 6 | H | 4 | G |
| 6 | H | 5 | C |
| 6 | H | 6 | C |
| 6 | H | 15 | C |
| 6 | H | 16 | A |
| 6 | Y | 3 | A |
| 6 | Y | 4 | G |
| 6 | Y | 6 | C |

All (2) RNA pucker outliers are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 6 | H | 5 | C |
| 6 | Y | 5 | C |

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

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

5.5 Carbohydrates [i](#)

There are no carbohydrates in this entry.

5.6 Ligand geometry [i](#)

Of 4 ligands modelled in this entry, 4 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

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

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

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

| Mol | Chain | Analysed | <RSRZ> | #RSRZ > 2 | OWAB(Å ²) | Q < 0.9 |
|-----|-------|------------------|--------|---------------|-----------------------|---------|
| 1 | A | 229/315 (72%) | -0.77 | 1 (0%) 92 87 | 154, 243, 347, 433 | 0 |
| 1 | B | 229/315 (72%) | -0.48 | 8 (3%) 44 35 | 202, 343, 460, 525 | 0 |
| 1 | K | 229/315 (72%) | -0.59 | 4 (1%) 70 61 | 157, 255, 375, 500 | 0 |
| 1 | L | 229/315 (72%) | -0.49 | 4 (1%) 70 61 | 193, 363, 452, 538 | 0 |
| 2 | C | 1119/1119 (100%) | -0.75 | 6 (0%) 91 86 | 12, 213, 336, 454 | 0 |
| 2 | M | 1119/1119 (100%) | -0.72 | 8 (0%) 87 82 | 60, 238, 426, 549 | 0 |
| 3 | D | 1151/1524 (75%) | -0.73 | 12 (1%) 82 74 | 8, 205, 382, 548 | 0 |
| 3 | N | 1288/1524 (84%) | -0.59 | 33 (2%) 56 46 | 81, 249, 452, 545 | 0 |
| 4 | E | 95/99 (95%) | -0.53 | 3 (3%) 47 37 | 156, 217, 337, 395 | 0 |
| 4 | O | 95/99 (95%) | -0.62 | 3 (3%) 47 37 | 205, 297, 426, 451 | 0 |
| 5 | G | 27/28 (96%) | -0.76 | 0 100 100 | 152, 210, 372, 381 | 0 |
| 5 | X | 27/28 (96%) | -0.67 | 0 100 100 | 238, 279, 353, 374 | 0 |
| 6 | H | 16/16 (100%) | 0.21 | 1 (6%) 20 16 | 97, 189, 363, 385 | 0 |
| 6 | Y | 15/16 (93%) | -0.24 | 0 100 100 | 208, 249, 351, 378 | 0 |
| 7 | I | 17/21 (80%) | -0.65 | 0 100 100 | 215, 276, 418, 428 | 0 |
| 7 | Z | 17/21 (80%) | -0.72 | 0 100 100 | 264, 305, 348, 352 | 0 |
| All | All | 5902/6874 (85%) | -0.67 | 83 (1%) 75 66 | 8, 240, 416, 549 | 0 |

All (83) RSRZ outliers are listed below:

| Mol | Chain | Res | Type | RSRZ |
|-----|-------|-----|------|------|
| 3 | D | 140 | ALA | 12.4 |
| 3 | N | 175 | VAL | 12.4 |
| 3 | D | 141 | ILE | 9.5 |
| 1 | B | 3 | ASP | 8.7 |
| 1 | L | 68 | ILE | 7.5 |

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| Mol | Chain | Res | Type | RSRZ |
|------------|--------------|------------|-------------|-------------|
| 2 | M | 193 | LEU | 7.5 |
| 3 | N | 174 | GLY | 7.3 |
| 3 | N | 425 | GLY | 6.6 |
| 3 | D | 139 | GLY | 6.4 |
| 1 | B | 2 | LEU | 6.1 |
| 2 | M | 194 | VAL | 5.9 |
| 3 | N | 140 | ALA | 5.9 |
| 3 | D | 142 | LEU | 5.9 |
| 3 | N | 395 | VAL | 5.7 |
| 1 | B | 1 | MET | 5.2 |
| 3 | N | 407 | VAL | 5.1 |
| 3 | N | 176 | ASP | 5.1 |
| 3 | N | 451 | ASP | 5.0 |
| 3 | N | 409 | VAL | 4.9 |
| 2 | C | 1025 | ALA | 4.2 |
| 3 | N | 802 | ALA | 4.2 |
| 1 | K | 1 | MET | 4.1 |
| 2 | C | 180 | GLY | 4.1 |
| 2 | M | 417 | GLY | 4.0 |
| 1 | L | 69 | PRO | 4.0 |
| 3 | N | 408 | GLU | 4.0 |
| 4 | O | 91 | ARG | 4.0 |
| 1 | B | 4 | SER | 3.9 |
| 1 | K | 3 | ASP | 3.9 |
| 3 | N | 393 | ILE | 3.9 |
| 4 | E | 91 | ARG | 3.7 |
| 3 | N | 394 | LEU | 3.6 |
| 3 | N | 1287 | GLU | 3.6 |
| 3 | N | 399 | ARG | 3.6 |
| 3 | N | 391 | ALA | 3.6 |
| 4 | E | 94 | PRO | 3.4 |
| 3 | N | 420 | VAL | 3.4 |
| 6 | H | 1 | C | 3.3 |
| 4 | E | 96 | GLU | 3.3 |
| 3 | N | 392 | SER | 3.3 |
| 3 | N | 426 | LYS | 3.2 |
| 3 | N | 1316 | GLY | 3.1 |
| 2 | M | 765 | SER | 3.1 |
| 1 | K | 2 | LEU | 3.1 |
| 3 | D | 138 | LYS | 3.0 |
| 3 | N | 801 | GLY | 3.0 |
| 3 | D | 595 | GLY | 3.0 |

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| Mol | Chain | Res | Type | RSRZ |
|-----|-------|------|------|------|
| 3 | D | 653 | PHE | 3.0 |
| 3 | N | 173 | PRO | 2.9 |
| 1 | L | 67 | THR | 2.9 |
| 2 | C | 1119 | ARG | 2.9 |
| 3 | N | 406 | ASP | 2.9 |
| 3 | D | 146 | PRO | 2.9 |
| 2 | M | 416 | GLY | 2.9 |
| 1 | L | 99 | LEU | 2.7 |
| 1 | B | 87 | VAL | 2.7 |
| 3 | N | 628 | ARG | 2.6 |
| 3 | D | 594 | PRO | 2.6 |
| 3 | D | 161 | LEU | 2.5 |
| 3 | N | 985 | ASP | 2.5 |
| 2 | C | 179 | ASN | 2.5 |
| 3 | D | 137 | PRO | 2.4 |
| 1 | K | 188 | GLN | 2.4 |
| 2 | M | 202 | TYR | 2.4 |
| 2 | C | 114 | PHE | 2.4 |
| 2 | M | 176 | VAL | 2.4 |
| 1 | B | 5 | LYS | 2.4 |
| 3 | N | 1489 | GLN | 2.3 |
| 3 | N | 428 | LYS | 2.3 |
| 4 | O | 88 | GLU | 2.3 |
| 3 | N | 1310 | ARG | 2.2 |
| 3 | N | 418 | GLY | 2.2 |
| 3 | N | 745 | MET | 2.2 |
| 3 | N | 177 | ALA | 2.1 |
| 1 | B | 7 | LYS | 2.1 |
| 1 | A | 187 | GLY | 2.1 |
| 2 | M | 174 | LEU | 2.1 |
| 3 | N | 206 | ARG | 2.1 |
| 2 | C | 105 | THR | 2.1 |
| 4 | O | 92 | LEU | 2.1 |
| 3 | D | 1362 | LYS | 2.1 |
| 1 | B | 124 | ASN | 2.0 |
| 3 | N | 1339 | LYS | 2.0 |

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

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

6.3 Carbohydrates [i](#)

There are no carbohydrates in this entry.

6.4 Ligands [i](#)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(\AA^2) | Q<0.9 |
|-----|------|-------|------|-------|------|------|-----------------------------|-------|
| 8 | ZN | N | 1601 | 1/1 | 0.97 | 0.13 | 72,72,72,72 | 0 |
| 8 | ZN | D | 1601 | 1/1 | 0.98 | 0.05 | 72,72,72,72 | 0 |
| 8 | ZN | N | 1602 | 1/1 | 0.98 | 0.11 | 72,72,72,72 | 0 |
| 8 | ZN | D | 1602 | 1/1 | 0.99 | 0.14 | 72,72,72,72 | 0 |

6.5 Other polymers [i](#)

There are no such residues in this entry.