



wwPDB EM Map/Model Validation Report ⓘ

Jun 22, 2016 – 06:21 AM EDT

PDB ID : 5IMQ
EMDB ID: : EMD-6584
Title : Structure of ribosome bound to cofactor at 3.8 angstrom resolution
Authors : Kumar, V.; Ero, R.; Jian, G.K.; Ahmed, T.; Zhan, Y.; Bhushan, S.; Gao, Y.G.
Deposited on : 2016-03-06
Resolution : 3.80 Å(reported)
Based on PDB ID : 4W2E, 5AA0

This is a wwPDB EM Map/Model Validation Report for a publicly released PDB/EMDB entry.
For rigid body fitted models, validation errors reported here could stem from errors in the original structure(s) used in the fitting.
We welcome your comments at validation@mail.wwpdb.org
A user guide is available at
<http://wwpdb.org/validation/2016/EMValidationReportHelp>

MolProbity : 4.02b-467
Mogul : 1.7.1 (RC1), CSD as537be (2016)
Percentile statistics : 20151230.v01 (using entries in the PDB archive December 30th 2015)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et. al. (1996)
Validation Pipeline (wwPDB-VP) : rb-20027790

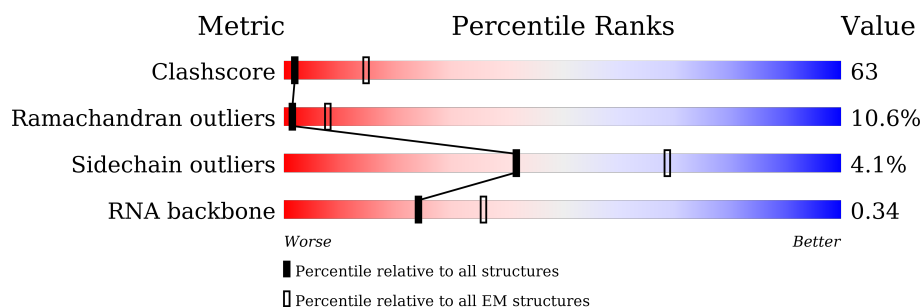
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.80 Å.

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




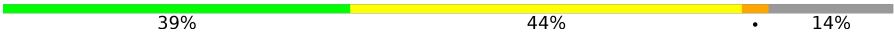


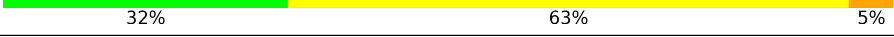

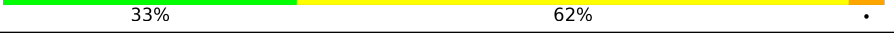

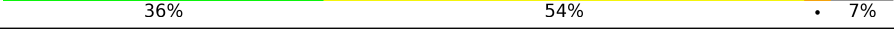

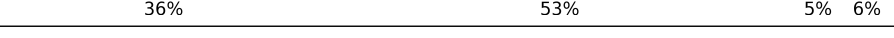
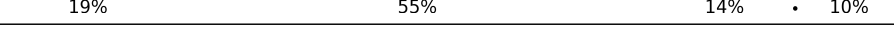

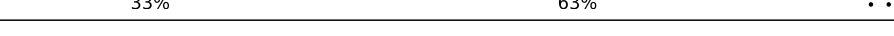


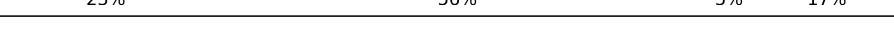

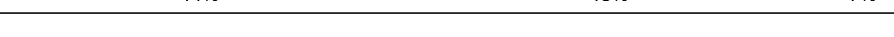






| Metric | Whole archive (#Entries) | EM structures (#Entries) |
|-----------------------|-----------------------------|-----------------------------|
| Clashscore | 114402 | 924 |
| Ramachandran outliers | 111179 | 726 |
| Sidechain outliers | 111093 | 686 |
| RNA backbone | 3027 | 244 |

The table below summarises the geometric issues observed across the polymeric chains. The red, orange, yellow and green segments on the bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria. 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 $\leq 5\%$

| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|------------------|
| 1 | 1 | 37 | 35% 49% 16% |
| 2 | 2 | 173 | 58% 17% 25% |
| 3 | 3 | 147 | 13% 55% 20% 9% |
| 4 | 4 | 77 | 19% 52% 29% |
| 5 | 5 | 76 | 11% 50% 36% |
| 6 | A | 1522 | 11% 54% 33% |
| 7 | D | 2893 | 9% 44% 39% 8% |
| 8 | E | 123 | 12% 53% 34% |

















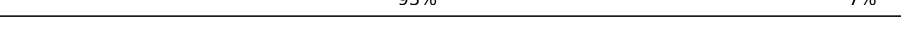
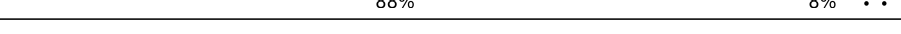





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| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|--|
| 9 | F | 256 |  |
| 10 | G | 239 |  |
| 11 | H | 209 |  |
| 12 | I | 162 |  |
| 13 | J | 101 |  |
| 14 | K | 156 |  |
| 15 | L | 138 |  |
| 16 | M | 128 |  |
| 17 | N | 105 |  |
| 18 | O | 129 |  |
| 19 | P | 132 |  |
| 20 | Q | 126 |  |
| 21 | R | 61 |  |
| 22 | S | 89 |  |
| 23 | T | 88 |  |
| 24 | U | 105 |  |
| 25 | V | 88 |  |
| 26 | W | 93 |  |
| 27 | X | 106 |  |
| 28 | Y | 27 |  |
| 29 | Z | 229 |  |
| 30 | a | 276 |  |
| 31 | b | 206 |  |
| 32 | c | 210 |  |
| 33 | d | 182 |  |

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| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|--|
| 34 | e | 180 |  83% 13% .. |
| 35 | f | 140 |  88% 11% .. |
| 36 | g | 122 |  85% 15% |
| 37 | h | 150 |  79% 16% .. |
| 38 | i | 141 |  84% 13% . |
| 39 | j | 118 |  93% 6% . |
| 40 | k | 112 |  88% 10% . |
| 41 | l | 146 |  66% 12% . 20% |
| 42 | m | 118 |  96% .. |
| 43 | n | 101 |  86% 14% |
| 44 | o | 113 |  89% 8% . |
| 45 | p | 96 |  91% 6% .. |
| 46 | q | 110 |  78% 22% |
| 47 | r | 206 |  77% 10% 13% |
| 48 | s | 85 |  91% . 7% |
| 49 | t | 67 |  93% 7% |
| 50 | u | 60 |  88% 8% .. |
| 51 | v | 71 |  77% 21% . |
| 52 | w | 60 |  77% 15% . 5% |
| 53 | x | 54 |  56% 33% . 9% |
| 54 | y | 49 |  88% 12% |
| 55 | z | 65 |  80% 14% 5% . |
| 56 | B | 610 |  8% 52% 32% 5% . |

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

| Mol | Type | Chain | Res | Chirality | Geometry | Clashes | Electron density |
|-----|------|-------|-----|-----------|----------|---------|------------------|
| 57 | GCP | B | 701 | - | - | X | - |

2 Entry composition

There are 57 unique types of molecules in this entry. The entry contains 153046 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called 50S ribosomal protein L36.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|-------|
| 1 | 1 | 37 | Total | C | N | O | S | 0 | 0 |
| | | | 307 | 188 | 68 | 47 | 4 | | |

- Molecule 2 is a protein called 50S ribosomal protein L10.

| Mol | Chain | Residues | Atoms | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---------|-------|
| 2 | 2 | 130 | Total | C | N | O | 0 | 0 |
| | | | 641 | 381 | 130 | 130 | | |

- Molecule 3 is a protein called 50S ribosomal protein L11.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 3 | 3 | 134 | Total | C | N | O | S | 0 | 0 |
| | | | 993 | 632 | 175 | 181 | 5 | | |

- Molecule 4 is a RNA chain called P- site tRNA.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 4 | 4 | 77 | Total | C | N | O | P | 0 | 0 |
| | | | 1640 | 732 | 297 | 535 | 76 | | |

- Molecule 5 is a RNA chain called E site tRNA.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 5 | 5 | 76 | Total | C | N | O | P | 0 | 0 |
| | | | 1623 | 723 | 290 | 534 | 76 | | |

- Molecule 6 is a RNA chain called 16S ribosomal RNA.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-------|------|-------|------|---------|-------|
| 6 | A | 1515 | Total | C | N | O | P | 0 | 0 |
| | | | 32554 | 14490 | 6022 | 10527 | 1515 | | |

- Molecule 7 is a RNA chain called 23S ribosomal RNA.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-------|-------|-------|------|---------|-------|
| 7 | D | 2889 | Total | C | N | O | P | 0 | 0 |
| | | | 62218 | 27691 | 11629 | 20009 | 2889 | | |

- Molecule 8 is a RNA chain called 5S ribosomal RNA.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|-----|---------|-------|
| 8 | E | 123 | Total | C | N | O | P | 0 | 0 |
| | | | 2641 | 1175 | 488 | 855 | 123 | | |

- Molecule 9 is a protein called 30S ribosomal protein S2.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 9 | F | 234 | Total | C | N | O | S | 0 | 0 |
| | | | 1900 | 1213 | 341 | 341 | 5 | | |

- Molecule 10 is a protein called 30S ribosomal protein S3.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 10 | G | 206 | Total | C | N | O | S | 0 | 0 |
| | | | 1612 | 1016 | 314 | 281 | 1 | | |

- Molecule 11 is a protein called 30S ribosomal protein S4.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 11 | H | 208 | Total | C | N | O | S | 0 | 0 |
| | | | 1703 | 1066 | 339 | 291 | 7 | | |

- Molecule 12 is a protein called 30S ribosomal protein S5.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 12 | I | 150 | Total | C | N | O | S | 0 | 0 |
| | | | 1146 | 724 | 217 | 201 | 4 | | |

- Molecule 13 is a protein called 30S ribosomal protein S6.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 13 | J | 101 | Total | C | N | O | S | 0 | 0 |
| | | | 843 | 531 | 155 | 154 | 3 | | |

- Molecule 14 is a protein called 30S ribosomal protein S7.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 14 | K | 155 | Total | C | N | O | S | 0 | 0 |
| | | | 1257 | 781 | 252 | 218 | 6 | | |

- Molecule 15 is a protein called 30S ribosomal protein S8.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 15 | L | 138 | Total | C | N | O | S | 0 | 0 |
| | | | 1116 | 705 | 215 | 193 | 3 | | |

- Molecule 16 is a protein called 30S ribosomal protein S9.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 16 | M | 127 | Total | C | N | O | S | 0 | 0 |
| | | | 1010 | 639 | 197 | 174 | | | |

- Molecule 17 is a protein called 30S ribosomal protein S10.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 17 | N | 98 | Total | C | N | O | S | 0 | 0 |
| | | | 794 | 499 | 156 | 138 | 1 | | |

- Molecule 18 is a protein called 30S ribosomal protein S11.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 18 | O | 119 | Total | C | N | O | S | 0 | 0 |
| | | | 885 | 549 | 168 | 165 | 3 | | |

- Molecule 19 is a protein called 30S ribosomal protein S12.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 19 | P | 124 | Total | C | N | O | S | 0 | 0 |
| | | | 970 | 611 | 195 | 163 | 1 | | |

- Molecule 20 is a protein called 30S ribosomal protein S13.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 20 | Q | 114 | Total | C | N | O | S | 0 | 0 |
| | | | 914 | 565 | 189 | 158 | 2 | | |

- Molecule 21 is a protein called 30S ribosomal protein S14 type Z.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|----|---|---------|-------|
| 21 | R | 60 | Total | C | N | O | S | 0 | 0 |
| | | | 492 | 312 | 104 | 72 | 4 | | |

- Molecule 22 is a protein called 30S ribosomal protein S15.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 22 | S | 88 | Total | C | N | O | S | 0 | 0 |
| | | | 734 | 459 | 147 | 126 | 2 | | |

- Molecule 23 is a protein called 30S ribosomal protein S16.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 23 | T | 83 | Total | C | N | O | S | 0 | 0 |
| | | | 700 | 443 | 139 | 117 | 1 | | |

- Molecule 24 is a protein called 30S ribosomal protein S17.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 24 | U | 104 | Total | C | N | O | S | 0 | 0 |
| | | | 857 | 547 | 161 | 147 | 2 | | |

- Molecule 25 is a protein called 30S ribosomal protein S18.

| Mol | Chain | Residues | Atoms | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|----|---------|-------|
| 25 | V | 73 | Total | C | N | O | 0 | 0 |
| | | | 597 | 380 | 118 | 99 | | |

- Molecule 26 is a protein called 30S ribosomal protein S19.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 26 | W | 80 | Total | C | N | O | S | 0 | 0 |
| | | | 647 | 414 | 119 | 112 | 2 | | |

- Molecule 27 is a protein called 30S ribosomal protein S20.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 27 | X | 99 | Total | C | N | O | S | 0 | 0 |
| | | | 763 | 470 | 162 | 129 | 2 | | |

- Molecule 28 is a protein called 30S ribosomal protein Thx.

| Mol | Chain | Residues | Atoms | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---------|-------|
| 28 | Y | 24 | Total | C | N | O | 0 | 0 |
| | | | 208 | 128 | 50 | 30 | | |

- Molecule 29 is a protein called 50S ribosomal protein L1.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 29 | Z | 228 | Total | C | N | O | S | 0 | 0 |
| | | | 1742 | 1102 | 318 | 319 | 3 | | |

- Molecule 30 is a protein called 50S ribosomal protein L2.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 30 | a | 272 | Total | C | N | O | S | 0 | 0 |
| | | | 2124 | 1339 | 424 | 358 | 3 | | |

- Molecule 31 is a protein called 50S ribosomal protein L3.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 31 | b | 206 | Total | C | N | O | S | 0 | 0 |
| | | | 1578 | 997 | 302 | 273 | 6 | | |

- Molecule 32 is a protein called 50S ribosomal protein L4.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 32 | c | 208 | Total | C | N | O | S | 0 | 0 |
| | | | 1625 | 1034 | 303 | 286 | 2 | | |

- Molecule 33 is a protein called 50S ribosomal protein L5.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 33 | d | 182 | Total | C | N | O | S | 0 | 0 |
| | | | 1482 | 947 | 269 | 261 | 5 | | |

- Molecule 34 is a protein called 50S ribosomal protein L6.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 34 | e | 174 | Total | C | N | O | S | 0 | 0 |
| | | | 1328 | 844 | 248 | 235 | 1 | | |

- Molecule 35 is a protein called 50S ribosomal protein L13.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 35 | f | 139 | Total | C | N | O | S | 0 | 0 |
| | | | 1113 | 717 | 207 | 186 | 3 | | |

- Molecule 36 is a protein called 50S ribosomal protein L14.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 36 | g | 122 | Total | C | N | O | S | 0 | 0 |
| | | | 932 | 587 | 171 | 170 | 4 | | |

- Molecule 37 is a protein called 50S ribosomal protein L15.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 37 | h | 145 | Total | C | N | O | S | 0 | 0 |
| | | | 1106 | 688 | 226 | 190 | 2 | | |

- Molecule 38 is a protein called 50S ribosomal protein L16.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 38 | i | 136 | Total | C | N | O | S | 0 | 0 |
| | | | 1080 | 688 | 204 | 183 | 5 | | |

- Molecule 39 is a protein called 50S ribosomal protein L17.

| Mol | Chain | Residues | Atoms | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---------|-------|
| 39 | j | 117 | Total | C | N | O | 0 | 0 |
| | | | 960 | 599 | 202 | 159 | | |

- Molecule 40 is a protein called 50S ribosomal protein L18.

| Mol | Chain | Residues | Atoms | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---------|-------|
| 40 | k | 110 | Total | C | N | O | 0 | 0 |
| | | | 877 | 553 | 175 | 149 | | |

- Molecule 41 is a protein called 50S ribosomal protein L19.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 41 | l | 117 | Total | C | N | O | S | 0 | 0 |
| | | | 976 | 614 | 197 | 164 | 1 | | |

- Molecule 42 is a protein called 50S ribosomal protein L20.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 42 | m | 117 | Total | C | N | O | S | 0 | 0 |
| | | | 964 | 610 | 202 | 151 | 1 | | |

- Molecule 43 is a protein called 50S ribosomal protein L21.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 43 | n | 101 | Total | C | N | O | S | 0 | 0 |
| | | | 779 | 501 | 142 | 135 | 1 | | |

- Molecule 44 is a protein called 50S ribosomal protein L22.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 44 | o | 110 | Total | C | N | O | S | 0 | 0 |
| | | | 876 | 552 | 171 | 151 | 2 | | |

- Molecule 45 is a protein called 50S ribosomal protein L23.

| Mol | Chain | Residues | Atoms | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---------|-------|
| 45 | p | 94 | Total | C | N | O | 0 | 0 |
| | | | 742 | 483 | 133 | 126 | | |

- Molecule 46 is a protein called 50S ribosomal protein L24.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 46 | q | 110 | Total | C | N | O | S | 0 | 0 |
| | | | 844 | 539 | 158 | 141 | 6 | | |

- Molecule 47 is a protein called 50S ribosomal protein L25.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 47 | r | 180 | Total | C | N | O | S | 0 | 0 |
| | | | 1435 | 916 | 256 | 260 | 3 | | |

- Molecule 48 is a protein called 50S ribosomal protein L27.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 48 | s | 79 | Total | C | N | O | S | 0 | 0 |
| | | | 625 | 387 | 131 | 106 | 1 | | |

- Molecule 49 is a protein called 50S ribosomal protein L29.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|----|---|---------|-------|
| 49 | t | 67 | Total | C | N | O | S | 0 | 0 |
| | | | 567 | 350 | 116 | 99 | 2 | | |

- Molecule 50 is a protein called 50S ribosomal protein L30.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|--|---------|-------|
| 50 | u | 59 | Total | C | N | O | | 0 | 0 |
| | | | 469 | 298 | 90 | 81 | | | |

- Molecule 51 is a protein called 50S ribosomal protein L31.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 51 | v | 71 | Total | C | N | O | S | 0 | 0 |
| | | | 581 | 364 | 108 | 104 | 5 | | |

- Molecule 52 is a protein called 50S ribosomal protein L32.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|-------|
| 52 | w | 57 | Total | C | N | O | S | 0 | 0 |
| | | | 445 | 279 | 87 | 74 | 5 | | |

- Molecule 53 is a protein called 50S ribosomal protein L33.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|-------|
| 53 | x | 49 | Total | C | N | O | S | 0 | 0 |
| | | | 426 | 265 | 87 | 70 | 4 | | |

- Molecule 54 is a protein called 50S ribosomal protein L34.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|----|---|---------|-------|
| 54 | y | 49 | Total | C | N | O | S | 0 | 0 |
| | | | 430 | 263 | 108 | 57 | 2 | | |

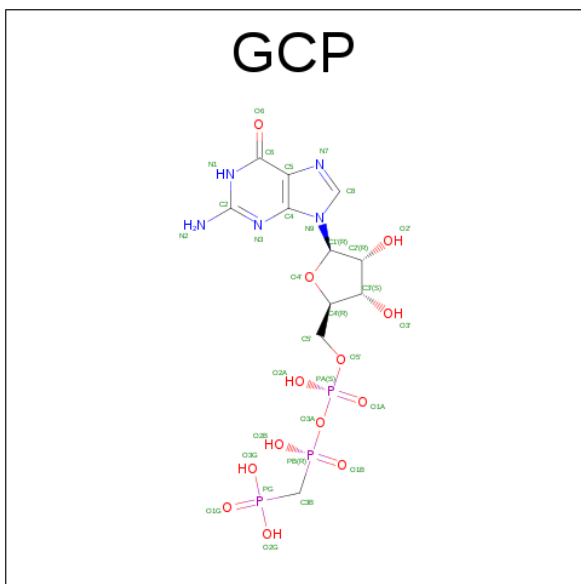
- Molecule 55 is a protein called 50S ribosomal protein L35.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|----|---|---------|-------|
| 55 | z | 64 | Total | C | N | O | S | 0 | 0 |
| | | | 515 | 331 | 102 | 79 | 3 | | |

- Molecule 56 is a protein called Elongation factor 4.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 56 | B | 591 | Total | C | N | O | S | 0 | 0 |
| | | | 4628 | 2968 | 794 | 857 | 9 | | |

- Molecule 57 is PHOSPHOMETHYLPHOSPHONIC ACID GUANYLATE ESTER (three-letter code: GCP) (formula: $C_{11}H_{18}N_5O_{13}P_3$).



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 errors displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

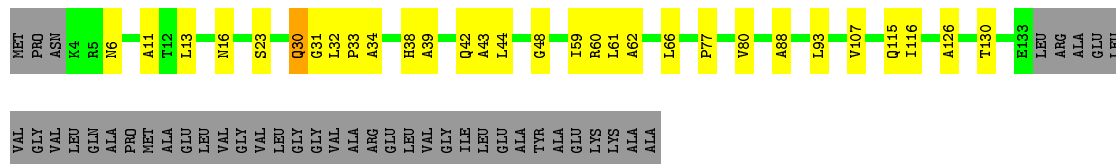
- Molecule 1: 50S ribosomal protein L36

Chain 1: 




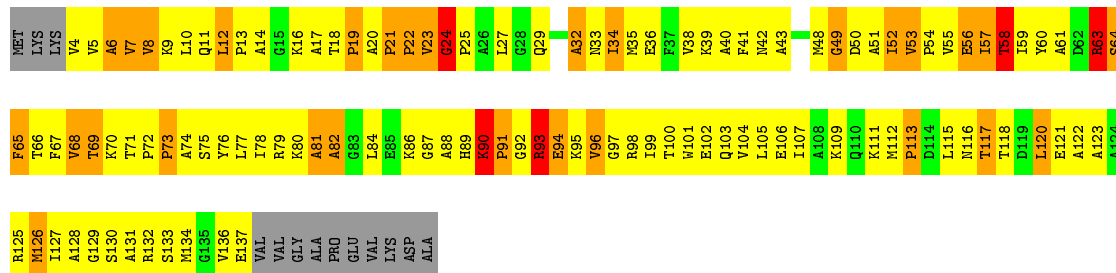
- Molecule 2: 50S ribosomal protein L10

Chain 2: 




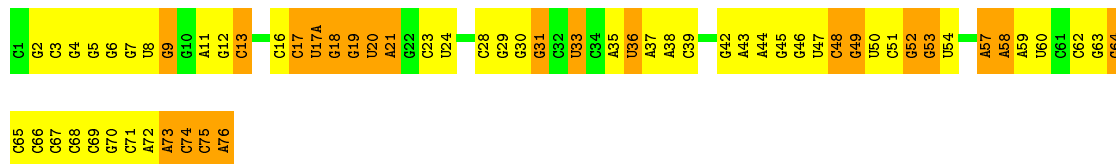
- Molecule 3: 50S ribosomal protein L11

Chain 3: 



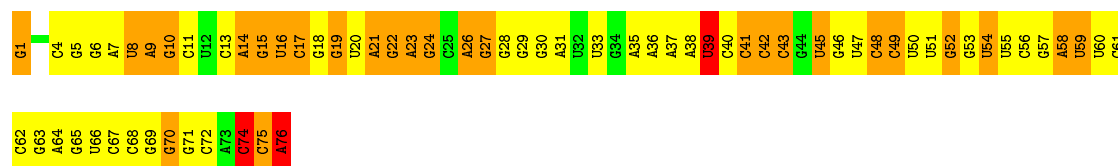
- Molecule 4: P- site tRNA

Chain 4: 



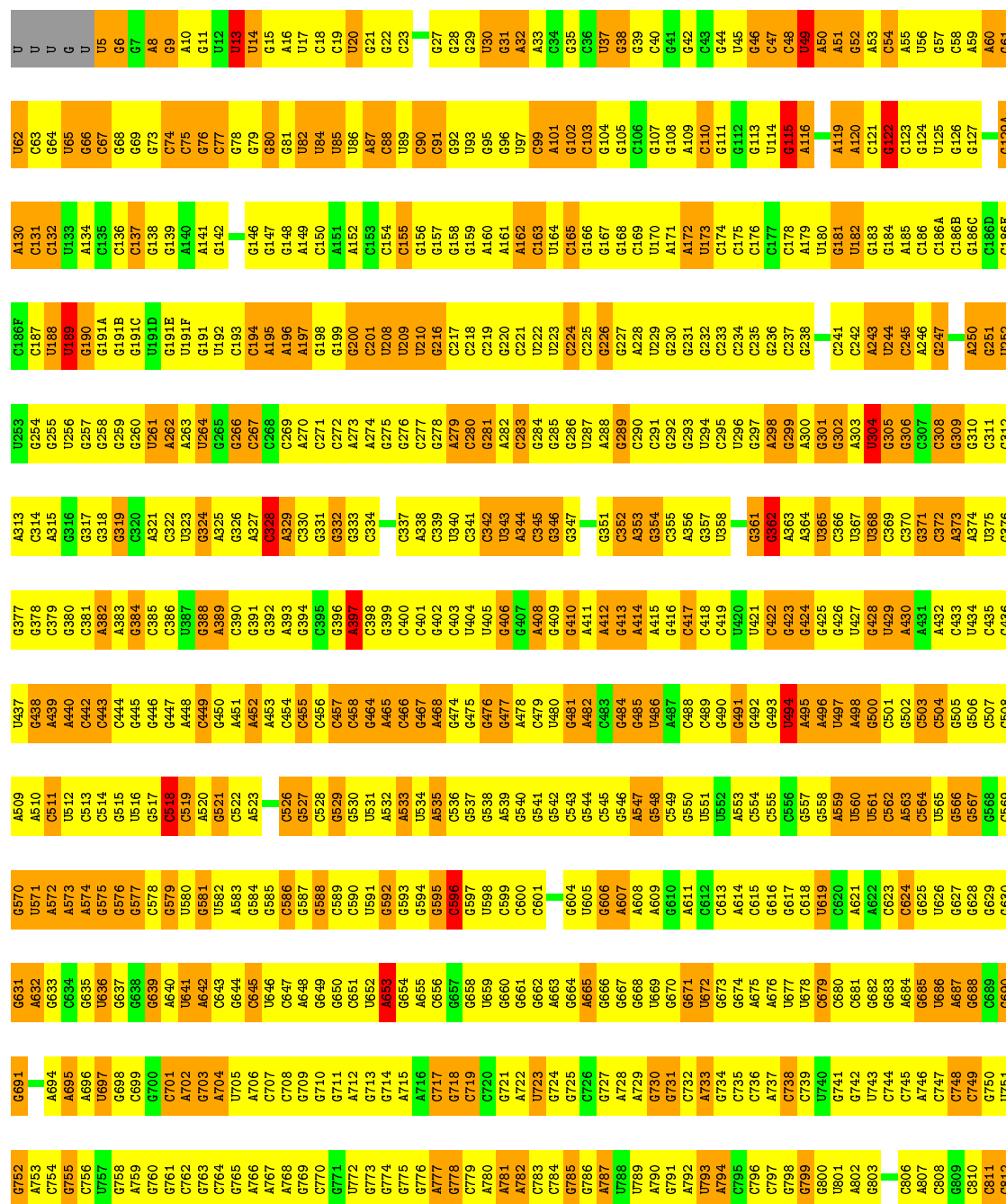
- Molecule 5: E site tRNA

Chain 5: 11% 50% 36%



• Molecule 6: 16S ribosomal RNA

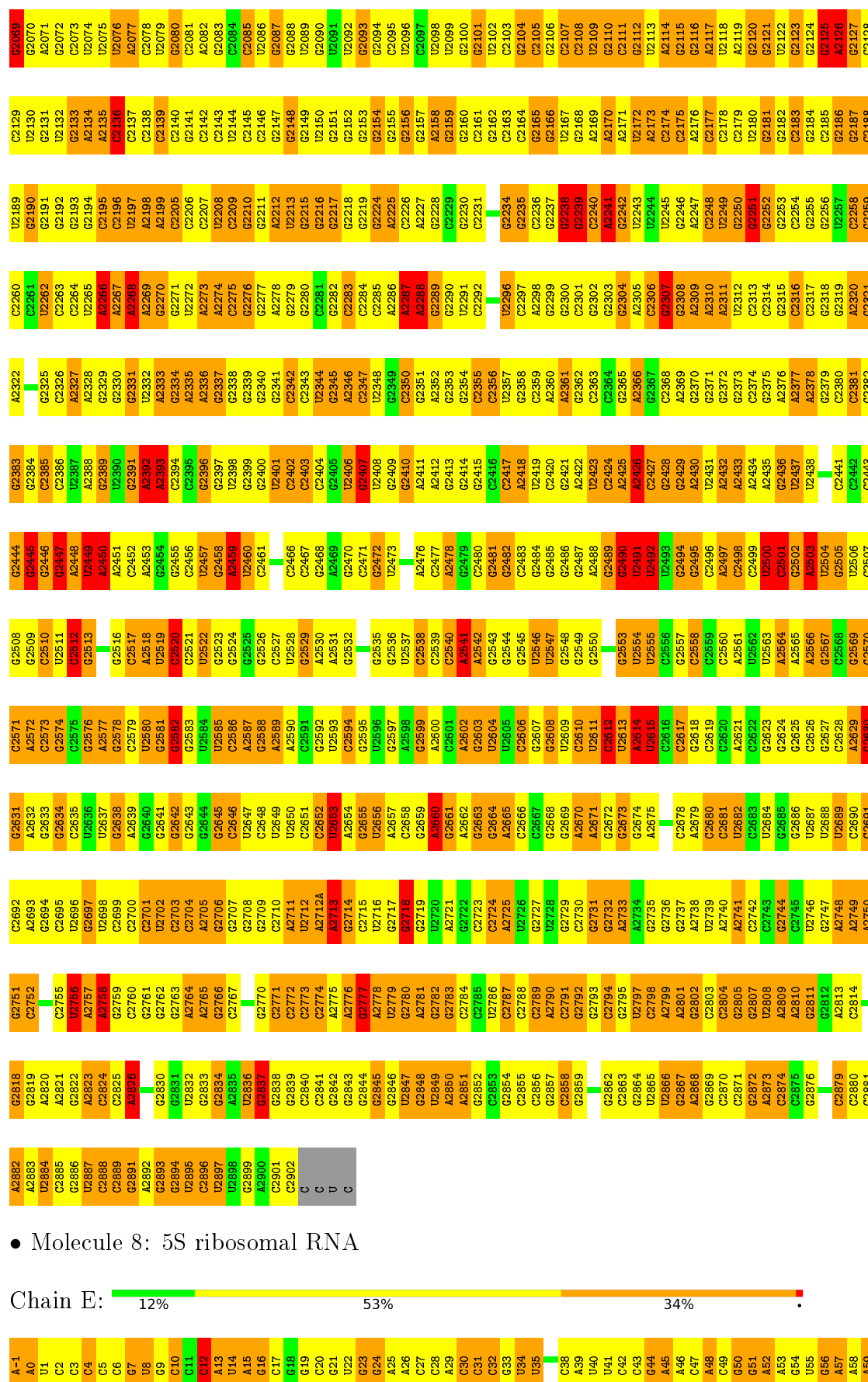
Chain A: 11% 54% 33%



| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-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| A126 | A127 | C128 | G129 | G130 | G131 | G132 | G133 | G134 | G135 | G136 | G137 | G138 | G139 | G140 | G141 | G142 | G143 | G144 | G145 | G146 | G147 | G148 | G149 | G150 | G151 | G152 | G153 | G154 | G155 | G156 | G157 | G158 | G159 | G160 | G161 | G162 | G163 | G164 | G165 | G166 | G167 | G168 | G169 | G170 | G171 | G172 | G173 | G174 | G175 | G176 | G177 | G178 | G179 | G180 | G181 | G182 | G183 | G184 | G185 | G186 | G187 | G188 | G189 | G190 | G191 | G192 | G193 | G194 | G195 | G196 | G197 | G198 | G199 | G200 | G201 | G202 | G203 | G204 | G205 | G206 | G207 | G208 | G209 | G210 | G211 | G212 | G213 | G214 | G215 | G216 | G217 | G218 | G219 | G220 | G221 | G222 | G223 | G224 | G225 | G226 | G227 | G228 | G229 | G230 | G231 | G232 | G233 | G234 | G235 | G236 | G237 | G238 | G239 | G240 | G241 | G242 | G243 | G244 | G245 | G246 | G247 | G248 | G249 | G250 | G251 | G252 | G253 | G254 | G255 | G256 | G257 | G258 | G259 | G260 | G261 | G262 | G263 | G264 | G265 | G266 | G267 | G268 | G269 | G270 | G271 | G272 | G273 | G274 | G275 | G276 | G277 | G278 | G279 | G280 | G281 | G282 | G283 | G284 | G285 | G286 | G287 | G288 | G289 | G290 | G291 | G292 | G293 | G294 | G295 | G296 | G297 | G298 | G299 | G300 | G301 | G302 | G303 | G304 | G305 | G306 | G307 | G308 | G309 | G310 | G311 | G312 | G313 | G314 | G315 | G316 | G317 | G318 | G319 | G320 | G321 | G322 | G323 | G324 | G325 | G326 | G327 | G328 | G329 | G330 | G331 | G332 | G333 | G334 | G335 | G336 | G337 | G338 | G339 | G340 | G341 | G342 | G343 | G344 | G345 | G346 | G347 | G348 | G349 | G350 | G351 | G352 | G353 | G354 | G355 | G356 | G357 | G358 | G359 | G360 | G361 | G362 | G363 | G364 | G365 | G366 | G367 | G368 | G369 | G370 | G371 | G372 | G373 | G374 | G375 | G376 | G377 | G378 | G379 | G380 | G381 | G382 | G383 | G384 | G385 | G386 | G387 | G388 | G389 | G390 | G391 | G392 | G393 | G394 | G395 | G396 | G397 | G398 | G399 | G400 | G401 | G402 | G403 | G404 | G405 | G406 | G407 | G408 | G409 | G410 | G411 | G412 | G413 | G414 | G415 | G416 | G417 | G418 | G419 | G420 | G421 | G422 | G423 | G424 | G425 | G426 | G427 | G428 | G429 | G430 | G431 | G432 | G433 | G434 | G435 | G436 | G437 | G438 | G439 | G440 | G441 | G442 | G443 | G444 | G445 | G446 | G447 | G448 | G449 | G450 | G451 | G452 | G453 | G454 | G455 | G456 | G457 | G458 | G459 | G460 | G461 | G462 | G463 | G464 | G465 | G466 | G467 | G468 | G469 | G470 | G471 | G472 | G473 | G474 | G475 | G476 | G477 | G478 | G479 | G480 | G481 | G482 | G483 | G484 | G485 | G486 | G487 | G488 | G489 | G490 | G491 | G492 | G493 | G494 | G495 | G496 | G497 | G498 | G499 | G500 | G501 | G502 | G503 | G504 | G505 | G506 | G507 | G508 | G509 | G510 | G511 | G512 | G513 | G514 | G515 | G516 | G517 | G518 | G519 | G520 | G521 | G522 | G523 | G524 | G525 | G526 | G527 | G528 | G529 | G530 | G531 | G532 | G533 | G534 | G535 | G536 | G537 | G538 | G539 | G540 | G541 | G542 | G543 | G544 | G545 | G546 | G547 | G548 | G549 | G550 | G551 | G552 | G553 | G554 | G555 | G556 | G557 | G558 | G559 | G560 | G561 | G562 | G563 | G564 | G565 | G566 | G567 | G568 | G569 | G570 | G571 | G572 | G573 | G574 | G575 | G576 | G577 | G578 | G579 | G580 | G581 | G582 | G583 | G584 | G585 | G586 | G587 | G588 | G589 | G590 | G591 | G592 | G593 | G594 | G595 | G596 | G597 | G598 | G599 | G600 | G601 | G602 | G603 | G604 | G605 | G606 | G607 | G608 | G609 | G610 | G611 | G612 | G613 | G614 | G615 | G616 | G617 | G618 | G619 | G620 | G621 | G622 | G623 | G624 | G625 | G626 | G627 | G628 | G629 | G630 | G631 | G632 | G633 | G634 | G635 | G636 | G637 | G638 | G639 | G640 | G641 | G642 | G643 | G644 | G645 | G646 | G647 | G648 | G649 | G650 | G651 | G652 | G653 | G654 | G655 | G656 | G657 | G658 | G659 | G660 | G661 | G662 | G663 | G664 | G665 | G666 | G667 | G668 | G669 | G670 | G671 | G672 | G673 | G674 | G675 | G676 | G677 | G678 | G679 | G680 | G681 | G682 | G683 | G684 | G685 | G686 | G687 | G688 | G689 | G690 | G691 | G692 | G693 | G694 | G695 | G696 | G697 | G698 | G699 | G700 | G701 | G702 | G703 | G704 | G705 | G706 | G707 | G708 | G709 | G710 | G711 | G712 | G713 | G714 | G715 | G716 | G717 | G718 | G719 | G720 | G721 | G722 | G723 | G724 | G725 | G726 | G727 | G728 | G729 | G730 | G731 | G732 | G733 | G734 | G735 | G736 | G737 | G738 | G739 | G740 | G741 | G742 | G743 | G744 | G745 | G746 | G747 | G748 | G749 | G750 | G751 | G752 | G753 | G754 | G755 | G756 | G757 | G758 | G759 | G760 | G761 | G762 | G763 | G764 | G765 | G766 | G767 | G768 | G769 | G770 | G771 | G772 | G773 | G774 | G775 | G776 | G777 | G778 | G779 | G780 | G781 | G782 | G783 | G784 | G785 | G786 | G787 | G788 | G789 | G790 | G791 | G792 | G793 | G794 | G795 | G796 | G797 | G798 | G799 | G800 | G801 | G802 | G803 | G804 | G805 | G806 | G807 | G808 | G809 | G810 | G811 | G812 | G813 | G814 | G815 | G816 | G817 | G818 | G819 | G820 | G821 | G822 | G823 | G824 | G825 | G826 | G827 | G828 | G829 | G830 | G831 | G832 | G833 | G834 | G835 | G836 | G837 | G838 | G839 | G840 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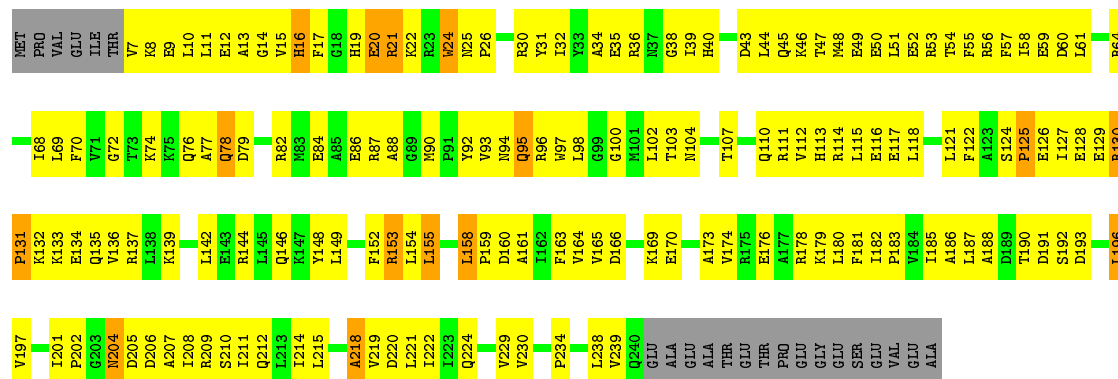

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| G2029 | G1968 | C1838 | C1838 | U1777 | A1701 | C1640 | A1579 | U1520 | G1459 | G1399 | A1336 | A1276 | | C1152 |
| A2030 | A1969 | G1839 | G1839 | U1778 | G1702 | A1641 | U1580 | G1521 | A1460 | G1459 | A1337 | G1277 | C1218 | C1153 |
| A2031 | A1970 | G1840 | G1840 | U1779 | G1703 | G1642 | G1581 | G1522 | G1461 | G1401 | G1338 | A1278 | G1219 | A1154 |
| G2032 | A1971 | U1911 | U1841 | A1780 | G1705 | G1643 | C1582 | U1523 | G1462 | C1403 | U1340 | G1279 | A1155 | A1155 |
| A2033 | A1972 | G1842 | G1842 | C1781 | G1706 | G1644 | A1583 | G1524 | C1463 | C1403 | U1341 | G1280 | A1156 | |
| C2034 | G1973 | C1843 | C1843 | C1782 | U1706 | G1645 | C1585 | G1525 | C1464 | C1404 | | G1281 | C1221 | G1157 |
| G2035 | C1974 | U1844 | G1845 | A1783 | G1707 | C1646 | A1586 | G1526 | G1465 | U1405 | A1342 | U1282 | C1222 | C1158 |
| C2036 | U1975 | G1846 | C1846 | A1785 | C1708 | G1647 | A1587 | G1527 | G1466 | G1406 | G1343 | G1283 | C1223 | U1159 |
| G2037 | A1976 | A1847 | G1847 | A1786 | C1710 | G1648 | C1588 | A1528 | C1467 | C1407 | G1344 | A1284 | G1224 | G1160 |
| G2038 | U1977 | A1847 | C1847 | A1787 | C1711 | G1650 | U1590 | G1530 | C1468 | | C1345 | G1285 | C1225 | C1161 |
| C2039 | | U1848 | C1848 | C1788 | C1712 | G1651 | G1591 | G1531 | A1469 | | G1346 | A1286 | G1226 | G1162 |
| C2040 | A1919 | G1849 | G1849 | C1789 | C1713 | G1652 | G1592 | C1532 | G1470 | C1411 | G1347 | A1287 | A1227 | G1163 |
| U2041 | A1981 | C1920 | G1850 | A1789 | U1716 | A1651 | C1592 | U1532 | A1471 | A1412 | G1348 | U1288 | G1228 | G1164 |
| A2042 | G1982 | G1921 | U1851 | C1790 | G1717 | G1653 | G1593 | C1533 | A1472 | G1413 | A1349 | C1289 | G1229 | U1165 |
| C2044 | C1983 | G1922 | C1852 | A1791 | G1718 | A1654 | G1594 | G1534 | G1473 | G1414 | C1350 | C1290 | G1230 | C1166 |
| G1984 | U1923 | G1923 | A1853 | G1792 | G1725 | A1655 | G1595 | U1535 | C1474 | U1415 | C1351 | U1291 | G1231 | U1167 |
| G1985 | C1924 | A1854 | G1726 | C1793 | A1596 | G1656 | G1596 | A1536 | G1475 | G1416 | U1352 | U1292 | G1232 | G1168 |
| A1986 | C1925 | G1855 | U1727 | U1794 | U1727 | C1657 | A1597 | C1537 | C1476 | C1417 | A1353 | C1293 | G1169 | |
| U2047 | G1987 | U1926 | G1856 | C1795 | G1728 | | | G1538 | A1477 | G1418 | A1354 | U1294 | U1234 | G1170 |
| G2048 | C1988 | A1927 | G1857 | U1796 | A1729 | C1660 | | G1539 | G1478 | A1419 | G1355 | C1295 | G1235 | G1171 |
| G2049 | G1989 | A1928 | G1858 | C1797 | U1730 | G1661 | G1601 | G1540 | G1479 | U1420 | G1356 | G1296 | G1236 | G1173 |
| C2050 | C1990 | G1929 | G1731 | U1798 | C1662 | C1662 | U1602 | U1541 | G1480 | G1421 | U1357 | C1297 | A1237 | A1174 |
| A2051 | U1991 | G1860 | A1732 | G1799 | C1663 | C1663 | U1603 | G1542 | U1482 | G1422 | G1358 | C1298 | G1238 | U1175 |
| G2052 | G1992 | G1861 | G1733 | C1800 | A1733 | A1664 | C1604 | A1543 | G1483 | G1423 | | G1299 | G1239 | G1176 |
| G2053 | U1993 | G1862 | C1734 | G1801 | C1734 | A1665 | C1605 | C1544 | G1484 | G1424 | G1361 | U1300 | U1240 | A1177 |
| A2054 | C1994 | C1735 | C1735 | A1802 | C1735 | A1666 | G1606 | A1545 | G1485 | G1425 | C1362 | A1301 | A1241 | C1178 |
| C2055 | U1995 | U1864 | A1803 | A1803 | C1741 | G1667 | C1607 | A1546A | A1486 | G1426 | C1363 | A1302 | A1242 | C1179 |
| G2056 | G1996 | G1869 | C1742 | C1804 | A1668 | A1608 | A1608 | C1546 | G1487 | A1427 | G1364 | G1303 | G1243 | G1180 |
| A2057 | A1997 | C1870 | G1743 | U1805 | A1669 | A1609 | C1547 | G1548 | G1488 | G1428 | A1365 | G1304 | G1244 | C1181 |
| A2058 | G1998 | A1871 | G1746 | C1806 | G1746 | C1670 | A1610 | C1548 | U1489 | G1429 | A1366 | C1305 | G1245 | A1182 |
| C2059 | C1999 | A1872 | G1747 | G1807 | U1671 | U1671 | C1611 | C1549 | A1490 | C1430 | A1367 | C1306 | G1246 | G1183 |
| A2060 | G2000 | G1878 | G1748 | U1808 | C1672 | C1672 | G1612 | C1550 | G1491 | U1431 | G1368 | A1307 | A1247 | G1184 |
| G2061 | A2001 | C1879 | A1749 | A1809 | U1673 | U1673 | A1613 | C1551 | G1492 | C1432 | G1369 | A1308 | G1248 | C1185 |
| A2062 | G2002 | A1880 | G1750 | A1810 | G1674 | G1674 | A1614 | G1552 | C1493 | U1433 | C1370 | G1309 | U1249 | G1186 |
| C2063 | G2003 | C1751 | C1675 | A1811 | C1675 | C1675 | C1615 | A1553 | A1494 | U1434 | G1371 | G1310 | G1250 | G1187 |
| C2064 | G2004 | C1882 | C1752 | A1812 | A1676 | A1676 | A1616 | A1554 | A1495 | G1435 | U1372 | G1311 | C1251 | U1188 |
| C2065 | A2005 | G1883 | G1753 | G1813 | A1677 | A1677 | C1617 | G1555 | A1496 | G1436 | U1373 | U1312 | G1252 | A1189 |
| C2066 | C2006 | U1945 | C1754 | G1814 | U1678 | U1678 | A1618 | C1556 | U1497 | C1437 | G1374 | G1253 | G1190 | A1189 |
| G2067 | C2007 | A1885 | A1755 | A1815 | G1679 | G1679 | G1619 | C1557 | U1498 | U1438 | C1375 | C1314 | A1254 | G1191 |
| U2068 | C2008 | C1886 | G1756 | G1816 | U1680 | U1680 | G1620 | A1558 | C1499 | A1439 | C1376 | C1315 | U1255 | G1192 |





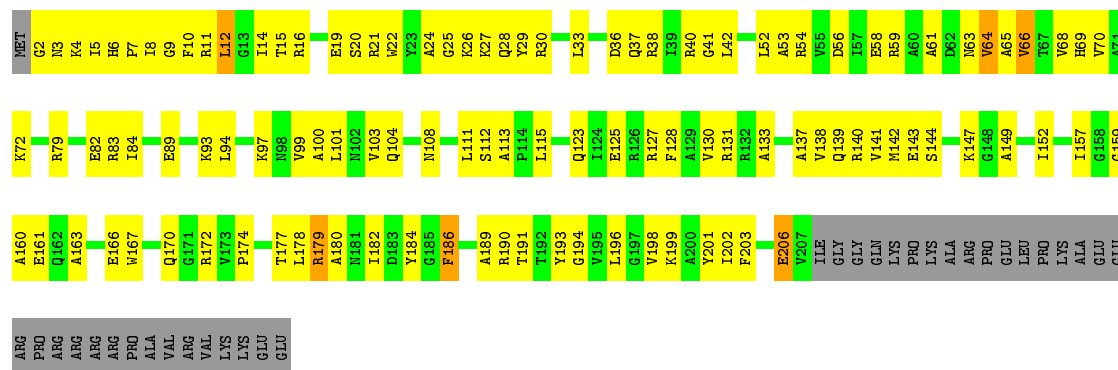
• Molecule 9: 30S ribosomal protein S2

Chain F: 28% 57% 6% 9%



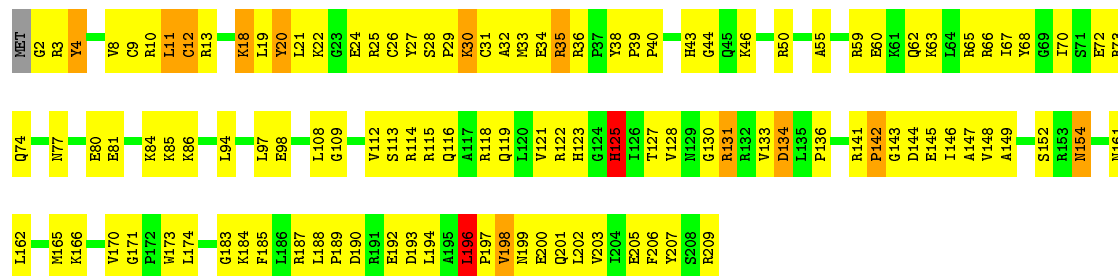
• Molecule 10: 30S ribosomal protein S3

Chain G: 39% 44% 14%



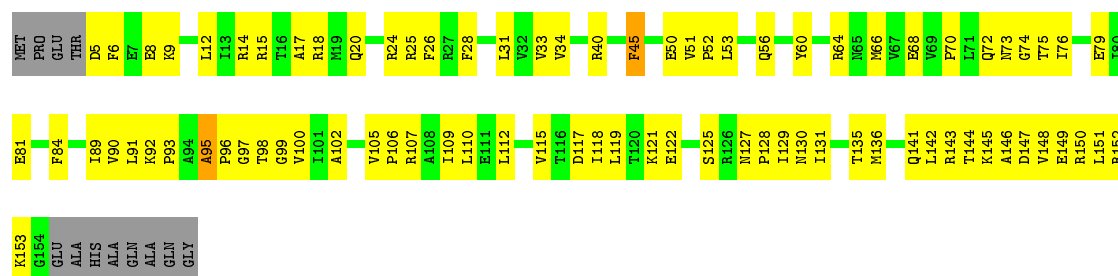
• Molecule 11: 30S ribosomal protein S4

Chain H: 44% 49% 6%



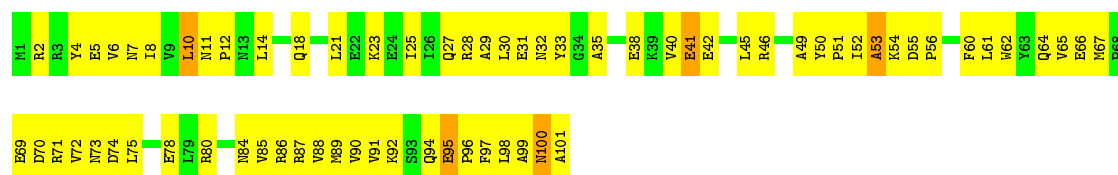
• Molecule 12: 30S ribosomal protein S5

Chain I: 42% 49% 7%



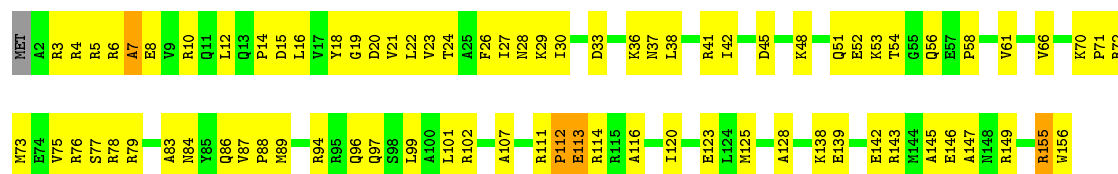
• Molecule 13: 30S ribosomal protein S6

Chain J: 32% 63% 5%



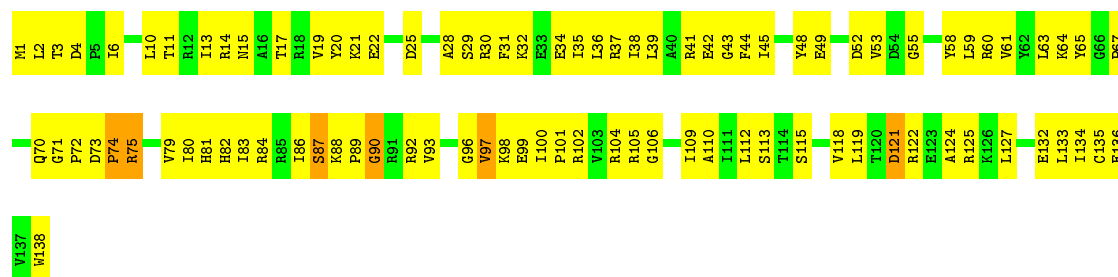
• Molecule 14: 30S ribosomal protein S7

Chain K: 48% 49%



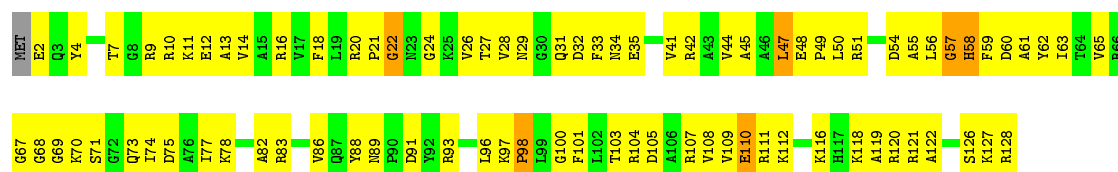
• Molecule 15: 30S ribosomal protein S8

Chain L: 33% 62%

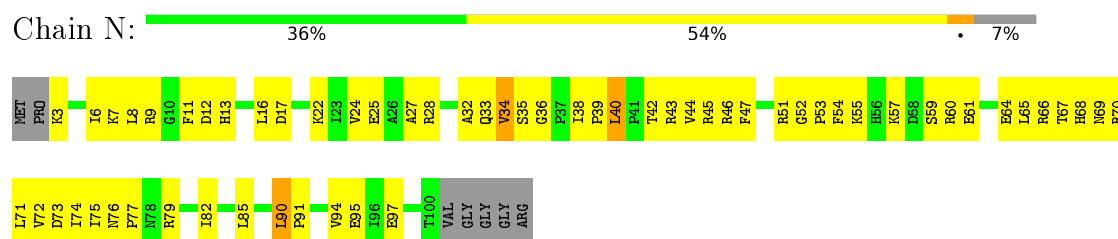


• Molecule 16: 30S ribosomal protein S9

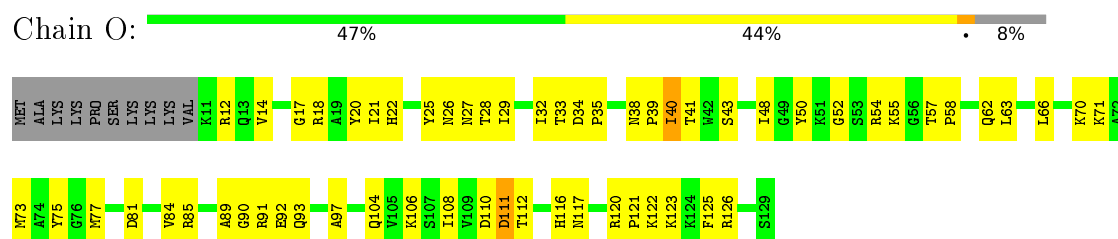
Chain M: 34% 61% 5%



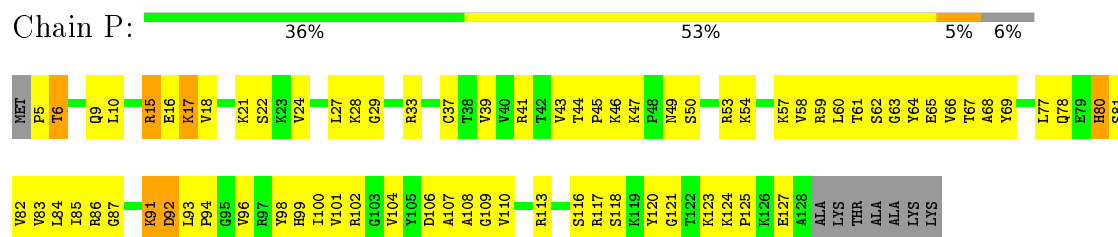
- Molecule 17: 30S ribosomal protein S10



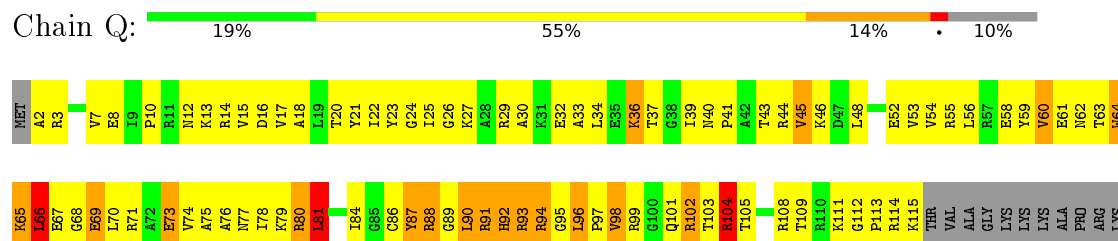
- Molecule 18: 30S ribosomal protein S11



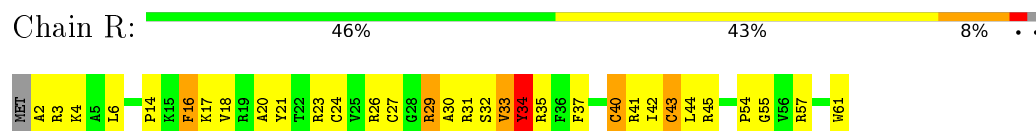
- Molecule 19: 30S ribosomal protein S12



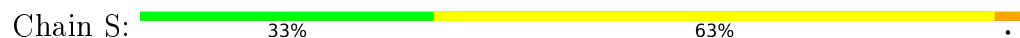
- Molecule 20: 30S ribosomal protein S13

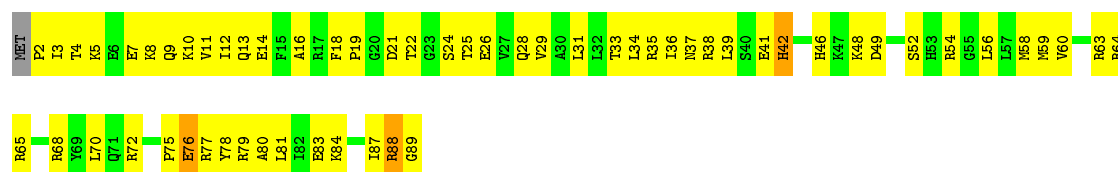


- Molecule 21: 30S ribosomal protein S14 type Z



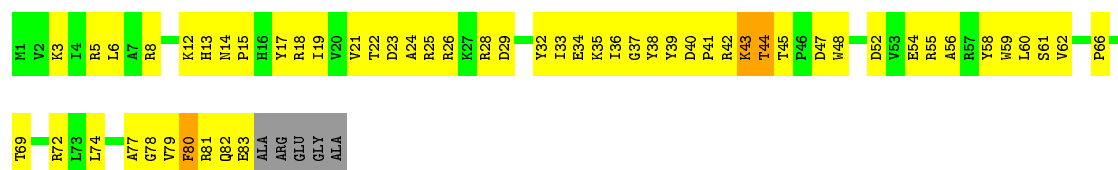
- Molecule 22: 30S ribosomal protein S15





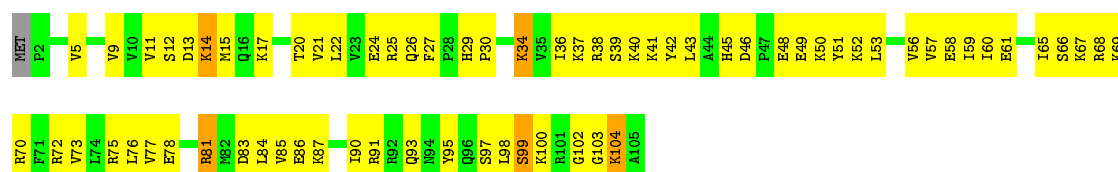
• Molecule 23: 30S ribosomal protein S16

Chain T: 32% 59% 6%



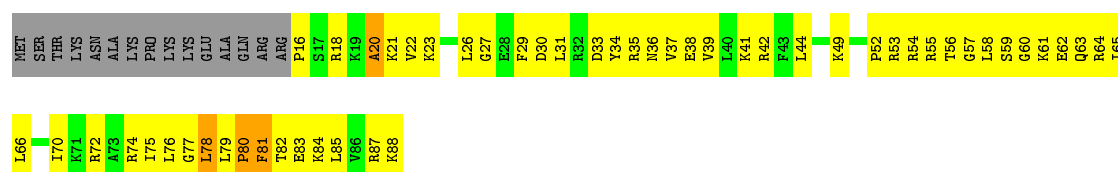
• Molecule 24: 30S ribosomal protein S17

Chain U: 33% 61% 5%



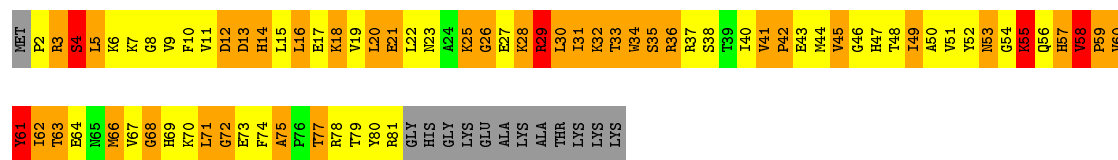
• Molecule 25: 30S ribosomal protein S18

Chain V: 23% 56% 5% 17%



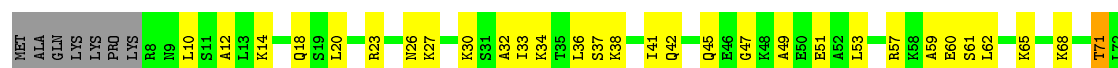
• Molecule 26: 30S ribosomal protein S19

Chain W: 39% 38% 5% 14%



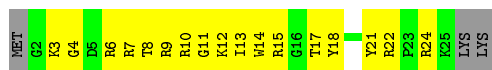
• Molecule 27: 30S ribosomal protein S20

Chain X: 44% 48% 7%

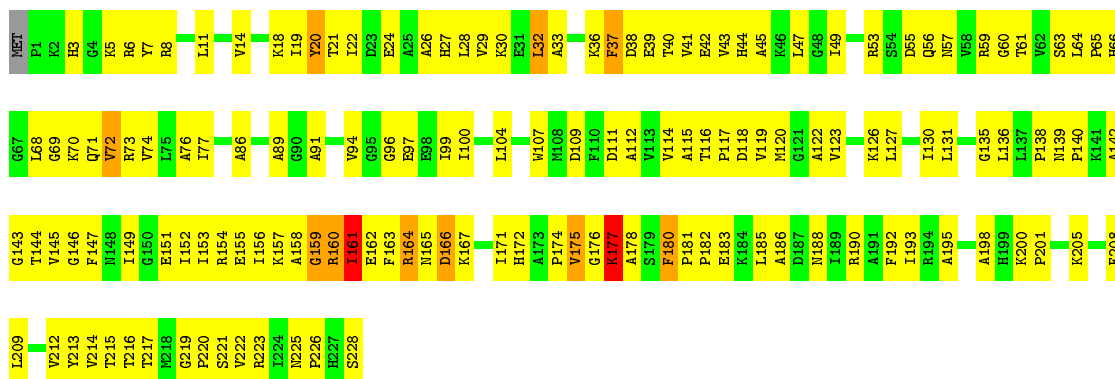




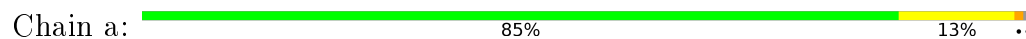
- Molecule 28: 30S ribosomal protein Thx



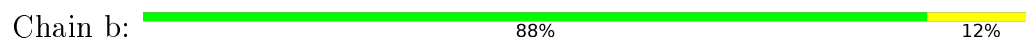
- Molecule 29: 50S ribosomal protein L1



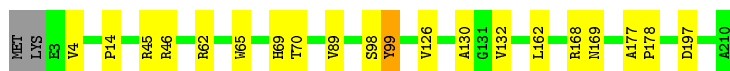
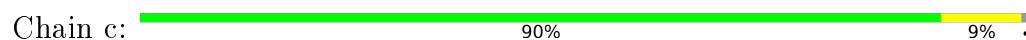
- Molecule 30: 50S ribosomal protein L2



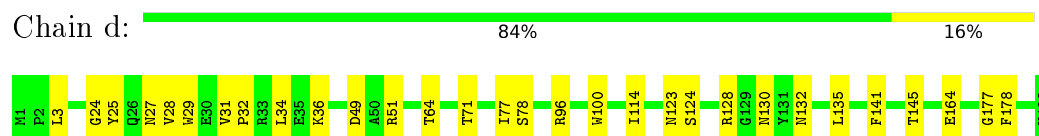
- Molecule 31: 50S ribosomal protein L3



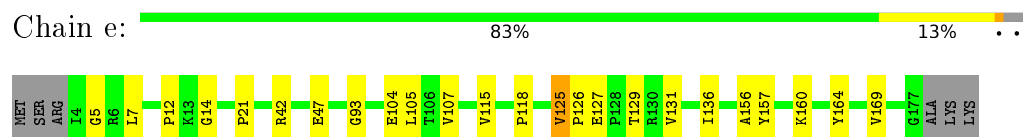
- Molecule 32: 50S ribosomal protein L4



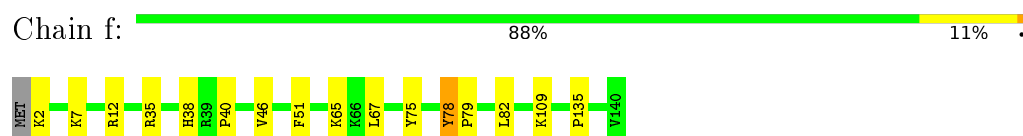
- Molecule 33: 50S ribosomal protein L5



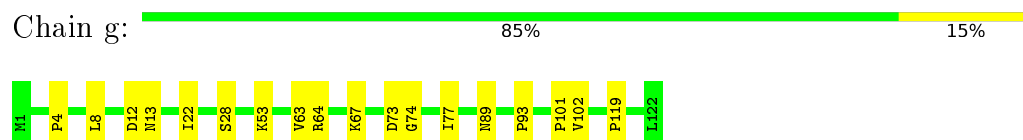
- Molecule 34: 50S ribosomal protein L6



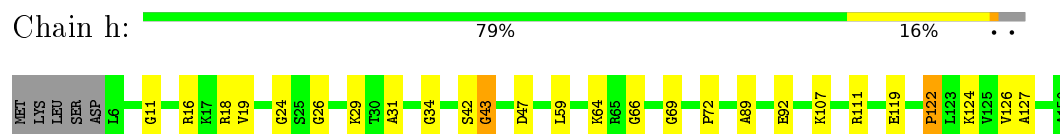
- Molecule 35: 50S ribosomal protein L13



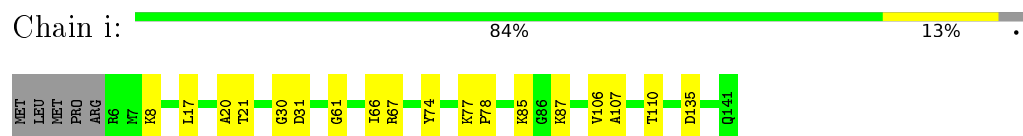
- Molecule 36: 50S ribosomal protein L14



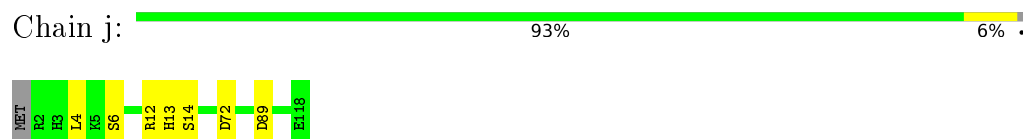
- Molecule 37: 50S ribosomal protein L15



- Molecule 38: 50S ribosomal protein L16

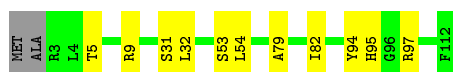


- Molecule 39: 50S ribosomal protein L17

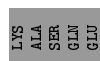


- Molecule 40: 50S ribosomal protein L18

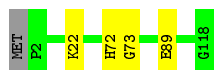




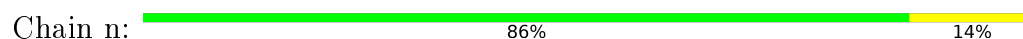
- Molecule 41: 50S ribosomal protein L19



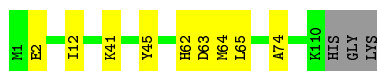
- Molecule 42: 50S ribosomal protein L20



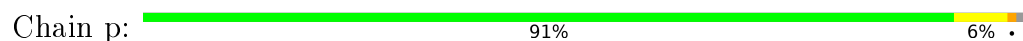
- Molecule 43: 50S ribosomal protein L21



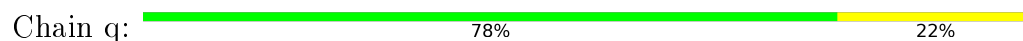
- Molecule 44: 50S ribosomal protein L22



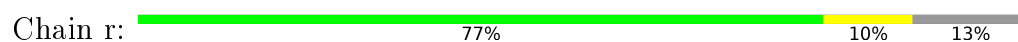
- Molecule 45: 50S ribosomal protein L23

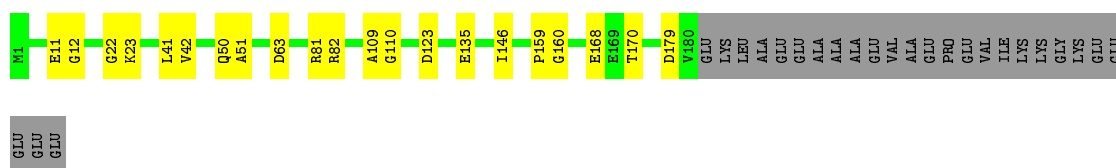


- Molecule 46: 50S ribosomal protein L24



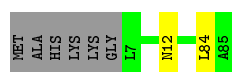
- Molecule 47: 50S ribosomal protein L25





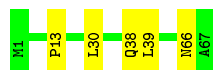
- Molecule 48: 50S ribosomal protein L27

Chain s: 91% 7%



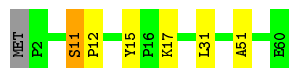
- Molecule 49: 50S ribosomal protein L29

Chain t: 93% 7%



- Molecule 50: 50S ribosomal protein L30

Chain u: 88% 8% . .



- Molecule 51: 50S ribosomal protein L31

Chain v: 77% 21% .



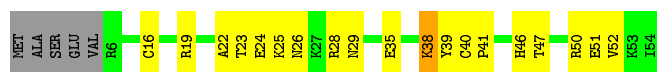
- Molecule 52: 50S ribosomal protein L32

Chain w: 77% 15% . 5%



- Molecule 53: 50S ribosomal protein L33

Chain x: 56% 33% . 9%



- Molecule 54: 50S ribosomal protein L34

Chain y: 88% 12%



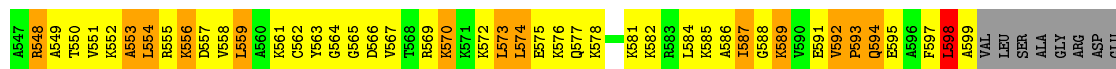
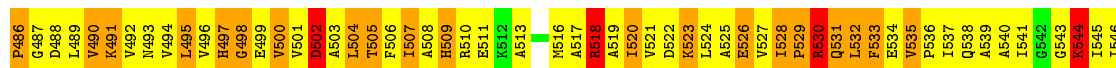
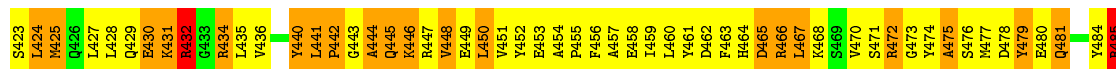
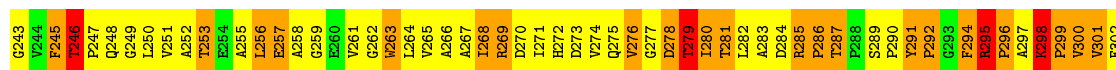
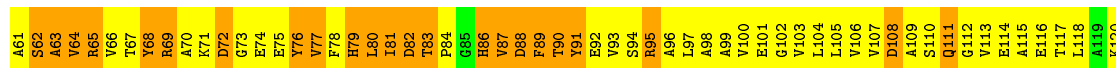
- Molecule 55: 50S ribosomal protein L35

Chain z: 80% 14% 5% .



- Molecule 56: Elongation factor 4

Chain B: 8% 52% 32% 5% .



4 Experimental information

| Property | Value | Source |
|--------------------------------------|---------------------|-----------|
| Reconstruction method | Not provided | Depositor |
| Imposed symmetry | POINT, Not provided | Depositor |
| Number of images used | 110981 | Depositor |
| Resolution determination method | FSC 0.143 CUT-OFF | Depositor |
| CTF correction method | Not provided | Depositor |
| Microscope | Not provided | Depositor |
| Voltage (kV) | 200 | Depositor |
| Electron dose ($e^-/\text{\AA}^2$) | Not provided | Depositor |
| Minimum defocus (nm) | Not provided | Depositor |
| Maximum defocus (nm) | Not provided | Depositor |
| Magnification | Not provided | Depositor |
| Image detector | Not provided | Depositor |

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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

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 | $\# Z > 2$ | RMSZ | $\# Z > 2$ |
| 1 | 1 | 0.77 | 0/310 | 0.90 | 0/407 |
| 10 | G | 0.54 | 0/1636 | 0.67 | 0/2205 |
| 11 | H | 0.53 | 0/1733 | 0.76 | 3/2318 (0.1%) |
| 12 | I | 0.69 | 0/1162 | 0.80 | 0/1564 |
| 13 | J | 0.48 | 0/856 | 0.70 | 1/1154 (0.1%) |
| 14 | K | 0.47 | 0/1276 | 0.66 | 0/1709 |
| 15 | L | 0.59 | 0/1136 | 0.73 | 0/1527 |
| 16 | M | 0.46 | 0/1029 | 0.68 | 0/1379 |
| 17 | N | 0.49 | 0/807 | 0.69 | 0/1085 |
| 18 | O | 0.51 | 0/900 | 0.64 | 0/1213 |
| 19 | P | 0.67 | 0/986 | 0.79 | 0/1320 |
| 2 | 2 | 0.26 | 0/640 | 0.50 | 0/889 |
| 20 | Q | 0.39 | 0/924 | 0.66 | 1/1238 (0.1%) |
| 21 | R | 0.64 | 0/501 | 0.76 | 1/664 (0.2%) |
| 22 | S | 0.54 | 0/745 | 0.77 | 0/992 |
| 23 | T | 0.60 | 0/716 | 0.73 | 0/963 |
| 24 | U | 0.54 | 0/870 | 0.74 | 0/1159 |
| 25 | V | 0.44 | 0/603 | 0.71 | 0/799 |
| 26 | W | 0.39 | 0/661 | 0.50 | 2/890 (0.2%) |
| 27 | X | 0.52 | 0/765 | 0.77 | 0/1007 |
| 28 | Y | 0.51 | 0/212 | 0.67 | 0/277 |
| 29 | Z | 0.37 | 0/1775 | 0.63 | 1/2393 (0.0%) |
| 3 | 3 | 0.54 | 0/1012 | 0.82 | 6/1373 (0.4%) |
| 30 | a | 0.81 | 0/2174 | 0.93 | 3/2927 (0.1%) |
| 31 | b | 0.77 | 0/1611 | 0.94 | 1/2171 (0.0%) |
| 32 | c | 0.77 | 0/1660 | 0.90 | 0/2247 |
| 33 | d | 0.55 | 0/1507 | 0.81 | 1/2027 (0.0%) |
| 34 | e | 0.58 | 0/1354 | 0.78 | 1/1831 (0.1%) |
| 35 | f | 0.75 | 0/1140 | 0.95 | 2/1537 (0.1%) |
| 36 | g | 0.79 | 0/942 | 0.93 | 2/1268 (0.2%) |
| 37 | h | 0.64 | 0/1123 | 1.03 | 3/1493 (0.2%) |
| 38 | i | 0.75 | 0/1100 | 0.90 | 0/1470 |

| Mol | Chain | Bond lengths | | Bond angles | |
|-----|-------|--------------|-------------------|-------------|-------------------|
| | | RMSZ | # Z >2 | RMSZ | # Z >2 |
| 39 | j | 0.74 | 0/974 | 0.91 | 0/1302 |
| 4 | 4 | 0.85 | 0/1832 | 1.03 | 0/2855 |
| 40 | k | 0.61 | 0/887 | 0.95 | 0/1180 |
| 41 | l | 0.70 | 0/990 | 0.93 | 2/1325 (0.2%) |
| 42 | m | 0.91 | 0/982 | 0.96 | 0/1306 |
| 43 | n | 0.65 | 0/790 | 0.94 | 1/1057 (0.1%) |
| 44 | o | 0.78 | 0/886 | 0.83 | 0/1189 |
| 45 | p | 0.71 | 0/756 | 0.85 | 1/1015 (0.1%) |
| 46 | q | 0.51 | 0/857 | 0.84 | 0/1142 |
| 47 | r | 0.56 | 0/1467 | 0.75 | 0/1992 |
| 48 | s | 0.81 | 0/633 | 0.84 | 0/843 |
| 49 | t | 0.59 | 0/569 | 0.82 | 1/751 (0.1%) |
| 5 | 5 | 0.62 | 2/1813 (0.1%) | 1.14 | 7/2823 (0.2%) |
| 50 | u | 0.69 | 0/474 | 0.93 | 1/635 (0.2%) |
| 51 | v | 0.82 | 0/594 | 1.11 | 2/795 (0.3%) |
| 52 | w | 0.80 | 0/459 | 0.99 | 1/621 (0.2%) |
| 53 | x | 0.67 | 0/433 | 1.00 | 2/576 (0.3%) |
| 54 | y | 0.83 | 0/438 | 0.98 | 1/575 (0.2%) |
| 55 | z | 0.79 | 0/523 | 0.96 | 1/690 (0.1%) |
| 56 | B | 0.41 | 0/4718 | 0.52 | 25/6392 (0.4%) |
| 6 | A | 1.00 | 4/36438 (0.0%) | 1.10 | 59/56869 (0.1%) |
| 7 | D | 1.40 | 164/69685 (0.2%) | 1.34 | 623/108786 (0.6%) |
| 8 | E | 1.10 | 1/2954 (0.0%) | 1.15 | 6/4606 (0.1%) |
| 9 | F | 0.50 | 0/1935 | 0.74 | 0/2609 |
| All | All | 1.09 | 171/165953 (0.1%) | 1.14 | 761/247430 (0.3%) |

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 |
|-----|-------|---------------------|---------------------|
| 17 | N | 0 | 1 |
| 19 | P | 0 | 1 |
| 21 | R | 0 | 1 |
| 30 | a | 0 | 4 |
| 32 | c | 0 | 2 |
| 33 | d | 0 | 2 |
| 35 | f | 0 | 3 |
| 37 | h | 0 | 1 |
| 40 | k | 0 | 2 |
| 41 | l | 0 | 3 |

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| Mol | Chain | #Chirality outliers | #Planarity outliers |
|-----|-------|---------------------|---------------------|
| 47 | r | 0 | 1 |
| 51 | v | 0 | 1 |
| 52 | w | 0 | 5 |
| 53 | x | 0 | 3 |
| 55 | z | 0 | 3 |
| 9 | F | 0 | 1 |
| All | All | 0 | 34 |

All (171) bond length outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|--------|------|-------|--------|-------------|----------|
| 7 | D | 1786 | A | N9-C4 | 12.42 | 1.45 | 1.37 |
| 5 | 5 | 1 | G | OP3-P | -10.94 | 1.48 | 1.61 |
| 7 | D | 1 | G | OP3-P | -10.91 | 1.48 | 1.61 |
| 8 | E | -1 | A | OP3-P | -10.79 | 1.48 | 1.61 |
| 7 | D | 363(F) | A | O3'-P | 9.72 | 1.72 | 1.61 |
| 7 | D | 1668 | A | N9-C4 | -8.35 | 1.32 | 1.37 |
| 7 | D | 775 | G | N9-C4 | 8.03 | 1.44 | 1.38 |
| 7 | D | 783 | A | N9-C4 | -7.73 | 1.33 | 1.37 |
| 7 | D | 1668 | A | N3-C4 | -7.71 | 1.30 | 1.34 |
| 7 | D | 1021 | A | N9-C4 | -7.52 | 1.33 | 1.37 |
| 7 | D | 2019 | A | N9-C4 | -7.37 | 1.33 | 1.37 |
| 7 | D | 603 | A | N9-C4 | -7.31 | 1.33 | 1.37 |
| 7 | D | 781 | A | N9-C4 | -7.07 | 1.33 | 1.37 |
| 7 | D | 792 | G | N7-C5 | -7.05 | 1.35 | 1.39 |
| 7 | D | 792 | G | C6-N1 | -7.03 | 1.34 | 1.39 |
| 7 | D | 1154 | G | N7-C5 | -6.91 | 1.35 | 1.39 |
| 7 | D | 1787 | A | N9-C4 | -6.78 | 1.33 | 1.37 |
| 7 | D | 1791 | A | N3-C4 | -6.75 | 1.30 | 1.34 |
| 7 | D | 1669 | A | N3-C4 | -6.73 | 1.30 | 1.34 |
| 7 | D | 574 | C | N1-C6 | -6.72 | 1.33 | 1.37 |
| 7 | D | 586 | A | C5-C4 | -6.62 | 1.34 | 1.38 |
| 5 | 5 | 76 | A | N9-C4 | -6.57 | 1.33 | 1.37 |
| 7 | D | 1669 | A | C5-C6 | -6.56 | 1.35 | 1.41 |
| 7 | D | 1670 | C | N1-C6 | -6.53 | 1.33 | 1.37 |
| 7 | D | 2240 | C | N1-C6 | -6.49 | 1.33 | 1.37 |
| 7 | D | 764 | A | C5-C4 | -6.36 | 1.34 | 1.38 |
| 7 | D | 676 | A | N3-C4 | -6.31 | 1.31 | 1.34 |
| 7 | D | 2019 | A | N3-C4 | -6.28 | 1.31 | 1.34 |
| 7 | D | 794 | G | N7-C5 | -6.27 | 1.35 | 1.39 |
| 6 | A | 298 | A | N9-C4 | -6.21 | 1.34 | 1.37 |
| 7 | D | 1791 | A | N9-C4 | -6.21 | 1.34 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|-------|-------|-------------|----------|
| 7 | D | 793 | A | N7-C5 | -6.18 | 1.35 | 1.39 |
| 6 | A | 574 | A | N9-C4 | -6.16 | 1.34 | 1.37 |
| 7 | D | 2589 | A | N7-C5 | -6.14 | 1.35 | 1.39 |
| 7 | D | 793 | A | C5-C6 | -6.02 | 1.35 | 1.41 |
| 7 | D | 2495 | G | N7-C5 | -6.01 | 1.35 | 1.39 |
| 7 | D | 2241 | A | N7-C5 | -6.00 | 1.35 | 1.39 |
| 7 | D | 678 | C | N1-C6 | -6.00 | 1.33 | 1.37 |
| 7 | D | 514 | A | N9-C4 | -5.98 | 1.34 | 1.37 |
| 7 | D | 247 | G | C6-N1 | -5.97 | 1.35 | 1.39 |
| 7 | D | 586 | A | N3-C4 | -5.97 | 1.31 | 1.34 |
| 7 | D | 972 | G | C6-N1 | -5.97 | 1.35 | 1.39 |
| 7 | D | 2444 | G | N7-C5 | -5.97 | 1.35 | 1.39 |
| 7 | D | 190 | A | N9-C4 | -5.96 | 1.34 | 1.37 |
| 7 | D | 687 | C | N1-C6 | -5.96 | 1.33 | 1.37 |
| 7 | D | 1821 | A | N9-C4 | -5.92 | 1.34 | 1.37 |
| 7 | D | 689 | A | N9-C4 | -5.91 | 1.34 | 1.37 |
| 7 | D | 820 | A | N3-C4 | -5.88 | 1.31 | 1.34 |
| 7 | D | 2491 | U | C2-N3 | 5.87 | 1.41 | 1.37 |
| 7 | D | 2273 | A | N7-C5 | -5.83 | 1.35 | 1.39 |
| 7 | D | 2503 | A | N7-C5 | -5.76 | 1.35 | 1.39 |
| 7 | D | 1815 | A | N3-C4 | -5.74 | 1.31 | 1.34 |
| 7 | D | 1668 | A | C6-N1 | -5.73 | 1.31 | 1.35 |
| 7 | D | 573 | G | N7-C5 | -5.68 | 1.35 | 1.39 |
| 7 | D | 2242 | G | N7-C5 | -5.66 | 1.35 | 1.39 |
| 7 | D | 2393 | A | N9-C4 | -5.66 | 1.34 | 1.37 |
| 7 | D | 468 | G | N7-C5 | -5.65 | 1.35 | 1.39 |
| 7 | D | 1760 | A | N9-C4 | -5.64 | 1.34 | 1.37 |
| 7 | D | 1819 | A | N9-C4 | -5.64 | 1.34 | 1.37 |
| 7 | D | 2051 | A | N9-C4 | -5.63 | 1.34 | 1.37 |
| 7 | D | 449 | A | N7-C5 | -5.61 | 1.35 | 1.39 |
| 7 | D | 1354 | A | N3-C4 | -5.59 | 1.31 | 1.34 |
| 7 | D | 947 | G | N7-C5 | -5.58 | 1.35 | 1.39 |
| 7 | D | 1677 | A | N9-C4 | -5.57 | 1.34 | 1.37 |
| 7 | D | 675 | A | N3-C4 | -5.56 | 1.31 | 1.34 |
| 7 | D | 2446 | G | N7-C5 | -5.56 | 1.35 | 1.39 |
| 7 | D | 451 | C | N1-C6 | -5.55 | 1.33 | 1.37 |
| 7 | D | 1377 | G | C6-N1 | -5.55 | 1.35 | 1.39 |
| 7 | D | 781 | A | N3-C4 | -5.52 | 1.31 | 1.34 |
| 7 | D | 1986 | A | N7-C5 | -5.52 | 1.35 | 1.39 |
| 7 | D | 2459 | A | N7-C5 | -5.52 | 1.35 | 1.39 |
| 7 | D | 2251 | G | N7-C5 | -5.51 | 1.35 | 1.39 |
| 7 | D | 783 | A | N3-C4 | -5.51 | 1.31 | 1.34 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|-------|-------|-------------|----------|
| 7 | D | 973 | A | N9-C4 | -5.51 | 1.34 | 1.37 |
| 7 | D | 2433 | A | N3-C4 | -5.48 | 1.31 | 1.34 |
| 7 | D | 677 | A | N9-C4 | -5.48 | 1.34 | 1.37 |
| 7 | D | 1787 | A | C5-C6 | -5.48 | 1.36 | 1.41 |
| 7 | D | 526 | A | N9-C4 | -5.46 | 1.34 | 1.37 |
| 7 | D | 1813 | G | N7-C5 | -5.46 | 1.35 | 1.39 |
| 7 | D | 2005 | A | N3-C4 | -5.46 | 1.31 | 1.34 |
| 7 | D | 800 | A | N7-C5 | -5.44 | 1.35 | 1.39 |
| 7 | D | 1977 | A | N9-C4 | -5.44 | 1.34 | 1.37 |
| 7 | D | 2826 | A | N9-C4 | -5.43 | 1.34 | 1.37 |
| 7 | D | 1354 | A | N9-C4 | -5.43 | 1.34 | 1.37 |
| 7 | D | 2274 | A | N3-C4 | -5.41 | 1.31 | 1.34 |
| 7 | D | 2541 | A | N9-C4 | -5.41 | 1.34 | 1.37 |
| 7 | D | 443 | A | N9-C4 | -5.40 | 1.34 | 1.37 |
| 7 | D | 2055 | C | N3-C4 | -5.39 | 1.30 | 1.33 |
| 7 | D | 250 | G | C6-N1 | -5.38 | 1.35 | 1.39 |
| 7 | D | 2021 | C | N1-C6 | -5.37 | 1.33 | 1.37 |
| 7 | D | 806 | C | N1-C2 | -5.37 | 1.34 | 1.40 |
| 7 | D | 1006 | C | N1-C2 | -5.37 | 1.34 | 1.40 |
| 7 | D | 1377 | G | N7-C5 | -5.36 | 1.36 | 1.39 |
| 7 | D | 2052 | G | N9-C8 | -5.36 | 1.34 | 1.37 |
| 7 | D | 1899 | G | N3-C4 | -5.36 | 1.31 | 1.35 |
| 7 | D | 974 | G | N7-C5 | -5.36 | 1.36 | 1.39 |
| 7 | D | 1735 | C | O3'-P | 5.34 | 1.67 | 1.61 |
| 7 | D | 817 | C | N1-C6 | -5.34 | 1.33 | 1.37 |
| 7 | D | 1154 | G | C8-N7 | -5.34 | 1.27 | 1.30 |
| 7 | D | 2443 | C | N1-C6 | -5.34 | 1.33 | 1.37 |
| 7 | D | 2238 | G | N7-C5 | -5.33 | 1.36 | 1.39 |
| 6 | A | 1483 | A | N9-C4 | -5.33 | 1.34 | 1.37 |
| 7 | D | 1783 | A | N9-C4 | -5.32 | 1.34 | 1.37 |
| 7 | D | 2614 | A | C5-C4 | -5.32 | 1.35 | 1.38 |
| 7 | D | 2689 | U | C2-N3 | -5.31 | 1.34 | 1.37 |
| 7 | D | 1998 | G | N7-C5 | -5.30 | 1.36 | 1.39 |
| 7 | D | 775 | G | N7-C5 | -5.29 | 1.36 | 1.39 |
| 7 | D | 2052 | G | C5-C4 | -5.29 | 1.34 | 1.38 |
| 7 | D | 617 | G | N9-C4 | -5.28 | 1.33 | 1.38 |
| 7 | D | 974 | G | C8-N7 | -5.28 | 1.27 | 1.30 |
| 7 | D | 564 | C | N1-C6 | -5.27 | 1.33 | 1.37 |
| 7 | D | 2052 | G | N7-C5 | -5.27 | 1.36 | 1.39 |
| 7 | D | 190 | A | C5-C4 | -5.27 | 1.35 | 1.38 |
| 6 | A | 574 | A | N3-C4 | -5.26 | 1.31 | 1.34 |
| 7 | D | 957 | A | N9-C4 | -5.26 | 1.34 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|-------|-------|-------------|----------|
| 7 | D | 1632 | A | C5-C6 | -5.26 | 1.36 | 1.41 |
| 7 | D | 49 | A | N9-C4 | -5.25 | 1.34 | 1.37 |
| 7 | D | 1301 | A | N3-C4 | -5.25 | 1.31 | 1.34 |
| 7 | D | 2594 | C | N1-C6 | -5.25 | 1.34 | 1.37 |
| 7 | D | 190 | A | N3-C4 | -5.25 | 1.31 | 1.34 |
| 7 | D | 782 | A | N9-C4 | -5.24 | 1.34 | 1.37 |
| 7 | D | 1029 | A | N3-C4 | -5.24 | 1.31 | 1.34 |
| 7 | D | 2013 | A | C5-C4 | -5.23 | 1.35 | 1.38 |
| 7 | D | 1617 | C | N1-C6 | -5.23 | 1.34 | 1.37 |
| 7 | D | 746 | A | N9-C4 | -5.22 | 1.34 | 1.37 |
| 7 | D | 1364 | G | N9-C8 | -5.22 | 1.34 | 1.37 |
| 7 | D | 1952 | A | N9-C4 | -5.22 | 1.34 | 1.37 |
| 7 | D | 1143 | A | N7-C5 | -5.22 | 1.36 | 1.39 |
| 7 | D | 586 | A | C6-N1 | -5.22 | 1.31 | 1.35 |
| 7 | D | 835 | A | N9-C4 | -5.21 | 1.34 | 1.37 |
| 7 | D | 1999 | C | N1-C6 | -5.21 | 1.34 | 1.37 |
| 7 | D | 820 | A | C6-N1 | -5.21 | 1.31 | 1.35 |
| 7 | D | 2024 | G | N7-C5 | -5.20 | 1.36 | 1.39 |
| 7 | D | 515 | A | N7-C5 | -5.20 | 1.36 | 1.39 |
| 7 | D | 1830 | C | C4-C5 | -5.20 | 1.38 | 1.43 |
| 7 | D | 1189 | A | N7-C5 | -5.18 | 1.36 | 1.39 |
| 7 | D | 1937 | A | N9-C4 | -5.18 | 1.34 | 1.37 |
| 7 | D | 1783 | A | N3-C4 | -5.18 | 1.31 | 1.34 |
| 7 | D | 1668 | A | C2-N3 | -5.17 | 1.28 | 1.33 |
| 7 | D | 2589 | A | N9-C4 | -5.17 | 1.34 | 1.37 |
| 7 | D | 578 | A | N9-C4 | -5.17 | 1.34 | 1.37 |
| 7 | D | 2713 | A | N9-C4 | -5.17 | 1.34 | 1.37 |
| 7 | D | 2587 | A | N9-C4 | -5.16 | 1.34 | 1.37 |
| 7 | D | 2392 | A | N9-C4 | -5.16 | 1.34 | 1.37 |
| 7 | D | 1981 | A | N3-C4 | -5.15 | 1.31 | 1.34 |
| 7 | D | 632 | A | N9-C4 | -5.14 | 1.34 | 1.37 |
| 7 | D | 981 | A | N3-C4 | -5.14 | 1.31 | 1.34 |
| 7 | D | 1024 | G | N3-C4 | -5.12 | 1.31 | 1.35 |
| 7 | D | 2242 | G | C6-N1 | -5.12 | 1.35 | 1.39 |
| 7 | D | 1803 | A | N9-C4 | -5.12 | 1.34 | 1.37 |
| 7 | D | 773 | U | N1-C2 | -5.09 | 1.33 | 1.38 |
| 7 | D | 1992 | G | C5-C4 | -5.08 | 1.34 | 1.38 |
| 7 | D | 1287 | A | N9-C4 | -5.08 | 1.34 | 1.37 |
| 7 | D | 806 | C | N1-C6 | -5.06 | 1.34 | 1.37 |
| 7 | D | 514 | A | N7-C5 | -5.06 | 1.36 | 1.39 |
| 7 | D | 863 | A | N3-C4 | -5.06 | 1.31 | 1.34 |
| 7 | D | 2495 | G | C8-N7 | -5.06 | 1.27 | 1.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|-------|-------|-------------|----------|
| 7 | D | 778 | G | N7-C5 | -5.05 | 1.36 | 1.39 |
| 7 | D | 2520 | C | N1-C6 | -5.05 | 1.34 | 1.37 |
| 7 | D | 794 | G | C6-N1 | -5.04 | 1.36 | 1.39 |
| 7 | D | 1301 | A | N9-C4 | -5.04 | 1.34 | 1.37 |
| 7 | D | 957 | A | N3-C4 | -5.04 | 1.31 | 1.34 |
| 7 | D | 2588 | G | C5-C4 | -5.04 | 1.34 | 1.38 |
| 7 | D | 810 | U | C2-N3 | -5.03 | 1.34 | 1.37 |
| 7 | D | 2826 | A | C5-C6 | -5.03 | 1.36 | 1.41 |
| 7 | D | 804 | A | N9-C4 | -5.02 | 1.34 | 1.37 |
| 7 | D | 1137 | G | C6-N1 | -5.02 | 1.36 | 1.39 |
| 7 | D | 2697 | G | N9-C4 | -5.01 | 1.33 | 1.38 |
| 7 | D | 2540 | C | N1-C6 | -5.01 | 1.34 | 1.37 |
| 7 | D | 528 | A | N3-C4 | -5.01 | 1.31 | 1.34 |
| 7 | D | 699 | A | N3-C4 | -5.00 | 1.31 | 1.34 |

All (761) bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 7 | D | 775 | G | N3-C4-C5 | -15.67 | 120.77 | 128.60 |
| 7 | D | 2491 | U | C6-N1-C2 | -13.29 | 113.03 | 121.00 |
| 7 | D | 1664 | A | C8-N9-C4 | -13.09 | 100.56 | 105.80 |
| 7 | D | 1779 | U | C5-C4-O4 | -12.85 | 118.19 | 125.90 |
| 7 | D | 775 | G | C8-N9-C4 | -12.80 | 101.28 | 106.40 |
| 7 | D | 791 | C | N1-C2-O2 | 12.50 | 126.40 | 118.90 |
| 7 | D | 1786 | A | N3-C4-C5 | -12.04 | 118.37 | 126.80 |
| 7 | D | 1779 | U | N3-C4-O4 | 12.01 | 127.81 | 119.40 |
| 7 | D | 1779 | U | C5-C6-N1 | 11.90 | 128.65 | 122.70 |
| 7 | D | 1786 | A | N3-C4-N9 | 11.36 | 136.49 | 127.40 |
| 7 | D | 775 | G | N3-C4-N9 | 11.33 | 132.80 | 126.00 |
| 7 | D | 879 | G | N1-C6-O6 | -11.33 | 113.10 | 119.90 |
| 7 | D | 515 | A | C6-C5-N7 | -10.49 | 124.96 | 132.30 |
| 7 | D | 1786 | A | C4-C5-C6 | 10.46 | 122.23 | 117.00 |
| 7 | D | 688 | U | C2-N3-C4 | -10.30 | 120.82 | 127.00 |
| 7 | D | 1664 | A | N7-C8-N9 | 10.24 | 118.92 | 113.80 |
| 7 | D | 774 | A | C6-N1-C2 | -10.15 | 112.51 | 118.60 |
| 7 | D | 2490 | G | N1-C6-O6 | -9.97 | 113.92 | 119.90 |
| 7 | D | 341 | G | N3-C4-N9 | 9.94 | 131.96 | 126.00 |
| 7 | D | 1668 | A | N1-C2-N3 | 9.92 | 134.26 | 129.30 |
| 7 | D | 1786 | A | C6-N1-C2 | -9.91 | 112.65 | 118.60 |
| 7 | D | 2073 | C | C6-N1-C2 | -9.85 | 116.36 | 120.30 |
| 7 | D | 1786 | A | C6-C5-N7 | -9.76 | 125.47 | 132.30 |
| 6 | A | 1086 | U | C2-N1-C1' | 9.72 | 129.36 | 117.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 7 | D | 775 | G | N3-C2-N2 | 9.66 | 126.66 | 119.90 |
| 7 | D | 775 | G | N1-C2-N2 | -9.55 | 107.60 | 116.20 |
| 7 | D | 775 | G | C4-N9-C1' | 9.41 | 138.73 | 126.50 |
| 7 | D | 1786 | A | C8-N9-C4 | -9.39 | 102.04 | 105.80 |
| 7 | D | 729 | G | C8-N9-C4 | -9.29 | 102.68 | 106.40 |
| 7 | D | 2035 | G | N3-C4-N9 | 9.26 | 131.56 | 126.00 |
| 7 | D | 1313 | U | N3-C2-O2 | -9.25 | 115.73 | 122.20 |
| 7 | D | 1025 | G | O4'-C1'-N9 | 9.17 | 115.54 | 108.20 |
| 7 | D | 1632 | A | N1-C6-N6 | 9.16 | 124.09 | 118.60 |
| 7 | D | 2459 | A | C6-N1-C2 | -9.09 | 113.15 | 118.60 |
| 7 | D | 1313 | U | C6-N1-C2 | -9.03 | 115.58 | 121.00 |
| 7 | D | 2491 | U | C5-C6-N1 | 8.99 | 127.20 | 122.70 |
| 7 | D | 775 | G | N7-C8-N9 | 8.95 | 117.58 | 113.10 |
| 7 | D | 458 | G | O4'-C1'-N9 | 8.83 | 115.26 | 108.20 |
| 7 | D | 1925 | C | C2-N1-C1' | 8.83 | 128.51 | 118.80 |
| 7 | D | 531 | C | C6-N1-C2 | -8.82 | 116.77 | 120.30 |
| 7 | D | 791 | C | C6-N1-C1' | -8.81 | 110.23 | 120.80 |
| 7 | D | 2251 | G | C6-C5-N7 | -8.79 | 125.12 | 130.40 |
| 7 | D | 1313 | U | C5-C6-N1 | 8.78 | 127.09 | 122.70 |
| 7 | D | 2495 | G | N3-C4-N9 | 8.78 | 131.27 | 126.00 |
| 7 | D | 531 | C | N3-C2-O2 | -8.73 | 115.79 | 121.90 |
| 7 | D | 2495 | G | C6-C5-N7 | -8.69 | 125.19 | 130.40 |
| 7 | D | 1813 | G | C6-C5-N7 | -8.67 | 125.20 | 130.40 |
| 7 | D | 1668 | A | C2-N3-C4 | -8.67 | 106.27 | 110.60 |
| 7 | D | 1205 | U | N1-C2-O2 | 8.62 | 128.83 | 122.80 |
| 7 | D | 341 | G | C6-C5-N7 | -8.56 | 125.26 | 130.40 |
| 7 | D | 363(F) | A | OP2-P-O3' | 8.56 | 124.04 | 105.20 |
| 7 | D | 1513 | C | N1-C2-O2 | 8.49 | 124.00 | 118.90 |
| 7 | D | 1785 | A | C8-N9-C4 | -8.44 | 102.42 | 105.80 |
| 7 | D | 2444 | G | C6-C5-N7 | -8.44 | 125.33 | 130.40 |
| 7 | D | 1617 | C | C2-N1-C1' | 8.40 | 128.04 | 118.80 |
| 7 | D | 2492 | U | N3-C2-O2 | -8.38 | 116.34 | 122.20 |
| 7 | D | 2035 | G | N3-C4-C5 | -8.38 | 124.41 | 128.60 |
| 7 | D | 2460 | U | N3-C2-O2 | -8.36 | 116.35 | 122.20 |
| 7 | D | 778 | G | C4-C5-N7 | 8.34 | 114.13 | 110.80 |
| 7 | D | 1377 | G | C6-C5-N7 | -8.28 | 125.43 | 130.40 |
| 6 | A | 1064 | G | O4'-C1'-N9 | 8.27 | 114.82 | 108.20 |
| 5 | 5 | 74 | C | N1-C2-O2 | 8.26 | 123.85 | 118.90 |
| 7 | D | 1571 | A | C2-N3-C4 | 8.25 | 114.72 | 110.60 |
| 7 | D | 794 | G | C6-C5-N7 | -8.23 | 125.46 | 130.40 |
| 7 | D | 2460 | U | C2-N1-C1' | 8.21 | 127.55 | 117.70 |
| 7 | D | 515 | A | N3-C4-N9 | 8.13 | 133.91 | 127.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 7 | D | 515 | A | N9-C4-C5 | -8.05 | 102.58 | 105.80 |
| 7 | D | 350 | U | N3-C2-O2 | -8.05 | 116.57 | 122.20 |
| 7 | D | 2056 | G | C4-N9-C1' | 8.05 | 136.96 | 126.50 |
| 7 | D | 2288 | A | O4'-C1'-N9 | 8.04 | 114.63 | 108.20 |
| 7 | D | 2035 | G | C8-N9-C1' | -8.01 | 116.58 | 127.00 |
| 7 | D | 687 | C | C2-N3-C4 | -8.00 | 115.90 | 119.90 |
| 7 | D | 1012 | U | C2-N1-C1' | -7.98 | 108.13 | 117.70 |
| 7 | D | 2056 | G | C8-N9-C1' | -7.91 | 116.72 | 127.00 |
| 7 | D | 1377 | G | C4-N9-C1' | 7.85 | 136.71 | 126.50 |
| 7 | D | 120 | U | N1-C2-O2 | 7.84 | 128.29 | 122.80 |
| 6 | A | 1328 | C | C2-N1-C1' | 7.83 | 127.42 | 118.80 |
| 7 | D | 404 | C | N1-C2-O2 | 7.81 | 123.59 | 118.90 |
| 7 | D | 1205 | U | C3'-C2'-C1' | -7.81 | 95.25 | 101.50 |
| 7 | D | 515 | A | C4-C5-C6 | 7.80 | 120.90 | 117.00 |
| 7 | D | 2459 | A | C4-C5-C6 | 7.74 | 120.87 | 117.00 |
| 7 | D | 2287 | A | C8-N9-C4 | 7.71 | 108.88 | 105.80 |
| 6 | A | 1328 | C | N1-C2-O2 | 7.70 | 123.52 | 118.90 |
| 7 | D | 1813 | G | N3-C4-N9 | 7.68 | 130.61 | 126.00 |
| 7 | D | 1527 | G | C5-C6-N1 | -7.64 | 107.68 | 111.50 |
| 7 | D | 1313 | U | C2-N1-C1' | 7.60 | 126.82 | 117.70 |
| 7 | D | 1649 | G | C6-C5-N7 | -7.60 | 125.84 | 130.40 |
| 7 | D | 2035 | G | C4-N9-C1' | 7.57 | 136.34 | 126.50 |
| 7 | D | 297 | C | N1-C2-O2 | 7.55 | 123.43 | 118.90 |
| 7 | D | 1656 | C | C2-N1-C1' | 7.54 | 127.10 | 118.80 |
| 7 | D | 791 | C | C2-N1-C1' | 7.54 | 127.09 | 118.80 |
| 7 | D | 2495 | G | C8-N9-C1' | -7.54 | 117.20 | 127.00 |
| 7 | D | 879 | G | C5-C6-O6 | 7.53 | 133.12 | 128.60 |
| 7 | D | 150 | C | C2-N1-C1' | 7.49 | 127.04 | 118.80 |
| 7 | D | 2445 | G | N3-C4-N9 | 7.48 | 130.49 | 126.00 |
| 7 | D | 1657 | C | C5-C6-N1 | 7.48 | 124.74 | 121.00 |
| 7 | D | 2495 | G | C4-N9-C1' | 7.43 | 136.16 | 126.50 |
| 7 | D | 1492 | G | C5-C6-O6 | -7.43 | 124.14 | 128.60 |
| 7 | D | 1786 | A | C4-N9-C1' | 7.43 | 139.67 | 126.30 |
| 7 | D | 1604 | C | N3-C2-O2 | -7.41 | 116.71 | 121.90 |
| 7 | D | 2492 | U | C2-N1-C1' | 7.38 | 126.55 | 117.70 |
| 7 | D | 1698 | A | O4'-C1'-N9 | 7.37 | 114.09 | 108.20 |
| 6 | A | 115 | G | C4-N9-C1' | 7.36 | 136.07 | 126.50 |
| 7 | D | 1813 | G | C4-C5-N7 | 7.35 | 113.74 | 110.80 |
| 7 | D | 791 | C | N3-C4-C5 | 7.30 | 124.82 | 121.90 |
| 7 | D | 1805 | U | N3-C2-O2 | -7.25 | 117.12 | 122.20 |
| 7 | D | 1566 | A | O4'-C1'-N9 | 7.24 | 114.00 | 108.20 |
| 7 | D | 341 | G | C8-N9-C1' | -7.24 | 117.59 | 127.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 7 | D | 1313 | U | N1-C2-O2 | 7.21 | 127.85 | 122.80 |
| 7 | D | 791 | C | N3-C2-O2 | -7.21 | 116.85 | 121.90 |
| 5 | 5 | 74 | C | C2-N1-C1' | 7.21 | 126.73 | 118.80 |
| 7 | D | 1492 | G | N3-C4-N9 | 7.20 | 130.32 | 126.00 |
| 7 | D | 120 | U | C2-N1-C1' | 7.18 | 126.32 | 117.70 |
| 7 | D | 341 | G | N1-C2-N2 | -7.17 | 109.74 | 116.20 |
| 7 | D | 1617 | C | C6-N1-C1' | -7.16 | 112.21 | 120.80 |
| 7 | D | 2449 | U | C5-C6-N1 | -7.16 | 119.12 | 122.70 |
| 7 | D | 2491 | U | N1-C2-N3 | 7.16 | 119.19 | 114.90 |
| 7 | D | 1810 | A | O4'-C1'-N9 | 7.15 | 113.92 | 108.20 |
| 7 | D | 1377 | G | N3-C4-N9 | 7.15 | 130.29 | 126.00 |
| 7 | D | 2615 | U | C2-N1-C1' | 7.14 | 126.27 | 117.70 |
| 7 | D | 811 | U | C5-C6-N1 | 7.13 | 126.27 | 122.70 |
| 7 | D | 341 | G | N9-C4-C5 | -7.13 | 102.55 | 105.40 |
| 7 | D | 1925 | C | C6-N1-C1' | -7.11 | 112.27 | 120.80 |
| 6 | A | 1328 | C | C6-N1-C1' | -7.11 | 112.27 | 120.80 |
| 6 | A | 1200 | C | C6-N1-C2 | -7.08 | 117.47 | 120.30 |
| 7 | D | 1656 | C | C6-N1-C2 | -7.07 | 117.47 | 120.30 |
| 7 | D | 1925 | C | N1-C2-O2 | 7.07 | 123.14 | 118.90 |
| 7 | D | 981 | A | N9-C4-C5 | 7.06 | 108.62 | 105.80 |
| 7 | D | 1021 | A | C2-N3-C4 | -7.04 | 107.08 | 110.60 |
| 7 | D | 2689 | U | N3-C2-O2 | -7.04 | 117.27 | 122.20 |
| 7 | D | 2522 | U | C2-N1-C1' | 7.04 | 126.14 | 117.70 |
| 7 | D | 805 | G | O4'-C1'-N9 | 7.03 | 113.83 | 108.20 |
| 7 | D | 1205 | U | N1-C1'-C2' | -7.00 | 104.30 | 112.00 |
| 7 | D | 2444 | G | C4-C5-N7 | 6.99 | 113.59 | 110.80 |
| 7 | D | 2459 | A | C4-N9-C1' | 6.97 | 138.85 | 126.30 |
| 7 | D | 49 | A | C8-N9-C4 | 6.97 | 108.59 | 105.80 |
| 7 | D | 687 | C | C4-C5-C6 | 6.96 | 120.88 | 117.40 |
| 7 | D | 1204 | A | C4-N9-C1' | 6.96 | 138.82 | 126.30 |
| 7 | D | 1830 | C | C2-N1-C1' | 6.95 | 126.45 | 118.80 |
| 7 | D | 775 | G | C6-N1-C2 | -6.93 | 120.94 | 125.10 |
| 7 | D | 1786 | A | C5-C6-N1 | 6.92 | 121.16 | 117.70 |
| 7 | D | 1813 | G | N9-C4-C5 | -6.91 | 102.64 | 105.40 |
| 55 | z | 62 | LEU | CA-CB-CG | -6.90 | 99.42 | 115.30 |
| 7 | D | 974 | G | C2-N3-C4 | -6.89 | 108.45 | 111.90 |
| 7 | D | 350 | U | N1-C2-O2 | 6.89 | 127.62 | 122.80 |
| 7 | D | 515 | A | C4-C5-N7 | 6.88 | 114.14 | 110.70 |
| 7 | D | 531 | C | N1-C2-O2 | 6.88 | 123.03 | 118.90 |
| 7 | D | 1312 | U | C5-C6-N1 | -6.88 | 119.26 | 122.70 |
| 7 | D | 247 | G | C6-C5-N7 | -6.87 | 126.28 | 130.40 |
| 7 | D | 775 | G | C2-N3-C4 | 6.86 | 115.33 | 111.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 7 | D | 458 | G | C4-N9-C1' | -6.85 | 117.60 | 126.50 |
| 7 | D | 775 | G | C4-C5-C6 | 6.85 | 122.91 | 118.80 |
| 7 | D | 1377 | G | N3-C4-C5 | -6.84 | 125.18 | 128.60 |
| 7 | D | 341 | G | C4-N9-C1' | 6.84 | 135.39 | 126.50 |
| 7 | D | 2021 | C | C5-C6-N1 | -6.83 | 117.59 | 121.00 |
| 6 | A | 20 | U | C2-N1-C1' | 6.81 | 125.87 | 117.70 |
| 7 | D | 2445 | G | C6-C5-N7 | -6.81 | 126.31 | 130.40 |
| 7 | D | 733 | G | C6-C5-N7 | -6.80 | 126.32 | 130.40 |
| 7 | D | 1222 | C | C2-N1-C1' | 6.79 | 126.27 | 118.80 |
| 7 | D | 1786 | A | C2-N3-C4 | 6.76 | 113.98 | 110.60 |
| 7 | D | 67 | U | N3-C2-O2 | -6.75 | 117.47 | 122.20 |
| 7 | D | 1493 | C | N1-C2-O2 | 6.73 | 122.94 | 118.90 |
| 7 | D | 1012 | U | C5-C6-N1 | -6.73 | 119.33 | 122.70 |
| 7 | D | 2459 | A | C8-N9-C1' | -6.69 | 115.66 | 127.70 |
| 7 | D | 783 | A | C5-N7-C8 | -6.67 | 100.56 | 103.90 |
| 7 | D | 2830 | G | C6-C5-N7 | -6.66 | 126.40 | 130.40 |
| 7 | D | 1497 | U | C5-C4-O4 | -6.66 | 121.90 | 125.90 |
| 6 | A | 115 | G | C8-N9-C1' | -6.65 | 118.36 | 127.00 |
| 7 | D | 753 | C | C6-N1-C2 | -6.64 | 117.64 | 120.30 |
| 7 | D | 2021 | C | C2-N1-C1' | -6.63 | 111.50 | 118.80 |
| 7 | D | 1527 | G | C6-N1-C2 | 6.63 | 129.08 | 125.10 |
| 7 | D | 2612 | C | N3-C2-O2 | -6.62 | 117.26 | 121.90 |
| 37 | h | 59 | LEU | CA-CB-CG | 6.61 | 130.49 | 115.30 |
| 7 | D | 2032 | G | C4-C5-N7 | 6.60 | 113.44 | 110.80 |
| 7 | D | 733 | G | C8-N9-C1' | -6.59 | 118.43 | 127.00 |
| 7 | D | 945 | A | O4'-C1'-N9 | 6.58 | 113.47 | 108.20 |
| 7 | D | 2837 | G | C4-N9-C1' | 6.57 | 135.04 | 126.50 |
| 7 | D | 1377 | G | C8-N9-C1' | -6.57 | 118.46 | 127.00 |
| 7 | D | 1204 | A | N7-C8-N9 | 6.56 | 117.08 | 113.80 |
| 7 | D | 1253 | A | N9-C4-C5 | -6.56 | 103.18 | 105.80 |
| 7 | D | 764 | A | C8-N9-C4 | 6.53 | 108.41 | 105.80 |
| 11 | H | 12 | CYS | CA-CB-SG | 6.53 | 125.75 | 114.00 |
| 7 | D | 778 | G | C6-C5-N7 | -6.53 | 126.48 | 130.40 |
| 6 | A | 1329 | A | N7-C8-N9 | 6.52 | 117.06 | 113.80 |
| 7 | D | 1657 | C | C4-C5-C6 | -6.52 | 114.14 | 117.40 |
| 7 | D | 1813 | G | C8-N9-C1' | -6.50 | 118.55 | 127.00 |
| 7 | D | 2459 | A | N3-C4-N9 | 6.50 | 132.60 | 127.40 |
| 7 | D | 2056 | G | N3-C4-N9 | 6.49 | 129.89 | 126.00 |
| 6 | A | 115 | G | N3-C4-N9 | 6.48 | 129.89 | 126.00 |
| 7 | D | 1154 | G | C4-N9-C1' | 6.47 | 134.91 | 126.50 |
| 7 | D | 2251 | G | C4-C5-N7 | 6.47 | 113.39 | 110.80 |
| 7 | D | 2500 | U | O5'-P-OP2 | -6.47 | 99.88 | 105.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 7 | D | 794 | G | C4-N9-C1' | 6.46 | 134.90 | 126.50 |
| 7 | D | 917 | A | C6-N1-C2 | -6.46 | 114.73 | 118.60 |
| 7 | D | 764 | A | N7-C8-N9 | -6.46 | 110.57 | 113.80 |
| 7 | D | 2450 | A | O5'-P-OP1 | -6.45 | 99.89 | 105.70 |
| 7 | D | 1787 | A | C2-N3-C4 | -6.44 | 107.38 | 110.60 |
| 6 | A | 244 | U | C2-N1-C1' | 6.43 | 125.42 | 117.70 |
| 7 | D | 2490 | G | C5-C6-O6 | 6.43 | 132.46 | 128.60 |
| 7 | D | 1925 | C | N3-C2-O2 | -6.43 | 117.40 | 121.90 |
| 6 | A | 1086 | U | C5-C6-N1 | 6.42 | 125.91 | 122.70 |
| 7 | D | 1632 | A | C6-C5-N7 | -6.42 | 127.80 | 132.30 |
| 7 | D | 2449 | U | C2-N1-C1' | -6.42 | 110.00 | 117.70 |
| 7 | D | 1338 | G | C4-C5-N7 | 6.41 | 113.36 | 110.80 |
| 7 | D | 1571 | A | O4'-C1'-N9 | 6.40 | 113.32 | 108.20 |
| 7 | D | 879 | G | C6-C5-N7 | 6.40 | 134.24 | 130.40 |
| 7 | D | 150 | C | C6-N1-C1' | -6.39 | 113.13 | 120.80 |
| 6 | A | 324 | G | C8-N9-C4 | -6.39 | 103.85 | 106.40 |
| 7 | D | 733 | G | C4-N9-C1' | 6.38 | 134.80 | 126.50 |
| 49 | t | 30 | LEU | CA-CB-CG | -6.37 | 100.64 | 115.30 |
| 7 | D | 733 | G | N3-C4-N9 | 6.37 | 129.82 | 126.00 |
| 7 | D | 1205 | U | N3-C2-O2 | -6.37 | 117.74 | 122.20 |
| 7 | D | 1628 | G | C4-N9-C1' | 6.35 | 134.76 | 126.50 |
| 7 | D | 396 | G | C4-N9-C1' | 6.34 | 134.75 | 126.50 |
| 7 | D | 2571 | C | C2-N1-C1' | -6.33 | 111.84 | 118.80 |
| 7 | D | 1776 | G | C4-C5-N7 | 6.32 | 113.33 | 110.80 |
| 7 | D | 1222 | C | N1-C2-O2 | 6.30 | 122.68 | 118.90 |
| 7 | D | 715 | G | C6-C5-N7 | -6.28 | 126.63 | 130.40 |
| 7 | D | 571 | A | N1-C6-N6 | -6.28 | 114.83 | 118.60 |
| 5 | 5 | 74 | C | C6-N1-C1' | -6.28 | 113.27 | 120.80 |
| 7 | D | 848 | G | C2-N3-C4 | -6.28 | 108.76 | 111.90 |
| 7 | D | 1123 | C | N1-C2-O2 | 6.27 | 122.66 | 118.90 |
| 7 | D | 2495 | G | N9-C4-C5 | -6.27 | 102.89 | 105.40 |
| 7 | D | 120 | U | N3-C2-O2 | -6.26 | 117.81 | 122.20 |
| 7 | D | 2251 | G | N1-C2-N2 | -6.26 | 110.56 | 116.20 |
| 7 | D | 2251 | G | C4-N9-C1' | 6.26 | 134.64 | 126.50 |
| 7 | D | 1779 | U | C2-N1-C1' | 6.26 | 125.21 | 117.70 |
| 7 | D | 2490 | G | N1-C2-N2 | -6.26 | 110.57 | 116.20 |
| 7 | D | 1429 | G | C6-C5-N7 | -6.24 | 126.66 | 130.40 |
| 7 | D | 1204 | A | O5'-P-OP2 | -6.24 | 100.09 | 105.70 |
| 7 | D | 730 | C | N3-C2-O2 | -6.23 | 117.54 | 121.90 |
| 7 | D | 1566 | A | N7-C8-N9 | 6.23 | 116.92 | 113.80 |
| 6 | A | 1369 | C | N1-C2-O2 | 6.22 | 122.64 | 118.90 |
| 7 | D | 341 | G | N3-C4-C5 | -6.22 | 125.49 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|-----------|-------|-------------|----------|
| 7 | D | 321 | G | C4-N9-C1' | -6.20 | 118.45 | 126.50 |
| 7 | D | 396 | G | C8-N9-C1' | -6.20 | 118.94 | 127.00 |
| 7 | D | 1668 | A | N3-C4-N9 | -6.19 | 122.44 | 127.40 |
| 35 | f | 78 | TYR | C-N-CD | -6.18 | 106.99 | 120.60 |
| 7 | D | 13 | A | N1-C6-N6 | -6.17 | 114.89 | 118.60 |
| 7 | D | 1344 | G | C8-N9-C4 | -6.17 | 103.93 | 106.40 |
| 6 | A | 494 | U | C2-N1-C1' | 6.17 | 125.10 | 117.70 |
| 7 | D | 2689 | U | N1-C2-O2 | 6.17 | 127.12 | 122.80 |
| 6 | A | 13 | U | C5-C6-N1 | 6.17 | 125.78 | 122.70 |
| 30 | a | 155 | LEU | CA-CB-CG | 6.17 | 129.48 | 115.30 |
| 7 | D | 2495 | G | C4-C5-N7 | 6.16 | 113.27 | 110.80 |
| 7 | D | 283 | A | N1-C6-N6 | 6.16 | 122.30 | 118.60 |
| 7 | D | 48 | G | C6-C5-N7 | -6.15 | 126.71 | 130.40 |
| 7 | D | 2036 | C | N1-C2-O2 | 6.14 | 122.59 | 118.90 |
| 6 | A | 1498 | U | C5-C6-N1 | -6.14 | 119.63 | 122.70 |
| 7 | D | 1123 | C | C2-N1-C1' | 6.14 | 125.55 | 118.80 |
| 7 | D | 945 | A | N1-C6-N6 | -6.14 | 114.92 | 118.60 |
| 6 | A | 115 | G | C6-C5-N7 | -6.14 | 126.72 | 130.40 |
| 6 | A | 960 | U | C2-N1-C1' | 6.13 | 125.06 | 117.70 |
| 7 | D | 729 | G | C5-C6-O6 | 6.13 | 132.28 | 128.60 |
| 7 | D | 2490 | G | N3-C2-N2 | 6.13 | 124.19 | 119.90 |
| 7 | D | 2837 | G | C6-C5-N7 | -6.13 | 126.72 | 130.40 |
| 7 | D | 2445 | G | N9-C4-C5 | -6.13 | 102.95 | 105.40 |
| 7 | D | 2837 | G | C8-N9-C1' | -6.13 | 119.03 | 127.00 |
| 7 | D | 562 | U | N1-C2-O2 | -6.13 | 118.51 | 122.80 |
| 7 | D | 1813 | G | C4-N9-C1' | 6.12 | 134.46 | 126.50 |
| 7 | D | 1492 | G | N9-C4-C5 | -6.11 | 102.95 | 105.40 |
| 7 | D | 270(Y) | G | C8-N9-C4 | 6.11 | 108.84 | 106.40 |
| 7 | D | 774 | A | C5-C6-N1 | 6.11 | 120.75 | 117.70 |
| 7 | D | 515 | A | N1-C2-N3 | 6.10 | 132.35 | 129.30 |
| 7 | D | 1492 | G | C5-C6-N1 | 6.10 | 114.55 | 111.50 |
| 7 | D | 2460 | U | C6-N1-C2 | -6.10 | 117.34 | 121.00 |
| 7 | D | 2289 | G | C8-N9-C1' | -6.09 | 119.08 | 127.00 |
| 45 | p | 57 | LEU | CB-CG-CD1 | -6.09 | 100.64 | 111.00 |
| 7 | D | 1775 | U | C2-N1-C1' | 6.08 | 125.00 | 117.70 |
| 7 | D | 2035 | G | C5-C6-N1 | 6.08 | 114.54 | 111.50 |
| 7 | D | 1005 | C | N1-C2-O2 | 6.08 | 122.55 | 118.90 |
| 7 | D | 1006 | C | N1-C2-O2 | -6.08 | 115.25 | 118.90 |
| 7 | D | 2459 | A | C6-C5-N7 | -6.07 | 128.05 | 132.30 |
| 7 | D | 321 | G | N3-C4-N9 | -6.07 | 122.36 | 126.00 |
| 7 | D | 458 | G | C8-N9-C1' | 6.07 | 134.89 | 127.00 |
| 7 | D | 944 | G | C4-N9-C1' | 6.07 | 134.39 | 126.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 7 | D | 1604 | C | C2-N1-C1' | 6.07 | 125.48 | 118.80 |
| 7 | D | 2459 | A | N3-C4-C5 | -6.06 | 122.56 | 126.80 |
| 7 | D | 805 | G | C2-N3-C4 | -6.05 | 108.87 | 111.90 |
| 7 | D | 1429 | G | C4-N9-C1' | 6.05 | 134.37 | 126.50 |
| 36 | g | 74 | GLY | N-CA-C | -6.05 | 97.98 | 113.10 |
| 6 | A | 872 | A | O4'-C1'-N9 | 6.05 | 113.04 | 108.20 |
| 7 | D | 2653 | U | C5-C6-N1 | 6.04 | 125.72 | 122.70 |
| 7 | D | 1660 | C | N1-C2-O2 | -6.04 | 115.28 | 118.90 |
| 7 | D | 729 | G | N9-C4-C5 | 6.03 | 107.81 | 105.40 |
| 7 | D | 775 | G | C6-C5-N7 | -6.03 | 126.78 | 130.40 |
| 7 | D | 806 | C | N1-C2-O2 | -6.03 | 115.28 | 118.90 |
| 7 | D | 917 | A | C5-C6-N1 | 6.02 | 120.71 | 117.70 |
| 31 | b | 63 | LEU | CA-CB-CG | 6.02 | 129.15 | 115.30 |
| 6 | A | 1086 | U | C6-N1-C1' | -6.01 | 112.78 | 121.20 |
| 7 | D | 247 | G | C4-N9-C1' | 6.01 | 134.32 | 126.50 |
| 7 | D | 2307 | G | C4-N9-C1' | 6.00 | 134.30 | 126.50 |
| 7 | D | 1998 | G | C6-C5-N7 | -5.99 | 126.81 | 130.40 |
| 7 | D | 2491 | U | P-O3'-C3' | -5.99 | 112.52 | 119.70 |
| 7 | D | 1785 | A | N9-C4-C5 | 5.98 | 108.19 | 105.80 |
| 7 | D | 774 | A | N1-C2-N3 | 5.97 | 132.29 | 129.30 |
| 7 | D | 2445 | G | C8-N9-C1' | -5.97 | 119.23 | 127.00 |
| 7 | D | 2268 | A | C8-N9-C4 | -5.96 | 103.42 | 105.80 |
| 11 | H | 196 | LEU | CA-CB-CG | 5.94 | 128.97 | 115.30 |
| 7 | D | 687 | C | N3-C2-O2 | -5.94 | 117.74 | 121.90 |
| 7 | D | 1493 | C | C2-N1-C1' | 5.94 | 125.33 | 118.80 |
| 7 | D | 350 | U | C2-N1-C1' | 5.94 | 124.83 | 117.70 |
| 7 | D | 688 | U | N1-C2-N3 | 5.94 | 118.46 | 114.90 |
| 7 | D | 515 | A | C6-N1-C2 | -5.93 | 115.04 | 118.60 |
| 7 | D | 1649 | G | C4-N9-C1' | 5.93 | 134.21 | 126.50 |
| 7 | D | 792 | G | C4-N9-C1' | 5.93 | 134.21 | 126.50 |
| 7 | D | 727 | A | N1-C2-N3 | 5.93 | 132.26 | 129.30 |
| 6 | A | 518 | C | P-O3'-C3' | 5.92 | 126.81 | 119.70 |
| 7 | D | 60 | G | N1-C2-N2 | -5.92 | 110.87 | 116.20 |
| 7 | D | 676 | A | C5-N7-C8 | -5.92 | 100.94 | 103.90 |
| 7 | D | 729 | G | N7-C8-N9 | 5.91 | 116.06 | 113.10 |
| 7 | D | 297 | C | N3-C4-C5 | 5.91 | 124.26 | 121.90 |
| 7 | D | 450 | G | N1-C6-O6 | 5.91 | 123.45 | 119.90 |
| 7 | D | 1377 | G | N1-C2-N2 | -5.91 | 110.88 | 116.20 |
| 7 | D | 774 | A | O4'-C1'-N9 | 5.90 | 112.92 | 108.20 |
| 7 | D | 1428 | C | OP1-P-O3' | 5.90 | 118.18 | 105.20 |
| 7 | D | 2126 | A | O4'-C1'-N9 | 5.90 | 112.92 | 108.20 |
| 7 | D | 2459 | A | N1-C2-N3 | 5.89 | 132.25 | 129.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 7 | D | 1251 | C | C6-N1-C2 | 5.89 | 122.66 | 120.30 |
| 7 | D | 1380 | G | C8-N9-C1' | -5.89 | 119.34 | 127.00 |
| 7 | D | 1425 | G | C6-C5-N7 | -5.88 | 126.88 | 130.40 |
| 7 | D | 1632 | A | C4-C5-N7 | 5.88 | 113.64 | 110.70 |
| 7 | D | 1598 | C | N1-C2-O2 | 5.87 | 122.42 | 118.90 |
| 7 | D | 383 | U | N1-C2-O2 | 5.87 | 126.91 | 122.80 |
| 7 | D | 856 | C | C2-N1-C1' | 5.87 | 125.26 | 118.80 |
| 7 | D | 1157 | G | C4-N9-C1' | 5.87 | 134.13 | 126.50 |
| 6 | A | 397 | A | N1-C6-N6 | -5.87 | 115.08 | 118.60 |
| 7 | D | 1253 | A | C8-N9-C4 | 5.87 | 108.15 | 105.80 |
| 7 | D | 2289 | G | C4-N9-C1' | 5.87 | 134.12 | 126.50 |
| 7 | D | 1665 | A | N7-C8-N9 | 5.86 | 116.73 | 113.80 |
| 7 | D | 682 | G | C6-C5-N7 | -5.85 | 126.89 | 130.40 |
| 7 | D | 531 | C | C2-N1-C1' | 5.85 | 125.23 | 118.80 |
| 7 | D | 311 | A | O4'-C1'-N9 | 5.84 | 112.87 | 108.20 |
| 7 | D | 1799 | G | O4'-C1'-N9 | 5.84 | 112.87 | 108.20 |
| 7 | D | 2612 | C | O5'-P-OP1 | -5.83 | 100.45 | 105.70 |
| 7 | D | 1566 | A | C4-N9-C1' | 5.83 | 136.79 | 126.30 |
| 7 | D | 761 | A | C4-C5-N7 | 5.83 | 113.61 | 110.70 |
| 7 | D | 1325 | G | O4'-C1'-N9 | 5.83 | 112.86 | 108.20 |
| 7 | D | 1241 | A | N7-C8-N9 | 5.82 | 116.71 | 113.80 |
| 6 | A | 324 | G | N7-C8-N9 | 5.82 | 116.01 | 113.10 |
| 7 | D | 972 | G | C4-N9-C1' | 5.82 | 134.07 | 126.50 |
| 7 | D | 1222 | C | C6-N1-C1' | -5.82 | 113.82 | 120.80 |
| 7 | D | 1649 | G | C8-N9-C1' | -5.81 | 119.44 | 127.00 |
| 7 | D | 1341 | U | O5'-P-OP1 | -5.81 | 100.47 | 105.70 |
| 7 | D | 659 | C | C6-N1-C2 | 5.81 | 122.62 | 120.30 |
| 7 | D | 733 | G | C4-C5-N7 | 5.81 | 113.12 | 110.80 |
| 33 | d | 3 | LEU | CA-CB-CG | 5.81 | 128.66 | 115.30 |
| 7 | D | 2002 | G | C4-C5-N7 | 5.80 | 113.12 | 110.80 |
| 7 | D | 1972 | A | C6-N1-C2 | -5.80 | 115.12 | 118.60 |
| 41 | l | 114 | LEU | CA-CB-CG | -5.80 | 101.96 | 115.30 |
| 7 | D | 1513 | C | N3-C2-O2 | -5.80 | 117.84 | 121.90 |
| 7 | D | 1623 | G | C4-N9-C1' | 5.79 | 134.03 | 126.50 |
| 7 | D | 730 | C | N1-C2-O2 | 5.79 | 122.37 | 118.90 |
| 7 | D | 1123 | C | C6-N1-C1' | -5.79 | 113.86 | 120.80 |
| 7 | D | 1667 | G | C4-N9-C1' | 5.77 | 134.00 | 126.50 |
| 7 | D | 1205 | U | P-O3'-C3' | -5.77 | 112.78 | 119.70 |
| 7 | D | 1204 | A | C8-N9-C4 | -5.76 | 103.50 | 105.80 |
| 7 | D | 295 | G | C8-N9-C4 | 5.75 | 108.70 | 106.40 |
| 7 | D | 453 | C | N1-C2-O2 | 5.75 | 122.35 | 118.90 |
| 7 | D | 2445 | G | C4-C5-N7 | 5.75 | 113.10 | 110.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 7 | D | 617 | G | N3-C4-C5 | 5.75 | 131.47 | 128.60 |
| 7 | D | 1380 | G | C4-N9-C1' | 5.75 | 133.97 | 126.50 |
| 7 | D | 1475 | G | N3-C4-N9 | 5.74 | 129.45 | 126.00 |
| 7 | D | 2501 | C | N1-C2-O2 | 5.74 | 122.34 | 118.90 |
| 5 | 5 | 1 | G | N3-C4-C5 | 5.74 | 131.47 | 128.60 |
| 7 | D | 1522 | G | C6-C5-N7 | -5.74 | 126.96 | 130.40 |
| 35 | f | 82 | LEU | CA-CB-CG | -5.74 | 102.11 | 115.30 |
| 7 | D | 138 | G | N3-C4-N9 | 5.73 | 129.44 | 126.00 |
| 7 | D | 1416 | G | C2-N3-C4 | -5.73 | 109.03 | 111.90 |
| 7 | D | 1840 | G | C6-C5-N7 | -5.73 | 126.96 | 130.40 |
| 7 | D | 2758 | A | N9-C4-C5 | -5.73 | 103.51 | 105.80 |
| 7 | D | 1527 | G | N7-C8-N9 | 5.73 | 115.96 | 113.10 |
| 7 | D | 776 | G | P-O3'-C3' | 5.72 | 126.57 | 119.70 |
| 52 | w | 12 | SER | N-CA-C | 5.71 | 126.42 | 111.00 |
| 6 | A | 1086 | U | C6-N1-C2 | -5.71 | 117.58 | 121.00 |
| 7 | D | 2582 | G | C4-N9-C1' | 5.71 | 133.92 | 126.50 |
| 7 | D | 341 | G | N3-C2-N2 | 5.70 | 123.89 | 119.90 |
| 7 | D | 1377 | G | C4-C5-C6 | 5.69 | 122.22 | 118.80 |
| 7 | D | 1790 | C | C2-N1-C1' | -5.69 | 112.54 | 118.80 |
| 7 | D | 321 | G | N3-C4-C5 | 5.69 | 131.44 | 128.60 |
| 7 | D | 792 | G | N3-C4-C5 | -5.68 | 125.76 | 128.60 |
| 7 | D | 2073 | C | N3-C2-O2 | -5.68 | 117.92 | 121.90 |
| 7 | D | 1667 | G | C6-C5-N7 | -5.68 | 126.99 | 130.40 |
| 7 | D | 820 | A | N1-C2-N3 | 5.67 | 132.14 | 129.30 |
| 7 | D | 2270 | G | C6-C5-N7 | -5.67 | 127.00 | 130.40 |
| 7 | D | 400 | G | N1-C6-O6 | 5.67 | 123.30 | 119.90 |
| 7 | D | 779 | U | C5-C6-N1 | 5.67 | 125.53 | 122.70 |
| 7 | D | 2756 | U | C6-N1-C2 | 5.67 | 124.40 | 121.00 |
| 6 | A | 1364 | U | C2-N1-C1' | 5.66 | 124.49 | 117.70 |
| 7 | D | 972 | G | N3-C4-C5 | -5.66 | 125.77 | 128.60 |
| 7 | D | 2029 | G | N3-C4-N9 | -5.66 | 122.61 | 126.00 |
| 7 | D | 791 | C | C6-N1-C2 | 5.66 | 122.56 | 120.30 |
| 7 | D | 470 | A | C6-N1-C2 | -5.65 | 115.21 | 118.60 |
| 7 | D | 106 | C | N1-C2-O2 | -5.65 | 115.51 | 118.90 |
| 7 | D | 2660 | A | O4'-C1'-N9 | -5.65 | 103.68 | 108.20 |
| 7 | D | 2242 | G | C4-N9-C1' | 5.64 | 133.84 | 126.50 |
| 6 | A | 328 | C | C6-N1-C2 | -5.64 | 118.04 | 120.30 |
| 7 | D | 1661 | G | N3-C4-N9 | -5.64 | 122.61 | 126.00 |
| 7 | D | 1950 | G | N1-C6-O6 | -5.64 | 116.51 | 119.90 |
| 7 | D | 1799 | G | C8-N9-C1' | 5.64 | 134.33 | 127.00 |
| 7 | D | 410 | G | C4-N9-C1' | 5.63 | 133.82 | 126.50 |
| 7 | D | 1204 | A | C8-N9-C1' | -5.63 | 117.56 | 127.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 7 | D | 1377 | G | N1-C2-N3 | 5.63 | 127.28 | 123.90 |
| 7 | D | 1951 | U | N3-C2-O2 | -5.63 | 118.26 | 122.20 |
| 7 | D | 688 | U | N3-C4-C5 | 5.63 | 117.98 | 114.60 |
| 7 | D | 1937 | A | C5-N7-C8 | -5.63 | 101.08 | 103.90 |
| 6 | A | 49 | U | C5-C6-N1 | -5.63 | 119.88 | 122.70 |
| 7 | D | 410 | G | N3-C4-N9 | 5.63 | 129.38 | 126.00 |
| 7 | D | 1786 | A | N7-C8-N9 | 5.63 | 116.61 | 113.80 |
| 6 | A | 38 | G | N3-C4-N9 | -5.62 | 122.63 | 126.00 |
| 7 | D | 775 | G | C5-C6-N1 | 5.61 | 114.31 | 111.50 |
| 7 | D | 2035 | G | N1-C6-O6 | -5.61 | 116.53 | 119.90 |
| 7 | D | 2289 | G | C6-C5-N7 | -5.61 | 127.03 | 130.40 |
| 7 | D | 1153 | C | C6-N1-C2 | -5.60 | 118.06 | 120.30 |
| 7 | D | 498 | G | C8-N9-C4 | -5.60 | 104.16 | 106.40 |
| 7 | D | 1012 | U | O4'-C1'-N1 | 5.60 | 112.68 | 108.20 |
| 8 | E | 12 | C | C6-N1-C2 | -5.60 | 118.06 | 120.30 |
| 7 | D | 1513 | C | C2-N1-C1' | 5.60 | 124.96 | 118.80 |
| 13 | J | 10 | LEU | CA-CB-CG | 5.59 | 128.16 | 115.30 |
| 7 | D | 793 | A | N1-C6-N6 | 5.59 | 121.95 | 118.60 |
| 7 | D | 2025 | C | C2-N1-C1' | 5.59 | 124.95 | 118.80 |
| 7 | D | 1475 | G | C6-C5-N7 | -5.59 | 127.05 | 130.40 |
| 7 | D | 1266 | G | N3-C4-N9 | -5.58 | 122.65 | 126.00 |
| 7 | D | 1632 | A | C5-C6-N6 | -5.58 | 119.23 | 123.70 |
| 7 | D | 2021 | C | C4-C5-C6 | 5.58 | 120.19 | 117.40 |
| 6 | A | 1498 | U | C2-N1-C1' | -5.58 | 111.01 | 117.70 |
| 7 | D | 1669 | A | C6-C5-N7 | -5.58 | 128.40 | 132.30 |
| 7 | D | 582 | G | C6-C5-N7 | -5.57 | 127.06 | 130.40 |
| 7 | D | 1429 | G | C8-N9-C1' | -5.56 | 119.77 | 127.00 |
| 7 | D | 603 | A | C4-C5-C6 | -5.56 | 114.22 | 117.00 |
| 7 | D | 1840 | G | C4-C5-N7 | 5.56 | 113.02 | 110.80 |
| 7 | D | 1267 | U | C5-C6-N1 | 5.56 | 125.48 | 122.70 |
| 8 | E | 100 | G | C4-N9-C1' | 5.56 | 133.72 | 126.50 |
| 7 | D | 1397 | U | C2-N1-C1' | 5.55 | 124.36 | 117.70 |
| 7 | D | 2777 | G | C8-N9-C4 | -5.55 | 104.18 | 106.40 |
| 7 | D | 1833 | U | N1-C2-N3 | 5.55 | 118.23 | 114.90 |
| 7 | D | 2457 | U | N1-C2-O2 | 5.54 | 126.68 | 122.80 |
| 5 | 5 | 1 | G | N3-C4-N9 | -5.54 | 122.67 | 126.00 |
| 7 | D | 1699 | G | N3-C4-N9 | -5.54 | 122.67 | 126.00 |
| 7 | D | 1899 | G | C2-N3-C4 | -5.54 | 109.13 | 111.90 |
| 7 | D | 1653 | G | N1-C2-N2 | -5.54 | 111.22 | 116.20 |
| 7 | D | 1800 | C | C6-N1-C1' | -5.54 | 114.16 | 120.80 |
| 7 | D | 2492 | U | N1-C2-O2 | 5.54 | 126.67 | 122.80 |
| 7 | D | 2495 | G | N3-C4-C5 | -5.54 | 125.83 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 6 | A | 122 | G | N3-C4-N9 | 5.53 | 129.32 | 126.00 |
| 7 | D | 2020 | A | P-O3'-C3' | 5.52 | 126.33 | 119.70 |
| 7 | D | 2544 | G | C6-C5-N7 | -5.52 | 127.09 | 130.40 |
| 7 | D | 1025 | G | C2-N3-C4 | 5.52 | 114.66 | 111.90 |
| 7 | D | 1559 | G | N9-C1'-C2' | -5.52 | 105.93 | 112.00 |
| 7 | D | 150 | C | O4'-C1'-N1 | 5.51 | 112.61 | 108.20 |
| 7 | D | 120 | U | C6-N1-C1' | -5.51 | 113.49 | 121.20 |
| 6 | A | 581 | G | C6-C5-N7 | -5.51 | 127.09 | 130.40 |
| 7 | D | 1566 | A | C6-C5-N7 | -5.51 | 128.44 | 132.30 |
| 6 | A | 1296 | C | N1-C2-O2 | 5.51 | 122.20 | 118.90 |
| 7 | D | 363(F) | A | O3'-P-O5' | -5.51 | 93.54 | 104.00 |
| 7 | D | 1944 | U | N3-C2-O2 | -5.51 | 118.34 | 122.20 |
| 7 | D | 2241 | A | N1-C2-N3 | 5.51 | 132.05 | 129.30 |
| 5 | 5 | 74 | C | N3-C2-O2 | -5.50 | 118.05 | 121.90 |
| 6 | A | 1261 | A | N1-C6-N6 | 5.50 | 121.90 | 118.60 |
| 7 | D | 1355 | G | C4-C5-N7 | 5.50 | 113.00 | 110.80 |
| 7 | D | 2460 | U | N1-C2-O2 | 5.50 | 126.65 | 122.80 |
| 6 | A | 570 | G | C4-C5-N7 | 5.50 | 113.00 | 110.80 |
| 7 | D | 1340 | U | N1-C2-N3 | 5.50 | 118.20 | 114.90 |
| 7 | D | 1735 | C | O3'-P-O5' | -5.50 | 93.55 | 104.00 |
| 7 | D | 1668 | A | N9-C4-C5 | 5.50 | 108.00 | 105.80 |
| 7 | D | 2025 | C | C6-N1-C2 | -5.48 | 118.11 | 120.30 |
| 7 | D | 1139 | G | N1-C6-O6 | 5.48 | 123.19 | 119.90 |
| 7 | D | 2447 | G | N3-C4-C5 | -5.48 | 125.86 | 128.60 |
| 7 | D | 297 | C | N3-C2-O2 | -5.47 | 118.07 | 121.90 |
| 7 | D | 2718 | G | C4-N9-C1' | 5.47 | 133.62 | 126.50 |
| 7 | D | 1154 | G | C8-N9-C1' | -5.47 | 119.89 | 127.00 |
| 7 | D | 359 | A | N9-C1'-C2' | -5.47 | 105.98 | 112.00 |
| 7 | D | 848 | G | C4-C5-N7 | 5.47 | 112.99 | 110.80 |
| 7 | D | 2612 | C | C6-N1-C2 | -5.47 | 118.11 | 120.30 |
| 7 | D | 2069 | G | N3-C4-N9 | 5.46 | 129.28 | 126.00 |
| 7 | D | 1665 | A | C5-N7-C8 | -5.45 | 101.17 | 103.90 |
| 7 | D | 360 | G | C4-N9-C1' | 5.45 | 133.59 | 126.50 |
| 7 | D | 138 | G | C4-N9-C1' | 5.44 | 133.58 | 126.50 |
| 7 | D | 1522 | G | C4-C5-N7 | 5.44 | 112.98 | 110.80 |
| 7 | D | 1652 | A | C5-N7-C8 | -5.44 | 101.18 | 103.90 |
| 7 | D | 25 | U | C2-N3-C4 | -5.44 | 123.74 | 127.00 |
| 7 | D | 247 | G | C8-N9-C1' | -5.44 | 119.93 | 127.00 |
| 7 | D | 1071 | G | C6-C5-N7 | -5.44 | 127.14 | 130.40 |
| 7 | D | 1810 | A | C5-C6-N1 | 5.43 | 120.42 | 117.70 |
| 7 | D | 1475 | G | C4-N9-C1' | 5.43 | 133.56 | 126.50 |
| 7 | D | 1604 | C | C6-N1-C2 | -5.43 | 118.13 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 7 | D | 859 | G | C4-C5-N7 | 5.43 | 112.97 | 110.80 |
| 7 | D | 1012 | U | C6-N1-C1' | 5.43 | 128.80 | 121.20 |
| 7 | D | 138 | G | C8-N9-C1' | -5.43 | 119.94 | 127.00 |
| 7 | D | 1786 | A | C5-C6-N6 | -5.43 | 119.36 | 123.70 |
| 7 | D | 775 | G | C8-N9-C1' | -5.42 | 119.95 | 127.00 |
| 7 | D | 1632 | A | N9-C4-C5 | -5.42 | 103.63 | 105.80 |
| 7 | D | 2307 | G | C8-N9-C1' | -5.42 | 119.95 | 127.00 |
| 7 | D | 1007 | C | N1-C2-O2 | -5.42 | 115.65 | 118.90 |
| 7 | D | 2503 | A | C6-C5-N7 | -5.42 | 128.50 | 132.30 |
| 7 | D | 848 | G | C6-C5-N7 | -5.42 | 127.15 | 130.40 |
| 7 | D | 2517 | C | C2-N3-C4 | -5.42 | 117.19 | 119.90 |
| 7 | D | 1660 | C | C2-N3-C4 | -5.41 | 117.19 | 119.90 |
| 7 | D | 1830 | C | C6-N1-C2 | -5.41 | 118.14 | 120.30 |
| 6 | A | 596 | C | C5-C6-N1 | 5.41 | 123.70 | 121.00 |
| 7 | D | 1338 | G | N9-C4-C5 | -5.41 | 103.24 | 105.40 |
| 7 | D | 341 | G | C4-C5-C6 | 5.40 | 122.04 | 118.80 |
| 7 | D | 283 | A | C5-C6-N6 | -5.40 | 119.38 | 123.70 |
| 7 | D | 1950 | G | N9-C4-C5 | 5.40 | 107.56 | 105.40 |
| 7 | D | 2136 | C | C2-N1-C1' | 5.40 | 124.74 | 118.80 |
| 7 | D | 2512 | C | C5-C6-N1 | 5.40 | 123.70 | 121.00 |
| 7 | D | 2522 | U | C6-N1-C1' | -5.39 | 113.65 | 121.20 |
| 7 | D | 1544 | C | N1-C2-O2 | 5.39 | 122.13 | 118.90 |
| 7 | D | 2241 | A | C6-N1-C2 | -5.39 | 115.37 | 118.60 |
| 7 | D | 1675 | C | N1-C2-O2 | 5.39 | 122.13 | 118.90 |
| 7 | D | 792 | G | C6-C5-N7 | -5.38 | 127.17 | 130.40 |
| 6 | A | 1504 | G | O5'-P-OP2 | -5.38 | 100.86 | 105.70 |
| 7 | D | 1254 | A | O4'-C1'-N9 | 5.38 | 112.51 | 108.20 |
| 6 | A | 1301 | U | C2-N1-C1' | 5.38 | 124.16 | 117.70 |
| 7 | D | 1314 | C | C6-N1-C2 | -5.38 | 118.15 | 120.30 |
| 7 | D | 1943 | U | P-O3'-C3' | 5.38 | 126.16 | 119.70 |
| 7 | D | 1649 | G | N3-C4-N9 | 5.38 | 129.23 | 126.00 |
| 7 | D | 1828 | G | N9-C4-C5 | 5.38 | 107.55 | 105.40 |
| 7 | D | 2444 | G | C4-N9-C1' | 5.38 | 133.49 | 126.50 |
| 7 | D | 859 | G | C6-C5-N7 | -5.37 | 127.17 | 130.40 |
| 41 | I | 63 | VAL | N-CA-C | -5.37 | 96.49 | 111.00 |
| 6 | A | 1086 | U | N1-C2-O2 | 5.37 | 126.56 | 122.80 |
| 7 | D | 759 | G | C4-C5-N7 | 5.37 | 112.95 | 110.80 |
| 7 | D | 2307 | G | N3-C4-N9 | 5.37 | 129.22 | 126.00 |
| 21 | R | 43 | CYS | CA-CB-SG | 5.37 | 123.66 | 114.00 |
| 7 | D | 656 | G | C6-C5-N7 | -5.36 | 127.18 | 130.40 |
| 7 | D | 1791 | A | O5'-P-OP1 | -5.36 | 100.87 | 105.70 |
| 7 | D | 2251 | G | N3-C4-N9 | 5.36 | 129.22 | 126.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 6 | A | 645 | C | C2-N1-C1' | 5.35 | 124.69 | 118.80 |
| 7 | D | 730 | C | C6-N1-C2 | -5.35 | 118.16 | 120.30 |
| 7 | D | 1205 | U | C2-N3-C4 | 5.35 | 130.21 | 127.00 |
| 7 | D | 280 | C | C6-N1-C1' | -5.35 | 114.38 | 120.80 |
| 7 | D | 1669 | A | C4-C5-N7 | 5.35 | 113.37 | 110.70 |
| 7 | D | 2056 | G | C6-N1-C2 | -5.35 | 121.89 | 125.10 |
| 7 | D | 974(A) | C | N3-C4-N4 | 5.34 | 121.74 | 118.00 |
| 7 | D | 2073 | C | C5-C6-N1 | 5.34 | 123.67 | 121.00 |
| 7 | D | 1675 | C | N3-C2-O2 | -5.33 | 118.17 | 121.90 |
| 7 | D | 973 | A | OP1-P-O3' | 5.33 | 116.92 | 105.20 |
| 7 | D | 2251 | G | O5'-P-OP2 | -5.33 | 100.91 | 105.70 |
| 7 | D | 2703 | C | C6-N1-C2 | -5.33 | 118.17 | 120.30 |
| 7 | D | 1660 | C | C2-N1-C1' | -5.32 | 112.94 | 118.80 |
| 7 | D | 67 | U | N1-C2-O2 | 5.31 | 126.52 | 122.80 |
| 7 | D | 1810 | A | C2-N3-C4 | 5.31 | 113.25 | 110.60 |
| 6 | A | 494 | U | N1-C2-O2 | 5.30 | 126.51 | 122.80 |
| 7 | D | 1025 | G | C8-N9-C4 | -5.30 | 104.28 | 106.40 |
| 7 | D | 1964 | G | O4'-C1'-N9 | -5.30 | 103.96 | 108.20 |
| 7 | D | 2426 | A | C4-N9-C1' | 5.30 | 135.83 | 126.30 |
| 53 | x | 39 | TYR | N-CA-C | 5.30 | 125.30 | 111.00 |
| 7 | D | 1143 | A | C6-N1-C2 | -5.29 | 115.43 | 118.60 |
| 7 | D | 2630 | G | N3-C4-N9 | 5.29 | 129.17 | 126.00 |
| 7 | D | 940 | G | C8-N9-C4 | -5.28 | 104.29 | 106.40 |
| 7 | D | 2612 | C | N1-C2-N3 | 5.28 | 122.90 | 119.20 |
| 51 | v | 40 | HIS | C-N-CD | -5.28 | 108.98 | 120.60 |
| 6 | A | 244 | U | N1-C2-O2 | 5.28 | 126.50 | 122.80 |
| 7 | D | 2073 | C | C2-N1-C1' | 5.27 | 124.60 | 118.80 |
| 7 | D | 2407 | G | N1-C6-O6 | -5.27 | 116.74 | 119.90 |
| 7 | D | 363(F) | A | P-O3'-C3' | -5.27 | 113.38 | 119.70 |
| 7 | D | 1604 | C | N1-C2-O2 | 5.27 | 122.06 | 118.90 |
| 7 | D | 2447 | G | N3-C4-N9 | 5.27 | 129.16 | 126.00 |
| 7 | D | 323 | G | N3-C4-C5 | -5.27 | 125.97 | 128.60 |
| 7 | D | 603 | A | C4-N9-C1' | -5.27 | 116.82 | 126.30 |
| 7 | D | 1519 | G | C8-N9-C1' | -5.27 | 120.15 | 127.00 |
| 8 | E | 50 | G | C8-N9-C4 | 5.26 | 108.50 | 106.40 |
| 7 | D | 2445 | G | C4-N9-C1' | 5.26 | 133.33 | 126.50 |
| 7 | D | 848 | G | N1-C6-O6 | 5.25 | 123.05 | 119.90 |
| 36 | g | 8 | LEU | CA-CB-CG | 5.25 | 127.38 | 115.30 |
| 7 | D | 2472 | G | C8-N9-C1' | -5.25 | 120.17 | 127.00 |
| 7 | D | 410 | G | N3-C4-C5 | -5.25 | 125.98 | 128.60 |
| 7 | D | 774 | A | C8-N9-C4 | -5.25 | 103.70 | 105.80 |
| 7 | D | 776 | G | C6-C5-N7 | -5.25 | 127.25 | 130.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 7 | D | 2266 | A | P-O3'-C3' | 5.24 | 125.99 | 119.70 |
| 7 | D | 2136 | C | N1-C2-O2 | 5.24 | 122.04 | 118.90 |
| 7 | D | 1771 | C | C6-N1-C2 | -5.24 | 118.21 | 120.30 |
| 7 | D | 2027 | G | C8-N9-C1' | -5.24 | 120.19 | 127.00 |
| 7 | D | 794 | G | N3-C4-N9 | 5.23 | 129.14 | 126.00 |
| 7 | D | 1253 | A | O4'-C1'-N9 | -5.23 | 104.01 | 108.20 |
| 7 | D | 1786 | A | C8-N9-C1' | -5.23 | 118.28 | 127.70 |
| 6 | A | 244 | U | C6-N1-C1' | -5.23 | 113.88 | 121.20 |
| 7 | D | 1628 | G | C8-N9-C1' | -5.23 | 120.20 | 127.00 |
| 7 | D | 1809 | A | O4'-C1'-N9 | 5.23 | 112.38 | 108.20 |
| 7 | D | 1667 | G | C8-N9-C1' | -5.23 | 120.20 | 127.00 |
| 7 | D | 1571 | A | C5-C6-N1 | 5.22 | 120.31 | 117.70 |
| 5 | 5 | 39 | U | C2-N1-C1' | 5.22 | 123.96 | 117.70 |
| 7 | D | 546 | C | N1-C2-O2 | 5.21 | 122.03 | 118.90 |
| 7 | D | 1527 | G | C2-N3-C4 | -5.21 | 109.30 | 111.90 |
| 51 | v | 41 | PRO | N-CA-C | 5.21 | 125.64 | 112.10 |
| 7 | D | 2125 | G | N3-C4-N9 | -5.21 | 122.88 | 126.00 |
| 7 | D | 1647 | G | O5'-P-OP1 | -5.20 | 101.02 | 105.70 |
| 6 | A | 1477 | C | N1-C2-O2 | 5.20 | 122.02 | 118.90 |
| 7 | D | 856 | C | C6-N1-C1' | -5.20 | 114.57 | 120.80 |
| 7 | D | 1951 | U | C2-N1-C1' | 5.20 | 123.93 | 117.70 |
| 7 | D | 2606 | C | N3-C4-C5 | 5.19 | 123.98 | 121.90 |
| 6 | A | 13 | U | N1-C2-O2 | 5.19 | 126.44 | 122.80 |
| 7 | D | 793 | A | C6-C5-N7 | -5.19 | 128.67 | 132.30 |
| 7 | D | 2021 | C | C6-N1-C1' | 5.19 | 127.03 | 120.80 |
| 7 | D | 280 | C | C6-N1-C2 | 5.19 | 122.38 | 120.30 |
| 7 | D | 676 | A | C2-N3-C4 | -5.19 | 108.01 | 110.60 |
| 7 | D | 1664 | A | C5-N7-C8 | -5.19 | 101.31 | 103.90 |
| 7 | D | 1776 | G | C6-C5-N7 | -5.19 | 127.29 | 130.40 |
| 7 | D | 778 | G | N9-C4-C5 | -5.18 | 103.33 | 105.40 |
| 53 | x | 23 | THR | N-CA-C | 5.18 | 124.99 | 111.00 |
| 7 | D | 2251 | G | C8-N9-C1' | -5.18 | 120.27 | 127.00 |
| 3 | 3 | 21 | PRO | C-N-CD | 5.18 | 139.27 | 128.40 |
| 7 | D | 1784 | A | N9-C4-C5 | -5.18 | 103.73 | 105.80 |
| 7 | D | 60 | G | N1-C6-O6 | -5.17 | 116.80 | 119.90 |
| 6 | A | 137 | C | C6-N1-C2 | 5.17 | 122.37 | 120.30 |
| 7 | D | 794 | G | C8-N9-C1' | -5.17 | 120.28 | 127.00 |
| 7 | D | 1656 | C | N3-C2-O2 | -5.17 | 118.28 | 121.90 |
| 7 | D | 515 | A | C4-N9-C1' | 5.16 | 135.59 | 126.30 |
| 7 | D | 602 | G | P-O3'-C3' | 5.16 | 125.90 | 119.70 |
| 7 | D | 794 | G | C4-C5-N7 | 5.16 | 112.87 | 110.80 |
| 7 | D | 2258 | C | N3-C4-C5 | 5.16 | 123.97 | 121.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 11 | H | 11 | LEU | CA-CB-CG | -5.16 | 103.42 | 115.30 |
| 50 | u | 11 | SER | C-N-CD | -5.16 | 109.24 | 120.60 |
| 6 | A | 115 | G | N3-C4-C5 | -5.16 | 126.02 | 128.60 |
| 7 | D | 609(A) | G | N3-C4-N9 | -5.16 | 122.91 | 126.00 |
| 7 | D | 1800 | C | C2-N1-C1' | 5.16 | 124.47 | 118.80 |
| 7 | D | 687 | C | N1-C2-N3 | 5.15 | 122.81 | 119.20 |
| 7 | D | 1834 | U | N3-C2-O2 | -5.15 | 118.59 | 122.20 |
| 7 | D | 277 | C | C2-N1-C1' | 5.15 | 124.47 | 118.80 |
| 7 | D | 1799 | G | C4-N9-C1' | -5.15 | 119.80 | 126.50 |
| 37 | h | 43 | GLY | N-CA-C | -5.15 | 100.23 | 113.10 |
| 7 | D | 2472 | G | C6-C5-N7 | -5.14 | 127.31 | 130.40 |
| 7 | D | 1139 | G | C4-C5-N7 | 5.14 | 112.86 | 110.80 |
| 6 | A | 362 | G | C2-N3-C4 | -5.14 | 109.33 | 111.90 |
| 7 | D | 2642 | G | C6-C5-N7 | -5.13 | 127.32 | 130.40 |
| 7 | D | 183 | C | C2-N3-C4 | -5.13 | 117.33 | 119.90 |
| 7 | D | 733 | G | N9-C4-C5 | -5.13 | 103.35 | 105.40 |
| 7 | D | 1325 | G | N1-C6-O6 | 5.13 | 122.98 | 119.90 |
| 7 | D | 2239 | G | C4-N9-C1' | 5.13 | 133.17 | 126.50 |
| 7 | D | 811 | U | C4-C5-C6 | -5.13 | 116.62 | 119.70 |
| 7 | D | 613 | U | O4'-C1'-N1 | 5.12 | 112.30 | 108.20 |
| 7 | D | 1402 | C | C6-N1-C2 | -5.12 | 118.25 | 120.30 |
| 6 | A | 304 | U | C2-N1-C1' | 5.12 | 123.85 | 117.70 |
| 56 | B | 186 | PRO | C-N-CD | 5.12 | 139.16 | 128.40 |
| 7 | D | 321 | G | C8-N9-C1' | 5.12 | 133.66 | 127.00 |
| 7 | D | 462 | C | C2-N1-C1' | 5.12 | 124.43 | 118.80 |
| 7 | D | 295 | G | C4-N9-C1' | -5.11 | 119.85 | 126.50 |
| 7 | D | 515 | A | C8-N9-C1' | -5.11 | 118.50 | 127.70 |
| 7 | D | 2056 | G | O4'-C1'-N9 | -5.11 | 104.11 | 108.20 |
| 6 | A | 1106 | G | N3-C4-N9 | -5.11 | 122.93 | 126.00 |
| 29 | Z | 181 | PRO | C-N-CD | 5.11 | 139.13 | 128.40 |
| 6 | A | 1369 | C | C2-N1-C1' | 5.11 | 124.42 | 118.80 |
| 7 | D | 791 | C | N3-C4-N4 | -5.11 | 114.42 | 118.00 |
| 37 | h | 69 | GLY | N-CA-C | -5.11 | 100.33 | 113.10 |
| 7 | D | 2703 | C | N1-C2-O2 | 5.10 | 121.96 | 118.90 |
| 7 | D | 972 | G | N3-C4-N9 | 5.10 | 129.06 | 126.00 |
| 7 | D | 1397 | U | C5-C6-N1 | 5.10 | 125.25 | 122.70 |
| 43 | n | 15 | GLU | C-N-CD | 5.10 | 139.11 | 128.40 |
| 7 | D | 1519 | G | C4-N9-C1' | 5.10 | 133.13 | 126.50 |
| 7 | D | 247 | G | N1-C2-N3 | 5.10 | 126.96 | 123.90 |
| 7 | D | 974 | G | N9-C4-C5 | -5.10 | 103.36 | 105.40 |
| 7 | D | 2242 | G | C8-N9-C1' | -5.09 | 120.38 | 127.00 |
| 7 | D | 740 | U | C5-C6-N1 | 5.09 | 125.25 | 122.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 7 | D | 805 | G | N3-C4-C5 | 5.09 | 131.15 | 128.60 |
| 7 | D | 1032 | A | C8-N9-C4 | 5.09 | 107.84 | 105.80 |
| 7 | D | 1157 | G | C8-N9-C1' | -5.09 | 120.38 | 127.00 |
| 6 | A | 1369 | C | N3-C2-O2 | -5.09 | 118.34 | 121.90 |
| 7 | D | 2052 | G | C6-C5-N7 | -5.09 | 127.35 | 130.40 |
| 7 | D | 1153 | C | C2-N1-C1' | 5.09 | 124.39 | 118.80 |
| 56 | B | 396 | LEU | C-N-CD | 5.09 | 139.08 | 128.40 |
| 7 | D | 60 | G | N3-C4-N9 | 5.08 | 129.05 | 126.00 |
| 7 | D | 1996 | C | P-O3'-C3' | 5.08 | 125.80 | 119.70 |
| 8 | E | 50 | G | N9-C4-C5 | -5.08 | 103.37 | 105.40 |
| 7 | D | 761 | A | C5-N7-C8 | -5.08 | 101.36 | 103.90 |
| 7 | D | 2617 | C | N3-C4-C5 | 5.08 | 123.93 | 121.90 |
| 8 | E | 100 | G | C6-C5-N7 | -5.08 | 127.35 | 130.40 |
| 56 | B | 398 | ASP | C-N-CD | 5.08 | 139.07 | 128.40 |
| 3 | 3 | 90 | LYS | C-N-CD | 5.08 | 139.07 | 128.40 |
| 7 | D | 462 | C | N3-C2-O2 | -5.08 | 118.34 | 121.90 |
| 56 | B | 333 | GLU | C-N-CD | 5.08 | 139.06 | 128.40 |
| 3 | 3 | 18 | THR | C-N-CD | 5.08 | 139.06 | 128.40 |
| 7 | D | 1635 | G | C4-N9-C1' | 5.08 | 133.10 | 126.50 |
| 7 | D | 1986 | A | C8-N9-C4 | -5.08 | 103.77 | 105.80 |
| 20 | Q | 96 | LEU | C-N-CD | 5.08 | 139.06 | 128.40 |
| 30 | a | 48 | ARG | CB-CG-CD | 5.08 | 124.80 | 111.60 |
| 56 | B | 454 | ALA | C-N-CD | 5.08 | 139.06 | 128.40 |
| 6 | A | 189 | U | C2-N1-C1' | 5.07 | 123.79 | 117.70 |
| 7 | D | 1997 | G | C2-N3-C4 | -5.07 | 109.36 | 111.90 |
| 56 | B | 528 | ILE | C-N-CD | 5.07 | 139.06 | 128.40 |
| 7 | D | 1617 | C | N3-C2-O2 | -5.07 | 118.35 | 121.90 |
| 56 | B | 289 | SER | C-N-CD | 5.07 | 139.05 | 128.40 |
| 56 | B | 373 | ALA | C-N-CD | 5.07 | 139.05 | 128.40 |
| 7 | D | 1919 | A | P-O3'-C3' | 5.07 | 125.78 | 119.70 |
| 3 | 3 | 53 | VAL | C-N-CD | 5.07 | 139.04 | 128.40 |
| 7 | D | 2653 | U | C2-N1-C1' | 5.06 | 123.78 | 117.70 |
| 56 | B | 223 | ARG | C-N-CD | 5.06 | 139.03 | 128.40 |
| 7 | D | 247 | G | N3-C4-N9 | 5.06 | 129.04 | 126.00 |
| 7 | D | 1205 | U | C5-C6-N1 | 5.06 | 125.23 | 122.70 |
| 56 | B | 191 | ASP | C-N-CD | 5.06 | 139.03 | 128.40 |
| 56 | B | 246 | THR | C-N-CD | 5.06 | 139.03 | 128.40 |
| 7 | D | 1607 | C | N3-C2-O2 | 5.06 | 125.44 | 121.90 |
| 7 | D | 2500 | U | P-O3'-C3' | 5.06 | 125.77 | 119.70 |
| 7 | D | 1571 | A | N1-C2-N3 | -5.06 | 126.77 | 129.30 |
| 26 | W | 75 | ALA | C-N-CD | 5.06 | 139.02 | 128.40 |
| 3 | 3 | 24 | GLY | C-N-CD | 5.06 | 139.02 | 128.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 6 | A | 1498 | U | C2-N3-C4 | -5.06 | 123.97 | 127.00 |
| 7 | D | 1660 | C | C6-N1-C1' | 5.06 | 126.87 | 120.80 |
| 56 | B | 158 | LEU | C-N-CD | 5.06 | 139.02 | 128.40 |
| 56 | B | 407 | GLU | C-N-CD | 5.06 | 139.02 | 128.40 |
| 7 | D | 2069 | G | C6-C5-N7 | -5.06 | 127.37 | 130.40 |
| 56 | B | 287 | THR | C-N-CD | 5.06 | 139.02 | 128.40 |
| 56 | B | 295 | ARG | C-N-CD | 5.06 | 139.02 | 128.40 |
| 56 | B | 298 | LYS | C-N-CD | 5.06 | 139.02 | 128.40 |
| 7 | D | 297 | C | C2-N1-C1' | 5.05 | 124.36 | 118.80 |
| 7 | D | 1956 | U | N3-C2-O2 | -5.05 | 118.66 | 122.20 |
| 34 | e | 125 | VAL | C-N-CD | 5.05 | 139.02 | 128.40 |
| 56 | B | 416 | THR | C-N-CD | 5.05 | 139.01 | 128.40 |
| 56 | B | 485 | ARG | C-N-CD | 5.05 | 139.01 | 128.40 |
| 56 | B | 592 | VAL | C-N-CD | 5.05 | 139.02 | 128.40 |
| 56 | B | 185 | ILE | C-N-CD | 5.05 | 139.01 | 128.40 |
| 6 | A | 38 | G | N3-C4-C5 | 5.05 | 131.13 | 128.60 |
| 7 | D | 1507 | A | O4'-C1'-N9 | 5.05 | 112.24 | 108.20 |
| 56 | B | 535 | VAL | C-N-CD | 5.05 | 139.01 | 128.40 |
| 7 | D | 1286 | A | C8-N9-C4 | 5.05 | 107.82 | 105.80 |
| 56 | B | 132 | ILE | C-N-CD | 5.05 | 139.01 | 128.40 |
| 56 | B | 212 | ILE | C-N-CD | 5.05 | 139.00 | 128.40 |
| 3 | 3 | 12 | LEU | C-N-CD | 5.05 | 139.00 | 128.40 |
| 7 | D | 1623 | G | C8-N9-C1' | -5.05 | 120.44 | 127.00 |
| 7 | D | 2279 | G | C6-C5-N7 | -5.05 | 127.37 | 130.40 |
| 56 | B | 441 | LEU | C-N-CD | 5.04 | 139.00 | 128.40 |
| 26 | W | 58 | VAL | C-N-CD | 5.04 | 138.99 | 128.40 |
| 7 | D | 1628 | G | N3-C4-N9 | 5.04 | 129.02 | 126.00 |
| 7 | D | 1669 | A | C5-N7-C8 | -5.04 | 101.38 | 103.90 |
| 7 | D | 676 | A | C6-C5-N7 | -5.04 | 128.77 | 132.30 |
| 56 | B | 83 | THR | C-N-CD | 5.04 | 138.98 | 128.40 |
| 7 | D | 479 | A | C8-N9-C4 | 5.04 | 107.81 | 105.80 |
| 7 | D | 1205 | U | C2'-C3'-O3' | 5.04 | 121.76 | 113.70 |
| 7 | D | 1300 | U | O4'-C1'-N1 | -5.04 | 104.17 | 108.20 |
| 7 | D | 1792 | G | C6-C5-N7 | -5.04 | 127.38 | 130.40 |
| 7 | D | 2758 | A | C5-C6-N6 | -5.03 | 119.67 | 123.70 |
| 8 | E | 100 | G | C8-N9-C1' | -5.03 | 120.46 | 127.00 |
| 7 | D | 1522 | G | N1-C6-O6 | 5.03 | 122.92 | 119.90 |
| 7 | D | 206 | U | C2-N1-C1' | -5.03 | 111.67 | 117.70 |
| 7 | D | 1186 | G | C4-C5-N7 | -5.03 | 108.79 | 110.80 |
| 6 | A | 1086 | U | N3-C2-O2 | -5.03 | 118.68 | 122.20 |
| 7 | D | 433 | C | C2-N1-C1' | 5.03 | 124.33 | 118.80 |
| 7 | D | 659 | C | N3-C4-C5 | 5.03 | 123.91 | 121.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 7 | D | 1833 | U | C2-N3-C4 | -5.02 | 123.99 | 127.00 |
| 7 | D | 2642 | G | C4-C5-N7 | 5.02 | 112.81 | 110.80 |
| 54 | y | 31 | LEU | CA-CB-CG | -5.02 | 103.75 | 115.30 |
| 6 | A | 653 | A | O4'-C1'-N9 | 5.02 | 112.22 | 108.20 |
| 7 | D | 410 | G | C8-N9-C1' | -5.02 | 120.47 | 127.00 |
| 7 | D | 733 | G | C5-C6-O6 | -5.02 | 125.59 | 128.60 |
| 30 | a | 220 | HIS | N-CA-C | 5.02 | 124.55 | 111.00 |
| 7 | D | 753 | C | C5-C6-N1 | 5.02 | 123.51 | 121.00 |
| 7 | D | 1021 | A | C5-N7-C8 | -5.01 | 101.39 | 103.90 |
| 7 | D | 246 | C | N3-C4-C5 | 5.01 | 123.91 | 121.90 |
| 7 | D | 2703 | C | N3-C2-O2 | -5.01 | 118.39 | 121.90 |
| 7 | D | 2703 | C | C2-N1-C1' | 5.01 | 124.31 | 118.80 |
| 7 | D | 688 | U | N1-C2-O2 | -5.01 | 119.29 | 122.80 |
| 7 | D | 1204 | A | C4-C5-C6 | 5.01 | 119.50 | 117.00 |
| 7 | D | 1811 | G | C4-C5-N7 | 5.01 | 112.80 | 110.80 |
| 7 | D | 1950 | G | O4'-C1'-N9 | 5.01 | 112.21 | 108.20 |
| 7 | D | 13 | A | N9-C4-C5 | 5.01 | 107.80 | 105.80 |
| 7 | D | 932 | G | N1-C2-N2 | -5.01 | 111.69 | 116.20 |
| 7 | D | 609(A) | G | N3-C2-N2 | -5.00 | 116.40 | 119.90 |
| 7 | D | 1020 | A | C8-N9-C4 | 5.00 | 107.80 | 105.80 |
| 7 | D | 1135 | C | N1-C2-O2 | 5.00 | 121.90 | 118.90 |
| 6 | A | 190 | G | C8-N9-C4 | -5.00 | 104.40 | 106.40 |
| 7 | D | 1950 | G | C8-N9-C4 | -5.00 | 104.40 | 106.40 |

There are no chirality outliers.

All (34) planarity outliers are listed below:

| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|---------|
| 9 | F | 95 | GLN | Peptide |
| 17 | N | 33 | GLN | Peptide |
| 19 | P | 15 | ARG | Peptide |
| 21 | R | 34 | TYR | Peptide |
| 30 | a | 226 | MET | Peptide |
| 30 | a | 233 | HIS | Peptide |
| 30 | a | 238 | GLY | Peptide |
| 30 | a | 246 | PRO | Peptide |
| 32 | c | 177 | ALA | Peptide |
| 32 | c | 98 | SER | Peptide |
| 33 | d | 130 | ASN | Peptide |
| 33 | d | 141 | PHE | Peptide |
| 35 | f | 2 | LYS | Peptide |
| 35 | f | 75 | TYR | Peptide |

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| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|---------|
| 35 | f | 78 | TYR | Peptide |
| 37 | h | 122 | PRO | Peptide |
| 40 | k | 53 | SER | Peptide |
| 40 | k | 94 | TYR | Peptide |
| 41 | l | 100 | TYR | Peptide |
| 41 | l | 57 | PHE | Peptide |
| 41 | l | 71 | GLY | Peptide |
| 47 | r | 160 | GLY | Peptide |
| 51 | v | 2 | LYS | Peptide |
| 52 | w | 11 | THR | Peptide |
| 52 | w | 4 | HIS | Peptide |
| 52 | w | 41 | PRO | Peptide |
| 52 | w | 49 | CYS | Peptide |
| 52 | w | 5 | PRO | Peptide |
| 53 | x | 22 | ALA | Peptide |
| 53 | x | 26 | ASN | Peptide |
| 53 | x | 38 | LYS | Peptide |
| 55 | z | 29 | LYS | Peptide |
| 55 | z | 4 | MET | Peptide |
| 55 | z | 59 | LYS | Peptide |

5.2 Too-close contacts

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 | 1 | 307 | 0 | 335 | 38 | 0 |
| 2 | 2 | 641 | 0 | 309 | 20 | 0 |
| 3 | 3 | 993 | 0 | 1030 | 310 | 0 |
| 4 | 4 | 1640 | 0 | 837 | 65 | 0 |
| 5 | 5 | 1623 | 0 | 821 | 102 | 0 |
| 6 | A | 32554 | 0 | 16429 | 2728 | 0 |
| 7 | D | 62218 | 0 | 31354 | 5215 | 0 |
| 8 | E | 2641 | 0 | 1337 | 129 | 0 |
| 9 | F | 1900 | 0 | 1951 | 165 | 0 |
| 10 | G | 1612 | 0 | 1677 | 107 | 0 |
| 11 | H | 1703 | 0 | 1763 | 146 | 0 |
| 12 | I | 1146 | 0 | 1207 | 73 | 0 |
| 13 | J | 843 | 0 | 857 | 81 | 0 |

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| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 14 | K | 1257 | 0 | 1296 | 93 | 0 |
| 15 | L | 1116 | 0 | 1177 | 100 | 0 |
| 16 | M | 1010 | 0 | 1035 | 104 | 0 |
| 17 | N | 794 | 0 | 840 | 77 | 0 |
| 18 | O | 885 | 0 | 904 | 61 | 0 |
| 19 | P | 970 | 0 | 1057 | 116 | 0 |
| 20 | Q | 914 | 0 | 967 | 226 | 0 |
| 21 | R | 492 | 0 | 529 | 45 | 0 |
| 22 | S | 734 | 0 | 771 | 63 | 0 |
| 23 | T | 700 | 0 | 720 | 75 | 0 |
| 24 | U | 857 | 0 | 930 | 85 | 0 |
| 25 | V | 597 | 0 | 668 | 73 | 0 |
| 26 | W | 647 | 0 | 670 | 438 | 0 |
| 27 | X | 763 | 0 | 861 | 68 | 0 |
| 28 | Y | 208 | 0 | 221 | 25 | 0 |
| 29 | Z | 1742 | 0 | 1796 | 282 | 0 |
| 30 | a | 2124 | 0 | 2207 | 0 | 0 |
| 31 | b | 1578 | 0 | 1647 | 0 | 0 |
| 32 | c | 1625 | 0 | 1666 | 0 | 0 |
| 33 | d | 1482 | 0 | 1546 | 0 | 0 |
| 34 | e | 1328 | 0 | 1408 | 0 | 0 |
| 35 | f | 1113 | 0 | 1183 | 0 | 0 |
| 36 | g | 932 | 0 | 994 | 0 | 0 |
| 37 | h | 1106 | 0 | 1183 | 0 | 0 |
| 38 | i | 1080 | 0 | 1127 | 0 | 0 |
| 39 | j | 960 | 0 | 1021 | 0 | 0 |
| 40 | k | 877 | 0 | 938 | 0 | 0 |
| 41 | l | 976 | 0 | 1033 | 0 | 0 |
| 42 | m | 964 | 0 | 1022 | 0 | 0 |
| 43 | n | 779 | 0 | 852 | 0 | 0 |
| 44 | o | 876 | 0 | 941 | 0 | 0 |
| 45 | p | 742 | 0 | 800 | 0 | 0 |
| 46 | q | 844 | 0 | 930 | 0 | 0 |
| 47 | r | 1435 | 0 | 1463 | 0 | 0 |
| 48 | s | 625 | 0 | 647 | 0 | 0 |
| 49 | t | 567 | 0 | 621 | 0 | 0 |
| 50 | u | 469 | 0 | 518 | 0 | 0 |
| 51 | v | 581 | 0 | 577 | 0 | 0 |
| 52 | w | 445 | 0 | 459 | 0 | 0 |
| 53 | x | 426 | 0 | 452 | 0 | 0 |
| 54 | y | 430 | 0 | 480 | 0 | 0 |
| 55 | z | 515 | 0 | 587 | 0 | 0 |

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| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|--------|----------|----------|---------|--------------|
| 56 | B | 4628 | 0 | 4707 | 2436 | 0 |
| 57 | B | 32 | 0 | 12 | 51 | 0 |
| All | All | 153046 | 0 | 105370 | 12757 | 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 63.

All (12757) 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) |
|------------------|-------------------|--------------------------|-------------------|
| 56:B:79:HIS:CD2 | 56:B:261:VAL:HG23 | 1.16 | 1.68 |
| 7:D:884:C:C2 | 7:D:885:C:C5 | 1.74 | 1.66 |
| 56:B:382:LEU:HG | 56:B:401:ARG:CD | 1.24 | 1.66 |
| 3:3:10:LEU:HD11 | 3:3:57:ILE:CG1 | 1.22 | 1.64 |
| 3:3:6:ALA:HB3 | 3:3:59:ILE:CB | 1.23 | 1.64 |
| 26:W:14:HIS:CE1 | 26:W:34:TRP:CZ3 | 1.83 | 1.64 |
| 56:B:523:LYS:HB3 | 56:B:598:LEU:CD2 | 1.20 | 1.64 |
| 26:W:69:HIS:HB2 | 26:W:74:PHE:CZ | 1.16 | 1.64 |
| 56:B:230:ILE:HA | 56:B:280:ILE:CG2 | 1.16 | 1.63 |
| 56:B:243:GLY:HA3 | 56:B:263:TRP:CD1 | 1.13 | 1.62 |
| 26:W:14:HIS:HE1 | 26:W:34:TRP:CH2 | 1.01 | 1.62 |
| 3:3:10:LEU:HD11 | 3:3:57:ILE:CD1 | 1.21 | 1.62 |
| 56:B:378:TYR:CB | 56:B:406:LEU:HD13 | 1.22 | 1.62 |
| 56:B:298:LYS:HA | 56:B:348:PHE:CE2 | 1.12 | 1.61 |
| 26:W:40:ILE:CG2 | 26:W:67:VAL:HG22 | 1.26 | 1.60 |
| 56:B:218:PHE:HZ | 56:B:291:TYR:CZ | 1.02 | 1.60 |
| 26:W:11:VAL:CG2 | 26:W:41:VAL:HG13 | 1.29 | 1.60 |
| 26:W:69:HIS:CB | 26:W:74:PHE:CZ | 1.82 | 1.59 |
| 56:B:195:PRO:HB2 | 56:B:286:PRO:CA | 1.26 | 1.58 |
| 56:B:42:ARG:CD | 56:B:53:ARG:HH21 | 0.95 | 1.58 |
| 56:B:383:LYS:HG2 | 56:B:402:ILE:CG2 | 1.20 | 1.57 |
| 56:B:137:LYS:HG3 | 57:B:701:GCP:C5 | 1.22 | 1.57 |
| 56:B:431:LYS:CD | 56:B:455:PRO:HG3 | 1.24 | 1.57 |
| 29:Z:38:ASP:CB | 29:Z:177:LYS:HD2 | 1.27 | 1.57 |
| 56:B:79:HIS:CD2 | 56:B:261:VAL:CG2 | 1.88 | 1.56 |
| 56:B:382:LEU:HB2 | 56:B:401:ARG:CG | 1.20 | 1.56 |
| 56:B:135:ILE:CG1 | 56:B:165:PHE:CB | 1.76 | 1.56 |
| 3:3:10:LEU:CD1 | 3:3:57:ILE:CD1 | 1.83 | 1.56 |
| 56:B:383:LYS:CG | 56:B:402:ILE:CG2 | 1.77 | 1.56 |
| 56:B:27:ASP:CG | 56:B:45:PHE:HB2 | 1.26 | 1.55 |
| 26:W:14:HIS:CE1 | 26:W:34:TRP:CH2 | 1.85 | 1.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 19:P:80:HIS:CD2 | 56:B:316:LEU:HG | 1.36 | 1.55 |
| 56:B:382:LEU:CB | 56:B:401:ARG:HG3 | 1.29 | 1.55 |
| 56:B:431:LYS:CG | 56:B:458:GLU:HG3 | 1.27 | 1.55 |
| 56:B:490:VAL:HB | 56:B:508:ALA:CB | 1.27 | 1.55 |
| 56:B:218:PHE:CZ | 56:B:291:TYR:CZ | 1.89 | 1.54 |
| 56:B:64:VAL:CG1 | 56:B:80:LEU:HB3 | 1.35 | 1.54 |
| 56:B:497:HIS:HA | 56:B:535:VAL:CG1 | 1.37 | 1.54 |
| 56:B:137:LYS:CG | 57:B:701:GCP:C5 | 1.86 | 1.54 |
| 6:A:1309:G:N2 | 6:A:1329:A:C8 | 1.71 | 1.54 |
| 56:B:495:LEU:HD12 | 56:B:540:ALA:CB | 1.08 | 1.54 |
| 56:B:431:LYS:HG3 | 56:B:458:GLU:CG | 1.30 | 1.54 |
| 29:Z:38:ASP:HB3 | 29:Z:177:LYS:CD | 1.31 | 1.54 |
| 56:B:195:PRO:CB | 56:B:286:PRO:HA | 1.12 | 1.53 |
| 7:D:884:C:C2 | 7:D:885:C:H5 | 0.86 | 1.53 |
| 56:B:528:ILE:HG22 | 56:B:592:VAL:CG2 | 1.39 | 1.53 |
| 56:B:121:PHE:CZ | 56:B:157:GLY:HA3 | 1.40 | 1.53 |
| 3:3:6:ALA:HB3 | 3:3:59:ILE:CG2 | 1.10 | 1.53 |
| 56:B:225:GLY:N | 56:B:239:VAL:CG1 | 1.71 | 1.52 |
| 6:A:500:G:C6 | 6:A:546:G:N2 | 1.78 | 1.52 |
| 56:B:46:LEU:CB | 56:B:61:ALA:HB1 | 1.37 | 1.52 |
| 56:B:492:VAL:HG22 | 56:B:541:ILE:CD1 | 1.07 | 1.51 |
| 20:Q:96:LEU:CD1 | 20:Q:103:THR:HG22 | 1.38 | 1.51 |
| 3:3:6:ALA:CB | 3:3:59:ILE:CG2 | 1.81 | 1.51 |
| 56:B:135:ILE:CG1 | 56:B:165:PHE:HB3 | 1.08 | 1.51 |
| 56:B:282:LEU:HD13 | 56:B:283:ALA:N | 1.20 | 1.50 |
| 7:D:489:G:N7 | 7:D:1284:A:C2 | 1.76 | 1.50 |
| 56:B:383:LYS:CB | 56:B:402:ILE:HG21 | 1.07 | 1.50 |
| 56:B:135:ILE:CD1 | 56:B:165:PHE:CG | 1.94 | 1.50 |
| 7:D:2790:A:N3 | 7:D:2893:G:C6 | 1.76 | 1.50 |
| 56:B:81:ILE:CD1 | 56:B:100:VAL:CG2 | 1.84 | 1.50 |
| 56:B:383:LYS:N | 56:B:402:ILE:HG12 | 1.25 | 1.50 |
| 6:A:1014:A:H4' | 26:W:18:LYS:CE | 1.37 | 1.49 |
| 56:B:431:LYS:HD2 | 56:B:455:PRO:CG | 1.42 | 1.49 |
| 3:3:6:ALA:CB | 3:3:59:ILE:CB | 1.81 | 1.49 |
| 56:B:242:VAL:HB | 56:B:256:LEU:CG | 1.38 | 1.49 |
| 56:B:169:LYS:HD2 | 57:B:701:GCP:C4 | 1.37 | 1.49 |
| 56:B:412:LEU:CD2 | 56:B:477:MET:HE3 | 1.43 | 1.49 |
| 26:W:36:ARG:HA | 26:W:71:LEU:CB | 1.41 | 1.49 |
| 56:B:523:LYS:CB | 56:B:598:LEU:CD2 | 1.89 | 1.49 |
| 56:B:196:LEU:CD1 | 56:B:220:GLY:HA3 | 1.38 | 1.48 |
| 56:B:528:ILE:CG2 | 56:B:592:VAL:HG21 | 1.01 | 1.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 56:B:316:LEU:CD1 | 56:B:342:PHE:CD1 | 1.96 | 1.48 |
| 56:B:298:LYS:CA | 56:B:348:PHE:HE2 | 1.09 | 1.48 |
| 56:B:135:ILE:HD11 | 56:B:165:PHE:CG | 1.44 | 1.47 |
| 56:B:282:LEU:CD1 | 56:B:283:ALA:H | 1.25 | 1.46 |
| 56:B:417:PRO:HA | 56:B:448:VAL:CG2 | 1.43 | 1.46 |
| 56:B:191:ASP:HB3 | 56:B:219:GLU:CB | 1.44 | 1.46 |
| 56:B:378:TYR:HB3 | 56:B:406:LEU:CD1 | 1.43 | 1.46 |
| 26:W:36:ARG:CA | 26:W:71:LEU:HB2 | 1.45 | 1.45 |
| 56:B:243:GLY:CA | 56:B:263:TRP:NE1 | 1.76 | 1.45 |
| 56:B:412:LEU:CD2 | 56:B:477:MET:CE | 1.93 | 1.45 |
| 7:D:884:C:C4 | 7:D:885:C:N4 | 1.80 | 1.45 |
| 56:B:196:LEU:HD11 | 56:B:220:GLY:C | 1.30 | 1.45 |
| 56:B:382:LEU:HD23 | 56:B:401:ARG:CA | 0.97 | 1.44 |
| 56:B:382:LEU:CD2 | 56:B:401:ARG:HA | 0.97 | 1.44 |
| 56:B:46:LEU:HB3 | 56:B:61:ALA:CB | 1.46 | 1.44 |
| 6:A:500:G:C5 | 6:A:546:G:N2 | 1.85 | 1.44 |
| 56:B:316:LEU:HD12 | 56:B:342:PHE:CE1 | 1.50 | 1.44 |
| 6:A:1226:C:N4 | 20:Q:104:ARG:HD2 | 1.22 | 1.44 |
| 56:B:412:LEU:HD23 | 56:B:477:MET:CE | 1.48 | 1.44 |
| 6:A:1320:C:H5" | 26:W:70:LYS:NZ | 1.27 | 1.44 |
| 56:B:492:VAL:O | 56:B:505:THR:CA | 1.65 | 1.43 |
| 26:W:14:HIS:CB | 26:W:35:SER:HB2 | 1.46 | 1.43 |
| 56:B:135:ILE:CD1 | 56:B:145:PRO:HB3 | 1.48 | 1.43 |
| 56:B:135:ILE:CD1 | 56:B:165:PHE:CB | 1.94 | 1.43 |
| 20:Q:71:ARG:HG3 | 20:Q:75:ALA:CB | 1.49 | 1.43 |
| 56:B:528:ILE:CG2 | 56:B:592:VAL:CG2 | 1.94 | 1.43 |
| 56:B:135:ILE:HG12 | 56:B:165:PHE:CD1 | 1.54 | 1.42 |
| 29:Z:38:ASP:HB3 | 29:Z:177:LYS:CE | 1.50 | 1.42 |
| 56:B:492:VAL:O | 56:B:505:THR:CB | 1.65 | 1.42 |
| 3:3:6:ALA:CB | 3:3:59:ILE:HG21 | 1.41 | 1.42 |
| 56:B:559:LEU:HD21 | 56:B:574:LEU:CD1 | 1.49 | 1.42 |
| 56:B:196:LEU:CD1 | 56:B:220:GLY:CA | 1.98 | 1.42 |
| 56:B:137:LYS:HG2 | 57:B:701:GCP:C6 | 1.50 | 1.42 |
| 56:B:298:LYS:CA | 56:B:348:PHE:CE2 | 1.82 | 1.42 |
| 56:B:411:LYS:CE | 56:B:453:GLU:OE2 | 1.66 | 1.42 |
| 56:B:412:LEU:CD1 | 56:B:479:TYR:HA | 1.46 | 1.42 |
| 56:B:417:PRO:CB | 56:B:446:LYS:O | 1.65 | 1.41 |
| 56:B:379:LYS:N | 56:B:406:LEU:HB2 | 1.19 | 1.41 |
| 56:B:306:TYR:CD1 | 56:B:370:ILE:HD12 | 1.56 | 1.41 |
| 56:B:243:GLY:CA | 56:B:263:TRP:HE1 | 1.30 | 1.40 |
| 56:B:81:ILE:HD11 | 56:B:100:VAL:CG2 | 1.46 | 1.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 26:W:15:LEU:HD21 | 26:W:19:VAL:CG1 | 1.52 | 1.40 |
| 56:B:137:LYS:HE3 | 57:B:701:GCP:N3 | 1.14 | 1.40 |
| 56:B:169:LYS:HD2 | 57:B:701:GCP:N3 | 1.08 | 1.40 |
| 7:D:1063:G:C6 | 7:D:1064:C:N4 | 1.90 | 1.40 |
| 26:W:14:HIS:NE2 | 26:W:34:TRP:CZ3 | 1.76 | 1.40 |
| 56:B:378:TYR:CA | 56:B:406:LEU:HD13 | 1.48 | 1.40 |
| 56:B:417:PRO:HB3 | 56:B:447:ARG:CA | 1.49 | 1.40 |
| 26:W:70:LYS:HB3 | 26:W:73:GLU:CG | 1.50 | 1.39 |
| 56:B:43:GLU:HB2 | 56:B:53:ARG:NH2 | 1.38 | 1.39 |
| 26:W:14:HIS:C | 26:W:35:SER:CB | 1.90 | 1.39 |
| 56:B:135:ILE:CD1 | 56:B:165:PHE:HB3 | 1.48 | 1.39 |
| 56:B:225:GLY:CA | 56:B:239:VAL:CG1 | 1.99 | 1.39 |
| 16:M:111:ARG:NH1 | 21:R:61:TRP:OXT | 1.56 | 1.39 |
| 3:3:10:LEU:CD1 | 3:3:57:ILE:HD11 | 1.38 | 1.39 |
| 56:B:406:LEU:HD11 | 56:B:489:LEU:CD1 | 1.52 | 1.38 |
| 20:Q:23:TYR:CG | 20:Q:70:LEU:HD21 | 1.57 | 1.38 |
| 56:B:298:LYS:HA | 56:B:348:PHE:CZ | 1.57 | 1.38 |
| 56:B:46:LEU:CD1 | 56:B:82:ASP:HB2 | 1.52 | 1.38 |
| 56:B:533:PHE:CZ | 56:B:588:GLY:O | 1.75 | 1.38 |
| 26:W:15:LEU:HD23 | 26:W:33:THR:CG2 | 1.54 | 1.37 |
| 56:B:211:VAL:O | 56:B:265:VAL:CG2 | 1.71 | 1.37 |
| 56:B:245:PHE:CE2 | 56:B:262:GLY:HA2 | 1.58 | 1.37 |
| 56:B:81:ILE:CD1 | 56:B:100:VAL:HG21 | 0.91 | 1.37 |
| 56:B:417:PRO:CA | 56:B:448:VAL:HG23 | 1.54 | 1.36 |
| 56:B:523:LYS:CB | 56:B:598:LEU:HD22 | 1.48 | 1.36 |
| 7:D:1048:A:OP2 | 7:D:1109:C:N4 | 1.58 | 1.36 |
| 56:B:191:ASP:CB | 56:B:219:GLU:HB3 | 1.55 | 1.36 |
| 56:B:200:ILE:CD1 | 56:B:279:THR:HG23 | 1.53 | 1.36 |
| 56:B:492:VAL:CG2 | 56:B:541:ILE:HD13 | 0.92 | 1.36 |
| 56:B:46:LEU:CD1 | 56:B:82:ASP:CB | 2.02 | 1.36 |
| 56:B:378:TYR:HE2 | 56:B:507:ILE:CG2 | 1.38 | 1.35 |
| 56:B:495:LEU:CD1 | 56:B:540:ALA:CB | 2.02 | 1.35 |
| 56:B:42:ARG:HD2 | 56:B:53:ARG:NH2 | 1.02 | 1.35 |
| 7:D:852:G:C6 | 7:D:926:A:N6 | 1.95 | 1.35 |
| 26:W:29:ARG:HB3 | 26:W:48:THR:CG2 | 1.57 | 1.35 |
| 56:B:243:GLY:HA3 | 56:B:263:TRP:NE1 | 1.26 | 1.35 |
| 56:B:135:ILE:HD11 | 56:B:165:PHE:CB | 1.53 | 1.34 |
| 6:A:1309:G:H5' | 20:Q:88:ARG:NH2 | 1.40 | 1.34 |
| 56:B:133:PRO:O | 56:B:163:ALA:HA | 1.27 | 1.34 |
| 56:B:188:PRO:HB2 | 56:B:216:ARG:NH2 | 1.35 | 1.34 |
| 56:B:218:PHE:HZ | 56:B:291:TYR:CE2 | 1.44 | 1.34 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 56:B:521:VAL:CG2 | 56:B:539:ALA:HB2 | 1.56 | 1.34 |
| 4:4:75:C:H5 | 56:B:569:ARG:NH2 | 1.19 | 1.33 |
| 56:B:489:LEU:O | 56:B:508:ALA:C | 1.65 | 1.33 |
| 56:B:169:LYS:CD | 57:B:701:GCP:N3 | 1.91 | 1.33 |
| 7:D:489:G:C5 | 7:D:1284:A:N1 | 1.96 | 1.33 |
| 56:B:134:VAL:CB | 56:B:163:ALA:O | 1.75 | 1.33 |
| 26:W:3:ARG:O | 26:W:42:PRO:CG | 1.76 | 1.33 |
| 6:A:55:A:C4 | 56:B:208:TYR:HE2 | 1.46 | 1.33 |
| 56:B:521:VAL:HG21 | 56:B:539:ALA:CB | 1.58 | 1.33 |
| 26:W:15:LEU:CD2 | 26:W:33:THR:HG21 | 1.56 | 1.33 |
| 6:A:1226:C:C4 | 20:Q:104:ARG:HD2 | 1.63 | 1.32 |
| 56:B:306:TYR:HB3 | 56:B:370:ILE:CB | 1.58 | 1.32 |
| 29:Z:63:SER:HA | 29:Z:155:GLU:OE2 | 1.29 | 1.32 |
| 29:Z:38:ASP:CG | 29:Z:177:LYS:HD2 | 1.47 | 1.32 |
| 29:Z:38:ASP:OD2 | 29:Z:177:LYS:CD | 1.76 | 1.31 |
| 26:W:44:MET:O | 26:W:45:VAL:HG22 | 1.29 | 1.31 |
| 56:B:490:VAL:CB | 56:B:508:ALA:CB | 2.07 | 1.31 |
| 56:B:360:ARG:CG | 56:B:364:GLU:OE1 | 1.78 | 1.31 |
| 56:B:396:LEU:HD13 | 56:B:491:LYS:CG | 1.31 | 1.31 |
| 7:D:1084:A:H1' | 7:D:1106:G:N7 | 1.45 | 1.31 |
| 56:B:225:GLY:CA | 56:B:239:VAL:HG12 | 1.58 | 1.30 |
| 56:B:206:ASP:OD2 | 56:B:269:ARG:HB3 | 1.25 | 1.30 |
| 20:Q:71:ARG:CG | 20:Q:75:ALA:HB3 | 1.59 | 1.30 |
| 29:Z:38:ASP:CB | 29:Z:177:LYS:CD | 1.96 | 1.30 |
| 56:B:411:LYS:HB2 | 56:B:480:GLU:OE1 | 1.31 | 1.30 |
| 26:W:12:ASP:CB | 26:W:38:SER:OG | 1.79 | 1.30 |
| 29:Z:38:ASP:OD1 | 29:Z:178:ALA:HB3 | 1.29 | 1.30 |
| 56:B:242:VAL:CB | 56:B:256:LEU:HG | 1.59 | 1.30 |
| 56:B:31:GLU:HG3 | 56:B:40:GLU:CG | 1.52 | 1.29 |
| 56:B:492:VAL:O | 56:B:505:THR:CG2 | 1.79 | 1.29 |
| 3:3:13:PRO:HG2 | 3:3:16:LYS:CE | 1.62 | 1.29 |
| 56:B:243:GLY:CA | 56:B:263:TRP:CD1 | 2.09 | 1.29 |
| 56:B:383:LYS:CB | 56:B:402:ILE:CG2 | 1.92 | 1.29 |
| 56:B:68:TYR:CD2 | 56:B:75:GLU:HG3 | 1.67 | 1.29 |
| 6:A:500:G:C6 | 6:A:546:G:C2 | 2.20 | 1.29 |
| 56:B:379:LYS:NZ | 56:B:407:GLU:O | 1.65 | 1.29 |
| 56:B:200:ILE:HD11 | 56:B:279:THR:CG2 | 1.62 | 1.29 |
| 56:B:379:LYS:N | 56:B:406:LEU:CB | 1.94 | 1.29 |
| 56:B:382:LEU:CG | 56:B:401:ARG:CD | 2.10 | 1.29 |
| 56:B:378:TYR:CB | 56:B:406:LEU:CD1 | 2.01 | 1.29 |
| 56:B:74:GLU:OE2 | 56:B:182:VAL:CG1 | 1.77 | 1.29 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 6:A:439:A:OP2 | 6:A:493:G:N2 | 1.65 | 1.29 |
| 56:B:559:LEU:CD2 | 56:B:574:LEU:HD13 | 1.61 | 1.29 |
| 56:B:229:ARG:NE | 56:B:282:LEU:O | 1.63 | 1.28 |
| 6:A:1321:C:P | 20:Q:98:VAL:CG2 | 2.21 | 1.28 |
| 56:B:221:ARG:HG2 | 56:B:256:LEU:O | 1.31 | 1.28 |
| 26:W:12:ASP:CB | 26:W:38:SER:CB | 2.10 | 1.28 |
| 6:A:1320:C:C5' | 26:W:70:LYS:HZ2 | 1.43 | 1.28 |
| 6:A:1309:G:N2 | 6:A:1329:A:N7 | 1.82 | 1.28 |
| 56:B:27:ASP:OD2 | 56:B:45:PHE:HB2 | 1.31 | 1.28 |
| 56:B:65:ARG:HG3 | 56:B:245:PHE:O | 1.22 | 1.28 |
| 56:B:230:ILE:CA | 56:B:280:ILE:CG2 | 2.10 | 1.28 |
| 26:W:36:ARG:HB3 | 26:W:71:LEU:C | 1.54 | 1.28 |
| 3:3:10:LEU:CD1 | 3:3:57:ILE:CG1 | 2.04 | 1.27 |
| 56:B:134:VAL:N | 56:B:163:ALA:HB1 | 1.48 | 1.27 |
| 56:B:27:ASP:OD1 | 56:B:45:PHE:HB2 | 1.28 | 1.27 |
| 56:B:302:PHE:CD1 | 56:B:460:LEU:HD22 | 1.67 | 1.27 |
| 56:B:74:GLU:OE2 | 56:B:182:VAL:HG11 | 1.21 | 1.27 |
| 56:B:492:VAL:C | 56:B:505:THR:HG22 | 1.51 | 1.27 |
| 56:B:218:PHE:CZ | 56:B:291:TYR:CE2 | 2.20 | 1.27 |
| 26:W:16:LEU:O | 26:W:20:LEU:HB2 | 1.14 | 1.26 |
| 56:B:135:ILE:HD12 | 56:B:145:PRO:CG | 1.62 | 1.26 |
| 14:K:138:LYS:NZ | 14:K:139:GLU:OE2 | 1.68 | 1.26 |
| 56:B:379:LYS:CE | 56:B:484:TYR:HB3 | 1.64 | 1.26 |
| 26:W:14:HIS:O | 26:W:35:SER:HB3 | 1.13 | 1.26 |
| 56:B:137:LYS:HG3 | 57:B:701:GCP:N7 | 1.51 | 1.26 |
| 56:B:135:ILE:CD1 | 56:B:145:PRO:CB | 2.13 | 1.26 |
| 56:B:406:LEU:CD1 | 56:B:489:LEU:HD11 | 1.64 | 1.26 |
| 56:B:8:ARG:CB | 56:B:74:GLU:HB3 | 1.64 | 1.26 |
| 19:P:80:HIS:HB3 | 56:B:342:PHE:CZ | 1.70 | 1.26 |
| 56:B:8:ARG:HG3 | 56:B:74:GLU:CB | 1.66 | 1.25 |
| 26:W:12:ASP:HB2 | 26:W:38:SER:CB | 1.66 | 1.25 |
| 6:A:1220:G:OP1 | 26:W:34:TRP:CD1 | 1.88 | 1.25 |
| 26:W:15:LEU:HB2 | 26:W:35:SER:OG | 1.29 | 1.25 |
| 56:B:431:LYS:CD | 56:B:455:PRO:CG | 2.02 | 1.25 |
| 56:B:34:HIS:NE2 | 56:B:67:THR:HG22 | 1.52 | 1.25 |
| 56:B:242:VAL:CG1 | 56:B:256:LEU:HG | 1.63 | 1.25 |
| 56:B:330:LEU:HG | 56:B:346:CYS:N | 1.51 | 1.25 |
| 26:W:14:HIS:CD2 | 26:W:35:SER:HA | 1.71 | 1.25 |
| 6:A:278:G:OP2 | 24:U:41:LYS:NZ | 1.67 | 1.24 |
| 7:D:539:G:C2 | 7:D:556:G:N1 | 2.05 | 1.24 |
| 26:W:70:LYS:CB | 26:W:73:GLU:CG | 2.14 | 1.24 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 29:Z:69:GLY:HA2 | 29:Z:157:LYS:CA | 1.64 | 1.24 |
| 56:B:46:LEU:HD13 | 56:B:61:ALA:O | 1.37 | 1.24 |
| 56:B:494:VAL:HG21 | 56:B:520:ILE:CD1 | 1.66 | 1.24 |
| 56:B:497:HIS:CB | 56:B:535:VAL:HG11 | 1.67 | 1.24 |
| 56:B:430:GLU:OE1 | 56:B:458:GLU:O | 1.55 | 1.24 |
| 6:A:1014:A:C2 | 26:W:32:LYS:HD3 | 1.73 | 1.24 |
| 26:W:3:ARG:O | 26:W:42:PRO:HG3 | 1.14 | 1.24 |
| 7:D:1451:C:O2 | 7:D:1461:G:N2 | 1.68 | 1.24 |
| 56:B:211:VAL:O | 56:B:265:VAL:HG23 | 1.07 | 1.24 |
| 56:B:43:GLU:CB | 56:B:53:ARG:HH22 | 1.50 | 1.24 |
| 26:W:15:LEU:CB | 26:W:35:SER:OG | 1.84 | 1.24 |
| 56:B:306:TYR:CB | 56:B:370:ILE:HB | 1.68 | 1.23 |
| 26:W:40:ILE:CG2 | 26:W:67:VAL:CG2 | 2.15 | 1.23 |
| 56:B:135:ILE:HG13 | 56:B:165:PHE:CB | 1.51 | 1.23 |
| 56:B:379:LYS:HE3 | 56:B:484:TYR:CB | 1.69 | 1.23 |
| 26:W:47:HIS:O | 26:W:61:TYR:CD2 | 1.91 | 1.23 |
| 56:B:133:PRO:C | 56:B:163:ALA:HB1 | 1.58 | 1.23 |
| 26:W:69:HIS:CB | 26:W:74:PHE:HZ | 1.27 | 1.23 |
| 56:B:196:LEU:CD1 | 56:B:220:GLY:C | 2.06 | 1.23 |
| 56:B:206:ASP:OD2 | 56:B:269:ARG:CB | 1.87 | 1.23 |
| 56:B:133:PRO:O | 56:B:163:ALA:CA | 1.84 | 1.23 |
| 56:B:378:TYR:CE2 | 56:B:507:ILE:CG2 | 2.21 | 1.23 |
| 7:D:1749:A:O2' | 7:D:1750:G:H5' | 1.37 | 1.23 |
| 56:B:46:LEU:HD11 | 56:B:82:ASP:CG | 1.58 | 1.23 |
| 7:D:2661:G:N2 | 56:B:465:ASP:OD1 | 1.72 | 1.23 |
| 6:A:1014:A:H2 | 26:W:32:LYS:CD | 1.51 | 1.23 |
| 56:B:135:ILE:CG1 | 56:B:165:PHE:CD1 | 2.20 | 1.23 |
| 56:B:137:LYS:HE3 | 57:B:701:GCP:C2 | 1.69 | 1.23 |
| 56:B:316:LEU:HD12 | 56:B:342:PHE:CD1 | 1.59 | 1.23 |
| 6:A:835:U:O2 | 6:A:851:G:N2 | 1.72 | 1.22 |
| 20:Q:91:ARG:HG3 | 20:Q:96:LEU:O | 1.33 | 1.22 |
| 26:W:29:ARG:CB | 26:W:48:THR:CG2 | 2.18 | 1.22 |
| 56:B:64:VAL:HB | 56:B:80:LEU:CB | 1.69 | 1.22 |
| 6:A:1321:C:OP2 | 20:Q:98:VAL:CG2 | 1.87 | 1.22 |
| 56:B:497:HIS:CA | 56:B:535:VAL:CG1 | 2.16 | 1.22 |
| 56:B:230:ILE:CA | 56:B:280:ILE:HG22 | 1.67 | 1.22 |
| 56:B:420:TYR:CD1 | 56:B:471:SER:HA | 1.74 | 1.22 |
| 7:D:2793:G:N2 | 7:D:2803:C:N3 | 1.87 | 1.22 |
| 56:B:121:PHE:CZ | 56:B:157:GLY:CA | 2.19 | 1.22 |
| 56:B:196:LEU:C | 56:B:281:THR:HG22 | 1.60 | 1.22 |
| 56:B:49:LEU:HD21 | 56:B:60:LYS:NZ | 1.53 | 1.22 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 20:Q:71:ARG:CG | 20:Q:75:ALA:CB | 2.16 | 1.22 |
| 56:B:396:LEU:CD1 | 56:B:491:LYS:CG | 2.12 | 1.21 |
| 56:B:492:VAL:HG13 | 56:B:541:ILE:CG1 | 1.69 | 1.21 |
| 6:A:1319:A:OP1 | 26:W:38:SER:HA | 1.41 | 1.21 |
| 56:B:134:VAL:CA | 56:B:163:ALA:O | 1.87 | 1.21 |
| 56:B:533:PHE:HZ | 56:B:588:GLY:O | 0.91 | 1.21 |
| 56:B:137:LYS:CG | 57:B:701:GCP:C6 | 2.13 | 1.21 |
| 26:W:70:LYS:CB | 26:W:73:GLU:HG2 | 1.70 | 1.21 |
| 3:3:33:ASN:O | 3:3:63:ARG:HD3 | 1.38 | 1.21 |
| 56:B:242:VAL:O | 56:B:263:TRP:O | 1.55 | 1.21 |
| 56:B:242:VAL:CB | 56:B:256:LEU:CG | 2.15 | 1.20 |
| 56:B:531:GLN:O | 56:B:554:LEU:HB2 | 1.04 | 1.20 |
| 22:S:26:GLU:OE2 | 22:S:77:ARG:NH1 | 1.71 | 1.20 |
| 56:B:137:LYS:CE | 57:B:701:GCP:N3 | 2.04 | 1.20 |
| 6:A:1014:A:C4' | 26:W:18:LYS:HE2 | 1.70 | 1.20 |
| 56:B:492:VAL:CG2 | 56:B:541:ILE:CD1 | 1.80 | 1.20 |
| 3:3:24:GLY:O | 56:B:440:TYR:CE2 | 1.91 | 1.20 |
| 6:A:37:U:OP2 | 19:P:123:LYS:NZ | 1.74 | 1.20 |
| 56:B:431:LYS:HB3 | 56:B:455:PRO:CD | 1.70 | 1.20 |
| 3:3:6:ALA:HB1 | 3:3:59:ILE:CG1 | 1.72 | 1.20 |
| 56:B:46:LEU:CD1 | 56:B:82:ASP:CG | 2.10 | 1.19 |
| 7:D:1174:A:N6 | 7:D:1176:G:N7 | 1.90 | 1.19 |
| 6:A:1014:A:H5' | 26:W:18:LYS:NZ | 1.53 | 1.19 |
| 3:3:6:ALA:CB | 3:3:59:ILE:HB | 1.50 | 1.19 |
| 29:Z:38:ASP:OD2 | 29:Z:178:ALA:N | 1.75 | 1.19 |
| 56:B:225:GLY:N | 56:B:239:VAL:HG11 | 1.36 | 1.19 |
| 56:B:383:LYS:HB3 | 56:B:402:ILE:CG2 | 1.64 | 1.19 |
| 56:B:11:ASN:OD1 | 56:B:79:HIS:CD2 | 1.96 | 1.19 |
| 7:D:1869:G:N2 | 7:D:1872:A:OP2 | 1.73 | 1.19 |
| 56:B:410:VAL:CG1 | 56:B:481:GLN:H | 1.55 | 1.19 |
| 56:B:135:ILE:CG1 | 56:B:165:PHE:CG | 2.20 | 1.19 |
| 6:A:1447:G:N2 | 6:A:1460:A:C4 | 2.11 | 1.19 |
| 6:A:75:C:C2 | 6:A:96:G:C2 | 2.30 | 1.19 |
| 56:B:212:ILE:HG21 | 56:B:263:TRP:CE3 | 1.78 | 1.19 |
| 56:B:411:LYS:HE2 | 56:B:453:GLU:OE2 | 1.27 | 1.19 |
| 6:A:1319:A:C5' | 26:W:37:ARG:O | 1.91 | 1.19 |
| 7:D:2790:A:N3 | 7:D:2893:G:O6 | 1.72 | 1.18 |
| 56:B:12:PHE:HA | 56:B:102:GLY:O | 1.42 | 1.18 |
| 56:B:490:VAL:CB | 56:B:508:ALA:HB1 | 1.71 | 1.18 |
| 56:B:196:LEU:O | 56:B:281:THR:HG22 | 1.41 | 1.18 |
| 56:B:218:PHE:O | 56:B:258:ALA:HB1 | 1.41 | 1.18 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 56:B:493:ASN:HB3 | 56:B:503:ALA:HB1 | 1.25 | 1.18 |
| 56:B:49:LEU:CD2 | 56:B:60:LYS:HZ2 | 1.56 | 1.18 |
| 7:D:1023:U:OP2 | 7:D:1025:G:N2 | 1.76 | 1.18 |
| 56:B:205:TYR:OH | 56:B:271:ILE:HG12 | 1.43 | 1.18 |
| 56:B:428:LEU:HD13 | 56:B:452:TYR:CD1 | 1.78 | 1.18 |
| 7:D:2790:A:H1' | 7:D:2893:G:O6 | 1.41 | 1.18 |
| 56:B:377:VAL:O | 56:B:391:HIS:HB3 | 1.41 | 1.18 |
| 56:B:379:LYS:HG2 | 56:B:406:LEU:HA | 1.26 | 1.18 |
| 56:B:299:PRO:O | 56:B:479:TYR:OH | 1.61 | 1.18 |
| 7:D:583:G:OP2 | 16:M:10:ARG:NH1 | 174.05 | 1.18 |
| 56:B:378:TYR:CA | 56:B:406:LEU:CD1 | 2.21 | 1.17 |
| 3:3:10:LEU:CD1 | 3:3:57:ILE:HG12 | 1.68 | 1.17 |
| 6:A:1320:C:C5 | 26:W:36:ARG:HG3 | 1.76 | 1.17 |
| 3:3:52:ILE:HD13 | 7:D:1062:G:OP1 | 1.45 | 1.17 |
| 56:B:227:ARG:HB3 | 56:B:237:PHE:CD2 | 1.78 | 1.17 |
| 56:B:316:LEU:CD1 | 56:B:342:PHE:CE1 | 2.21 | 1.17 |
| 56:B:205:TYR:CE2 | 56:B:271:ILE:HG23 | 1.79 | 1.17 |
| 56:B:416:THR:O | 56:B:448:VAL:HB | 1.41 | 1.17 |
| 56:B:380:VAL:O | 56:B:387:GLU:O | 1.62 | 1.17 |
| 56:B:11:ASN:C | 56:B:100:VAL:HG13 | 1.63 | 1.17 |
| 56:B:242:VAL:HB | 56:B:256:LEU:CD2 | 1.75 | 1.16 |
| 56:B:78:PHE:CZ | 56:B:182:VAL:HG22 | 1.80 | 1.16 |
| 56:B:27:ASP:OD1 | 56:B:45:PHE:CB | 1.93 | 1.16 |
| 56:B:27:ASP:OD2 | 56:B:41:MET:SD | 2.03 | 1.16 |
| 56:B:299:PRO:C | 56:B:479:TYR:OH | 1.83 | 1.16 |
| 56:B:335:GLU:HG3 | 56:B:375:SER:OG | 1.43 | 1.16 |
| 29:Z:68:LEU:O | 29:Z:157:LYS:C | 1.82 | 1.16 |
| 6:A:1014:A:C5' | 26:W:18:LYS:NZ | 2.07 | 1.16 |
| 56:B:523:LYS:HB2 | 56:B:598:LEU:HD22 | 1.27 | 1.16 |
| 6:A:1165:C:H2' | 6:A:1166:G:H8 | 1.02 | 1.16 |
| 56:B:242:VAL:HB | 56:B:256:LEU:CD1 | 1.75 | 1.16 |
| 56:B:322:LYS:HB3 | 56:B:331:THR:CG2 | 1.76 | 1.16 |
| 56:B:411:LYS:HD3 | 56:B:436:VAL:HG21 | 1.17 | 1.16 |
| 56:B:64:VAL:CB | 56:B:80:LEU:HB3 | 1.75 | 1.15 |
| 56:B:306:TYR:HD1 | 56:B:370:ILE:CD1 | 1.57 | 1.15 |
| 56:B:104:LEU:HD21 | 56:B:181:ILE:CD1 | 1.76 | 1.15 |
| 56:B:431:LYS:CG | 56:B:455:PRO:HG3 | 1.75 | 1.15 |
| 56:B:64:VAL:HB | 56:B:80:LEU:HB2 | 1.21 | 1.15 |
| 26:W:70:LYS:HB2 | 26:W:73:GLU:CD | 1.65 | 1.15 |
| 56:B:13:SER:O | 56:B:103:VAL:HB | 1.45 | 1.15 |
| 26:W:11:VAL:CG2 | 26:W:41:VAL:CG1 | 2.24 | 1.15 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 29:Z:38:ASP:OD2 | 29:Z:177:LYS:HD3 | 1.40 | 1.15 |
| 56:B:135:ILE:CD1 | 56:B:145:PRO:CG | 2.24 | 1.15 |
| 56:B:559:LEU:HD21 | 56:B:574:LEU:HD11 | 1.15 | 1.15 |
| 29:Z:38:ASP:O | 29:Z:177:LYS:HE3 | 1.43 | 1.15 |
| 56:B:230:ILE:HA | 56:B:280:ILE:HG21 | 1.19 | 1.15 |
| 7:D:1749:A:H2' | 7:D:1750:G:C8 | 1.82 | 1.15 |
| 56:B:118:LEU:CD1 | 56:B:446:LYS:NZ | 2.09 | 1.15 |
| 56:B:197:LYS:CA | 56:B:281:THR:HG22 | 1.76 | 1.15 |
| 19:P:80:HIS:CD2 | 56:B:316:LEU:CG | 2.30 | 1.15 |
| 7:D:435:C:H2' | 7:D:436:C:H5' | 1.27 | 1.15 |
| 20:Q:56:LEU:O | 20:Q:60:VAL:CG2 | 1.94 | 1.15 |
| 6:A:79:G:N1 | 6:A:90:C:O2 | 1.80 | 1.14 |
| 56:B:412:LEU:CG | 56:B:479:TYR:HA | 1.77 | 1.14 |
| 26:W:12:ASP:CB | 26:W:38:SER:HB2 | 1.75 | 1.14 |
| 4:4:75:C:C5 | 56:B:569:ARG:NH2 | 2.01 | 1.14 |
| 6:A:64:G:N2 | 6:A:68:G:O6 | 1.79 | 1.14 |
| 56:B:221:ARG:CG | 56:B:256:LEU:O | 1.93 | 1.14 |
| 7:D:2794:C:C5 | 7:D:2799:A:C2 | 2.35 | 1.14 |
| 56:B:134:VAL:HA | 56:B:163:ALA:O | 1.43 | 1.14 |
| 26:W:14:HIS:HB3 | 26:W:35:SER:HB2 | 1.20 | 1.14 |
| 26:W:11:VAL:HG11 | 26:W:40:ILE:HA | 1.16 | 1.14 |
| 56:B:489:LEU:O | 56:B:509:HIS:N | 1.78 | 1.14 |
| 6:A:55:A:C4 | 56:B:208:TYR:CE2 | 2.34 | 1.14 |
| 29:Z:64:LEU:O | 29:Z:159:GLY:HA3 | 1.48 | 1.14 |
| 56:B:42:ARG:HH21 | 56:B:53:ARG:NH2 | 1.44 | 1.14 |
| 56:B:229:ARG:CZ | 56:B:283:ALA:HA | 1.76 | 1.14 |
| 56:B:407:GLU:OE2 | 56:B:431:LYS:NZ | 1.81 | 1.14 |
| 56:B:135:ILE:CD1 | 56:B:165:PHE:CD1 | 2.31 | 1.13 |
| 56:B:221:ARG:HG3 | 56:B:257:GLU:HA | 1.16 | 1.13 |
| 56:B:378:TYR:HE2 | 56:B:507:ILE:HG21 | 1.01 | 1.13 |
| 56:B:495:LEU:HD12 | 56:B:540:ALA:HB2 | 1.18 | 1.13 |
| 3:3:13:PRO:HG2 | 3:3:16:LYS:HE3 | 1.15 | 1.13 |
| 56:B:153:GLU:HA | 56:B:159:PRO:HA | 1.22 | 1.13 |
| 56:B:228:ILE:HA | 56:B:282:LEU:HD22 | 1.15 | 1.13 |
| 4:4:74:C:C5 | 56:B:569:ARG:NH2 | 2.16 | 1.13 |
| 56:B:8:ARG:CG | 56:B:74:GLU:CB | 2.26 | 1.13 |
| 26:W:70:LYS:HB3 | 26:W:73:GLU:CB | 1.76 | 1.13 |
| 56:B:417:PRO:CB | 56:B:447:ARG:HA | 1.77 | 1.13 |
| 56:B:493:ASN:CB | 56:B:503:ALA:HB1 | 1.77 | 1.13 |
| 56:B:492:VAL:O | 56:B:505:THR:HA | 1.25 | 1.13 |
| 3:3:6:ALA:CA | 3:3:59:ILE:HB | 1.79 | 1.13 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 56:B:196:LEU:O | 56:B:281:THR:CG2 | 1.96 | 1.13 |
| 56:B:15:ILE:HD12 | 56:B:103:VAL:CG2 | 1.77 | 1.13 |
| 56:B:17:HIS:ND1 | 56:B:116:GLU:HB2 | 1.62 | 1.13 |
| 6:A:1014:A:C4' | 26:W:18:LYS:CE | 2.24 | 1.13 |
| 56:B:322:LYS:HG2 | 56:B:331:THR:HG21 | 1.19 | 1.13 |
| 56:B:490:VAL:CB | 56:B:508:ALA:HB3 | 1.70 | 1.13 |
| 6:A:526:C:OP2 | 19:P:91:LYS:NZ | 1.79 | 1.13 |
| 56:B:24:THR:HG21 | 56:B:169:LYS:HG3 | 1.27 | 1.13 |
| 56:B:177:ILE:HG23 | 56:B:181:ILE:HD12 | 1.17 | 1.13 |
| 56:B:240:ASP:OD2 | 56:B:266:ALA:HB1 | 1.48 | 1.13 |
| 56:B:492:VAL:O | 56:B:505:THR:HG22 | 1.42 | 1.13 |
| 56:B:492:VAL:CG1 | 56:B:541:ILE:HG12 | 1.79 | 1.13 |
| 6:A:1321:C:P | 20:Q:98:VAL:HG21 | 1.84 | 1.13 |
| 7:D:1084:A:C1' | 7:D:1106:G:C8 | 2.32 | 1.12 |
| 7:D:370:G:H22 | 7:D:422:A:P | 1.71 | 1.12 |
| 7:D:539:G:C2 | 7:D:556:G:C6 | 2.37 | 1.12 |
| 26:W:16:LEU:O | 26:W:20:LEU:CB | 1.97 | 1.12 |
| 56:B:64:VAL:CG1 | 56:B:80:LEU:CB | 2.28 | 1.12 |
| 20:Q:71:ARG:HG3 | 20:Q:75:ALA:HB1 | 1.20 | 1.12 |
| 56:B:8:ARG:CB | 56:B:74:GLU:CB | 2.27 | 1.12 |
| 3:3:103:GLN:O | 3:3:107:ILE:HG13 | 1.44 | 1.12 |
| 3:3:10:LEU:HD21 | 3:3:57:ILE:HG13 | 1.20 | 1.12 |
| 6:A:1440:C:H2' | 6:A:1441:G:H5' | 1.29 | 1.12 |
| 6:A:1320:C:C5' | 26:W:70:LYS:NZ | 2.06 | 1.12 |
| 6:A:403:C:O2' | 11:H:122:ARG:NH1 | 1.82 | 1.12 |
| 7:D:1063:G:O6 | 7:D:1064:C:N4 | 1.81 | 1.12 |
| 7:D:848:G:N2 | 7:D:931:G:N7 | 1.98 | 1.12 |
| 56:B:330:LEU:CG | 56:B:346:CYS:H | 1.61 | 1.12 |
| 56:B:412:LEU:CD2 | 56:B:477:MET:HE2 | 1.74 | 1.12 |
| 26:W:29:ARG:HB3 | 26:W:48:THR:CB | 1.78 | 1.12 |
| 56:B:378:TYR:CE2 | 56:B:507:ILE:HG23 | 1.81 | 1.12 |
| 56:B:195:PRO:CB | 56:B:286:PRO:CA | 1.97 | 1.12 |
| 56:B:104:LEU:HD21 | 56:B:181:ILE:HD11 | 1.25 | 1.12 |
| 56:B:425:MET:CE | 56:B:452:TYR:OH | 1.97 | 1.12 |
| 26:W:11:VAL:HG23 | 26:W:41:VAL:HG13 | 1.28 | 1.12 |
| 29:Z:69:GLY:O | 29:Z:157:LYS:HG2 | 1.48 | 1.11 |
| 56:B:196:LEU:O | 56:B:281:THR:CB | 1.98 | 1.11 |
| 56:B:492:VAL:HG21 | 56:B:513:ALA:CB | 1.78 | 1.11 |
| 56:B:8:ARG:HB2 | 56:B:74:GLU:CB | 1.80 | 1.11 |
| 20:Q:96:LEU:CD1 | 20:Q:103:THR:CG2 | 2.27 | 1.11 |
| 56:B:225:GLY:HA2 | 56:B:239:VAL:HG12 | 1.13 | 1.11 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 56:B:195:PRO:HB3 | 56:B:286:PRO:HA | 1.26 | 1.11 |
| 6:A:464:G:H3' | 6:A:465:A:H5'' | 1.32 | 1.11 |
| 56:B:197:LYS:CA | 56:B:281:THR:CG2 | 2.27 | 1.11 |
| 56:B:227:ARG:CB | 56:B:237:PHE:HD2 | 1.62 | 1.11 |
| 56:B:330:LEU:HD12 | 56:B:345:ARG:HH11 | 1.08 | 1.11 |
| 56:B:382:LEU:CB | 56:B:401:ARG:CG | 2.02 | 1.11 |
| 6:A:69:G:H2' | 6:A:73:G:H8 | 1.02 | 1.11 |
| 6:A:75:C:N3 | 6:A:96:G:N1 | 1.99 | 1.11 |
| 56:B:64:VAL:HG11 | 56:B:80:LEU:C | 1.69 | 1.11 |
| 3:3:21:PRO:HB2 | 7:D:1067:A:C5' | 1.78 | 1.11 |
| 26:W:29:ARG:CB | 26:W:48:THR:HG22 | 1.79 | 1.11 |
| 56:B:135:ILE:HG12 | 56:B:165:PHE:CG | 1.82 | 1.11 |
| 7:D:1735:C:O2' | 7:D:1741:C:O4' | 1.65 | 1.11 |
| 26:W:40:ILE:HG22 | 26:W:67:VAL:HG22 | 1.12 | 1.11 |
| 56:B:378:TYR:HA | 56:B:406:LEU:CD1 | 1.80 | 1.11 |
| 29:Z:69:GLY:HA2 | 29:Z:157:LYS:C | 1.71 | 1.11 |
| 56:B:79:HIS:NE2 | 56:B:261:VAL:HG23 | 1.64 | 1.11 |
| 56:B:64:VAL:CB | 56:B:80:LEU:CB | 2.28 | 1.11 |
| 7:D:1084:A:H1' | 7:D:1106:G:C8 | 1.85 | 1.11 |
| 7:D:848:G:N7 | 7:D:929:G:N2 | 1.99 | 1.11 |
| 26:W:14:HIS:O | 26:W:35:SER:CB | 1.90 | 1.11 |
| 6:A:1226:C:H5' | 20:Q:94:ARG:NH1 | 1.65 | 1.10 |
| 56:B:242:VAL:HG11 | 56:B:256:LEU:H | 1.07 | 1.10 |
| 56:B:489:LEU:O | 56:B:507:ILE:O | 1.65 | 1.10 |
| 7:D:2794:C:N4 | 7:D:2799:A:N3 | 1.99 | 1.10 |
| 56:B:382:LEU:CG | 56:B:401:ARG:HA | 1.79 | 1.10 |
| 56:B:316:LEU:HD12 | 56:B:342:PHE:CZ | 1.86 | 1.10 |
| 7:D:2107:C:H1' | 7:D:2108:C:H5'' | 1.28 | 1.10 |
| 7:D:884:C:N1 | 7:D:885:C:H5 | 1.47 | 1.10 |
| 26:W:14:HIS:CA | 26:W:35:SER:HB2 | 1.81 | 1.10 |
| 56:B:240:ASP:HB2 | 56:B:266:ALA:HB3 | 1.22 | 1.10 |
| 29:Z:71:GLN:O | 29:Z:156:ILE:HG23 | 1.50 | 1.10 |
| 6:A:1452:C:H4' | 6:A:1453:G:H5'' | 1.33 | 1.10 |
| 56:B:15:ILE:CD1 | 56:B:103:VAL:HG21 | 1.80 | 1.10 |
| 56:B:297:ALA:CB | 56:B:328:ALA:HB2 | 1.79 | 1.10 |
| 56:B:330:LEU:HD12 | 56:B:345:ARG:NH1 | 1.65 | 1.10 |
| 56:B:383:LYS:CG | 56:B:402:ILE:HG23 | 1.53 | 1.10 |
| 56:B:412:LEU:HD21 | 56:B:477:MET:HE2 | 1.26 | 1.10 |
| 56:B:528:ILE:HG21 | 56:B:592:VAL:HG21 | 1.19 | 1.10 |
| 56:B:306:TYR:CE1 | 56:B:339:ALA:O | 2.04 | 1.10 |
| 56:B:408:PRO:HG2 | 56:B:456:PHE:HB3 | 1.31 | 1.10 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 56:B:495:LEU:HD12 | 56:B:540:ALA:HB1 | 1.21 | 1.10 |
| 56:B:495:LEU:HD12 | 56:B:540:ALA:HB3 | 1.16 | 1.10 |
| 7:D:892:G:H2' | 7:D:893:C:H6 | 1.14 | 1.10 |
| 56:B:305:LEU:HD22 | 56:B:358:GLN:HE21 | 1.15 | 1.10 |
| 56:B:428:LEU:HD11 | 56:B:450:LEU:HD21 | 1.14 | 1.10 |
| 7:D:2120:G:C2 | 7:D:2179:C:O2 | 2.05 | 1.10 |
| 56:B:431:LYS:HB3 | 56:B:455:PRO:HD3 | 1.22 | 1.09 |
| 7:D:1418:G:N2 | 7:D:1580:A:C2 | 2.19 | 1.09 |
| 26:W:35:SER:O | 26:W:71:LEU:HD12 | 1.51 | 1.09 |
| 26:W:36:ARG:CD | 26:W:72:GLY:HA3 | 1.81 | 1.09 |
| 56:B:12:PHE:CA | 56:B:100:VAL:HG11 | 1.82 | 1.09 |
| 56:B:228:ILE:HG12 | 56:B:282:LEU:HD23 | 1.27 | 1.09 |
| 6:A:1321:C:OP1 | 20:Q:98:VAL:HG21 | 1.49 | 1.09 |
| 26:W:32:LYS:HE3 | 26:W:52:TYR:CD2 | 1.85 | 1.09 |
| 3:3:90:LYS:HE3 | 3:3:91:PRO:HD3 | 1.18 | 1.09 |
| 56:B:222:VAL:HG21 | 56:B:264:LEU:HD21 | 1.13 | 1.09 |
| 7:D:273:G:O6 | 7:D:364:C:N4 | 1.85 | 1.09 |
| 26:W:59:PRO:O | 26:W:60:VAL:HG22 | 1.51 | 1.09 |
| 56:B:164:ILE:HG23 | 56:B:176:GLU:OE1 | 1.53 | 1.09 |
| 56:B:416:THR:HG21 | 56:B:424:LEU:HD13 | 1.19 | 1.09 |
| 56:B:245:PHE:CE2 | 56:B:262:GLY:CA | 2.34 | 1.09 |
| 56:B:459:ILE:HG22 | 56:B:463:PHE:CE2 | 1.87 | 1.09 |
| 7:D:1063:G:C6 | 7:D:1064:C:C4 | 2.40 | 1.09 |
| 7:D:1847:A:N6 | 7:D:1890:A:OP2 | 1.85 | 1.09 |
| 6:A:89:U:H2' | 6:A:90:C:H5' | 1.16 | 1.09 |
| 56:B:428:LEU:CD1 | 56:B:450:LEU:HD21 | 1.81 | 1.09 |
| 7:D:243:U:OP1 | 29:Z:5:LYS:NZ | 89.61 | 1.09 |
| 56:B:197:LYS:HA | 56:B:281:THR:CG2 | 1.81 | 1.09 |
| 56:B:322:LYS:CG | 56:B:331:THR:HG21 | 1.80 | 1.09 |
| 6:A:1321:C:P | 20:Q:98:VAL:HG23 | 1.88 | 1.09 |
| 29:Z:66:HIS:HB2 | 29:Z:158:ALA:O | 1.50 | 1.09 |
| 7:D:1748:G:H2' | 7:D:1749:A:C8 | 1.87 | 1.09 |
| 26:W:40:ILE:HG21 | 26:W:67:VAL:CG2 | 1.80 | 1.09 |
| 56:B:420:TYR:CD1 | 56:B:471:SER:CA | 2.36 | 1.09 |
| 56:B:227:ARG:HB3 | 56:B:237:PHE:HD2 | 1.04 | 1.08 |
| 7:D:1726:G:C6 | 7:D:1727:U:N3 | 2.20 | 1.08 |
| 3:3:77:LEU:O | 3:3:111:LYS:HD2 | 1.51 | 1.08 |
| 56:B:322:LYS:HD2 | 56:B:323:LEU:H | 0.99 | 1.08 |
| 56:B:316:LEU:HD11 | 56:B:342:PHE:CD1 | 1.71 | 1.08 |
| 29:Z:43:VAL:HG21 | 29:Z:175:VAL:HG11 | 1.34 | 1.08 |
| 56:B:97:LEU:HD21 | 56:B:103:VAL:CG1 | 1.82 | 1.08 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 56:B:493:ASN:N | 56:B:505:THR:HG22 | 1.67 | 1.08 |
| 7:D:2000:G:OP2 | 13:J:2:ARG:NH2 | 113.25 | 1.08 |
| 3:3:10:LEU:HD11 | 3:3:57:ILE:HG12 | 1.08 | 1.08 |
| 56:B:382:LEU:HG | 56:B:401:ARG:HD3 | 1.32 | 1.08 |
| 56:B:531:GLN:O | 56:B:554:LEU:CB | 2.00 | 1.08 |
| 56:B:169:LYS:HB2 | 57:B:701:GCP:N1 | 1.68 | 1.08 |
| 7:D:1456:G:C2 | 7:D:1457:A:N7 | 2.20 | 1.08 |
| 9:F:144:ARG:NH1 | 9:F:148:TYR:OH | 1.86 | 1.08 |
| 26:W:11:VAL:HG22 | 26:W:41:VAL:HG13 | 1.28 | 1.08 |
| 56:B:81:ILE:HD12 | 56:B:100:VAL:HG21 | 1.14 | 1.08 |
| 56:B:251:VAL:HG12 | 56:B:252:ALA:H | 0.95 | 1.08 |
| 56:B:531:GLN:NE2 | 56:B:584:LEU:HD11 | 1.69 | 1.08 |
| 6:A:216:G:H2' | 6:A:217:C:C6 | 1.88 | 1.08 |
| 56:B:225:GLY:N | 56:B:239:VAL:HG13 | 1.58 | 1.08 |
| 7:D:931:G:H8 | 7:D:932:G:H1' | 1.18 | 1.08 |
| 56:B:81:ILE:HD13 | 56:B:100:VAL:HG21 | 1.20 | 1.08 |
| 56:B:137:LYS:HE3 | 57:B:701:GCP:C4 | 1.83 | 1.08 |
| 56:B:200:ILE:HD12 | 56:B:274:VAL:CG1 | 1.82 | 1.08 |
| 7:D:39:C:H2' | 7:D:40:C:C6 | 1.89 | 1.08 |
| 56:B:212:ILE:CG2 | 56:B:263:TRP:CE3 | 2.37 | 1.08 |
| 56:B:497:HIS:CA | 56:B:535:VAL:HG11 | 1.80 | 1.08 |
| 7:D:1749:A:H2' | 7:D:1750:G:H8 | 0.93 | 1.08 |
| 56:B:360:ARG:HG3 | 56:B:364:GLU:OE1 | 0.91 | 1.07 |
| 56:B:306:TYR:CG | 56:B:370:ILE:HD12 | 1.87 | 1.07 |
| 56:B:8:ARG:HG3 | 56:B:74:GLU:CA | 1.84 | 1.07 |
| 56:B:64:VAL:HG11 | 56:B:80:LEU:HB3 | 1.24 | 1.07 |
| 7:D:489:G:N7 | 7:D:1284:A:N1 | 1.99 | 1.07 |
| 7:D:884:C:O2 | 7:D:885:C:C5 | 2.07 | 1.07 |
| 7:D:884:C:O2' | 7:D:885:C:OP2 | 1.69 | 1.07 |
| 26:W:15:LEU:HD21 | 26:W:19:VAL:HG13 | 1.15 | 1.07 |
| 6:A:838:G:N1 | 6:A:849:C:N3 | 2.02 | 1.07 |
| 56:B:305:LEU:CD1 | 56:B:369:LEU:HD23 | 1.83 | 1.07 |
| 7:D:775:G:N2 | 7:D:788:A:OP2 | 1.87 | 1.07 |
| 12:I:40:ARG:NH1 | 12:I:68:GLU:OE1 | 1.87 | 1.07 |
| 26:W:69:HIS:CD2 | 26:W:74:PHE:CE1 | 2.40 | 1.07 |
| 6:A:216:G:N7 | 6:A:217:C:N4 | 2.00 | 1.07 |
| 56:B:134:VAL:CA | 56:B:163:ALA:HB1 | 1.84 | 1.07 |
| 56:B:152:VAL:HG13 | 56:B:156:LEU:HB3 | 1.36 | 1.07 |
| 56:B:431:LYS:HB3 | 56:B:455:PRO:CG | 1.83 | 1.07 |
| 56:B:431:LYS:HD2 | 56:B:455:PRO:CB | 1.84 | 1.07 |
| 56:B:489:LEU:HA | 56:B:509:HIS:HA | 1.37 | 1.07 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 56:B:523:LYS:HB3 | 56:B:598:LEU:HD23 | 1.09 | 1.07 |
| 7:D:270:A:C2 | 7:D:370:G:H1' | 1.87 | 1.07 |
| 56:B:10:ARG:HG2 | 56:B:186:PRO:O | 1.53 | 1.07 |
| 26:W:69:HIS:CB | 26:W:74:PHE:CE1 | 2.37 | 1.07 |
| 6:A:445:G:H2' | 6:A:446:G:C8 | 1.90 | 1.07 |
| 56:B:382:LEU:CG | 56:B:401:ARG:HD2 | 1.78 | 1.07 |
| 56:B:412:LEU:CD1 | 56:B:479:TYR:CA | 2.31 | 1.07 |
| 56:B:64:VAL:HG21 | 56:B:80:LEU:N | 1.70 | 1.07 |
| 7:D:1712:C:H2' | 7:D:1716:U:C6 | 1.90 | 1.07 |
| 6:A:1226:C:N4 | 20:Q:104:ARG:CD | 2.16 | 1.07 |
| 56:B:17:HIS:CE1 | 56:B:114:GLU:HB2 | 1.89 | 1.07 |
| 56:B:229:ARG:HG2 | 56:B:237:PHE:CZ | 1.89 | 1.07 |
| 56:B:27:ASP:CG | 56:B:45:PHE:CB | 2.23 | 1.07 |
| 56:B:351:LEU:HG | 56:B:465:ASP:OD2 | 1.54 | 1.07 |
| 6:A:1308:U:P | 20:Q:97:PRO:HG3 | 1.93 | 1.07 |
| 7:D:848:G:C2 | 7:D:931:G:O6 | 2.08 | 1.07 |
| 3:3:6:ALA:HB2 | 3:3:59:ILE:HG21 | 1.31 | 1.07 |
| 56:B:383:LYS:N | 56:B:402:ILE:CG1 | 2.17 | 1.07 |
| 56:B:411:LYS:HE3 | 56:B:453:GLU:OE2 | 1.41 | 1.07 |
| 56:B:406:LEU:HD11 | 56:B:489:LEU:HD13 | 1.31 | 1.07 |
| 56:B:493:ASN:CA | 56:B:505:THR:HG22 | 1.82 | 1.07 |
| 3:3:14:ALA:HB2 | 3:3:53:VAL:H | 0.90 | 1.07 |
| 56:B:118:LEU:HD13 | 56:B:446:LYS:CE | 1.82 | 1.07 |
| 56:B:431:LYS:CB | 56:B:455:PRO:CG | 2.32 | 1.07 |
| 7:D:1590:U:H2' | 7:D:1591:G:C8 | 1.90 | 1.07 |
| 56:B:490:VAL:HB | 56:B:508:ALA:HB3 | 1.13 | 1.07 |
| 56:B:169:LYS:CD | 57:B:701:GCP:C4 | 2.27 | 1.07 |
| 7:D:2790:A:N3 | 7:D:2893:G:N1 | 2.02 | 1.07 |
| 19:P:80:HIS:CB | 56:B:342:PHE:CE1 | 2.37 | 1.07 |
| 56:B:417:PRO:HB2 | 56:B:446:LYS:O | 0.89 | 1.06 |
| 7:D:890:A:H3' | 7:D:892:G:H5'' | 1.33 | 1.06 |
| 56:B:379:LYS:H | 56:B:406:LEU:CB | 1.58 | 1.06 |
| 56:B:425:MET:HE3 | 56:B:452:TYR:OH | 1.53 | 1.06 |
| 56:B:492:VAL:HG13 | 56:B:541:ILE:HG12 | 1.14 | 1.06 |
| 56:B:559:LEU:CD2 | 56:B:574:LEU:CD1 | 2.23 | 1.06 |
| 7:D:884:C:N1 | 7:D:885:C:C5 | 2.20 | 1.06 |
| 26:W:28:LYS:HG3 | 26:W:29:ARG:HH21 | 1.02 | 1.06 |
| 56:B:8:ARG:HG3 | 56:B:74:GLU:HB2 | 1.37 | 1.06 |
| 56:B:31:GLU:HG3 | 56:B:40:GLU:HG3 | 1.33 | 1.06 |
| 3:3:6:ALA:HB1 | 3:3:59:ILE:HG12 | 1.36 | 1.06 |
| 56:B:240:ASP:HB2 | 56:B:266:ALA:CB | 1.85 | 1.06 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 26:W:40:ILE:HG21 | 26:W:67:VAL:HG22 | 1.24 | 1.06 |
| 29:Z:63:SER:CA | 29:Z:155:GLU:OE2 | 2.04 | 1.06 |
| 7:D:2076:U:OP2 | 7:D:2238:G:N2 | 1.87 | 1.06 |
| 56:B:379:LYS:C | 56:B:406:LEU:HB3 | 1.74 | 1.06 |
| 7:D:2216:G:H2' | 7:D:2217:G:C8 | 1.89 | 1.06 |
| 6:A:1309:G:C5' | 20:Q:88:ARG:HH22 | 1.69 | 1.06 |
| 6:A:859:A:OP2 | 6:A:869:G:N1 | 1.87 | 1.06 |
| 56:B:10:ARG:CG | 56:B:186:PRO:O | 2.04 | 1.06 |
| 6:A:1319:A:O5' | 26:W:37:ARG:O | 1.73 | 1.06 |
| 7:D:2794:C:C5 | 7:D:2799:A:H2 | 1.72 | 1.06 |
| 6:A:1321:C:OP1 | 20:Q:98:VAL:CG2 | 2.03 | 1.05 |
| 56:B:218:PHE:O | 56:B:258:ALA:CB | 2.04 | 1.05 |
| 56:B:406:LEU:CD1 | 56:B:489:LEU:CD1 | 2.25 | 1.05 |
| 7:D:1583:A:H4' | 7:D:1585:C:C6 | 1.90 | 1.05 |
| 7:D:895:U:H4' | 7:D:896:A:H5' | 1.38 | 1.05 |
| 6:A:1310:G:H2' | 6:A:1311:G:C8 | 1.91 | 1.05 |
| 56:B:306:TYR:CD1 | 56:B:370:ILE:CD1 | 2.34 | 1.05 |
| 56:B:431:LYS:HD3 | 56:B:455:PRO:HG3 | 1.31 | 1.05 |
| 56:B:27:ASP:OD2 | 56:B:45:PHE:CB | 2.03 | 1.05 |
| 56:B:46:LEU:HD13 | 56:B:82:ASP:HB2 | 1.09 | 1.05 |
| 3:3:6:ALA:C | 3:3:59:ILE:HB | 1.75 | 1.05 |
| 26:W:70:LYS:HB3 | 26:W:73:GLU:HG2 | 1.09 | 1.05 |
| 56:B:20:HIS:NE2 | 56:B:108:ASP:HB2 | 1.71 | 1.05 |
| 56:B:17:HIS:CE1 | 56:B:116:GLU:HB2 | 1.92 | 1.05 |
| 56:B:322:LYS:HB3 | 56:B:331:THR:HG23 | 1.09 | 1.05 |
| 26:W:70:LYS:O | 26:W:72:GLY:N | 1.86 | 1.05 |
| 56:B:134:VAL:HB | 56:B:163:ALA:O | 1.53 | 1.05 |
| 56:B:133:PRO:C | 56:B:163:ALA:CB | 2.25 | 1.05 |
| 56:B:382:LEU:HB2 | 56:B:401:ARG:CB | 1.86 | 1.05 |
| 56:B:135:ILE:HD13 | 56:B:145:PRO:CB | 1.83 | 1.05 |
| 56:B:412:LEU:HD11 | 56:B:479:TYR:CB | 1.85 | 1.05 |
| 56:B:492:VAL:HG21 | 56:B:541:ILE:HD13 | 1.38 | 1.05 |
| 7:D:552:G:H2' | 7:D:553:U:H6 | 1.17 | 1.05 |
| 6:A:443:C:H2' | 6:A:444:C:C6 | 1.92 | 1.05 |
| 20:Q:24:GLY:O | 20:Q:29:ARG:NH1 | 1.90 | 1.05 |
| 6:A:1220:G:OP1 | 26:W:34:TRP:CG | 2.09 | 1.04 |
| 56:B:559:LEU:HD23 | 56:B:574:LEU:HD13 | 1.38 | 1.04 |
| 6:A:1014:A:H4' | 26:W:18:LYS:HE2 | 1.09 | 1.04 |
| 56:B:118:LEU:CD1 | 56:B:446:LYS:CE | 2.35 | 1.04 |
| 26:W:33:THR:O | 26:W:36:ARG:NH2 | 1.89 | 1.04 |
| 26:W:32:LYS:HG3 | 26:W:52:TYR:CB | 1.86 | 1.04 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 6:A:200:G:N2 | 6:A:218:C:C2 | 2.24 | 1.04 |
| 56:B:383:LYS:HG2 | 56:B:402:ILE:HG22 | 1.36 | 1.04 |
| 56:B:410:VAL:CG1 | 56:B:480:GLU:H | 1.69 | 1.04 |
| 56:B:65:ARG:HG3 | 56:B:245:PHE:C | 1.76 | 1.04 |
| 26:W:14:HIS:HE1 | 26:W:34:TRP:CZ2 | 1.75 | 1.04 |
| 26:W:14:HIS:CG | 26:W:35:SER:HA | 1.93 | 1.04 |
| 29:Z:69:GLY:HA2 | 29:Z:157:LYS:O | 1.54 | 1.04 |
| 6:A:1014:A:H4' | 26:W:18:LYS:HE3 | 1.38 | 1.04 |
| 56:B:236:GLU:HA | 56:B:268:ILE:CG2 | 1.87 | 1.04 |
| 56:B:492:VAL:HG21 | 56:B:513:ALA:HB2 | 1.35 | 1.04 |
| 56:B:531:GLN:HE22 | 56:B:584:LEU:CD1 | 1.70 | 1.04 |
| 7:D:2219:G:H2' | 7:D:2224:G:H5' | 1.39 | 1.04 |
| 6:A:1014:A:H2 | 26:W:32:LYS:HD3 | 0.94 | 1.04 |
| 6:A:454:C:H5'' | 6:A:455:C:C5 | 1.93 | 1.04 |
| 6:A:838:G:N2 | 6:A:848:C:O2 | 1.90 | 1.04 |
| 56:B:46:LEU:HD12 | 56:B:82:ASP:CB | 1.78 | 1.04 |
| 20:Q:23:TYR:CD1 | 20:Q:70:LEU:HD21 | 1.91 | 1.04 |
| 6:A:448:A:OP2 | 6:A:485:G:N2 | 1.90 | 1.04 |
| 56:B:188:PRO:CB | 56:B:216:ARG:NH2 | 2.21 | 1.04 |
| 56:B:490:VAL:HB | 56:B:508:ALA:HB1 | 1.08 | 1.04 |
| 56:B:412:LEU:HD12 | 56:B:479:TYR:HA | 1.39 | 1.04 |
| 56:B:497:HIS:CG | 56:B:535:VAL:HG11 | 1.92 | 1.04 |
| 7:D:2199:A:H2' | 7:D:2205:C:H5' | 1.40 | 1.04 |
| 11:H:60:GLU:OE2 | 11:H:199:ASN:N | 1.90 | 1.04 |
| 19:P:80:HIS:HB3 | 56:B:342:PHE:CE1 | 1.93 | 1.04 |
| 3:3:103:GLN:HA | 3:3:106:GLU:OE2 | 1.58 | 1.04 |
| 26:W:30:LEU:HD13 | 26:W:31:ILE:H | 1.20 | 1.04 |
| 6:A:1452:C:O2' | 6:A:1453:G:N2 | 1.88 | 1.04 |
| 56:B:229:ARG:NH2 | 56:B:286:PRO:HG3 | 1.73 | 1.04 |
| 56:B:410:VAL:HG13 | 56:B:481:GLN:H | 1.23 | 1.04 |
| 56:B:33:THR:HG21 | 56:B:69:ARG:HD2 | 1.33 | 1.04 |
| 56:B:78:PHE:CZ | 56:B:182:VAL:CG2 | 2.41 | 1.04 |
| 7:D:557:U:H2' | 7:D:558:G:C8 | 1.93 | 1.04 |
| 26:W:32:LYS:HG3 | 26:W:52:TYR:HB2 | 1.34 | 1.04 |
| 56:B:282:LEU:CD1 | 56:B:283:ALA:N | 1.98 | 1.03 |
| 7:D:542:C:H2' | 7:D:543:C:C6 | 1.92 | 1.03 |
| 6:A:1309:G:C5' | 20:Q:88:ARG:NH2 | 2.21 | 1.03 |
| 56:B:306:TYR:CB | 56:B:370:ILE:HD12 | 1.88 | 1.03 |
| 56:B:230:ILE:CA | 56:B:280:ILE:HG21 | 1.82 | 1.03 |
| 56:B:513:ALA:O | 56:B:517:ALA:N | 1.90 | 1.03 |
| 56:B:531:GLN:HE22 | 56:B:584:LEU:HD11 | 0.89 | 1.03 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:3:10:LEU:HD13 | 3:3:57:ILE:HD11 | 1.06 | 1.03 |
| 56:B:335:GLU:HG3 | 56:B:375:SER:CB | 1.86 | 1.03 |
| 56:B:242:VAL:HG11 | 56:B:256:LEU:HG | 1.40 | 1.03 |
| 56:B:197:LYS:CB | 56:B:281:THR:CG2 | 2.36 | 1.03 |
| 19:P:80:HIS:NE2 | 56:B:316:LEU:HG | 1.73 | 1.03 |
| 29:Z:43:VAL:HG21 | 29:Z:175:VAL:CG1 | 1.89 | 1.03 |
| 56:B:381:ARG:O | 56:B:402:ILE:HG13 | 1.56 | 1.03 |
| 6:A:1461:G:H2' | 6:A:1462:G:H8 | 1.18 | 1.03 |
| 56:B:197:LYS:N | 56:B:281:THR:HG22 | 1.74 | 1.03 |
| 56:B:383:LYS:CG | 56:B:402:ILE:HG21 | 1.61 | 1.03 |
| 7:D:1174:A:C6 | 7:D:1176:G:N7 | 2.25 | 1.03 |
| 6:A:828:A:OP1 | 15:L:21:LYS:NZ | 1.91 | 1.03 |
| 26:W:59:PRO:O | 26:W:60:VAL:CG2 | 2.06 | 1.03 |
| 29:Z:38:ASP:C | 29:Z:177:LYS:HE3 | 1.77 | 1.03 |
| 56:B:166:ALA:HB1 | 56:B:172:GLU:HG2 | 1.40 | 1.03 |
| 7:D:154:G:H2' | 7:D:155:C:H5' | 1.39 | 1.03 |
| 6:A:91:C:H2' | 6:A:92:G:C8 | 1.94 | 1.03 |
| 6:A:69:G:H2' | 6:A:73:G:C8 | 1.94 | 1.02 |
| 56:B:306:TYR:HB3 | 56:B:370:ILE:CD1 | 1.89 | 1.02 |
| 7:D:535:C:H2' | 7:D:536:A:H8 | 1.19 | 1.02 |
| 7:D:974:G:H3' | 7:D:974(A):C:H5'' | 1.36 | 1.02 |
| 56:B:240:ASP:OD2 | 56:B:266:ALA:CB | 2.07 | 1.02 |
| 7:D:892:G:H2' | 7:D:893:C:C6 | 1.94 | 1.02 |
| 6:A:1321:C:OP2 | 20:Q:98:VAL:HG23 | 1.50 | 1.02 |
| 56:B:67:THR:C | 56:B:76:TYR:HB2 | 1.77 | 1.02 |
| 7:D:1869:G:C2 | 7:D:1878:G:C6 | 2.47 | 1.02 |
| 7:D:849:A:C2 | 7:D:931:G:N2 | 2.27 | 1.02 |
| 3:3:6:ALA:HB1 | 3:3:59:ILE:CB | 1.83 | 1.02 |
| 56:B:251:VAL:HG12 | 56:B:252:ALA:N | 1.66 | 1.02 |
| 56:B:414:ILE:HB | 56:B:450:LEU:HB3 | 1.41 | 1.02 |
| 26:W:69:HIS:CG | 26:W:74:PHE:CZ | 2.45 | 1.02 |
| 56:B:431:LYS:CB | 56:B:455:PRO:HG3 | 1.88 | 1.02 |
| 29:Z:69:GLY:HA2 | 29:Z:157:LYS:CB | 1.88 | 1.02 |
| 56:B:135:ILE:HD12 | 56:B:145:PRO:HG3 | 1.06 | 1.02 |
| 56:B:66:VAL:HG23 | 56:B:76:TYR:CE1 | 1.93 | 1.02 |
| 56:B:91:TYR:CE2 | 56:B:296:PRO:C | 2.29 | 1.02 |
| 29:Z:38:ASP:CB | 29:Z:177:LYS:CE | 2.31 | 1.02 |
| 56:B:200:ILE:CG1 | 56:B:279:THR:HG23 | 1.87 | 1.02 |
| 56:B:361:LEU:HD21 | 56:B:369:LEU:HD22 | 1.41 | 1.02 |
| 18:O:12:ARG:NH1 | 18:O:34:ASP:OD2 | 1.91 | 1.02 |
| 6:A:754:C:P | 22:S:72:ARG:HH12 | 1.80 | 1.02 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 56:B:280:ILE:HG23 | 56:B:281:THR:H | 1.23 | 1.02 |
| 56:B:65:ARG:NH1 | 56:B:76:TYR:OH | 1.91 | 1.02 |
| 7:D:151:C:H2' | 7:D:152:G:C8 | 1.95 | 1.02 |
| 7:D:537:C:H2' | 7:D:539:G:C8 | 1.95 | 1.02 |
| 56:B:302:PHE:CD1 | 56:B:460:LEU:CD2 | 2.43 | 1.02 |
| 6:A:1461:G:N3 | 6:A:1462:G:C8 | 2.27 | 1.01 |
| 7:D:1061:U:H1' | 7:D:1070:A:O4' | 1.60 | 1.01 |
| 26:W:29:ARG:HB3 | 26:W:48:THR:HB | 1.42 | 1.01 |
| 26:W:36:ARG:HD3 | 26:W:72:GLY:HA3 | 1.39 | 1.01 |
| 29:Z:61:THR:HB | 29:Z:162:GLU:HG3 | 1.40 | 1.01 |
| 6:A:1165:C:H2' | 6:A:1166:G:C8 | 1.94 | 1.01 |
| 20:Q:59:TYR:O | 20:Q:61:GLU:N | 1.92 | 1.01 |
| 6:A:103:C:H2' | 6:A:104:G:C8 | 1.95 | 1.01 |
| 56:B:489:LEU:CA | 56:B:509:HIS:HA | 1.89 | 1.01 |
| 7:D:1742:C:H3' | 7:D:1743:G:H5'' | 1.38 | 1.01 |
| 7:D:573:G:N1 | 7:D:2031:A:OP2 | 1.92 | 1.01 |
| 7:D:552:G:H2' | 7:D:553:U:C6 | 1.94 | 1.01 |
| 56:B:239:VAL:HG22 | 56:B:240:ASP:H | 1.23 | 1.01 |
| 56:B:251:VAL:CG1 | 56:B:252:ALA:H | 1.70 | 1.01 |
| 56:B:301:VAL:O | 56:B:347:GLY:O | 1.78 | 1.01 |
| 56:B:316:LEU:CD1 | 56:B:342:PHE:CG | 2.43 | 1.01 |
| 56:B:411:LYS:HD3 | 56:B:436:VAL:CG2 | 1.90 | 1.01 |
| 56:B:434:ARG:O | 56:B:452:TYR:HA | 1.60 | 1.01 |
| 56:B:537:ILE:N | 56:B:549:ALA:O | 1.91 | 1.01 |
| 3:3:104:VAL:HA | 3:3:107:ILE:HD12 | 1.40 | 1.01 |
| 56:B:79:HIS:CD2 | 56:B:261:VAL:HG21 | 1.95 | 1.01 |
| 56:B:265:VAL:HG22 | 56:B:266:ALA:H | 1.22 | 1.01 |
| 7:D:2789:C:O2 | 7:D:2893:G:N1 | 1.93 | 1.01 |
| 7:D:860:U:H3 | 7:D:917:A:H61 | 1.08 | 1.01 |
| 26:W:12:ASP:HB2 | 26:W:38:SER:OG | 0.85 | 1.01 |
| 6:A:1014:A:H5' | 26:W:18:LYS:HZ1 | 0.90 | 1.01 |
| 56:B:298:LYS:C | 56:B:348:PHE:HE2 | 1.63 | 1.01 |
| 7:D:2602:A:C2 | 56:B:561:LYS:O | 2.13 | 1.01 |
| 7:D:458:G:O2' | 7:D:459:U:OP2 | 1.79 | 1.01 |
| 6:A:503:C:OP2 | 19:P:116:SER:OG | 1.76 | 1.01 |
| 56:B:412:LEU:HD21 | 56:B:477:MET:CE | 1.84 | 1.01 |
| 15:L:22:GLU:HA | 15:L:63:LEU:HD23 | 1.38 | 1.01 |
| 6:A:707:C:OP1 | 18:O:85:ARG:NH1 | 1.94 | 1.01 |
| 6:A:835:U:H3 | 6:A:851:G:H1 | 1.03 | 1.01 |
| 56:B:196:LEU:HD13 | 56:B:220:GLY:HA3 | 1.39 | 1.01 |
| 56:B:195:PRO:CG | 56:B:286:PRO:C | 2.29 | 1.01 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 56:B:306:TYR:HB3 | 56:B:370:ILE:CG1 | 1.90 | 1.01 |
| 56:B:27:ASP:OD2 | 56:B:45:PHE:CD1 | 2.12 | 1.01 |
| 7:D:532:A:OP2 | 7:D:2021:C:N4 | 1.93 | 1.01 |
| 3:3:13:PRO:HB2 | 3:3:16:LYS:HZ2 | 1.23 | 1.01 |
| 56:B:200:ILE:HD12 | 56:B:274:VAL:HG11 | 1.41 | 1.01 |
| 26:W:12:ASP:HB2 | 26:W:38:SER:HG | 1.23 | 1.01 |
| 3:3:6:ALA:HB3 | 3:3:59:ILE:HG22 | 1.40 | 1.00 |
| 56:B:196:LEU:HD11 | 56:B:220:GLY:O | 1.58 | 1.00 |
| 7:D:884:C:N4 | 7:D:885:C:H41 | 1.58 | 1.00 |
| 18:O:62:GLN:HB3 | 18:O:93:GLN:HG3 | 1.37 | 1.00 |
| 56:B:65:ARG:CB | 56:B:246:THR:HA | 1.91 | 1.00 |
| 56:B:302:PHE:CE1 | 56:B:460:LEU:CD2 | 2.43 | 1.00 |
| 56:B:494:VAL:CG2 | 56:B:520:ILE:HD12 | 1.90 | 1.00 |
| 29:Z:43:VAL:CG2 | 29:Z:175:VAL:HG11 | 1.90 | 1.00 |
| 6:A:103:C:H2' | 6:A:104:G:H8 | 1.22 | 1.00 |
| 26:W:12:ASP:HB3 | 26:W:38:SER:HB2 | 1.35 | 1.00 |
| 56:B:196:LEU:HD12 | 56:B:220:GLY:HA3 | 1.02 | 1.00 |
| 56:B:376:VAL:HG12 | 56:B:377:VAL:H | 1.25 | 1.00 |
| 26:W:11:VAL:HG21 | 26:W:41:VAL:HG13 | 1.43 | 1.00 |
| 26:W:43:GLU:OE1 | 26:W:64:GLU:HB2 | 1.58 | 1.00 |
| 26:W:69:HIS:CD2 | 26:W:74:PHE:HE1 | 1.77 | 1.00 |
| 56:B:200:ILE:CD1 | 56:B:274:VAL:HG11 | 1.92 | 1.00 |
| 56:B:306:TYR:CB | 56:B:370:ILE:CB | 2.33 | 1.00 |
| 56:B:383:LYS:CA | 56:B:402:ILE:HG12 | 1.91 | 1.00 |
| 56:B:95:ARG:NE | 56:B:294:PHE:CE1 | 2.13 | 1.00 |
| 7:D:1869:G:O2' | 7:D:1871:A:N6 | 1.93 | 1.00 |
| 7:D:559:G:H2' | 7:D:560:C:C6 | 1.96 | 1.00 |
| 26:W:14:HIS:CB | 26:W:35:SER:CB | 2.38 | 1.00 |
| 6:A:85:U:H2' | 6:A:86:U:H5' | 1.44 | 1.00 |
| 56:B:196:LEU:HD12 | 56:B:220:GLY:CA | 1.74 | 1.00 |
| 7:D:2793:G:N1 | 7:D:2802:G:O6 | 1.95 | 1.00 |
| 3:3:10:LEU:CD2 | 3:3:57:ILE:HG13 | 1.91 | 1.00 |
| 56:B:191:ASP:HB3 | 56:B:219:GLU:HB2 | 1.39 | 1.00 |
| 56:B:229:ARG:NH2 | 56:B:283:ALA:HA | 1.76 | 1.00 |
| 56:B:417:PRO:HB2 | 56:B:446:LYS:C | 1.81 | 1.00 |
| 3:3:21:PRO:HB2 | 7:D:1067:A:H5'' | 1.44 | 1.00 |
| 7:D:539:G:N2 | 7:D:556:G:C4 | 2.28 | 1.00 |
| 26:W:69:HIS:HB3 | 26:W:74:PHE:CZ | 1.94 | 1.00 |
| 29:Z:156:ILE:HA | 29:Z:160:ARG:HB2 | 1.44 | 1.00 |
| 56:B:197:LYS:CB | 56:B:281:THR:HG23 | 1.92 | 1.00 |
| 7:D:2794:C:C4 | 7:D:2799:A:N3 | 2.30 | 1.00 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 56:B:12:PHE:N | 56:B:100:VAL:CG1 | 2.24 | 1.00 |
| 56:B:221:ARG:CG | 56:B:257:GLU:HA | 1.91 | 1.00 |
| 56:B:34:HIS:HE2 | 56:B:67:THR:HG22 | 1.06 | 1.00 |
| 56:B:420:TYR:CD1 | 56:B:471:SER:CB | 2.44 | 1.00 |
| 7:D:848:G:H21 | 7:D:933:A:H1' | 1.25 | 1.00 |
| 9:F:82:ARG:NH1 | 9:F:92:TYR:OH | 1.95 | 1.00 |
| 3:3:25:PRO:HB3 | 56:B:440:TYR:OH | 1.62 | 0.99 |
| 6:A:1225:A:H5' | 26:W:78:ARG:CZ | 1.91 | 0.99 |
| 7:D:2660:A:H5'' | 56:B:114:GLU:OE1 | 1.62 | 0.99 |
| 56:B:459:ILE:HG22 | 56:B:463:PHE:HE2 | 1.22 | 0.99 |
| 20:Q:97:PRO:HG2 | 20:Q:99:ARG:CG | 1.92 | 0.99 |
| 6:A:685:G:N1 | 6:A:704:A:OP2 | 1.93 | 0.99 |
| 56:B:412:LEU:HD11 | 56:B:479:TYR:HB3 | 1.39 | 0.99 |
| 56:B:525:ALA:HB1 | 56:B:528:ILE:CG1 | 1.91 | 0.99 |
| 56:B:137:LYS:CE | 57:B:701:GCP:C4 | 2.39 | 0.99 |
| 56:B:297:ALA:HB3 | 56:B:328:ALA:CB | 1.91 | 0.99 |
| 56:B:299:PRO:CA | 56:B:479:TYR:OH | 2.10 | 0.99 |
| 3:3:14:ALA:HB2 | 3:3:53:VAL:N | 1.76 | 0.99 |
| 56:B:15:ILE:HD12 | 56:B:103:VAL:HG21 | 0.99 | 0.99 |
| 56:B:200:ILE:HD11 | 56:B:279:THR:HG23 | 1.03 | 0.99 |
| 11:H:72:GLU:OE2 | 11:H:207:TYR:OH | 1.81 | 0.99 |
| 6:A:1226:C:H5' | 20:Q:94:ARG:CZ | 1.91 | 0.99 |
| 6:A:837:G:C2 | 6:A:838:G:N7 | 2.31 | 0.99 |
| 6:A:1222:G:OP2 | 6:A:1322:C:N4 | 1.93 | 0.99 |
| 6:A:99:C:H2' | 6:A:101:A:C8 | 1.97 | 0.99 |
| 6:A:1308:U:OP1 | 20:Q:97:PRO:HG3 | 1.62 | 0.99 |
| 56:B:349:LEU:HD12 | 56:B:353:HIS:CG | 1.98 | 0.99 |
| 7:D:1586:A:H2' | 7:D:1587:A:H5'' | 1.45 | 0.99 |
| 7:D:2790:A:C4 | 7:D:2893:G:O6 | 2.15 | 0.99 |
| 6:A:1452:C:H4' | 6:A:1453:G:C5' | 1.92 | 0.99 |
| 56:B:562:CYS:SG | 56:B:570:LYS:NZ | 2.35 | 0.99 |
| 7:D:2194:G:N2 | 7:D:2195:C:N3 | 2.10 | 0.99 |
| 7:D:536:A:C6 | 7:D:558:G:N1 | 2.31 | 0.99 |
| 9:F:204:ASN:HD22 | 9:F:210:SER:HB3 | 1.27 | 0.99 |
| 5:5:41:C:O3' | 14:K:143:ARG:NH1 | 1.95 | 0.98 |
| 56:B:151:GLU:O | 56:B:155:VAL:HB | 1.62 | 0.98 |
| 7:D:163:U:H2' | 7:D:164:U:H5'' | 1.43 | 0.98 |
| 20:Q:97:PRO:HG2 | 20:Q:99:ARG:HG3 | 1.45 | 0.98 |
| 26:W:29:ARG:HB2 | 26:W:48:THR:HG22 | 1.41 | 0.98 |
| 6:A:1248:A:N3 | 16:M:70:LYS:NZ | 2.11 | 0.98 |
| 56:B:218:PHE:CZ | 56:B:291:TYR:OH | 2.14 | 0.98 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:884:C:N3 | 7:D:885:C:C5 | 2.31 | 0.98 |
| 29:Z:69:GLY:CA | 29:Z:157:LYS:O | 2.11 | 0.98 |
| 6:A:74:C:H2' | 6:A:75:C:C6 | 1.97 | 0.98 |
| 56:B:11:ASN:OD1 | 56:B:79:HIS:HD2 | 1.38 | 0.98 |
| 56:B:13:SER:CB | 56:B:97:LEU:HG | 1.94 | 0.98 |
| 7:D:1871:A:H2' | 7:D:1872:A:H8 | 1.27 | 0.98 |
| 7:D:2631:G:HO2' | 7:D:2810:A:H2 | 1.08 | 0.98 |
| 7:D:489:G:C5 | 7:D:1284:A:C6 | 2.50 | 0.98 |
| 7:D:852:G:O6 | 7:D:926:A:N6 | 1.96 | 0.98 |
| 6:A:618:C:N4 | 6:A:621:A:OP2 | 1.95 | 0.98 |
| 56:B:221:ARG:HG2 | 56:B:256:LEU:C | 1.83 | 0.98 |
| 3:3:21:PRO:CB | 7:D:1067:A:H5' | 1.93 | 0.98 |
| 56:B:229:ARG:HH22 | 56:B:286:PRO:HD3 | 1.28 | 0.98 |
| 56:B:494:VAL:HG21 | 56:B:520:ILE:HD12 | 1.45 | 0.98 |
| 7:D:715:G:OP2 | 22:S:88:ARG:NH2 | 1.97 | 0.98 |
| 7:D:859:G:N2 | 7:D:917:A:OP2 | 1.97 | 0.98 |
| 14:K:111:ARG:NH2 | 14:K:123:GLU:OE2 | 1.96 | 0.98 |
| 20:Q:102:ARG:HB3 | 20:Q:102:ARG:HH11 | 1.24 | 0.98 |
| 29:Z:61:THR:OG1 | 29:Z:161:ILE:O | 1.79 | 0.98 |
| 56:B:396:LEU:CD1 | 56:B:491:LYS:HG2 | 1.92 | 0.98 |
| 7:D:2120:G:N2 | 7:D:2179:C:O2 | 1.97 | 0.98 |
| 56:B:361:LEU:CD2 | 56:B:366:GLY:HA3 | 1.92 | 0.98 |
| 56:B:91:TYR:HE2 | 56:B:296:PRO:C | 1.65 | 0.98 |
| 7:D:1084:A:C1' | 7:D:1106:G:N7 | 2.27 | 0.98 |
| 7:D:2107:C:H1' | 7:D:2108:C:C5' | 1.93 | 0.98 |
| 29:Z:163:PHE:HB3 | 29:Z:171:ILE:HD11 | 1.42 | 0.98 |
| 6:A:55:A:H1' | 56:B:208:TYR:CZ | 1.99 | 0.98 |
| 6:A:848:C:H2' | 6:A:849:C:C5 | 1.97 | 0.98 |
| 56:B:11:ASN:C | 56:B:100:VAL:CG1 | 2.31 | 0.98 |
| 56:B:492:VAL:CA | 56:B:541:ILE:HG23 | 1.86 | 0.98 |
| 56:B:33:THR:CG2 | 56:B:69:ARG:HD2 | 1.52 | 0.98 |
| 14:K:72:ARG:N | 14:K:142:GLU:OE2 | 1.97 | 0.98 |
| 56:B:42:ARG:HD2 | 56:B:53:ARG:HH22 | 1.24 | 0.98 |
| 7:D:648:G:H2' | 7:D:649:G:C8 | 1.98 | 0.98 |
| 7:D:2810:A:H61 | 7:D:2891:G:H1' | 1.28 | 0.97 |
| 7:D:885:C:O2 | 7:D:890:A:H4' | 1.64 | 0.97 |
| 24:U:46:ASP:OD2 | 24:U:49:GLU:N | 1.97 | 0.97 |
| 56:B:222:VAL:CG2 | 56:B:264:LEU:HD21 | 1.94 | 0.97 |
| 56:B:229:ARG:CZ | 56:B:282:LEU:O | 2.11 | 0.97 |
| 56:B:396:LEU:HD13 | 56:B:491:LYS:HG2 | 1.47 | 0.97 |
| 7:D:931:G:C8 | 7:D:932:G:H1' | 1.99 | 0.97 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 29:Z:68:LEU:C | 29:Z:157:LYS:O | 2.02 | 0.97 |
| 56:B:79:HIS:HD2 | 56:B:261:VAL:CG2 | 1.65 | 0.97 |
| 56:B:42:ARG:HD3 | 56:B:53:ARG:HH21 | 1.25 | 0.97 |
| 7:D:1171:G:C8 | 7:D:1173:G:H4' | 1.97 | 0.97 |
| 26:W:12:ASP:HB3 | 26:W:38:SER:CB | 1.86 | 0.97 |
| 6:A:1326:C:OP1 | 28:Y:12:LYS:NZ | 1.95 | 0.97 |
| 6:A:468:A:O2' | 23:T:82:GLN:HG2 | 1.64 | 0.97 |
| 3:3:25:PRO:CA | 56:B:440:TYR:OH | 2.11 | 0.97 |
| 7:D:274:G:OP2 | 7:D:274:G:N2 | 1.97 | 0.97 |
| 26:W:14:HIS:HE2 | 26:W:34:TRP:HZ3 | 0.99 | 0.97 |
| 6:A:74:C:O2 | 6:A:97:U:O2 | 1.83 | 0.97 |
| 56:B:196:LEU:CB | 56:B:282:LEU:HB2 | 1.95 | 0.97 |
| 56:B:431:LYS:CB | 56:B:455:PRO:CD | 2.41 | 0.97 |
| 56:B:42:ARG:CD | 56:B:53:ARG:NH2 | 1.77 | 0.97 |
| 2:2:60:ARG:O | 7:D:1046:A:O2' | 1.82 | 0.97 |
| 7:D:153:C:H2' | 7:D:154:G:C8 | 1.98 | 0.97 |
| 7:D:83:G:N1 | 7:D:102:G:N3 | 2.11 | 0.97 |
| 3:3:13:PRO:CG | 3:3:16:LYS:HE3 | 1.94 | 0.97 |
| 56:B:118:LEU:HD11 | 56:B:446:LYS:HZ1 | 1.27 | 0.97 |
| 56:B:238:THR:OG1 | 56:B:267:ALA:HB2 | 1.65 | 0.97 |
| 56:B:202:ASP:O | 56:B:276:VAL:O | 1.81 | 0.97 |
| 56:B:489:LEU:HA | 56:B:509:HIS:CA | 1.94 | 0.97 |
| 56:B:66:VAL:HG23 | 56:B:76:TYR:CD1 | 1.99 | 0.97 |
| 7:D:1057:A:OP2 | 7:D:1089:G:N2 | 1.98 | 0.97 |
| 7:D:1799:G:N2 | 7:D:1819:A:OP2 | 1.96 | 0.97 |
| 7:D:1453:A:OP2 | 7:D:2702:U:O2 | 1.83 | 0.97 |
| 56:B:376:VAL:HB | 56:B:378:TYR:CE1 | 1.99 | 0.97 |
| 7:D:1726:G:N1 | 7:D:1727:U:C2 | 2.32 | 0.97 |
| 29:Z:38:ASP:CG | 29:Z:177:LYS:CD | 2.13 | 0.97 |
| 56:B:322:LYS:HD2 | 56:B:323:LEU:N | 1.79 | 0.97 |
| 56:B:67:THR:CA | 56:B:76:TYR:HB2 | 1.93 | 0.97 |
| 6:A:1319:A:P | 26:W:12:ASP:OD2 | 2.23 | 0.97 |
| 26:W:15:LEU:CD2 | 26:W:19:VAL:HG13 | 1.93 | 0.97 |
| 56:B:382:LEU:HD23 | 56:B:401:ARG:N | 1.79 | 0.97 |
| 7:D:1725:G:C2 | 7:D:1735:C:O2 | 2.17 | 0.97 |
| 7:D:539:G:N2 | 7:D:556:G:C5 | 2.33 | 0.97 |
| 11:H:85:LYS:NZ | 11:H:86:LYS:O | 1.96 | 0.97 |
| 56:B:416:THR:O | 56:B:448:VAL:CB | 2.13 | 0.96 |
| 56:B:492:VAL:HA | 56:B:541:ILE:HG23 | 1.45 | 0.96 |
| 19:P:82:VAL:N | 19:P:106:ASP:OD2 | 1.98 | 0.96 |
| 56:B:410:VAL:HG13 | 56:B:481:GLN:N | 1.78 | 0.96 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 56:B:64:VAL:HG12 | 56:B:80:LEU:HB3 | 1.45 | 0.96 |
| 7:D:1455:G:H2' | 7:D:1456:G:H8 | 1.30 | 0.96 |
| 26:W:47:HIS:O | 26:W:61:TYR:HD2 | 1.42 | 0.96 |
| 6:A:79:G:C2 | 6:A:90:C:O2 | 2.18 | 0.96 |
| 56:B:188:PRO:HB2 | 56:B:216:ARG:HH22 | 0.98 | 0.96 |
| 56:B:377:VAL:O | 56:B:391:HIS:CB | 2.13 | 0.96 |
| 7:D:1480:G:N2 | 7:D:1482:U:O4' | 1.96 | 0.96 |
| 7:D:539:G:C2 | 7:D:556:G:C2 | 2.52 | 0.96 |
| 7:D:884:C:O2 | 7:D:885:C:H5 | 1.44 | 0.96 |
| 19:P:80:HIS:CB | 56:B:342:PHE:HE1 | 1.74 | 0.96 |
| 6:A:1163:C:C2' | 6:A:1164:G:H5' | 1.95 | 0.96 |
| 6:A:438:G:H2' | 6:A:494:U:H3 | 1.26 | 0.96 |
| 6:A:90:C:H2' | 6:A:91:C:C6 | 1.99 | 0.96 |
| 56:B:409:TYR:CB | 56:B:485:ARG:HD2 | 1.95 | 0.96 |
| 56:B:495:LEU:CD1 | 56:B:540:ALA:HB2 | 1.79 | 0.96 |
| 56:B:68:TYR:HA | 56:B:75:GLU:HG2 | 1.47 | 0.96 |
| 7:D:931:G:C8 | 7:D:932:G:O2' | 2.15 | 0.96 |
| 6:A:89:U:C2' | 6:A:90:C:H5' | 1.94 | 0.96 |
| 56:B:195:PRO:HG2 | 56:B:287:THR:N | 1.80 | 0.96 |
| 7:D:1746:G:H3' | 7:D:1747:G:C8 | 2.00 | 0.96 |
| 56:B:228:ILE:CG1 | 56:B:282:LEU:HD23 | 1.93 | 0.96 |
| 56:B:229:ARG:HH22 | 56:B:286:PRO:CD | 1.78 | 0.96 |
| 19:P:80:HIS:HB3 | 56:B:342:PHE:HZ | 1.23 | 0.96 |
| 56:B:335:GLU:CG | 56:B:375:SER:OG | 2.12 | 0.96 |
| 56:B:378:TYR:CE2 | 56:B:507:ILE:HG21 | 1.93 | 0.96 |
| 56:B:541:ILE:HD12 | 56:B:546:ILE:HD12 | 1.46 | 0.96 |
| 7:D:2848:G:H22 | 7:D:2867:G:H1' | 1.29 | 0.96 |
| 6:A:719:C:H42 | 25:V:74:ARG:HH12 | 1.13 | 0.96 |
| 3:3:10:LEU:CG | 3:3:57:ILE:CG1 | 2.44 | 0.96 |
| 6:A:67:C:H2' | 6:A:68:G:C8 | 2.01 | 0.96 |
| 56:B:282:LEU:HD13 | 56:B:283:ALA:CA | 1.96 | 0.96 |
| 56:B:523:LYS:CB | 56:B:598:LEU:HD21 | 1.96 | 0.96 |
| 4:4:74:C:H5 | 56:B:569:ARG:HE | 0.99 | 0.96 |
| 3:3:10:LEU:HD11 | 3:3:57:ILE:HD13 | 1.48 | 0.96 |
| 6:A:55:A:N9 | 56:B:208:TYR:HE2 | 1.64 | 0.96 |
| 56:B:420:TYR:CD1 | 56:B:471:SER:HB2 | 2.00 | 0.96 |
| 56:B:67:THR:HA | 56:B:76:TYR:HB2 | 1.48 | 0.96 |
| 3:3:21:PRO:CB | 7:D:1067:A:C5' | 2.43 | 0.96 |
| 7:D:1478:G:H2' | 7:D:1479:G:H5' | 1.48 | 0.96 |
| 7:D:1586:A:C2' | 7:D:1587:A:H5'' | 1.95 | 0.96 |
| 7:D:559:G:H2' | 7:D:560:C:H6 | 1.31 | 0.96 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 20:Q:96:LEU:HD11 | 20:Q:103:THR:HG22 | 0.99 | 0.96 |
| 6:A:960:U:O2' | 6:A:961:U:OP2 | 1.82 | 0.96 |
| 56:B:202:ASP:O | 56:B:203:SER:HB3 | 1.63 | 0.96 |
| 56:B:226:ASP:H | 56:B:239:VAL:CG1 | 1.79 | 0.96 |
| 56:B:412:LEU:HG | 56:B:479:TYR:CA | 1.96 | 0.96 |
| 56:B:64:VAL:HG11 | 56:B:80:LEU:CB | 1.93 | 0.96 |
| 6:A:1316:G:N1 | 6:A:1319:A:OP2 | 1.99 | 0.95 |
| 56:B:298:LYS:C | 56:B:348:PHE:CE2 | 2.35 | 0.95 |
| 56:B:381:ARG:O | 56:B:402:ILE:O | 1.83 | 0.95 |
| 7:D:489:G:C8 | 7:D:1284:A:C4 | 2.53 | 0.95 |
| 20:Q:56:LEU:O | 20:Q:60:VAL:HG21 | 1.62 | 0.95 |
| 56:B:243:GLY:HA2 | 56:B:263:TRP:HE1 | 0.79 | 0.95 |
| 6:A:1164:G:C5 | 6:A:1165:C:C4 | 2.53 | 0.95 |
| 6:A:75:C:H2' | 6:A:76:G:H8 | 1.31 | 0.95 |
| 56:B:228:ILE:CA | 56:B:282:LEU:HD22 | 1.96 | 0.95 |
| 7:D:535:C:O2' | 7:D:536:A:H5' | 1.66 | 0.95 |
| 10:G:179:ARG:NE | 10:G:206:GLU:OE2 | 1.99 | 0.95 |
| 6:A:1014:A:C5' | 26:W:18:LYS:HZ1 | 1.69 | 0.95 |
| 56:B:135:ILE:HD13 | 56:B:145:PRO:HB3 | 0.96 | 0.95 |
| 56:B:245:PHE:CE2 | 56:B:261:VAL:O | 2.19 | 0.95 |
| 7:D:2194:G:C2 | 7:D:2195:C:N3 | 2.33 | 0.95 |
| 29:Z:69:GLY:CA | 29:Z:157:LYS:CA | 2.44 | 0.95 |
| 56:B:14:ILE:HD12 | 56:B:26:ALA:HB2 | 1.48 | 0.95 |
| 20:Q:71:ARG:CA | 20:Q:75:ALA:HB3 | 1.95 | 0.95 |
| 56:B:134:VAL:CG2 | 56:B:163:ALA:O | 2.14 | 0.95 |
| 56:B:536:PRO:CB | 56:B:550:THR:HG22 | 1.96 | 0.95 |
| 56:B:222:VAL:CG1 | 56:B:264:LEU:HD11 | 1.96 | 0.95 |
| 56:B:420:TYR:CE1 | 56:B:471:SER:HA | 2.00 | 0.95 |
| 7:D:1668:A:N6 | 7:D:1674:G:N3 | 2.15 | 0.95 |
| 26:W:36:ARG:HD3 | 26:W:72:GLY:CA | 1.96 | 0.95 |
| 56:B:242:VAL:HG11 | 56:B:256:LEU:N | 1.82 | 0.95 |
| 3:3:25:PRO:HA | 56:B:440:TYR:OH | 1.67 | 0.95 |
| 56:B:137:LYS:CG | 57:B:701:GCP:C4 | 2.45 | 0.95 |
| 7:D:1449(A):G:H2' | 7:D:1450:C:H6 | 1.24 | 0.95 |
| 56:B:428:LEU:HD11 | 56:B:450:LEU:CD2 | 1.95 | 0.95 |
| 56:B:67:THR:HA | 56:B:76:TYR:CG | 2.02 | 0.95 |
| 7:D:818:G:N2 | 7:D:1189:A:N7 | 2.15 | 0.95 |
| 7:D:1580:A:H2' | 7:D:1581:G:C5 | 2.01 | 0.95 |
| 20:Q:23:TYR:CG | 20:Q:70:LEU:CD2 | 2.49 | 0.95 |
| 26:W:14:HIS:C | 26:W:35:SER:HB2 | 1.66 | 0.95 |
| 6:A:200:G:N2 | 6:A:218:C:O2 | 2.00 | 0.95 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 56:B:497:HIS:ND1 | 56:B:535:VAL:CG2 | 2.30 | 0.95 |
| 56:B:169:LYS:HB2 | 57:B:701:GCP:C2 | 1.96 | 0.95 |
| 7:D:2238:G:O2' | 7:D:2239:G:OP2 | 1.84 | 0.95 |
| 26:W:44:MET:O | 26:W:45:VAL:CG2 | 2.15 | 0.95 |
| 6:A:55:A:H1' | 56:B:208:TYR:OH | 1.66 | 0.94 |
| 56:B:494:VAL:HG21 | 56:B:520:ILE:HD11 | 1.49 | 0.94 |
| 56:B:70:ALA:HA | 56:B:178:LEU:HD22 | 1.48 | 0.94 |
| 26:W:28:LYS:CG | 26:W:29:ARG:HH21 | 1.80 | 0.94 |
| 6:A:1318:A:C2' | 26:W:37:ARG:HB2 | 1.97 | 0.94 |
| 6:A:458:C:H5'' | 6:A:465:A:N1 | 1.82 | 0.94 |
| 6:A:55:A:N3 | 56:B:208:TYR:CE2 | 2.34 | 0.94 |
| 56:B:196:LEU:HB3 | 56:B:282:LEU:HB2 | 1.47 | 0.94 |
| 7:D:2216:G:H2' | 7:D:2217:G:H8 | 1.22 | 0.94 |
| 56:B:18:VAL:CG2 | 56:B:86:HIS:HB3 | 1.97 | 0.94 |
| 56:B:305:LEU:HD11 | 56:B:369:LEU:HD23 | 1.46 | 0.94 |
| 56:B:497:HIS:ND1 | 56:B:535:VAL:CG1 | 2.30 | 0.94 |
| 7:D:2790:A:C1' | 7:D:2893:G:O6 | 2.15 | 0.94 |
| 6:A:1182:G:O2' | 6:A:1183:A:OP2 | 1.85 | 0.94 |
| 7:D:1527:G:N1 | 7:D:1544:C:N3 | 2.14 | 0.94 |
| 7:D:370:G:O2' | 7:D:371:A:O4' | 1.85 | 0.94 |
| 7:D:537:C:O2' | 7:D:539:G:O5' | 1.85 | 0.94 |
| 24:U:29:HIS:HB2 | 24:U:36:ILE:HD11 | 1.49 | 0.94 |
| 6:A:1086:U:H3 | 6:A:1099:G:H1 | 1.13 | 0.94 |
| 56:B:197:LYS:HG3 | 56:B:281:THR:HG23 | 1.45 | 0.94 |
| 10:G:36:ASP:OD1 | 10:G:40:ARG:NH1 | 2.00 | 0.94 |
| 6:A:1226:C:C4 | 20:Q:104:ARG:CD | 2.49 | 0.94 |
| 20:Q:71:ARG:CB | 20:Q:75:ALA:HB3 | 1.96 | 0.94 |
| 3:3:133:SER:HA | 7:D:1077:A:H2 | 1.32 | 0.94 |
| 56:B:306:TYR:HB3 | 56:B:370:ILE:CG2 | 1.98 | 0.94 |
| 56:B:383:LYS:H | 56:B:402:ILE:HG23 | 1.30 | 0.94 |
| 56:B:410:VAL:HG11 | 56:B:481:GLN:H | 1.32 | 0.94 |
| 17:N:57:LYS:HG3 | 17:N:60:ARG:HH12 | 1.29 | 0.94 |
| 26:W:14:HIS:CG | 26:W:35:SER:CB | 2.51 | 0.94 |
| 3:3:55:VAL:HB | 3:3:69:THR:HG22 | 1.48 | 0.94 |
| 6:A:1446:A:O2' | 6:A:1447:G:O5' | 1.85 | 0.94 |
| 56:B:134:VAL:HG23 | 56:B:164:ILE:C | 1.86 | 0.94 |
| 56:B:378:TYR:HB3 | 56:B:406:LEU:HD11 | 1.46 | 0.94 |
| 56:B:450:LEU:HD11 | 56:B:452:TYR:HE1 | 1.30 | 0.94 |
| 56:B:49:LEU:CD2 | 56:B:60:LYS:NZ | 2.21 | 0.94 |
| 56:B:137:LYS:HG2 | 57:B:701:GCP:N1 | 1.82 | 0.94 |
| 7:D:1174:A:H2' | 7:D:1175:U:C5 | 2.02 | 0.94 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:154:G:C2' | 7:D:155:C:H5' | 1.97 | 0.94 |
| 7:D:536:A:N1 | 7:D:558:G:N1 | 2.16 | 0.94 |
| 56:B:176:GLU:O | 56:B:180:ALA:N | 2.00 | 0.94 |
| 56:B:531:GLN:HG2 | 56:B:532:LEU:HG | 1.49 | 0.94 |
| 7:D:2227:A:N6 | 7:D:2228:G:C6 | 2.35 | 0.94 |
| 56:B:322:LYS:CB | 56:B:331:THR:HG23 | 1.97 | 0.94 |
| 56:B:370:ILE:HG22 | 56:B:371:ALA:H | 1.29 | 0.94 |
| 56:B:420:TYR:CE1 | 56:B:471:SER:CA | 2.50 | 0.94 |
| 7:D:1519:G:H5' | 7:D:1520:U:OP2 | 1.67 | 0.94 |
| 56:B:492:VAL:HG22 | 56:B:541:ILE:CG1 | 1.98 | 0.94 |
| 56:B:47:ASP:OD2 | 56:B:53:ARG:NH1 | 2.01 | 0.94 |
| 7:D:1869:G:N1 | 7:D:1878:G:O6 | 2.01 | 0.94 |
| 7:D:1871:A:H2' | 7:D:1872:A:C8 | 2.03 | 0.94 |
| 7:D:884:C:N4 | 7:D:885:C:N4 | 2.16 | 0.94 |
| 20:Q:56:LEU:O | 20:Q:60:VAL:HG23 | 1.65 | 0.94 |
| 6:A:1318:A:H1' | 26:W:14:HIS:CE1 | 2.01 | 0.94 |
| 26:W:16:LEU:HB3 | 26:W:20:LEU:HD13 | 1.49 | 0.94 |
| 26:W:51:VAL:HG21 | 26:W:75:ALA:HB2 | 1.46 | 0.94 |
| 3:3:103:GLN:O | 3:3:107:ILE:CG1 | 2.14 | 0.94 |
| 56:B:221:ARG:HG3 | 56:B:257:GLU:CA | 1.90 | 0.94 |
| 56:B:411:LYS:CD | 56:B:436:VAL:HG21 | 1.96 | 0.93 |
| 56:B:412:LEU:HG | 56:B:479:TYR:HA | 1.47 | 0.93 |
| 56:B:489:LEU:HD23 | 56:B:509:HIS:HB3 | 1.49 | 0.93 |
| 17:N:46:ARG:NH1 | 17:N:64:GLU:OE1 | 2.01 | 0.93 |
| 56:B:412:LEU:HG | 56:B:479:TYR:N | 1.83 | 0.93 |
| 56:B:428:LEU:CD1 | 56:B:452:TYR:CD1 | 2.52 | 0.93 |
| 56:B:409:TYR:HB2 | 56:B:485:ARG:HD2 | 1.49 | 0.93 |
| 56:B:497:HIS:CG | 56:B:535:VAL:CG1 | 2.50 | 0.93 |
| 7:D:602:G:O2' | 7:D:603:A:OP2 | 1.85 | 0.93 |
| 3:3:25:PRO:CB | 56:B:440:TYR:OH | 2.16 | 0.93 |
| 56:B:406:LEU:CG | 56:B:489:LEU:HD11 | 1.98 | 0.93 |
| 7:D:2805:G:H2' | 7:D:2807:G:C4' | 1.98 | 0.93 |
| 26:W:14:HIS:CG | 26:W:35:SER:HB2 | 2.02 | 0.93 |
| 6:A:192:U:O3' | 27:X:57:ARG:NH1 | 2.02 | 0.93 |
| 56:B:197:LYS:CG | 56:B:281:THR:HG23 | 1.97 | 0.93 |
| 56:B:299:PRO:C | 56:B:479:TYR:HH | 1.61 | 0.93 |
| 56:B:497:HIS:HA | 56:B:535:VAL:HG11 | 1.39 | 0.93 |
| 4:4:28:C:H42 | 4:4:42:G:H1 | 1.15 | 0.93 |
| 6:A:881:G:OP2 | 19:P:9:GLN:NE2 | 2.01 | 0.93 |
| 56:B:134:VAL:HA | 56:B:163:ALA:CB | 1.98 | 0.93 |
| 56:B:222:VAL:HG13 | 56:B:264:LEU:HD11 | 1.50 | 0.93 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 56:B:379:LYS:CG | 56:B:406:LEU:HA | 1.99 | 0.93 |
| 7:D:485:C:N3 | 7:D:486:C:C4 | 2.37 | 0.93 |
| 20:Q:96:LEU:HD11 | 20:Q:103:THR:CG2 | 1.95 | 0.93 |
| 56:B:316:LEU:HD12 | 56:B:342:PHE:CG | 2.02 | 0.93 |
| 56:B:490:VAL:C | 56:B:508:ALA:HB3 | 1.89 | 0.93 |
| 19:P:80:HIS:CG | 56:B:342:PHE:HE1 | 1.87 | 0.93 |
| 26:W:40:ILE:CB | 26:W:67:VAL:O | 2.17 | 0.93 |
| 26:W:69:HIS:HB3 | 26:W:74:PHE:CE1 | 2.03 | 0.93 |
| 56:B:361:LEU:HD22 | 56:B:366:GLY:HA3 | 1.50 | 0.93 |
| 56:B:378:TYR:HA | 56:B:406:LEU:HD12 | 1.50 | 0.93 |
| 7:D:435:C:C2' | 7:D:436:C:H5' | 1.98 | 0.93 |
| 26:W:69:HIS:HD2 | 26:W:74:PHE:CE1 | 1.86 | 0.93 |
| 3:3:10:LEU:HD21 | 3:3:57:ILE:CG1 | 1.97 | 0.93 |
| 56:B:197:LYS:HA | 56:B:281:THR:HG23 | 1.51 | 0.93 |
| 56:B:361:LEU:HD13 | 56:B:362:GLU:N | 1.84 | 0.93 |
| 56:B:379:LYS:HZ2 | 56:B:407:GLU:H | 1.12 | 0.93 |
| 56:B:490:VAL:CG1 | 56:B:508:ALA:HB1 | 1.97 | 0.93 |
| 26:W:40:ILE:O | 26:W:68:GLY:HA2 | 1.69 | 0.93 |
| 56:B:299:PRO:HA | 56:B:479:TYR:CZ | 2.04 | 0.92 |
| 56:B:523:LYS:HB3 | 56:B:598:LEU:HD22 | 1.11 | 0.92 |
| 6:A:1226:C:H42 | 20:Q:104:ARG:HD2 | 1.28 | 0.92 |
| 26:W:11:VAL:CG1 | 26:W:40:ILE:HA | 1.98 | 0.92 |
| 26:W:70:LYS:CB | 26:W:73:GLU:CD | 2.36 | 0.92 |
| 3:3:21:PRO:HD2 | 3:3:22:PRO:HD3 | 1.50 | 0.92 |
| 4:4:58:A:O2' | 4:4:60:U:OP2 | 1.86 | 0.92 |
| 56:B:12:PHE:CA | 56:B:100:VAL:CG1 | 2.46 | 0.92 |
| 56:B:174:VAL:HG12 | 56:B:177:ILE:HG13 | 1.50 | 0.92 |
| 6:A:444:C:H2' | 6:A:445:G:C8 | 2.03 | 0.92 |
| 7:D:1747:G:H2' | 7:D:1748:G:H5' | 1.49 | 0.92 |
| 26:W:28:LYS:HG3 | 26:W:29:ARG:NH2 | 1.83 | 0.92 |
| 6:A:1092:A:H5'' | 14:K:4:ARG:HH12 | 1.29 | 0.92 |
| 6:A:96:G:C2 | 6:A:97:U:C2 | 2.57 | 0.92 |
| 56:B:300:VAL:HG11 | 56:B:477:MET:SD | 2.09 | 0.92 |
| 56:B:558:VAL:HG23 | 56:B:577:GLN:NE2 | 1.84 | 0.92 |
| 7:D:1583:A:H4' | 7:D:1585:C:C5 | 2.03 | 0.92 |
| 6:A:1216:G:OP1 | 21:R:3:ARG:NH1 | 2.01 | 0.92 |
| 6:A:1461:G:C2 | 6:A:1462:G:N7 | 2.38 | 0.92 |
| 56:B:222:VAL:HG11 | 56:B:264:LEU:CD1 | 2.00 | 0.92 |
| 56:B:65:ARG:CG | 56:B:245:PHE:C | 2.37 | 0.92 |
| 7:D:851:U:O2 | 7:D:928:G:N2 | 2.02 | 0.92 |
| 29:Z:66:HIS:CB | 29:Z:158:ALA:O | 2.18 | 0.92 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:3:89:HIS:O | 3:3:90:LYS:HB2 | 1.65 | 0.92 |
| 6:A:1396:A:O2' | 6:A:1397:C:OP2 | 1.85 | 0.92 |
| 6:A:90:C:H2' | 6:A:91:C:C5 | 2.03 | 0.92 |
| 56:B:133:PRO:O | 56:B:163:ALA:CB | 2.17 | 0.92 |
| 56:B:191:ASP:HB3 | 56:B:219:GLU:HB3 | 0.94 | 0.92 |
| 56:B:240:ASP:CB | 56:B:266:ALA:CB | 2.47 | 0.92 |
| 56:B:322:LYS:CB | 56:B:331:THR:CG2 | 2.48 | 0.92 |
| 56:B:492:VAL:HA | 56:B:541:ILE:CB | 1.99 | 0.92 |
| 56:B:42:ARG:NH2 | 56:B:53:ARG:NH2 | 2.16 | 0.92 |
| 7:D:1417:C:N3 | 7:D:1581:G:N2 | 2.17 | 0.92 |
| 7:D:820:A:OP2 | 7:D:973:A:N6 | 2.01 | 0.92 |
| 25:V:21:LYS:NZ | 25:V:23:LYS:HB3 | 1.85 | 0.92 |
| 3:3:6:ALA:HB3 | 3:3:59:ILE:HB | 1.17 | 0.92 |
| 6:A:1306:A:N7 | 6:A:1331:G:N2 | 2.18 | 0.92 |
| 56:B:243:GLY:HA2 | 56:B:263:TRP:NE1 | 1.61 | 0.92 |
| 56:B:69:ARG:HA | 56:B:69:ARG:CZ | 2.00 | 0.92 |
| 26:W:14:HIS:NE2 | 26:W:34:TRP:CE3 | 2.37 | 0.92 |
| 6:A:89:U:H2' | 6:A:90:C:C5' | 1.98 | 0.92 |
| 56:B:135:ILE:HG13 | 56:B:165:PHE:CA | 2.00 | 0.92 |
| 56:B:243:GLY:HA3 | 56:B:263:TRP:HD1 | 1.13 | 0.92 |
| 56:B:361:LEU:O | 56:B:366:GLY:N | 2.03 | 0.92 |
| 7:D:1054:A:H2' | 7:D:1055:G:H8 | 1.34 | 0.92 |
| 7:D:768:G:O2' | 7:D:1379:A:N6 | 2.03 | 0.92 |
| 56:B:379:LYS:NZ | 56:B:407:GLU:H | 1.66 | 0.92 |
| 56:B:441:LEU:HD13 | 56:B:447:ARG:HD2 | 1.50 | 0.92 |
| 56:B:417:PRO:HB3 | 56:B:447:ARG:HA | 0.95 | 0.92 |
| 56:B:523:LYS:HA | 56:B:598:LEU:HD21 | 1.52 | 0.92 |
| 56:B:81:ILE:HD11 | 56:B:100:VAL:HG22 | 1.47 | 0.92 |
| 6:A:564:C:OP1 | 19:P:15:ARG:NH1 | 2.02 | 0.92 |
| 29:Z:180:PHE:HB3 | 29:Z:185:LEU:HD11 | 1.52 | 0.92 |
| 56:B:497:HIS:HA | 56:B:535:VAL:HG12 | 0.94 | 0.92 |
| 56:B:506:PHE:HZ | 56:B:520:ILE:HG21 | 1.32 | 0.92 |
| 56:B:490:VAL:CG1 | 56:B:508:ALA:CB | 2.48 | 0.92 |
| 7:D:154:G:C6 | 7:D:155:C:C4 | 2.58 | 0.92 |
| 7:D:2226:C:C2' | 7:D:2227:A:H5' | 1.99 | 0.92 |
| 26:W:16:LEU:HB3 | 26:W:20:LEU:CD1 | 1.99 | 0.92 |
| 56:B:493:ASN:O | 56:B:540:ALA:O | 1.86 | 0.91 |
| 56:B:531:GLN:NE2 | 56:B:584:LEU:CD1 | 2.31 | 0.91 |
| 3:3:52:ILE:CD1 | 7:D:1062:G:OP1 | 2.18 | 0.91 |
| 7:D:2794:C:C4 | 7:D:2799:A:C2 | 2.57 | 0.91 |
| 6:A:1491:G:OP1 | 19:P:46:LYS:NZ | 2.04 | 0.91 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 26:W:14:HIS:CG | 26:W:35:SER:CA | 2.52 | 0.91 |
| 29:Z:43:VAL:CG2 | 29:Z:175:VAL:CG1 | 2.46 | 0.91 |
| 6:A:1309:G:C8 | 6:A:1310:G:N7 | 2.38 | 0.91 |
| 6:A:1319:A:H5' | 26:W:37:ARG:O | 1.67 | 0.91 |
| 7:D:1725:G:N2 | 7:D:1735:C:O2 | 2.02 | 0.91 |
| 6:A:411:A:N6 | 6:A:430:A:N7 | 2.17 | 0.91 |
| 7:D:603:A:OP2 | 7:D:655:A:N6 | 2.03 | 0.91 |
| 6:A:717:C:H4' | 18:O:117:ASN:HD22 | 1.33 | 0.91 |
| 23:T:52:ASP:OD2 | 23:T:55:ARG:N | 2.02 | 0.91 |
| 3:3:6:ALA:CB | 3:3:59:ILE:CG1 | 2.41 | 0.91 |
| 6:A:474:G:H2' | 6:A:475:G:C8 | 2.04 | 0.91 |
| 7:D:371:A:H5' | 7:D:423:A:C6 | 2.05 | 0.91 |
| 20:Q:96:LEU:HD13 | 20:Q:103:THR:HG22 | 1.52 | 0.91 |
| 6:A:1461:G:H2' | 6:A:1462:G:C8 | 2.05 | 0.91 |
| 56:B:221:ARG:CB | 56:B:256:LEU:O | 2.17 | 0.91 |
| 56:B:195:PRO:CB | 56:B:286:PRO:C | 2.38 | 0.91 |
| 7:D:1856:G:N7 | 7:D:1857:G:N2 | 2.17 | 0.91 |
| 7:D:783:A:H2' | 7:D:784:A:H4' | 1.51 | 0.91 |
| 20:Q:65:LYS:HG3 | 20:Q:73:GLU:HG3 | 1.53 | 0.91 |
| 6:A:1227:A:OP2 | 20:Q:94:ARG:NH2 | 2.03 | 0.91 |
| 26:W:11:VAL:HG11 | 26:W:40:ILE:CA | 2.00 | 0.91 |
| 6:A:1028(B):C:O2 | 6:A:1032(A):G:N1 | 2.03 | 0.91 |
| 6:A:518:C:O2' | 6:A:519:C:OP2 | 1.87 | 0.91 |
| 56:B:298:LYS:N | 56:B:348:PHE:HE2 | 1.67 | 0.91 |
| 7:D:884:C:N3 | 7:D:885:C:N4 | 1.99 | 0.91 |
| 6:A:1318:A:H2' | 26:W:37:ARG:HB2 | 1.51 | 0.91 |
| 29:Z:38:ASP:CA | 29:Z:177:LYS:HE3 | 2.00 | 0.91 |
| 6:A:1439:C:OP2 | 27:X:38:LYS:NZ | 2.04 | 0.91 |
| 56:B:204:VAL:HG12 | 56:B:205:TYR:H | 1.33 | 0.91 |
| 56:B:65:ARG:CG | 56:B:245:PHE:O | 2.15 | 0.91 |
| 56:B:379:LYS:HE3 | 56:B:484:TYR:HB3 | 0.94 | 0.91 |
| 56:B:378:TYR:C | 56:B:406:LEU:HB2 | 1.90 | 0.91 |
| 7:D:71:A:O2' | 7:D:72:U:OP2 | 1.89 | 0.91 |
| 29:Z:38:ASP:HB3 | 29:Z:177:LYS:HE2 | 1.50 | 0.91 |
| 7:D:1858:G:N7 | 7:D:1883:G:N1 | 2.19 | 0.91 |
| 56:B:34:HIS:HE2 | 56:B:67:THR:CG2 | 1.84 | 0.91 |
| 56:B:525:ALA:HB1 | 56:B:528:ILE:HG12 | 1.52 | 0.91 |
| 7:D:1725:G:C2 | 7:D:1726:G:N7 | 2.39 | 0.91 |
| 6:A:1013:G:N2 | 6:A:1016:A:OP2 | 2.03 | 0.91 |
| 56:B:297:ALA:HB3 | 56:B:328:ALA:HB2 | 0.94 | 0.91 |
| 56:B:303:ALA:CB | 56:B:346:CYS:O | 2.19 | 0.91 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:1943:U:O2' | 7:D:1944:U:OP2 | 1.87 | 0.91 |
| 3:3:90:LYS:HE3 | 3:3:91:PRO:CD | 2.01 | 0.90 |
| 6:A:1305:G:N2 | 6:A:1332:A:OP2 | 2.03 | 0.90 |
| 6:A:498:A:H4' | 6:A:500:G:H5' | 1.50 | 0.90 |
| 6:A:972:C:OP1 | 17:N:57:LYS:NZ | 2.04 | 0.90 |
| 56:B:12:PHE:CA | 56:B:102:GLY:O | 2.18 | 0.90 |
| 56:B:118:LEU:HD13 | 56:B:446:LYS:HE2 | 1.53 | 0.90 |
| 56:B:147:GLU:HA | 56:B:150:LEU:HD23 | 1.53 | 0.90 |
| 56:B:409:TYR:HD2 | 56:B:453:GLU:HG2 | 1.36 | 0.90 |
| 56:B:412:LEU:HD22 | 56:B:477:MET:HE3 | 1.53 | 0.90 |
| 7:D:2790:A:C2 | 7:D:2893:G:C6 | 2.59 | 0.90 |
| 7:D:539:G:N3 | 7:D:556:G:C2 | 2.39 | 0.90 |
| 26:W:15:LEU:CA | 26:W:35:SER:OG | 2.19 | 0.90 |
| 6:A:1461:G:C2 | 6:A:1462:G:C5 | 2.58 | 0.90 |
| 56:B:81:ILE:HD11 | 56:B:100:VAL:HG21 | 0.92 | 0.90 |
| 56:B:118:LEU:CD2 | 56:B:446:LYS:NZ | 2.34 | 0.90 |
| 26:W:61:TYR:HD1 | 26:W:62:ILE:HG12 | 1.35 | 0.90 |
| 26:W:69:HIS:CG | 26:W:74:PHE:CE1 | 2.59 | 0.90 |
| 3:3:90:LYS:CE | 3:3:91:PRO:HD3 | 2.02 | 0.90 |
| 56:B:242:VAL:CG1 | 56:B:256:LEU:CG | 2.47 | 0.90 |
| 1:1:8:LYS:NZ | 7:D:2467:C:OP1 | 2.04 | 0.90 |
| 20:Q:88:ARG:HG3 | 20:Q:88:ARG:HH11 | 1.34 | 0.90 |
| 6:A:305:G:H4' | 6:A:306:G:OP2 | 1.69 | 0.90 |
| 56:B:17:HIS:CE1 | 56:B:116:GLU:CB | 2.55 | 0.90 |
| 56:B:65:ARG:HB2 | 56:B:246:THR:HA | 1.53 | 0.90 |
| 7:D:1478:G:C2' | 7:D:1479:G:H5' | 2.01 | 0.90 |
| 7:D:1746:G:C6 | 7:D:1747:G:C2 | 2.60 | 0.90 |
| 7:D:928:G:N7 | 7:D:929:G:C5 | 2.40 | 0.90 |
| 29:Z:69:GLY:CA | 29:Z:157:LYS:HB3 | 2.01 | 0.90 |
| 29:Z:66:HIS:O | 29:Z:158:ALA:HA | 1.71 | 0.90 |
| 6:A:1309:G:N2 | 6:A:1329:A:C5 | 2.39 | 0.90 |
| 56:B:298:LYS:N | 56:B:348:PHE:CE2 | 2.38 | 0.90 |
| 56:B:382:LEU:CG | 56:B:401:ARG:CG | 2.42 | 0.90 |
| 56:B:412:LEU:HD23 | 56:B:477:MET:HE3 | 0.96 | 0.90 |
| 56:B:302:PHE:CE1 | 56:B:460:LEU:HD21 | 2.05 | 0.90 |
| 56:B:468:LYS:O | 56:B:473:GLY:N | 2.04 | 0.90 |
| 56:B:420:TYR:CE1 | 56:B:471:SER:C | 2.45 | 0.90 |
| 56:B:411:LYS:CB | 56:B:480:GLU:OE1 | 2.19 | 0.90 |
| 29:Z:69:GLY:HA2 | 29:Z:157:LYS:HB3 | 1.50 | 0.90 |
| 6:A:494:U:O2 | 6:A:496:A:N6 | 2.04 | 0.90 |
| 56:B:226:ASP:N | 56:B:239:VAL:CG1 | 2.35 | 0.90 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 56:B:528:ILE:HG21 | 56:B:592:VAL:CG2 | 1.81 | 0.90 |
| 7:D:2748:A:N7 | 7:D:2749:A:N6 | 2.19 | 0.90 |
| 6:A:444:C:H2' | 6:A:445:G:H8 | 1.35 | 0.90 |
| 56:B:135:ILE:HD11 | 56:B:165:PHE:CD2 | 2.07 | 0.90 |
| 56:B:301:VAL:HG11 | 56:B:349:LEU:O | 1.70 | 0.90 |
| 20:Q:48:LEU:HB3 | 20:Q:53:VAL:HG21 | 1.50 | 0.90 |
| 6:A:974:A:OP2 | 21:R:29:ARG:NH2 | 2.05 | 0.90 |
| 6:A:1296:C:O3' | 20:Q:13:LYS:NZ | 2.05 | 0.90 |
| 6:A:80:G:H1 | 6:A:89:U:H3 | 0.91 | 0.90 |
| 56:B:229:ARG:HH22 | 56:B:286:PRO:CG | 1.85 | 0.90 |
| 56:B:494:VAL:CG2 | 56:B:520:ILE:CD1 | 2.46 | 0.90 |
| 6:A:998(A):C:O2 | 6:A:1042:G:N1 | 2.04 | 0.90 |
| 6:A:76:G:C5 | 6:A:95:G:N1 | 2.40 | 0.90 |
| 6:A:808:C:O5' | 22:S:48:LYS:NZ | 2.05 | 0.90 |
| 56:B:281:THR:CG2 | 56:B:287:THR:HG23 | 2.02 | 0.90 |
| 7:D:2793:G:N2 | 7:D:2803:C:C2 | 2.40 | 0.90 |
| 26:W:14:HIS:CE1 | 26:W:34:TRP:CE3 | 2.60 | 0.90 |
| 6:A:1006:C:H42 | 6:A:1024:G:H1' | 1.35 | 0.89 |
| 56:B:242:VAL:HB | 56:B:256:LEU:HD21 | 1.53 | 0.89 |
| 7:D:120:U:O2' | 7:D:121:G:OP2 | 1.90 | 0.89 |
| 7:D:371:A:N6 | 7:D:424:G:N7 | 2.20 | 0.89 |
| 6:A:279:A:O2' | 6:A:280:C:OP2 | 1.90 | 0.89 |
| 56:B:43:GLU:HB2 | 56:B:53:ARG:HH22 | 0.73 | 0.89 |
| 56:B:153:GLU:CA | 56:B:159:PRO:HA | 2.02 | 0.89 |
| 7:D:1479:G:O3' | 7:D:1559:G:O6 | 1.90 | 0.89 |
| 7:D:1870:C:H2' | 7:D:1871:A:C8 | 2.06 | 0.89 |
| 7:D:2206:C:O2' | 7:D:2207:C:H5' | 1.72 | 0.89 |
| 56:B:201:PHE:N | 56:B:215:LEU:HB3 | 1.86 | 0.89 |
| 56:B:493:ASN:HB3 | 56:B:503:ALA:CB | 2.02 | 0.89 |
| 56:B:34:HIS:NE2 | 56:B:67:THR:CG2 | 2.35 | 0.89 |
| 7:D:1666:G:H1 | 7:D:1994:C:H42 | 1.20 | 0.89 |
| 7:D:627:A:H61 | 7:D:636:G:H2' | 1.37 | 0.89 |
| 7:D:648:G:C5 | 7:D:649:G:C6 | 2.61 | 0.89 |
| 7:D:1102:C:H2' | 7:D:1103:A:H5'' | 1.55 | 0.89 |
| 7:D:1862:G:N2 | 7:D:1880:C:N3 | 2.20 | 0.89 |
| 7:D:2447:G:N2 | 7:D:2450:A:OP2 | 2.05 | 0.89 |
| 7:D:2810:A:N6 | 7:D:2891:G:H1' | 1.86 | 0.89 |
| 11:H:3:ARG:NH2 | 11:H:74:GLN:OE1 | 2.05 | 0.89 |
| 6:A:276:G:O3' | 24:U:68:ARG:NH1 | 2.04 | 0.89 |
| 26:W:70:LYS:C | 26:W:72:GLY:H | 1.73 | 0.89 |
| 6:A:297:G:N2 | 6:A:300:A:OP2 | 2.04 | 0.89 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 6:A:75:C:N3 | 6:A:96:G:C6 | 2.40 | 0.89 |
| 56:B:12:PHE:N | 56:B:100:VAL:HG13 | 1.86 | 0.89 |
| 7:D:1748:G:C2 | 7:D:1749:A:C2 | 2.61 | 0.89 |
| 6:A:468:A:H5'' | 23:T:80:PHE:CZ | 2.07 | 0.89 |
| 56:B:306:TYR:O | 56:B:370:ILE:N | 1.93 | 0.89 |
| 7:D:1491:G:H3' | 7:D:1492:G:H4' | 1.54 | 0.89 |
| 7:D:171:G:H1' | 7:D:172:C:C5 | 2.08 | 0.89 |
| 11:H:98:GLU:OE2 | 11:H:173:TRP:NE1 | 2.06 | 0.89 |
| 6:A:1309:G:N7 | 6:A:1310:G:N7 | 2.20 | 0.89 |
| 6:A:402:G:OP2 | 11:H:74:GLN:NE2 | 2.04 | 0.89 |
| 6:A:685:G:H1 | 6:A:703:G:HO2' | 1.21 | 0.89 |
| 56:B:197:LYS:HB2 | 56:B:281:THR:CG2 | 2.03 | 0.89 |
| 56:B:246:THR:OG1 | 56:B:249:GLY:O | 1.90 | 0.89 |
| 56:B:196:LEU:HB2 | 56:B:282:LEU:HB3 | 1.53 | 0.89 |
| 7:D:1455:G:H2' | 7:D:1456:G:C8 | 2.07 | 0.89 |
| 7:D:363(F):A:H2' | 7:D:364:C:O4' | 1.71 | 0.89 |
| 29:Z:66:HIS:O | 29:Z:158:ALA:CA | 2.21 | 0.89 |
| 5:5:1:G:N1 | 5:5:72:C:N3 | 2.21 | 0.89 |
| 6:A:848:C:H2' | 6:A:849:C:C6 | 2.07 | 0.89 |
| 56:B:410:VAL:CG1 | 56:B:481:GLN:N | 2.36 | 0.89 |
| 7:D:641:C:H42 | 7:D:646:A:H61 | 1.21 | 0.89 |
| 26:W:40:ILE:HG21 | 26:W:67:VAL:O | 1.72 | 0.89 |
| 56:B:245:PHE:CZ | 56:B:262:GLY:C | 2.46 | 0.89 |
| 56:B:306:TYR:HB3 | 56:B:370:ILE:HB | 1.32 | 0.89 |
| 56:B:431:LYS:CG | 56:B:455:PRO:CG | 2.43 | 0.89 |
| 56:B:492:VAL:HA | 56:B:541:ILE:CG2 | 2.00 | 0.89 |
| 7:D:485:C:N4 | 7:D:486:C:N4 | 2.19 | 0.89 |
| 24:U:58:GLU:OE2 | 24:U:75:ARG:HB3 | 1.73 | 0.89 |
| 6:A:1461:G:N3 | 6:A:1462:G:N7 | 2.20 | 0.88 |
| 56:B:412:LEU:HD11 | 56:B:479:TYR:CA | 1.99 | 0.88 |
| 56:B:84:PRO:HB2 | 57:B:701:GCP:O3G | 1.73 | 0.88 |
| 7:D:163:U:C2' | 7:D:164:U:H5'' | 2.03 | 0.88 |
| 6:A:1014:A:H2 | 26:W:32:LYS:CE | 1.86 | 0.88 |
| 56:B:196:LEU:CB | 56:B:282:LEU:CB | 2.51 | 0.88 |
| 56:B:210:GLY:HA2 | 56:B:269:ARG:HB3 | 1.55 | 0.88 |
| 56:B:392:ASN:O | 56:B:394:ALA:N | 2.05 | 0.88 |
| 56:B:420:TYR:HD1 | 56:B:471:SER:HA | 1.30 | 0.88 |
| 56:B:74:GLU:OE1 | 56:B:74:GLU:N | 2.06 | 0.88 |
| 7:D:1750:G:O2' | 7:D:1751:C:H5' | 1.74 | 0.88 |
| 26:W:14:HIS:CD2 | 26:W:35:SER:CA | 2.55 | 0.88 |
| 6:A:581:G:OP1 | 22:S:65:ARG:NH1 | 2.07 | 0.88 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 56:B:382:LEU:C | 56:B:402:ILE:HG12 | 1.93 | 0.88 |
| 7:D:489:G:C8 | 7:D:1284:A:C2 | 2.60 | 0.88 |
| 7:D:1742:C:H3' | 7:D:1743:G:C5' | 2.01 | 0.88 |
| 6:A:1014:A:C2 | 26:W:32:LYS:CD | 2.43 | 0.88 |
| 6:A:1220:G:OP1 | 26:W:34:TRP:NE1 | 2.06 | 0.88 |
| 6:A:703:G:O2' | 6:A:704:A:OP2 | 1.90 | 0.88 |
| 7:D:1224:G:C2' | 7:D:1225:C:H5' | 2.03 | 0.88 |
| 7:D:1449(A):G:H2' | 7:D:1450:C:C6 | 2.07 | 0.88 |
| 7:D:2094:G:O6 | 7:D:2195:C:N4 | 2.06 | 0.88 |
| 7:D:46:C:OP2 | 7:D:215:G:H2' | 1.72 | 0.88 |
| 7:D:99:U:H5' | 7:D:101:G:C5' | 2.04 | 0.88 |
| 6:A:1170:A:H2' | 6:A:1171:G:H5' | 1.56 | 0.88 |
| 56:B:152:VAL:HA | 56:B:156:LEU:CB | 2.04 | 0.88 |
| 56:B:212:ILE:HG21 | 56:B:263:TRP:CZ3 | 2.08 | 0.88 |
| 56:B:281:THR:HG21 | 56:B:287:THR:HG23 | 1.52 | 0.88 |
| 56:B:229:ARG:HH21 | 56:B:282:LEU:C | 1.76 | 0.88 |
| 7:D:2660:A:C8 | 56:B:472:ARG:O | 2.27 | 0.88 |
| 56:B:84:PRO:CB | 57:B:701:GCP:O3G | 2.21 | 0.88 |
| 7:D:370:G:N2 | 7:D:422:A:OP2 | 2.07 | 0.88 |
| 7:D:956:G:N2 | 7:D:960:A:OP2 | 2.06 | 0.88 |
| 6:A:404:U:H5' | 11:H:122:ARG:HH11 | 1.37 | 0.88 |
| 56:B:78:PHE:CE2 | 56:B:182:VAL:HG22 | 2.09 | 0.88 |
| 56:B:300:VAL:N | 56:B:479:TYR:HE1 | 1.70 | 0.88 |
| 56:B:42:ARG:NH2 | 56:B:53:ARG:CZ | 2.36 | 0.88 |
| 56:B:61:ALA:O | 56:B:82:ASP:HB2 | 1.73 | 0.88 |
| 7:D:489:G:C6 | 7:D:1284:A:N1 | 2.42 | 0.88 |
| 6:A:1166:G:O2' | 6:A:1169:A:N7 | 2.05 | 0.88 |
| 6:A:129(A):G:O2' | 6:A:130:A:OP2 | 1.91 | 0.88 |
| 56:B:412:LEU:HG | 56:B:478:ASP:C | 1.92 | 0.88 |
| 56:B:46:LEU:CB | 56:B:61:ALA:CB | 2.24 | 0.88 |
| 7:D:1869:G:HO2' | 7:D:1871:A:H62 | 1.14 | 0.88 |
| 7:D:535:C:N4 | 7:D:536:A:H62 | 1.69 | 0.88 |
| 6:A:1320:C:H5'' | 26:W:70:LYS:CE | 2.02 | 0.88 |
| 6:A:79:G:N1 | 6:A:90:C:C2 | 2.37 | 0.88 |
| 56:B:135:ILE:HG12 | 56:B:165:PHE:HD1 | 1.06 | 0.88 |
| 56:B:118:LEU:HD13 | 56:B:446:LYS:NZ | 1.81 | 0.88 |
| 56:B:228:ILE:CG1 | 56:B:282:LEU:CD2 | 2.52 | 0.88 |
| 7:D:485:C:C4 | 7:D:486:C:N4 | 2.41 | 0.88 |
| 26:W:15:LEU:HB2 | 26:W:35:SER:HG | 1.08 | 0.88 |
| 56:B:78:PHE:HZ | 56:B:182:VAL:CG2 | 1.81 | 0.88 |
| 6:A:842:C:O3' | 6:A:848:C:OP2 | 1.91 | 0.87 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 56:B:70:ALA:HA | 56:B:178:LEU:CD2 | 2.03 | 0.87 |
| 56:B:303:ALA:O | 56:B:344:PHE:O | 1.92 | 0.87 |
| 56:B:533:PHE:HB3 | 56:B:535:VAL:HG23 | 1.55 | 0.87 |
| 7:D:532:A:H2 | 7:D:2035:G:H21 | 1.20 | 0.87 |
| 7:D:609(A):G:N2 | 7:D:618(A):C:O2 | 2.07 | 0.87 |
| 6:A:1014:A:C3' | 26:W:18:LYS:HE2 | 2.04 | 0.87 |
| 3:3:21:PRO:HB2 | 7:D:1067:A:OP2 | 1.74 | 0.87 |
| 56:B:135:ILE:HD13 | 56:B:165:PHE:CD1 | 2.09 | 0.87 |
| 56:B:282:LEU:HD12 | 56:B:283:ALA:H | 1.37 | 0.87 |
| 26:W:14:HIS:HB3 | 26:W:35:SER:CB | 2.04 | 0.87 |
| 26:W:4:SER:O | 26:W:6:LYS:N | 2.07 | 0.87 |
| 6:A:102:G:H2' | 6:A:103:C:C6 | 2.08 | 0.87 |
| 6:A:456:C:C2 | 6:A:477:G:C2 | 2.62 | 0.87 |
| 56:B:405:ILE:HA | 56:B:486:PRO:HA | 1.55 | 0.87 |
| 56:B:463:PHE:O | 56:B:467:LEU:HB2 | 1.74 | 0.87 |
| 7:D:2449:U:O2' | 7:D:2450:A:O5' | 1.91 | 0.87 |
| 56:B:417:PRO:CB | 56:B:447:ARG:CA | 2.44 | 0.87 |
| 56:B:492:VAL:C | 56:B:505:THR:CG2 | 2.31 | 0.87 |
| 56:B:338:THR:OG1 | 56:B:502:ASP:OD2 | 1.91 | 0.87 |
| 56:B:523:LYS:CA | 56:B:598:LEU:HD21 | 2.04 | 0.87 |
| 56:B:42:ARG:HH21 | 56:B:53:ARG:CZ | 1.85 | 0.87 |
| 26:W:69:HIS:CG | 26:W:74:PHE:HZ | 1.84 | 0.87 |
| 56:B:379:LYS:HG2 | 56:B:406:LEU:CA | 2.05 | 0.87 |
| 7:D:40:C:O2' | 7:D:41:C:H5' | 1.74 | 0.87 |
| 26:W:36:ARG:HD2 | 26:W:72:GLY:HA3 | 1.54 | 0.87 |
| 29:Z:68:LEU:O | 29:Z:157:LYS:O | 1.92 | 0.87 |
| 1:1:9:ARG:NH2 | 7:D:1033:U:OP1 | 2.07 | 0.87 |
| 56:B:107:VAL:HG11 | 56:B:113:VAL:HG22 | 1.57 | 0.87 |
| 56:B:151:GLU:O | 56:B:155:VAL:CB | 2.22 | 0.87 |
| 56:B:242:VAL:CB | 56:B:256:LEU:CD1 | 2.45 | 0.87 |
| 56:B:242:VAL:HB | 56:B:256:LEU:HD11 | 1.53 | 0.87 |
| 7:D:1668:A:H62 | 7:D:1674:G:H1' | 1.39 | 0.87 |
| 26:W:40:ILE:CG2 | 26:W:67:VAL:O | 2.23 | 0.87 |
| 6:A:591:U:OP1 | 15:L:30:ARG:NH1 | 2.08 | 0.87 |
| 56:B:134:VAL:HA | 56:B:163:ALA:HB1 | 1.53 | 0.87 |
| 7:D:539:G:N2 | 7:D:556:G:C2 | 2.42 | 0.87 |
| 26:W:3:ARG:HG2 | 26:W:42:PRO:HB3 | 1.56 | 0.87 |
| 3:3:129:GLY:HA3 | 7:D:1059:G:H1 | 1.40 | 0.87 |
| 56:B:170:THR:HG22 | 56:B:171:GLY:H | 1.39 | 0.87 |
| 56:B:211:VAL:O | 56:B:265:VAL:HG21 | 1.74 | 0.87 |
| 7:D:1418:G:N2 | 7:D:1580:A:H2 | 1.64 | 0.87 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:270:A:H2 | 7:D:370:G:H1' | 1.35 | 0.87 |
| 6:A:1178:G:OP2 | 16:M:93:ARG:NH1 | 2.07 | 0.87 |
| 6:A:1310:G:H2' | 6:A:1311:G:H8 | 1.36 | 0.87 |
| 7:D:648:G:C6 | 7:D:649:G:C6 | 2.62 | 0.87 |
| 6:A:754:C:OP1 | 22:S:72:ARG:NH1 | 2.08 | 0.87 |
| 24:U:50:LYS:O | 24:U:52:LYS:NZ | 2.07 | 0.87 |
| 26:W:15:LEU:N | 26:W:35:SER:OG | 2.07 | 0.87 |
| 6:A:75:C:C2 | 6:A:96:G:N1 | 2.39 | 0.86 |
| 56:B:152:VAL:CG1 | 56:B:156:LEU:HB3 | 2.04 | 0.86 |
| 7:D:371:A:H5' | 7:D:423:A:N6 | 1.89 | 0.86 |
| 28:Y:13:ILE:HG13 | 28:Y:22:ARG:HH12 | 1.40 | 0.86 |
| 56:B:490:VAL:O | 56:B:507:ILE:O | 1.93 | 0.86 |
| 7:D:1735:C:HO2' | 7:D:1741:C:C1' | 1.88 | 0.86 |
| 7:D:611:C:O2 | 7:D:617:G:N1 | 2.08 | 0.86 |
| 5:5:11:C:N4 | 5:5:24:G:O6 | 2.08 | 0.86 |
| 56:B:221:ARG:CG | 56:B:257:GLU:CA | 2.49 | 0.86 |
| 7:D:1710:C:O2' | 7:D:1711:C:H5' | 1.76 | 0.86 |
| 7:D:535:C:N4 | 7:D:536:A:N6 | 2.23 | 0.86 |
| 13:J:23:LYS:NZ | 13:J:42:GLU:OE2 | 2.07 | 0.86 |
| 6:A:1131:G:O6 | 6:A:1143:G:N2 | 2.08 | 0.86 |
| 56:B:245:PHE:HE2 | 56:B:261:VAL:O | 1.57 | 0.86 |
| 56:B:361:LEU:HD21 | 56:B:369:LEU:CD2 | 2.05 | 0.86 |
| 56:B:67:THR:HA | 56:B:76:TYR:CB | 2.04 | 0.86 |
| 7:D:1174:A:C5 | 7:D:1176:G:N7 | 2.42 | 0.86 |
| 7:D:539:G:N1 | 7:D:556:G:C6 | 2.44 | 0.86 |
| 6:A:944:G:N1 | 6:A:1338:G:OP2 | 2.08 | 0.86 |
| 6:A:500:G:N1 | 6:A:546:G:C2 | 2.44 | 0.86 |
| 56:B:490:VAL:CA | 56:B:508:ALA:HB3 | 2.05 | 0.86 |
| 6:A:1176:A:N1 | 6:A:1181:G:N2 | 2.23 | 0.86 |
| 6:A:217:C:H2' | 6:A:218:C:C6 | 2.10 | 0.86 |
| 6:A:92:G:C5 | 6:A:93:U:C4 | 2.63 | 0.86 |
| 56:B:229:ARG:NH2 | 56:B:286:PRO:CG | 2.38 | 0.86 |
| 56:B:492:VAL:CB | 56:B:541:ILE:CD1 | 2.52 | 0.86 |
| 56:B:303:ALA:HB2 | 56:B:346:CYS:O | 1.75 | 0.86 |
| 56:B:497:HIS:CA | 56:B:535:VAL:HG12 | 1.91 | 0.86 |
| 7:D:1583:A:H5' | 7:D:1585:C:O4' | 1.75 | 0.86 |
| 7:D:1919:A:O2' | 7:D:1920:C:O5' | 1.93 | 0.86 |
| 7:D:2794:C:N3 | 7:D:2802:G:C6 | 2.43 | 0.86 |
| 7:D:2285:C:H5 | 27:X:27:LYS:HZ3 | 151.73 | 0.86 |
| 6:A:1165:C:O2' | 6:A:1166:G:H5' | 1.75 | 0.86 |
| 6:A:927:G:H4' | 6:A:1503:A:H62 | 1.40 | 0.86 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 56:B:492:VAL:CB | 56:B:541:ILE:HD13 | 2.05 | 0.86 |
| 2:2:11:ALA:HB1 | 7:D:1046:A:N7 | 1.91 | 0.86 |
| 19:P:91:LYS:O | 19:P:93:LEU:N | 2.09 | 0.86 |
| 56:B:134:VAL:HG23 | 56:B:164:ILE:O | 1.76 | 0.86 |
| 56:B:490:VAL:HG12 | 56:B:491:LYS:H | 1.39 | 0.86 |
| 56:B:489:LEU:C | 56:B:507:ILE:O | 2.14 | 0.86 |
| 6:A:1309:G:H5' | 20:Q:88:ARG:HH22 | 1.09 | 0.86 |
| 6:A:949:A:H1' | 6:A:1364:U:H3 | 1.41 | 0.86 |
| 56:B:379:LYS:HE3 | 56:B:484:TYR:CG | 2.10 | 0.86 |
| 56:B:411:LYS:HA | 56:B:452:TYR:O | 1.76 | 0.86 |
| 7:D:1224:G:O2' | 7:D:1225:C:H5' | 1.76 | 0.86 |
| 7:D:154:G:N1 | 7:D:173:G:C2 | 2.44 | 0.86 |
| 7:D:359:A:O2' | 7:D:360:G:N7 | 2.06 | 0.86 |
| 19:P:80:HIS:CG | 56:B:342:PHE:CE1 | 2.63 | 0.86 |
| 26:W:29:ARG:CG | 26:W:48:THR:HG21 | 2.06 | 0.86 |
| 6:A:1245:A:OP2 | 28:Y:9:ARG:NH2 | 2.09 | 0.85 |
| 6:A:208:U:O2' | 6:A:209:U:OP1 | 1.94 | 0.85 |
| 56:B:416:THR:CG2 | 56:B:424:LEU:HD13 | 2.05 | 0.85 |
| 56:B:541:ILE:HD12 | 56:B:546:ILE:CD1 | 2.06 | 0.85 |
| 56:B:137:LYS:CD | 57:B:701:GCP:C4 | 2.53 | 0.85 |
| 56:B:8:ARG:HB2 | 56:B:74:GLU:HB2 | 1.57 | 0.85 |
| 7:D:1456:G:C2 | 7:D:1457:A:C8 | 2.63 | 0.85 |
| 7:D:2756:U:O4 | 7:D:2758:A:N6 | 2.09 | 0.85 |
| 6:A:1318:A:H2' | 26:W:37:ARG:CB | 2.06 | 0.85 |
| 6:A:75:C:O2' | 6:A:76:G:H5' | 1.76 | 0.85 |
| 56:B:27:ASP:OD2 | 56:B:45:PHE:HD1 | 1.59 | 0.85 |
| 56:B:492:VAL:CG1 | 56:B:541:ILE:CD1 | 2.53 | 0.85 |
| 7:D:1668:A:H2 | 7:D:1993:U:C4 | 1.93 | 0.85 |
| 7:D:1726:G:N1 | 7:D:1727:U:O2 | 2.09 | 0.85 |
| 7:D:476:G:N2 | 7:D:479:A:OP2 | 2.08 | 0.85 |
| 29:Z:8:ARG:HH11 | 29:Z:11:LEU:HD23 | 1.40 | 0.85 |
| 56:B:152:VAL:HA | 56:B:156:LEU:HB3 | 1.58 | 0.85 |
| 7:D:1942:C:OP2 | 7:D:1943:U:O2' | 1.93 | 0.85 |
| 7:D:535:C:H2' | 7:D:536:A:C8 | 2.08 | 0.85 |
| 7:D:536:A:C4 | 7:D:558:G:N2 | 2.44 | 0.85 |
| 6:A:1379:G:P | 14:K:6:ARG:HH12 | 1.99 | 0.85 |
| 26:W:29:ARG:CB | 26:W:48:THR:HG21 | 2.01 | 0.85 |
| 56:B:195:PRO:HB2 | 56:B:286:PRO:C | 1.97 | 0.85 |
| 56:B:382:LEU:HG | 56:B:401:ARG:HD2 | 0.87 | 0.85 |
| 26:W:40:ILE:HB | 26:W:68:GLY:HA2 | 1.57 | 0.85 |
| 3:3:25:PRO:HB3 | 56:B:440:TYR:HH | 1.39 | 0.85 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 6:A:55:A:H1' | 56:B:208:TYR:CE2 | 2.10 | 0.85 |
| 56:B:229:ARG:NH2 | 56:B:283:ALA:CA | 2.38 | 0.85 |
| 56:B:378:TYR:HD2 | 56:B:489:LEU:HD13 | 1.42 | 0.85 |
| 56:B:75:GLU:HG2 | 56:B:76:TYR:H | 1.41 | 0.85 |
| 7:D:1940:U:O2' | 7:D:1941:C:OP2 | 1.94 | 0.85 |
| 7:D:884:C:N3 | 7:D:885:C:C4 | 2.44 | 0.85 |
| 14:K:155:ARG:HG3 | 14:K:156:TRP:H | 1.40 | 0.85 |
| 20:Q:69:GLU:O | 20:Q:73:GLU:HB3 | 1.75 | 0.85 |
| 6:A:1443:G:O2' | 6:A:1446:A:OP1 | 1.94 | 0.85 |
| 56:B:118:LEU:HD11 | 56:B:446:LYS:NZ | 1.82 | 0.85 |
| 56:B:13:SER:HB3 | 56:B:97:LEU:HD11 | 1.57 | 0.85 |
| 56:B:317:ARG:HE | 56:B:342:PHE:HE2 | 1.21 | 0.85 |
| 56:B:303:ALA:HB2 | 56:B:346:CYS:C | 1.97 | 0.85 |
| 56:B:382:LEU:HD23 | 56:B:401:ARG:C | 1.96 | 0.85 |
| 7:D:2141:G:H1 | 7:D:2150:U:H3 | 1.24 | 0.85 |
| 6:A:1014:A:C2 | 26:W:32:LYS:HE2 | 2.10 | 0.85 |
| 3:3:21:PRO:CD | 3:3:22:PRO:HD3 | 2.05 | 0.85 |
| 6:A:444:C:O2' | 6:A:445:G:H5' | 1.75 | 0.85 |
| 7:D:1785:A:H2' | 7:D:1786:A:C5 | 2.11 | 0.85 |
| 7:D:385:C:O2' | 7:D:388:G:N2 | 2.09 | 0.85 |
| 7:D:569:U:OP2 | 7:D:945:A:N6 | 2.09 | 0.85 |
| 7:D:928:G:C8 | 7:D:929:G:N7 | 2.44 | 0.85 |
| 6:A:1501:C:OP2 | 6:A:1504:G:O2' | 1.95 | 0.85 |
| 6:A:442:C:O2 | 6:A:493:G:O2' | 1.94 | 0.85 |
| 56:B:24:THR:HG21 | 56:B:169:LYS:CG | 2.05 | 0.85 |
| 56:B:22:LYS:N | 57:B:701:GCP:O2A | 2.09 | 0.85 |
| 56:B:13:SER:OG | 56:B:81:ILE:CG2 | 2.24 | 0.85 |
| 7:D:1068:G:H4' | 7:D:1096:A:H1' | 1.57 | 0.85 |
| 7:D:1559:G:C6 | 7:D:1560:G:H4' | 2.12 | 0.85 |
| 7:D:2207:C:H2' | 7:D:2208:U:O4' | 1.76 | 0.85 |
| 26:W:61:TYR:CD1 | 26:W:62:ILE:HG12 | 2.11 | 0.85 |
| 56:B:118:LEU:CD1 | 56:B:446:LYS:HZ1 | 1.81 | 0.85 |
| 56:B:137:LYS:HA | 57:B:701:GCP:O6 | 1.77 | 0.85 |
| 56:B:383:LYS:CG | 56:B:402:ILE:HG22 | 1.99 | 0.85 |
| 7:D:1726:G:C6 | 7:D:1727:U:C2 | 2.64 | 0.85 |
| 7:D:2199:A:H2' | 7:D:2205:C:C5' | 2.07 | 0.85 |
| 7:D:800:A:O2' | 7:D:801:G:OP2 | 1.94 | 0.85 |
| 7:D:860:U:O4 | 7:D:918:A:N6 | 2.09 | 0.85 |
| 6:A:1372:U:H5'' | 16:M:71:SER:HB3 | 1.57 | 0.85 |
| 17:N:7:LYS:HB3 | 17:N:97:GLU:HB2 | 1.59 | 0.85 |
| 6:A:1440:C:C2' | 6:A:1441:G:H5' | 2.07 | 0.85 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 6:A:902:G:H2' | 6:A:903:G:H8 | 1.41 | 0.85 |
| 56:B:218:PHE:CZ | 56:B:291:TYR:CE1 | 2.65 | 0.85 |
| 56:B:8:ARG:CG | 56:B:74:GLU:HB2 | 1.97 | 0.85 |
| 56:B:8:ARG:HB3 | 56:B:74:GLU:HB3 | 1.57 | 0.85 |
| 56:B:13:SER:HB3 | 56:B:97:LEU:CD1 | 2.07 | 0.85 |
| 7:D:99:U:H5' | 7:D:101:G:H5' | 1.59 | 0.85 |
| 7:D:1061:U:H1' | 7:D:1070:A:C4' | 2.06 | 0.85 |
| 7:D:363(F):A:N3 | 7:D:364:C:H1' | 1.91 | 0.85 |
| 7:D:439:G:H2' | 7:D:440:G:C8 | 2.11 | 0.85 |
| 6:A:1368:G:N7 | 16:M:112:LYS:NZ | 2.25 | 0.84 |
| 6:A:198:G:H2' | 6:A:199:G:H8 | 1.39 | 0.84 |
| 7:D:1580:A:H2' | 7:D:1581:G:C8 | 2.11 | 0.84 |
| 7:D:539:G:N2 | 7:D:556:G:C6 | 2.45 | 0.84 |
| 26:W:40:ILE:HB | 26:W:67:VAL:O | 1.75 | 0.84 |
| 56:B:417:PRO:CB | 56:B:446:LYS:C | 2.42 | 0.84 |
| 56:B:431:LYS:CB | 56:B:455:PRO:HD3 | 2.02 | 0.84 |
| 7:D:1526:G:N2 | 7:D:1546:C:N3 | 2.26 | 0.84 |
| 8:E:55:U:H2' | 8:E:56:G:H8 | 1.40 | 0.84 |
| 22:S:3:ILE:HA | 22:S:38:ARG:HH22 | 1.42 | 0.84 |
| 5:5:11:C:N3 | 5:5:24:G:N1 | 2.25 | 0.84 |
| 6:A:1162:C:N4 | 6:A:1174:G:O6 | 2.09 | 0.84 |
| 56:B:536:PRO:HB3 | 56:B:550:THR:HG22 | 1.57 | 0.84 |
| 7:D:151:C:H2' | 7:D:152:G:H8 | 1.40 | 0.84 |
| 26:W:32:LYS:HE3 | 26:W:52:TYR:CG | 2.12 | 0.84 |
| 6:A:1359:C:OP2 | 21:R:35:ARG:NE | 2.09 | 0.84 |
| 6:A:1379:G:OP2 | 14:K:6:ARG:NH2 | 2.10 | 0.84 |
| 56:B:303:ALA:CB | 56:B:346:CYS:C | 2.45 | 0.84 |
| 4:4:74:C:C5 | 56:B:569:ARG:NE | 2.45 | 0.84 |
| 7:D:270(J):G:N1 | 7:D:270(P):C:N3 | 2.24 | 0.84 |
| 6:A:1014:A:C5' | 26:W:18:LYS:HZ3 | 1.90 | 0.84 |
| 3:3:25:PRO:HA | 56:B:440:TYR:CZ | 2.13 | 0.84 |
| 6:A:1366:C:O3' | 17:N:60:ARG:NH2 | 2.10 | 0.84 |
| 56:B:206:ASP:HA | 56:B:210:GLY:O | 1.77 | 0.84 |
| 56:B:223:ARG:HB3 | 56:B:224:PRO:CD | 2.07 | 0.84 |
| 56:B:197:LYS:CA | 56:B:281:THR:HG23 | 2.01 | 0.84 |
| 56:B:196:LEU:HB2 | 56:B:282:LEU:CB | 2.07 | 0.84 |
| 56:B:299:PRO:HD2 | 56:B:348:PHE:CD2 | 2.13 | 0.84 |
| 56:B:493:ASN:HA | 56:B:505:THR:HG22 | 1.59 | 0.84 |
| 56:B:541:ILE:CD1 | 56:B:546:ILE:HD12 | 2.06 | 0.84 |
| 7:D:1084:A:O4' | 7:D:1106:G:C8 | 2.31 | 0.84 |
| 7:D:370:G:N2 | 7:D:422:A:P | 2.50 | 0.84 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 7:D:51:G:O2' | 7:D:118:A:N6 | 2.10 | 0.84 |
| 6:A:1227:A:P | 20:Q:94:ARG:HH22 | 2.00 | 0.84 |
| 26:W:14:HIS:C | 26:W:35:SER:HB3 | 1.73 | 0.84 |
| 6:A:1129:C:N4 | 6:A:1142:G:O6 | 2.10 | 0.84 |
| 6:A:1294:G:H2' | 6:A:1295:G:H8 | 1.41 | 0.84 |
| 56:B:13:SER:OG | 56:B:81:ILE:HB | 1.75 | 0.84 |
| 6:A:103:C:O2' | 6:A:104:G:H5' | 1.78 | 0.84 |
| 56:B:12:PHE:HA | 56:B:100:VAL:CG1 | 2.08 | 0.84 |
| 56:B:211:VAL:C | 56:B:212:ILE:HD12 | 1.98 | 0.84 |
| 56:B:431:LYS:CB | 56:B:458:GLU:HG3 | 2.08 | 0.84 |
| 56:B:501:VAL:O | 56:B:503:ALA:N | 2.11 | 0.84 |
| 56:B:531:GLN:OE1 | 56:B:584:LEU:CD1 | 2.24 | 0.84 |
| 7:D:1589:C:O2' | 7:D:1590:U:H5' | 1.76 | 0.84 |
| 7:D:1725:G:C2 | 7:D:1726:G:C8 | 2.66 | 0.84 |
| 7:D:2226:C:O2' | 7:D:2227:A:H5' | 1.75 | 0.84 |
| 7:D:270(I):G:N2 | 7:D:270(Q):C:O2 | 2.10 | 0.84 |
| 20:Q:103:THR:O | 20:Q:105:THR:N | 2.11 | 0.84 |
| 25:V:18:ARG:NH1 | 25:V:55:ARG:O | 2.10 | 0.84 |
| 6:A:102:G:O2' | 6:A:103:C:H5' | 1.77 | 0.84 |
| 6:A:1308:U:OP1 | 20:Q:97:PRO:CG | 2.25 | 0.84 |
| 6:A:194:C:O2' | 27:X:68:LYS:NZ | 2.11 | 0.84 |
| 6:A:467:G:H21 | 6:A:468:A:H1' | 1.42 | 0.84 |
| 56:B:97:LEU:HD21 | 56:B:103:VAL:HG12 | 1.59 | 0.84 |
| 7:D:1063:G:C5 | 7:D:1064:C:C4 | 2.65 | 0.84 |
| 7:D:2227:A:C5 | 7:D:2228:G:C5 | 2.66 | 0.84 |
| 26:W:69:HIS:HB2 | 26:W:74:PHE:CE2 | 2.07 | 0.84 |
| 56:B:97:LEU:HD21 | 56:B:103:VAL:HG11 | 1.57 | 0.84 |
| 56:B:38:ASP:O | 56:B:40:GLU:N | 2.11 | 0.84 |
| 7:D:2106:G:C5 | 7:D:2108:C:N3 | 2.46 | 0.84 |
| 6:A:1163:C:O2' | 6:A:1164:G:H5' | 1.76 | 0.84 |
| 56:B:21:GLY:HA3 | 56:B:136:ASN:HD22 | 1.42 | 0.84 |
| 7:D:189:G:H2' | 7:D:205:G:H22 | 1.43 | 0.84 |
| 7:D:2674:G:H2' | 7:D:2675:A:H8 | 1.43 | 0.84 |
| 18:O:18:ARG:HG2 | 18:O:81:ASP:HB2 | 1.59 | 0.84 |
| 5:5:54:U:H3 | 5:5:58:A:H62 | 1.26 | 0.83 |
| 6:A:498:A:C4' | 6:A:500:G:H5' | 2.07 | 0.83 |
| 56:B:382:LEU:CD2 | 56:B:401:ARG:C | 2.46 | 0.83 |
| 56:B:489:LEU:O | 56:B:508:ALA:CA | 2.26 | 0.83 |
| 7:D:1455:G:OP2 | 7:D:1456:G:OP2 | 1.94 | 0.83 |
| 7:D:764:A:H62 | 7:D:1775:U:H3 | 1.24 | 0.83 |
| 16:M:7:THR:HB | 16:M:83:ARG:NH1 | 1.93 | 0.83 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:3:13:PRO:O | 3:3:16:LYS:NZ | 2.11 | 0.83 |
| 6:A:1226:C:N3 | 20:Q:104:ARG:HG3 | 1.93 | 0.83 |
| 56:B:242:VAL:CB | 56:B:256:LEU:HD11 | 2.06 | 0.83 |
| 56:B:373:ALA:HB1 | 56:B:374:PRO:CD | 2.08 | 0.83 |
| 7:D:543:C:O2' | 7:D:544:C:H5' | 1.77 | 0.83 |
| 6:A:1461:G:C4 | 6:A:1462:G:N7 | 2.46 | 0.83 |
| 56:B:27:ASP:OD2 | 56:B:45:PHE:CG | 2.31 | 0.83 |
| 56:B:218:PHE:CE1 | 56:B:291:TYR:CE2 | 2.65 | 0.83 |
| 56:B:411:LYS:HG2 | 56:B:452:TYR:O | 1.78 | 0.83 |
| 7:D:1800:C:N4 | 7:D:1818:U:H1' | 1.93 | 0.83 |
| 20:Q:59:TYR:C | 20:Q:61:GLU:H | 1.78 | 0.83 |
| 20:Q:24:GLY:HA3 | 20:Q:66:LEU:HA | 1.59 | 0.83 |
| 6:A:1060:C:OP1 | 21:R:45:ARG:NH2 | 2.10 | 0.83 |
| 6:A:1014:A:O3' | 26:W:18:LYS:HE2 | 1.79 | 0.83 |
| 6:A:1306:A:H2' | 6:A:1307:U:H5' | 1.59 | 0.83 |
| 6:A:75:C:H2' | 6:A:76:G:C8 | 2.13 | 0.83 |
| 56:B:246:THR:HG21 | 56:B:251:VAL:HG21 | 1.60 | 0.83 |
| 56:B:281:THR:HG21 | 56:B:287:THR:H | 1.44 | 0.83 |
| 56:B:410:VAL:CG1 | 56:B:480:GLU:HG2 | 2.07 | 0.83 |
| 56:B:492:VAL:HA | 56:B:541:ILE:CG1 | 2.08 | 0.83 |
| 7:D:154:G:C5 | 7:D:155:C:C4 | 2.66 | 0.83 |
| 7:D:2218:G:O2' | 7:D:2219:G:H5' | 1.78 | 0.83 |
| 21:R:23:ARG:NH1 | 21:R:30:ALA:HB2 | 1.93 | 0.83 |
| 29:Z:38:ASP:OD1 | 29:Z:178:ALA:CB | 2.21 | 0.83 |
| 6:A:1014:A:C2 | 26:W:32:LYS:CE | 2.61 | 0.83 |
| 6:A:443:C:H2' | 6:A:444:C:C5 | 2.14 | 0.83 |
| 56:B:135:ILE:CG1 | 56:B:165:PHE:CA | 2.54 | 0.83 |
| 56:B:383:LYS:H | 56:B:402:ILE:CG2 | 1.91 | 0.83 |
| 7:D:578:A:OP1 | 7:D:1255:U:O2' | 1.95 | 0.83 |
| 7:D:1342:A:O2' | 7:D:1343:G:OP1 | 1.97 | 0.83 |
| 7:D:2459:A:C2 | 7:D:2460:U:H1' | 2.13 | 0.83 |
| 56:B:431:LYS:HD2 | 56:B:455:PRO:HG2 | 1.59 | 0.83 |
| 56:B:410:VAL:HG11 | 56:B:480:GLU:H | 1.41 | 0.83 |
| 7:D:2217:G:H2' | 7:D:2218:G:H8 | 1.44 | 0.83 |
| 10:G:70:VAL:HG12 | 10:G:72:LYS:H | 1.41 | 0.83 |
| 16:M:126:SER:HB3 | 16:M:128:ARG:HH11 | 1.44 | 0.83 |
| 19:P:53:ARG:NH1 | 19:P:92:ASP:OD2 | 2.11 | 0.83 |
| 29:Z:69:GLY:C | 29:Z:157:LYS:HA | 1.98 | 0.83 |
| 56:B:492:VAL:CG1 | 56:B:541:ILE:CG1 | 2.46 | 0.83 |
| 56:B:49:LEU:HD21 | 56:B:60:LYS:HZ2 | 0.70 | 0.83 |
| 7:D:1862:G:H1 | 7:D:1880:C:H42 | 1.26 | 0.83 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:1920:C:H4' | 7:D:1921:G:OP1 | 1.78 | 0.83 |
| 7:D:2106:G:C6 | 7:D:2108:C:C4 | 2.66 | 0.83 |
| 7:D:2777:G:O2' | 7:D:2778:A:OP2 | 1.96 | 0.83 |
| 7:D:293:U:H2' | 7:D:294:A:C8 | 2.13 | 0.83 |
| 18:O:33:THR:HG22 | 18:O:39:PRO:HA | 1.61 | 0.83 |
| 56:B:222:VAL:HG11 | 56:B:264:LEU:CD2 | 2.09 | 0.83 |
| 56:B:415:PHE:O | 56:B:475:ALA:HB2 | 1.78 | 0.83 |
| 56:B:492:VAL:O | 56:B:505:THR:HB | 1.78 | 0.83 |
| 26:W:32:LYS:CG | 26:W:52:TYR:HB2 | 2.09 | 0.83 |
| 3:3:66:THR:HG22 | 3:3:67:PHE:H | 1.42 | 0.83 |
| 56:B:121:PHE:HZ | 56:B:157:GLY:CA | 1.71 | 0.83 |
| 56:B:330:LEU:CD1 | 56:B:345:ARG:HH11 | 1.90 | 0.83 |
| 56:B:428:LEU:CD1 | 56:B:452:TYR:CE1 | 2.62 | 0.83 |
| 7:D:892:G:O2' | 7:D:893:C:O4' | 1.97 | 0.83 |
| 20:Q:96:LEU:HD22 | 20:Q:101:GLN:HG3 | 1.59 | 0.83 |
| 6:A:405:U:C2 | 6:A:497:U:C5 | 2.66 | 0.83 |
| 56:B:196:LEU:O | 56:B:281:THR:HB | 1.78 | 0.83 |
| 56:B:230:ILE:HG23 | 56:B:279:THR:C | 1.98 | 0.83 |
| 56:B:299:PRO:C | 56:B:479:TYR:CZ | 2.51 | 0.83 |
| 56:B:537:ILE:HD11 | 56:B:551:VAL:CG2 | 2.09 | 0.83 |
| 7:D:1870:C:H2' | 7:D:1871:A:H8 | 1.41 | 0.83 |
| 26:W:13:ASP:OD2 | 26:W:17:GLU:HB2 | 1.78 | 0.83 |
| 6:A:1049:U:O2' | 6:A:1050:G:OP2 | 1.95 | 0.82 |
| 6:A:382:A:H2' | 6:A:383:A:H8 | 1.42 | 0.82 |
| 6:A:80:G:H2' | 6:A:81:G:H8 | 1.43 | 0.82 |
| 56:B:20:HIS:CE1 | 56:B:108:ASP:HB2 | 2.14 | 0.82 |
| 56:B:229:ARG:NE | 56:B:283:ALA:HA | 1.94 | 0.82 |
| 56:B:378:TYR:HB3 | 56:B:406:LEU:HD13 | 0.88 | 0.82 |
| 56:B:413:THR:HA | 56:B:450:LEU:O | 1.79 | 0.82 |
| 26:W:34:TRP:HA | 26:W:36:ARG:HE | 1.41 | 0.82 |
| 29:Z:69:GLY:CA | 29:Z:157:LYS:CB | 2.57 | 0.82 |
| 56:B:65:ARG:HB2 | 56:B:246:THR:CA | 2.09 | 0.82 |
| 56:B:414:ILE:O | 56:B:450:LEU:N | 2.12 | 0.82 |
| 7:D:489:G:C4 | 7:D:1284:A:C6 | 2.67 | 0.82 |
| 7:D:2194:G:C2 | 7:D:2195:C:C4 | 2.67 | 0.82 |
| 7:D:2630:G:O2' | 7:D:2893:G:O2' | 1.77 | 0.82 |
| 7:D:928:G:N7 | 7:D:929:G:C6 | 2.48 | 0.82 |
| 16:M:10:ARG:HH21 | 16:M:75:ASP:HB2 | 1.43 | 0.82 |
| 20:Q:61:GLU:HG2 | 20:Q:62:ASN:H | 1.41 | 0.82 |
| 56:B:118:LEU:HD22 | 56:B:446:LYS:HZ3 | 1.44 | 0.82 |
| 56:B:205:TYR:CE2 | 56:B:271:ILE:CG2 | 2.62 | 0.82 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 56:B:299:PRO:C | 56:B:479:TYR:CE1 | 2.53 | 0.82 |
| 56:B:492:VAL:HG21 | 56:B:513:ALA:HB1 | 1.60 | 0.82 |
| 56:B:492:VAL:CA | 56:B:541:ILE:HG12 | 2.10 | 0.82 |
| 7:D:1173:G:H2' | 7:D:1174:A:N1 | 1.94 | 0.82 |
| 7:D:489:G:C8 | 7:D:1284:A:C5 | 2.67 | 0.82 |
| 7:D:1314:C:H42 | 7:D:1338:G:H1 | 1.28 | 0.82 |
| 7:D:655:A:O2' | 7:D:656:G:O4' | 1.95 | 0.82 |
| 7:D:884:C:C2 | 7:D:885:C:C4 | 2.63 | 0.82 |
| 56:B:17:HIS:CE1 | 56:B:116:GLU:CG | 2.62 | 0.82 |
| 56:B:352:LEU:O | 56:B:356:ILE:HG13 | 1.78 | 0.82 |
| 7:D:1128:A:N7 | 7:D:2518:A:N6 | 2.28 | 0.82 |
| 7:D:2805:G:H2' | 7:D:2807:G:C5' | 2.09 | 0.82 |
| 7:D:539:G:N3 | 7:D:556:G:N1 | 2.26 | 0.82 |
| 20:Q:71:ARG:HG2 | 20:Q:75:ALA:HB3 | 1.57 | 0.82 |
| 6:A:216:G:C8 | 6:A:217:C:C4 | 2.67 | 0.82 |
| 56:B:107:VAL:HG21 | 56:B:156:LEU:CD2 | 2.09 | 0.82 |
| 56:B:225:GLY:HA2 | 56:B:239:VAL:CG1 | 1.84 | 0.82 |
| 56:B:236:GLU:HA | 56:B:268:ILE:HG21 | 1.61 | 0.82 |
| 56:B:329:ALA:C | 56:B:330:LEU:HD13 | 2.00 | 0.82 |
| 56:B:306:TYR:CA | 56:B:370:ILE:HB | 2.05 | 0.82 |
| 56:B:448:VAL:HG12 | 56:B:449:GLU:H | 1.42 | 0.82 |
| 7:D:1055:G:N2 | 7:D:1104:C:N3 | 2.27 | 0.82 |
| 7:D:1872:A:H3' | 7:D:1878:G:H5'' | 1.60 | 0.82 |
| 9:F:204:ASN:ND2 | 9:F:207:ALA:O | 2.11 | 0.82 |
| 26:W:29:ARG:HB3 | 26:W:48:THR:HG21 | 1.55 | 0.82 |
| 29:Z:163:PHE:HZ | 29:Z:195:ALA:HB1 | 1.43 | 0.82 |
| 3:3:10:LEU:CD2 | 3:3:57:ILE:CG1 | 2.57 | 0.82 |
| 6:A:55:A:C1' | 56:B:208:TYR:OH | 2.25 | 0.82 |
| 56:B:17:HIS:O | 56:B:20:HIS:HB2 | 1.80 | 0.82 |
| 56:B:200:ILE:CG1 | 56:B:279:THR:CG2 | 2.57 | 0.82 |
| 56:B:33:THR:CG2 | 56:B:69:ARG:CD | 2.48 | 0.82 |
| 7:D:802:A:H5'' | 7:D:803:U:OP2 | 1.80 | 0.82 |
| 7:D:894:C:C5 | 7:D:895:U:C2 | 2.67 | 0.82 |
| 13:J:38:GLU:HG3 | 13:J:66:GLU:OE2 | 1.80 | 0.82 |
| 6:A:1461:G:O2' | 6:A:1462:G:H5' | 1.78 | 0.82 |
| 6:A:443:C:C4 | 6:A:492:G:C6 | 2.67 | 0.82 |
| 6:A:457:C:C4 | 6:A:458:C:N4 | 2.47 | 0.82 |
| 6:A:674:G:H2' | 6:A:675:A:H8 | 1.45 | 0.82 |
| 56:B:79:HIS:CG | 56:B:261:VAL:CG2 | 2.63 | 0.82 |
| 56:B:222:VAL:CG1 | 56:B:264:LEU:CD1 | 2.56 | 0.82 |
| 56:B:305:LEU:HD21 | 56:B:358:GLN:HG3 | 1.61 | 0.82 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:1652:A:N6 | 7:D:1653:G:H21 | 1.77 | 0.82 |
| 7:D:270(J):G:O6 | 7:D:270(P):C:N4 | 2.11 | 0.82 |
| 6:A:719:C:H42 | 25:V:74:ARG:NH1 | 1.78 | 0.82 |
| 6:A:1318:A:H1' | 26:W:14:HIS:NE2 | 1.91 | 0.82 |
| 6:A:811:C:O2' | 6:A:900:A:N6 | 2.12 | 0.82 |
| 56:B:8:ARG:CG | 56:B:74:GLU:HB3 | 2.01 | 0.82 |
| 7:D:1667:G:N2 | 7:D:1993:U:O4 | 2.12 | 0.82 |
| 7:D:332:A:O2' | 7:D:334:C:OP2 | 1.96 | 0.82 |
| 6:A:1447:G:N2 | 6:A:1460:A:N9 | 2.26 | 0.82 |
| 56:B:315:LYS:HD3 | 56:B:318:ASP:HB3 | 1.61 | 0.82 |
| 3:3:25:PRO:HA | 56:B:440:TYR:CE2 | 2.15 | 0.82 |
| 56:B:493:ASN:CA | 56:B:505:THR:CG2 | 2.54 | 0.82 |
| 56:B:493:ASN:CG | 56:B:503:ALA:HB1 | 1.99 | 0.82 |
| 56:B:493:ASN:H | 56:B:541:ILE:HA | 1.44 | 0.82 |
| 7:D:566:U:O2' | 7:D:809:G:OP2 | 1.97 | 0.82 |
| 4:4:74:C:H5 | 56:B:569:ARG:NE | 1.78 | 0.82 |
| 56:B:237:PHE:O | 56:B:238:THR:OG1 | 1.98 | 0.82 |
| 56:B:226:ASP:N | 56:B:239:VAL:HG11 | 1.93 | 0.82 |
| 7:D:1171:G:H8 | 7:D:1173:G:H4' | 1.45 | 0.82 |
| 7:D:1726:G:C6 | 7:D:1734:C:O2 | 2.33 | 0.82 |
| 20:Q:23:TYR:O | 20:Q:66:LEU:HB2 | 1.80 | 0.82 |
| 29:Z:66:HIS:CA | 29:Z:158:ALA:O | 2.27 | 0.82 |
| 6:A:1163:C:H2' | 6:A:1164:G:H5' | 1.57 | 0.81 |
| 6:A:467:G:N2 | 6:A:468:A:H1' | 1.94 | 0.81 |
| 6:A:89:U:C2' | 6:A:90:C:C5' | 2.57 | 0.81 |
| 56:B:134:VAL:HG23 | 56:B:163:ALA:O | 1.78 | 0.81 |
| 56:B:226:ASP:H | 56:B:239:VAL:HG11 | 1.45 | 0.81 |
| 56:B:230:ILE:HA | 56:B:280:ILE:HG22 | 0.82 | 0.81 |
| 56:B:306:TYR:HE1 | 56:B:339:ALA:O | 1.58 | 0.81 |
| 56:B:493:ASN:HA | 56:B:505:THR:CG2 | 2.09 | 0.81 |
| 7:D:1105:U:O2' | 7:D:1107:G:N7 | 2.12 | 0.81 |
| 7:D:1364:G:N2 | 7:D:1367:A:OP2 | 2.13 | 0.81 |
| 7:D:1580:A:H2' | 7:D:1581:G:C4 | 2.13 | 0.81 |
| 7:D:884:C:C2' | 7:D:885:C:OP2 | 2.28 | 0.81 |
| 6:A:1318:A:O2' | 26:W:37:ARG:HB2 | 1.80 | 0.81 |
| 26:W:40:ILE:HG23 | 26:W:67:VAL:HG22 | 1.58 | 0.81 |
| 3:3:34:ILE:HG23 | 3:3:63:ARG:HH11 | 1.44 | 0.81 |
| 3:3:58:THR:HG23 | 3:3:64:SER:OG | 1.80 | 0.81 |
| 56:B:195:PRO:HB3 | 56:B:285:ARG:O | 1.81 | 0.81 |
| 56:B:238:THR:OG1 | 56:B:267:ALA:CB | 2.27 | 0.81 |
| 56:B:492:VAL:HG13 | 56:B:541:ILE:CD1 | 2.09 | 0.81 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 7:D:1712:C:O2 | 7:D:1746:G:O6 | 1.96 | 0.81 |
| 7:D:1743:G:H2' | 7:D:1746:G:O4' | 1.79 | 0.81 |
| 5:5:19:G:O2' | 7:D:2112:G:N3 | 2.13 | 0.81 |
| 7:D:2452:C:H42 | 7:D:2504:U:H3 | 1.28 | 0.81 |
| 26:W:40:ILE:CD1 | 26:W:67:VAL:O | 2.29 | 0.81 |
| 29:Z:38:ASP:CG | 29:Z:178:ALA:H | 1.84 | 0.81 |
| 6:A:1347:G:H8 | 16:M:107:ARG:HB3 | 1.45 | 0.81 |
| 6:A:216:G:N7 | 6:A:217:C:C4 | 2.47 | 0.81 |
| 56:B:46:LEU:HD12 | 56:B:82:ASP:CG | 1.93 | 0.81 |
| 7:D:2296:U:O2 | 7:D:2335:A:N6 | 2.13 | 0.81 |
| 18:O:62:GLN:HB2 | 18:O:97:ALA:HB2 | 1.62 | 0.81 |
| 6:A:464:G:H3' | 6:A:465:A:C5' | 2.09 | 0.81 |
| 56:B:118:LEU:CD2 | 56:B:446:LYS:HZ3 | 1.92 | 0.81 |
| 56:B:272:HIS:ND1 | 56:B:272:HIS:O | 2.13 | 0.81 |
| 1:1:6:SER:O | 7:D:1031:G:O2' | 1.97 | 0.81 |
| 7:D:1800:C:N4 | 7:D:1818:U:O2 | 2.13 | 0.81 |
| 9:F:35:GLU:OE2 | 9:F:39:ILE:N | 2.13 | 0.81 |
| 29:Z:69:GLY:N | 29:Z:157:LYS:O | 2.13 | 0.81 |
| 3:3:11:GLN:O | 3:3:12:LEU:HD23 | 1.80 | 0.81 |
| 6:A:1320:C:H1' | 26:W:73:GLU:HB3 | 1.63 | 0.81 |
| 6:A:1427:U:H2' | 6:A:1428:A:H8 | 1.42 | 0.81 |
| 6:A:1440:C:O2 | 6:A:1462:G:C2 | 2.33 | 0.81 |
| 56:B:137:LYS:N | 56:B:167:SER:CB | 2.44 | 0.81 |
| 56:B:177:ILE:CG2 | 56:B:181:ILE:HD12 | 2.08 | 0.81 |
| 56:B:7:SER:O | 56:B:8:ARG:HG2 | 1.80 | 0.81 |
| 7:D:1043:C:HO2' | 7:D:1044:G:H8 | 1.28 | 0.81 |
| 7:D:1712:C:O2' | 7:D:1716:U:H5' | 1.81 | 0.81 |
| 7:D:266:G:H5' | 7:D:271(A):C:H42 | 1.46 | 0.81 |
| 3:3:86:LYS:O | 7:D:1063:G:O2' | 1.98 | 0.81 |
| 6:A:1439:C:O2 | 6:A:1462:G:N2 | 2.12 | 0.81 |
| 56:B:232:SER:O | 56:B:234:GLY:N | 2.13 | 0.81 |
| 56:B:245:PHE:HE2 | 56:B:262:GLY:HA2 | 1.45 | 0.81 |
| 56:B:330:LEU:HG | 56:B:346:CYS:H | 0.70 | 0.81 |
| 56:B:8:ARG:CB | 56:B:74:GLU:HB2 | 2.09 | 0.81 |
| 1:1:36:GLN:HE22 | 7:D:1031:G:H21 | 1.28 | 0.81 |
| 7:D:238:C:O2' | 7:D:607:U:O2 | 1.99 | 0.81 |
| 7:D:634:C:H2' | 7:D:635:C:H6 | 1.46 | 0.81 |
| 29:Z:69:GLY:CA | 29:Z:157:LYS:HA | 2.09 | 0.81 |
| 6:A:1064:G:O2' | 6:A:1190:G:N2 | 2.14 | 0.81 |
| 6:A:558:G:OP2 | 6:A:559:A:O2' | 1.99 | 0.81 |
| 6:A:80:G:H2' | 6:A:81:G:C8 | 2.15 | 0.81 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 56:B:137:LYS:N | 56:B:167:SER:HB2 | 1.95 | 0.81 |
| 56:B:209:GLN:HE22 | 56:B:265:VAL:HG13 | 1.43 | 0.81 |
| 56:B:383:LYS:HG2 | 56:B:402:ILE:HG23 | 0.82 | 0.81 |
| 56:B:65:ARG:HD3 | 56:B:76:TYR:OH | 1.80 | 0.81 |
| 7:D:1593:G:H2' | 7:D:1594:G:H8 | 1.44 | 0.81 |
| 26:W:3:ARG:O | 26:W:42:PRO:CB | 2.28 | 0.81 |
| 6:A:1319:A:OP1 | 26:W:38:SER:CA | 2.27 | 0.81 |
| 6:A:664:G:O2' | 6:A:666:G:OP2 | 1.98 | 0.81 |
| 6:A:837:G:N3 | 6:A:838:G:N7 | 2.28 | 0.81 |
| 56:B:196:LEU:HD13 | 56:B:220:GLY:CA | 2.01 | 0.81 |
| 56:B:230:ILE:CG2 | 56:B:279:THR:HA | 2.10 | 0.81 |
| 56:B:306:TYR:CE1 | 56:B:339:ALA:CB | 2.63 | 0.81 |
| 56:B:303:ALA:HB2 | 56:B:347:GLY:HA3 | 1.62 | 0.81 |
| 56:B:450:LEU:HD11 | 56:B:452:TYR:CE1 | 2.16 | 0.81 |
| 7:D:1230:C:H2' | 7:D:1231:G:H8 | 1.43 | 0.81 |
| 7:D:1590:U:H2' | 7:D:1591:G:H8 | 1.44 | 0.81 |
| 7:D:1634:A:O2' | 7:D:1635:G:OP1 | 1.99 | 0.81 |
| 20:Q:91:ARG:CG | 20:Q:96:LEU:O | 2.24 | 0.81 |
| 56:B:431:LYS:HB2 | 56:B:458:GLU:CB | 2.11 | 0.81 |
| 7:D:1447:G:O2' | 7:D:1448:G:H5' | 1.81 | 0.81 |
| 7:D:687:C:H41 | 7:D:774:A:H61 | 1.28 | 0.81 |
| 26:W:15:LEU:O | 26:W:19:VAL:HG22 | 1.80 | 0.81 |
| 6:A:210:U:C6 | 6:A:216:G:N7 | 2.48 | 0.81 |
| 6:A:422:C:O2' | 6:A:423:G:N2 | 2.14 | 0.81 |
| 6:A:73:G:OP2 | 6:A:74:C:N4 | 2.14 | 0.81 |
| 6:A:992:U:O2' | 6:A:993:G:OP2 | 1.96 | 0.81 |
| 56:B:194:ALA:C | 56:B:219:GLU:OE1 | 2.01 | 0.81 |
| 56:B:352:LEU:HD22 | 56:B:356:ILE:CG1 | 2.10 | 0.81 |
| 56:B:360:ARG:HG3 | 56:B:364:GLU:CD | 1.99 | 0.81 |
| 56:B:405:ILE:HA | 56:B:486:PRO:CA | 2.11 | 0.81 |
| 7:D:1300:U:N3 | 7:D:1626:G:O2' | 2.14 | 0.81 |
| 7:D:542:C:O2' | 7:D:543:C:H5' | 1.81 | 0.81 |
| 8:E:14:U:O2' | 8:E:106:G:N2 | 2.14 | 0.81 |
| 29:Z:155:GLU:O | 29:Z:160:ARG:N | 2.14 | 0.81 |
| 56:B:444:ALA:C | 56:B:445:GLN:HG3 | 2.01 | 0.81 |
| 7:D:1225:C:O2' | 7:D:1226:G:H5' | 1.81 | 0.81 |
| 7:D:1710:C:O2 | 7:D:1748:G:N2 | 2.14 | 0.81 |
| 26:W:15:LEU:CD2 | 26:W:19:VAL:CG1 | 2.48 | 0.81 |
| 6:A:74:C:O2' | 6:A:75:C:H5' | 1.81 | 0.80 |
| 6:A:838:G:C2 | 6:A:849:C:N3 | 2.50 | 0.80 |
| 6:A:939:G:H5'' | 14:K:102:ARG:HH12 | 1.45 | 0.80 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 56:B:222:VAL:HG21 | 56:B:264:LEU:CD2 | 2.07 | 0.80 |
| 56:B:228:ILE:HA | 56:B:282:LEU:CD2 | 2.06 | 0.80 |
| 56:B:303:ALA:HB2 | 56:B:347:GLY:CA | 2.11 | 0.80 |
| 56:B:410:VAL:HG22 | 56:B:481:GLN:HA | 1.62 | 0.80 |
| 56:B:42:ARG:NE | 56:B:53:ARG:HH21 | 1.78 | 0.80 |
| 56:B:75:GLU:O | 56:B:77:VAL:HG12 | 1.81 | 0.80 |
| 7:D:1726:G:C2 | 7:D:1727:U:C2 | 2.70 | 0.80 |
| 7:D:2330:G:N2 | 7:D:2386:C:O2 | 2.14 | 0.80 |
| 7:D:2715:C:H2' | 7:D:2716:U:H6 | 1.46 | 0.80 |
| 7:D:295:G:OP2 | 7:D:338:G:N1 | 2.14 | 0.80 |
| 26:W:40:ILE:HG21 | 26:W:67:VAL:C | 2.01 | 0.80 |
| 3:3:56:GLU:OE1 | 3:3:70:LYS:HG3 | 1.81 | 0.80 |
| 6:A:415:A:N6 | 6:A:428:G:O6 | 2.14 | 0.80 |
| 56:B:306:TYR:HE1 | 56:B:339:ALA:HB1 | 1.46 | 0.80 |
| 56:B:425:MET:HE2 | 56:B:452:TYR:OH | 1.81 | 0.80 |
| 56:B:474:TYR:O | 56:B:475:ALA:O | 1.99 | 0.80 |
| 26:W:40:ILE:CG2 | 26:W:67:VAL:C | 2.50 | 0.80 |
| 56:B:10:ARG:HG3 | 56:B:186:PRO:O | 1.81 | 0.80 |
| 7:D:890:A:C3' | 7:D:892:G:H5'' | 2.09 | 0.80 |
| 20:Q:108:ARG:NH1 | 20:Q:114:ARG:HA | 1.96 | 0.80 |
| 22:S:49:ASP:OD2 | 22:S:52:SER:OG | 1.98 | 0.80 |
| 26:W:36:ARG:HB3 | 26:W:71:LEU:CA | 2.11 | 0.80 |
| 26:W:40:ILE:HD12 | 26:W:67:VAL:O | 1.80 | 0.80 |
| 29:Z:18:LYS:HG2 | 29:Z:20:TYR:H | 1.43 | 0.80 |
| 6:A:101:A:O2' | 6:A:102:G:H5' | 1.81 | 0.80 |
| 56:B:151:GLU:O | 56:B:155:VAL:N | 2.14 | 0.80 |
| 56:B:33:THR:HG21 | 56:B:69:ARG:CD | 2.10 | 0.80 |
| 56:B:8:ARG:HG3 | 56:B:74:GLU:HA | 1.61 | 0.80 |
| 7:D:43:G:C5 | 7:D:44:A:C5 | 2.69 | 0.80 |
| 7:D:662:G:H2' | 7:D:663:G:H8 | 1.46 | 0.80 |
| 18:O:40:ILE:HG21 | 18:O:75:TYR:HE2 | 1.46 | 0.80 |
| 22:S:2:PRO:O | 22:S:38:ARG:NH1 | 2.12 | 0.80 |
| 6:A:1164:G:N7 | 6:A:1165:C:N4 | 2.30 | 0.80 |
| 6:A:1220:G:OP1 | 26:W:34:TRP:CE2 | 2.35 | 0.80 |
| 56:B:317:ARG:NE | 56:B:342:PHE:HE2 | 1.78 | 0.80 |
| 56:B:413:THR:HG22 | 56:B:451:VAL:HG22 | 1.64 | 0.80 |
| 7:D:1273:U:O2' | 7:D:1275:A:OP2 | 1.98 | 0.80 |
| 7:D:1913:A:O2' | 7:D:1914:C:OP2 | 1.98 | 0.80 |
| 7:D:270:A:N1 | 7:D:370:G:H1' | 1.95 | 0.80 |
| 7:D:609:A:H2' | 7:D:609(A):G:H8 | 1.47 | 0.80 |
| 3:3:13:PRO:HG2 | 3:3:16:LYS:NZ | 1.94 | 0.80 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 56:B:88:ASP:O | 56:B:349:LEU:HD13 | 1.80 | 0.80 |
| 7:D:1101:U:O4 | 7:D:1103:A:N6 | 2.15 | 0.80 |
| 7:D:2197:U:O2' | 7:D:2198:A:H5'' | 1.81 | 0.80 |
| 7:D:2227:A:C6 | 7:D:2228:G:C6 | 2.70 | 0.80 |
| 7:D:295:G:P | 7:D:338:G:H1 | 2.04 | 0.80 |
| 7:D:481:G:O2' | 7:D:482:A:OP2 | 1.98 | 0.80 |
| 56:B:299:PRO:CD | 56:B:348:PHE:CD2 | 2.64 | 0.80 |
| 56:B:480:GLU:O | 56:B:481:GLN:HG3 | 1.80 | 0.80 |
| 56:B:492:VAL:CB | 56:B:541:ILE:HG12 | 2.11 | 0.80 |
| 56:B:544:LYS:C | 56:B:545:ILE:HG13 | 2.00 | 0.80 |
| 56:B:169:LYS:HB2 | 57:B:701:GCP:C6 | 2.11 | 0.80 |
| 7:D:1275:A:N6 | 7:D:1295:C:O2' | 2.14 | 0.80 |
| 7:D:2842:G:H2' | 7:D:2843:G:H8 | 1.44 | 0.80 |
| 12:I:31:LEU:HA | 12:I:45:PHE:HB2 | 1.64 | 0.80 |
| 17:N:51:ARG:NH2 | 17:N:61:GLU:OE1 | 2.15 | 0.80 |
| 6:A:1321:C:OP2 | 20:Q:98:VAL:HG22 | 1.82 | 0.80 |
| 6:A:1346:A:H62 | 6:A:1375:A:H62 | 1.26 | 0.80 |
| 56:B:330:LEU:CD1 | 56:B:345:ARG:NH1 | 2.43 | 0.80 |
| 56:B:431:LYS:HB2 | 56:B:458:GLU:HB2 | 1.64 | 0.80 |
| 7:D:1530:G:N2 | 7:D:1541:U:O2' | 2.15 | 0.80 |
| 7:D:295:G:H1 | 7:D:343:C:H42 | 1.30 | 0.80 |
| 10:G:12:LEU:HD11 | 21:R:57:ARG:HA | 1.64 | 0.80 |
| 6:A:697:U:O2 | 6:A:785:G:N2 | 2.13 | 0.80 |
| 56:B:383:LYS:O | 56:B:384:SER:OG | 2.00 | 0.80 |
| 4:4:74:C:C5 | 56:B:569:ARG:CZ | 2.65 | 0.80 |
| 7:D:1062:G:C8 | 7:D:1070:A:OP2 | 2.35 | 0.80 |
| 3:3:21:PRO:CB | 7:D:1067:A:OP2 | 2.29 | 0.80 |
| 26:W:16:LEU:HA | 26:W:20:LEU:HD12 | 1.64 | 0.80 |
| 6:A:193:C:H2' | 6:A:194:C:H6 | 1.44 | 0.80 |
| 6:A:75:C:O2 | 6:A:96:G:C2 | 2.34 | 0.80 |
| 56:B:107:VAL:HG21 | 56:B:156:LEU:HD21 | 1.62 | 0.80 |
| 56:B:382:LEU:CD2 | 56:B:401:ARG:CA | 1.86 | 0.80 |
| 7:D:411:G:O2' | 7:D:413:C:N4 | 2.15 | 0.80 |
| 11:H:98:GLU:HG2 | 11:H:189:PRO:HG3 | 1.64 | 0.80 |
| 13:J:50:TYR:OH | 13:J:87:ARG:NH2 | 2.15 | 0.80 |
| 20:Q:90:LEU:O | 20:Q:93:ARG:HG2 | 1.81 | 0.80 |
| 3:3:19:PRO:HB2 | 3:3:23:VAL:HG23 | 1.62 | 0.79 |
| 56:B:382:LEU:CB | 56:B:401:ARG:CB | 2.53 | 0.79 |
| 56:B:407:GLU:CD | 56:B:431:LYS:HZ1 | 1.86 | 0.79 |
| 56:B:492:VAL:HA | 56:B:541:ILE:HG12 | 1.62 | 0.79 |
| 7:D:869:G:H1 | 7:D:908:C:H42 | 1.28 | 0.79 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 4:4:74:C:C4 | 56:B:569:ARG:NH2 | 2.46 | 0.79 |
| 7:D:1053:C:N4 | 7:D:1108:U:O2 | 2.14 | 0.79 |
| 7:D:2194:G:N2 | 7:D:2195:C:C2 | 2.50 | 0.79 |
| 7:D:2237:G:O2' | 7:D:2239:G:N7 | 2.14 | 0.79 |
| 29:Z:69:GLY:HA2 | 29:Z:157:LYS:HA | 1.64 | 0.79 |
| 56:B:136:ASN:HA | 56:B:167:SER:HA | 1.64 | 0.79 |
| 56:B:36:VAL:HG22 | 56:B:248:GLN:HE21 | 1.45 | 0.79 |
| 56:B:382:LEU:HD13 | 56:B:383:LYS:O | 1.82 | 0.79 |
| 56:B:379:LYS:HZ2 | 56:B:407:GLU:N | 1.80 | 0.79 |
| 56:B:417:PRO:HB3 | 56:B:447:ARG:C | 2.02 | 0.79 |
| 7:D:2211:G:H22 | 7:D:2212:A:H8 | 1.27 | 0.79 |
| 56:B:91:TYR:CE2 | 56:B:296:PRO:O | 2.33 | 0.79 |
| 7:D:974(A):C:O2 | 7:D:1186:G:N1 | 2.10 | 0.79 |
| 7:D:1449(A):G:O6 | 7:D:1462:C:N4 | 2.14 | 0.79 |
| 7:D:2217:G:H2' | 7:D:2218:G:C8 | 2.17 | 0.79 |
| 7:D:542:C:H2' | 7:D:543:C:C5 | 2.17 | 0.79 |
| 6:A:245:C:N3 | 6:A:283:C:N4 | 2.30 | 0.79 |
| 6:A:457:C:O2 | 6:A:476:G:N2 | 2.15 | 0.79 |
| 7:D:1181:C:H2' | 7:D:1182:A:H8 | 1.48 | 0.79 |
| 7:D:1726:G:C5 | 7:D:1727:U:N3 | 2.50 | 0.79 |
| 7:D:2115:G:O2' | 7:D:2171:A:N6 | 2.12 | 0.79 |
| 7:D:527:C:O2' | 7:D:528:A:O4' | 1.99 | 0.79 |
| 13:J:100:ASN:ND2 | 25:V:26:LEU:O | 2.15 | 0.79 |
| 6:A:711:G:H2' | 6:A:712:A:H8 | 1.46 | 0.79 |
| 56:B:188:PRO:CB | 56:B:216:ARG:HH22 | 1.87 | 0.79 |
| 56:B:382:LEU:HD21 | 56:B:400:THR:O | 1.81 | 0.79 |
| 7:D:442:G:C5 | 7:D:444:C:N4 | 2.51 | 0.79 |
| 7:D:507:A:O2' | 7:D:508:G:OP2 | 1.99 | 0.79 |
| 7:D:861:A:N6 | 7:D:917:A:N3 | 2.31 | 0.79 |
| 19:P:49:ASN:ND2 | 19:P:92:ASP:OD1 | 2.13 | 0.79 |
| 4:4:18:G:N2 | 4:4:58:A:O4' | 2.14 | 0.79 |
| 6:A:957:U:O2' | 6:A:958:A:N7 | 2.16 | 0.79 |
| 56:B:135:ILE:HG13 | 56:B:165:PHE:HB3 | 0.79 | 0.79 |
| 7:D:1024:G:O6 | 7:D:1139:G:N1 | 2.14 | 0.79 |
| 7:D:1862:G:H2' | 7:D:1863:G:C8 | 2.17 | 0.79 |
| 7:D:1864:U:O2' | 7:D:1869:G:H5' | 1.83 | 0.79 |
| 7:D:928:G:H3' | 7:D:929:G:H8 | 1.47 | 0.79 |
| 6:A:1175:G:H2' | 6:A:1176:A:H8 | 1.47 | 0.79 |
| 6:A:662:G:H2' | 6:A:663:A:H8 | 1.48 | 0.79 |
| 56:B:306:TYR:HB3 | 56:B:370:ILE:HD12 | 1.54 | 0.79 |
| 7:D:1086:A:H3' | 7:D:1087:G:H5' | 1.65 | 0.79 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:2611:U:H5'' | 7:D:2612:C:OP2 | 1.82 | 0.79 |
| 7:D:745:G:N2 | 7:D:753:C:N3 | 2.29 | 0.79 |
| 24:U:58:GLU:OE2 | 24:U:75:ARG:NE | 2.16 | 0.79 |
| 3:3:13:PRO:CB | 3:3:16:LYS:HZ2 | 1.94 | 0.79 |
| 6:A:455:C:O2' | 6:A:456:C:H5' | 1.82 | 0.79 |
| 56:B:164:ILE:CG2 | 56:B:176:GLU:OE1 | 2.30 | 0.79 |
| 56:B:135:ILE:HG12 | 56:B:165:PHE:CB | 1.82 | 0.79 |
| 56:B:196:LEU:O | 56:B:281:THR:CA | 2.31 | 0.79 |
| 7:D:2747:G:N2 | 7:D:2748:A:N7 | 2.30 | 0.79 |
| 10:G:84:ILE:HG13 | 10:G:101:LEU:HD22 | 1.62 | 0.79 |
| 56:B:81:ILE:HD13 | 56:B:100:VAL:CG2 | 1.82 | 0.79 |
| 56:B:118:LEU:HD11 | 56:B:446:LYS:CE | 2.10 | 0.79 |
| 56:B:97:LEU:HD23 | 56:B:97:LEU:O | 1.83 | 0.79 |
| 7:D:2:G:N1 | 7:D:2901:C:O2 | 2.16 | 0.79 |
| 7:D:860:U:H3 | 7:D:917:A:N6 | 1.81 | 0.79 |
| 26:W:36:ARG:CA | 26:W:71:LEU:CB | 2.25 | 0.79 |
| 56:B:381:ARG:HH21 | 56:B:385:GLY:HA2 | 1.47 | 0.78 |
| 7:D:1477:A:C5 | 7:D:1478:G:C6 | 2.71 | 0.78 |
| 20:Q:102:ARG:CB | 20:Q:102:ARG:HH11 | 1.95 | 0.78 |
| 6:A:1162:C:N3 | 6:A:1174:G:N1 | 2.31 | 0.78 |
| 6:A:1319:A:OP1 | 26:W:12:ASP:OD2 | 2.01 | 0.78 |
| 6:A:324:G:N2 | 6:A:327:A:OP2 | 2.16 | 0.78 |
| 56:B:12:PHE:C | 56:B:100:VAL:HG11 | 2.03 | 0.78 |
| 56:B:382:LEU:HG | 56:B:401:ARG:CG | 2.06 | 0.78 |
| 56:B:489:LEU:CD2 | 56:B:509:HIS:HB3 | 2.13 | 0.78 |
| 7:D:1068:G:O2' | 7:D:1096:A:O2' | 2.01 | 0.78 |
| 7:D:1119:C:N4 | 7:D:1120:G:O6 | 2.16 | 0.78 |
| 7:D:1418:G:O2' | 7:D:1579:A:N6 | 2.16 | 0.78 |
| 7:D:1752:C:H5'' | 7:D:1753:G:OP2 | 1.83 | 0.78 |
| 6:A:1100:C:H5' | 6:A:1101:A:OP2 | 1.81 | 0.78 |
| 56:B:245:PHE:HE2 | 56:B:261:VAL:C | 1.86 | 0.78 |
| 7:D:1074:G:H2' | 7:D:1075:C:H5 | 1.49 | 0.78 |
| 7:D:1143:A:H2' | 7:D:1144:G:H8 | 1.47 | 0.78 |
| 7:D:1266:G:O2' | 7:D:1267:U:OP2 | 2.00 | 0.78 |
| 7:D:1718:G:HO2' | 7:D:1725:G:H8 | 1.31 | 0.78 |
| 6:A:382:A:OP2 | 6:A:382:A:H8 | 1.66 | 0.78 |
| 6:A:495:A:H4' | 6:A:496:A:OP1 | 1.82 | 0.78 |
| 6:A:837:G:N2 | 6:A:850:U:O2 | 2.15 | 0.78 |
| 56:B:21:GLY:HA3 | 56:B:136:ASN:ND2 | 1.98 | 0.78 |
| 56:B:228:ILE:HG23 | 56:B:282:LEU:HA | 1.64 | 0.78 |
| 7:D:1060:U:H5' | 7:D:1061:U:OP2 | 1.83 | 0.78 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:1344:G:N2 | 7:D:1385:G:O4' | 2.17 | 0.78 |
| 7:D:1529:A:H3' | 7:D:1530:G:H8 | 1.47 | 0.78 |
| 7:D:1565:C:C4 | 7:D:1567:A:H8 | 2.02 | 0.78 |
| 7:D:1726:G:C5 | 7:D:1727:U:C4 | 2.71 | 0.78 |
| 7:D:2219:G:C2' | 7:D:2224:G:H5' | 2.13 | 0.78 |
| 7:D:273(B):C:O2 | 7:D:363(D):G:N2 | 2.16 | 0.78 |
| 7:D:648:G:C6 | 7:D:649:G:N1 | 2.52 | 0.78 |
| 6:A:1220:G:OP1 | 26:W:34:TRP:CD2 | 2.37 | 0.78 |
| 1:1:36:GLN:HE22 | 7:D:1031:G:N2 | 1.81 | 0.78 |
| 3:3:103:GLN:CA | 3:3:106:GLU:OE2 | 2.32 | 0.78 |
| 56:B:135:ILE:HD11 | 56:B:145:PRO:HB3 | 1.64 | 0.78 |
| 56:B:58:THR:OG1 | 56:B:84:PRO:CG | 2.32 | 0.78 |
| 7:D:1059:G:O6 | 7:D:1081:U:N3 | 2.15 | 0.78 |
| 7:D:1210:A:N3 | 7:D:1212:G:N2 | 2.32 | 0.78 |
| 7:D:2782:G:H2' | 7:D:2783:G:C8 | 2.18 | 0.78 |
| 7:D:855:G:N2 | 7:D:923:C:O2 | 2.15 | 0.78 |
| 26:W:40:ILE:HB | 26:W:68:GLY:CA | 2.13 | 0.78 |
| 6:A:74:C:H2' | 6:A:75:C:C5 | 2.18 | 0.78 |
| 56:B:523:LYS:CA | 56:B:598:LEU:CD2 | 2.60 | 0.78 |
| 7:D:1087:G:N1 | 7:D:1102:C:N3 | 2.28 | 0.78 |
| 7:D:1529:A:H8 | 7:D:1530:G:C8 | 2.02 | 0.78 |
| 7:D:739:G:H4' | 7:D:1784:A:H61 | 1.47 | 0.78 |
| 7:D:1980:G:O2' | 7:D:1982:C:OP2 | 2.01 | 0.78 |
| 7:D:2787:C:H2' | 7:D:2788:C:H6 | 1.48 | 0.78 |
| 20:Q:52:GLU:HG2 | 20:Q:55:ARG:HH21 | 1.49 | 0.78 |
| 6:A:1353:G:P | 28:Y:3:LYS:HZ1 | 2.07 | 0.78 |
| 3:3:91:PRO:HB2 | 7:D:1076:C:O4' | 1.84 | 0.78 |
| 6:A:1296:C:OP2 | 20:Q:44:ARG:NH1 | 2.16 | 0.78 |
| 6:A:1454:G:C5 | 6:A:1455:G:C8 | 2.71 | 0.78 |
| 56:B:186:PRO:HB2 | 56:B:187:PRO:CD | 2.13 | 0.78 |
| 56:B:202:ASP:O | 56:B:203:SER:CB | 2.32 | 0.78 |
| 56:B:300:VAL:CG1 | 56:B:477:MET:SD | 2.71 | 0.78 |
| 56:B:299:PRO:N | 56:B:348:PHE:CE2 | 2.51 | 0.78 |
| 56:B:379:LYS:N | 56:B:406:LEU:HB3 | 1.98 | 0.78 |
| 56:B:383:LYS:H | 56:B:402:ILE:HG12 | 1.42 | 0.78 |
| 56:B:416:THR:O | 56:B:448:VAL:CG2 | 2.31 | 0.78 |
| 7:D:1174:A:H2' | 7:D:1175:U:C6 | 2.19 | 0.78 |
| 7:D:1485:G:C2 | 7:D:1486:A:C8 | 2.71 | 0.78 |
| 7:D:1725:G:N3 | 7:D:1726:G:C8 | 2.51 | 0.78 |
| 7:D:922:U:O2 | 7:D:923:C:C2 | 2.37 | 0.78 |
| 26:W:70:LYS:CA | 26:W:73:GLU:HG2 | 2.13 | 0.78 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 6:A:191:G:N2 | 27:X:103:GLY:O | 2.14 | 0.78 |
| 1:1:22:ARG:NH1 | 1:1:37:GLY:O | 2.17 | 0.78 |
| 6:A:1070:U:O2 | 6:A:1106:G:N2 | 2.16 | 0.78 |
| 6:A:1309:G:H5' | 20:Q:88:ARG:HH21 | 1.48 | 0.78 |
| 56:B:13:SER:OG | 56:B:81:ILE:CB | 2.32 | 0.78 |
| 56:B:121:PHE:CE2 | 56:B:157:GLY:HA3 | 2.15 | 0.78 |
| 56:B:20:HIS:CD2 | 56:B:108:ASP:HB2 | 2.19 | 0.78 |
| 56:B:25:LEU:HB2 | 56:B:168:GLY:HA3 | 1.66 | 0.78 |
| 56:B:196:LEU:HB3 | 56:B:282:LEU:CB | 2.14 | 0.78 |
| 56:B:322:LYS:CG | 56:B:331:THR:CG2 | 2.61 | 0.78 |
| 56:B:497:HIS:ND1 | 56:B:535:VAL:HG21 | 1.98 | 0.78 |
| 7:D:1470:G:N1 | 7:D:1520:U:O4 | 2.17 | 0.78 |
| 7:D:1476:C:N4 | 7:D:1516:U:O2 | 2.16 | 0.78 |
| 7:D:2060:A:O2' | 7:D:2061:G:OP2 | 2.02 | 0.78 |
| 7:D:989:G:HO2' | 7:D:990:A:P | 2.06 | 0.78 |
| 6:A:1438:G:OP2 | 27:X:34:LYS:NZ | 2.17 | 0.78 |
| 6:A:74:C:N3 | 6:A:75:C:N4 | 2.32 | 0.78 |
| 56:B:195:PRO:HB2 | 56:B:286:PRO:CB | 2.14 | 0.78 |
| 56:B:345:ARG:HG3 | 56:B:346:CYS:H | 1.49 | 0.78 |
| 56:B:361:LEU:HD23 | 56:B:366:GLY:HA3 | 1.66 | 0.78 |
| 7:D:1065:U:H2' | 7:D:1066:U:H4' | 1.66 | 0.78 |
| 10:G:11:ARG:HB3 | 10:G:15:THR:HG22 | 1.64 | 0.78 |
| 6:A:216:G:C5 | 6:A:217:C:C4 | 2.72 | 0.78 |
| 56:B:459:ILE:HD12 | 56:B:460:LEU:N | 1.99 | 0.78 |
| 7:D:1666:G:H1 | 7:D:1994:C:N4 | 1.81 | 0.78 |
| 7:D:1869:G:HO2' | 7:D:1871:A:N6 | 1.77 | 0.78 |
| 7:D:2794:C:N3 | 7:D:2802:G:O6 | 2.17 | 0.78 |
| 7:D:293:U:O4 | 7:D:346:A:N6 | 2.17 | 0.78 |
| 7:D:976:C:H5' | 7:D:1156:A:H62 | 1.46 | 0.78 |
| 17:N:52:GLY:O | 21:R:41:ARG:NH2 | 2.17 | 0.78 |
| 26:W:15:LEU:HD23 | 26:W:33:THR:CB | 2.14 | 0.78 |
| 6:A:129(A):G:N2 | 6:A:188:U:O2' | 2.17 | 0.77 |
| 6:A:438:G:H3' | 6:A:494:U:O4 | 1.84 | 0.77 |
| 6:A:974:A:OP2 | 21:R:32:SER:OG | 2.00 | 0.77 |
| 56:B:135:ILE:HD13 | 56:B:165:PHE:CG | 2.17 | 0.77 |
| 56:B:229:ARG:NH2 | 56:B:282:LEU:O | 2.16 | 0.77 |
| 56:B:382:LEU:CD2 | 56:B:400:THR:O | 2.32 | 0.77 |
| 56:B:441:LEU:CD1 | 56:B:447:ARG:HD2 | 2.14 | 0.77 |
| 7:D:2449:U:HO2' | 7:D:2450:A:P | 2.06 | 0.77 |
| 7:D:273(C):C:N4 | 7:D:363(C):G:O6 | 2.17 | 0.77 |
| 7:D:2746:U:H3 | 7:D:2758:A:H61 | 1.32 | 0.77 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 7:D:2848:G:N2 | 7:D:2867:G:N3 | 2.32 | 0.77 |
| 6:A:1134:G:N2 | 6:A:1140:C:N3 | 2.32 | 0.77 |
| 6:A:85:U:C2' | 6:A:86:U:H5' | 2.14 | 0.77 |
| 56:B:205:TYR:CZ | 56:B:271:ILE:HG12 | 2.18 | 0.77 |
| 56:B:218:PHE:CE2 | 56:B:291:TYR:OH | 2.35 | 0.77 |
| 56:B:320:LEU:O | 56:B:322:LYS:HG3 | 1.85 | 0.77 |
| 56:B:305:LEU:CD2 | 56:B:358:GLN:HE21 | 1.94 | 0.77 |
| 7:D:1582:C:H5'' | 7:D:1583:A:OP2 | 1.84 | 0.77 |
| 7:D:560:C:H2' | 7:D:561:G:H5' | 1.67 | 0.77 |
| 29:Z:57:ASN:HA | 29:Z:165:ASN:HD21 | 1.49 | 0.77 |
| 56:B:13:SER:CB | 56:B:97:LEU:CG | 2.63 | 0.77 |
| 7:D:464:U:O2 | 7:D:788:A:N6 | 2.18 | 0.77 |
| 16:M:47:LEU:HD11 | 16:M:51:ARG:NH1 | 2.00 | 0.77 |
| 22:S:33:THR:O | 22:S:37:ASN:ND2 | 2.17 | 0.77 |
| 2:2:43:ALA:HA | 3:3:117:THR:HG21 | 1.65 | 0.77 |
| 6:A:1025:U:O4 | 6:A:1035:A:N6 | 2.17 | 0.77 |
| 6:A:208:U:H4' | 6:A:209:U:OP2 | 1.84 | 0.77 |
| 56:B:12:PHE:HA | 56:B:100:VAL:HG11 | 1.65 | 0.77 |
| 56:B:383:LYS:CA | 56:B:402:ILE:CG1 | 2.62 | 0.77 |
| 56:B:421:VAL:CG1 | 56:B:425:MET:HG3 | 2.15 | 0.77 |
| 56:B:431:LYS:HB3 | 56:B:455:PRO:HG3 | 1.47 | 0.77 |
| 56:B:506:PHE:CZ | 56:B:520:ILE:HG21 | 2.16 | 0.77 |
| 56:B:531:GLN:HG2 | 56:B:532:LEU:CG | 2.14 | 0.77 |
| 56:B:95:ARG:HG3 | 56:B:96:ALA:N | 1.97 | 0.77 |
| 7:D:746:A:N6 | 7:D:2610:C:OP1 | 2.15 | 0.77 |
| 16:M:67:GLY:O | 16:M:73:GLN:NE2 | 2.14 | 0.77 |
| 56:B:48:SER:O | 56:B:49:LEU:HD12 | 1.84 | 0.77 |
| 7:D:1479:G:O3' | 7:D:1559:G:C6 | 2.37 | 0.77 |
| 7:D:371:A:C5' | 7:D:423:A:N6 | 2.47 | 0.77 |
| 7:D:539:G:O2' | 7:D:540:G:H5' | 1.84 | 0.77 |
| 7:D:883:G:H2' | 7:D:892:G:O6 | 1.84 | 0.77 |
| 6:A:1328:C:O2' | 20:Q:29:ARG:NH2 | 2.17 | 0.77 |
| 3:3:34:ILE:HG22 | 3:3:63:ARG:CB | 2.15 | 0.77 |
| 56:B:195:PRO:HG2 | 56:B:286:PRO:C | 2.00 | 0.77 |
| 56:B:407:GLU:CD | 56:B:431:LYS:NZ | 2.38 | 0.77 |
| 7:D:2107:C:O2 | 7:D:2108:C:H3' | 1.84 | 0.77 |
| 7:D:2226:C:H2' | 7:D:2227:A:H5' | 1.67 | 0.77 |
| 7:D:638:G:N1 | 7:D:650:C:C2 | 2.53 | 0.77 |
| 56:B:306:TYR:HE1 | 56:B:339:ALA:CB | 1.96 | 0.77 |
| 56:B:537:ILE:CD1 | 56:B:551:VAL:CG2 | 2.62 | 0.77 |
| 56:B:8:ARG:NE | 56:B:74:GLU:HA | 1.98 | 0.77 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 56:B:95:ARG:CZ | 56:B:294:PHE:CE1 | 2.67 | 0.77 |
| 7:D:537:C:H4' | 7:D:539:G:OP1 | 1.84 | 0.77 |
| 7:D:931:G:H3' | 7:D:932:G:H4' | 1.65 | 0.77 |
| 11:H:30:LYS:H | 11:H:34:GLU:HB3 | 1.50 | 0.77 |
| 6:A:1380:U:O2 | 6:A:1382:C:N4 | 2.17 | 0.77 |
| 6:A:376:G:H2' | 6:A:377:G:H8 | 1.50 | 0.77 |
| 6:A:380:G:N2 | 6:A:383:A:OP2 | 2.18 | 0.77 |
| 56:B:200:ILE:HG13 | 56:B:278:ASP:O | 1.84 | 0.77 |
| 6:A:110:C:O2' | 23:T:25:ARG:O | 2.03 | 0.77 |
| 6:A:455:C:N3 | 6:A:478:A:C2 | 2.53 | 0.77 |
| 6:A:85:U:H5'' | 6:A:87:A:C2 | 2.20 | 0.77 |
| 56:B:425:MET:HG2 | 56:B:452:TYR:OH | 1.85 | 0.77 |
| 7:D:1047:G:C6 | 7:D:1110:G:C5 | 2.73 | 0.77 |
| 7:D:1434:A:H2' | 7:D:1435:G:H8 | 1.49 | 0.77 |
| 7:D:2245:U:O2' | 7:D:2436:G:OP2 | 2.02 | 0.77 |
| 10:G:152:ILE:HG22 | 10:G:167:TRP:HB2 | 1.67 | 0.77 |
| 3:3:10:LEU:HD12 | 3:3:12:LEU:HD21 | 1.65 | 0.77 |
| 6:A:1400:C:H4' | 6:A:1401:G:OP2 | 1.84 | 0.77 |
| 56:B:503:ALA:O | 56:B:505:THR:N | 2.18 | 0.77 |
| 7:D:2020:A:H2' | 7:D:2021:C:H5'' | 1.66 | 0.77 |
| 7:D:2320:A:H1' | 7:D:2333:A:N1 | 2.00 | 0.77 |
| 7:D:247:G:N2 | 7:D:249:C:O2' | 2.17 | 0.77 |
| 7:D:2704:C:H2' | 7:D:2705:A:H8 | 1.48 | 0.77 |
| 7:D:674:G:O6 | 7:D:806:C:N4 | 2.17 | 0.77 |
| 14:K:24:THR:O | 14:K:28:ASN:ND2 | 2.18 | 0.77 |
| 3:3:24:GLY:O | 56:B:440:TYR:CD2 | 2.38 | 0.76 |
| 3:3:34:ILE:HG22 | 3:3:63:ARG:HB3 | 1.65 | 0.76 |
| 6:A:1158:C:N4 | 6:A:1160:G:O2' | 2.18 | 0.76 |
| 56:B:12:PHE:N | 56:B:100:VAL:HG11 | 1.95 | 0.76 |
| 56:B:135:ILE:HD11 | 56:B:165:PHE:HB2 | 1.63 | 0.76 |
| 56:B:300:VAL:HG11 | 56:B:477:MET:CE | 2.14 | 0.76 |
| 56:B:450:LEU:CD1 | 56:B:452:TYR:HE1 | 1.97 | 0.76 |
| 56:B:92:GLU:HA | 56:B:96:ALA:HB3 | 1.66 | 0.76 |
| 7:D:1717:G:O6 | 7:D:1718:G:N2 | 2.18 | 0.76 |
| 7:D:721:C:H2' | 7:D:722:A:H8 | 1.48 | 0.76 |
| 7:D:989:G:O2' | 7:D:990:A:O5' | 2.02 | 0.76 |
| 20:Q:71:ARG:HA | 20:Q:75:ALA:CB | 2.15 | 0.76 |
| 3:3:76:TYR:OH | 3:3:80:LYS:NZ | 2.18 | 0.76 |
| 6:A:1164:G:C6 | 6:A:1165:C:N3 | 2.53 | 0.76 |
| 6:A:1182:G:HO2' | 6:A:1183:A:P | 2.08 | 0.76 |
| 6:A:198:G:H2' | 6:A:199:G:C8 | 2.19 | 0.76 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 56:B:229:ARG:HG2 | 56:B:237:PHE:HZ | 1.47 | 0.76 |
| 56:B:521:VAL:O | 56:B:523:LYS:HG2 | 1.84 | 0.76 |
| 7:D:2790:A:C2 | 7:D:2893:G:N1 | 2.51 | 0.76 |
| 10:G:21:ARG:HB2 | 10:G:58:GLU:HG2 | 1.68 | 0.76 |
| 16:M:21:PRO:HA | 16:M:59:PHE:HA | 1.67 | 0.76 |
| 20:Q:97:PRO:HG2 | 20:Q:99:ARG:HG2 | 1.67 | 0.76 |
| 6:A:1056:U:H5' | 10:G:163:ALA:HB2 | 1.67 | 0.76 |
| 6:A:1378:C:O2 | 14:K:76:ARG:NH2 | 2.18 | 0.76 |
| 6:A:1450:U:C2 | 6:A:1452:C:O2 | 2.38 | 0.76 |
| 6:A:334:C:HO2' | 6:A:1434:A:HO2' | 1.30 | 0.76 |
| 6:A:595:G:O2' | 6:A:596:C:O5' | 2.02 | 0.76 |
| 7:D:1266:G:N2 | 7:D:2013:A:OP2 | 2.17 | 0.76 |
| 7:D:1450:C:O2 | 7:D:1451:C:H1' | 1.86 | 0.76 |
| 7:D:2732:G:H4' | 7:D:2733:A:OP2 | 1.84 | 0.76 |
| 7:D:572:A:H5'' | 7:D:573:G:OP2 | 1.84 | 0.76 |
| 12:I:149:GLU:OE2 | 12:I:153:LYS:HB2 | 1.85 | 0.76 |
| 14:K:29:LYS:HG3 | 14:K:101:LEU:HD22 | 1.67 | 0.76 |
| 26:W:11:VAL:HG21 | 26:W:41:VAL:HG22 | 1.66 | 0.76 |
| 6:A:500:G:O6 | 6:A:546:G:C2 | 2.38 | 0.76 |
| 56:B:206:ASP:OD2 | 56:B:269:ARG:HB2 | 1.80 | 0.76 |
| 56:B:199:LEU:O | 56:B:215:LEU:HB2 | 1.85 | 0.76 |
| 56:B:402:ILE:O | 56:B:402:ILE:HG13 | 1.84 | 0.76 |
| 56:B:414:ILE:HD13 | 56:B:428:LEU:HD11 | 1.67 | 0.76 |
| 56:B:406:LEU:HG | 56:B:489:LEU:HD11 | 1.66 | 0.76 |
| 7:D:163:U:C3' | 7:D:164:U:H5'' | 2.15 | 0.76 |
| 8:E:55:U:H2' | 8:E:56:G:C8 | 2.19 | 0.76 |
| 17:N:34:VAL:HA | 17:N:74:ILE:HG12 | 1.67 | 0.76 |
| 29:Z:69:GLY:O | 29:Z:157:LYS:CG | 2.29 | 0.76 |
| 6:A:1014:A:H4' | 26:W:18:LYS:NZ | 1.99 | 0.76 |
| 6:A:197:A:N6 | 6:A:220:G:O2' | 2.19 | 0.76 |
| 6:A:838:G:H1 | 6:A:849:C:H42 | 1.31 | 0.76 |
| 56:B:17:HIS:HE1 | 56:B:116:GLU:H | 1.32 | 0.76 |
| 56:B:230:ILE:HG23 | 56:B:279:THR:CA | 2.15 | 0.76 |
| 56:B:408:PRO:CG | 56:B:456:PHE:HB3 | 2.14 | 0.76 |
| 56:B:459:ILE:HA | 56:B:463:PHE:HD2 | 1.50 | 0.76 |
| 7:D:154:G:N1 | 7:D:173:G:N2 | 2.33 | 0.76 |
| 7:D:2161:C:O2' | 7:D:2173:A:O2' | 2.03 | 0.76 |
| 7:D:2792:G:N2 | 7:D:2804:C:N3 | 2.32 | 0.76 |
| 7:D:363(F):A:C2 | 7:D:364:C:H1' | 2.20 | 0.76 |
| 7:D:558:G:H2' | 7:D:559:G:H8 | 1.49 | 0.76 |
| 7:D:974(A):C:O2 | 7:D:989:G:N2 | 2.19 | 0.76 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 6:A:719:C:N3 | 25:V:74:ARG:NH2 | 2.33 | 0.76 |
| 56:B:78:PHE:CE2 | 56:B:182:VAL:CG2 | 2.68 | 0.76 |
| 56:B:229:ARG:HE | 56:B:282:LEU:C | 1.88 | 0.76 |
| 56:B:308:VAL:HG23 | 56:B:370:ILE:HG12 | 1.67 | 0.76 |
| 56:B:352:LEU:HD22 | 56:B:356:ILE:HD11 | 1.68 | 0.76 |
| 56:B:383:LYS:HA | 56:B:402:ILE:CD1 | 2.16 | 0.76 |
| 56:B:493:ASN:HA | 56:B:503:ALA:O | 1.86 | 0.76 |
| 56:B:543:GLY:C | 56:B:544:LYS:HG2 | 2.06 | 0.76 |
| 6:A:186(B):C:H4' | 27:X:89:ARG:NH1 | 2.00 | 0.76 |
| 6:A:728:A:H2' | 6:A:729:A:H8 | 1.50 | 0.76 |
| 56:B:134:VAL:HA | 56:B:163:ALA:C | 2.05 | 0.76 |
| 56:B:420:TYR:CG | 56:B:471:SER:HB2 | 2.21 | 0.76 |
| 56:B:490:VAL:HG12 | 56:B:491:LYS:N | 1.97 | 0.76 |
| 56:B:68:TYR:CD2 | 56:B:75:GLU:CG | 2.61 | 0.76 |
| 7:D:485:C:C2' | 7:D:486:C:H5' | 2.16 | 0.76 |
| 7:D:928:G:H3' | 7:D:929:G:C8 | 2.19 | 0.76 |
| 6:A:210:U:H4' | 6:A:216:G:OP1 | 1.85 | 0.76 |
| 56:B:299:PRO:CD | 56:B:348:PHE:CE2 | 2.68 | 0.76 |
| 7:D:1820:U:O2' | 7:D:1821:A:OP2 | 2.04 | 0.76 |
| 7:D:543:C:C2 | 7:D:551:G:C2 | 2.74 | 0.76 |
| 7:D:899:A:O2' | 7:D:901:A:N7 | 2.18 | 0.76 |
| 24:U:67:LYS:C | 24:U:70:ARG:HH12 | 1.89 | 0.76 |
| 25:V:21:LYS:HZ2 | 25:V:23:LYS:HB3 | 1.51 | 0.76 |
| 6:A:101:A:H2' | 6:A:102:G:H8 | 1.51 | 0.76 |
| 56:B:78:PHE:HZ | 56:B:182:VAL:HG23 | 1.50 | 0.76 |
| 56:B:380:VAL:O | 56:B:387:GLU:C | 2.24 | 0.76 |
| 56:B:536:PRO:HA | 56:B:550:THR:HA | 1.67 | 0.76 |
| 7:D:1173:G:N2 | 7:D:1175:U:OP2 | 2.17 | 0.76 |
| 7:D:1174:A:N3 | 7:D:1174:A:H3' | 2.00 | 0.76 |
| 7:D:1543:A:H3' | 7:D:1544:C:H4' | 1.67 | 0.76 |
| 26:W:4:SER:O | 26:W:5:LEU:HG | 1.85 | 0.76 |
| 6:A:969:A:O2' | 17:N:55:LYS:NZ | 2.17 | 0.76 |
| 7:D:1477:A:N1 | 7:D:1515:C:N4 | 2.31 | 0.76 |
| 7:D:185:U:H2' | 7:D:186:G:H8 | 1.50 | 0.76 |
| 7:D:2217:G:N3 | 7:D:2218:G:N7 | 2.34 | 0.76 |
| 7:D:479:A:HO2' | 7:D:480:A:H8 | 1.33 | 0.76 |
| 7:D:489:G:N7 | 7:D:1284:A:N3 | 2.32 | 0.76 |
| 15:L:11:THR:HG22 | 15:L:14:ARG:NH1 | 2.00 | 0.76 |
| 3:D:132:ARG:O | 7:D:1077:A:H2' | 1.85 | 0.75 |
| 6:A:445:G:H2' | 6:A:446:G:H8 | 1.45 | 0.75 |
| 6:A:838:G:H1 | 6:A:849:C:N4 | 1.84 | 0.75 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:2183:C:H2' | 7:D:2184:G:C8 | 2.21 | 0.75 |
| 13:J:53:ALA:HB3 | 13:J:86:ARG:NH1 | 2.00 | 0.75 |
| 3:3:81:ALA:HB3 | 3:3:107:ILE:HD13 | 1.66 | 0.75 |
| 6:A:1443:G:H4' | 6:A:1446:A:OP2 | 1.85 | 0.75 |
| 56:B:69:ARG:C | 56:B:178:LEU:HD21 | 2.05 | 0.75 |
| 56:B:245:PHE:HE2 | 56:B:262:GLY:CA | 1.94 | 0.75 |
| 7:D:2314:C:H2' | 7:D:2315:G:H8 | 1.50 | 0.75 |
| 7:D:493:G:H2' | 7:D:494:G:H8 | 1.51 | 0.75 |
| 6:A:186:C:O2' | 27:X:85:MET:SD | 2.42 | 0.75 |
| 6:A:570:G:O6 | 6:A:865:A:N6 | 2.13 | 0.75 |
| 56:B:206:ASP:HB3 | 56:B:210:GLY:HA2 | 1.67 | 0.75 |
| 56:B:225:GLY:CA | 56:B:239:VAL:HG11 | 1.93 | 0.75 |
| 56:B:299:PRO:CA | 56:B:479:TYR:CZ | 2.69 | 0.75 |
| 56:B:64:VAL:HG11 | 56:B:80:LEU:CA | 2.15 | 0.75 |
| 7:D:1058:G:H2' | 7:D:1059:G:H5' | 1.67 | 0.75 |
| 7:D:1579:A:H5'' | 7:D:1580:A:C8 | 2.22 | 0.75 |
| 7:D:704:G:H2' | 7:D:726:G:N2 | 2.01 | 0.75 |
| 11:H:74:GLN:HA | 11:H:77:ASN:HD22 | 1.50 | 0.75 |
| 3:3:104:VAL:HA | 3:3:107:ILE:CD1 | 2.13 | 0.75 |
| 6:A:438:G:N2 | 6:A:495:A:OP2 | 2.19 | 0.75 |
| 6:A:500:G:N1 | 6:A:546:G:N3 | 2.34 | 0.75 |
| 56:B:166:ALA:CB | 56:B:172:GLU:HG2 | 2.16 | 0.75 |
| 56:B:383:LYS:CA | 56:B:402:ILE:HG21 | 2.10 | 0.75 |
| 7:D:1492:G:H5' | 7:D:1493:C:OP2 | 1.85 | 0.75 |
| 7:D:1748:G:N2 | 7:D:1749:A:C2 | 2.54 | 0.75 |
| 11:H:68:TYR:HD1 | 11:H:114:ARG:HH12 | 1.32 | 0.75 |
| 16:M:26:VAL:HB | 16:M:33:PHE:HB2 | 1.68 | 0.75 |
| 6:A:391:G:OP1 | 23:T:8:ARG:NH2 | 2.19 | 0.75 |
| 26:W:59:PRO:C | 26:W:60:VAL:CG2 | 2.53 | 0.75 |
| 3:3:33:ASN:O | 3:3:63:ARG:CD | 2.28 | 0.75 |
| 3:3:56:GLU:O | 3:3:58:THR:N | 2.19 | 0.75 |
| 6:A:1440:C:C2 | 6:A:1462:G:C2 | 2.73 | 0.75 |
| 56:B:242:VAL:CB | 56:B:256:LEU:CD2 | 2.57 | 0.75 |
| 56:B:205:TYR:HE2 | 56:B:271:ILE:HG23 | 1.48 | 0.75 |
| 56:B:373:ALA:HB1 | 56:B:374:PRO:HD3 | 1.69 | 0.75 |
| 56:B:396:LEU:HD13 | 56:B:491:LYS:HG3 | 1.62 | 0.75 |
| 56:B:409:TYR:OH | 56:B:432:ARG:NE | 2.18 | 0.75 |
| 56:B:95:ARG:NE | 56:B:294:PHE:CZ | 2.45 | 0.75 |
| 7:D:2307:G:H5'' | 7:D:2308:G:H8 | 1.50 | 0.75 |
| 6:A:1320:C:O2 | 20:Q:87:TYR:HD2 | 1.70 | 0.75 |
| 1:1:11:CYS:SG | 1:1:14:CYS:N | 2.60 | 0.75 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 6:A:76:G:C4 | 6:A:95:G:N1 | 2.55 | 0.75 |
| 56:B:15:ILE:CG2 | 56:B:120:LYS:HD2 | 2.16 | 0.75 |
| 56:B:558:VAL:CG2 | 56:B:577:GLN:NE2 | 2.49 | 0.75 |
| 7:D:1449(A):G:C2' | 7:D:1450:C:H6 | 1.98 | 0.75 |
| 7:D:556:G:O2' | 7:D:557:U:H5' | 1.86 | 0.75 |
| 17:N:6:ILE:HD11 | 17:N:72:VAL:HB | 1.68 | 0.75 |
| 26:W:53:ASN:OD1 | 26:W:54:GLY:N | 2.16 | 0.75 |
| 6:A:101:A:C2' | 6:A:102:G:H5' | 2.15 | 0.75 |
| 6:A:1225:A:H5' | 26:W:78:ARG:NE | 2.01 | 0.75 |
| 6:A:1496:C:O2 | 6:A:1517:G:N2 | 2.20 | 0.75 |
| 6:A:69:G:O2' | 6:A:73:G:H5' | 1.87 | 0.75 |
| 56:B:492:VAL:CG1 | 56:B:541:ILE:HD11 | 2.17 | 0.75 |
| 56:B:66:VAL:CG2 | 56:B:76:TYR:CE1 | 2.67 | 0.75 |
| 56:B:64:VAL:CG2 | 56:B:80:LEU:N | 2.48 | 0.75 |
| 7:D:1181:C:H2' | 7:D:1182:A:C8 | 2.22 | 0.75 |
| 7:D:2500:U:O2' | 7:D:2501:C:OP1 | 2.05 | 0.75 |
| 7:D:2807:G:H22 | 7:D:2892:A:H62 | 1.32 | 0.75 |
| 7:D:8:A:H61 | 7:D:2629:A:H8 | 1.35 | 0.75 |
| 6:A:85:U:H5'' | 6:A:87:A:N1 | 2.00 | 0.75 |
| 56:B:379:LYS:O | 56:B:405:ILE:O | 2.04 | 0.75 |
| 7:D:1485:G:N3 | 7:D:1486:A:C8 | 2.55 | 0.75 |
| 7:D:558:G:O2' | 7:D:559:G:H5' | 1.86 | 0.75 |
| 7:D:895:U:C4' | 7:D:896:A:H5' | 2.16 | 0.75 |
| 20:Q:81:LEU:O | 20:Q:84:ILE:HG12 | 1.86 | 0.75 |
| 3:3:13:PRO:C | 3:3:16:LYS:HZ1 | 1.90 | 0.75 |
| 3:3:10:LEU:CG | 3:3:57:ILE:HD11 | 2.17 | 0.75 |
| 5:5:51:U:H3 | 5:5:63:G:H1 | 1.33 | 0.75 |
| 6:A:55:A:N9 | 56:B:208:TYR:CE2 | 2.49 | 0.75 |
| 56:B:69:ARG:NH2 | 56:B:178:LEU:HD11 | 2.00 | 0.75 |
| 56:B:204:VAL:O | 56:B:211:VAL:HG13 | 1.87 | 0.75 |
| 7:D:1061:U:C1' | 7:D:1070:A:H4' | 2.17 | 0.75 |
| 7:D:2607:G:H5' | 7:D:2608:G:OP2 | 1.87 | 0.75 |
| 7:D:2632:A:H2' | 7:D:2633:G:H8 | 1.51 | 0.75 |
| 7:D:43:G:C4 | 7:D:44:A:C8 | 2.75 | 0.75 |
| 7:D:707:G:N2 | 7:D:725:G:O2' | 2.19 | 0.75 |
| 26:W:36:ARG:HB3 | 26:W:72:GLY:N | 2.00 | 0.75 |
| 6:A:1364:U:O2' | 6:A:1365:G:OP1 | 2.05 | 0.74 |
| 6:A:173:U:H4' | 6:A:174:C:OP2 | 1.87 | 0.74 |
| 6:A:477:G:H2' | 6:A:478:A:H8 | 1.51 | 0.74 |
| 6:A:582:U:OP2 | 6:A:758:G:N1 | 2.20 | 0.74 |
| 6:A:685:G:N2 | 6:A:705:U:O4 | 2.19 | 0.74 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 56:B:107:VAL:CG1 | 56:B:113:VAL:HG22 | 2.17 | 0.74 |
| 56:B:188:PRO:HB2 | 56:B:216:ARG:HH21 | 1.48 | 0.74 |
| 56:B:405:ILE:HA | 56:B:486:PRO:CB | 2.16 | 0.74 |
| 56:B:18:VAL:CG2 | 56:B:86:HIS:CB | 2.65 | 0.74 |
| 7:D:1049:C:N3 | 7:D:1050:A:N6 | 2.35 | 0.74 |
| 7:D:1746:G:N1 | 7:D:1747:G:C2 | 2.55 | 0.74 |
| 7:D:528:A:N6 | 7:D:2042:A:N7 | 2.35 | 0.74 |
| 17:N:6:ILE:N | 17:N:73:ASP:OD1 | 2.20 | 0.74 |
| 29:Z:180:PHE:CB | 29:Z:185:LEU:HD11 | 2.17 | 0.74 |
| 29:Z:43:VAL:HA | 29:Z:214:VAL:HG22 | 1.69 | 0.74 |
| 6:A:1014:A:N1 | 26:W:32:LYS:HE2 | 2.01 | 0.74 |
| 6:A:713:G:H21 | 6:A:777:A:H1' | 1.50 | 0.74 |
| 56:B:382:LEU:CD2 | 56:B:401:ARG:HD3 | 2.17 | 0.74 |
| 56:B:382:LEU:CG | 56:B:401:ARG:HD3 | 1.99 | 0.74 |
| 13:J:46:ARG:HD3 | 13:J:60:PHE:HE2 | 1.52 | 0.74 |
| 6:A:449:C:O2 | 23:T:42:ARG:NH1 | 2.19 | 0.74 |
| 26:W:54:GLY:HA2 | 26:W:77:THR:OG1 | 1.88 | 0.74 |
| 3:3:23:VAL:HG11 | 3:3:27:LEU:HD12 | 1.68 | 0.74 |
| 6:A:1075:C:H5'' | 9:F:179:LYS:NZ | 2.00 | 0.74 |
| 6:A:1318:A:N3 | 26:W:34:TRP:HZ3 | 1.84 | 0.74 |
| 6:A:362:G:N2 | 6:A:365:U:OP2 | 2.19 | 0.74 |
| 6:A:560:U:O2' | 6:A:561:U:OP2 | 2.05 | 0.74 |
| 6:A:92:G:O2' | 6:A:93:U:H5' | 1.87 | 0.74 |
| 56:B:22:LYS:HB2 | 57:B:701:GCP:O1B | 1.86 | 0.74 |
| 56:B:497:HIS:ND1 | 56:B:535:VAL:HG11 | 1.98 | 0.74 |
| 56:B:533:PHE:HZ | 56:B:588:GLY:C | 1.86 | 0.74 |
| 7:D:1418:G:N1 | 7:D:1578:U:OP2 | 2.14 | 0.74 |
| 7:D:2197:U:H4' | 7:D:2198:A:C8 | 2.21 | 0.74 |
| 7:D:448:U:O2' | 7:D:449:A:OP2 | 2.04 | 0.74 |
| 7:D:493:G:H2' | 7:D:494:G:C8 | 2.21 | 0.74 |
| 9:F:70:PHE:HB3 | 9:F:163:PHE:HB3 | 1.68 | 0.74 |
| 17:N:24:VAL:HG13 | 17:N:34:VAL:HG11 | 1.70 | 0.74 |
| 56:B:109:ALA:HA | 56:B:148:VAL:HG11 | 1.68 | 0.74 |
| 56:B:169:LYS:CB | 57:B:701:GCP:C2 | 2.65 | 0.74 |
| 7:D:1483:G:H2' | 7:D:1484:G:H5' | 1.68 | 0.74 |
| 7:D:2104:G:O2' | 7:D:2105:C:H5' | 1.86 | 0.74 |
| 20:Q:23:TYR:CD2 | 20:Q:70:LEU:HD21 | 2.19 | 0.74 |
| 26:W:28:LYS:HE2 | 26:W:29:ARG:NH2 | 2.02 | 0.74 |
| 26:W:70:LYS:CB | 26:W:73:GLU:CB | 2.54 | 0.74 |
| 4:4:3:C:N4 | 4:4:4:G:O6 | 2.19 | 0.74 |
| 6:A:1353:G:N2 | 6:A:1370:G:N3 | 2.36 | 0.74 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 56:B:492:VAL:CG2 | 56:B:513:ALA:CB | 2.62 | 0.74 |
| 56:B:69:ARG:NH2 | 56:B:178:LEU:CD1 | 2.51 | 0.74 |
| 7:D:1568:G:O2' | 7:D:1569:A:OP2 | 2.05 | 0.74 |
| 7:D:1579:A:H5'' | 7:D:1580:A:N7 | 2.02 | 0.74 |
| 7:D:739:G:O2' | 7:D:1784:A:N6 | 2.20 | 0.74 |
| 7:D:641:C:O2' | 7:D:2350:C:OP1 | 2.04 | 0.74 |
| 7:D:638:G:C2 | 7:D:650:C:O2 | 2.39 | 0.74 |
| 6:A:619:U:H4' | 11:H:131:ARG:HH21 | 1.51 | 0.74 |
| 26:W:14:HIS:C | 26:W:35:SER:OG | 2.26 | 0.74 |
| 6:A:1188:A:H8 | 6:A:1188:A:OP2 | 1.69 | 0.74 |
| 56:B:152:VAL:HG13 | 56:B:156:LEU:CB | 2.15 | 0.74 |
| 56:B:222:VAL:CG2 | 56:B:228:ILE:HD11 | 2.17 | 0.74 |
| 56:B:225:GLY:C | 56:B:239:VAL:CG1 | 2.56 | 0.74 |
| 56:B:528:ILE:CG2 | 56:B:592:VAL:CB | 2.64 | 0.74 |
| 7:D:361:G:N2 | 7:D:362:U:O2 | 2.20 | 0.74 |
| 20:Q:87:TYR:HB2 | 26:W:73:GLU:HB2 | 1.68 | 0.74 |
| 27:X:10:LEU:HG | 27:X:12:ALA:H | 1.52 | 0.74 |
| 6:A:200:G:N2 | 6:A:218:C:N3 | 2.35 | 0.74 |
| 6:A:498:A:H4' | 6:A:500:G:C5' | 2.17 | 0.74 |
| 56:B:305:LEU:HD22 | 56:B:358:GLN:NE2 | 1.98 | 0.74 |
| 56:B:420:TYR:HB3 | 56:B:424:LEU:HD12 | 1.70 | 0.74 |
| 7:D:1456:G:N3 | 7:D:1457:A:C8 | 2.56 | 0.74 |
| 7:D:2489:G:H5'' | 7:D:2490:G:OP2 | 1.87 | 0.74 |
| 7:D:703:U:H5'' | 7:D:704:G:OP2 | 1.87 | 0.74 |
| 23:T:74:LEU:O | 23:T:78:GLY:N | 2.20 | 0.74 |
| 6:A:572:A:OP2 | 6:A:573:A:OP2 | 2.05 | 0.74 |
| 56:B:137:LYS:HA | 56:B:167:SER:OG | 1.87 | 0.74 |
| 56:B:205:TYR:HH | 56:B:271:ILE:HG12 | 1.51 | 0.74 |
| 56:B:531:GLN:CG | 56:B:532:LEU:HG | 2.16 | 0.74 |
| 7:D:38:A:H2' | 7:D:39:C:C6 | 2.23 | 0.74 |
| 7:D:63:U:O2' | 7:D:64:A:N7 | 2.20 | 0.74 |
| 7:D:684:G:N2 | 7:D:794:G:N3 | 2.35 | 0.74 |
| 29:Z:38:ASP:O | 29:Z:177:LYS:CE | 2.30 | 0.74 |
| 5:5:28:G:H2' | 5:5:29:G:H8 | 1.52 | 0.74 |
| 6:A:1306:A:C2' | 6:A:1307:U:H5' | 2.17 | 0.74 |
| 6:A:1508:G:H2' | 6:A:1509:C:C6 | 2.23 | 0.74 |
| 56:B:242:VAL:CA | 56:B:256:LEU:HD11 | 2.17 | 0.74 |
| 56:B:492:VAL:CG2 | 56:B:513:ALA:HB2 | 2.13 | 0.74 |
| 56:B:492:VAL:HG21 | 56:B:541:ILE:CD1 | 2.01 | 0.74 |
| 7:D:461:C:H2' | 7:D:462:C:H6 | 1.53 | 0.74 |
| 7:D:500:G:N1 | 7:D:503:A:OP2 | 2.20 | 0.74 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 26:W:14:HIS:CE1 | 26:W:34:TRP:CZ2 | 2.62 | 0.74 |
| 29:Z:74:VAL:HG22 | 29:Z:112:ALA:HB3 | 1.70 | 0.74 |
| 6:A:501:C:O2' | 6:A:502:G:H5' | 1.88 | 0.74 |
| 6:A:836:G:C8 | 6:A:851:G:N2 | 2.55 | 0.74 |
| 56:B:152:VAL:CA | 56:B:156:LEU:HB3 | 2.16 | 0.74 |
| 56:B:245:PHE:CZ | 56:B:262:GLY:HA2 | 2.21 | 0.74 |
| 56:B:382:LEU:HB3 | 56:B:386:GLU:CG | 2.18 | 0.74 |
| 56:B:383:LYS:CA | 56:B:402:ILE:CG2 | 2.64 | 0.74 |
| 56:B:411:LYS:NZ | 56:B:436:VAL:HG22 | 2.02 | 0.74 |
| 56:B:431:LYS:O | 56:B:432:ARG:HG3 | 1.87 | 0.74 |
| 56:B:497:HIS:HB2 | 56:B:535:VAL:HG11 | 1.65 | 0.74 |
| 7:D:1287:A:N7 | 7:D:1288:U:N3 | 2.35 | 0.74 |
| 56:B:330:LEU:HD22 | 56:B:330:LEU:N | 2.02 | 0.73 |
| 7:D:1057:A:O2' | 7:D:1058:G:H5' | 1.88 | 0.73 |
| 7:D:1006:C:N3 | 7:D:1137:G:N2 | 2.36 | 0.73 |
| 7:D:1142(A):A:N6 | 7:D:1143:A:N7 | 2.36 | 0.73 |
| 7:D:1265:A:O2' | 7:D:1266:G:O5' | 2.05 | 0.73 |
| 7:D:2107:C:H4' | 7:D:2108:C:OP1 | 1.87 | 0.73 |
| 56:B:336:SER:HA | 56:B:340:LEU:HA | 1.70 | 0.73 |
| 56:B:316:LEU:HD12 | 56:B:342:PHE:CE2 | 2.22 | 0.73 |
| 56:B:411:LYS:HE2 | 56:B:453:GLU:HB2 | 1.71 | 0.73 |
| 56:B:415:PHE:HA | 56:B:448:VAL:O | 1.87 | 0.73 |
| 7:D:1456:G:N3 | 7:D:1457:A:N7 | 2.36 | 0.73 |
| 7:D:270(Z):U:H5 | 7:D:370:G:O6 | 1.71 | 0.73 |
| 7:D:2794:C:N3 | 7:D:2802:G:N1 | 2.36 | 0.73 |
| 7:D:696:G:N2 | 7:D:697:C:O2 | 2.20 | 0.73 |
| 7:D:893:C:H2' | 7:D:894:C:O4' | 1.88 | 0.73 |
| 26:W:16:LEU:CB | 26:W:20:LEU:CD1 | 2.65 | 0.73 |
| 6:A:1260:C:HO2' | 6:A:1261:A:H8 | 1.35 | 0.73 |
| 6:A:849:C:H2' | 6:A:850:U:C6 | 2.22 | 0.73 |
| 56:B:27:ASP:OD1 | 56:B:45:PHE:HB3 | 1.88 | 0.73 |
| 56:B:302:PHE:HD1 | 56:B:460:LEU:HD22 | 1.51 | 0.73 |
| 7:D:1057:A:H62 | 7:D:1086:A:H2' | 1.51 | 0.73 |
| 7:D:1213:A:OP2 | 7:D:1235:G:N1 | 2.19 | 0.73 |
| 7:D:351:G:H1' | 7:D:352:G:C8 | 2.22 | 0.73 |
| 7:D:371:A:H4' | 7:D:372:G:OP2 | 1.87 | 0.73 |
| 7:D:775:G:H21 | 7:D:788:A:P | 2.10 | 0.73 |
| 6:A:277:C:OP1 | 24:U:68:ARG:NH2 | 2.20 | 0.73 |
| 26:W:16:LEU:O | 26:W:20:LEU:CD1 | 2.35 | 0.73 |
| 56:B:228:ILE:HG12 | 56:B:282:LEU:CD2 | 2.12 | 0.73 |
| 56:B:236:GLU:HA | 56:B:268:ILE:HG22 | 1.70 | 0.73 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 56:B:382:LEU:HB3 | 56:B:401:ARG:HG3 | 1.65 | 0.73 |
| 7:D:177:G:H5'' | 7:D:178:G:OP2 | 1.88 | 0.73 |
| 7:D:1860:G:H2' | 7:D:1861:G:H8 | 1.52 | 0.73 |
| 7:D:2217:G:C2 | 7:D:2218:G:C5 | 2.76 | 0.73 |
| 7:D:2789:C:O2 | 7:D:2893:G:N2 | 2.21 | 0.73 |
| 7:D:280:C:N4 | 7:D:359:A:O2' | 2.22 | 0.73 |
| 7:D:776:G:N3 | 7:D:793:A:N6 | 2.36 | 0.73 |
| 20:Q:71:ARG:CB | 20:Q:75:ALA:CB | 2.62 | 0.73 |
| 6:A:1047:G:OP1 | 21:R:4:LYS:NZ | 2.18 | 0.73 |
| 6:A:1182:G:H4' | 6:A:1183:A:H5'' | 1.70 | 0.73 |
| 6:A:55:A:C1' | 56:B:208:TYR:CE2 | 2.71 | 0.73 |
| 6:A:85:U:H2' | 6:A:86:U:C5' | 2.18 | 0.73 |
| 56:B:144:ARG:HD3 | 56:B:144:ARG:O | 1.89 | 0.73 |
| 56:B:246:THR:CG2 | 56:B:251:VAL:HG21 | 2.19 | 0.73 |
| 56:B:218:PHE:CE2 | 56:B:291:TYR:CZ | 2.75 | 0.73 |
| 56:B:306:TYR:HB3 | 56:B:370:ILE:HG21 | 1.69 | 0.73 |
| 56:B:306:TYR:CE1 | 56:B:339:ALA:HB1 | 2.23 | 0.73 |
| 56:B:99:ALA:O | 56:B:216:ARG:HD2 | 1.89 | 0.73 |
| 3:3:21:PRO:O | 7:D:1068:G:OP1 | 2.06 | 0.73 |
| 7:D:2217:G:C2 | 7:D:2218:G:N7 | 2.57 | 0.73 |
| 7:D:2260:C:HO2' | 7:D:2388:A:HO2' | 1.31 | 0.73 |
| 7:D:2346:A:N6 | 27:X:26:ASN:OD1 | 161.63 | 0.73 |
| 10:G:189:ALA:HB3 | 10:G:196:LEU:H | 1.51 | 0.73 |
| 20:Q:71:ARG:CA | 20:Q:75:ALA:CB | 2.66 | 0.73 |
| 26:W:16:LEU:CA | 26:W:20:LEU:HD12 | 2.18 | 0.73 |
| 1:1:35:ARG:HB3 | 1:1:37:GLY:OXT | 1.88 | 0.73 |
| 3:3:13:PRO:CG | 3:3:16:LYS:CE | 2.54 | 0.73 |
| 6:A:101:A:C5 | 6:A:102:G:N7 | 2.56 | 0.73 |
| 6:A:126:G:OP1 | 6:A:605:U:O2' | 2.06 | 0.73 |
| 6:A:1512:U:H2' | 6:A:1513:A:H8 | 1.54 | 0.73 |
| 56:B:324:LYS:O | 56:B:325:LEU:HG | 1.88 | 0.73 |
| 56:B:31:GLU:CG | 56:B:40:GLU:CG | 2.46 | 0.73 |
| 56:B:459:ILE:CG2 | 56:B:463:PHE:CE2 | 2.71 | 0.73 |
| 56:B:562:CYS:C | 56:B:570:LYS:HZ1 | 1.91 | 0.73 |
| 7:D:1087:G:H8 | 7:D:1089:G:H1' | 1.54 | 0.73 |
| 7:D:1174:A:H2' | 7:D:1175:U:H5 | 1.50 | 0.73 |
| 7:D:1224:G:H2' | 7:D:1225:C:H5' | 1.69 | 0.73 |
| 7:D:1781:C:O2' | 7:D:1782:C:OP2 | 2.06 | 0.73 |
| 7:D:2211:G:N2 | 7:D:2212:A:H8 | 1.87 | 0.73 |
| 7:D:485:C:O2' | 7:D:486:C:H5' | 1.88 | 0.73 |
| 9:F:103:THR:HB | 9:F:176:GLU:OE2 | 1.89 | 0.73 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:3:107:ILE:HG22 | 3:3:111:LYS:HG3 | 1.69 | 0.73 |
| 6:A:1256:A:H8 | 10:G:27:LYS:NZ | 1.86 | 0.73 |
| 6:A:1446:A:H4' | 6:A:1447:G:OP1 | 1.87 | 0.73 |
| 6:A:1454:G:C4 | 6:A:1455:G:C8 | 2.77 | 0.73 |
| 6:A:615:C:H2' | 6:A:616:G:H8 | 1.54 | 0.73 |
| 56:B:14:ILE:HD12 | 56:B:26:ALA:CB | 2.19 | 0.73 |
| 3:3:21:PRO:CA | 7:D:1067:A:H5' | 2.18 | 0.73 |
| 7:D:1747:G:C2' | 7:D:1748:G:H5' | 2.16 | 0.73 |
| 7:D:1819:A:H1' | 7:D:1821:A:C6 | 2.24 | 0.73 |
| 7:D:2378:A:H8 | 7:D:2378:A:OP2 | 1.72 | 0.73 |
| 6:A:1309:G:N2 | 6:A:1329:A:N9 | 2.33 | 0.73 |
| 6:A:719:C:N4 | 25:V:74:ARG:HH12 | 1.84 | 0.73 |
| 56:B:383:LYS:N | 56:B:402:ILE:CG2 | 2.52 | 0.73 |
| 56:B:383:LYS:N | 56:B:402:ILE:HG23 | 2.03 | 0.73 |
| 56:B:408:PRO:HG2 | 56:B:456:PHE:CB | 2.16 | 0.73 |
| 56:B:459:ILE:HA | 56:B:463:PHE:CD2 | 2.24 | 0.73 |
| 56:B:46:LEU:HD12 | 56:B:82:ASP:HB3 | 1.71 | 0.73 |
| 7:D:2030:A:O2' | 7:D:2031:A:O5' | 2.07 | 0.73 |
| 7:D:2660:A:H8 | 56:B:472:ARG:O | 1.68 | 0.73 |
| 7:D:270(A):A:H4' | 7:D:270(B):A:OP2 | 1.87 | 0.73 |
| 7:D:614:U:H5'' | 7:D:615:G:OP2 | 1.89 | 0.73 |
| 22:S:88:ARG:HG2 | 22:S:89:GLY:H | 1.54 | 0.73 |
| 3:3:120:LEU:HD21 | 3:3:125:ARG:HH11 | 1.53 | 0.73 |
| 6:A:1206:G:OP1 | 10:G:190:ARG:NH2 | 2.21 | 0.73 |
| 6:A:1498:U:O2' | 6:A:1499:A:O5' | 2.04 | 0.73 |
| 56:B:379:LYS:NZ | 56:B:485:ARG:H | 1.86 | 0.73 |
| 56:B:42:ARG:HD2 | 56:B:43:GLU:HB2 | 1.71 | 0.73 |
| 56:B:492:VAL:CG2 | 56:B:541:ILE:HD11 | 2.12 | 0.73 |
| 56:B:74:GLU:OE2 | 56:B:182:VAL:HG12 | 1.88 | 0.73 |
| 7:D:2133:G:H8 | 7:D:2133:G:OP2 | 1.72 | 0.73 |
| 7:D:2572:A:O2' | 7:D:2573:C:OP2 | 2.06 | 0.73 |
| 26:W:16:LEU:O | 26:W:20:LEU:HD13 | 1.88 | 0.73 |
| 3:3:133:SER:HA | 7:D:1077:A:C2 | 2.20 | 0.73 |
| 3:3:10:LEU:CG | 3:3:57:ILE:HG12 | 2.16 | 0.73 |
| 6:A:465:A:H1' | 6:A:466:C:OP1 | 1.89 | 0.73 |
| 56:B:227:ARG:O | 56:B:283:ALA:HB2 | 1.88 | 0.73 |
| 56:B:410:VAL:HG13 | 56:B:480:GLU:HG2 | 1.71 | 0.73 |
| 7:D:175:G:N2 | 7:D:176:G:N3 | 2.37 | 0.73 |
| 6:A:737:A:H5'' | 13:J:92:LYS:HG3 | 1.69 | 0.73 |
| 20:Q:101:GLN:O | 20:Q:103:THR:HG23 | 1.87 | 0.73 |
| 20:Q:16:ASP:OD2 | 20:Q:30:ALA:HB1 | 1.87 | 0.73 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 20:Q:10:PRO:HG3 | 20:Q:48:LEU:HD11 | 1.69 | 0.73 |
| 29:Z:161:ILE:HG22 | 29:Z:174:PRO:HG2 | 1.70 | 0.73 |
| 3:3:8:VAL:HG12 | 3:3:9:LYS:H | 1.54 | 0.72 |
| 6:A:343:U:O2' | 6:A:346:G:O6 | 2.07 | 0.72 |
| 6:A:964:A:O2' | 17:N:55:LYS:NZ | 2.18 | 0.72 |
| 56:B:492:VAL:HA | 56:B:541:ILE:HA | 1.71 | 0.72 |
| 7:D:1047:G:H3' | 7:D:1110:G:H21 | 1.53 | 0.72 |
| 7:D:1464:C:O2' | 7:D:1527:G:O2' | 2.05 | 0.72 |
| 23:T:8:ARG:HB3 | 23:T:28:ARG:HH12 | 1.53 | 0.72 |
| 29:Z:151:GLU:O | 29:Z:154:ARG:HG2 | 1.88 | 0.72 |
| 6:A:474:G:O5' | 23:T:81:ARG:HG3 | 1.89 | 0.72 |
| 6:A:551:U:O2' | 19:P:86:ARG:NH1 | 2.22 | 0.72 |
| 56:B:20:HIS:CD2 | 56:B:108:ASP:H | 2.06 | 0.72 |
| 56:B:531:GLN:CD | 56:B:584:LEU:CD1 | 2.58 | 0.72 |
| 7:D:330:A:O2' | 7:D:1210:A:N6 | 2.22 | 0.72 |
| 7:D:152:G:C2' | 7:D:153:C:H5' | 2.19 | 0.72 |
| 7:D:1858:G:N3 | 7:D:1885:A:N6 | 2.37 | 0.72 |
| 7:D:2104:G:C2' | 7:D:2105:C:H5' | 2.19 | 0.72 |
| 7:D:457:A:H1' | 7:D:459:U:C2 | 2.24 | 0.72 |
| 10:G:54:ARG:HD3 | 10:G:69:HIS:HD2 | 1.53 | 0.72 |
| 26:W:11:VAL:HG23 | 26:W:41:VAL:CG1 | 2.09 | 0.72 |
| 26:W:59:PRO:C | 26:W:60:VAL:HG23 | 2.07 | 0.72 |
| 26:W:70:LYS:HB3 | 26:W:73:GLU:HB3 | 1.71 | 0.72 |
| 29:Z:38:ASP:OD2 | 29:Z:177:LYS:HB3 | 1.88 | 0.72 |
| 6:A:438:G:H2' | 6:A:494:U:N3 | 2.02 | 0.72 |
| 56:B:13:SER:OG | 56:B:81:ILE:HG21 | 1.89 | 0.72 |
| 56:B:16:ALA:H | 56:B:22:LYS:CE | 2.02 | 0.72 |
| 56:B:410:VAL:HG12 | 56:B:480:GLU:HG2 | 1.70 | 0.72 |
| 56:B:412:LEU:O | 56:B:451:VAL:HA | 1.89 | 0.72 |
| 56:B:420:TYR:CE1 | 56:B:471:SER:O | 2.41 | 0.72 |
| 56:B:492:VAL:CB | 56:B:541:ILE:CG1 | 2.67 | 0.72 |
| 7:D:2491:U:H5' | 7:D:2492:U:OP2 | 1.89 | 0.72 |
| 8:E:44:G:O2' | 8:E:47:C:N4 | 2.22 | 0.72 |
| 11:H:3:ARG:NH1 | 11:H:70:ILE:HA | 2.03 | 0.72 |
| 29:Z:38:ASP:OD2 | 29:Z:177:LYS:CB | 2.37 | 0.72 |
| 6:A:1170:A:C2' | 6:A:1171:G:H5' | 2.19 | 0.72 |
| 6:A:232:G:O2' | 6:A:262:A:N6 | 2.18 | 0.72 |
| 6:A:467:G:H2' | 6:A:468:A:O4' | 1.90 | 0.72 |
| 56:B:245:PHE:CD2 | 56:B:261:VAL:O | 2.43 | 0.72 |
| 56:B:8:ARG:HB2 | 56:B:74:GLU:HB3 | 1.45 | 0.72 |
| 7:D:1634:A:HO2' | 7:D:1635:G:P | 2.12 | 0.72 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:676:A:H8 | 7:D:2069:G:H21 | 1.34 | 0.72 |
| 7:D:881:G:H2' | 7:D:882:G:H5' | 1.71 | 0.72 |
| 20:Q:88:ARG:NH1 | 20:Q:88:ARG:HG3 | 2.00 | 0.72 |
| 26:W:11:VAL:HG21 | 26:W:41:VAL:H | 1.53 | 0.72 |
| 6:A:490:G:H2' | 6:A:491:G:C8 | 2.25 | 0.72 |
| 56:B:229:ARG:HH21 | 56:B:283:ALA:N | 1.87 | 0.72 |
| 56:B:330:LEU:HD21 | 56:B:346:CYS:SG | 2.29 | 0.72 |
| 56:B:337:SER:OG | 56:B:393:PRO:HB3 | 1.90 | 0.72 |
| 7:D:155:C:O2' | 7:D:161:U:OP1 | 2.07 | 0.72 |
| 7:D:2473:U:OP1 | 7:D:2529:G:N2 | 2.21 | 0.72 |
| 7:D:279:C:H41 | 7:D:359:A:H2 | 1.38 | 0.72 |
| 10:G:14:ILE:HG13 | 10:G:178:LEU:HD21 | 1.71 | 0.72 |
| 6:A:1119:C:N4 | 6:A:1154:G:O6 | 2.20 | 0.72 |
| 6:A:173:U:OP1 | 6:A:197:A:O2' | 2.06 | 0.72 |
| 6:A:345:C:H5'' | 6:A:346:G:C5 | 2.24 | 0.72 |
| 6:A:405:U:OP1 | 6:A:406:G:O2' | 2.08 | 0.72 |
| 6:A:522:C:H42 | 6:A:528:C:H42 | 1.37 | 0.72 |
| 56:B:20:HIS:CE1 | 56:B:108:ASP:CB | 2.71 | 0.72 |
| 56:B:212:ILE:HD12 | 56:B:212:ILE:N | 2.04 | 0.72 |
| 56:B:23:SER:HB2 | 57:B:701:GCP:O1A | 1.88 | 0.72 |
| 56:B:556:LYS:O | 56:B:558:VAL:N | 2.17 | 0.72 |
| 7:D:1379:A:O2' | 7:D:1380:G:OP1 | 2.07 | 0.72 |
| 7:D:1490:A:OP2 | 7:D:1490:A:H3' | 1.89 | 0.72 |
| 7:D:154:G:C5 | 7:D:155:C:C5 | 2.77 | 0.72 |
| 7:D:346:A:O2' | 7:D:347:A:N7 | 2.22 | 0.72 |
| 7:D:489:G:C8 | 7:D:1284:A:C6 | 2.77 | 0.72 |
| 7:D:489:G:C8 | 7:D:1284:A:N3 | 2.58 | 0.72 |
| 7:D:728:G:H21 | 7:D:730:C:H41 | 1.38 | 0.72 |
| 8:E:2:C:H42 | 8:E:118:G:H1 | 1.37 | 0.72 |
| 9:F:54:THR:HG21 | 9:F:201:ILE:HD11 | 1.70 | 0.72 |
| 15:L:122:ARG:HA | 15:L:125:ARG:NH1 | 2.05 | 0.72 |
| 6:A:446:G:N2 | 6:A:489:C:C2 | 2.56 | 0.72 |
| 6:A:642:A:N3 | 15:L:113:SER:OG | 2.21 | 0.72 |
| 6:A:838:G:O2' | 6:A:841:U:OP1 | 2.08 | 0.72 |
| 56:B:231:TYR:N | 56:B:280:ILE:HG21 | 2.04 | 0.72 |
| 56:B:382:LEU:H | 56:B:386:GLU:HB3 | 1.53 | 0.72 |
| 56:B:488:ASP:HB3 | 56:B:510:ARG:H | 1.51 | 0.72 |
| 7:D:1222:C:H42 | 7:D:1227:A:H61 | 1.37 | 0.72 |
| 7:D:1477:A:C5 | 7:D:1478:G:N1 | 2.57 | 0.72 |
| 7:D:1559:G:C5 | 7:D:1560:G:H4' | 2.25 | 0.72 |
| 7:D:171:G:H4' | 7:D:172:C:OP1 | 1.88 | 0.72 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 11:H:46:LYS:HE2 | 11:H:50:ARG:CZ | 21.23 | 0.72 |
| 16:M:110:GLU:OE1 | 16:M:111:ARG:N | 2.23 | 0.72 |
| 29:Z:180:PHE:HB3 | 29:Z:185:LEU:CD1 | 2.19 | 0.72 |
| 5:5:75:C:O2' | 5:5:76:A:O5' | 2.04 | 0.72 |
| 6:A:475:G:C4 | 6:A:476:G:C8 | 2.78 | 0.72 |
| 56:B:245:PHE:CZ | 56:B:262:GLY:CA | 2.73 | 0.72 |
| 56:B:245:PHE:HZ | 56:B:262:GLY:C | 1.93 | 0.72 |
| 56:B:27:ASP:OD2 | 56:B:41:MET:HB3 | 1.90 | 0.72 |
| 56:B:68:TYR:CG | 56:B:75:GLU:HG3 | 2.22 | 0.72 |
| 56:B:13:SER:HB2 | 56:B:97:LEU:HG | 1.71 | 0.72 |
| 7:D:2225:A:H4' | 7:D:2226:C:C6 | 2.25 | 0.72 |
| 7:D:2887:U:C2' | 7:D:2888:C:H5' | 2.20 | 0.72 |
| 7:D:560:C:C2' | 7:D:561:G:H5' | 2.20 | 0.72 |
| 7:D:96:G:C6 | 7:D:97:C:N4 | 2.57 | 0.72 |
| 12:I:152:ARG:HD3 | 15:L:43:GLY:HA3 | 1.70 | 0.72 |
| 14:K:16:LEU:HD22 | 16:M:45:ALA:HB2 | 1.72 | 0.72 |
| 20:Q:37:THR:OG1 | 20:Q:55:ARG:NH2 | 2.22 | 0.72 |
| 6:A:1319:A:O5' | 26:W:37:ARG:C | 2.28 | 0.72 |
| 6:A:80:G:C4 | 6:A:81:G:N7 | 2.58 | 0.72 |
| 56:B:15:ILE:HG23 | 56:B:120:LYS:HD2 | 1.70 | 0.72 |
| 56:B:306:TYR:CB | 56:B:370:ILE:CD1 | 2.56 | 0.72 |
| 3:3:24:GLY:O | 56:B:440:TYR:CZ | 2.43 | 0.72 |
| 56:B:531:GLN:HG2 | 56:B:532:LEU:CD2 | 2.19 | 0.72 |
| 7:D:1550:C:OP1 | 7:D:1727:U:O2' | 2.08 | 0.72 |
| 7:D:1862:G:C2 | 7:D:1863:G:C6 | 2.77 | 0.72 |
| 7:D:2184:G:C5 | 7:D:2185:C:C4 | 2.77 | 0.72 |
| 7:D:68:G:N2 | 7:D:74:A:O4' | 2.21 | 0.72 |
| 7:D:583:G:H5'' | 16:M:10:ARG:HH12 | 172.88 | 0.72 |
| 6:A:218:C:H2' | 6:A:219:C:C6 | 2.24 | 0.72 |
| 6:A:422:C:H4' | 6:A:423:G:C2 | 2.25 | 0.72 |
| 6:A:613:C:H2' | 6:A:614:A:C8 | 2.23 | 0.72 |
| 56:B:495:LEU:CD1 | 56:B:540:ALA:HB1 | 1.96 | 0.72 |
| 7:D:1908:C:N4 | 7:D:1922:G:O6 | 2.18 | 0.72 |
| 17:N:7:LYS:HD3 | 17:N:9:ARG:HH21 | 1.54 | 0.72 |
| 3:3:19:PRO:HG3 | 3:3:41:PHE:HE2 | 1.54 | 0.71 |
| 6:A:866:C:O2' | 6:A:919:A:OP1 | 2.07 | 0.71 |
| 56:B:492:VAL:HA | 56:B:541:ILE:CA | 2.20 | 0.71 |
| 7:D:1712:C:H2' | 7:D:1716:U:C5 | 2.24 | 0.71 |
| 7:D:321:G:H5'' | 7:D:322:A:OP2 | 1.90 | 0.71 |
| 7:D:371:A:N6 | 7:D:424:G:C8 | 2.58 | 0.71 |
| 7:D:40:C:O2 | 7:D:440:G:N2 | 2.23 | 0.71 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 27:X:26:ASN:HB2 | 27:X:71:THR:HG23 | 1.72 | 0.71 |
| 3:3:13:PRO:HB2 | 3:3:16:LYS:NZ | 2.04 | 0.71 |
| 6:A:1357:A:N6 | 6:A:1358:U:O4 | 2.23 | 0.71 |
| 56:B:200:ILE:CG1 | 56:B:278:ASP:O | 2.38 | 0.71 |
| 56:B:63:ALA:O | 56:B:64:VAL:HG22 | 1.90 | 0.71 |
| 7:D:2401:U:H5'' | 7:D:2402:C:OP2 | 1.88 | 0.71 |
| 7:D:441:U:H5'' | 7:D:442:G:OP2 | 1.91 | 0.71 |
| 7:D:771:G:O2' | 7:D:1355:G:O2' | 2.05 | 0.71 |
| 7:D:83:G:O2' | 7:D:84:A:O5' | 2.06 | 0.71 |
| 11:H:34:GLU:HG3 | 11:H:35:ARG:HG2 | 1.71 | 0.71 |
| 6:A:711:G:OP1 | 13:J:54:LYS:NZ | 2.23 | 0.71 |
| 6:A:1318:A:N3 | 26:W:34:TRP:CZ3 | 2.58 | 0.71 |
| 56:B:153:GLU:HG3 | 56:B:159:PRO:CB | 2.19 | 0.71 |
| 56:B:225:GLY:C | 56:B:239:VAL:HG12 | 2.09 | 0.71 |
| 56:B:12:PHE:O | 56:B:81:ILE:HG13 | 1.88 | 0.71 |
| 7:D:1173:G:N3 | 7:D:1173:G:H5' | 2.03 | 0.71 |
| 7:D:1529:A:N7 | 7:D:1542:G:N2 | 2.37 | 0.71 |
| 7:D:344:G:N2 | 7:D:345:A:C4 | 2.59 | 0.71 |
| 7:D:775:G:N2 | 7:D:787:U:O2' | 2.23 | 0.71 |
| 7:D:776:G:O2' | 7:D:777:A:OP2 | 2.07 | 0.71 |
| 15:L:84:ARG:HD3 | 15:L:136:GLU:OE2 | 1.90 | 0.71 |
| 3:3:19:PRO:C | 3:3:22:PRO:HD2 | 2.11 | 0.71 |
| 6:A:99:C:O2' | 6:A:101:A:OP1 | 2.08 | 0.71 |
| 56:B:379:LYS:CA | 56:B:406:LEU:HB3 | 2.20 | 0.71 |
| 56:B:396:LEU:HD11 | 56:B:491:LYS:HG2 | 1.73 | 0.71 |
| 7:D:1071:G:H21 | 7:D:1089:G:H2' | 1.55 | 0.71 |
| 7:D:1944:U:O2' | 7:D:1945:G:OP1 | 2.07 | 0.71 |
| 6:A:409:G:OP1 | 11:H:25:ARG:N | 2.21 | 0.71 |
| 6:A:836:G:H2' | 6:A:837:G:C8 | 2.25 | 0.71 |
| 56:B:528:ILE:HG21 | 56:B:592:VAL:CB | 2.19 | 0.71 |
| 7:D:1742:C:C3' | 7:D:1743:G:H5'' | 2.19 | 0.71 |
| 7:D:2177:C:OP1 | 29:Z:223:ARG:NH1 | 2.23 | 0.71 |
| 7:D:385:C:HO2' | 7:D:388:G:N2 | 1.87 | 0.71 |
| 7:D:43:G:C5 | 7:D:44:A:N7 | 2.58 | 0.71 |
| 22:S:16:ALA:HB1 | 22:S:21:ASP:HB3 | 1.72 | 0.71 |
| 26:W:15:LEU:N | 26:W:35:SER:CB | 2.53 | 0.71 |
| 3:3:34:ILE:HG12 | 3:3:35:MET:H | 1.55 | 0.71 |
| 6:A:519:C:H2' | 6:A:520:A:H8 | 1.54 | 0.71 |
| 6:A:851:G:H2' | 6:A:852:G:O4' | 1.91 | 0.71 |
| 7:D:2121:G:O6 | 7:D:2176:A:N6 | 2.24 | 0.71 |
| 7:D:2889:C:C5 | 7:D:2891:G:N7 | 2.59 | 0.71 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:791:C:OP1 | 7:D:791:C:H4' | 1.90 | 0.71 |
| 3:3:59:ILE:H | 3:3:59:ILE:HD12 | 1.56 | 0.71 |
| 4:4:62:C:H2' | 4:4:63:G:H8 | 1.55 | 0.71 |
| 6:A:101:A:C4 | 6:A:102:G:C8 | 2.79 | 0.71 |
| 6:A:1047:G:H5'' | 21:R:4:LYS:HD3 | 1.73 | 0.71 |
| 6:A:1427:U:H2' | 6:A:1428:A:C8 | 2.24 | 0.71 |
| 6:A:209:U:H5'' | 6:A:210:U:OP1 | 1.91 | 0.71 |
| 6:A:96:G:N1 | 6:A:97:U:C2 | 2.59 | 0.71 |
| 56:B:118:LEU:CD1 | 56:B:446:LYS:HZ3 | 2.01 | 0.71 |
| 6:A:55:A:N3 | 56:B:208:TYR:CD2 | 2.59 | 0.71 |
| 56:B:27:ASP:C | 56:B:41:MET:SD | 2.68 | 0.71 |
| 56:B:330:LEU:HB3 | 56:B:345:ARG:NH1 | 2.06 | 0.71 |
| 56:B:58:THR:CB | 56:B:84:PRO:HG3 | 2.21 | 0.71 |
| 7:D:1058:G:H22 | 7:D:1081:U:H2' | 1.54 | 0.71 |
| 7:D:1419:A:N6 | 7:D:1577:C:N3 | 2.39 | 0.71 |
| 7:D:1913:A:OP2 | 7:D:1914:C:H5' | 1.91 | 0.71 |
| 56:B:222:VAL:HG21 | 56:B:228:ILE:HD11 | 1.72 | 0.71 |
| 56:B:382:LEU:N | 56:B:386:GLU:HB3 | 2.05 | 0.71 |
| 7:D:771:G:HO2' | 7:D:1355:G:HO2' | 1.34 | 0.71 |
| 7:D:1364:G:OP2 | 7:D:1364:G:C8 | 2.43 | 0.71 |
| 7:D:2198:A:N3 | 7:D:2198:A:H2' | 2.05 | 0.71 |
| 23:T:43:LYS:O | 23:T:45:THR:N | 2.24 | 0.71 |
| 6:A:1455:G:OP1 | 27:X:32:ALA:HA | 1.90 | 0.71 |
| 6:A:1460:A:C2' | 6:A:1461:G:H5' | 2.20 | 0.71 |
| 6:A:572:A:H5' | 6:A:573:A:OP2 | 1.91 | 0.71 |
| 6:A:570:G:H5' | 6:A:820:U:H1' | 1.73 | 0.71 |
| 56:B:153:GLU:O | 56:B:153:GLU:HG2 | 1.89 | 0.71 |
| 56:B:18:VAL:HG23 | 56:B:86:HIS:HB3 | 1.73 | 0.71 |
| 56:B:315:LYS:CD | 56:B:318:ASP:HB3 | 2.21 | 0.71 |
| 7:D:1497:U:O4 | 7:D:1576:U:O2' | 2.06 | 0.71 |
| 7:D:1563:G:C2 | 7:D:1564:C:H1' | 2.26 | 0.71 |
| 7:D:2227:A:C6 | 7:D:2228:G:C5 | 2.78 | 0.71 |
| 7:D:524:U:H2' | 7:D:525:U:C6 | 2.26 | 0.71 |
| 10:G:142:MET:SD | 10:G:170:GLN:NE2 | 2.63 | 0.71 |
| 6:A:1014:A:H5'' | 26:W:18:LYS:HZ3 | 1.56 | 0.71 |
| 6:A:686:U:O2' | 6:A:687:A:O5' | 2.09 | 0.71 |
| 56:B:144:ARG:O | 56:B:148:VAL:HG23 | 1.91 | 0.71 |
| 56:B:513:ALA:HB1 | 56:B:541:ILE:HD11 | 1.72 | 0.71 |
| 7:D:2063:C:OP2 | 7:D:2064:C:OP2 | 2.08 | 0.71 |
| 7:D:2104:G:C2 | 7:D:2105:C:C2 | 2.79 | 0.71 |
| 7:D:249:C:OP2 | 7:D:2394:C:O2' | 2.08 | 0.71 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 7:D:2901:C:N3 | 7:D:2902:C:N4 | 2.39 | 0.71 |
| 7:D:227:A:H61 | 7:D:410:G:H21 | 1.39 | 0.71 |
| 11:H:30:LYS:HG2 | 11:H:35:ARG:HG3 | 1.72 | 0.71 |
| 11:H:62:GLN:HE22 | 11:H:65:ARG:HH11 | 1.38 | 0.71 |
| 22:S:70:LEU:HG | 22:S:78:TYR:HB2 | 1.71 | 0.71 |
| 26:W:53:ASN:HD21 | 26:W:75:ALA:HB1 | 1.55 | 0.71 |
| 6:A:195:A:O5' | 27:X:68:LYS:NZ | 2.23 | 0.71 |
| 1:1:11:CYS:N | 1:1:14:CYS:SG | 2.55 | 0.70 |
| 3:3:103:GLN:O | 3:3:107:ILE:CD1 | 2.38 | 0.70 |
| 3:3:6:ALA:HB1 | 3:3:59:ILE:HG21 | 1.68 | 0.70 |
| 5:5:49:C:H5'' | 5:5:50:U:OP2 | 1.91 | 0.70 |
| 6:A:789:U:N3 | 6:A:791:G:OP2 | 2.24 | 0.70 |
| 56:B:200:ILE:HB | 56:B:278:ASP:N | 2.06 | 0.70 |
| 56:B:300:VAL:N | 56:B:479:TYR:CE1 | 2.56 | 0.70 |
| 56:B:337:SER:OG | 56:B:393:PRO:CB | 2.38 | 0.70 |
| 56:B:414:ILE:N | 56:B:450:LEU:O | 2.24 | 0.70 |
| 7:D:1569:A:H2' | 7:D:1570:A:C8 | 2.26 | 0.70 |
| 7:D:1589:C:H2' | 7:D:1590:U:C6 | 2.26 | 0.70 |
| 7:D:1936:A:N6 | 7:D:1963:U:O2 | 2.24 | 0.70 |
| 7:D:553:U:H5'' | 7:D:554:U:OP2 | 1.91 | 0.70 |
| 16:M:29:ASN:N | 16:M:63:ILE:O | 2.19 | 0.70 |
| 6:A:1226:C:C2 | 20:Q:104:ARG:HG3 | 2.25 | 0.70 |
| 25:V:16:PRO:HA | 25:V:54:ARG:HH12 | 1.55 | 0.70 |
| 29:Z:182:PRO:HD2 | 29:Z:183:GLU:OE1 | 1.91 | 0.70 |
| 3:3:13:PRO:CB | 3:3:16:LYS:NZ | 2.54 | 0.70 |
| 56:B:241:LYS:HG2 | 56:B:243:GLY:H | 1.56 | 0.70 |
| 56:B:330:LEU:O | 56:B:331:THR:HG23 | 1.91 | 0.70 |
| 56:B:499:GLU:O | 56:B:500:VAL:HG12 | 1.90 | 0.70 |
| 7:D:1152:C:H2' | 7:D:1153:C:H6 | 1.55 | 0.70 |
| 7:D:1390:U:H3 | 7:D:1395:A:H62 | 1.40 | 0.70 |
| 7:D:1791:A:N6 | 7:D:1828:G:O2' | 2.24 | 0.70 |
| 7:D:2418:A:H5'' | 7:D:2419:U:OP2 | 1.91 | 0.70 |
| 7:D:2895:U:O2' | 7:D:2896:C:O4' | 2.08 | 0.70 |
| 3:3:68:VAL:O | 3:3:69:THR:O | 2.07 | 0.70 |
| 6:A:1353:G:OP1 | 28:Y:3:LYS:NZ | 2.24 | 0.70 |
| 56:B:306:TYR:CB | 56:B:370:ILE:CG1 | 2.68 | 0.70 |
| 56:B:58:THR:HB | 56:B:84:PRO:HG3 | 1.73 | 0.70 |
| 7:D:1084:A:O2' | 7:D:1106:G:N7 | 2.21 | 0.70 |
| 7:D:1209:G:H21 | 7:D:1237:A:H2 | 1.39 | 0.70 |
| 11:H:20:TYR:HA | 11:H:26:CYS:SG | 2.32 | 0.70 |
| 25:V:53:ARG:HD2 | 25:V:63:GLN:HG3 | 1.73 | 0.70 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 6:A:1447:G:C2 | 6:A:1460:A:C4 | 2.79 | 0.70 |
| 56:B:136:ASN:OD1 | 56:B:167:SER:HA | 1.91 | 0.70 |
| 56:B:137:LYS:NZ | 57:B:701:GCP:H1' | 2.06 | 0.70 |
| 56:B:134:VAL:CG2 | 56:B:164:ILE:O | 2.39 | 0.70 |
| 7:D:2125:G:N1 | 7:D:2172:U:OP1 | 2.20 | 0.70 |
| 7:D:2789:C:O2 | 7:D:2893:G:C2 | 2.44 | 0.70 |
| 7:D:2805:G:H2' | 7:D:2807:G:H4' | 1.73 | 0.70 |
| 7:D:894:C:H42 | 7:D:897:C:N4 | 1.90 | 0.70 |
| 20:Q:15:VAL:HG11 | 20:Q:39:ILE:HD11 | 1.74 | 0.70 |
| 21:R:24:CYS:SG | 21:R:40:CYS:N | 2.64 | 0.70 |
| 6:A:445:G:N2 | 6:A:489:C:O2 | 2.24 | 0.70 |
| 6:A:69:G:N3 | 6:A:73:G:C8 | 2.60 | 0.70 |
| 56:B:227:ARG:CB | 56:B:237:PHE:CD2 | 2.53 | 0.70 |
| 56:B:420:TYR:O | 56:B:424:LEU:HB2 | 1.91 | 0.70 |
| 56:B:528:ILE:HG22 | 56:B:592:VAL:HG22 | 1.66 | 0.70 |
| 7:D:1869:G:N2 | 7:D:1878:G:C6 | 2.59 | 0.70 |
| 7:D:2106:G:C4 | 7:D:2108:C:N3 | 2.60 | 0.70 |
| 7:D:226:G:O2' | 7:D:227:A:O4' | 2.09 | 0.70 |
| 7:D:536:A:O2' | 7:D:537:C:H5' | 1.91 | 0.70 |
| 19:P:110:VAL:HG23 | 19:P:113:ARG:HB2 | 1.73 | 0.70 |
| 29:Z:64:LEU:O | 29:Z:159:GLY:CA | 2.33 | 0.70 |
| 3:3:10:LEU:HD13 | 3:3:57:ILE:CD1 | 1.84 | 0.70 |
| 6:A:194:C:O3' | 27:X:68:LYS:NZ | 2.20 | 0.70 |
| 6:A:344:A:O2' | 6:A:346:G:N7 | 2.24 | 0.70 |
| 6:A:792:A:O2' | 6:A:793:U:OP2 | 2.07 | 0.70 |
| 6:A:874:G:N2 | 15:L:15:ASN:OD1 | 2.24 | 0.70 |
| 56:B:265:VAL:HG22 | 56:B:266:ALA:N | 2.03 | 0.70 |
| 56:B:495:LEU:HG | 56:B:500:VAL:HG23 | 1.72 | 0.70 |
| 7:D:1049:C:N4 | 7:D:2751:G:O6 | 2.24 | 0.70 |
| 7:D:1668:A:C2 | 7:D:1993:U:C4 | 2.79 | 0.70 |
| 7:D:2157:G:H4' | 7:D:2158:A:OP2 | 1.92 | 0.70 |
| 7:D:2189:U:H2' | 7:D:2190:G:C8 | 2.26 | 0.70 |
| 7:D:2778:A:H4' | 7:D:2779:U:OP2 | 1.91 | 0.70 |
| 7:D:2858:C:H5'' | 7:D:2859:G:OP2 | 1.91 | 0.70 |
| 26:W:5:LEU:HD12 | 26:W:6:LYS:N | 2.06 | 0.70 |
| 26:W:70:LYS:CB | 26:W:73:GLU:HB3 | 2.19 | 0.70 |
| 56:B:196:LEU:CD1 | 56:B:220:GLY:O | 2.26 | 0.70 |
| 56:B:379:LYS:NZ | 56:B:407:GLU:N | 2.36 | 0.70 |
| 56:B:421:VAL:O | 56:B:425:MET:N | 2.18 | 0.70 |
| 56:B:424:LEU:HD11 | 56:B:471:SER:HB3 | 1.73 | 0.70 |
| 7:D:1128:A:N6 | 7:D:2518:A:N1 | 2.39 | 0.70 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:1295:C:H2' | 7:D:1296:G:H8 | 1.56 | 0.70 |
| 7:D:1580:A:H2' | 7:D:1581:G:N7 | 2.06 | 0.70 |
| 7:D:2197:U:C2' | 7:D:2198:A:H5'' | 2.20 | 0.70 |
| 7:D:2757:A:H2' | 7:D:2758:A:H5' | 1.73 | 0.70 |
| 7:D:309:G:N3 | 7:D:329:G:O2' | 2.25 | 0.70 |
| 7:D:341:G:H2' | 7:D:342:G:O4' | 1.90 | 0.70 |
| 7:D:648:G:O2' | 7:D:649:G:H5' | 1.92 | 0.70 |
| 3:3:13:PRO:C | 3:3:16:LYS:NZ | 2.44 | 0.70 |
| 6:A:101:A:C4 | 6:A:102:G:N7 | 2.60 | 0.70 |
| 6:A:1322:C:O2 | 26:W:37:ARG:NH2 | 2.23 | 0.70 |
| 6:A:1461:G:C2 | 6:A:1462:G:C8 | 2.78 | 0.70 |
| 6:A:92:G:C6 | 6:A:93:U:C4 | 2.79 | 0.70 |
| 56:B:226:ASP:O | 56:B:228:ILE:HG13 | 1.92 | 0.70 |
| 56:B:455:PRO:HG2 | 56:B:458:GLU:HB2 | 1.74 | 0.70 |
| 56:B:525:ALA:HB1 | 56:B:528:ILE:HG13 | 1.74 | 0.70 |
| 3:3:126:MET:HG3 | 7:D:1059:G:C5 | 2.26 | 0.70 |
| 7:D:136:G:N2 | 7:D:137:C:N3 | 2.39 | 0.70 |
| 7:D:1864:U:H4' | 7:D:2409:G:H22 | 1.56 | 0.70 |
| 7:D:370:G:N2 | 7:D:422:A:OP1 | 2.24 | 0.70 |
| 7:D:899:A:H1' | 7:D:900:A:H2 | 1.56 | 0.70 |
| 7:D:930:U:O2' | 7:D:931:G:OP2 | 2.09 | 0.70 |
| 18:O:17:GLY:HA2 | 18:O:35:PRO:HD3 | 1.72 | 0.70 |
| 6:A:522:C:H41 | 19:P:53:ARG:HH22 | 1.38 | 0.70 |
| 3:3:19:PRO:HG3 | 3:3:41:PHE:CE2 | 2.27 | 0.70 |
| 6:A:371:G:OP2 | 6:A:371:G:H8 | 1.74 | 0.70 |
| 6:A:414:A:OP2 | 6:A:428:G:N2 | 2.16 | 0.70 |
| 56:B:137:LYS:HG2 | 57:B:701:GCP:C5 | 1.83 | 0.70 |
| 56:B:330:LEU:HD21 | 56:B:346:CYS:HA | 1.73 | 0.70 |
| 56:B:383:LYS:HB3 | 56:B:402:ILE:HG21 | 0.70 | 0.70 |
| 56:B:299:PRO:HA | 56:B:479:TYR:OH | 1.85 | 0.70 |
| 56:B:8:ARG:CG | 56:B:74:GLU:HA | 2.22 | 0.70 |
| 7:D:1726:G:C6 | 7:D:1734:C:C2 | 2.79 | 0.70 |
| 7:D:530:G:N2 | 7:D:2023:G:OP1 | 2.23 | 0.70 |
| 7:D:2287:A:N6 | 7:D:2344:U:H3 | 1.89 | 0.70 |
| 7:D:2782:G:C2 | 7:D:2783:G:C4 | 2.80 | 0.70 |
| 7:D:559:G:O2' | 7:D:560:C:OP1 | 2.08 | 0.70 |
| 9:F:126:GLU:O | 9:F:128:GLU:N | 2.25 | 0.70 |
| 9:F:204:ASN:ND2 | 9:F:210:SER:HB3 | 2.04 | 0.70 |
| 6:A:376:G:H5'' | 23:T:5:ARG:HD2 | 1.74 | 0.70 |
| 26:W:40:ILE:O | 26:W:68:GLY:CA | 2.39 | 0.70 |
| 6:A:1163:C:N4 | 6:A:1173:G:O6 | 2.18 | 0.70 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 6:A:1453:G:H3' | 6:A:1453:G:N3 | 2.05 | 0.70 |
| 56:B:194:ALA:N | 56:B:219:GLU:OE1 | 2.11 | 0.70 |
| 56:B:194:ALA:HB1 | 56:B:195:PRO:CD | 2.22 | 0.70 |
| 56:B:206:ASP:HB3 | 56:B:210:GLY:CA | 2.21 | 0.70 |
| 56:B:46:LEU:HD12 | 56:B:82:ASP:OD2 | 1.92 | 0.70 |
| 56:B:137:LYS:CE | 57:B:701:GCP:C2 | 2.60 | 0.70 |
| 7:D:1047:G:C6 | 7:D:1110:G:C6 | 2.80 | 0.70 |
| 7:D:1061:U:C1' | 7:D:1070:A:C4' | 2.69 | 0.70 |
| 7:D:1787:A:H5'' | 7:D:1788:C:OP2 | 1.90 | 0.70 |
| 7:D:931:G:H3' | 7:D:932:G:C4' | 2.22 | 0.70 |
| 20:Q:3:ARG:HG3 | 20:Q:7:VAL:HG12 | 1.74 | 0.70 |
| 6:A:1459:C:H2' | 6:A:1460:A:H5' | 1.73 | 0.69 |
| 56:B:152:VAL:HG22 | 56:B:156:LEU:HD23 | 1.74 | 0.69 |
| 56:B:227:ARG:CA | 56:B:237:PHE:HD2 | 2.04 | 0.69 |
| 56:B:537:ILE:CD1 | 56:B:551:VAL:HG23 | 2.22 | 0.69 |
| 7:D:2444:G:H5' | 7:D:2445:G:OP2 | 1.91 | 0.69 |
| 7:D:276:A:O2' | 7:D:278:A:N6 | 2.25 | 0.69 |
| 9:F:84:GLU:HG2 | 9:F:215:LEU:HG | 1.74 | 0.69 |
| 14:K:79:ARG:HG2 | 14:K:84:ASN:HB3 | 1.74 | 0.69 |
| 3:3:77:LEU:CD1 | 3:3:111:LYS:HD3 | 2.22 | 0.69 |
| 3:3:137:GLU:HB3 | 7:D:1078:U:OP1 | 1.92 | 0.69 |
| 6:A:1308:U:O2 | 6:A:1329:A:N6 | 2.24 | 0.69 |
| 6:A:1438:G:O2' | 6:A:1439:C:H5' | 1.92 | 0.69 |
| 6:A:216:G:C5 | 6:A:217:C:N3 | 2.60 | 0.69 |
| 56:B:97:LEU:CD2 | 56:B:103:VAL:HG11 | 2.21 | 0.69 |
| 7:D:1755:A:H5' | 7:D:1756:G:OP2 | 1.93 | 0.69 |
| 7:D:2218:G:H2' | 7:D:2219:G:H8 | 1.55 | 0.69 |
| 7:D:270(W):G:C5 | 7:D:270(X):G:C5 | 2.79 | 0.69 |
| 7:D:848:G:N2 | 7:D:933:A:H1' | 2.04 | 0.69 |
| 14:K:111:ARG:HD3 | 14:K:112:PRO:HD2 | 1.74 | 0.69 |
| 15:L:97:VAL:HG13 | 15:L:98:LYS:H | 1.57 | 0.69 |
| 20:Q:23:TYR:CD2 | 20:Q:70:LEU:HD11 | 2.26 | 0.69 |
| 25:V:37:VAL:HG21 | 25:V:78:LEU:HD22 | 1.74 | 0.69 |
| 3:3:12:LEU:H | 3:3:54:PRO:CB | 2.06 | 0.69 |
| 6:A:382:A:H2' | 6:A:383:A:C8 | 2.27 | 0.69 |
| 6:A:457:C:N4 | 6:A:458:C:H42 | 1.90 | 0.69 |
| 56:B:135:ILE:CG1 | 56:B:165:PHE:HD1 | 1.78 | 0.69 |
| 56:B:240:ASP:CG | 56:B:266:ALA:CB | 2.60 | 0.69 |
| 56:B:282:LEU:HD13 | 56:B:283:ALA:CB | 2.21 | 0.69 |
| 56:B:361:LEU:O | 56:B:366:GLY:CA | 2.40 | 0.69 |
| 7:D:1999:C:H2' | 7:D:2000:G:H8 | 1.57 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:775:G:H5'' | 7:D:777:A:C4 | 2.27 | 0.69 |
| 10:G:11:ARG:O | 10:G:14:ILE:N | 2.25 | 0.69 |
| 6:A:545:C:H5'' | 11:H:72:GLU:HG2 | 1.73 | 0.69 |
| 6:A:1507:A:H2 | 6:A:1530:G:H1' | 1.56 | 0.69 |
| 56:B:531:GLN:OE1 | 56:B:584:LEU:HD12 | 1.91 | 0.69 |
| 7:D:848:G:N2 | 7:D:931:G:C5 | 2.60 | 0.69 |
| 12:I:79:GLU:O | 15:L:104:ARG:NH1 | 2.25 | 0.69 |
| 3:3:84:LEU:HD22 | 3:3:86:LYS:HE3 | 1.75 | 0.69 |
| 6:A:457:C:C5 | 6:A:458:C:N4 | 2.60 | 0.69 |
| 56:B:191:ASP:CG | 56:B:219:GLU:HB3 | 2.13 | 0.69 |
| 56:B:229:ARG:O | 56:B:280:ILE:HG23 | 1.93 | 0.69 |
| 56:B:303:ALA:HB3 | 56:B:345:ARG:O | 1.92 | 0.69 |
| 56:B:380:VAL:O | 56:B:387:GLU:CA | 2.40 | 0.69 |
| 56:B:410:VAL:HG12 | 56:B:480:GLU:H | 1.58 | 0.69 |
| 7:D:1946:U:H5'' | 7:D:1947:C:OP2 | 1.93 | 0.69 |
| 7:D:2126:A:N6 | 7:D:2172:U:OP2 | 2.25 | 0.69 |
| 7:D:884:C:H1' | 7:D:885:C:OP2 | 1.92 | 0.69 |
| 6:A:18:C:P | 12:I:127:ASN:HD21 | 2.14 | 0.69 |
| 5:5:42:C:P | 14:K:143:ARG:HH12 | 2.16 | 0.69 |
| 5:5:17:C:H41 | 7:D:2181:G:C5' | 2.05 | 0.69 |
| 6:A:381:C:H2' | 6:A:382:A:C8 | 2.28 | 0.69 |
| 56:B:105:LEU:HD22 | 56:B:131:ILE:CG2 | 2.23 | 0.69 |
| 56:B:217:LEU:O | 56:B:259:GLY:N | 2.20 | 0.69 |
| 56:B:45:PHE:HE2 | 56:B:247:PRO:O | 1.74 | 0.69 |
| 56:B:280:ILE:HG23 | 56:B:281:THR:N | 2.03 | 0.69 |
| 56:B:315:LYS:HE2 | 56:B:318:ASP:HB3 | 1.74 | 0.69 |
| 56:B:382:LEU:HD22 | 56:B:383:LYS:N | 2.07 | 0.69 |
| 56:B:428:LEU:HD13 | 56:B:452:TYR:CE1 | 2.25 | 0.69 |
| 7:D:1588:C:H2' | 7:D:1589:C:C5 | 2.28 | 0.69 |
| 7:D:2497:A:O2' | 7:D:2498:C:OP2 | 2.10 | 0.69 |
| 7:D:306:U:H3 | 7:D:310:A:H62 | 1.39 | 0.69 |
| 7:D:485:C:C4 | 7:D:486:C:C4 | 2.81 | 0.69 |
| 7:D:558:G:C4 | 7:D:559:G:N7 | 2.60 | 0.69 |
| 7:D:82:G:N7 | 7:D:102:G:N2 | 2.40 | 0.69 |
| 10:G:12:LEU:HD21 | 21:R:57:ARG:HB2 | 1.74 | 0.69 |
| 13:J:53:ALA:HB3 | 13:J:86:ARG:HH12 | 1.57 | 0.69 |
| 19:P:102:ARG:NH2 | 19:P:108:ALA:O | 2.25 | 0.69 |
| 25:V:80:PRO:O | 25:V:82:THR:N | 2.26 | 0.69 |
| 26:W:69:HIS:CD2 | 26:W:74:PHE:CZ | 2.76 | 0.69 |
| 26:W:53:ASN:ND2 | 26:W:75:ALA:CB | 2.56 | 0.69 |
| 29:Z:131:LEU:HD22 | 29:Z:136:LEU:HB3 | 1.74 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 6:A:791:G:N2 | 6:A:1497:G:O3' | 2.25 | 0.69 |
| 56:B:144:ARG:HD3 | 56:B:148:VAL:HG23 | 1.74 | 0.69 |
| 56:B:200:ILE:CD1 | 56:B:278:ASP:O | 2.41 | 0.69 |
| 7:D:1332:G:N7 | 7:D:1609:A:N6 | 2.41 | 0.69 |
| 7:D:172:C:C2' | 7:D:173:G:H5' | 2.22 | 0.69 |
| 7:D:2651:C:N3 | 7:D:2652:C:N4 | 2.40 | 0.69 |
| 7:D:385:C:HO2' | 7:D:388:G:H22 | 1.38 | 0.69 |
| 9:F:97:TRP:HZ2 | 9:F:102:LEU:HD13 | 1.57 | 0.69 |
| 29:Z:71:GLN:O | 29:Z:156:ILE:CG2 | 2.35 | 0.69 |
| 3:3:10:LEU:CD2 | 3:3:57:ILE:CD1 | 2.70 | 0.69 |
| 3:3:89:HIS:O | 3:3:90:LYS:CB | 2.41 | 0.69 |
| 6:A:451:A:O2' | 6:A:452:A:OP2 | 2.09 | 0.69 |
| 6:A:690:G:OP2 | 18:O:27:ASN:ND2 | 2.25 | 0.69 |
| 56:B:200:ILE:HG13 | 56:B:279:THR:HG23 | 1.70 | 0.69 |
| 7:D:1792:G:O2' | 7:D:1830:C:OP1 | 2.11 | 0.69 |
| 7:D:270(O):U:OP1 | 7:D:270(P):C:N4 | 2.25 | 0.69 |
| 7:D:890:A:H3' | 7:D:892:G:C5' | 2.17 | 0.69 |
| 9:F:174:VAL:HG11 | 9:F:196:LEU:HD13 | 1.75 | 0.69 |
| 26:W:43:GLU:HA | 26:W:67:VAL:HG11 | 1.75 | 0.69 |
| 20:Q:87:TYR:N | 26:W:73:GLU:O | 2.19 | 0.69 |
| 29:Z:161:ILE:O | 29:Z:161:ILE:HG13 | 1.91 | 0.69 |
| 3:3:14:ALA:CB | 3:3:53:VAL:H | 1.86 | 0.69 |
| 5:5:63:G:H2' | 5:5:64:A:C8 | 2.27 | 0.69 |
| 6:A:1137:C:O2' | 6:A:1138:G:N2 | 2.26 | 0.69 |
| 6:A:1169:A:H2' | 6:A:1170:A:C8 | 2.28 | 0.69 |
| 6:A:444:C:N4 | 6:A:445:G:O6 | 2.26 | 0.69 |
| 56:B:113:VAL:HG13 | 56:B:117:THR:OG1 | 1.91 | 0.69 |
| 56:B:190:GLY:O | 56:B:258:ALA:HB3 | 1.93 | 0.69 |
| 56:B:383:LYS:HA | 56:B:402:ILE:HD13 | 1.73 | 0.69 |
| 56:B:406:LEU:CG | 56:B:489:LEU:CD1 | 2.65 | 0.69 |
| 56:B:18:VAL:HA | 57:B:701:GCP:O2G | 1.92 | 0.69 |
| 7:D:1350:C:N3 | 7:D:1382:G:N2 | 2.41 | 0.69 |
| 7:D:2020:A:O2' | 7:D:2021:C:OP1 | 2.11 | 0.69 |
| 7:D:2124:G:H2' | 29:Z:217:THR:HG23 | 1.73 | 0.69 |
| 7:D:2227:A:N6 | 7:D:2228:G:N1 | 2.40 | 0.69 |
| 7:D:230:U:H2' | 7:D:231:C:H6 | 1.57 | 0.69 |
| 7:D:609:A:H2' | 7:D:609(A):G:C8 | 2.27 | 0.69 |
| 9:F:34:ALA:HB3 | 9:F:36:ARG:HH12 | 1.58 | 0.69 |
| 25:V:21:LYS:HZ3 | 25:V:23:LYS:HB3 | 1.56 | 0.69 |
| 6:A:562:C:O2' | 19:P:15:ARG:O | 2.11 | 0.69 |
| 6:A:964:A:H1' | 17:N:55:LYS:HZ2 | 1.58 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 6:A:993:G:O2' | 6:A:994:A:OP1 | 2.11 | 0.69 |
| 56:B:137:LYS:H | 56:B:167:SER:CB | 2.05 | 0.69 |
| 56:B:115:ALA:HB2 | 56:B:474:TYR:CD1 | 2.27 | 0.69 |
| 56:B:169:LYS:CD | 57:B:701:GCP:C2 | 2.70 | 0.69 |
| 7:D:1937:A:O2' | 7:D:1938:A:OP1 | 2.09 | 0.69 |
| 7:D:442:G:C4 | 7:D:444:C:C5 | 2.80 | 0.69 |
| 26:W:40:ILE:CB | 26:W:68:GLY:HA2 | 2.23 | 0.69 |
| 29:Z:66:HIS:C | 29:Z:158:ALA:O | 2.31 | 0.69 |
| 1:I:4:ARG:HA | 1:I:36:GLN:HA | 1.74 | 0.69 |
| 6:A:1014:A:H5'' | 6:A:1015:A:OP2 | 1.92 | 0.69 |
| 6:A:681:C:H42 | 6:A:709:G:H1 | 1.40 | 0.69 |
| 6:A:74:C:H2' | 6:A:75:C:H6 | 1.56 | 0.69 |
| 56:B:25:LEU:HD23 | 56:B:168:GLY:HA2 | 1.74 | 0.69 |
| 56:B:17:HIS:CE1 | 56:B:116:GLU:HG3 | 2.28 | 0.69 |
| 56:B:239:VAL:HG22 | 56:B:240:ASP:N | 2.03 | 0.69 |
| 56:B:352:LEU:HD22 | 56:B:356:ILE:CD1 | 2.23 | 0.69 |
| 56:B:8:ARG:CD | 56:B:74:GLU:HA | 2.23 | 0.69 |
| 7:D:1168:G:C2 | 7:D:1182:A:C2 | 2.81 | 0.69 |
| 7:D:1710:C:H2' | 7:D:1711:C:C6 | 2.28 | 0.69 |
| 7:D:1821:A:N6 | 7:D:1822:G:O6 | 2.25 | 0.69 |
| 7:D:2208:U:H2' | 7:D:2209:C:H5' | 1.74 | 0.69 |
| 7:D:557:U:H2' | 7:D:558:G:H8 | 1.57 | 0.69 |
| 7:D:99:U:H5' | 7:D:101:G:H5'' | 1.73 | 0.69 |
| 17:N:34:VAL:H | 17:N:74:ILE:HG23 | 1.57 | 0.69 |
| 6:A:1164:G:N7 | 6:A:1165:C:C4 | 2.61 | 0.68 |
| 56:B:423:SER:OG | 56:B:470:VAL:HG12 | 1.93 | 0.68 |
| 56:B:497:HIS:CE1 | 56:B:535:VAL:HG22 | 2.27 | 0.68 |
| 56:B:497:HIS:ND1 | 56:B:535:VAL:HG22 | 2.06 | 0.68 |
| 7:D:1480:G:H3' | 7:D:1480:G:N3 | 2.08 | 0.68 |
| 7:D:1789:A:H5'' | 7:D:1790:C:OP2 | 1.93 | 0.68 |
| 12:I:5:ASP:OD2 | 12:I:6:PHE:HB3 | 1.93 | 0.68 |
| 6:A:1372:U:OP2 | 16:M:11:LYS:NZ | 2.25 | 0.68 |
| 56:B:152:VAL:HG22 | 56:B:156:LEU:CD2 | 2.23 | 0.68 |
| 56:B:29:ILE:HD13 | 56:B:177:ILE:CD1 | 2.23 | 0.68 |
| 56:B:497:HIS:ND1 | 56:B:535:VAL:HG13 | 2.07 | 0.68 |
| 7:D:1519:G:H3' | 7:D:1520:U:C6 | 2.28 | 0.68 |
| 7:D:803:U:C2' | 7:D:804:A:H5' | 2.23 | 0.68 |
| 9:F:34:ALA:CB | 9:F:36:ARG:HH12 | 2.07 | 0.68 |
| 11:H:11:LEU:HD13 | 11:H:66:ARG:HD3 | 1.74 | 0.68 |
| 6:A:1152:A:H4' | 17:N:13:HIS:CE1 | 2.27 | 0.68 |
| 20:Q:64:TRP:HA | 20:Q:64:TRP:CE3 | 2.28 | 0.68 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 56:B:230:ILE:HG23 | 56:B:279:THR:HA | 1.75 | 0.68 |
| 56:B:379:LYS:HZ2 | 56:B:407:GLU:C | 1.96 | 0.68 |
| 56:B:490:VAL:HB | 56:B:508:ALA:CA | 2.20 | 0.68 |
| 7:D:1326:U:H6 | 7:D:1326:U:OP2 | 1.75 | 0.68 |
| 7:D:154:G:C6 | 7:D:155:C:N3 | 2.61 | 0.68 |
| 7:D:1417:C:N4 | 7:D:1581:G:H22 | 1.91 | 0.68 |
| 7:D:1652:A:H62 | 7:D:1653:G:H21 | 1.40 | 0.68 |
| 7:D:390:A:O2' | 7:D:391:G:O5' | 2.12 | 0.68 |
| 3:3:121:GLU:HG3 | 3:3:123:ALA:H | 1.57 | 0.68 |
| 6:A:1044:A:N6 | 6:A:1045:C:O2 | 2.27 | 0.68 |
| 6:A:493:G:N2 | 6:A:494:U:O4 | 2.26 | 0.68 |
| 56:B:228:ILE:C | 56:B:229:ARG:HG3 | 2.13 | 0.68 |
| 7:D:1236:G:O2' | 7:D:1237:A:O5' | 2.11 | 0.68 |
| 7:D:2215:G:O2' | 7:D:2216:G:OP2 | 2.09 | 0.68 |
| 7:D:2792:G:H8 | 7:D:2792:G:OP2 | 1.77 | 0.68 |
| 7:D:559:G:C2' | 7:D:560:C:H6 | 2.06 | 0.68 |
| 14:K:24:THR:HG22 | 14:K:28:ASN:HD21 | 1.59 | 0.68 |
| 29:Z:123:VAL:HG13 | 29:Z:127:LEU:HD12 | 1.75 | 0.68 |
| 5:5:17:C:H41 | 7:D:2181:G:H5'' | 1.58 | 0.68 |
| 5:5:17:C:N4 | 7:D:2181:G:H5'' | 2.08 | 0.68 |
| 56:B:584:LEU:O | 56:B:586:ALA:N | 2.22 | 0.68 |
| 56:B:46:LEU:CD1 | 56:B:82:ASP:OD2 | 2.41 | 0.68 |
| 7:D:1043:C:H2' | 7:D:1045:A:OP1 | 1.93 | 0.68 |
| 7:D:1743:G:N3 | 7:D:1746:G:H1' | 2.08 | 0.68 |
| 7:D:150:C:H42 | 7:D:176:G:H1 | 1.40 | 0.68 |
| 7:D:1858:G:O2' | 7:D:1859:A:O4' | 2.12 | 0.68 |
| 7:D:2218:G:H2' | 7:D:2219:G:C8 | 2.29 | 0.68 |
| 7:D:2807:G:N1 | 7:D:2892:A:C5 | 2.61 | 0.68 |
| 6:A:1075:C:H5'' | 9:F:179:LYS:HZ3 | 1.57 | 0.68 |
| 20:Q:96:LEU:HD13 | 20:Q:103:THR:CG2 | 2.17 | 0.68 |
| 3:3:13:PRO:CG | 3:3:16:LYS:NZ | 2.57 | 0.68 |
| 6:A:1034:G:H2' | 6:A:1035:A:H8 | 1.58 | 0.68 |
| 6:A:254:G:O3' | 24:U:69:LYS:NZ | 2.25 | 0.68 |
| 6:A:475:G:H2' | 6:A:476:G:C1' | 2.24 | 0.68 |
| 6:A:33:A:N6 | 6:A:550:G:O6 | 2.26 | 0.68 |
| 6:A:883:C:H5' | 6:A:884:U:OP2 | 1.93 | 0.68 |
| 6:A:90:C:O2' | 6:A:91:C:H5' | 1.94 | 0.68 |
| 56:B:412:LEU:CG | 56:B:479:TYR:CA | 2.52 | 0.68 |
| 7:D:1105:U:H1' | 7:D:1106:G:OP1 | 1.94 | 0.68 |
| 7:D:1460:A:H5' | 7:D:1461:G:OP2 | 1.94 | 0.68 |
| 7:D:1861:G:C2 | 7:D:1882:C:O2 | 2.46 | 0.68 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:1955:U:O2' | 7:D:1956:U:OP1 | 2.09 | 0.68 |
| 7:D:2593:U:H2' | 7:D:2594:C:H6 | 1.58 | 0.68 |
| 7:D:489:G:O2' | 7:D:491:G:OP1 | 2.08 | 0.68 |
| 7:D:558:G:H2' | 7:D:559:G:C8 | 2.28 | 0.68 |
| 25:V:33:ASP:OD2 | 25:V:36:ASN:HB2 | 1.92 | 0.68 |
| 29:Z:63:SER:CB | 29:Z:155:GLU:OE2 | 2.42 | 0.68 |
| 29:Z:68:LEU:O | 29:Z:158:ALA:N | 2.27 | 0.68 |
| 3:3:102:GLU:HA | 3:3:105:LEU:HD12 | 1.74 | 0.68 |
| 6:A:1212:U:O2' | 6:A:1213:A:O4' | 2.11 | 0.68 |
| 6:A:209:U:H4' | 6:A:210:U:O2 | 1.93 | 0.68 |
| 6:A:850:U:C2' | 6:A:851:G:H5' | 2.24 | 0.68 |
| 56:B:360:ARG:CA | 56:B:364:GLU:OE1 | 2.42 | 0.68 |
| 56:B:555:ARG:HG3 | 56:B:577:GLN:CD | 2.14 | 0.68 |
| 7:D:99:U:C5' | 7:D:101:G:H5' | 2.22 | 0.68 |
| 7:D:1716:U:O2 | 7:D:1743:G:O6 | 2.12 | 0.68 |
| 7:D:1743:G:H4' | 7:D:1743:G:OP1 | 1.93 | 0.68 |
| 7:D:1904:G:N2 | 7:D:1905:C:O2 | 2.27 | 0.68 |
| 7:D:2553:G:H5'' | 7:D:2554:U:OP2 | 1.93 | 0.68 |
| 7:D:2580:U:H5'' | 7:D:2581:G:OP2 | 1.93 | 0.68 |
| 7:D:884:C:C5 | 7:D:885:C:N4 | 2.60 | 0.68 |
| 26:W:15:LEU:HD23 | 26:W:33:THR:HG21 | 0.73 | 0.68 |
| 29:Z:20:TYR:HE2 | 29:Z:28:LEU:HD22 | 1.59 | 0.68 |
| 3:3:6:ALA:HB1 | 3:3:59:ILE:CG2 | 2.10 | 0.68 |
| 6:A:1165:C:C2' | 6:A:1166:G:H8 | 1.95 | 0.68 |
| 6:A:1256:A:H5'' | 10:G:27:LYS:HZ2 | 1.59 | 0.68 |
| 6:A:760:G:N1 | 24:U:104:LYS:O | 2.27 | 0.68 |
| 6:A:925:G:O2' | 6:A:927:G:OP1 | 2.12 | 0.68 |
| 56:B:435:LEU:HD13 | 56:B:452:TYR:CZ | 2.29 | 0.68 |
| 56:B:42:ARG:HD3 | 56:B:53:ARG:NH2 | 1.94 | 0.68 |
| 7:D:1189:A:H5'' | 7:D:1190:G:OP2 | 1.93 | 0.68 |
| 7:D:1239:G:N3 | 7:D:1240:U:H1' | 2.09 | 0.68 |
| 7:D:2041:U:O4 | 7:D:2042:A:N6 | 2.26 | 0.68 |
| 7:D:2314:C:H2' | 7:D:2315:G:C8 | 2.28 | 0.68 |
| 11:H:30:LYS:NZ | 11:H:36:ARG:HH12 | 1.90 | 0.68 |
| 6:A:1132:C:H42 | 6:A:1142:G:H1 | 1.41 | 0.68 |
| 6:A:1299:A:N7 | 6:A:1301:U:N3 | 2.42 | 0.68 |
| 6:A:1345:U:H5' | 16:M:120:ARG:HH12 | 1.58 | 0.68 |
| 6:A:851:G:C5 | 6:A:852:G:N7 | 2.61 | 0.68 |
| 56:B:197:LYS:HG3 | 56:B:280:ILE:O | 1.94 | 0.68 |
| 56:B:316:LEU:HD12 | 56:B:342:PHE:CD2 | 2.29 | 0.68 |
| 56:B:414:ILE:CD1 | 56:B:428:LEU:HD11 | 2.24 | 0.68 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 56:B:405:ILE:HA | 56:B:486:PRO:HB3 | 1.76 | 0.68 |
| 56:B:51:LEU:C | 56:B:51:LEU:HD23 | 2.14 | 0.68 |
| 7:D:1095:A:OP2 | 7:D:1096:A:OP2 | 2.12 | 0.68 |
| 7:D:1444:G:N2 | 7:D:1445:C:O2 | 2.26 | 0.68 |
| 7:D:1446:C:H2' | 7:D:1447:G:H8 | 1.59 | 0.68 |
| 7:D:1447:G:C2' | 7:D:1448:G:H5' | 2.23 | 0.68 |
| 7:D:1485:G:N1 | 7:D:1486:A:C5 | 2.61 | 0.68 |
| 7:D:2332:U:H4' | 7:D:2336:A:H62 | 1.59 | 0.68 |
| 7:D:2848:G:N2 | 7:D:2867:G:H1' | 2.06 | 0.68 |
| 7:D:479:A:N6 | 7:D:506:G:H21 | 1.92 | 0.68 |
| 7:D:532:A:H5' | 7:D:533:G:OP2 | 1.92 | 0.68 |
| 11:H:127:THR:OG1 | 11:H:148:VAL:O | 2.12 | 0.68 |
| 26:W:29:ARG:HG2 | 26:W:48:THR:HG21 | 1.74 | 0.68 |
| 6:A:164:U:H2' | 6:A:165:C:C6 | 2.29 | 0.68 |
| 56:B:9:ILE:O | 56:B:10:ARG:HG3 | 1.94 | 0.68 |
| 7:D:288:C:N3 | 7:D:289:A:O2' | 2.27 | 0.68 |
| 7:D:442:G:C6 | 7:D:444:C:N4 | 2.62 | 0.68 |
| 8:E:7:G:O2' | 8:E:8:U:OP1 | 2.11 | 0.68 |
| 13:J:4:TYR:HB3 | 13:J:90:VAL:HG23 | 1.76 | 0.68 |
| 20:Q:71:ARG:HA | 20:Q:75:ALA:HB3 | 1.76 | 0.68 |
| 6:A:323:U:OP1 | 27:X:26:ASN:ND2 | 2.26 | 0.68 |
| 29:Z:66:HIS:O | 29:Z:158:ALA:CB | 2.42 | 0.68 |
| 5:5:4:C:H42 | 5:5:69:G:H1 | 1.41 | 0.67 |
| 6:A:92:G:C6 | 6:A:93:U:N3 | 2.62 | 0.67 |
| 56:B:104:LEU:CD2 | 56:B:181:ILE:HD11 | 2.15 | 0.67 |
| 56:B:191:ASP:CB | 56:B:219:GLU:CB | 2.33 | 0.67 |
| 56:B:300:VAL:CG1 | 56:B:477:MET:CE | 2.71 | 0.67 |
| 56:B:376:VAL:HG12 | 56:B:377:VAL:N | 2.05 | 0.67 |
| 56:B:428:LEU:HD12 | 56:B:452:TYR:CE1 | 2.28 | 0.67 |
| 56:B:497:HIS:CG | 56:B:535:VAL:HG13 | 2.28 | 0.67 |
| 56:B:489:LEU:HA | 56:B:509:HIS:CB | 2.24 | 0.67 |
| 7:D:1087:G:H5'' | 7:D:1088:A:OP2 | 1.94 | 0.67 |
| 7:D:1031:G:N2 | 7:D:1124:C:O2 | 2.27 | 0.67 |
| 7:D:1591:G:O2' | 7:D:1592:C:H5' | 1.93 | 0.67 |
| 7:D:190:A:O2' | 7:D:191:A:O5' | 2.11 | 0.67 |
| 7:D:747:U:O2' | 7:D:748:G:OP1 | 2.10 | 0.67 |
| 7:D:680:G:C4 | 7:D:798:G:N2 | 2.62 | 0.67 |
| 17:N:51:ARG:HH21 | 17:N:61:GLU:HB2 | 1.59 | 0.67 |
| 26:W:36:ARG:CB | 26:W:71:LEU:CB | 2.72 | 0.67 |
| 56:B:174:VAL:HG11 | 56:B:177:ILE:HD11 | 1.75 | 0.67 |
| 56:B:214:TYR:HB2 | 56:B:245:PHE:CZ | 2.29 | 0.67 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 56:B:219:GLU:HA | 56:B:258:ALA:HB2 | 1.75 | 0.67 |
| 56:B:428:LEU:HD13 | 56:B:452:TYR:CG | 2.29 | 0.67 |
| 56:B:532:LEU:HD22 | 56:B:555:ARG:H | 1.59 | 0.67 |
| 56:B:533:PHE:CZ | 56:B:588:GLY:C | 2.65 | 0.67 |
| 56:B:66:VAL:CG2 | 56:B:76:TYR:HE1 | 2.05 | 0.67 |
| 56:B:58:THR:OG1 | 56:B:84:PRO:HG2 | 1.93 | 0.67 |
| 7:D:1143:A:H2' | 7:D:1144:G:C8 | 2.29 | 0.67 |
| 7:D:2115:G:H2' | 7:D:2117:A:N7 | 2.08 | 0.67 |
| 7:D:2211:G:N3 | 7:D:2211:G:H3' | 2.08 | 0.67 |
| 7:D:2305:A:H2' | 7:D:2306:C:H5' | 1.75 | 0.67 |
| 7:D:2490:G:H21 | 7:D:2491:U:H3 | 1.41 | 0.67 |
| 7:D:267:C:OP2 | 7:D:271(A):C:N4 | 2.27 | 0.67 |
| 7:D:926:A:O2' | 7:D:928:G:OP1 | 2.11 | 0.67 |
| 5:5:5:G:H1 | 5:5:68:C:H42 | 1.42 | 0.67 |
| 6:A:1376:U:O4 | 14:K:10:ARG:NH1 | 2.26 | 0.67 |
| 6:A:1452:C:H5'' | 6:A:1453:G:OP1 | 1.95 | 0.67 |
| 6:A:479:C:H6 | 6:A:479:C:O5' | 1.78 | 0.67 |
| 56:B:142:ASN:HD21 | 56:B:144:ARG:CZ | 2.06 | 0.67 |
| 56:B:379:LYS:CA | 56:B:406:LEU:CB | 2.71 | 0.67 |
| 56:B:421:VAL:HG12 | 56:B:425:MET:HG3 | 1.76 | 0.67 |
| 7:D:295:G:H1' | 7:D:344:G:H21 | 1.58 | 0.67 |
| 9:F:118:LEU:HD22 | 9:F:142:LEU:HB2 | 1.77 | 0.67 |
| 11:H:128:VAL:HG21 | 11:H:133:VAL:HB | 1.76 | 0.67 |
| 15:L:11:THR:HG22 | 15:L:14:ARG:HH12 | 1.58 | 0.67 |
| 18:O:21:ILE:HD11 | 18:O:84:VAL:HG12 | 1.77 | 0.67 |
| 6:A:501:C:OP1 | 19:P:117:ARG:NH2 | 2.27 | 0.67 |
| 6:A:754:C:O5' | 22:S:72:ARG:NH1 | 2.25 | 0.67 |
| 26:W:30:LEU:HD13 | 26:W:31:ILE:N | 2.04 | 0.67 |
| 29:Z:155:GLU:O | 29:Z:159:GLY:N | 2.27 | 0.67 |
| 29:Z:156:ILE:CA | 29:Z:160:ARG:HB2 | 2.24 | 0.67 |
| 3:3:77:LEU:O | 3:3:111:LYS:CD | 2.37 | 0.67 |
| 5:5:14:A:H62 | 5:5:15:G:H21 | 1.42 | 0.67 |
| 6:A:1015:A:N3 | 6:A:1218:C:O2' | 2.27 | 0.67 |
| 6:A:932:C:H5'' | 14:K:3:ARG:HG2 | 1.77 | 0.67 |
| 56:B:137:LYS:HG3 | 57:B:701:GCP:C4 | 2.12 | 0.67 |
| 56:B:305:LEU:CD2 | 56:B:358:GLN:HG3 | 2.25 | 0.67 |
| 7:D:1705:G:H5' | 7:D:1706:U:OP2 | 1.95 | 0.67 |
| 7:D:270(U):C:H2' | 7:D:270(V):G:C8 | 2.29 | 0.67 |
| 7:D:279:C:O2' | 7:D:280:C:O5' | 2.12 | 0.67 |
| 9:F:15:VAL:HG23 | 9:F:16:HIS:H | 1.59 | 0.67 |
| 12:I:145:LYS:HA | 12:I:148:VAL:HB | 1.77 | 0.67 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 15:L:41:ARG:HG2 | 15:L:42:GLU:OE2 | 1.94 | 0.67 |
| 16:M:22:GLY:N | 16:M:58:HIS:O | 2.26 | 0.67 |
| 22:S:35:ARG:NH1 | 22:S:59:MET:SD | 2.67 | 0.67 |
| 29:Z:43:VAL:CG2 | 29:Z:175:VAL:HG13 | 2.24 | 0.67 |
| 6:A:1236:A:H4' | 6:A:1304:G:H4' | 1.75 | 0.67 |
| 6:A:1448:C:O5' | 6:A:1448:C:H6 | 1.78 | 0.67 |
| 6:A:372:C:H42 | 6:A:389:A:H62 | 1.40 | 0.67 |
| 6:A:452:A:O2' | 23:T:72:ARG:NH1 | 2.27 | 0.67 |
| 6:A:458:C:H5'' | 6:A:465:A:C6 | 2.29 | 0.67 |
| 6:A:808:C:P | 22:S:48:LYS:NZ | 2.67 | 0.67 |
| 6:A:850:U:H2' | 6:A:851:G:H5' | 1.75 | 0.67 |
| 56:B:17:HIS:HB2 | 56:B:20:HIS:CD2 | 2.29 | 0.67 |
| 19:P:80:HIS:HD2 | 56:B:316:LEU:HG | 1.46 | 0.67 |
| 56:B:378:TYR:CD2 | 56:B:489:LEU:HD13 | 2.27 | 0.67 |
| 7:D:2307:G:H5'' | 7:D:2308:G:C8 | 2.29 | 0.67 |
| 7:D:2808:U:H3 | 7:D:2891:G:H2' | 1.59 | 0.67 |
| 6:A:1227:A:P | 20:Q:94:ARG:NH2 | 2.68 | 0.67 |
| 5:5:28:G:N2 | 5:5:43:C:N3 | 2.42 | 0.67 |
| 6:A:1112:C:O2 | 10:G:178:LEU:N | 2.25 | 0.67 |
| 6:A:218:C:H2' | 6:A:219:C:C5 | 2.29 | 0.67 |
| 6:A:477:G:N3 | 6:A:478:A:C8 | 2.61 | 0.67 |
| 6:A:606:G:H22 | 6:A:631:G:H2' | 1.59 | 0.67 |
| 56:B:118:LEU:HD21 | 56:B:446:LYS:NZ | 2.10 | 0.67 |
| 56:B:79:HIS:CG | 56:B:261:VAL:HG21 | 2.29 | 0.67 |
| 56:B:118:LEU:HD13 | 56:B:446:LYS:HZ3 | 1.56 | 0.67 |
| 7:D:1651:G:H2' | 7:D:1652:A:C8 | 2.29 | 0.67 |
| 7:D:1749:A:C2' | 7:D:1750:G:H8 | 1.88 | 0.67 |
| 7:D:2626:C:H2' | 7:D:2627:G:C8 | 2.30 | 0.67 |
| 7:D:2642:G:H1 | 7:D:2772:C:H42 | 1.42 | 0.67 |
| 7:D:852:G:C6 | 7:D:926:A:C6 | 2.82 | 0.67 |
| 7:D:917:A:H2' | 7:D:918:A:C8 | 2.30 | 0.67 |
| 11:H:141:ARG:HD2 | 11:H:142:PRO:HD2 | 1.76 | 0.67 |
| 20:Q:23:TYR:CD1 | 20:Q:70:LEU:CD2 | 2.74 | 0.67 |
| 29:Z:114:VAL:HG12 | 29:Z:144:THR:HG22 | 1.77 | 0.67 |
| 3:3:103:GLN:HA | 3:3:106:GLU:CD | 2.13 | 0.67 |
| 6:A:1449:C:C4 | 6:A:1455:G:N1 | 2.62 | 0.67 |
| 56:B:233:THR:OG1 | 56:B:235:LYS:HD3 | 1.94 | 0.67 |
| 56:B:221:ARG:HB3 | 56:B:256:LEU:O | 1.92 | 0.67 |
| 56:B:558:VAL:HG23 | 56:B:577:GLN:HE22 | 1.58 | 0.67 |
| 4:4:74:C:C6 | 56:B:569:ARG:NH2 | 2.59 | 0.67 |
| 7:D:1864:U:H6 | 7:D:1864:U:O5' | 1.78 | 0.67 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:1869:G:N1 | 7:D:1878:G:C6 | 2.61 | 0.67 |
| 7:D:301:G:O2' | 7:D:302:C:O4' | 2.10 | 0.67 |
| 9:F:22:LYS:HA | 9:F:40:HIS:HE1 | 1.58 | 0.67 |
| 26:W:41:VAL:HB | 26:W:42:PRO:CD | 2.24 | 0.67 |
| 26:W:70:LYS:N | 26:W:73:GLU:OE2 | 2.28 | 0.67 |
| 6:A:1359:C:O5' | 21:R:35:ARG:NH2 | 2.26 | 0.67 |
| 6:A:575:G:O2' | 6:A:576:G:O5' | 2.12 | 0.67 |
| 6:A:668:G:H1' | 22:S:46:HIS:NE2 | 2.08 | 0.67 |
| 56:B:281:THR:HB | 56:B:286:PRO:HB2 | 1.75 | 0.67 |
| 56:B:537:ILE:CA | 56:B:549:ALA:O | 2.43 | 0.67 |
| 7:D:2602:A:C5 | 56:B:562:CYS:HA | 2.30 | 0.67 |
| 56:B:69:ARG:HH21 | 56:B:178:LEU:CD1 | 2.08 | 0.67 |
| 7:D:1742:C:C4 | 7:D:1743:G:N7 | 2.63 | 0.67 |
| 7:D:1870:C:O5' | 7:D:1870:C:H6 | 1.78 | 0.67 |
| 7:D:2185:C:H2' | 7:D:2186:G:H8 | 1.60 | 0.67 |
| 7:D:475:U:H5'' | 7:D:476:G:OP2 | 1.95 | 0.67 |
| 7:D:84:A:C6 | 7:D:99:U:H1' | 2.30 | 0.67 |
| 6:A:993:G:O6 | 6:A:1045:C:N4 | 2.28 | 0.67 |
| 6:A:1309:G:C2 | 6:A:1329:A:C8 | 2.76 | 0.67 |
| 6:A:782:A:H62 | 6:A:800:G:H21 | 1.42 | 0.67 |
| 6:A:818:G:O2' | 6:A:819:A:OP1 | 2.12 | 0.67 |
| 56:B:231:TYR:CE2 | 56:B:290:PRO:HB3 | 2.30 | 0.67 |
| 56:B:306:TYR:CZ | 56:B:339:ALA:O | 2.48 | 0.67 |
| 56:B:378:TYR:CG | 56:B:406:LEU:CD1 | 2.77 | 0.67 |
| 56:B:420:TYR:O | 56:B:424:LEU:HD12 | 1.95 | 0.67 |
| 7:D:1059:G:O6 | 7:D:1081:U:C2 | 2.47 | 0.67 |
| 7:D:489:G:C5 | 7:D:1284:A:C2 | 2.54 | 0.67 |
| 7:D:1417:C:H42 | 7:D:1581:G:H22 | 1.42 | 0.67 |
| 7:D:1749:A:C2' | 7:D:1750:G:H5' | 2.23 | 0.67 |
| 7:D:2105:C:O2' | 7:D:2106:G:H5' | 1.95 | 0.67 |
| 7:D:38:A:O2' | 7:D:39:C:H5' | 1.95 | 0.67 |
| 7:D:44:A:O2' | 7:D:45:G:H5' | 1.95 | 0.67 |
| 9:F:208:ILE:HA | 9:F:211:ILE:HD12 | 1.77 | 0.67 |
| 29:Z:61:THR:HB | 29:Z:162:GLU:CG | 2.20 | 0.67 |
| 3:3:10:LEU:CD1 | 3:3:57:ILE:HD13 | 2.11 | 0.67 |
| 6:A:1268:A:N7 | 6:A:1269:A:N6 | 2.43 | 0.67 |
| 6:A:1447:G:C5 | 6:A:1448:C:C4 | 2.82 | 0.67 |
| 56:B:200:ILE:HD12 | 56:B:278:ASP:O | 1.95 | 0.67 |
| 56:B:327:ASP:O | 56:B:329:ALA:N | 2.28 | 0.67 |
| 56:B:388:VAL:HG12 | 56:B:390:VAL:H | 1.58 | 0.67 |
| 56:B:415:PHE:O | 56:B:475:ALA:CB | 2.43 | 0.67 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 56:B:78:PHE:CZ | 56:B:182:VAL:HG23 | 2.24 | 0.67 |
| 56:B:81:ILE:O | 56:B:83:THR:N | 2.27 | 0.67 |
| 7:D:99:U:C4' | 7:D:101:G:H5' | 2.24 | 0.67 |
| 7:D:1726:G:O6 | 7:D:1734:C:N3 | 2.28 | 0.67 |
| 7:D:725:G:O6 | 7:D:726:G:N2 | 2.28 | 0.67 |
| 7:D:90:U:O2' | 7:D:91:A:H8 | 1.78 | 0.67 |
| 6:A:1308:U:OP2 | 20:Q:97:PRO:HG3 | 1.95 | 0.67 |
| 6:A:1015:A:OP1 | 26:W:18:LYS:HD3 | 1.94 | 0.67 |
| 3:3:10:LEU:CD2 | 3:3:57:ILE:HD11 | 2.25 | 0.66 |
| 6:A:1171:G:O2' | 6:A:1172:C:H5' | 1.95 | 0.66 |
| 6:A:1327:C:H5' | 28:Y:21:TYR:HE1 | 1.58 | 0.66 |
| 6:A:456:C:N3 | 6:A:477:G:N1 | 2.44 | 0.66 |
| 6:A:478:A:H2' | 6:A:479:C:C5 | 2.30 | 0.66 |
| 6:A:836:G:C5 | 6:A:851:G:C2 | 2.83 | 0.66 |
| 6:A:959:A:HO2' | 6:A:984:C:HO2' | 1.43 | 0.66 |
| 7:D:1364:G:OP2 | 7:D:1364:G:H8 | 1.75 | 0.66 |
| 7:D:1859:A:N1 | 7:D:1884:A:O2' | 2.27 | 0.66 |
| 7:D:1956:U:O4 | 7:D:1957:C:N4 | 2.29 | 0.66 |
| 7:D:864:G:N2 | 7:D:865:C:O2 | 2.28 | 0.66 |
| 9:F:35:GLU:OE2 | 9:F:38:GLY:N | 2.28 | 0.66 |
| 10:G:20:SER:OG | 10:G:22:TRP:NE1 | 2.28 | 0.66 |
| 20:Q:74:VAL:O | 20:Q:78:ILE:HG13 | 1.94 | 0.66 |
| 29:Z:38:ASP:CG | 29:Z:178:ALA:HB3 | 2.13 | 0.66 |
| 5:5:51:U:O2 | 5:5:63:G:N2 | 2.23 | 0.66 |
| 6:A:279:A:OP2 | 24:U:95:TYR:OH | 2.12 | 0.66 |
| 6:A:401:C:OP2 | 11:H:73:ARG:NH2 | 2.29 | 0.66 |
| 6:A:47:C:O4' | 6:A:365:U:N3 | 2.29 | 0.66 |
| 6:A:553:A:O2' | 19:P:29:GLY:O | 2.12 | 0.66 |
| 6:A:659:U:OP1 | 22:S:9:GLN:NE2 | 2.29 | 0.66 |
| 19:P:80:HIS:CB | 56:B:342:PHE:CZ | 2.58 | 0.66 |
| 56:B:417:PRO:HB3 | 56:B:447:ARG:N | 2.09 | 0.66 |
| 56:B:558:VAL:HG12 | 56:B:573:LEU:HB3 | 1.78 | 0.66 |
| 56:B:23:SER:N | 57:B:701:GCP:O2A | 2.26 | 0.66 |
| 7:D:1168:G:H1 | 7:D:1181:C:H42 | 1.43 | 0.66 |
| 7:D:2194:G:N1 | 7:D:2195:C:C4 | 2.63 | 0.66 |
| 7:D:878:A:O2' | 7:D:899:A:N1 | 2.27 | 0.66 |
| 7:D:873:G:O6 | 7:D:904:C:N4 | 2.28 | 0.66 |
| 15:L:122:ARG:HA | 15:L:125:ARG:HH11 | 1.56 | 0.66 |
| 26:W:34:TRP:HA | 26:W:36:ARG:NE | 2.09 | 0.66 |
| 6:A:1240:U:OP2 | 14:K:116:ALA:N | 2.28 | 0.66 |
| 6:A:216:G:C2' | 6:A:217:C:C6 | 2.74 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 6:A:217:C:O2' | 6:A:218:C:H5' | 1.95 | 0.66 |
| 6:A:456:C:C4 | 6:A:477:G:N1 | 2.63 | 0.66 |
| 6:A:80:G:N2 | 6:A:89:U:O2 | 2.29 | 0.66 |
| 56:B:104:LEU:HD21 | 56:B:181:ILE:HD13 | 1.74 | 0.66 |
| 56:B:242:VAL:CB | 56:B:256:LEU:HD21 | 2.21 | 0.66 |
| 56:B:9:ILE:HG23 | 56:B:77:VAL:CA | 2.24 | 0.66 |
| 7:D:152:G:H2' | 7:D:153:C:H5' | 1.75 | 0.66 |
| 7:D:607:U:H5' | 7:D:608:A:OP2 | 1.95 | 0.66 |
| 7:D:687:C:N4 | 7:D:774:A:H61 | 1.93 | 0.66 |
| 6:A:939:G:H5'' | 14:K:102:ARG:NH1 | 2.09 | 0.66 |
| 20:Q:64:TRP:HA | 20:Q:64:TRP:HE3 | 1.60 | 0.66 |
| 6:A:478:A:H2' | 6:A:479:C:C6 | 2.30 | 0.66 |
| 56:B:191:ASP:HB2 | 56:B:218:PHE:O | 1.96 | 0.66 |
| 56:B:379:LYS:CD | 56:B:406:LEU:HA | 2.25 | 0.66 |
| 56:B:502:ASP:OD2 | 56:B:504:LEU:HD12 | 1.96 | 0.66 |
| 7:D:1080:C:H2' | 7:D:1081:U:C6 | 2.30 | 0.66 |
| 7:D:2139:C:H2' | 7:D:2140:C:O4' | 1.94 | 0.66 |
| 7:D:602:G:HO2' | 7:D:603:A:P | 2.14 | 0.66 |
| 9:F:47:THR:O | 9:F:51:LEU:HG | 1.95 | 0.66 |
| 11:H:3:ARG:HG3 | 11:H:118:ARG:NH1 | 2.11 | 0.66 |
| 29:Z:155:GLU:HB2 | 29:Z:160:ARG:HA | 1.78 | 0.66 |
| 3:3:88:ALA:O | 7:D:1064:C:O2' | 2.12 | 0.66 |
| 6:A:198:G:H21 | 6:A:199:G:H1' | 1.58 | 0.66 |
| 6:A:454:C:H5'' | 6:A:455:C:H5 | 1.56 | 0.66 |
| 6:A:485:G:H4' | 6:A:485:G:OP2 | 1.89 | 0.66 |
| 6:A:505:G:H5' | 6:A:534:U:H2' | 1.76 | 0.66 |
| 6:A:615:C:H2' | 6:A:616:G:C8 | 2.31 | 0.66 |
| 56:B:227:ARG:H | 56:B:227:ARG:HD3 | 1.60 | 0.66 |
| 56:B:308:VAL:CG2 | 56:B:370:ILE:HG12 | 2.25 | 0.66 |
| 56:B:435:LEU:CD1 | 56:B:452:TYR:CE1 | 2.79 | 0.66 |
| 3:3:11:GLN:O | 7:D:1070:A:N6 | 2.28 | 0.66 |
| 7:D:1492:G:N3 | 7:D:1493:C:N4 | 2.43 | 0.66 |
| 7:D:2168:G:O2' | 7:D:2169:A:N7 | 2.24 | 0.66 |
| 7:D:246:C:N4 | 7:D:247:G:O6 | 2.29 | 0.66 |
| 7:D:35:G:O6 | 7:D:446:G:N2 | 2.29 | 0.66 |
| 7:D:89:G:C4 | 7:D:90:U:H5 | 2.13 | 0.66 |
| 3:3:56:GLU:OE1 | 3:3:70:LYS:CG | 2.44 | 0.66 |
| 6:A:590:C:H2' | 6:A:591:U:H6 | 1.61 | 0.66 |
| 56:B:240:ASP:CG | 56:B:266:ALA:HB1 | 2.16 | 0.66 |
| 56:B:64:VAL:HG21 | 56:B:80:LEU:CA | 2.26 | 0.66 |
| 56:B:80:LEU:HD22 | 56:B:82:ASP:OD1 | 1.96 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:1593:G:H2' | 7:D:1594:G:C8 | 2.27 | 0.66 |
| 7:D:107:C:H4' | 7:D:293:U:H1' | 1.78 | 0.66 |
| 7:D:571:A:N6 | 7:D:575:A:C5 | 2.64 | 0.66 |
| 7:D:668:G:H2' | 7:D:670:A:H62 | 1.60 | 0.66 |
| 6:A:1447:G:N1 | 6:A:1460:A:C6 | 2.63 | 0.66 |
| 6:A:1512:U:H2' | 6:A:1513:A:C8 | 2.30 | 0.66 |
| 6:A:261:U:C5 | 27:X:79:ARG:NH1 | 2.64 | 0.66 |
| 6:A:372:C:H1' | 6:A:373:A:OP2 | 1.95 | 0.66 |
| 6:A:714:G:H2' | 6:A:715:A:H8 | 1.60 | 0.66 |
| 56:B:151:GLU:O | 56:B:155:VAL:CA | 2.44 | 0.66 |
| 56:B:281:THR:CG2 | 56:B:287:THR:CG2 | 2.73 | 0.66 |
| 56:B:327:ASP:HB3 | 56:B:353:HIS:NE2 | 2.10 | 0.66 |
| 56:B:306:TYR:CE1 | 56:B:339:ALA:HB3 | 2.31 | 0.66 |
| 56:B:409:TYR:OH | 56:B:432:ARG:CD | 2.43 | 0.66 |
| 7:D:1063:G:N1 | 7:D:1064:C:N4 | 2.41 | 0.66 |
| 7:D:1869:G:N2 | 7:D:1878:G:C5 | 2.63 | 0.66 |
| 7:D:2154:G:H2' | 7:D:2155:G:H8 | 1.61 | 0.66 |
| 7:D:2197:U:O5' | 7:D:2197:U:H6 | 1.79 | 0.66 |
| 7:D:2301:C:H42 | 7:D:2315:G:H1 | 1.42 | 0.66 |
| 7:D:2793:G:N2 | 7:D:2803:C:C4 | 2.64 | 0.66 |
| 7:D:298:G:N2 | 7:D:340:A:OP2 | 2.26 | 0.66 |
| 6:A:195:A:H4' | 27:X:68:LYS:NZ | 2.10 | 0.66 |
| 6:A:219:C:O5' | 6:A:219:C:H6 | 1.78 | 0.66 |
| 6:A:69:G:O6 | 6:A:101:A:N1 | 2.29 | 0.66 |
| 6:A:8:A:H2' | 6:A:8:A:OP2 | 1.96 | 0.66 |
| 56:B:12:PHE:CB | 56:B:102:GLY:O | 2.44 | 0.66 |
| 56:B:506:PHE:HZ | 56:B:520:ILE:CG2 | 2.07 | 0.66 |
| 7:D:1180:C:H2' | 7:D:1181:C:C6 | 2.31 | 0.66 |
| 7:D:1579:A:N7 | 7:D:1580:A:N3 | 2.44 | 0.66 |
| 7:D:2194:G:N1 | 7:D:2195:C:N4 | 2.44 | 0.66 |
| 7:D:2893:G:O2' | 7:D:2895:U:OP2 | 2.14 | 0.66 |
| 10:G:130:VAL:HG11 | 10:G:157:ILE:HD12 | 1.78 | 0.66 |
| 6:A:1227:A:OP2 | 20:Q:111:LYS:NZ | 2.29 | 0.66 |
| 29:Z:38:ASP:CA | 29:Z:177:LYS:CE | 2.66 | 0.66 |
| 6:A:1235:U:H2' | 6:A:1236:A:H8 | 1.61 | 0.66 |
| 6:A:1320:C:O2 | 20:Q:87:TYR:CD2 | 2.49 | 0.66 |
| 6:A:1449:C:C2 | 6:A:1455:G:C2 | 2.84 | 0.66 |
| 6:A:152:A:N6 | 6:A:169:C:N3 | 2.43 | 0.66 |
| 6:A:457:C:N3 | 6:A:476:G:N1 | 2.43 | 0.66 |
| 56:B:324:LYS:C | 56:B:325:LEU:HG | 2.16 | 0.66 |
| 7:D:1047:G:O6 | 7:D:1110:G:C6 | 2.48 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 7:D:1448:G:O3' | 7:D:1543:A:N6 | 2.28 | 0.66 |
| 7:D:1571:A:N3 | 7:D:1571:A:H2' | 2.11 | 0.66 |
| 7:D:1706:U:H5 | 7:D:1757:U:OP2 | 1.79 | 0.66 |
| 7:D:2887:U:H2' | 7:D:2888:C:H5' | 1.76 | 0.66 |
| 7:D:40:C:H2' | 7:D:41:C:C6 | 2.31 | 0.66 |
| 7:D:650:C:OP1 | 7:D:650:C:H4' | 1.96 | 0.66 |
| 19:P:28:LYS:HD2 | 19:P:33:ARG:HH22 | 1.60 | 0.66 |
| 26:W:5:LEU:HG | 26:W:6:LYS:H | 1.61 | 0.66 |
| 29:Z:65:PRO:HG2 | 29:Z:154:ARG:NH1 | 2.11 | 0.66 |
| 4:4:7:G:OP1 | 4:4:16:C:N4 | 2.28 | 0.66 |
| 6:A:1447:G:H2' | 6:A:1448:C:C6 | 2.31 | 0.66 |
| 6:A:196:A:O2' | 6:A:197:A:OP1 | 2.11 | 0.66 |
| 6:A:793:U:H4' | 6:A:794:A:OP2 | 1.95 | 0.66 |
| 6:A:851:G:C4 | 6:A:852:G:C8 | 2.84 | 0.66 |
| 6:A:872:A:O2' | 6:A:873:A:O5' | 2.14 | 0.66 |
| 56:B:99:ALA:O | 56:B:216:ARG:CD | 2.43 | 0.66 |
| 56:B:118:LEU:CD1 | 56:B:446:LYS:HE3 | 2.24 | 0.66 |
| 3:3:25:PRO:HG2 | 7:D:1095:A:C2 | 2.30 | 0.66 |
| 7:D:1480:G:P | 7:D:1559:G:C6 | 2.89 | 0.66 |
| 7:D:1489:U:O2' | 7:D:1490:A:OP1 | 2.14 | 0.66 |
| 7:D:49:A:N6 | 7:D:176:G:N7 | 2.44 | 0.66 |
| 7:D:2175:C:O2 | 29:Z:215:THR:OG1 | 2.13 | 0.66 |
| 7:D:2519:U:O2' | 7:D:2520:C:O5' | 2.14 | 0.66 |
| 7:D:40:C:O5' | 7:D:40:C:H6 | 1.79 | 0.66 |
| 7:D:926:A:H2' | 7:D:928:G:C8 | 2.31 | 0.66 |
| 9:F:87:ARG:NH2 | 9:F:220:ASP:OD1 | 2.26 | 0.66 |
| 17:N:13:HIS:ND1 | 17:N:17:ASP:OD2 | 2.28 | 0.66 |
| 29:Z:43:VAL:HG23 | 29:Z:175:VAL:CG1 | 2.26 | 0.66 |
| 6:A:1442:G:H5'' | 6:A:1442:G:N3 | 2.11 | 0.65 |
| 56:B:11:ASN:OD1 | 56:B:79:HIS:CG | 2.48 | 0.65 |
| 56:B:231:TYR:H | 56:B:280:ILE:HG21 | 1.60 | 0.65 |
| 56:B:242:VAL:HA | 56:B:264:LEU:HD12 | 1.78 | 0.65 |
| 56:B:137:LYS:CA | 57:B:701:GCP:O6 | 2.44 | 0.65 |
| 7:D:1424:G:N1 | 7:D:1574:C:O2 | 2.29 | 0.65 |
| 7:D:1475:G:H21 | 7:D:1476:C:H5'' | 1.60 | 0.65 |
| 7:D:43:G:C8 | 7:D:44:A:N7 | 2.64 | 0.65 |
| 7:D:558:G:H8 | 7:D:558:G:O5' | 1.79 | 0.65 |
| 6:A:619:U:H4' | 11:H:131:ARG:NH2 | 2.11 | 0.65 |
| 26:W:15:LEU:HD22 | 26:W:15:LEU:O | 1.94 | 0.65 |
| 6:A:1320:C:C4 | 26:W:36:ARG:HD2 | 2.31 | 0.65 |
| 3:3:19:PRO:O | 3:3:22:PRO:HD2 | 1.95 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 5:5:68:C:H2' | 5:5:69:G:C8 | 2.30 | 0.65 |
| 6:A:266:G:O2' | 6:A:267:C:O5' | 2.14 | 0.65 |
| 6:A:445:G:O2' | 6:A:446:G:H5' | 1.96 | 0.65 |
| 56:B:221:ARG:HG2 | 56:B:257:GLU:CA | 2.26 | 0.65 |
| 56:B:322:LYS:HG2 | 56:B:331:THR:CG2 | 2.11 | 0.65 |
| 56:B:455:PRO:HG2 | 56:B:458:GLU:CG | 2.26 | 0.65 |
| 56:B:489:LEU:HD22 | 56:B:507:ILE:CG2 | 2.25 | 0.65 |
| 7:D:455:C:O2' | 7:D:456:C:OP1 | 2.08 | 0.65 |
| 7:D:536:A:C2 | 7:D:558:G:C2 | 2.84 | 0.65 |
| 7:D:940:G:H2' | 7:D:941:A:O4' | 1.96 | 0.65 |
| 22:S:10:LYS:O | 22:S:14:GLU:HG3 | 1.96 | 0.65 |
| 26:W:32:LYS:HD2 | 26:W:32:LYS:H | 1.61 | 0.65 |
| 3:3:10:LEU:CG | 3:3:57:ILE:HG13 | 2.18 | 0.65 |
| 4:4:71:C:H2' | 4:4:72:A:H8 | 1.61 | 0.65 |
| 56:B:121:PHE:HZ | 56:B:157:GLY:HA3 | 0.89 | 0.65 |
| 56:B:327:ASP:HB3 | 56:B:353:HIS:CE1 | 2.32 | 0.65 |
| 56:B:382:LEU:HB3 | 56:B:386:GLU:HB2 | 1.78 | 0.65 |
| 56:B:521:VAL:O | 56:B:523:LYS:N | 2.29 | 0.65 |
| 56:B:88:ASP:OD2 | 56:B:352:LEU:HB2 | 1.96 | 0.65 |
| 7:D:2791:C:C5 | 7:D:2892:A:N7 | 2.65 | 0.65 |
| 7:D:535:C:N3 | 7:D:559:G:N1 | 2.45 | 0.65 |
| 7:D:774:A:H1' | 7:D:775:G:C8 | 2.31 | 0.65 |
| 7:D:932:G:OP1 | 7:D:932:G:H4' | 1.93 | 0.65 |
| 9:F:21:ARG:O | 9:F:40:HIS:ND1 | 2.29 | 0.65 |
| 29:Z:152:ILE:HG22 | 29:Z:160:ARG:NH1 | 2.12 | 0.65 |
| 6:A:1101:A:N6 | 9:F:176:GLU:OE1 | 2.28 | 0.65 |
| 56:B:200:ILE:CG2 | 56:B:213:PRO:HB2 | 2.27 | 0.65 |
| 56:B:322:LYS:CD | 56:B:323:LEU:H | 1.93 | 0.65 |
| 56:B:332:PHE:CD1 | 56:B:333:GLU:HB2 | 2.31 | 0.65 |
| 56:B:68:TYR:HD2 | 56:B:75:GLU:HG3 | 1.53 | 0.65 |
| 3:3:126:MET:HG3 | 7:D:1059:G:C4 | 2.30 | 0.65 |
| 7:D:1860:G:H2' | 7:D:1861:G:C8 | 2.32 | 0.65 |
| 7:D:1862:G:C2 | 7:D:1863:G:C5 | 2.84 | 0.65 |
| 7:D:704:G:H2' | 7:D:726:G:H22 | 1.60 | 0.65 |
| 15:L:11:THR:O | 15:L:15:ASN:ND2 | 2.29 | 0.65 |
| 12:I:151:LEU:HD21 | 15:L:67:PRO:HD3 | 1.79 | 0.65 |
| 24:U:60:ILE:HD11 | 24:U:72:ARG:HB2 | 1.77 | 0.65 |
| 3:3:66:THR:O | 3:3:67:PHE:HB2 | 1.96 | 0.65 |
| 56:B:65:ARG:HG2 | 56:B:245:PHE:C | 2.17 | 0.65 |
| 56:B:531:GLN:OE1 | 56:B:584:LEU:HD13 | 1.97 | 0.65 |
| 7:D:1342:A:OP2 | 7:D:1342:A:H8 | 1.78 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 7:D:1457:A:N6 | 7:D:2703:C:N4 | 2.43 | 0.65 |
| 7:D:1641:A:H5' | 7:D:1642:G:OP2 | 1.95 | 0.65 |
| 7:D:1651:G:H2' | 7:D:1652:A:H8 | 1.62 | 0.65 |
| 14:K:37:ASN:OD1 | 14:K:38:LEU:N | 2.28 | 0.65 |
| 20:Q:96:LEU:HD22 | 20:Q:101:GLN:CG | 2.26 | 0.65 |
| 29:Z:40:THR:O | 29:Z:216:THR:HA | 1.97 | 0.65 |
| 6:A:538:G:OP2 | 19:P:113:ARG:NH1 | 2.30 | 0.65 |
| 6:A:75:C:C4 | 6:A:96:G:N1 | 2.65 | 0.65 |
| 56:B:177:ILE:HG23 | 56:B:181:ILE:CD1 | 2.11 | 0.65 |
| 56:B:43:GLU:CA | 56:B:53:ARG:HH22 | 2.10 | 0.65 |
| 7:D:1061:U:O4' | 7:D:1070:A:H4' | 1.96 | 0.65 |
| 7:D:10:G:H2' | 7:D:11:G:C8 | 2.32 | 0.65 |
| 7:D:2711:A:H5'' | 7:D:2712:U:H5' | 1.79 | 0.65 |
| 7:D:2715:C:H2' | 7:D:2716:U:C6 | 2.31 | 0.65 |
| 7:D:2808:U:C4 | 7:D:2891:G:C4 | 2.85 | 0.65 |
| 9:F:238:LEU:HD23 | 9:F:239:VAL:HG23 | 1.78 | 0.65 |
| 10:G:21:ARG:HD2 | 10:G:58:GLU:OE2 | 1.96 | 0.65 |
| 26:W:15:LEU:C | 26:W:15:LEU:HD13 | 2.17 | 0.65 |
| 26:W:11:VAL:CG1 | 26:W:40:ILE:CA | 2.68 | 0.65 |
| 27:X:59:ALA:HB1 | 27:X:84:LEU:HD21 | 1.79 | 0.65 |
| 56:B:488:ASP:O | 56:B:509:HIS:HA | 1.97 | 0.65 |
| 56:B:530:ARG:O | 56:B:532:LEU:N | 2.30 | 0.65 |
| 7:D:1062:G:H1' | 7:D:1063:G:O5' | 1.97 | 0.65 |
| 7:D:2184:G:C6 | 7:D:2185:C:C4 | 2.84 | 0.65 |
| 7:D:556:G:H2' | 7:D:557:U:C6 | 2.30 | 0.65 |
| 7:D:855:G:H2' | 7:D:856:C:H6 | 1.62 | 0.65 |
| 7:D:858:U:O2 | 7:D:920:G:N2 | 2.29 | 0.65 |
| 16:M:51:ARG:HH12 | 16:M:56:LEU:HD12 | 1.60 | 0.65 |
| 6:A:1095:U:OP1 | 6:A:1108:G:N1 | 2.27 | 0.65 |
| 6:A:62:U:O2' | 6:A:379:C:O2 | 2.14 | 0.65 |
| 6:A:547:A:O2' | 6:A:548:G:O5' | 2.15 | 0.65 |
| 56:B:225:GLY:HA2 | 56:B:238:THR:O | 1.96 | 0.65 |
| 56:B:237:PHE:O | 56:B:267:ALA:CB | 2.45 | 0.65 |
| 56:B:520:ILE:HD13 | 56:B:520:ILE:C | 2.17 | 0.65 |
| 56:B:492:VAL:CA | 56:B:541:ILE:CG1 | 2.74 | 0.65 |
| 56:B:74:GLU:H | 56:B:74:GLU:CD | 1.99 | 0.65 |
| 7:D:1250:G:H4' | 7:D:1251:C:OP2 | 1.95 | 0.65 |
| 7:D:1952:A:N6 | 7:D:1953:A:N1 | 2.45 | 0.65 |
| 7:D:407:G:N2 | 7:D:421:U:O2 | 2.29 | 0.65 |
| 7:D:741:G:N1 | 7:D:757:U:O2 | 2.30 | 0.65 |
| 7:D:922:U:H2' | 7:D:923:C:C6 | 2.32 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 9:F:17:PHE:HB3 | 9:F:44:LEU:HD21 | 1.78 | 0.65 |
| 15:L:45:ILE:HD13 | 15:L:61:VAL:HG13 | 1.77 | 0.65 |
| 19:P:80:HIS:HB2 | 56:B:342:PHE:CE1 | 2.31 | 0.65 |
| 6:A:101:A:H2' | 6:A:102:G:H5' | 1.77 | 0.65 |
| 6:A:1454:G:C6 | 6:A:1455:G:N7 | 2.64 | 0.65 |
| 6:A:1463:C:H2' | 6:A:1464:G:H8 | 1.61 | 0.65 |
| 6:A:29:G:H1 | 6:A:554:C:H42 | 1.45 | 0.65 |
| 6:A:373:A:H61 | 6:A:391:G:H1' | 1.60 | 0.65 |
| 6:A:37:U:H3 | 6:A:397:A:H61 | 1.44 | 0.65 |
| 6:A:443:C:C4 | 6:A:492:G:N1 | 2.65 | 0.65 |
| 6:A:817:C:H1' | 6:A:819:A:H5' | 1.77 | 0.65 |
| 56:B:188:PRO:C | 56:B:189:LYS:HG3 | 2.17 | 0.65 |
| 56:B:240:ASP:OD2 | 56:B:266:ALA:HB2 | 1.95 | 0.65 |
| 56:B:386:GLU:OE1 | 56:B:401:ARG:CG | 2.45 | 0.65 |
| 56:B:531:GLN:OE1 | 56:B:532:LEU:HG | 1.97 | 0.65 |
| 7:D:1152:C:H2' | 7:D:1153:C:C6 | 2.32 | 0.65 |
| 7:D:1157:G:OP2 | 7:D:1158:C:OP2 | 2.15 | 0.65 |
| 7:D:1968:G:O2' | 7:D:1969:A:O4' | 2.14 | 0.65 |
| 7:D:283:A:H3' | 7:D:284:U:C6 | 2.31 | 0.65 |
| 7:D:366:C:H2' | 7:D:370:G:H5'' | 1.79 | 0.65 |
| 7:D:519:U:H2' | 7:D:520:G:H8 | 1.61 | 0.65 |
| 7:D:680:G:C2 | 7:D:681:G:C4 | 2.85 | 0.65 |
| 12:I:15:ARG:HD2 | 12:I:26:PHE:CE1 | 2.32 | 0.65 |
| 15:L:119:LEU:HD21 | 15:L:127:LEU:HD13 | 1.79 | 0.65 |
| 3:3:128:ALA:O | 7:D:1079:C:O2' | 2.11 | 0.65 |
| 3:3:36:GLU:HA | 3:3:38:VAL:HG23 | 1.79 | 0.65 |
| 6:A:1130:A:N6 | 6:A:1131:G:O6 | 2.29 | 0.65 |
| 6:A:713:G:H2' | 6:A:714:G:C8 | 2.32 | 0.65 |
| 56:B:306:TYR:OH | 56:B:339:ALA:C | 2.35 | 0.65 |
| 56:B:410:VAL:CG1 | 56:B:480:GLU:N | 2.53 | 0.65 |
| 7:D:1045:A:O3' | 7:D:1046:A:H4' | 1.97 | 0.65 |
| 7:D:1084:A:O2' | 7:D:1106:G:C8 | 2.47 | 0.65 |
| 7:D:1314:C:N4 | 7:D:1315:C:N3 | 2.44 | 0.65 |
| 7:D:1448:G:H1 | 7:D:1463:C:H42 | 1.45 | 0.65 |
| 7:D:1664:A:P | 7:D:1664:A:C8 | 2.90 | 0.65 |
| 7:D:1869:G:H2' | 7:D:1871:A:N7 | 2.12 | 0.65 |
| 7:D:2099:U:H2' | 7:D:2100:G:C8 | 2.32 | 0.65 |
| 7:D:609(A):G:N1 | 7:D:618(A):C:N3 | 2.41 | 0.65 |
| 7:D:880:G:H2' | 7:D:881:G:H4' | 1.78 | 0.65 |
| 8:E:56:G:O2' | 8:E:57:A:OP2 | 2.14 | 0.65 |
| 10:G:191:THR:OG1 | 10:G:194:GLY:O | 2.15 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 11:H:185:PHE:HZ | 11:H:188:LEU:HA | 1.60 | 0.65 |
| 23:T:8:ARG:HD3 | 23:T:17:TYR:HE1 | 1.60 | 0.65 |
| 25:V:22:VAL:N | 25:V:55:ARG:HH12 | 1.94 | 0.65 |
| 29:Z:177:LYS:N | 29:Z:180:PHE:HD2 | 1.95 | 0.65 |
| 6:A:1178:G:H22 | 6:A:1181:G:H5'' | 1.62 | 0.64 |
| 6:A:209:U:H4' | 6:A:210:U:O5' | 1.97 | 0.64 |
| 6:A:96:G:C6 | 6:A:97:U:N3 | 2.65 | 0.64 |
| 56:B:34:HIS:CE1 | 56:B:67:THR:HG22 | 2.32 | 0.64 |
| 7:D:1241:A:C4 | 7:D:1241:A:OP2 | 2.50 | 0.64 |
| 7:D:1450:C:H2' | 7:D:1451:C:O4' | 1.97 | 0.64 |
| 7:D:1742:C:N4 | 7:D:1743:G:N7 | 2.44 | 0.64 |
| 7:D:49:A:C6 | 7:D:177:G:C5 | 2.85 | 0.64 |
| 7:D:2629:A:H5' | 7:D:2895:U:O2 | 1.96 | 0.64 |
| 7:D:270(D):C:H2' | 7:D:270(E):G:H8 | 1.62 | 0.64 |
| 7:D:279:C:N4 | 7:D:361:G:O6 | 2.30 | 0.64 |
| 24:U:5:VAL:HG22 | 24:U:60:ILE:HG22 | 1.79 | 0.64 |
| 6:A:1320:C:C5 | 26:W:36:ARG:CG | 2.69 | 0.64 |
| 56:B:242:VAL:CG1 | 56:B:256:LEU:CD1 | 2.75 | 0.64 |
| 56:B:360:ARG:CB | 56:B:364:GLU:OE1 | 2.44 | 0.64 |
| 7:D:1676:A:N6 | 7:D:1677:A:N1 | 2.44 | 0.64 |
| 7:D:2302:G:H2' | 7:D:2303:G:H8 | 1.62 | 0.64 |
| 7:D:2500:U:O2' | 7:D:2504:U:OP1 | 2.13 | 0.64 |
| 7:D:370:G:N3 | 7:D:370:G:H2' | 2.10 | 0.64 |
| 11:H:39:PRO:O | 11:H:44:GLY:HA3 | 1.98 | 0.64 |
| 20:Q:102:ARG:O | 20:Q:103:THR:OG1 | 2.15 | 0.64 |
| 22:S:76:GLU:HA | 22:S:79:ARG:NH2 | 2.11 | 0.64 |
| 26:W:40:ILE:HG22 | 26:W:67:VAL:CG2 | 2.07 | 0.64 |
| 26:W:5:LEU:HD12 | 26:W:6:LYS:CB | 2.28 | 0.64 |
| 29:Z:149:ILE:O | 29:Z:153:ILE:HG13 | 1.96 | 0.64 |
| 29:Z:38:ASP:HB3 | 29:Z:177:LYS:HD2 | 0.95 | 0.64 |
| 5:5:68:C:H2' | 5:5:69:G:H8 | 1.61 | 0.64 |
| 6:A:1507:A:H2' | 6:A:1508:G:H8 | 1.63 | 0.64 |
| 6:A:776:G:N2 | 6:A:802:A:OP2 | 2.30 | 0.64 |
| 6:A:75:C:C2 | 6:A:96:G:N2 | 2.64 | 0.64 |
| 56:B:209:GLN:HE22 | 56:B:265:VAL:CG1 | 2.10 | 0.64 |
| 56:B:379:LYS:H | 56:B:406:LEU:HB2 | 0.82 | 0.64 |
| 7:D:1449:A:O5' | 7:D:1449:A:H8 | 1.81 | 0.64 |
| 7:D:1288:U:O2' | 7:D:1647:G:N2 | 2.30 | 0.64 |
| 7:D:1800:C:H42 | 7:D:1818:U:H1' | 1.61 | 0.64 |
| 7:D:2135:A:N7 | 7:D:2160:G:O2' | 2.24 | 0.64 |
| 7:D:2183:C:H2' | 7:D:2184:G:H8 | 1.62 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:2781:A:H2' | 7:D:2782:G:O2' | 1.97 | 0.64 |
| 7:D:39:C:O2' | 7:D:40:C:H5' | 1.96 | 0.64 |
| 7:D:371:A:H5' | 7:D:423:A:C5 | 2.32 | 0.64 |
| 7:D:543:C:C2 | 7:D:551:G:N2 | 2.65 | 0.64 |
| 7:D:894:C:C5 | 7:D:895:U:O2 | 2.50 | 0.64 |
| 14:K:54:THR:OG1 | 14:K:56:GLN:OE1 | 2.13 | 0.64 |
| 19:P:33:ARG:HB3 | 19:P:85:ILE:HG22 | 1.80 | 0.64 |
| 29:Z:38:ASP:OD2 | 29:Z:177:LYS:HD2 | 1.57 | 0.64 |
| 6:A:819:A:H4' | 6:A:820:U:OP2 | 1.95 | 0.64 |
| 56:B:65:ARG:HG2 | 56:B:245:PHE:HB2 | 1.79 | 0.64 |
| 7:D:1791:A:H2' | 7:D:1792:G:O4' | 1.96 | 0.64 |
| 7:D:1861:G:C2' | 7:D:1862:G:H5' | 2.28 | 0.64 |
| 7:D:573:G:O2' | 7:D:574:C:H3' | 1.98 | 0.64 |
| 7:D:65:C:H2' | 7:D:66:C:H6 | 1.61 | 0.64 |
| 7:D:721:C:H2' | 7:D:722:A:C8 | 2.32 | 0.64 |
| 7:D:851:U:O2 | 7:D:928:G:C2 | 2.51 | 0.64 |
| 16:M:10:ARG:HA | 16:M:104:ARG:HH21 | 1.62 | 0.64 |
| 16:M:33:PHE:HZ | 16:M:44:VAL:HA | 1.62 | 0.64 |
| 6:A:1446:A:HO2' | 6:A:1447:G:P | 2.20 | 0.64 |
| 6:A:1494:G:OP2 | 6:A:1494:G:H3' | 1.98 | 0.64 |
| 56:B:166:ALA:O | 56:B:167:SER:HB3 | 1.97 | 0.64 |
| 56:B:370:ILE:HG22 | 56:B:371:ALA:N | 2.08 | 0.64 |
| 56:B:417:PRO:HA | 56:B:448:VAL:HG21 | 1.70 | 0.64 |
| 56:B:492:VAL:HG22 | 56:B:541:ILE:CG2 | 2.26 | 0.64 |
| 7:D:1555:G:N2 | 7:D:1556:C:O2 | 2.30 | 0.64 |
| 7:D:2095:C:H2' | 7:D:2096:U:C6 | 2.32 | 0.64 |
| 7:D:2516:G:N3 | 7:D:2569:G:N2 | 2.46 | 0.64 |
| 7:D:915:C:H2' | 7:D:916:G:H8 | 1.61 | 0.64 |
| 6:A:1326:C:OP2 | 28:Y:6:ARG:NH2 | 2.30 | 0.64 |
| 3:3:34:ILE:HG23 | 3:3:63:ARG:NH1 | 2.11 | 0.64 |
| 6:A:1075:C:H2' | 6:A:1076:C:H6 | 1.62 | 0.64 |
| 56:B:150:LEU:O | 56:B:154:GLU:HG2 | 1.97 | 0.64 |
| 56:B:298:LYS:CA | 56:B:348:PHE:CZ | 2.44 | 0.64 |
| 56:B:525:ALA:HB2 | 56:B:551:VAL:HG22 | 1.79 | 0.64 |
| 56:B:84:PRO:HB3 | 57:B:701:GCP:O3G | 1.97 | 0.64 |
| 7:D:1131:G:N2 | 7:D:1132:A:N3 | 2.45 | 0.64 |
| 7:D:1727:U:H6 | 7:D:1727:U:O5' | 1.81 | 0.64 |
| 7:D:2336:A:O2' | 7:D:2337:G:OP1 | 2.15 | 0.64 |
| 7:D:2471:C:H2' | 7:D:2472:G:H8 | 1.62 | 0.64 |
| 7:D:848:G:C2 | 7:D:931:G:C6 | 2.85 | 0.64 |
| 11:H:73:ARG:O | 11:H:77:ASN:ND2 | 2.30 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 23:T:18:ARG:NH1 | 23:T:35:LYS:HE2 | 2.13 | 0.64 |
| 26:W:53:ASN:ND2 | 26:W:75:ALA:HB1 | 2.12 | 0.64 |
| 6:A:192:U:C4' | 27:X:57:ARG:HH12 | 2.11 | 0.64 |
| 28:Y:18:TYR:HE1 | 28:Y:22:ARG:HH21 | 1.46 | 0.64 |
| 29:Z:66:HIS:O | 29:Z:158:ALA:HB1 | 1.97 | 0.64 |
| 3:3:94:GLU:O | 3:3:95:LYS:HB2 | 1.97 | 0.64 |
| 6:A:1256:A:OP2 | 10:G:27:LYS:NZ | 2.27 | 0.64 |
| 6:A:269:C:H2' | 6:A:270:A:C8 | 2.32 | 0.64 |
| 6:A:82:U:O2 | 6:A:85:U:H5 | 1.81 | 0.64 |
| 56:B:196:LEU:O | 56:B:282:LEU:N | 2.31 | 0.64 |
| 56:B:200:ILE:HG13 | 56:B:278:ASP:C | 2.18 | 0.64 |
| 56:B:118:LEU:HD11 | 56:B:446:LYS:HE3 | 1.78 | 0.64 |
| 56:B:489:LEU:O | 56:B:507:ILE:C | 2.34 | 0.64 |
| 7:D:990:A:H62 | 7:D:1186:G:H21 | 1.42 | 0.64 |
| 7:D:1313:U:H6 | 7:D:1313:U:O5' | 1.80 | 0.64 |
| 6:A:1450:U:N3 | 6:A:1452:C:O2 | 2.31 | 0.64 |
| 6:A:136:C:H42 | 6:A:227:G:H1 | 1.46 | 0.64 |
| 6:A:92:G:C2' | 6:A:93:U:H5' | 2.27 | 0.64 |
| 56:B:409:TYR:CG | 56:B:485:ARG:HD2 | 2.33 | 0.64 |
| 7:D:1861:G:O2' | 7:D:1862:G:H5' | 1.98 | 0.64 |
| 7:D:1942:C:OP1 | 56:B:556:LYS:NZ | 2.22 | 0.64 |
| 7:D:2790:A:N9 | 7:D:2893:G:O6 | 2.31 | 0.64 |
| 7:D:739:G:C4' | 7:D:1784:A:H61 | 2.10 | 0.64 |
| 16:M:10:ARG:NH2 | 16:M:75:ASP:HB2 | 2.13 | 0.64 |
| 18:O:120:ARG:CZ | 18:O:126:ARG:HH12 | 2.10 | 0.64 |
| 26:W:57:HIS:O | 26:W:58:VAL:HG13 | 1.97 | 0.64 |
| 6:A:445:G:N1 | 6:A:490:G:C6 | 2.66 | 0.64 |
| 6:A:77:C:H2' | 6:A:78:G:C8 | 2.33 | 0.64 |
| 6:A:872:A:HO2' | 6:A:873:A:C5' | 2.10 | 0.64 |
| 56:B:205:TYR:HE2 | 56:B:271:ILE:CG2 | 2.07 | 0.64 |
| 56:B:227:ARG:CA | 56:B:237:PHE:CD2 | 2.80 | 0.64 |
| 56:B:378:TYR:C | 56:B:406:LEU:HD13 | 2.17 | 0.64 |
| 56:B:537:ILE:O | 56:B:549:ALA:HB3 | 1.98 | 0.64 |
| 56:B:541:ILE:CG1 | 56:B:546:ILE:HD12 | 2.28 | 0.64 |
| 7:D:152:G:O2' | 7:D:153:C:H5' | 1.97 | 0.64 |
| 7:D:1613:G:H3' | 7:D:1614:A:H5' | 1.79 | 0.64 |
| 7:D:532:A:P | 7:D:2021:C:H41 | 2.19 | 0.64 |
| 7:D:296:C:H2' | 7:D:297:C:C6 | 2.33 | 0.64 |
| 7:D:537:C:H6 | 7:D:537:C:O5' | 1.80 | 0.64 |
| 25:V:76:LEU:O | 25:V:78:LEU:HG | 1.98 | 0.64 |
| 6:A:1320:C:O2 | 26:W:73:GLU:HA | 1.98 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 29:Z:163:PHE:CB | 29:Z:171:ILE:HD11 | 2.22 | 0.64 |
| 6:A:1507:A:C2 | 6:A:1530:G:H1' | 2.33 | 0.64 |
| 56:B:303:ALA:HB2 | 56:B:347:GLY:N | 2.12 | 0.64 |
| 56:B:490:VAL:CG1 | 56:B:491:LYS:H | 2.11 | 0.64 |
| 56:B:488:ASP:C | 56:B:509:HIS:HA | 2.18 | 0.64 |
| 7:D:2217:G:N3 | 7:D:2218:G:C8 | 2.65 | 0.64 |
| 7:D:227:A:H61 | 7:D:410:G:N2 | 1.95 | 0.64 |
| 7:D:602:G:H4' | 7:D:603:A:H4' | 1.79 | 0.64 |
| 9:F:170:GLU:HG3 | 9:F:173:ALA:HB3 | 1.80 | 0.64 |
| 15:L:10:LEU:O | 15:L:13:ILE:HB | 1.98 | 0.64 |
| 26:W:32:LYS:H | 26:W:32:LYS:CD | 2.11 | 0.64 |
| 1:1:32:HIS:O | 1:1:34:GLN:N | 2.31 | 0.63 |
| 6:A:185:A:H61 | 6:A:192:U:H3 | 1.46 | 0.63 |
| 56:B:197:LYS:HA | 56:B:281:THR:HA | 1.79 | 0.63 |
| 56:B:229:ARG:NH2 | 56:B:286:PRO:HD3 | 2.09 | 0.63 |
| 56:B:322:LYS:HE3 | 56:B:323:LEU:HD12 | 1.80 | 0.63 |
| 56:B:382:LEU:HB3 | 56:B:386:GLU:CB | 2.28 | 0.63 |
| 56:B:410:VAL:HG11 | 56:B:479:TYR:HB2 | 1.79 | 0.63 |
| 7:D:1107:G:O5' | 7:D:1107:G:H8 | 1.81 | 0.63 |
| 7:D:1313:U:C4 | 7:D:1314:C:C4 | 2.87 | 0.63 |
| 7:D:1537:C:C4 | 7:D:1538:G:H1' | 2.33 | 0.63 |
| 7:D:2070:G:N2 | 7:D:2071:A:N3 | 2.45 | 0.63 |
| 7:D:2781:A:C6 | 7:D:2782:G:N3 | 2.65 | 0.63 |
| 7:D:365:C:O5' | 7:D:365:C:H6 | 1.79 | 0.63 |
| 7:D:727:A:H5'' | 7:D:728:G:N1 | 2.13 | 0.63 |
| 9:F:84:GLU:OE2 | 9:F:219:VAL:HB | 1.98 | 0.63 |
| 16:M:9:ARG:O | 16:M:104:ARG:NE | 2.32 | 0.63 |
| 19:P:24:VAL:HG13 | 19:P:98:TYR:CE1 | 2.33 | 0.63 |
| 6:A:277:C:P | 24:U:68:ARG:HH12 | 2.21 | 0.63 |
| 25:V:16:PRO:HA | 25:V:54:ARG:NH1 | 2.13 | 0.63 |
| 29:Z:161:ILE:HA | 29:Z:174:PRO:HD2 | 1.80 | 0.63 |
| 3:3:50:ASP:HB3 | 3:3:80:LYS:HE2 | 1.81 | 0.63 |
| 6:A:656:C:H42 | 6:A:750:G:H1 | 1.46 | 0.63 |
| 56:B:20:HIS:CD2 | 56:B:108:ASP:CB | 2.80 | 0.63 |
| 56:B:109:ALA:HB2 | 56:B:135:ILE:CG2 | 2.28 | 0.63 |
| 56:B:240:ASP:CB | 56:B:266:ALA:HB3 | 2.09 | 0.63 |
| 56:B:229:ARG:CZ | 56:B:286:PRO:HG3 | 2.28 | 0.63 |
| 1:1:36:GLN:NE2 | 7:D:1031:G:H21 | 1.96 | 0.63 |
| 7:D:1063:G:C5 | 7:D:1064:C:C5 | 2.87 | 0.63 |
| 7:D:1327:C:H5 | 7:D:1328:G:C6 | 2.16 | 0.63 |
| 7:D:1397:U:O2' | 7:D:1398:C:OP1 | 2.17 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 7:D:2522:U:O2' | 7:D:2647:U:OP1 | 2.16 | 0.63 |
| 7:D:491:G:C5 | 7:D:492:A:C8 | 2.87 | 0.63 |
| 7:D:543:C:O2 | 7:D:551:G:C2 | 2.51 | 0.63 |
| 7:D:800:A:HO2' | 7:D:801:G:P | 2.21 | 0.63 |
| 8:E:113:C:H2' | 8:E:114:G:H8 | 1.62 | 0.63 |
| 6:A:1226:C:N3 | 20:Q:104:ARG:CG | 2.61 | 0.63 |
| 6:A:278:G:P | 24:U:41:LYS:HZ3 | 2.12 | 0.63 |
| 26:W:11:VAL:HG21 | 26:W:41:VAL:CG2 | 2.29 | 0.63 |
| 26:W:11:VAL:O | 26:W:38:SER:OG | 2.11 | 0.63 |
| 1:1:3:VAL:O | 1:1:5:ALA:N | 2.30 | 0.63 |
| 6:A:68:G:H8 | 6:A:68:G:O5' | 1.80 | 0.63 |
| 6:A:833:U:H2' | 6:A:834:C:C6 | 2.32 | 0.63 |
| 56:B:202:ASP:OD2 | 56:B:214:TYR:OH | 2.10 | 0.63 |
| 56:B:228:ILE:CA | 56:B:282:LEU:CD2 | 2.70 | 0.63 |
| 56:B:230:ILE:CB | 56:B:280:ILE:HG22 | 2.28 | 0.63 |
| 56:B:23:SER:OG | 56:B:44:GLN:HB3 | 1.98 | 0.63 |
| 7:D:1329:U:O2' | 7:D:1330:C:OP1 | 2.17 | 0.63 |
| 7:D:2030:A:HO2' | 7:D:2031:A:P | 2.20 | 0.63 |
| 7:D:2645:G:H3' | 7:D:2646:C:H5' | 1.79 | 0.63 |
| 7:D:38:A:C6 | 7:D:39:C:N4 | 2.66 | 0.63 |
| 7:D:434:U:O2' | 7:D:435:C:O5' | 2.16 | 0.63 |
| 7:D:640:C:O2 | 7:D:648:G:N2 | 2.31 | 0.63 |
| 11:H:8:VAL:HG21 | 11:H:115:ARG:HH22 | 1.63 | 0.63 |
| 6:A:1330:U:C2 | 6:A:1331:G:H1' | 2.33 | 0.63 |
| 6:A:454:C:OP2 | 6:A:455:C:N4 | 2.31 | 0.63 |
| 6:A:467:G:C2 | 6:A:468:A:H1' | 2.34 | 0.63 |
| 56:B:17:HIS:HA | 56:B:116:GLU:OE1 | 1.98 | 0.63 |
| 56:B:18:VAL:HG22 | 56:B:86:HIS:HB3 | 1.79 | 0.63 |
| 56:B:223:ARG:HB3 | 56:B:224:PRO:HD3 | 1.80 | 0.63 |
| 56:B:238:THR:HG1 | 56:B:267:ALA:CB | 2.12 | 0.63 |
| 56:B:380:VAL:HA | 56:B:406:LEU:HD23 | 1.79 | 0.63 |
| 56:B:513:ALA:HB1 | 56:B:541:ILE:CD1 | 2.27 | 0.63 |
| 56:B:75:GLU:CG | 56:B:76:TYR:H | 2.10 | 0.63 |
| 7:D:1426:G:H8 | 7:D:1426:G:OP2 | 1.80 | 0.63 |
| 7:D:2194:G:C2 | 7:D:2195:C:C2 | 2.87 | 0.63 |
| 7:D:2701:C:H3' | 7:D:2702:U:H5'' | 1.79 | 0.63 |
| 7:D:270(M):U:O2 | 7:D:270(N):G:O2' | 2.16 | 0.63 |
| 7:D:2637:U:H3 | 7:D:2781:A:N6 | 1.95 | 0.63 |
| 7:D:485:C:N4 | 7:D:486:C:H42 | 1.96 | 0.63 |
| 7:D:789:A:H3' | 7:D:790:C:H5'' | 1.81 | 0.63 |
| 7:D:861:A:C6 | 7:D:917:A:N3 | 2.66 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:974:G:OP2 | 7:D:974(A):C:OP2 | 2.16 | 0.63 |
| 17:N:91:PRO:HG2 | 17:N:94:VAL:HG21 | 1.79 | 0.63 |
| 6:A:1443:G:H2' | 6:A:1443:G:N3 | 2.13 | 0.63 |
| 6:A:218:C:O5' | 6:A:218:C:H6 | 1.81 | 0.63 |
| 6:A:448:A:P | 6:A:485:G:H22 | 2.21 | 0.63 |
| 6:A:738:C:H2' | 6:A:739:C:C6 | 2.34 | 0.63 |
| 56:B:281:THR:HG21 | 56:B:287:THR:CG2 | 2.26 | 0.63 |
| 56:B:29:ILE:HD13 | 56:B:177:ILE:HD12 | 1.80 | 0.63 |
| 56:B:382:LEU:CB | 56:B:401:ARG:CA | 2.75 | 0.63 |
| 56:B:528:ILE:HD11 | 56:B:537:ILE:HD11 | 1.80 | 0.63 |
| 7:D:1062:G:H8 | 7:D:1070:A:OP2 | 1.81 | 0.63 |
| 7:D:1285:G:H8 | 7:D:1285:G:OP2 | 1.81 | 0.63 |
| 7:D:488:G:O5' | 7:D:488:G:H8 | 1.81 | 0.63 |
| 7:D:507:A:HO2' | 7:D:508:G:P | 2.20 | 0.63 |
| 7:D:634:C:H2' | 7:D:635:C:C6 | 2.31 | 0.63 |
| 7:D:884:C:C4 | 7:D:885:C:C4 | 2.75 | 0.63 |
| 6:A:828:A:P | 15:L:21:LYS:HZ1 | 2.19 | 0.63 |
| 25:V:39:VAL:HG13 | 25:V:42:ARG:NH1 | 2.13 | 0.63 |
| 5:5:58:A:H1' | 5:5:60:U:OP2 | 1.98 | 0.63 |
| 6:A:1377:A:O2' | 14:K:6:ARG:O | 2.16 | 0.63 |
| 6:A:837:G:C4 | 6:A:838:G:N7 | 2.66 | 0.63 |
| 56:B:152:VAL:CB | 56:B:156:LEU:HB3 | 2.28 | 0.63 |
| 56:B:459:ILE:C | 56:B:459:ILE:HD12 | 2.18 | 0.63 |
| 56:B:496:VAL:O | 56:B:498:GLY:N | 2.31 | 0.63 |
| 7:D:1173:G:N3 | 7:D:1173:G:H3' | 2.13 | 0.63 |
| 7:D:1579:A:H5'' | 7:D:1580:A:C5 | 2.33 | 0.63 |
| 7:D:1803:A:N6 | 7:D:1814:G:O2' | 2.31 | 0.63 |
| 9:F:97:TRP:CH2 | 9:F:173:ALA:HA | 2.34 | 0.63 |
| 19:P:69:TYR:HB3 | 19:P:99:HIS:HB3 | 1.79 | 0.63 |
| 20:Q:96:LEU:HD12 | 20:Q:103:THR:HG22 | 1.67 | 0.63 |
| 20:Q:15:VAL:HG22 | 20:Q:45:VAL:HG21 | 1.79 | 0.63 |
| 6:A:1225:A:H5' | 26:W:78:ARG:NH1 | 2.12 | 0.63 |
| 6:A:1300:G:O2' | 6:A:1301:U:O5' | 2.16 | 0.63 |
| 6:A:198:G:C2 | 6:A:199:G:C4 | 2.86 | 0.63 |
| 6:A:339:C:H2' | 6:A:340:U:H6 | 1.63 | 0.63 |
| 56:B:444:ALA:O | 56:B:445:GLN:HG3 | 1.98 | 0.63 |
| 56:B:489:LEU:N | 56:B:509:HIS:HA | 2.14 | 0.63 |
| 56:B:488:ASP:O | 56:B:509:HIS:CA | 2.47 | 0.63 |
| 56:B:518:ARG:HD3 | 56:B:518:ARG:O | 1.99 | 0.63 |
| 56:B:492:VAL:HG22 | 56:B:541:ILE:HG21 | 1.80 | 0.63 |
| 56:B:54:GLU:O | 56:B:55:ARG:HB2 | 1.99 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 7:D:1485:G:C4 | 7:D:1486:A:N7 | 2.66 | 0.63 |
| 7:D:90:U:O2' | 7:D:91:A:O5' | 2.12 | 0.63 |
| 8:E:67:G:OP2 | 8:E:68:C:OP2 | 2.17 | 0.63 |
| 6:A:529:G:O6 | 19:P:50:SER:N | 2.31 | 0.63 |
| 19:P:87:GLY:HA2 | 19:P:98:TYR:HA | 1.80 | 0.63 |
| 19:P:91:LYS:HG2 | 19:P:92:ASP:H | 1.62 | 0.63 |
| 26:W:40:ILE:HD11 | 26:W:71:LEU:HD23 | 1.81 | 0.63 |
| 3:3:23:VAL:CG1 | 3:3:27:LEU:HD12 | 2.28 | 0.63 |
| 6:A:256:U:H3 | 6:A:270:A:H61 | 1.47 | 0.63 |
| 6:A:522:C:N4 | 6:A:528:C:H42 | 1.96 | 0.63 |
| 6:A:576:G:H3' | 6:A:577:G:H5'' | 1.79 | 0.63 |
| 56:B:297:ALA:O | 56:B:298:LYS:HB2 | 1.98 | 0.63 |
| 56:B:319:ALA:O | 56:B:321:GLU:N | 2.31 | 0.63 |
| 56:B:396:LEU:CD1 | 56:B:491:LYS:HG3 | 2.20 | 0.63 |
| 56:B:65:ARG:HB3 | 56:B:246:THR:HA | 1.79 | 0.63 |
| 7:D:1298:C:H42 | 7:D:1642:G:H1 | 1.45 | 0.63 |
| 7:D:1819:A:H4' | 7:D:1820:U:H5' | 1.80 | 0.63 |
| 7:D:2489:G:O6 | 7:D:2490:G:N1 | 2.31 | 0.63 |
| 7:D:2044:C:N3 | 7:D:2625:G:N2 | 2.46 | 0.63 |
| 7:D:270(K):C:H3' | 7:D:270(L):U:H6 | 1.63 | 0.63 |
| 7:D:548:A:H62 | 7:D:549:G:H21 | 1.46 | 0.63 |
| 7:D:568:U:N3 | 7:D:571:A:OP2 | 2.32 | 0.63 |
| 13:J:98:LEU:HD21 | 13:J:101:ALA:HB2 | 1.81 | 0.63 |
| 22:S:63:ARG:NH1 | 22:S:87:ILE:HG21 | 2.14 | 0.63 |
| 26:W:6:LYS:HZ2 | 26:W:11:VAL:HA | 1.64 | 0.63 |
| 6:A:1288:A:H2' | 6:A:1289:A:C8 | 2.33 | 0.63 |
| 6:A:1321:C:H5'' | 6:A:1322:C:OP2 | 1.99 | 0.63 |
| 6:A:1454:G:C2 | 6:A:1455:G:H1' | 2.34 | 0.63 |
| 6:A:477:G:C4 | 6:A:478:A:C8 | 2.87 | 0.63 |
| 6:A:529:G:H4' | 6:A:533:A:C2 | 2.34 | 0.63 |
| 56:B:210:GLY:CA | 56:B:269:ARG:HB3 | 2.26 | 0.63 |
| 7:D:1042:G:C8 | 7:D:1042:G:OP2 | 2.52 | 0.63 |
| 7:D:1177:A:N1 | 7:D:1178:C:C4 | 2.67 | 0.63 |
| 7:D:2027:G:H1 | 7:D:2036:C:H42 | 1.44 | 0.63 |
| 7:D:45:G:H8 | 7:D:45:G:O5' | 1.81 | 0.63 |
| 7:D:774:A:C5 | 7:D:775:G:C6 | 2.87 | 0.63 |
| 9:F:76:GLN:NE2 | 9:F:206:ASP:O | 2.27 | 0.63 |
| 6:A:1256:A:H5'' | 10:G:27:LYS:NZ | 2.14 | 0.63 |
| 11:H:19:LEU:O | 11:H:21:LEU:N | 2.30 | 0.63 |
| 12:I:122:GLU:OE1 | 12:I:122:GLU:N | 2.31 | 0.63 |
| 16:M:32:ASP:OD1 | 16:M:35:GLU:N | 2.31 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 22:S:29:VAL:O | 22:S:33:THR:OG1 | 2.06 | 0.63 |
| 22:S:36:ILE:HD12 | 22:S:60:VAL:HG22 | 1.80 | 0.63 |
| 26:W:16:LEU:CB | 26:W:20:LEU:HD13 | 2.27 | 0.63 |
| 29:Z:44:HIS:N | 29:Z:213:TYR:O | 2.28 | 0.63 |
| 1:1:5:ALA:O | 1:1:7:VAL:HG23 | 1.99 | 0.62 |
| 5:5:21:A:N6 | 5:5:48:C:O4' | 2.31 | 0.62 |
| 6:A:1256:A:C8 | 10:G:27:LYS:NZ | 2.66 | 0.62 |
| 6:A:533:A:N6 | 6:A:536:C:C2 | 2.67 | 0.62 |
| 6:A:90:C:C2 | 6:A:91:C:C4 | 2.87 | 0.62 |
| 56:B:339:ALA:O | 56:B:340:LEU:C | 2.38 | 0.62 |
| 56:B:455:PRO:HG2 | 56:B:458:GLU:CB | 2.29 | 0.62 |
| 56:B:544:LYS:O | 56:B:545:ILE:HG13 | 1.98 | 0.62 |
| 7:D:1174:A:N7 | 7:D:1176:G:N7 | 2.47 | 0.62 |
| 7:D:1171:G:H2' | 7:D:1174:A:OP2 | 1.99 | 0.62 |
| 7:D:2180:U:H6 | 7:D:2180:U:O5' | 1.82 | 0.62 |
| 7:D:2208:U:O2 | 7:D:2217:G:C2 | 2.52 | 0.62 |
| 7:D:2458:G:H21 | 7:D:2459:A:N6 | 1.97 | 0.62 |
| 7:D:2749:A:H8 | 7:D:2749:A:OP2 | 1.82 | 0.62 |
| 7:D:915:C:H2' | 7:D:916:G:C8 | 2.34 | 0.62 |
| 8:E:-1:A:H5' | 8:E:0:A:OP2 | 1.99 | 0.62 |
| 9:F:10:LEU:HD23 | 9:F:11:LEU:HG | 1.81 | 0.62 |
| 13:J:10:LEU:HD13 | 13:J:84:ASN:HB3 | 1.81 | 0.62 |
| 16:M:126:SER:O | 16:M:128:ARG:NH1 | 2.32 | 0.62 |
| 26:W:36:ARG:CB | 26:W:71:LEU:C | 2.49 | 0.62 |
| 3:3:103:GLN:HA | 3:3:106:GLU:CG | 2.29 | 0.62 |
| 6:A:1238:A:N7 | 6:A:1299:A:N6 | 2.48 | 0.62 |
| 6:A:1309:G:P | 20:Q:88:ARG:HH22 | 2.21 | 0.62 |
| 6:A:727:G:C2 | 6:A:731:G:N3 | 2.67 | 0.62 |
| 56:B:11:ASN:CB | 56:B:100:VAL:HG13 | 2.27 | 0.62 |
| 6:A:55:A:C2 | 56:B:208:TYR:HD2 | 2.17 | 0.62 |
| 56:B:315:LYS:CE | 56:B:318:ASP:HB3 | 2.28 | 0.62 |
| 56:B:381:ARG:HH21 | 56:B:385:GLY:CA | 2.11 | 0.62 |
| 56:B:382:LEU:HD22 | 56:B:401:ARG:C | 2.19 | 0.62 |
| 7:D:1067:A:H2' | 7:D:1068:G:C5 | 2.33 | 0.62 |
| 7:D:146:G:H2' | 7:D:147:U:C6 | 2.34 | 0.62 |
| 7:D:1981:A:H5'' | 7:D:1982:C:OP2 | 1.98 | 0.62 |
| 7:D:2219:G:H2' | 7:D:2224:G:C5' | 2.24 | 0.62 |
| 7:D:2334:G:O2' | 7:D:2335:A:OP1 | 2.17 | 0.62 |
| 7:D:270(L):U:O2' | 7:D:270(M):U:H5'' | 2.00 | 0.62 |
| 7:D:2793:G:H2' | 7:D:2793:G:N3 | 2.15 | 0.62 |
| 7:D:2836:U:H2' | 7:D:2837:G:H8 | 1.64 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:2630:G:OP2 | 7:D:2895:U:C6 | 2.52 | 0.62 |
| 7:D:78:A:H2' | 7:D:79:G:H8 | 1.64 | 0.62 |
| 7:D:969:U:H5'' | 7:D:970:C:OP2 | 1.99 | 0.62 |
| 10:G:58:GLU:O | 10:G:65:ALA:N | 2.21 | 0.62 |
| 6:A:1347:G:C8 | 16:M:107:ARG:HB3 | 2.31 | 0.62 |
| 6:A:1432:G:HO2' | 6:A:1433:A:H8 | 1.45 | 0.62 |
| 6:A:1507:A:H2' | 6:A:1508:G:C8 | 2.34 | 0.62 |
| 6:A:259:G:H2' | 6:A:260:G:C8 | 2.34 | 0.62 |
| 6:A:434:U:H2' | 6:A:435:C:C6 | 2.34 | 0.62 |
| 6:A:445:G:N1 | 6:A:490:G:N1 | 2.47 | 0.62 |
| 6:A:585:G:H1 | 6:A:756:C:H42 | 1.47 | 0.62 |
| 56:B:135:ILE:HD11 | 56:B:145:PRO:CB | 2.19 | 0.62 |
| 56:B:136:ASN:OD1 | 56:B:168:GLY:N | 2.32 | 0.62 |
| 56:B:489:LEU:HA | 56:B:509:HIS:HB3 | 1.81 | 0.62 |
| 56:B:513:ALA:CB | 56:B:541:ILE:CD1 | 2.78 | 0.62 |
| 56:B:62:SER:O | 56:B:64:VAL:HG13 | 1.98 | 0.62 |
| 7:D:1043:C:H4' | 7:D:1044:G:N7 | 2.14 | 0.62 |
| 7:D:1105:U:H4' | 7:D:1106:G:OP2 | 1.99 | 0.62 |
| 7:D:1708:C:N4 | 7:D:1709:U:O4 | 2.32 | 0.62 |
| 7:D:46:C:N3 | 7:D:180:G:N2 | 2.48 | 0.62 |
| 7:D:2512:C:H5'' | 7:D:2513:G:OP2 | 1.98 | 0.62 |
| 7:D:2810:A:H2' | 7:D:2811:G:O4' | 2.00 | 0.62 |
| 7:D:895:U:H6 | 7:D:895:U:O5' | 1.82 | 0.62 |
| 7:D:96:G:O2' | 7:D:97:C:H5' | 1.99 | 0.62 |
| 13:J:69:GLU:HG2 | 13:J:70:ASP:H | 1.64 | 0.62 |
| 20:Q:59:TYR:C | 20:Q:61:GLU:N | 2.43 | 0.62 |
| 26:W:16:LEU:CA | 26:W:20:LEU:CD1 | 2.77 | 0.62 |
| 3:3:131:ALA:HA | 3:3:136:VAL:O | 1.99 | 0.62 |
| 4:4:51:C:N4 | 4:4:52:G:O6 | 2.33 | 0.62 |
| 6:A:1156:G:O2' | 6:A:1179:A:N6 | 2.33 | 0.62 |
| 6:A:1273:G:H3' | 6:A:1274:G:H8 | 1.63 | 0.62 |
| 6:A:1452:C:H4' | 6:A:1453:G:O5' | 1.98 | 0.62 |
| 6:A:438:G:C2' | 6:A:494:U:H3 | 2.08 | 0.62 |
| 6:A:575:G:HO2' | 6:A:576:G:P | 2.21 | 0.62 |
| 6:A:595:G:HO2' | 6:A:596:C:P | 2.21 | 0.62 |
| 6:A:680:C:H2' | 6:A:681:C:H6 | 1.64 | 0.62 |
| 6:A:869:G:O2' | 6:A:872:A:N7 | 2.32 | 0.62 |
| 6:A:898:G:N2 | 6:A:901:A:OP2 | 2.31 | 0.62 |
| 56:B:226:ASP:H | 56:B:239:VAL:CB | 2.12 | 0.62 |
| 56:B:528:ILE:HG23 | 56:B:592:VAL:HG11 | 1.81 | 0.62 |
| 7:D:1139:G:N2 | 7:D:1143:A:O2' | 2.29 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:1477:A:N6 | 7:D:1478:G:O6 | 2.32 | 0.62 |
| 7:D:1520:U:H2' | 7:D:1521:G:H5'' | 1.80 | 0.62 |
| 7:D:2217:G:C4 | 7:D:2218:G:N7 | 2.68 | 0.62 |
| 7:D:2391:G:O2' | 7:D:2392:A:O5' | 2.14 | 0.62 |
| 7:D:270(Z):U:C5 | 7:D:370:G:O6 | 2.52 | 0.62 |
| 7:D:430:G:H5'' | 7:D:431:U:OP2 | 1.99 | 0.62 |
| 7:D:679:C:H2' | 7:D:680:G:H8 | 1.63 | 0.62 |
| 7:D:728:G:O2' | 7:D:729:G:O5' | 2.18 | 0.62 |
| 7:D:744:G:H2' | 7:D:745:G:O4' | 1.98 | 0.62 |
| 7:D:60:G:H21 | 7:D:74:A:C1' | 2.12 | 0.62 |
| 3:3:107:ILE:O | 3:3:111:LYS:HB2 | 1.98 | 0.62 |
| 3:3:95:LYS:O | 3:3:96:VAL:C | 2.38 | 0.62 |
| 6:A:183:G:H2' | 6:A:184:G:H8 | 1.64 | 0.62 |
| 56:B:25:LEU:HD13 | 56:B:25:LEU:C | 2.19 | 0.62 |
| 56:B:330:LEU:CG | 56:B:346:CYS:N | 2.35 | 0.62 |
| 56:B:537:ILE:HD12 | 56:B:551:VAL:HG23 | 1.82 | 0.62 |
| 7:D:1045:A:OP2 | 7:D:1111:A:N1 | 2.32 | 0.62 |
| 7:D:1776:G:N2 | 7:D:1777:U:O2 | 2.32 | 0.62 |
| 7:D:2061:G:OP2 | 7:D:2502:G:OP2 | 2.18 | 0.62 |
| 7:D:2770:G:H5'' | 7:D:2771:C:OP2 | 1.99 | 0.62 |
| 7:D:293:U:H2' | 7:D:294:A:H8 | 1.61 | 0.62 |
| 7:D:479:A:N7 | 7:D:481:G:C8 | 2.67 | 0.62 |
| 10:G:6:HIS:O | 10:G:9:GLY:N | 2.31 | 0.62 |
| 15:L:96:GLY:N | 15:L:99:GLU:OE1 | 2.26 | 0.62 |
| 5:5:38:A:H3' | 5:5:39:U:H5'' | 1.80 | 0.62 |
| 6:A:1328:C:OP2 | 28:Y:7:ARG:NH2 | 2.32 | 0.62 |
| 6:A:1384:C:N4 | 6:A:1385:G:O6 | 2.32 | 0.62 |
| 56:B:109:ALA:HB2 | 56:B:135:ILE:HG22 | 1.80 | 0.62 |
| 56:B:166:ALA:HB2 | 56:B:172:GLU:CD | 2.19 | 0.62 |
| 56:B:206:ASP:OD2 | 56:B:210:GLY:HA2 | 1.98 | 0.62 |
| 56:B:212:ILE:HG22 | 56:B:263:TRP:CE3 | 2.35 | 0.62 |
| 56:B:41:MET:CB | 56:B:45:PHE:HD1 | 2.13 | 0.62 |
| 56:B:495:LEU:HD13 | 56:B:540:ALA:HB2 | 1.78 | 0.62 |
| 56:B:75:GLU:HG2 | 56:B:76:TYR:N | 2.14 | 0.62 |
| 7:D:1058:G:N2 | 7:D:1081:U:H2' | 2.14 | 0.62 |
| 7:D:1077:A:N6 | 7:D:1088:A:O3' | 2.33 | 0.62 |
| 7:D:1444:G:H2' | 7:D:1445:C:C4 | 2.34 | 0.62 |
| 7:D:371:A:O5' | 7:D:423:A:N6 | 2.33 | 0.62 |
| 7:D:931:G:C8 | 7:D:932:G:C1' | 2.79 | 0.62 |
| 7:D:931:G:H5'' | 7:D:932:G:H1' | 1.81 | 0.62 |
| 6:A:1131:G:OP2 | 6:A:1132:C:OP2 | 2.17 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 6:A:216:G:C8 | 6:A:217:C:N4 | 2.64 | 0.62 |
| 6:A:75:C:HO2' | 6:A:76:G:H5' | 1.64 | 0.62 |
| 56:B:281:THR:CB | 56:B:286:PRO:HB2 | 2.28 | 0.62 |
| 7:D:1471:A:N6 | 7:D:1473:G:N7 | 2.48 | 0.62 |
| 7:D:1668:A:H1' | 7:D:1669:A:C2 | 2.34 | 0.62 |
| 7:D:322:A:H4' | 7:D:323:G:OP2 | 1.99 | 0.62 |
| 7:D:477:A:N7 | 7:D:478:A:N6 | 2.47 | 0.62 |
| 10:G:42:LEU:HD12 | 10:G:94:LEU:HD12 | 1.82 | 0.62 |
| 11:H:68:TYR:HA | 11:H:114:ARG:HH12 | 1.64 | 0.62 |
| 11:H:113:SER:HB3 | 11:H:116:GLN:HG3 | 1.82 | 0.62 |
| 12:I:14:ARG:NH1 | 12:I:129:ILE:HD11 | 2.14 | 0.62 |
| 13:J:41:GLU:HB3 | 13:J:62:TRP:CE3 | 2.35 | 0.62 |
| 24:U:59:ILE:HD12 | 24:U:73:VAL:HA | 1.80 | 0.62 |
| 26:W:70:LYS:H | 26:W:73:GLU:HG2 | 1.64 | 0.62 |
| 26:W:70:LYS:N | 26:W:73:GLU:HG2 | 2.13 | 0.62 |
| 29:Z:38:ASP:C | 29:Z:177:LYS:CE | 2.64 | 0.62 |
| 6:A:1164:G:C6 | 6:A:1173:G:C6 | 2.88 | 0.62 |
| 6:A:1367:C:P | 17:N:60:ARG:HH21 | 2.23 | 0.62 |
| 6:A:974:A:H4' | 6:A:975:A:H3' | 1.80 | 0.62 |
| 56:B:118:LEU:HD21 | 56:B:446:LYS:HZ1 | 1.65 | 0.62 |
| 56:B:20:HIS:CE1 | 56:B:111:GLN:HG3 | 2.35 | 0.62 |
| 56:B:380:VAL:HG22 | 56:B:381:ARG:N | 2.14 | 0.62 |
| 56:B:382:LEU:HB3 | 56:B:386:GLU:CD | 2.20 | 0.62 |
| 56:B:51:LEU:O | 56:B:51:LEU:HD23 | 1.98 | 0.62 |
| 7:D:1285:G:H5'' | 7:D:1286:A:OP2 | 1.99 | 0.62 |
| 7:D:1416:G:O2' | 7:D:1417:C:O5' | 2.17 | 0.62 |
| 7:D:2019:A:H3' | 7:D:2020:A:H5'' | 1.82 | 0.62 |
| 7:D:2740:A:C2 | 7:D:2741:A:C5 | 2.88 | 0.62 |
| 7:D:503:A:O2' | 7:D:504:U:H5'' | 2.00 | 0.62 |
| 7:D:612:G:H1' | 7:D:617:G:H22 | 1.64 | 0.62 |
| 7:D:922:U:C2 | 7:D:923:C:N3 | 2.67 | 0.62 |
| 6:A:1377:A:OP2 | 14:K:94:ARG:NH2 | 2.32 | 0.62 |
| 16:M:63:ILE:HG21 | 16:M:77:ILE:HG12 | 1.82 | 0.62 |
| 26:W:35:SER:O | 26:W:71:LEU:CD1 | 2.40 | 0.62 |
| 6:A:164:U:H2' | 6:A:165:C:H6 | 1.63 | 0.62 |
| 6:A:308:C:H2' | 6:A:309:G:C8 | 2.35 | 0.62 |
| 6:A:430:A:P | 11:H:8:VAL:H | 2.22 | 0.62 |
| 6:A:465:A:H1' | 6:A:466:C:P | 2.40 | 0.62 |
| 6:A:521:G:N7 | 6:A:529:G:N2 | 2.47 | 0.62 |
| 6:A:626:U:H2' | 6:A:627:G:C8 | 2.35 | 0.62 |
| 6:A:628:G:H2' | 6:A:629:G:H8 | 1.65 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 6:A:717:C:H4' | 18:O:117:ASN:ND2 | 2.12 | 0.62 |
| 6:A:74:C:C2 | 6:A:75:C:C5 | 2.88 | 0.62 |
| 56:B:164:ILE:HG21 | 56:B:176:GLU:HB2 | 1.82 | 0.62 |
| 56:B:190:GLY:O | 56:B:258:ALA:CB | 2.48 | 0.62 |
| 56:B:218:PHE:O | 56:B:258:ALA:HB2 | 1.96 | 0.62 |
| 56:B:338:THR:O | 56:B:339:ALA:HB2 | 1.98 | 0.62 |
| 56:B:378:TYR:CD2 | 56:B:406:LEU:CD1 | 2.82 | 0.62 |
| 56:B:528:ILE:O | 56:B:551:VAL:HG11 | 1.99 | 0.62 |
| 7:D:1067:A:H2' | 7:D:1068:G:C6 | 2.35 | 0.62 |
| 7:D:1174:A:H3' | 7:D:1175:U:H5'' | 1.80 | 0.62 |
| 7:D:1784:A:OP2 | 7:D:1785:A:C2 | 2.53 | 0.62 |
| 7:D:536:A:C2 | 7:D:558:G:N1 | 2.67 | 0.62 |
| 13:J:62:TRP:CZ2 | 13:J:64:GLN:HB2 | 2.34 | 0.62 |
| 16:M:7:THR:HB | 16:M:83:ARG:HH11 | 1.65 | 0.62 |
| 6:A:1071:C:H2' | 6:A:1072:G:H8 | 1.65 | 0.62 |
| 6:A:1101:A:H1' | 6:A:1102:A:OP2 | 2.00 | 0.62 |
| 6:A:1225:A:OP2 | 6:A:1226:C:H5 | 1.83 | 0.62 |
| 6:A:324:G:H8 | 6:A:324:G:O5' | 1.83 | 0.62 |
| 6:A:888:G:H5'' | 6:A:889:A:H5'' | 1.82 | 0.62 |
| 6:A:92:G:C2 | 6:A:93:U:C2 | 2.88 | 0.62 |
| 56:B:316:LEU:HD13 | 56:B:342:PHE:CG | 2.35 | 0.62 |
| 56:B:411:LYS:HZ3 | 56:B:436:VAL:HG22 | 1.64 | 0.62 |
| 56:B:435:LEU:CD1 | 56:B:452:TYR:CZ | 2.82 | 0.62 |
| 56:B:493:ASN:O | 56:B:540:ALA:C | 2.38 | 0.62 |
| 7:D:1515:C:O2' | 7:D:1516:U:OP1 | 2.16 | 0.62 |
| 7:D:2641:G:H2' | 7:D:2642:G:H8 | 1.65 | 0.62 |
| 7:D:270(U):C:N4 | 7:D:270(V):G:O6 | 2.33 | 0.62 |
| 7:D:684:G:N2 | 7:D:794:G:C2 | 2.68 | 0.62 |
| 9:F:74:LYS:NZ | 9:F:76:GLN:HB2 | 2.15 | 0.62 |
| 11:H:24:GLU:O | 11:H:28:SER:N | 2.32 | 0.62 |
| 13:J:10:LEU:HB2 | 13:J:84:ASN:O | 1.99 | 0.62 |
| 6:A:1350:A:O2' | 14:K:33:ASP:OD1 | 2.15 | 0.62 |
| 6:A:1308:U:OP1 | 20:Q:97:PRO:CD | 2.47 | 0.62 |
| 6:A:1306:A:C5 | 6:A:1307:U:C2 | 2.87 | 0.61 |
| 56:B:238:THR:HG1 | 56:B:267:ALA:HB2 | 1.61 | 0.61 |
| 56:B:195:PRO:HB2 | 56:B:286:PRO:HA | 0.62 | 0.61 |
| 7:D:1071:G:OP2 | 7:D:1071:G:H8 | 1.82 | 0.61 |
| 7:D:1589:C:C2' | 7:D:1590:U:H5' | 2.29 | 0.61 |
| 7:D:1863:G:H2' | 7:D:1864:U:C6 | 2.35 | 0.61 |
| 7:D:2135:A:OP2 | 7:D:2159:G:H1' | 2.00 | 0.61 |
| 7:D:2168:G:O2' | 7:D:2170:A:N6 | 2.19 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:247:G:H1' | 7:D:386:G:C6 | 2.35 | 0.61 |
| 7:D:541:C:C5 | 7:D:542:C:C4 | 2.87 | 0.61 |
| 7:D:857:C:O2 | 7:D:921:G:N2 | 2.34 | 0.61 |
| 7:D:974:G:N7 | 7:D:974(A):C:C2 | 2.68 | 0.61 |
| 9:F:19:HIS:O | 9:F:190:THR:OG1 | 2.13 | 0.61 |
| 10:G:113:ALA:HA | 10:G:202:ILE:HD12 | 1.82 | 0.61 |
| 26:W:15:LEU:HD13 | 26:W:15:LEU:O | 2.00 | 0.61 |
| 26:W:16:LEU:C | 26:W:20:LEU:HB2 | 2.12 | 0.61 |
| 26:W:36:ARG:HB3 | 26:W:71:LEU:CB | 2.29 | 0.61 |
| 27:X:65:LYS:HA | 27:X:68:LYS:HG2 | 1.83 | 0.61 |
| 29:Z:74:VAL:HG11 | 29:Z:114:VAL:HG13 | 1.82 | 0.61 |
| 3:3:35:MET:C | 3:3:63:ARG:HH12 | 2.03 | 0.61 |
| 6:A:1027:C:H42 | 6:A:1034:G:H1 | 1.46 | 0.61 |
| 6:A:1443:G:O3' | 6:A:1443:G:OP1 | 2.17 | 0.61 |
| 6:A:225:C:H2' | 6:A:226:G:H8 | 1.64 | 0.61 |
| 6:A:371:G:OP2 | 6:A:371:G:C8 | 2.52 | 0.61 |
| 56:B:137:LYS:HA | 57:B:701:GCP:C6 | 2.30 | 0.61 |
| 56:B:417:PRO:CG | 56:B:447:ARG:HA | 2.29 | 0.61 |
| 7:D:1085:A:O2' | 7:D:1086:A:OP2 | 2.13 | 0.61 |
| 7:D:1047:G:N7 | 7:D:1110:G:N1 | 2.47 | 0.61 |
| 7:D:1785:A:H2' | 7:D:1786:A:N7 | 2.15 | 0.61 |
| 7:D:2577:A:H5'' | 7:D:2578:G:H5' | 1.81 | 0.61 |
| 7:D:585:G:N2 | 7:D:1256:G:C6 | 2.68 | 0.61 |
| 9:F:113:HIS:ND1 | 9:F:116:GLU:OE2 | 2.33 | 0.61 |
| 11:H:62:GLN:NE2 | 11:H:65:ARG:HH11 | 1.98 | 0.61 |
| 19:P:80:HIS:NE2 | 56:B:316:LEU:CG | 2.56 | 0.61 |
| 20:Q:22:ILE:HB | 20:Q:25:ILE:HD12 | 1.82 | 0.61 |
| 26:W:51:VAL:HG12 | 26:W:52:TYR:N | 2.15 | 0.61 |
| 26:W:41:VAL:O | 26:W:67:VAL:HG13 | 2.00 | 0.61 |
| 6:A:1267:C:H5'' | 6:A:1268:A:OP2 | 2.00 | 0.61 |
| 6:A:1321:C:H5 | 26:W:37:ARG:NH2 | 1.97 | 0.61 |
| 6:A:1516:G:N2 | 6:A:1520:G:N3 | 2.47 | 0.61 |
| 6:A:179:A:H5' | 6:A:180:U:OP2 | 2.01 | 0.61 |
| 6:A:711:G:H2' | 6:A:712:A:C8 | 2.34 | 0.61 |
| 6:A:97:U:H6 | 6:A:97:U:O5' | 1.83 | 0.61 |
| 56:B:229:ARG:HH21 | 56:B:283:ALA:CA | 2.09 | 0.61 |
| 56:B:386:GLU:OE1 | 56:B:401:ARG:HG3 | 1.99 | 0.61 |
| 56:B:137:LYS:HZ1 | 57:B:701:GCP:H1' | 1.63 | 0.61 |
| 7:D:1310:G:N7 | 7:D:1311:G:N2 | 2.48 | 0.61 |
| 7:D:1509:C:OP2 | 7:D:1510:A:C5 | 2.53 | 0.61 |
| 7:D:1859:A:H8 | 7:D:1860:G:C8 | 2.18 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 7:D:1913:A:HO2' | 7:D:1914:C:P | 2.22 | 0.61 |
| 7:D:2067:G:H5'' | 7:D:2068:U:OP2 | 2.01 | 0.61 |
| 7:D:277:C:H4' | 7:D:278:A:N7 | 2.15 | 0.61 |
| 7:D:295:G:H3' | 7:D:338:G:N2 | 2.15 | 0.61 |
| 7:D:339:U:O2' | 7:D:340:A:O4' | 2.19 | 0.61 |
| 7:D:491:G:C5 | 7:D:492:A:N7 | 2.68 | 0.61 |
| 7:D:501:A:N6 | 7:D:502:A:N1 | 2.48 | 0.61 |
| 9:F:43:ASP:OD2 | 9:F:46:LYS:N | 2.33 | 0.61 |
| 13:J:52:ILE:O | 13:J:55:ASP:N | 2.31 | 0.61 |
| 29:Z:76:ALA:HB3 | 29:Z:94:VAL:HG22 | 1.82 | 0.61 |
| 2:2:60:ARG:C | 7:D:1046:A:O2' | 2.38 | 0.61 |
| 6:A:1002:G:H1 | 6:A:1038:C:H42 | 1.47 | 0.61 |
| 6:A:812:C:O2' | 6:A:813:U:O5' | 2.17 | 0.61 |
| 6:A:894:G:H2' | 6:A:895:G:H8 | 1.65 | 0.61 |
| 6:A:75:C:O2 | 6:A:96:G:N3 | 2.33 | 0.61 |
| 56:B:137:LYS:CA | 56:B:167:SER:OG | 2.48 | 0.61 |
| 56:B:8:ARG:CZ | 56:B:73:GLY:O | 2.49 | 0.61 |
| 7:D:1520:U:O2' | 7:D:1521:G:O4' | 2.07 | 0.61 |
| 7:D:1603:A:C5 | 7:D:1604:C:C5 | 2.89 | 0.61 |
| 7:D:2110:G:H2' | 7:D:2120:G:OP1 | 2.01 | 0.61 |
| 7:D:2345:G:H4' | 7:D:2346:A:H5' | 1.83 | 0.61 |
| 7:D:2648:C:H2' | 7:D:2649:U:H6 | 1.65 | 0.61 |
| 7:D:295:G:O2' | 7:D:296:C:H5' | 2.00 | 0.61 |
| 7:D:273(A):G:N2 | 7:D:363(E):U:O2 | 2.28 | 0.61 |
| 7:D:536:A:N1 | 7:D:558:G:C6 | 2.68 | 0.61 |
| 7:D:881:G:H1' | 7:D:896:A:C2 | 2.34 | 0.61 |
| 11:H:81:GLU:HA | 11:H:84:LYS:HD3 | 1.81 | 0.61 |
| 14:K:71:PRO:HG3 | 14:K:99:LEU:HD22 | 1.83 | 0.61 |
| 3:3:93:ARG:HB3 | 3:3:94:GLU:OE1 | 1.99 | 0.61 |
| 4:4:19:G:H5' | 4:4:20:U:C5 | 2.35 | 0.61 |
| 4:4:52:G:O2' | 4:4:53:G:O5' | 2.17 | 0.61 |
| 6:A:1296:C:H4' | 6:A:1302:U:C5 | 2.35 | 0.61 |
| 6:A:337:C:H2' | 6:A:338:A:C8 | 2.34 | 0.61 |
| 6:A:538:G:H2' | 6:A:539:A:H8 | 1.64 | 0.61 |
| 6:A:829:G:H1 | 6:A:857:C:H42 | 1.48 | 0.61 |
| 56:B:301:VAL:HG13 | 56:B:301:VAL:O | 2.00 | 0.61 |
| 56:B:381:ARG:O | 56:B:402:ILE:CG1 | 2.41 | 0.61 |
| 56:B:455:PRO:HD2 | 56:B:458:GLU:HB2 | 1.83 | 0.61 |
| 56:B:86:HIS:O | 56:B:87:VAL:HB | 2.00 | 0.61 |
| 7:D:1050:A:H2' | 7:D:1051:G:C8 | 2.35 | 0.61 |
| 7:D:1109:C:H41 | 7:D:1110:G:H21 | 1.49 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:1203:G:H5' | 7:D:1204:A:C8 | 2.35 | 0.61 |
| 7:D:297:C:N4 | 7:D:298:G:C2 | 2.68 | 0.61 |
| 7:D:728:G:C8 | 7:D:728:G:OP2 | 2.54 | 0.61 |
| 7:D:869:G:H2' | 7:D:870:A:H8 | 1.64 | 0.61 |
| 9:F:130:ARG:HD3 | 9:F:131:PRO:HD2 | 1.81 | 0.61 |
| 11:H:8:VAL:HG21 | 11:H:115:ARG:NH2 | 2.15 | 0.61 |
| 26:W:26:GLY:HA3 | 26:W:47:HIS:ND1 | 2.15 | 0.61 |
| 56:B:241:LYS:HD2 | 56:B:252:ALA:O | 2.01 | 0.61 |
| 7:D:1020:A:N1 | 7:D:1141:U:OP2 | 2.34 | 0.61 |
| 7:D:151:C:N3 | 7:D:176:G:N2 | 2.48 | 0.61 |
| 7:D:1625:C:C4 | 7:D:1626:G:C8 | 2.88 | 0.61 |
| 7:D:1747:G:H8 | 7:D:1747:G:P | 2.24 | 0.61 |
| 7:D:414:C:H5'' | 7:D:1879:C:O2' | 2.01 | 0.61 |
| 7:D:2783:G:C6 | 7:D:2784:C:C4 | 2.88 | 0.61 |
| 7:D:2807:G:C6 | 7:D:2808:U:C2 | 2.89 | 0.61 |
| 7:D:25:U:H3 | 7:D:515:A:H61 | 1.46 | 0.61 |
| 6:A:1367:C:H5' | 17:N:60:ARG:HE | 1.65 | 0.61 |
| 20:Q:61:GLU:O | 20:Q:62:ASN:HB2 | 1.99 | 0.61 |
| 26:W:12:ASP:O | 26:W:14:HIS:N | 2.28 | 0.61 |
| 29:Z:122:ALA:HB1 | 29:Z:126:LYS:HE2 | 1.82 | 0.61 |
| 6:A:1043:C:H2' | 6:A:1044:A:H8 | 1.65 | 0.61 |
| 6:A:1225:A:OP1 | 20:Q:103:THR:OG1 | 2.07 | 0.61 |
| 6:A:216:G:C5 | 6:A:217:C:N4 | 2.69 | 0.61 |
| 6:A:217:C:H2' | 6:A:218:C:C5 | 2.35 | 0.61 |
| 6:A:197:A:N1 | 6:A:221:C:H4' | 2.15 | 0.61 |
| 6:A:27:G:H2' | 6:A:28:G:H8 | 1.66 | 0.61 |
| 6:A:426:G:OP1 | 11:H:38:TYR:OH | 2.14 | 0.61 |
| 56:B:174:VAL:CG1 | 56:B:177:ILE:HG13 | 2.26 | 0.61 |
| 56:B:222:VAL:HG11 | 56:B:264:LEU:HD13 | 1.81 | 0.61 |
| 56:B:274:VAL:O | 56:B:277:GLY:O | 2.17 | 0.61 |
| 56:B:489:LEU:HD23 | 56:B:509:HIS:CB | 2.26 | 0.61 |
| 7:D:1455:G:OP2 | 7:D:1455:G:H3' | 2.01 | 0.61 |
| 7:D:1300:U:O2' | 7:D:1626:G:N2 | 2.34 | 0.61 |
| 7:D:1706:U:C5 | 7:D:1757:U:OP2 | 2.54 | 0.61 |
| 7:D:1899:G:O2' | 7:D:1900:A:H5'' | 2.00 | 0.61 |
| 7:D:1993:U:H5 | 7:D:1994:C:C2 | 2.18 | 0.61 |
| 7:D:2460:U:C4 | 7:D:2461:C:N4 | 2.69 | 0.61 |
| 7:D:2848:G:C2 | 7:D:2867:G:N3 | 2.68 | 0.61 |
| 7:D:411:G:N2 | 7:D:2407:G:O6 | 2.33 | 0.61 |
| 7:D:687:C:H41 | 7:D:774:A:N6 | 1.95 | 0.61 |
| 19:P:27:LEU:C | 19:P:29:GLY:H | 2.03 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 23:T:6:LEU:HD13 | 23:T:17:TYR:CG | 2.35 | 0.61 |
| 7:D:2128:C:OP2 | 29:Z:36:LYS:HB3 | 2.00 | 0.61 |
| 3:3:19:PRO:HG2 | 3:3:23:VAL:HG21 | 1.81 | 0.61 |
| 6:A:308:C:H2' | 6:A:309:G:H8 | 1.64 | 0.61 |
| 6:A:31:G:H3' | 6:A:31:G:OP1 | 2.01 | 0.61 |
| 6:A:447:G:H3' | 6:A:485:G:H1 | 1.64 | 0.61 |
| 6:A:714:G:H2' | 6:A:715:A:C8 | 2.36 | 0.61 |
| 6:A:834:C:H2' | 6:A:835:U:H6 | 1.65 | 0.61 |
| 6:A:836:G:OP1 | 25:V:61:LYS:NZ | 2.30 | 0.61 |
| 6:A:569:C:H42 | 6:A:881:G:H1 | 1.47 | 0.61 |
| 56:B:41:MET:HA | 56:B:45:PHE:CD1 | 2.36 | 0.61 |
| 7:D:1418:G:C2 | 7:D:1580:A:H2 | 2.18 | 0.61 |
| 7:D:1749:A:C4 | 7:D:1750:G:N7 | 2.68 | 0.61 |
| 7:D:1756:G:H4' | 7:D:1758:G:H1' | 1.81 | 0.61 |
| 7:D:2529:G:H5'' | 7:D:2530:A:H5'' | 1.82 | 0.61 |
| 7:D:2845:G:H2' | 7:D:2846:G:H8 | 1.66 | 0.61 |
| 7:D:330:A:HO2' | 7:D:1210:A:N6 | 1.99 | 0.61 |
| 7:D:279:C:N3 | 7:D:361:G:N1 | 2.47 | 0.61 |
| 7:D:776:G:C4 | 7:D:793:A:N7 | 2.68 | 0.61 |
| 6:A:15:G:O2' | 12:I:24:ARG:NH2 | 2.33 | 0.61 |
| 17:N:90:LEU:HB2 | 17:N:91:PRO:HD3 | 1.83 | 0.61 |
| 20:Q:71:ARG:O | 20:Q:75:ALA:HB3 | 2.01 | 0.61 |
| 26:W:32:LYS:HG3 | 26:W:52:TYR:HB3 | 1.78 | 0.61 |
| 26:W:11:VAL:HG21 | 26:W:41:VAL:N | 2.16 | 0.61 |
| 26:W:5:LEU:HD12 | 26:W:6:LYS:HB3 | 1.82 | 0.61 |
| 29:Z:7:TYR:O | 29:Z:11:LEU:N | 2.33 | 0.61 |
| 3:3:137:GLU:HB2 | 7:D:1078:U:H5'' | 1.83 | 0.61 |
| 4:4:75:C:H41 | 56:B:569:ARG:NH2 | 1.98 | 0.61 |
| 6:A:101:A:C6 | 6:A:102:G:C5 | 2.88 | 0.61 |
| 6:A:1089:G:H1 | 6:A:1096:C:H42 | 1.46 | 0.61 |
| 6:A:1309:G:N2 | 6:A:1329:A:C4 | 2.69 | 0.61 |
| 6:A:934:C:N4 | 6:A:1344:C:C2 | 2.69 | 0.61 |
| 6:A:160:A:H1' | 6:A:344:A:C6 | 2.35 | 0.61 |
| 6:A:376:G:H2' | 6:A:377:G:C8 | 2.33 | 0.61 |
| 6:A:738:C:H2' | 6:A:739:C:H6 | 1.66 | 0.61 |
| 6:A:801:U:H2' | 6:A:802:A:H8 | 1.66 | 0.61 |
| 56:B:66:VAL:O | 56:B:76:TYR:CZ | 2.53 | 0.61 |
| 7:D:154:G:C2 | 7:D:173:G:N2 | 2.67 | 0.61 |
| 7:D:2142:C:N4 | 7:D:2148:G:O6 | 2.33 | 0.61 |
| 7:D:2120:G:N3 | 7:D:2179:C:O2 | 2.34 | 0.61 |
| 7:D:261:G:N2 | 7:D:262:A:N3 | 2.48 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 7:D:270(Z):U:H2' | 7:D:271(A):C:H5' | 1.81 | 0.61 |
| 7:D:2808:U:O4 | 7:D:2891:G:C4 | 2.54 | 0.61 |
| 7:D:289:A:H2' | 7:D:351:G:N1 | 2.16 | 0.61 |
| 7:D:476:G:N1 | 7:D:479:A:OP2 | 2.33 | 0.61 |
| 7:D:7:G:N2 | 7:D:8:A:H1' | 2.16 | 0.61 |
| 9:F:219:VAL:O | 9:F:222:ILE:HG13 | 2.00 | 0.61 |
| 6:A:978:A:O2' | 26:W:37:ARG:NH2 | 2.34 | 0.61 |
| 6:A:1353:G:P | 28:Y:3:LYS:NZ | 2.72 | 0.61 |
| 6:A:475:G:C2 | 6:A:476:G:C5 | 2.89 | 0.61 |
| 6:A:626:U:H2' | 6:A:627:G:H8 | 1.66 | 0.61 |
| 6:A:966:G:N2 | 6:A:967:C:O2 | 2.34 | 0.61 |
| 56:B:137:LYS:N | 56:B:167:SER:OG | 2.34 | 0.61 |
| 56:B:212:ILE:CG2 | 56:B:263:TRP:HE3 | 2.08 | 0.61 |
| 56:B:227:ARG:HB3 | 56:B:237:PHE:CE2 | 2.33 | 0.61 |
| 56:B:43:GLU:HB2 | 56:B:53:ARG:CZ | 2.23 | 0.61 |
| 56:B:7:SER:C | 56:B:8:ARG:HG2 | 2.21 | 0.61 |
| 7:D:1204:A:N3 | 7:D:1204:A:OP2 | 2.34 | 0.61 |
| 7:D:172:C:H2' | 7:D:173:G:H5' | 1.82 | 0.61 |
| 7:D:2027:G:N2 | 7:D:2037:G:C4 | 2.69 | 0.61 |
| 7:D:2074:U:O2' | 7:D:2597:G:O2' | 2.19 | 0.61 |
| 7:D:2158:A:O2' | 7:D:2159:G:OP2 | 2.16 | 0.61 |
| 7:D:2195:C:H2' | 7:D:2196:C:C6 | 2.36 | 0.61 |
| 7:D:668:G:H5' | 7:D:669:G:OP2 | 2.01 | 0.61 |
| 20:Q:24:GLY:HA3 | 20:Q:66:LEU:CA | 2.31 | 0.61 |
| 25:V:53:ARG:HH12 | 25:V:59:SER:C | 2.03 | 0.61 |
| 26:W:36:ARG:O | 26:W:70:LYS:HD3 | 1.99 | 0.61 |
| 3:3:127:ILE:O | 3:3:130:SER:OG | 2.13 | 0.60 |
| 6:A:1454:G:C2 | 6:A:1455:G:N9 | 2.68 | 0.60 |
| 56:B:345:ARG:HH11 | 56:B:345:ARG:CG | 2.14 | 0.60 |
| 56:B:378:TYR:CA | 56:B:406:LEU:HB2 | 2.31 | 0.60 |
| 56:B:409:TYR:CD2 | 56:B:453:GLU:HG2 | 2.28 | 0.60 |
| 56:B:456:PHE:HA | 56:B:459:ILE:CG1 | 2.31 | 0.60 |
| 7:D:1314:C:O2 | 7:D:1339:G:N2 | 2.34 | 0.60 |
| 7:D:1618:A:H4' | 7:D:1619:G:OP1 | 2.01 | 0.60 |
| 7:D:1857:G:H2' | 7:D:1858:G:O4' | 2.00 | 0.60 |
| 7:D:529:A:N6 | 7:D:2023:G:C6 | 2.69 | 0.60 |
| 7:D:2399:G:H1 | 7:D:2417:C:H42 | 1.49 | 0.60 |
| 7:D:706:A:H2' | 7:D:707:G:O4' | 2.01 | 0.60 |
| 14:K:70:LYS:HB3 | 14:K:96:GLN:HE21 | 1.66 | 0.60 |
| 26:W:3:ARG:CG | 26:W:3:ARG:HH21 | 2.14 | 0.60 |
| 2:2:38:HIS:O | 3:3:116:ASN:HB2 | 2.01 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:3:93:ARG:HH11 | 3:3:93:ARG:HG2 | 1.65 | 0.60 |
| 6:A:161:A:H2' | 6:A:162:A:O4' | 2.01 | 0.60 |
| 6:A:198:G:N3 | 6:A:199:G:C8 | 2.70 | 0.60 |
| 6:A:443:C:C2 | 6:A:444:C:C4 | 2.88 | 0.60 |
| 6:A:959:A:O2' | 6:A:984:C:O2' | 2.15 | 0.60 |
| 56:B:178:LEU:O | 56:B:182:VAL:HG21 | 2.01 | 0.60 |
| 56:B:555:ARG:HG3 | 56:B:577:GLN:OE1 | 2.01 | 0.60 |
| 56:B:528:ILE:HG22 | 56:B:592:VAL:HG21 | 0.60 | 0.60 |
| 7:D:1058:G:H2' | 7:D:1059:G:C5' | 2.31 | 0.60 |
| 7:D:1063:G:H2' | 7:D:1064:C:O4' | 2.02 | 0.60 |
| 7:D:2170:A:H8 | 7:D:2170:A:OP2 | 1.83 | 0.60 |
| 7:D:2748:A:C6 | 7:D:2757:A:N6 | 2.69 | 0.60 |
| 7:D:295:G:H1 | 7:D:343:C:N4 | 1.99 | 0.60 |
| 7:D:366:C:H2' | 7:D:370:G:C5' | 2.31 | 0.60 |
| 7:D:440:G:N2 | 7:D:441:U:O2 | 2.33 | 0.60 |
| 7:D:879:G:C6 | 7:D:880:G:N7 | 2.69 | 0.60 |
| 19:P:61:THR:O | 19:P:62:SER:OG | 2.17 | 0.60 |
| 29:Z:154:ARG:O | 29:Z:158:ALA:HB3 | 2.01 | 0.60 |
| 29:Z:42:GLU:H | 29:Z:214:VAL:HG13 | 1.65 | 0.60 |
| 2:2:39:ALA:O | 3:3:117:THR:OG1 | 2.11 | 0.60 |
| 6:A:1345:U:C5' | 16:M:120:ARG:HH12 | 2.14 | 0.60 |
| 6:A:261:U:H2' | 6:A:263:A:OP2 | 2.01 | 0.60 |
| 6:A:475:G:N1 | 6:A:476:G:C5 | 2.69 | 0.60 |
| 6:A:92:G:H8 | 6:A:92:G:O5' | 1.83 | 0.60 |
| 56:B:13:SER:HA | 56:B:81:ILE:HB | 1.82 | 0.60 |
| 56:B:228:ILE:HG22 | 56:B:229:ARG:N | 2.16 | 0.60 |
| 56:B:230:ILE:O | 56:B:232:SER:N | 2.35 | 0.60 |
| 56:B:304:GLY:HA3 | 56:B:372:THR:O | 2.02 | 0.60 |
| 7:D:1005:C:H5'' | 7:D:1006:C:OP2 | 2.00 | 0.60 |
| 7:D:126:A:C6 | 7:D:127:A:N1 | 2.69 | 0.60 |
| 7:D:1364:G:OP1 | 7:D:1809:A:C6 | 2.54 | 0.60 |
| 7:D:1485:G:C5 | 7:D:1486:A:N7 | 2.70 | 0.60 |
| 7:D:1707:G:N3 | 7:D:1756:G:N2 | 2.49 | 0.60 |
| 7:D:2304:G:H1 | 7:D:2312:U:H3 | 1.48 | 0.60 |
| 7:D:2582:G:H21 | 7:D:2583:G:H1' | 1.66 | 0.60 |
| 7:D:270(A):A:N6 | 7:D:270(X):G:O2' | 2.35 | 0.60 |
| 7:D:317:G:H2' | 7:D:318:C:C6 | 2.36 | 0.60 |
| 7:D:491:G:C6 | 7:D:492:A:C5 | 2.89 | 0.60 |
| 7:D:58:G:H1' | 7:D:70:G:N2 | 2.15 | 0.60 |
| 7:D:882:G:H8 | 7:D:883:G:H4' | 1.64 | 0.60 |
| 9:F:115:LEU:HD23 | 9:F:153:ARG:HD3 | 1.83 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 13:J:7:ASN:OD1 | 25:V:34:TYR:OH | 2.06 | 0.60 |
| 15:L:102:ARG:HH12 | 15:L:106:GLY:N | 2.00 | 0.60 |
| 17:N:11:PHE:CE1 | 21:R:55:GLY:HA2 | 2.36 | 0.60 |
| 26:W:45:VAL:O | 26:W:45:VAL:HG23 | 2.01 | 0.60 |
| 29:Z:200:LYS:NZ | 29:Z:208:PHE:HB2 | 2.15 | 0.60 |
| 29:Z:22:ILE:N | 29:Z:228:SER:OXT | 2.27 | 0.60 |
| 6:A:671:G:H5' | 6:A:672:U:OP2 | 2.01 | 0.60 |
| 56:B:17:HIS:CE1 | 56:B:114:GLU:CB | 2.76 | 0.60 |
| 56:B:383:LYS:HA | 56:B:402:ILE:CG1 | 2.31 | 0.60 |
| 7:D:1109:C:H5 | 7:D:1110:G:N3 | 1.99 | 0.60 |
| 7:D:1001:A:N6 | 7:D:1154:G:O2' | 2.34 | 0.60 |
| 7:D:1522:G:H5'' | 7:D:1523:U:OP2 | 2.01 | 0.60 |
| 7:D:1569:A:H2' | 7:D:1570:A:H8 | 1.64 | 0.60 |
| 7:D:1665:A:H2 | 7:D:1666:G:C4 | 2.19 | 0.60 |
| 7:D:2256:G:OP2 | 7:D:2256:G:H8 | 1.84 | 0.60 |
| 7:D:2864:G:H2' | 7:D:2865:U:C6 | 2.37 | 0.60 |
| 7:D:372:G:H5'' | 7:D:373:U:OP2 | 2.01 | 0.60 |
| 7:D:535:C:C2 | 7:D:536:A:N7 | 2.69 | 0.60 |
| 7:D:67:U:O2' | 7:D:68:G:OP1 | 2.20 | 0.60 |
| 9:F:129:GLU:O | 9:F:135:GLN:NE2 | 2.34 | 0.60 |
| 6:A:15:G:H4' | 12:I:24:ARG:HH22 | 1.66 | 0.60 |
| 24:U:13:ASP:O | 24:U:15:MET:N | 2.35 | 0.60 |
| 26:W:12:ASP:CG | 26:W:38:SER:HB2 | 2.20 | 0.60 |
| 29:Z:139:ASN:N | 29:Z:144:THR:OG1 | 2.35 | 0.60 |
| 6:A:1118:C:H6 | 6:A:1118:C:OP2 | 1.85 | 0.60 |
| 6:A:559:A:O2' | 6:A:560:U:OP2 | 2.15 | 0.60 |
| 6:A:595:G:O2' | 6:A:596:C:H6 | 1.83 | 0.60 |
| 6:A:642:A:C5 | 15:L:115:SER:HA | 2.36 | 0.60 |
| 6:A:960:U:HO2' | 6:A:961:U:P | 2.22 | 0.60 |
| 56:B:200:ILE:C | 56:B:215:LEU:HB3 | 2.21 | 0.60 |
| 56:B:200:ILE:CD1 | 56:B:279:THR:CG2 | 2.37 | 0.60 |
| 56:B:338:THR:HG23 | 56:B:502:ASP:OD1 | 2.02 | 0.60 |
| 56:B:378:TYR:CD2 | 56:B:406:LEU:HD11 | 2.36 | 0.60 |
| 56:B:584:LEU:C | 56:B:586:ALA:H | 2.02 | 0.60 |
| 7:D:140:A:H61 | 7:D:1596:A:H4' | 1.65 | 0.60 |
| 7:D:1526:G:H5'' | 7:D:1527:G:OP1 | 2.01 | 0.60 |
| 7:D:2106:G:C5 | 7:D:2108:C:C4 | 2.86 | 0.60 |
| 7:D:212:G:H2' | 7:D:213:A:C8 | 2.37 | 0.60 |
| 7:D:307:G:H21 | 7:D:330:A:N6 | 1.98 | 0.60 |
| 7:D:474:G:O2' | 7:D:475:U:OP1 | 2.18 | 0.60 |
| 7:D:660:G:H5'' | 7:D:661:C:OP2 | 2.01 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 7:D:884:C:C1' | 7:D:885:C:OP2 | 2.49 | 0.60 |
| 7:D:899:A:H1' | 7:D:900:A:C2 | 2.36 | 0.60 |
| 8:E:40:U:H3 | 8:E:43:C:H5'' | 1.66 | 0.60 |
| 23:T:18:ARG:NH2 | 23:T:35:LYS:HD2 | 2.17 | 0.60 |
| 6:A:189:U:C4 | 24:U:72:ARG:NH1 | 2.70 | 0.60 |
| 6:A:1189:C:H5'' | 6:A:1190:G:OP2 | 2.02 | 0.60 |
| 6:A:1304:G:O6 | 6:A:1331:G:H3' | 2.01 | 0.60 |
| 6:A:509:A:H5'' | 11:H:55:ALA:HB2 | 1.83 | 0.60 |
| 56:B:335:GLU:HG3 | 56:B:375:SER:HG | 1.62 | 0.60 |
| 7:D:1529:A:H3' | 7:D:1530:G:C8 | 2.35 | 0.60 |
| 7:D:1545:A:N7 | 7:D:1545(A):A:C6 | 2.69 | 0.60 |
| 7:D:2226:C:HO2' | 7:D:2227:A:H5' | 1.66 | 0.60 |
| 7:D:240:G:O2' | 7:D:257:A:N6 | 2.35 | 0.60 |
| 7:D:2782:G:C6 | 7:D:2783:G:C6 | 2.89 | 0.60 |
| 7:D:2814:C:H42 | 7:D:2886:G:H1 | 1.47 | 0.60 |
| 9:F:22:LYS:HA | 9:F:40:HIS:CE1 | 2.36 | 0.60 |
| 10:G:19:GLU:O | 10:G:40:ARG:NH2 | 2.34 | 0.60 |
| 26:W:66:MET:HB2 | 26:W:69:HIS:CD2 | 2.37 | 0.60 |
| 3:3:130:SER:HA | 3:3:133:SER:HB3 | 1.84 | 0.60 |
| 6:A:443:C:O2' | 6:A:444:C:H5' | 2.00 | 0.60 |
| 6:A:584:G:H2' | 6:A:585:G:H8 | 1.66 | 0.60 |
| 56:B:158:LEU:HB3 | 56:B:159:PRO:CD | 2.31 | 0.60 |
| 56:B:298:LYS:O | 56:B:298:LYS:HG2 | 2.00 | 0.60 |
| 56:B:46:LEU:HD11 | 56:B:82:ASP:OD1 | 2.01 | 0.60 |
| 56:B:6:LEU:HD12 | 56:B:6:LEU:N | 2.16 | 0.60 |
| 56:B:13:SER:HB3 | 56:B:97:LEU:CG | 2.31 | 0.60 |
| 7:D:1319:G:H5'' | 7:D:1320:C:OP2 | 2.01 | 0.60 |
| 7:D:1456:G:C4 | 7:D:1457:A:N7 | 2.70 | 0.60 |
| 7:D:2008:C:H2' | 7:D:2009:G:H8 | 1.66 | 0.60 |
| 7:D:2841:C:H2' | 7:D:2842:G:C8 | 2.37 | 0.60 |
| 7:D:295:G:H2' | 7:D:296:C:C6 | 2.37 | 0.60 |
| 7:D:434:U:O5' | 7:D:434:U:H6 | 1.84 | 0.60 |
| 7:D:489:G:N7 | 7:D:1284:A:C6 | 2.62 | 0.60 |
| 22:S:46:HIS:O | 22:S:48:LYS:N | 2.34 | 0.60 |
| 26:W:50:ALA:HB1 | 26:W:57:HIS:CB | 2.31 | 0.60 |
| 3:3:130:SER:N | 7:D:1059:G:H22 | 2.00 | 0.60 |
| 6:A:1452:C:C4' | 6:A:1453:G:H5'' | 2.21 | 0.60 |
| 6:A:73:G:C5 | 6:A:74:C:C4 | 2.90 | 0.60 |
| 56:B:97:LEU:CD2 | 56:B:103:VAL:CG1 | 2.70 | 0.60 |
| 56:B:14:ILE:CD1 | 56:B:26:ALA:HB2 | 2.28 | 0.60 |
| 56:B:330:LEU:HB3 | 56:B:345:ARG:CZ | 2.32 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 56:B:417:PRO:HD2 | 56:B:420:TYR:HD2 | 1.66 | 0.60 |
| 56:B:410:VAL:CG2 | 56:B:481:GLN:HA | 2.30 | 0.60 |
| 56:B:521:VAL:CG2 | 56:B:539:ALA:CB | 2.44 | 0.60 |
| 7:D:352:G:C6 | 7:D:353:G:C6 | 2.90 | 0.60 |
| 7:D:766:C:N3 | 7:D:767:U:N3 | 2.49 | 0.60 |
| 20:Q:94:ARG:HB3 | 20:Q:94:ARG:CZ | 2.30 | 0.60 |
| 27:X:36:LEU:O | 27:X:51:GLU:HB2 | 10.17 | 0.60 |
| 6:A:210:U:C6 | 6:A:216:G:C8 | 2.89 | 0.60 |
| 6:A:361:G:O6 | 6:A:362:G:N2 | 2.34 | 0.60 |
| 6:A:484:G:H4' | 6:A:485:G:OP2 | 2.02 | 0.60 |
| 6:A:55:A:C2 | 56:B:208:TYR:CD2 | 2.90 | 0.60 |
| 7:D:1169:G:C6 | 7:D:1170:G:C5 | 2.89 | 0.60 |
| 7:D:1228:G:H2' | 7:D:1228:G:N3 | 2.16 | 0.60 |
| 7:D:1453:A:H3' | 7:D:1454:U:H5'' | 1.83 | 0.60 |
| 7:D:1492:G:H21 | 7:D:1493:C:H42 | 1.49 | 0.60 |
| 7:D:2699:C:O2 | 7:D:2709:G:N2 | 2.35 | 0.60 |
| 10:G:186:PHE:HB2 | 10:G:198:VAL:O | 2.01 | 0.60 |
| 6:A:1132:C:H2' | 6:A:1133:G:C8 | 2.37 | 0.60 |
| 4:4:31:G:HO2' | 6:A:1340:A:HO2' | 1.46 | 0.60 |
| 6:A:1460:A:O2' | 6:A:1461:G:H5' | 2.01 | 0.60 |
| 6:A:404:U:H5' | 11:H:122:ARG:NH1 | 2.13 | 0.60 |
| 6:A:477:G:C4 | 6:A:478:A:N7 | 2.69 | 0.60 |
| 6:A:443:C:C5 | 6:A:492:G:N1 | 2.70 | 0.60 |
| 6:A:76:G:C4 | 6:A:95:G:C6 | 2.83 | 0.60 |
| 56:B:529:PRO:HD2 | 56:B:530:ARG:H | 1.67 | 0.60 |
| 56:B:537:ILE:O | 56:B:549:ALA:N | 2.35 | 0.60 |
| 7:D:1077:A:H5'' | 7:D:1078:U:OP2 | 2.02 | 0.60 |
| 7:D:1999:C:H2' | 7:D:2000:G:C8 | 2.36 | 0.60 |
| 7:D:2110:G:N2 | 7:D:2180:U:C2 | 2.70 | 0.60 |
| 7:D:2151:G:OP1 | 29:Z:5:LYS:NZ | 2.31 | 0.60 |
| 7:D:2478:A:C2 | 7:D:2529:G:H2' | 2.37 | 0.60 |
| 7:D:295:G:H2' | 7:D:296:C:H6 | 1.66 | 0.60 |
| 7:D:355:G:H2' | 7:D:356:G:C8 | 2.36 | 0.60 |
| 13:J:71:ARG:O | 13:J:75:LEU:HG | 2.01 | 0.60 |
| 16:M:65:VAL:HG21 | 16:M:73:GLN:HB3 | 1.82 | 0.60 |
| 26:W:11:VAL:HG21 | 26:W:41:VAL:CG1 | 2.13 | 0.60 |
| 3:3:58:THR:HG23 | 3:3:64:SER:CB | 2.32 | 0.59 |
| 6:A:1130:A:C5 | 6:A:1146:A:N6 | 2.69 | 0.59 |
| 6:A:1132:C:H2' | 6:A:1133:G:H8 | 1.66 | 0.59 |
| 6:A:1391:U:H2' | 6:A:1392:G:C8 | 2.37 | 0.59 |
| 6:A:443:C:C6 | 6:A:492:G:C2 | 2.89 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 56:B:200:ILE:HB | 56:B:277:GLY:C | 2.22 | 0.59 |
| 56:B:228:ILE:HG22 | 56:B:229:ARG:H | 1.65 | 0.59 |
| 56:B:23:SER:CB | 57:B:701:GCP:O1A | 2.49 | 0.59 |
| 56:B:230:ILE:HG21 | 56:B:279:THR:HA | 1.82 | 0.59 |
| 56:B:420:TYR:HE1 | 56:B:471:SER:C | 2.05 | 0.59 |
| 56:B:299:PRO:C | 56:B:479:TYR:HE1 | 2.01 | 0.59 |
| 7:D:1074:G:H2' | 7:D:1075:C:C5 | 2.35 | 0.59 |
| 7:D:1487:G:H2' | 7:D:1488:G:H8 | 1.67 | 0.59 |
| 7:D:1565:C:C4 | 7:D:1567:A:C8 | 2.88 | 0.59 |
| 7:D:2422:A:N7 | 7:D:2424:C:N4 | 2.50 | 0.59 |
| 7:D:2740:A:OP2 | 7:D:2763:G:N1 | 2.28 | 0.59 |
| 7:D:283:A:H3' | 7:D:284:U:C5 | 2.37 | 0.59 |
| 7:D:972:G:H3' | 7:D:973:A:H3' | 1.84 | 0.59 |
| 7:D:972:G:H8 | 7:D:972:G:OP2 | 1.84 | 0.59 |
| 8:E:81:G:C5 | 8:E:96:G:C2 | 2.90 | 0.59 |
| 10:G:6:HIS:HD2 | 10:G:8:ILE:HG22 | 1.66 | 0.59 |
| 11:H:128:VAL:HA | 11:H:146:ILE:HG22 | 1.83 | 0.59 |
| 14:K:27:ILE:HG22 | 14:K:36:LYS:NZ | 2.17 | 0.59 |
| 16:M:31:GLN:HB3 | 16:M:35:GLU:HB3 | 1.83 | 0.59 |
| 17:N:46:ARG:HD2 | 21:R:61:TRP:CZ3 | 2.37 | 0.59 |
| 18:O:18:ARG:NH2 | 18:O:35:PRO:O | 2.35 | 0.59 |
| 10:G:29:TYR:OH | 21:R:54:PRO:O | 2.19 | 0.59 |
| 26:W:3:ARG:O | 26:W:42:PRO:HB3 | 2.02 | 0.59 |
| 29:Z:38:ASP:OD2 | 29:Z:177:LYS:CG | 2.49 | 0.59 |
| 6:A:498:A:C6 | 6:A:547:A:C8 | 2.90 | 0.59 |
| 6:A:51:A:H4' | 6:A:52:G:OP2 | 2.01 | 0.59 |
| 56:B:280:ILE:HG13 | 56:B:281:THR:OG1 | 2.02 | 0.59 |
| 56:B:330:LEU:H | 56:B:330:LEU:HD22 | 1.65 | 0.59 |
| 56:B:420:TYR:HB3 | 56:B:424:LEU:CD1 | 2.32 | 0.59 |
| 56:B:65:ARG:NH1 | 56:B:76:TYR:HH | 1.98 | 0.59 |
| 7:D:1088:A:H8 | 7:D:1088:A:P | 2.25 | 0.59 |
| 7:D:1149:G:H2' | 7:D:1150:C:C6 | 2.36 | 0.59 |
| 7:D:1484:G:H2' | 7:D:1485:G:O4' | 2.01 | 0.59 |
| 7:D:1861:G:N2 | 7:D:1882:C:O2 | 2.34 | 0.59 |
| 7:D:270(F):U:O2 | 7:D:270(T):G:N2 | 2.35 | 0.59 |
| 7:D:219:G:N2 | 7:D:430:G:O6 | 2.35 | 0.59 |
| 7:D:447:A:HO2' | 7:D:448:U:P | 2.25 | 0.59 |
| 8:E:33:G:H1 | 8:E:49:C:H42 | 1.50 | 0.59 |
| 10:G:20:SER:HB2 | 10:G:40:ARG:HH22 | 1.67 | 0.59 |
| 15:L:70:GLN:HG3 | 15:L:72:PRO:HD2 | 1.84 | 0.59 |
| 6:A:376:G:OP1 | 23:T:5:ARG:HB2 | 2.02 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 6:A:375:U:H4' | 23:T:6:LEU:HD11 | 1.84 | 0.59 |
| 23:T:8:ARG:H | 23:T:28:ARG:NH1 | 1.99 | 0.59 |
| 26:W:14:HIS:NE2 | 26:W:34:TRP:HZ3 | 1.57 | 0.59 |
| 29:Z:41:VAL:HG13 | 29:Z:214:VAL:HG11 | 1.83 | 0.59 |
| 6:A:1321:C:H41 | 26:W:37:ARG:NH2 | 2.00 | 0.59 |
| 6:A:1426:C:H2' | 6:A:1427:U:C6 | 2.38 | 0.59 |
| 6:A:362:G:C2 | 6:A:365:U:OP2 | 2.55 | 0.59 |
| 56:B:137:LYS:HG2 | 57:B:701:GCP:C2 | 2.32 | 0.59 |
| 56:B:152:VAL:CG2 | 56:B:156:LEU:HD23 | 2.32 | 0.59 |
| 56:B:246:THR:HB | 56:B:247:PRO:CD | 2.32 | 0.59 |
| 19:P:80:HIS:HB2 | 56:B:342:PHE:HE1 | 1.63 | 0.59 |
| 56:B:493:ASN:N | 56:B:541:ILE:HA | 2.15 | 0.59 |
| 7:D:1417:C:H42 | 7:D:1581:G:H1 | 1.50 | 0.59 |
| 7:D:154:G:C6 | 7:D:173:G:N2 | 2.70 | 0.59 |
| 7:D:1786:A:C8 | 7:D:1787:A:C8 | 2.90 | 0.59 |
| 7:D:2339:G:H2' | 7:D:2340:G:H8 | 1.67 | 0.59 |
| 7:D:2458:G:H1' | 7:D:2459:A:N7 | 2.17 | 0.59 |
| 7:D:2043:C:H42 | 7:D:2625:G:H1 | 1.50 | 0.59 |
| 7:D:2631:G:OP2 | 7:D:2894:G:H5' | 2.01 | 0.59 |
| 7:D:2659:G:N2 | 7:D:2662:A:OP2 | 2.32 | 0.59 |
| 7:D:273:G:C2 | 7:D:365:C:N3 | 2.70 | 0.59 |
| 7:D:2858:C:H3' | 7:D:2859:G:C8 | 2.37 | 0.59 |
| 7:D:2887:U:O2' | 7:D:2888:C:H5' | 2.02 | 0.59 |
| 7:D:537:C:O2' | 7:D:539:G:O4' | 2.17 | 0.59 |
| 7:D:542:C:H2' | 7:D:543:C:H6 | 1.59 | 0.59 |
| 12:I:72:GLN:O | 12:I:74:GLY:N | 2.34 | 0.59 |
| 14:K:79:ARG:HA | 14:K:84:ASN:HA | 1.83 | 0.59 |
| 15:L:4:ASP:HB3 | 15:L:89:PRO:HG3 | 1.84 | 0.59 |
| 24:U:48:GLU:N | 24:U:48:GLU:OE1 | 2.35 | 0.59 |
| 26:W:11:VAL:O | 26:W:11:VAL:HG12 | 2.01 | 0.59 |
| 26:W:70:LYS:H | 26:W:73:GLU:CG | 2.15 | 0.59 |
| 6:A:1067:A:O2' | 6:A:1093:A:O2' | 2.07 | 0.59 |
| 6:A:418:C:H2' | 6:A:419:C:C6 | 2.37 | 0.59 |
| 6:A:684:A:H1' | 18:O:39:PRO:HD2 | 1.85 | 0.59 |
| 56:B:153:GLU:HG3 | 56:B:159:PRO:HB3 | 1.85 | 0.59 |
| 56:B:201:PHE:H | 56:B:215:LEU:HB3 | 1.65 | 0.59 |
| 56:B:345:ARG:O | 56:B:346:CYS:HB2 | 2.02 | 0.59 |
| 7:D:1300:U:H4' | 7:D:1301:A:O5' | 2.02 | 0.59 |
| 7:D:1652:A:OP2 | 7:D:1652:A:H8 | 1.85 | 0.59 |
| 7:D:1730:U:O2' | 7:D:1731:G:N7 | 2.35 | 0.59 |
| 7:D:2808:U:O2 | 7:D:2892:A:C2 | 2.55 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:439:G:C2 | 7:D:440:G:C5 | 2.90 | 0.59 |
| 7:D:792:G:OP2 | 7:D:792:G:H4' | 2.03 | 0.59 |
| 7:D:878:A:H8 | 7:D:897:C:N3 | 2.00 | 0.59 |
| 8:E:14:U:H4' | 8:E:15:A:OP2 | 2.02 | 0.59 |
| 11:H:94:LEU:HB3 | 11:H:194:LEU:HD21 | 1.83 | 0.59 |
| 23:T:5:ARG:NH1 | 23:T:22:THR:HG23 | 2.17 | 0.59 |
| 25:V:21:LYS:N | 25:V:55:ARG:NH1 | 2.50 | 0.59 |
| 25:V:53:ARG:HH12 | 25:V:60:GLY:N | 2.01 | 0.59 |
| 26:W:40:ILE:HG21 | 26:W:67:VAL:HG23 | 1.80 | 0.59 |
| 26:W:51:VAL:HG12 | 26:W:52:TYR:H | 1.68 | 0.59 |
| 3:3:55:VAL:HB | 3:3:69:THR:CG2 | 2.26 | 0.59 |
| 5:5:30:G:H2' | 5:5:31:A:C8 | 2.37 | 0.59 |
| 6:A:1018:C:H2' | 6:A:1019:C:H6 | 1.67 | 0.59 |
| 6:A:1058:G:OP1 | 10:G:199:LYS:HE3 | 2.03 | 0.59 |
| 6:A:1091:U:O2 | 6:A:1095:U:N3 | 2.35 | 0.59 |
| 6:A:159:G:N3 | 6:A:161:A:OP2 | 2.35 | 0.59 |
| 6:A:19:C:H2' | 6:A:20:U:H6 | 1.68 | 0.59 |
| 6:A:444:C:H6 | 6:A:444:C:O5' | 1.86 | 0.59 |
| 6:A:92:G:H2' | 6:A:93:U:C6 | 2.37 | 0.59 |
| 6:A:950:U:O2' | 6:A:971:G:N3 | 2.35 | 0.59 |
| 56:B:147:GLU:HA | 56:B:150:LEU:CD2 | 2.30 | 0.59 |
| 56:B:230:ILE:C | 56:B:280:ILE:HG21 | 2.21 | 0.59 |
| 56:B:383:LYS:HA | 56:B:402:ILE:HG12 | 1.83 | 0.59 |
| 56:B:58:THR:OG1 | 56:B:84:PRO:HG3 | 2.03 | 0.59 |
| 56:B:65:ARG:CB | 56:B:246:THR:CA | 2.71 | 0.59 |
| 56:B:64:VAL:HG21 | 56:B:80:LEU:O | 2.03 | 0.59 |
| 56:B:88:ASP:O | 56:B:349:LEU:HB3 | 2.01 | 0.59 |
| 7:D:1174:A:N7 | 7:D:1176:G:C5 | 2.70 | 0.59 |
| 7:D:1540:G:H2' | 7:D:1540:G:N3 | 2.17 | 0.59 |
| 7:D:1975:G:C6 | 7:D:1976:U:N3 | 2.70 | 0.59 |
| 7:D:409:C:H2' | 7:D:410:G:H8 | 1.68 | 0.59 |
| 7:D:489:G:H4' | 7:D:491:G:OP1 | 2.02 | 0.59 |
| 7:D:552:G:C2' | 7:D:553:U:H6 | 2.05 | 0.59 |
| 11:H:62:GLN:HE22 | 11:H:65:ARG:NH1 | 2.00 | 0.59 |
| 6:A:401:C:OP2 | 11:H:73:ARG:NE | 2.35 | 0.59 |
| 12:I:14:ARG:HH12 | 12:I:129:ILE:CD1 | 2.16 | 0.59 |
| 1:1:10:ILE:HG13 | 1:1:32:HIS:CD2 | 2.38 | 0.59 |
| 5:5:11:C:O2 | 5:5:24:G:N2 | 2.33 | 0.59 |
| 6:A:1005:A:H2' | 6:A:1006:C:H5' | 1.84 | 0.59 |
| 56:B:222:VAL:HG11 | 56:B:264:LEU:HD21 | 1.84 | 0.59 |
| 56:B:299:PRO:HA | 56:B:479:TYR:CE1 | 2.36 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 7:D:1735:C:H4' | 7:D:1741:C:OP1 | 1.97 | 0.59 |
| 7:D:575:A:OP2 | 7:D:2055:C:H5 | 1.85 | 0.59 |
| 7:D:2429:G:OP2 | 7:D:2430:A:OP2 | 2.20 | 0.59 |
| 7:D:276:A:OP2 | 7:D:276:A:C4 | 2.55 | 0.59 |
| 7:D:374:A:N1 | 7:D:401:A:H1' | 2.18 | 0.59 |
| 7:D:846:C:O2' | 7:D:847:U:OP2 | 2.14 | 0.59 |
| 12:I:15:ARG:NH1 | 12:I:26:PHE:CG | 2.71 | 0.59 |
| 6:A:718:G:H1' | 18:O:116:HIS:HA | 1.83 | 0.59 |
| 6:A:1226:C:C4 | 20:Q:104:ARG:HG3 | 2.37 | 0.59 |
| 6:A:1302:U:H5 | 20:Q:13:LYS:HD3 | 1.66 | 0.59 |
| 23:T:18:ARG:HH22 | 23:T:35:LYS:HD2 | 1.68 | 0.59 |
| 25:V:74:ARG:HG2 | 25:V:81:PHE:HB3 | 1.83 | 0.59 |
| 6:A:500:G:O6 | 6:A:546:G:N2 | 2.28 | 0.59 |
| 56:B:70:ALA:CA | 56:B:178:LEU:CD2 | 2.79 | 0.59 |
| 56:B:51:LEU:HD13 | 56:B:360:ARG:NH1 | 2.18 | 0.59 |
| 7:D:1209:G:N1 | 7:D:1238:G:O6 | 2.36 | 0.59 |
| 7:D:1457:A:N6 | 7:D:2703:C:H42 | 1.99 | 0.59 |
| 7:D:2721:A:C2 | 7:D:2873:A:C6 | 2.91 | 0.59 |
| 7:D:2807:G:H5' | 7:D:2808:U:H5 | 1.68 | 0.59 |
| 7:D:295:G:P | 7:D:338:G:H22 | 2.26 | 0.59 |
| 7:D:585:G:C5 | 7:D:1251:C:N3 | 2.71 | 0.59 |
| 7:D:60:G:H21 | 7:D:74:A:H1' | 1.66 | 0.59 |
| 7:D:727:A:H5'' | 7:D:728:G:C6 | 2.38 | 0.59 |
| 7:D:974:G:H3' | 7:D:974(A):C:C5' | 2.22 | 0.59 |
| 17:N:57:LYS:O | 17:N:60:ARG:NH1 | 2.35 | 0.59 |
| 6:A:673:G:H1' | 25:V:75:ILE:HG12 | 1.85 | 0.59 |
| 29:Z:163:PHE:CZ | 29:Z:195:ALA:HB1 | 2.33 | 0.59 |
| 3:3:8:VAL:HG12 | 3:3:9:LYS:N | 2.18 | 0.59 |
| 6:A:1443:G:H3' | 6:A:1443:G:P | 2.42 | 0.59 |
| 6:A:1460:A:H2' | 6:A:1461:G:H5' | 1.84 | 0.59 |
| 6:A:193:C:H2' | 6:A:194:C:C6 | 2.31 | 0.59 |
| 6:A:246:A:O2' | 6:A:247:G:O4' | 2.21 | 0.59 |
| 6:A:456:C:N3 | 6:A:477:G:C2 | 2.70 | 0.59 |
| 6:A:63:C:H5' | 6:A:64:G:OP2 | 2.03 | 0.59 |
| 6:A:828:A:N6 | 6:A:829:G:N3 | 2.50 | 0.59 |
| 56:B:135:ILE:HG13 | 56:B:165:PHE:HA | 1.82 | 0.59 |
| 56:B:233:THR:HB | 56:B:235:LYS:HE2 | 1.85 | 0.59 |
| 56:B:349:LEU:HD12 | 56:B:353:HIS:CB | 2.32 | 0.59 |
| 3:3:29:GLN:HB2 | 56:B:440:TYR:CE2 | 2.37 | 0.59 |
| 56:B:77:VAL:O | 56:B:77:VAL:HG13 | 2.03 | 0.59 |
| 7:D:1061:U:H1' | 7:D:1070:A:C1' | 2.33 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 3:3:25:PRO:HG2 | 7:D:1095:A:N3 | 2.16 | 0.59 |
| 7:D:1455:G:C2 | 7:D:1456:G:C5 | 2.91 | 0.59 |
| 7:D:1483:G:C2' | 7:D:1484:G:H5' | 2.32 | 0.59 |
| 7:D:1466:G:H2' | 7:D:1547:C:H41 | 1.67 | 0.59 |
| 7:D:1414:G:N2 | 7:D:1589:C:N3 | 2.51 | 0.59 |
| 7:D:1324:G:H1' | 7:D:1616:A:H62 | 1.67 | 0.59 |
| 7:D:2756:U:N3 | 7:D:2758:A:N7 | 2.50 | 0.59 |
| 7:D:486:C:O2' | 7:D:487:C:H5' | 2.03 | 0.59 |
| 7:D:535:C:C2' | 7:D:536:A:H5' | 2.32 | 0.59 |
| 7:D:950:G:C6 | 7:D:951:C:C4 | 2.91 | 0.59 |
| 8:E:33:G:N2 | 8:E:49:C:N3 | 2.51 | 0.59 |
| 8:E:56:G:H4' | 8:E:57:A:O5' | 2.02 | 0.59 |
| 10:G:138:VAL:HG13 | 10:G:149:ALA:HB3 | 1.85 | 0.59 |
| 12:I:14:ARG:HH12 | 12:I:129:ILE:HD11 | 1.68 | 0.59 |
| 15:L:34:GLU:O | 15:L:37:ARG:HB3 | 2.02 | 0.59 |
| 15:L:86:ILE:O | 15:L:88:LYS:N | 2.36 | 0.59 |
| 23:T:5:ARG:HH12 | 23:T:22:THR:HG23 | 1.68 | 0.59 |
| 6:A:1440:C:N3 | 6:A:1462:G:C2 | 2.71 | 0.59 |
| 6:A:374:A:C6 | 6:A:375:U:C4 | 2.90 | 0.59 |
| 6:A:495:A:H61 | 11:H:119:GLN:NE2 | 2.01 | 0.59 |
| 56:B:197:LYS:O | 56:B:218:PHE:HD1 | 1.86 | 0.59 |
| 56:B:382:LEU:HD23 | 56:B:400:THR:C | 2.23 | 0.59 |
| 7:D:1043:C:O3' | 7:D:1044:G:H3' | 2.03 | 0.59 |
| 7:D:1106:G:N3 | 7:D:1106:G:H2' | 2.18 | 0.59 |
| 7:D:1128:A:H62 | 7:D:2518:A:N6 | 2.01 | 0.59 |
| 7:D:1455:G:N2 | 7:D:1456:G:C4 | 2.71 | 0.59 |
| 7:D:1479:G:H2' | 7:D:1480:G:C8 | 2.37 | 0.59 |
| 7:D:1524:G:H2' | 7:D:1525:G:H8 | 1.67 | 0.59 |
| 7:D:1735:C:H2' | 7:D:1741:C:C6 | 2.38 | 0.59 |
| 7:D:1742:C:H4' | 7:D:1742:C:OP1 | 2.03 | 0.59 |
| 7:D:2110:G:C2 | 7:D:2120:G:H1' | 2.37 | 0.59 |
| 7:D:2103:C:N4 | 7:D:2187:G:O6 | 2.35 | 0.59 |
| 7:D:2447:G:O2' | 7:D:2448:A:OP2 | 2.21 | 0.59 |
| 7:D:280:C:H4' | 7:D:281:G:OP2 | 2.03 | 0.59 |
| 7:D:2886:G:C2 | 7:D:2887:U:N3 | 2.71 | 0.59 |
| 7:D:554:U:O2' | 7:D:556:G:N7 | 2.36 | 0.59 |
| 7:D:855:G:C2 | 7:D:923:C:O2 | 2.55 | 0.59 |
| 7:D:902:C:N4 | 7:D:903:C:H41 | 2.00 | 0.59 |
| 10:G:125:GLU:OE2 | 10:G:190:ARG:N | 2.29 | 0.59 |
| 16:M:27:THR:O | 16:M:62:TYR:HA | 2.02 | 0.59 |
| 24:U:48:GLU:OE2 | 24:U:50:LYS:HE3 | 2.03 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 3:3:17:ALA:C | 3:3:38:VAL:HG13 | 2.23 | 0.59 |
| 6:A:1129:C:N3 | 6:A:1143:G:N2 | 2.51 | 0.59 |
| 6:A:1167:A:H8 | 6:A:1167:A:O5' | 1.86 | 0.59 |
| 6:A:38:G:H4' | 6:A:547:A:N6 | 2.18 | 0.59 |
| 6:A:413:G:H22 | 6:A:428:G:H1' | 1.68 | 0.59 |
| 6:A:498:A:N1 | 6:A:547:A:C8 | 2.71 | 0.59 |
| 6:A:562:C:O2' | 19:P:15:ARG:HG2 | 2.03 | 0.59 |
| 6:A:975:A:H4' | 6:A:976:G:O5' | 2.01 | 0.59 |
| 56:B:229:ARG:O | 56:B:281:THR:O | 2.21 | 0.59 |
| 56:B:245:PHE:HE2 | 56:B:262:GLY:N | 2.01 | 0.59 |
| 56:B:246:THR:HG21 | 56:B:251:VAL:CG2 | 2.32 | 0.59 |
| 56:B:31:GLU:CG | 56:B:40:GLU:HG3 | 2.21 | 0.59 |
| 7:D:1063:G:C2 | 7:D:1064:C:N3 | 2.71 | 0.59 |
| 7:D:1485:G:C6 | 7:D:1486:A:C5 | 2.91 | 0.59 |
| 7:D:1637:A:O2' | 7:D:2697:G:N2 | 2.36 | 0.59 |
| 7:D:185:U:H2' | 7:D:186:G:C8 | 2.36 | 0.59 |
| 7:D:2320:A:H3' | 7:D:2320:A:OP1 | 2.02 | 0.59 |
| 7:D:371:A:C6 | 7:D:424:G:C8 | 2.91 | 0.59 |
| 7:D:485:C:H2' | 7:D:486:C:H5' | 1.83 | 0.59 |
| 7:D:60:G:C8 | 7:D:63:U:C5 | 2.91 | 0.59 |
| 7:D:786:C:H2' | 7:D:787:U:H6 | 1.67 | 0.59 |
| 7:D:878:A:H2' | 7:D:879:G:H5" | 1.85 | 0.59 |
| 11:H:141:ARG:O | 11:H:143:GLY:N | 2.36 | 0.59 |
| 26:W:15:LEU:HD21 | 26:W:19:VAL:HG11 | 1.70 | 0.59 |
| 29:Z:63:SER:HA | 29:Z:155:GLU:CD | 2.17 | 0.59 |
| 3:3:12:LEU:HA | 7:D:1070:A:H61 | 1.68 | 0.58 |
| 5:5:52:G:H8 | 5:5:52:G:OP2 | 1.85 | 0.58 |
| 6:A:1038:C:H2' | 6:A:1039:C:C6 | 2.38 | 0.58 |
| 6:A:535:A:H4' | 6:A:536:C:OP2 | 2.03 | 0.58 |
| 56:B:330:LEU:HD21 | 56:B:346:CYS:CA | 2.32 | 0.58 |
| 7:D:1043:C:O2' | 7:D:1044:G:H8 | 1.86 | 0.58 |
| 7:D:1609:A:O2' | 7:D:1617:C:OP1 | 2.19 | 0.58 |
| 7:D:1784:A:O2' | 7:D:1785:A:P | 2.61 | 0.58 |
| 7:D:2177:C:H2' | 7:D:2178:C:C6 | 2.38 | 0.58 |
| 7:D:2227:A:O5' | 7:D:2227:A:H8 | 1.84 | 0.58 |
| 7:D:270(I):G:N2 | 7:D:270(J):G:H1' | 2.18 | 0.58 |
| 9:F:95:GLN:HG3 | 9:F:148:TYR:HB3 | 1.84 | 0.58 |
| 13:J:8:ILE:HG12 | 13:J:88:VAL:HG12 | 1.85 | 0.58 |
| 5:5:33:U:H4' | 14:K:84:ASN:HD21 | 1.68 | 0.58 |
| 24:U:17:LYS:HG3 | 24:U:45:HIS:CE1 | 2.37 | 0.58 |
| 6:A:109:A:C6 | 6:A:326:G:C6 | 2.92 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 6:A:1296:C:P | 20:Q:44:ARG:NH1 | 2.76 | 0.58 |
| 6:A:1454:G:H2' | 6:A:1455:G:O4' | 2.03 | 0.58 |
| 6:A:1462:G:H2' | 6:A:1463:C:C6 | 2.38 | 0.58 |
| 6:A:773:G:H1 | 6:A:806:C:H42 | 1.50 | 0.58 |
| 6:A:96:G:C5 | 6:A:97:U:C4 | 2.91 | 0.58 |
| 56:B:13:SER:O | 56:B:103:VAL:CB | 2.36 | 0.58 |
| 56:B:204:VAL:HG12 | 56:B:205:TYR:N | 2.12 | 0.58 |
| 56:B:406:LEU:HD12 | 56:B:489:LEU:HD11 | 1.77 | 0.58 |
| 7:D:1385:G:H1 | 7:D:1402:C:N4 | 2.01 | 0.58 |
| 7:D:1603:A:O2' | 7:D:1604:C:O4' | 2.21 | 0.58 |
| 7:D:1904:G:H21 | 7:D:1928:A:H2 | 1.50 | 0.58 |
| 7:D:2128:C:P | 29:Z:36:LYS:HB3 | 2.42 | 0.58 |
| 7:D:2134:A:H4' | 7:D:2158:A:OP2 | 2.03 | 0.58 |
| 7:D:2391:G:HO2' | 7:D:2392:A:P | 2.26 | 0.58 |
| 7:D:2602:A:N3 | 56:B:561:LYS:O | 2.36 | 0.58 |
| 7:D:2674:G:H5'' | 10:G:26:LYS:NZ | 143.45 | 0.58 |
| 7:D:329:G:H4' | 7:D:330:A:OP2 | 2.01 | 0.58 |
| 7:D:38:A:C6 | 7:D:39:C:C4 | 2.90 | 0.58 |
| 7:D:96:G:H2' | 7:D:97:C:C6 | 2.38 | 0.58 |
| 20:Q:29:ARG:HA | 20:Q:32:GLU:CD | 2.22 | 0.58 |
| 20:Q:77:ASN:O | 20:Q:80:ARG:HD3 | 2.03 | 0.58 |
| 23:T:18:ARG:HH12 | 23:T:35:LYS:HE2 | 1.68 | 0.58 |
| 29:Z:71:GLN:HG2 | 29:Z:174:PRO:HB3 | 1.84 | 0.58 |
| 29:Z:44:HIS:CD2 | 29:Z:215:THR:HG22 | 2.38 | 0.58 |
| 6:A:1284:C:H3' | 6:A:1285:A:H8 | 1.67 | 0.58 |
| 6:A:736:C:H2' | 6:A:737:A:H8 | 1.68 | 0.58 |
| 56:B:230:ILE:HG23 | 56:B:280:ILE:N | 2.18 | 0.58 |
| 56:B:322:LYS:CB | 56:B:331:THR:HG21 | 2.20 | 0.58 |
| 56:B:381:ARG:HA | 56:B:387:GLU:H | 1.68 | 0.58 |
| 7:D:1053:C:OP2 | 7:D:1053:C:H6 | 1.85 | 0.58 |
| 7:D:1063:G:N1 | 7:D:1064:C:C4 | 2.70 | 0.58 |
| 7:D:1477:A:N7 | 7:D:1478:G:C6 | 2.70 | 0.58 |
| 7:D:1950:G:H5'' | 7:D:1951:U:OP2 | 2.03 | 0.58 |
| 7:D:2099:U:H2' | 7:D:2100:G:H8 | 1.68 | 0.58 |
| 7:D:2143:C:O2 | 7:D:2148:G:N1 | 2.29 | 0.58 |
| 7:D:215:G:H1' | 7:D:216:A:OP2 | 2.03 | 0.58 |
| 7:D:270(F):U:H2' | 7:D:270(G):C:C6 | 2.37 | 0.58 |
| 7:D:916:G:O2' | 7:D:917:A:O4' | 2.22 | 0.58 |
| 10:G:22:TRP:CD2 | 10:G:59:ARG:NH1 | 2.72 | 0.58 |
| 10:G:64:VAL:HB | 10:G:99:VAL:HG12 | 1.84 | 0.58 |
| 11:H:127:THR:HB | 11:H:147:ALA:H | 1.68 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 16:M:93:ARG:NH1 | 16:M:97:LYS:HD3 | 2.18 | 0.58 |
| 20:Q:108:ARG:CZ | 20:Q:114:ARG:HG2 | 2.32 | 0.58 |
| 22:S:63:ARG:HH12 | 22:S:87:ILE:HG21 | 1.67 | 0.58 |
| 25:V:39:VAL:HG13 | 25:V:42:ARG:HH12 | 1.68 | 0.58 |
| 3:3:25:PRO:HA | 3:3:29:GLN:HB2 | 1.84 | 0.58 |
| 6:A:259:G:H2' | 6:A:260:G:H8 | 1.67 | 0.58 |
| 6:A:468:A:H5'' | 23:T:80:PHE:CE2 | 2.37 | 0.58 |
| 6:A:526:C:O2' | 6:A:527:G:OP1 | 2.21 | 0.58 |
| 6:A:754:C:P | 22:S:72:ARG:NH1 | 2.64 | 0.58 |
| 56:B:228:ILE:HG13 | 56:B:282:LEU:CD2 | 2.32 | 0.58 |
| 56:B:417:PRO:CA | 56:B:448:VAL:CG2 | 2.40 | 0.58 |
| 7:D:1173:G:C4 | 7:D:1174:A:H2 | 2.21 | 0.58 |
| 7:D:1492:G:N2 | 7:D:1493:C:H42 | 2.01 | 0.58 |
| 7:D:1591:G:H8 | 7:D:1591:G:O5' | 1.85 | 0.58 |
| 7:D:1606:G:H5'' | 7:D:1607:C:OP1 | 2.02 | 0.58 |
| 7:D:1718:G:O2' | 7:D:1725:G:H8 | 1.86 | 0.58 |
| 7:D:1741:C:H2' | 7:D:1742:C:O4' | 2.03 | 0.58 |
| 7:D:2113:U:O4 | 7:D:2114:A:N6 | 2.37 | 0.58 |
| 7:D:43:G:C6 | 7:D:44:A:C5 | 2.91 | 0.58 |
| 7:D:701:G:H1 | 7:D:731:C:H42 | 1.52 | 0.58 |
| 7:D:974:G:P | 7:D:974(A):C:OP2 | 2.61 | 0.58 |
| 8:E:50:G:H2' | 8:E:51:G:H8 | 1.68 | 0.58 |
| 9:F:114:ARG:HA | 9:F:117:GLU:HG2 | 1.85 | 0.58 |
| 9:F:12:GLU:O | 9:F:14:GLY:N | 2.35 | 0.58 |
| 13:J:69:GLU:HG2 | 13:J:70:ASP:N | 2.19 | 0.58 |
| 14:K:45:ASP:HA | 14:K:48:LYS:NZ | 2.19 | 0.58 |
| 26:W:30:LEU:HD21 | 26:W:57:HIS:NE2 | 2.18 | 0.58 |
| 26:W:11:VAL:HG21 | 26:W:41:VAL:CB | 2.32 | 0.58 |
| 3:3:76:TYR:CZ | 3:3:80:LYS:NZ | 2.71 | 0.58 |
| 5:5:59:U:H2' | 5:5:60:U:O4' | 2.02 | 0.58 |
| 6:A:1330:U:H2' | 6:A:1331:G:H4' | 1.84 | 0.58 |
| 6:A:468:A:C5' | 23:T:80:PHE:CZ | 2.84 | 0.58 |
| 6:A:648:A:H2' | 6:A:649:G:C8 | 2.38 | 0.58 |
| 6:A:652:U:H2' | 6:A:752:G:O6 | 2.03 | 0.58 |
| 6:A:808:C:P | 22:S:48:LYS:HZ2 | 2.26 | 0.58 |
| 56:B:305:LEU:CD1 | 56:B:369:LEU:CD2 | 2.72 | 0.58 |
| 56:B:389:GLU:HG2 | 56:B:389:GLU:O | 2.03 | 0.58 |
| 56:B:41:MET:O | 56:B:42:ARG:HB3 | 2.02 | 0.58 |
| 56:B:411:LYS:CG | 56:B:452:TYR:O | 2.52 | 0.58 |
| 56:B:493:ASN:HA | 56:B:505:THR:HG23 | 1.86 | 0.58 |
| 56:B:49:LEU:CD2 | 56:B:60:LYS:HZ1 | 2.16 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 7:D:1022:G:N2 | 7:D:1024:G:H22 | 2.00 | 0.58 |
| 7:D:1109:C:H41 | 7:D:1110:G:N2 | 2.01 | 0.58 |
| 7:D:1205:U:H3 | 7:D:1207:C:N4 | 2.02 | 0.58 |
| 7:D:1307:A:H1' | 7:D:1622:G:H22 | 1.68 | 0.58 |
| 7:D:1814:G:OP2 | 7:D:1815:A:H3' | 2.02 | 0.58 |
| 7:D:1872:A:C3' | 7:D:1878:G:H5'' | 2.33 | 0.58 |
| 7:D:1936:A:OP2 | 7:D:1961:C:N4 | 2.36 | 0.58 |
| 7:D:2371:G:N2 | 7:D:2372:G:C4 | 2.70 | 0.58 |
| 7:D:629:G:N3 | 7:D:639:U:O2' | 2.35 | 0.58 |
| 7:D:738:G:H5' | 7:D:739:G:OP2 | 2.02 | 0.58 |
| 7:D:685:A:C8 | 7:D:774:A:N6 | 2.72 | 0.58 |
| 8:E:51:G:C8 | 8:E:51:G:OP2 | 2.56 | 0.58 |
| 6:A:737:A:H5'' | 13:J:92:LYS:HZ2 | 1.68 | 0.58 |
| 6:A:1229:A:OP2 | 20:Q:108:ARG:NH2 | 2.36 | 0.58 |
| 6:A:468:A:HO2' | 23:T:82:GLN:HG2 | 1.68 | 0.58 |
| 25:V:77:GLY:O | 25:V:79:LEU:N | 2.36 | 0.58 |
| 29:Z:37:PHE:HE1 | 29:Z:40:THR:HG1 | 1.50 | 0.58 |
| 3:3:126:MET:HE1 | 7:D:1059:G:C8 | 2.39 | 0.58 |
| 4:4:50:U:C4 | 4:4:51:C:C4 | 2.92 | 0.58 |
| 6:A:1423:G:N2 | 6:A:1478:C:O2 | 2.36 | 0.58 |
| 6:A:736:C:H2' | 6:A:737:A:C8 | 2.38 | 0.58 |
| 6:A:571:U:O4 | 6:A:864:A:N6 | 2.36 | 0.58 |
| 56:B:11:ASN:O | 56:B:100:VAL:CG1 | 2.52 | 0.58 |
| 56:B:10:ARG:HG2 | 56:B:185:ILE:HG22 | 1.85 | 0.58 |
| 56:B:279:THR:O | 56:B:281:THR:N | 2.36 | 0.58 |
| 56:B:330:LEU:CD2 | 56:B:346:CYS:SG | 2.91 | 0.58 |
| 56:B:379:LYS:HG2 | 56:B:405:ILE:O | 2.02 | 0.58 |
| 56:B:456:PHE:HA | 56:B:459:ILE:HG13 | 1.86 | 0.58 |
| 56:B:497:HIS:CB | 56:B:535:VAL:CG1 | 2.50 | 0.58 |
| 7:D:1173:G:H2' | 7:D:1174:A:C6 | 2.38 | 0.58 |
| 7:D:126:A:N6 | 7:D:127:A:N1 | 2.50 | 0.58 |
| 7:D:1542:G:H3' | 7:D:1542:G:OP2 | 2.03 | 0.58 |
| 7:D:1730:U:O2 | 7:D:1733:G:N2 | 2.37 | 0.58 |
| 7:D:1861:G:C2 | 7:D:1862:G:C8 | 2.91 | 0.58 |
| 7:D:191:A:H2' | 7:D:192:C:H6 | 1.69 | 0.58 |
| 7:D:1964:G:C2 | 7:D:1967:C:C4 | 2.92 | 0.58 |
| 7:D:2111:C:N4 | 7:D:2146:C:OP2 | 2.37 | 0.58 |
| 7:D:2376:A:H8 | 7:D:2376:A:OP1 | 1.85 | 0.58 |
| 7:D:270(E):G:H2' | 7:D:270(F):U:O4' | 2.03 | 0.58 |
| 7:D:370:G:H4' | 7:D:370:G:OP1 | 2.03 | 0.58 |
| 7:D:539:G:C2' | 7:D:540:G:H5' | 2.34 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 7:D:719:C:H2' | 7:D:720:C:C6 | 2.38 | 0.58 |
| 7:D:788:A:H1' | 7:D:789:A:OP2 | 2.04 | 0.58 |
| 9:F:12:GLU:OE1 | 9:F:209:ARG:NH2 | 2.33 | 0.58 |
| 11:H:30:LYS:HZ3 | 11:H:35:ARG:HG3 | 1.69 | 0.58 |
| 16:M:33:PHE:CZ | 16:M:44:VAL:HA | 2.38 | 0.58 |
| 18:O:27:ASN:OD1 | 18:O:28:THR:N | 2.37 | 0.58 |
| 18:O:43:SER:HB2 | 18:O:71:LYS:NZ | 2.19 | 0.58 |
| 19:P:5:PRO:O | 19:P:6:THR:OG1 | 2.20 | 0.58 |
| 29:Z:11:LEU:HA | 29:Z:14:VAL:HB | 1.85 | 0.58 |
| 3:3:10:LEU:HD21 | 3:3:57:ILE:CD1 | 2.31 | 0.58 |
| 3:3:38:VAL:O | 3:3:42:ASN:ND2 | 2.37 | 0.58 |
| 6:A:1055:A:O2' | 10:G:161:GLU:O | 2.22 | 0.58 |
| 6:A:1202:G:C2 | 6:A:1203:C:H1' | 2.38 | 0.58 |
| 6:A:1294:G:H2' | 6:A:1295:G:C8 | 2.31 | 0.58 |
| 6:A:199:G:N2 | 6:A:219:C:N3 | 2.51 | 0.58 |
| 6:A:502:G:N1 | 6:A:544:G:C6 | 2.71 | 0.58 |
| 6:A:705:U:H2' | 6:A:706:A:O4' | 2.02 | 0.58 |
| 56:B:222:VAL:O | 56:B:222:VAL:HG13 | 2.03 | 0.58 |
| 56:B:378:TYR:HD2 | 56:B:406:LEU:HD11 | 1.68 | 0.58 |
| 56:B:95:ARG:HG3 | 56:B:96:ALA:H | 1.65 | 0.58 |
| 3:3:21:PRO:CG | 7:D:1067:A:OP2 | 2.51 | 0.58 |
| 7:D:1364:G:OP1 | 7:D:1809:A:N6 | 2.36 | 0.58 |
| 7:D:1476:C:H5 | 7:D:1477:A:C2 | 2.21 | 0.58 |
| 7:D:1735:C:O2' | 7:D:1741:C:OP1 | 2.21 | 0.58 |
| 7:D:2589:A:H2' | 7:D:2590:A:H8 | 1.67 | 0.58 |
| 7:D:565:C:H2' | 7:D:566:U:C6 | 2.39 | 0.58 |
| 7:D:603:A:C6 | 7:D:604:G:N1 | 2.72 | 0.58 |
| 7:D:690:G:O2' | 7:D:780:G:OP1 | 2.20 | 0.58 |
| 7:D:71:A:N3 | 7:D:73:A:N6 | 2.52 | 0.58 |
| 7:D:852:G:C5 | 7:D:926:A:N6 | 2.55 | 0.58 |
| 7:D:957:A:C2 | 7:D:2459:A:H5' | 2.39 | 0.58 |
| 13:J:62:TRP:CG | 25:V:35:ARG:NH1 | 2.71 | 0.58 |
| 22:S:81:LEU:HA | 22:S:84:LYS:HB2 | 1.85 | 0.58 |
| 28:Y:13:ILE:HG13 | 28:Y:22:ARG:NH1 | 2.16 | 0.58 |
| 1:1:31:LYS:NZ | 7:D:2478:A:O4' | 2.37 | 0.58 |
| 2:2:61:LEU:HA | 7:D:1046:A:H2' | 1.86 | 0.58 |
| 6:A:1163:C:C2' | 6:A:1164:G:C5' | 2.79 | 0.58 |
| 6:A:1200:C:H3' | 6:A:1201:A:H5' | 1.86 | 0.58 |
| 6:A:1347:G:H1' | 6:A:1348:U:OP2 | 2.03 | 0.58 |
| 6:A:546:G:P | 11:H:72:GLU:HB3 | 2.44 | 0.58 |
| 56:B:13:SER:HB2 | 56:B:97:LEU:CG | 2.30 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 56:B:421:VAL:O | 56:B:425:MET:HB2 | 2.03 | 0.58 |
| 7:D:1012:U:O2' | 7:D:1013:C:OP2 | 2.16 | 0.58 |
| 7:D:1035:U:H2' | 7:D:1036:G:H8 | 1.69 | 0.58 |
| 7:D:1651:G:C2 | 7:D:1652:A:C5 | 2.92 | 0.58 |
| 7:D:1889:A:N3 | 7:D:2086:U:O2' | 2.36 | 0.58 |
| 7:D:2215:G:H4' | 7:D:2216:G:OP2 | 2.04 | 0.58 |
| 7:D:2264:C:H2' | 7:D:2265:U:H6 | 1.69 | 0.58 |
| 7:D:2570:G:H5' | 7:D:2571:C:OP2 | 2.04 | 0.58 |
| 7:D:1:G:H2' | 7:D:2:G:H8 | 1.66 | 0.58 |
| 8:E:118:G:H2' | 8:E:119:A:H8 | 1.68 | 0.58 |
| 8:E:44:G:H1' | 8:E:47:C:H42 | 1.67 | 0.58 |
| 16:M:97:LYS:HB3 | 16:M:98:PRO:HD3 | 1.84 | 0.58 |
| 17:N:42:THR:HG21 | 17:N:66:ARG:HD2 | 1.86 | 0.58 |
| 24:U:22:LEU:HG | 24:U:24:GLU:OE2 | 2.03 | 0.58 |
| 3:3:101:TRP:O | 3:3:105:LEU:HG | 2.04 | 0.58 |
| 5:5:15:G:H4' | 5:5:16:U:OP1 | 2.04 | 0.58 |
| 6:A:456:C:H2' | 6:A:457:C:O4' | 2.03 | 0.58 |
| 6:A:500:G:N7 | 6:A:546:G:N2 | 2.50 | 0.58 |
| 6:A:702:A:H5'' | 6:A:703:G:N7 | 2.18 | 0.58 |
| 6:A:718:G:N7 | 6:A:719:C:C4 | 2.72 | 0.58 |
| 6:A:55:A:C1' | 56:B:208:TYR:HE2 | 2.16 | 0.58 |
| 56:B:299:PRO:N | 56:B:348:PHE:HE2 | 1.95 | 0.58 |
| 56:B:301:VAL:CG1 | 56:B:349:LEU:O | 2.50 | 0.58 |
| 56:B:380:VAL:O | 56:B:387:GLU:HA | 2.03 | 0.58 |
| 56:B:527:VAL:HG23 | 56:B:527:VAL:O | 2.02 | 0.58 |
| 7:D:1564:C:H5' | 7:D:1565:C:OP2 | 2.03 | 0.58 |
| 7:D:215:G:H4' | 7:D:216:A:O5' | 2.04 | 0.58 |
| 7:D:2507:C:C2 | 7:D:2583:G:C2 | 2.92 | 0.58 |
| 7:D:2782:G:H2' | 7:D:2783:G:H8 | 1.69 | 0.58 |
| 7:D:2791:C:OP2 | 7:D:2792:G:OP2 | 2.21 | 0.58 |
| 7:D:329:G:C2 | 7:D:477:A:C2 | 2.91 | 0.58 |
| 7:D:373:U:O2' | 7:D:374:A:P | 2.62 | 0.58 |
| 9:F:30:ARG:NH2 | 9:F:31:TYR:OH | 2.37 | 0.58 |
| 6:A:1346:A:C6 | 14:K:10:ARG:NH1 | 2.72 | 0.58 |
| 17:N:22:LYS:O | 17:N:25:GLU:N | 2.37 | 0.58 |
| 17:N:11:PHE:O | 17:N:68:HIS:ND1 | 2.36 | 0.58 |
| 20:Q:69:GLU:HB3 | 20:Q:73:GLU:HB2 | 1.84 | 0.58 |
| 20:Q:71:ARG:HA | 20:Q:75:ALA:H | 1.67 | 0.58 |
| 22:S:76:GLU:HA | 22:S:79:ARG:HH21 | 1.67 | 0.58 |
| 26:W:28:LYS:HE2 | 26:W:29:ARG:CZ | 2.34 | 0.58 |
| 26:W:14:HIS:HB3 | 26:W:35:SER:O | 2.04 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 6:A:1241:G:C8 | 6:A:1241:G:OP2 | 2.56 | 0.58 |
| 6:A:1452:C:C1' | 6:A:1453:G:C2 | 2.87 | 0.58 |
| 6:A:1459:C:C2' | 6:A:1460:A:H5' | 2.34 | 0.58 |
| 6:A:216:G:C8 | 6:A:217:C:C5 | 2.91 | 0.58 |
| 6:A:409:G:OP1 | 11:H:24:GLU:N | 2.37 | 0.58 |
| 6:A:646:U:H2' | 6:A:647:C:C6 | 2.38 | 0.58 |
| 6:A:69:G:C2' | 6:A:73:G:H8 | 1.95 | 0.58 |
| 6:A:837:G:H2' | 6:A:838:G:H8 | 1.69 | 0.58 |
| 56:B:299:PRO:CA | 56:B:479:TYR:CE1 | 2.87 | 0.58 |
| 7:D:1143:A:OP2 | 7:D:1144:G:OP2 | 2.22 | 0.58 |
| 7:D:1171:G:H2' | 7:D:1173:G:O3' | 2.04 | 0.58 |
| 7:D:1203:G:H5' | 7:D:1204:A:H8 | 1.68 | 0.58 |
| 7:D:1358:G:N1 | 7:D:1372:U:OP2 | 2.28 | 0.58 |
| 7:D:1485:G:O6 | 7:D:1486:A:N6 | 2.37 | 0.58 |
| 7:D:1524:G:H2' | 7:D:1525:G:C8 | 2.39 | 0.58 |
| 7:D:1580:A:H2' | 7:D:1581:G:N9 | 2.18 | 0.58 |
| 7:D:1718:G:O2' | 7:D:1725:G:H5' | 2.04 | 0.58 |
| 7:D:1748:G:C2' | 7:D:1749:A:C8 | 2.76 | 0.58 |
| 7:D:2287:A:O2' | 7:D:2288:A:O5' | 2.21 | 0.58 |
| 7:D:2320:A:H1' | 7:D:2333:A:C2 | 2.38 | 0.58 |
| 7:D:2585:U:O2' | 7:D:2586:C:O5' | 2.21 | 0.58 |
| 7:D:2792:G:C4 | 7:D:2793:G:C8 | 2.91 | 0.58 |
| 7:D:280:C:N4 | 7:D:360:G:N7 | 2.52 | 0.58 |
| 7:D:28:A:C4 | 7:D:513:A:N7 | 2.72 | 0.58 |
| 7:D:542:C:C4 | 7:D:543:C:N4 | 2.72 | 0.58 |
| 7:D:548:A:C5 | 7:D:549:G:H1' | 2.39 | 0.58 |
| 9:F:22:LYS:HE2 | 9:F:38:GLY:HA2 | 1.86 | 0.58 |
| 7:D:1251:C:H5' | 16:M:10:ARG:HE | 171.05 | 0.58 |
| 26:W:49:ILE:O | 26:W:59:PRO:HG2 | 2.04 | 0.58 |
| 1:1:19:ARG:HD3 | 1:1:24:TYR:CD2 | 2.39 | 0.57 |
| 3:3:49:GLY:O | 3:3:53:VAL:HG23 | 2.04 | 0.57 |
| 5:5:16:U:OP2 | 5:5:17:C:OP2 | 2.22 | 0.57 |
| 6:A:1092:A:H5'' | 14:K:4:ARG:NH1 | 2.11 | 0.57 |
| 6:A:1164:G:C6 | 6:A:1165:C:C4 | 2.92 | 0.57 |
| 6:A:1167:A:H8 | 6:A:1167:A:P | 2.25 | 0.57 |
| 6:A:1243:C:H2' | 6:A:1244:C:H6 | 1.68 | 0.57 |
| 6:A:1254:C:H2' | 6:A:1255:G:H8 | 1.69 | 0.57 |
| 6:A:1293:G:H2' | 6:A:1294:G:H8 | 1.67 | 0.57 |
| 6:A:393:A:OP2 | 23:T:12:LYS:NZ | 2.33 | 0.57 |
| 6:A:734:G:H21 | 25:V:75:ILE:HD11 | 1.69 | 0.57 |
| 56:B:194:ALA:HB1 | 56:B:195:PRO:HD2 | 1.85 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 56:B:308:VAL:HG22 | 56:B:370:ILE:HD11 | 1.86 | 0.57 |
| 7:D:1084:A:C4' | 7:D:1106:G:H8 | 2.17 | 0.57 |
| 7:D:1025:G:C8 | 7:D:1134:G:H1' | 2.39 | 0.57 |
| 7:D:1205:U:H2' | 7:D:1206:G:N7 | 2.19 | 0.57 |
| 7:D:1491:G:H5'' | 7:D:1492:G:OP2 | 2.04 | 0.57 |
| 7:D:151:C:C2 | 7:D:176:G:N2 | 2.72 | 0.57 |
| 7:D:1528:A:C5 | 7:D:1529:A:C6 | 2.91 | 0.57 |
| 7:D:154:G:C4 | 7:D:155:C:C5 | 2.92 | 0.57 |
| 7:D:1707:G:C4 | 7:D:1756:G:C2 | 2.91 | 0.57 |
| 7:D:2125:G:O4' | 29:Z:217:THR:HG21 | 2.04 | 0.57 |
| 7:D:2206:C:H6 | 7:D:2206:C:O5' | 1.87 | 0.57 |
| 7:D:2681:C:O2' | 7:D:2682:U:O5' | 2.21 | 0.57 |
| 7:D:1709:U:HO2' | 7:D:2859:G:HO2' | 1.52 | 0.57 |
| 7:D:646:A:H5'' | 7:D:647:G:OP2 | 2.04 | 0.57 |
| 7:D:778:G:C6 | 7:D:779:U:N3 | 2.72 | 0.57 |
| 7:D:827:U:H4' | 7:D:828:U:O2 | 2.04 | 0.57 |
| 7:D:930:U:H4' | 7:D:931:G:OP2 | 2.04 | 0.57 |
| 10:G:137:ALA:O | 10:G:141:VAL:HG23 | 2.04 | 0.57 |
| 14:K:146:GLU:HA | 14:K:149:ARG:HG3 | 1.86 | 0.57 |
| 20:Q:87:TYR:HD2 | 26:W:73:GLU:HA | 1.69 | 0.57 |
| 13:J:62:TRP:CD2 | 25:V:35:ARG:NH1 | 2.71 | 0.57 |
| 27:X:73:HIS:HD2 | 27:X:74:LYS:HD2 | 1.69 | 0.57 |
| 6:A:217:C:O5' | 6:A:217:C:H6 | 1.87 | 0.57 |
| 6:A:442:C:O2' | 6:A:443:C:H5' | 2.04 | 0.57 |
| 6:A:733:A:H5' | 6:A:734:G:OP2 | 2.03 | 0.57 |
| 6:A:850:U:O5' | 6:A:850:U:H6 | 1.87 | 0.57 |
| 56:B:12:PHE:HA | 56:B:100:VAL:HG12 | 1.86 | 0.57 |
| 56:B:192:PRO:HD2 | 56:B:193:GLU:H | 1.69 | 0.57 |
| 56:B:25:LEU:CD2 | 56:B:29:ILE:HD11 | 2.34 | 0.57 |
| 56:B:398:ASP:CG | 56:B:399:PRO:HD3 | 2.24 | 0.57 |
| 7:D:1485:G:C4 | 7:D:1486:A:C8 | 2.92 | 0.57 |
| 7:D:1511:A:OP2 | 7:D:1511:A:H8 | 1.87 | 0.57 |
| 7:D:1747:G:H2' | 7:D:1748:G:C5' | 2.30 | 0.57 |
| 7:D:1856:G:O6 | 7:D:1858:G:N2 | 2.37 | 0.57 |
| 7:D:2227:A:N7 | 7:D:2228:G:N7 | 2.52 | 0.57 |
| 7:D:2656:U:H5'' | 7:D:2657:A:OP2 | 2.05 | 0.57 |
| 7:D:2842:G:H2' | 7:D:2843:G:C8 | 2.34 | 0.57 |
| 7:D:2856:C:N4 | 7:D:2857:G:O6 | 2.36 | 0.57 |
| 7:D:201:C:O2' | 7:D:386:G:N1 | 2.36 | 0.57 |
| 7:D:38:A:C5 | 7:D:39:C:C4 | 2.91 | 0.57 |
| 7:D:440:G:C2 | 7:D:441:U:C2 | 2.91 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:82:G:C5 | 7:D:102:G:N2 | 2.71 | 0.57 |
| 8:E:113:C:H2' | 8:E:114:G:C8 | 2.39 | 0.57 |
| 6:A:511:C:O2' | 11:H:43:HIS:NE2 | 2.34 | 0.57 |
| 11:H:77:ASN:O | 11:H:81:GLU:HG2 | 2.03 | 0.57 |
| 14:K:18:TYR:CD2 | 14:K:23:VAL:HG21 | 2.39 | 0.57 |
| 19:P:86:ARG:HH21 | 19:P:99:HIS:HE1 | 1.50 | 0.57 |
| 29:Z:127:LEU:HD23 | 29:Z:130:ILE:HD13 | 1.86 | 0.57 |
| 6:A:1159:U:H5 | 6:A:1182:G:N3 | 2.03 | 0.57 |
| 6:A:1326:C:N3 | 6:A:1327:C:N4 | 2.51 | 0.57 |
| 6:A:199:G:C2 | 6:A:219:C:N3 | 2.72 | 0.57 |
| 6:A:19:C:H2' | 6:A:20:U:C6 | 2.39 | 0.57 |
| 6:A:614:A:H2' | 6:A:615:C:C6 | 2.39 | 0.57 |
| 6:A:84:U:H6 | 6:A:84:U:O5' | 1.87 | 0.57 |
| 56:B:118:LEU:HD22 | 56:B:446:LYS:NZ | 2.10 | 0.57 |
| 56:B:239:VAL:CG2 | 56:B:240:ASP:H | 2.05 | 0.57 |
| 56:B:490:VAL:HG12 | 56:B:508:ALA:CB | 2.31 | 0.57 |
| 7:D:1456:G:N1 | 7:D:1457:A:N7 | 2.52 | 0.57 |
| 7:D:141:A:N3 | 7:D:1596:A:O2' | 2.37 | 0.57 |
| 7:D:1870:C:C2' | 7:D:1871:A:C8 | 2.86 | 0.57 |
| 7:D:2154:G:H2' | 7:D:2155:G:C8 | 2.39 | 0.57 |
| 7:D:2423:U:H1' | 7:D:2425:A:C5 | 2.39 | 0.57 |
| 7:D:2460:U:H3 | 7:D:2490:G:H1 | 1.53 | 0.57 |
| 7:D:2792:G:C8 | 7:D:2792:G:OP2 | 2.57 | 0.57 |
| 7:D:2807:G:H22 | 7:D:2892:A:N6 | 2.01 | 0.57 |
| 7:D:638:G:H22 | 7:D:650:C:H1' | 1.69 | 0.57 |
| 7:D:894:C:H5 | 7:D:895:U:C2 | 2.19 | 0.57 |
| 11:H:68:TYR:HD1 | 11:H:114:ARG:NH1 | 2.02 | 0.57 |
| 14:K:77:SER:OG | 14:K:86:GLN:OE1 | 2.18 | 0.57 |
| 20:Q:108:ARG:HH21 | 20:Q:114:ARG:HH11 | 1.51 | 0.57 |
| 29:Z:65:PRO:HG2 | 29:Z:154:ARG:HH11 | 1.69 | 0.57 |
| 6:A:1171:G:H2' | 6:A:1172:C:H6 | 1.68 | 0.57 |
| 6:A:1293:G:H2' | 6:A:1294:G:C8 | 2.38 | 0.57 |
| 6:A:62:U:H5'' | 6:A:385:C:O2' | 2.04 | 0.57 |
| 6:A:850:U:O2' | 6:A:851:G:H5' | 2.04 | 0.57 |
| 56:B:107:VAL:HG11 | 56:B:113:VAL:CG2 | 2.33 | 0.57 |
| 56:B:9:ILE:HG23 | 56:B:77:VAL:HA | 1.85 | 0.57 |
| 7:D:1128:A:OP2 | 7:D:1128:A:C4 | 2.58 | 0.57 |
| 7:D:1460:A:OP2 | 7:D:1461:G:OP2 | 2.22 | 0.57 |
| 7:D:1448:G:N2 | 7:D:1463:C:N3 | 2.51 | 0.57 |
| 7:D:528:A:N7 | 7:D:2042:A:C6 | 2.72 | 0.57 |
| 7:D:2047:U:H2' | 7:D:2048:G:H8 | 1.69 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:917:A:N6 | 7:D:2268:A:C4 | 2.72 | 0.57 |
| 7:D:2270:G:C6 | 7:D:2271:G:C2 | 2.92 | 0.57 |
| 7:D:350:U:H2' | 7:D:350:U:O2 | 2.03 | 0.57 |
| 7:D:432:A:C5 | 7:D:433:C:C5 | 2.92 | 0.57 |
| 7:D:729:G:O3' | 7:D:730:C:H4' | 2.03 | 0.57 |
| 7:D:879:G:N1 | 7:D:880:G:N7 | 2.53 | 0.57 |
| 9:F:124:SER:O | 9:F:126:GLU:N | 2.37 | 0.57 |
| 9:F:163:PHE:HA | 9:F:185:ILE:O | 2.04 | 0.57 |
| 26:W:30:LEU:CD1 | 26:W:31:ILE:H | 2.05 | 0.57 |
| 6:A:1321:C:C5 | 26:W:37:ARG:NH2 | 2.73 | 0.57 |
| 26:W:70:LYS:HB3 | 26:W:73:GLU:H | 1.69 | 0.57 |
| 6:A:101:A:C6 | 6:A:102:G:C6 | 2.92 | 0.57 |
| 6:A:1059:C:H2' | 6:A:1060:C:C6 | 2.39 | 0.57 |
| 6:A:1131:G:N1 | 6:A:1144:G:O2' | 2.35 | 0.57 |
| 6:A:166:G:H2' | 6:A:167:G:C8 | 2.39 | 0.57 |
| 6:A:447:G:H3' | 6:A:485:G:N1 | 2.20 | 0.57 |
| 6:A:495:A:O4' | 6:A:496:A:C8 | 2.58 | 0.57 |
| 6:A:66:G:C6 | 6:A:67:C:C4 | 2.93 | 0.57 |
| 6:A:696:A:C6 | 6:A:697:U:C4 | 2.93 | 0.57 |
| 56:B:300:VAL:HG11 | 56:B:477:MET:HE1 | 1.85 | 0.57 |
| 56:B:492:VAL:CG2 | 56:B:541:ILE:CG2 | 2.83 | 0.57 |
| 56:B:528:ILE:O | 56:B:528:ILE:HG13 | 2.03 | 0.57 |
| 7:D:1275:A:H62 | 7:D:1296:G:C4' | 2.17 | 0.57 |
| 7:D:1512:G:N7 | 7:D:1513:C:N4 | 2.52 | 0.57 |
| 7:D:1709:U:O2' | 7:D:2859:G:O2' | 2.22 | 0.57 |
| 7:D:1746:G:N1 | 7:D:1747:G:N3 | 2.52 | 0.57 |
| 7:D:1776:G:C2 | 7:D:1777:U:C2 | 2.92 | 0.57 |
| 7:D:2029:G:N2 | 7:D:2033:A:C4 | 2.72 | 0.57 |
| 7:D:2089:U:H2' | 7:D:2090:G:H8 | 1.70 | 0.57 |
| 7:D:2104:G:O5' | 7:D:2104:G:H8 | 1.86 | 0.57 |
| 7:D:2427:C:O2' | 7:D:2428:G:OP2 | 2.15 | 0.57 |
| 7:D:2545:G:N1 | 7:D:2546:U:O2 | 2.37 | 0.57 |
| 7:D:299:A:N1 | 7:D:322:A:H2' | 2.19 | 0.57 |
| 7:D:519:U:H2' | 7:D:520:G:C8 | 2.39 | 0.57 |
| 7:D:526:A:H4' | 7:D:527:C:OP1 | 2.04 | 0.57 |
| 7:D:738:G:H1' | 7:D:759:G:N2 | 2.19 | 0.57 |
| 7:D:848:G:N3 | 7:D:931:G:O6 | 2.36 | 0.57 |
| 16:M:49:PRO:HD3 | 16:M:101:PHE:HE2 | 1.69 | 0.57 |
| 18:O:43:SER:HB2 | 18:O:71:LYS:HZ1 | 1.70 | 0.57 |
| 26:W:49:ILE:HD13 | 26:W:49:ILE:N | 2.20 | 0.57 |
| 26:W:40:ILE:C | 26:W:68:GLY:HA2 | 2.25 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 29:Z:91:ALA:HB2 | 29:Z:153:ILE:CG2 | 2.35 | 0.57 |
| 4:4:63:G:H5'' | 4:4:64:G:OP2 | 2.05 | 0.57 |
| 6:A:1169:A:C6 | 6:A:1170:A:N6 | 2.73 | 0.57 |
| 6:A:1265:G:C6 | 6:A:1266:G:H1' | 2.40 | 0.57 |
| 6:A:443:C:C6 | 6:A:492:G:N2 | 2.72 | 0.57 |
| 56:B:153:GLU:HG3 | 56:B:159:PRO:HB2 | 1.87 | 0.57 |
| 56:B:70:ALA:CA | 56:B:178:LEU:HD21 | 2.34 | 0.57 |
| 56:B:205:TYR:OH | 56:B:271:ILE:CG1 | 2.35 | 0.57 |
| 56:B:242:VAL:CG2 | 56:B:256:LEU:CD2 | 2.83 | 0.57 |
| 56:B:200:ILE:CD1 | 56:B:274:VAL:CG1 | 2.60 | 0.57 |
| 56:B:419:GLU:HG2 | 56:B:419:GLU:O | 2.05 | 0.57 |
| 56:B:411:LYS:CA | 56:B:452:TYR:O | 2.49 | 0.57 |
| 56:B:556:LYS:O | 56:B:558:VAL:HG23 | 2.04 | 0.57 |
| 56:B:23:SER:N | 57:B:701:GCP:O2B | 2.38 | 0.57 |
| 7:D:585:G:C2 | 7:D:1251:C:N4 | 2.73 | 0.57 |
| 7:D:139:G:C2 | 7:D:140:A:H1' | 2.39 | 0.57 |
| 7:D:153:C:O2 | 7:D:174:C:O2 | 2.22 | 0.57 |
| 7:D:1899:G:H22 | 7:D:1902:C:H41 | 1.50 | 0.57 |
| 7:D:270(Z):U:N3 | 7:D:271(B):G:OP1 | 2.36 | 0.57 |
| 7:D:37:C:H2' | 7:D:38:A:H8 | 1.69 | 0.57 |
| 7:D:685:A:C8 | 7:D:774:A:C6 | 2.93 | 0.57 |
| 8:E:23:G:H5'' | 8:E:24:G:OP2 | 2.04 | 0.57 |
| 11:H:60:GLU:OE2 | 11:H:198:VAL:HB | 2.04 | 0.57 |
| 20:Q:71:ARG:C | 20:Q:75:ALA:HB3 | 2.24 | 0.57 |
| 6:A:277:C:H5' | 24:U:68:ARG:NH1 | 2.20 | 0.57 |
| 25:V:80:PRO:HB2 | 25:V:83:GLU:OE2 | 2.05 | 0.57 |
| 29:Z:131:LEU:HB3 | 29:Z:136:LEU:HB2 | 1.85 | 0.57 |
| 29:Z:66:HIS:N | 29:Z:158:ALA:O | 2.37 | 0.57 |
| 3:3:10:LEU:CG | 3:3:57:ILE:CD1 | 2.72 | 0.57 |
| 4:4:23:C:H2' | 4:4:24:U:H6 | 1.70 | 0.57 |
| 6:A:1238:A:H5'' | 6:A:1239:A:OP2 | 2.03 | 0.57 |
| 6:A:1288:A:C6 | 6:A:1289:A:C6 | 2.92 | 0.57 |
| 6:A:1320:C:C5' | 26:W:70:LYS:CE | 2.31 | 0.57 |
| 6:A:1323:G:H2' | 6:A:1324:A:C8 | 2.40 | 0.57 |
| 6:A:1479:C:H2' | 6:A:1480:G:H8 | 1.68 | 0.57 |
| 6:A:160:A:H2' | 6:A:161:A:H8 | 1.69 | 0.57 |
| 6:A:287:U:H2' | 6:A:288:A:C8 | 2.40 | 0.57 |
| 6:A:362:G:N1 | 6:A:365:U:OP2 | 2.37 | 0.57 |
| 6:A:474:G:N2 | 6:A:475:G:C2 | 2.73 | 0.57 |
| 6:A:90:C:C2 | 6:A:91:C:N4 | 2.73 | 0.57 |
| 56:B:15:ILE:HA | 56:B:22:LYS:HE3 | 1.86 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 56:B:162:GLU:C | 56:B:164:ILE:H | 2.07 | 0.57 |
| 56:B:229:ARG:O | 56:B:280:ILE:CG2 | 2.52 | 0.57 |
| 56:B:306:TYR:HB2 | 56:B:370:ILE:HB | 1.76 | 0.57 |
| 56:B:382:LEU:H | 56:B:386:GLU:CB | 2.16 | 0.57 |
| 56:B:526:GLU:OE1 | 56:B:595:GLU:HB3 | 2.05 | 0.57 |
| 56:B:69:ARG:HA | 56:B:69:ARG:NH2 | 2.18 | 0.57 |
| 7:D:1054:A:H2' | 7:D:1055:G:C8 | 2.26 | 0.57 |
| 7:D:1448:G:H1 | 7:D:1463:C:N4 | 2.02 | 0.57 |
| 7:D:1748:G:H2' | 7:D:1749:A:N9 | 2.19 | 0.57 |
| 7:D:1797:C:H2' | 7:D:1798:U:H6 | 1.69 | 0.57 |
| 7:D:1943:U:OP1 | 56:B:532:LEU:HD11 | 2.04 | 0.57 |
| 7:D:2301:C:N4 | 7:D:2302:G:O6 | 2.37 | 0.57 |
| 7:D:2461:C:H1' | 7:D:2492:U:C4 | 2.39 | 0.57 |
| 7:D:2592:G:C2 | 7:D:2603:G:C2 | 2.93 | 0.57 |
| 7:D:2630:G:N3 | 7:D:2893:G:C2 | 2.66 | 0.57 |
| 7:D:2659:G:H4' | 7:D:2660:A:N1 | 2.19 | 0.57 |
| 7:D:273(C):C:H2' | 7:D:273(D):C:C6 | 2.38 | 0.57 |
| 7:D:295:G:C4 | 7:D:344:G:N2 | 2.72 | 0.57 |
| 7:D:375:C:H42 | 7:D:399:G:H1 | 1.53 | 0.57 |
| 7:D:541:C:C5 | 7:D:542:C:N4 | 2.73 | 0.57 |
| 7:D:775:G:H5'' | 7:D:777:A:N9 | 2.19 | 0.57 |
| 7:D:884:C:C1' | 7:D:885:C:C5 | 2.87 | 0.57 |
| 15:L:118:VAL:O | 15:L:119:LEU:HD12 | 2.05 | 0.57 |
| 19:P:86:ARG:HH21 | 19:P:99:HIS:CE1 | 2.22 | 0.57 |
| 19:P:24:VAL:HG13 | 19:P:98:TYR:HE1 | 1.70 | 0.57 |
| 23:T:19:ILE:HG22 | 23:T:36:ILE:HG13 | 1.85 | 0.57 |
| 6:A:449:C:C2 | 23:T:42:ARG:NH1 | 2.73 | 0.57 |
| 6:A:1039:C:H2' | 6:A:1040:U:H6 | 1.68 | 0.57 |
| 6:A:1408:A:N7 | 6:A:1409:C:C4 | 2.73 | 0.57 |
| 6:A:1447:G:C5 | 6:A:1448:C:N4 | 2.73 | 0.57 |
| 6:A:44:G:C2 | 6:A:399:G:C2 | 2.92 | 0.57 |
| 6:A:477:G:H2' | 6:A:478:A:C8 | 2.35 | 0.57 |
| 6:A:66:G:C2 | 6:A:104:G:H1' | 2.40 | 0.57 |
| 6:A:695:A:H61 | 6:A:797:C:H1' | 1.70 | 0.57 |
| 6:A:97:U:C4 | 6:A:99:C:N4 | 2.73 | 0.57 |
| 56:B:246:THR:OG1 | 56:B:251:VAL:HG23 | 2.04 | 0.57 |
| 56:B:25:LEU:HB2 | 56:B:168:GLY:CA | 2.34 | 0.57 |
| 56:B:337:SER:O | 56:B:338:THR:OG1 | 2.22 | 0.57 |
| 56:B:361:LEU:HD13 | 56:B:361:LEU:C | 2.24 | 0.57 |
| 56:B:397:PRO:HB2 | 56:B:401:ARG:NH2 | 2.20 | 0.57 |
| 56:B:383:LYS:CD | 56:B:402:ILE:CG2 | 2.78 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 56:B:417:PRO:HA | 56:B:448:VAL:HG23 | 0.65 | 0.57 |
| 56:B:527:VAL:O | 56:B:529:PRO:HD3 | 2.04 | 0.57 |
| 56:B:64:VAL:CG2 | 56:B:80:LEU:H | 2.17 | 0.57 |
| 7:D:1477:A:C6 | 7:D:1478:G:C6 | 2.92 | 0.57 |
| 7:D:1480:G:OP1 | 7:D:1559:G:N1 | 2.38 | 0.57 |
| 7:D:155:C:H4' | 7:D:161:U:OP1 | 2.03 | 0.57 |
| 7:D:1748:G:O2' | 7:D:1749:A:O4' | 2.17 | 0.57 |
| 7:D:65:C:H2' | 7:D:66:C:C6 | 2.39 | 0.57 |
| 7:D:727:A:N6 | 7:D:729:G:O6 | 2.36 | 0.57 |
| 7:D:958:U:O2' | 7:D:959:A:OP2 | 2.18 | 0.57 |
| 9:F:32:ILE:HD11 | 9:F:40:HIS:HB3 | 1.85 | 0.57 |
| 11:H:121:VAL:O | 11:H:134:ASP:HB2 | 2.04 | 0.57 |
| 17:N:54:PHE:CD2 | 17:N:55:LYS:HG2 | 2.40 | 0.57 |
| 23:T:3:LYS:NZ | 23:T:24:ALA:HB2 | 2.19 | 0.57 |
| 26:W:67:VAL:C | 26:W:69:HIS:H | 2.08 | 0.57 |
| 29:Z:22:ILE:HG13 | 29:Z:228:SER:OXT | 2.05 | 0.57 |
| 6:A:979:C:OP1 | 6:A:1223:C:N4 | 2.38 | 0.57 |
| 6:A:125:U:H2' | 6:A:126:G:C8 | 2.40 | 0.57 |
| 6:A:210:U:H1' | 6:A:216:G:O5' | 2.04 | 0.57 |
| 6:A:285:G:H2' | 6:A:286:G:H8 | 1.70 | 0.57 |
| 6:A:308:C:OP2 | 6:A:308:C:H3' | 2.05 | 0.57 |
| 6:A:370:C:O2' | 6:A:371:G:H5' | 2.05 | 0.57 |
| 6:A:475:G:C2 | 6:A:476:G:C4 | 2.93 | 0.57 |
| 6:A:538:G:H2' | 6:A:539:A:C8 | 2.39 | 0.57 |
| 56:B:265:VAL:O | 56:B:266:ALA:HB3 | 2.05 | 0.57 |
| 56:B:332:PHE:CD1 | 56:B:333:GLU:N | 2.73 | 0.57 |
| 7:D:132:G:N2 | 7:D:148:C:O2 | 2.38 | 0.57 |
| 7:D:1386:C:H2' | 7:D:1387:C:C6 | 2.40 | 0.57 |
| 7:D:1466:G:N3 | 7:D:1547:C:N4 | 2.53 | 0.57 |
| 7:D:1582:C:C4 | 7:D:1583:A:N6 | 2.73 | 0.57 |
| 7:D:1652:A:H62 | 7:D:1653:G:N2 | 2.02 | 0.57 |
| 7:D:1661:G:N2 | 7:D:2000:G:C4 | 2.73 | 0.57 |
| 7:D:1743:G:C2 | 7:D:1746:G:H1' | 2.40 | 0.57 |
| 7:D:1777:U:H3 | 7:D:1787:A:H61 | 1.51 | 0.57 |
| 7:D:2205:C:H2' | 7:D:2206:C:C6 | 2.40 | 0.57 |
| 7:D:222:A:N6 | 7:D:224:G:C2 | 2.73 | 0.57 |
| 7:D:230:U:H2' | 7:D:231:C:C6 | 2.39 | 0.57 |
| 7:D:2711:A:OP2 | 7:D:2712(A):A:OP2 | 2.22 | 0.57 |
| 7:D:2776:A:C6 | 7:D:2778:A:C6 | 2.93 | 0.57 |
| 7:D:448:U:O2' | 7:D:449:A:P | 2.63 | 0.57 |
| 9:F:114:ARG:HG3 | 9:F:117:GLU:OE2 | 2.04 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 26:W:15:LEU:HD21 | 26:W:19:VAL:CB | 1.96 | 0.57 |
| 6:A:1146:A:H3' | 6:A:1147:C:C6 | 2.39 | 0.57 |
| 6:A:424:G:H2' | 6:A:425:G:H8 | 1.69 | 0.57 |
| 6:A:642:A:N7 | 15:L:115:SER:HA | 2.20 | 0.57 |
| 6:A:713:G:N2 | 6:A:777:A:H1' | 2.20 | 0.57 |
| 56:B:106:VAL:CG1 | 56:B:136:ASN:HB2 | 2.35 | 0.57 |
| 56:B:372:THR:HG22 | 56:B:373:ALA:H | 1.69 | 0.57 |
| 56:B:378:TYR:HD2 | 56:B:489:LEU:CD1 | 2.15 | 0.57 |
| 7:D:1062:G:H1' | 7:D:1063:G:P | 2.45 | 0.57 |
| 7:D:1882:C:C5 | 7:D:1883:G:C5 | 2.92 | 0.57 |
| 7:D:2227:A:C5 | 7:D:2228:G:N7 | 2.72 | 0.57 |
| 7:D:2576:G:O2' | 7:D:2579:C:OP2 | 2.22 | 0.57 |
| 7:D:2631:G:P | 7:D:2894:G:H5' | 2.45 | 0.57 |
| 7:D:2704:C:H2' | 7:D:2705:A:C8 | 2.37 | 0.57 |
| 7:D:336:C:C2' | 7:D:337:C:H5' | 2.35 | 0.57 |
| 7:D:627:A:H2 | 7:D:637:A:C4 | 2.23 | 0.57 |
| 7:D:829:A:N7 | 7:D:2248:C:H5' | 2.19 | 0.57 |
| 8:E:33:G:H2' | 8:E:34:U:C6 | 2.40 | 0.57 |
| 9:F:161:ALA:HA | 9:F:182:ILE:HG23 | 1.86 | 0.57 |
| 6:A:146:G:H1 | 6:A:176:C:H42 | 1.53 | 0.56 |
| 6:A:191(F):U:H2' | 6:A:191:G:C8 | 2.40 | 0.56 |
| 6:A:322:C:H2' | 6:A:323:U:C6 | 2.40 | 0.56 |
| 6:A:443:C:N1 | 6:A:492:G:C2 | 2.73 | 0.56 |
| 6:A:502:G:C6 | 6:A:544:G:C6 | 2.92 | 0.56 |
| 6:A:613:C:H2' | 6:A:614:A:H8 | 1.66 | 0.56 |
| 6:A:570:G:O3' | 6:A:819:A:O2' | 2.23 | 0.56 |
| 6:A:848:C:C4 | 6:A:849:C:N4 | 2.73 | 0.56 |
| 6:A:86:U:H6 | 6:A:86:U:O5' | 1.87 | 0.56 |
| 6:A:90:C:N3 | 6:A:91:C:N4 | 2.52 | 0.56 |
| 6:A:99:C:H4' | 6:A:101:A:OP1 | 2.04 | 0.56 |
| 56:B:115:ALA:HB2 | 56:B:474:TYR:CE1 | 2.40 | 0.56 |
| 56:B:195:PRO:HG2 | 56:B:287:THR:CA | 2.34 | 0.56 |
| 7:D:1204:A:H4' | 7:D:1205:U:O5' | 2.04 | 0.56 |
| 7:D:1307:A:H1' | 7:D:1622:G:N2 | 2.20 | 0.56 |
| 7:D:1862:G:N2 | 7:D:1863:G:C6 | 2.73 | 0.56 |
| 7:D:1864:U:HO2' | 7:D:1869:G:H5' | 1.68 | 0.56 |
| 7:D:2757:A:H2' | 7:D:2758:A:C5' | 2.34 | 0.56 |
| 7:D:295:G:H1' | 7:D:344:G:N2 | 2.20 | 0.56 |
| 7:D:616:A:O2' | 7:D:617:G:O4' | 2.22 | 0.56 |
| 7:D:681:G:N2 | 7:D:797:C:O2 | 2.38 | 0.56 |
| 7:D:869:G:C2 | 7:D:909:A:C2 | 2.93 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 15:L:89:PRO:HA | 15:L:92:ARG:HE | 1.69 | 0.56 |
| 20:Q:25:ILE:HD11 | 20:Q:66:LEU:HD13 | 1.86 | 0.56 |
| 20:Q:68:GLY:C | 20:Q:70:LEU:H | 2.07 | 0.56 |
| 29:Z:144:THR:OG1 | 29:Z:145:VAL:N | 2.37 | 0.56 |
| 29:Z:152:ILE:HG23 | 29:Z:155:GLU:OE1 | 2.04 | 0.56 |
| 6:A:1163:C:H2' | 6:A:1164:G:C5' | 2.31 | 0.56 |
| 6:A:1449:C:N3 | 6:A:1455:G:C2 | 2.73 | 0.56 |
| 6:A:195:A:H4' | 27:X:68:LYS:HZ2 | 1.70 | 0.56 |
| 6:A:451:A:C5 | 6:A:481:G:C6 | 2.93 | 0.56 |
| 6:A:861:G:O2' | 6:A:874:G:O2' | 2.21 | 0.56 |
| 56:B:135:ILE:CG1 | 56:B:165:PHE:HA | 2.33 | 0.56 |
| 56:B:337:SER:OG | 56:B:393:PRO:HB2 | 2.04 | 0.56 |
| 56:B:351:LEU:CG | 56:B:465:ASP:OD2 | 2.43 | 0.56 |
| 56:B:528:ILE:CG2 | 56:B:592:VAL:HG11 | 2.36 | 0.56 |
| 56:B:64:VAL:HG11 | 56:B:80:LEU:O | 2.05 | 0.56 |
| 7:D:149:A:H2' | 7:D:150:C:O4' | 2.05 | 0.56 |
| 7:D:1580:A:C2' | 7:D:1581:G:C4 | 2.86 | 0.56 |
| 7:D:164:U:O2 | 7:D:164:U:H5' | 2.05 | 0.56 |
| 7:D:1748:G:C2 | 7:D:1749:A:N3 | 2.73 | 0.56 |
| 7:D:1871:A:N3 | 7:D:1872:A:C8 | 2.73 | 0.56 |
| 7:D:2141:G:H2' | 7:D:2142:C:H6 | 1.69 | 0.56 |
| 7:D:2748:A:N7 | 7:D:2749:A:C6 | 2.73 | 0.56 |
| 7:D:294:A:N6 | 7:D:346:A:C6 | 2.73 | 0.56 |
| 7:D:707:G:C6 | 7:D:708:C:C2 | 2.93 | 0.56 |
| 7:D:740:U:H2' | 7:D:741:G:H8 | 1.70 | 0.56 |
| 7:D:777:A:H2 | 7:D:778:G:C4 | 2.22 | 0.56 |
| 7:D:93:C:N4 | 7:D:94:G:N3 | 2.53 | 0.56 |
| 9:F:181:PHE:HE1 | 15:L:72:PRO:HD3 | 1.70 | 0.56 |
| 11:H:165:MET:HG3 | 11:H:166:LYS:H | 1.70 | 0.56 |
| 11:H:173:TRP:CD1 | 11:H:174:LEU:HG | 2.40 | 0.56 |
| 12:I:97:GLY:O | 12:I:99:GLY:N | 2.37 | 0.56 |
| 19:P:102:ARG:HA | 19:P:107:ALA:HB1 | 1.87 | 0.56 |
| 20:Q:70:LEU:O | 20:Q:74:VAL:HB | 2.05 | 0.56 |
| 27:X:60:GLU:OE2 | 27:X:85:MET:HE1 | 2.05 | 0.56 |
| 28:Y:3:LYS:O | 28:Y:11:GLY:HA2 | 2.05 | 0.56 |
| 7:D:2175:C:OP2 | 29:Z:5:LYS:HG2 | 2.04 | 0.56 |
| 3:3:22:PRO:HD2 | 3:3:23:VAL:H | 1.70 | 0.56 |
| 6:A:1152:A:O5' | 17:N:13:HIS:NE2 | 2.39 | 0.56 |
| 6:A:976:G:N7 | 6:A:1362:C:N4 | 2.54 | 0.56 |
| 6:A:1454:G:O5' | 6:A:1454:G:H8 | 1.87 | 0.56 |
| 6:A:1422:G:H1 | 6:A:1478:C:H42 | 1.53 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 6:A:187:C:N4 | 6:A:188:U:O2 | 2.37 | 0.56 |
| 6:A:560:U:H4' | 6:A:561:U:H5'' | 1.86 | 0.56 |
| 56:B:382:LEU:HD22 | 56:B:383:LYS:H | 1.69 | 0.56 |
| 56:B:298:LYS:O | 56:B:479:TYR:OH | 2.23 | 0.56 |
| 56:B:492:VAL:CA | 56:B:541:ILE:CG2 | 2.66 | 0.56 |
| 56:B:587:ILE:H | 56:B:587:ILE:HD12 | 1.70 | 0.56 |
| 7:D:1056:G:H5' | 7:D:1057:A:H5' | 1.86 | 0.56 |
| 7:D:1181:C:H2' | 7:D:1182:A:O4' | 2.06 | 0.56 |
| 7:D:150:C:N4 | 7:D:176:G:H1 | 2.03 | 0.56 |
| 7:D:1717:G:C6 | 7:D:1718:G:N2 | 2.73 | 0.56 |
| 7:D:1734:C:C4 | 7:D:1735:C:N4 | 2.73 | 0.56 |
| 7:D:532:A:OP2 | 7:D:2021:C:C4 | 2.58 | 0.56 |
| 7:D:2148:G:H3' | 7:D:2149:G:C8 | 2.40 | 0.56 |
| 7:D:22:C:H2' | 7:D:23:G:H8 | 1.70 | 0.56 |
| 7:D:2577:A:H4' | 7:D:2612:C:C5 | 2.41 | 0.56 |
| 7:D:452:G:H5'' | 7:D:453:C:OP2 | 2.04 | 0.56 |
| 7:D:455:C:H5' | 7:D:472:A:C2 | 2.41 | 0.56 |
| 7:D:603:A:N1 | 7:D:625:G:C4 | 2.73 | 0.56 |
| 7:D:687:C:O2 | 7:D:788:A:C8 | 2.58 | 0.56 |
| 9:F:112:VAL:HG22 | 9:F:149:LEU:HD21 | 1.87 | 0.56 |
| 10:G:82:GLU:OE2 | 10:G:83:ARG:HG2 | 2.06 | 0.56 |
| 20:Q:89:GLY:O | 20:Q:92:HIS:HB2 | 2.04 | 0.56 |
| 26:W:29:ARG:HE | 26:W:29:ARG:N | 2.03 | 0.56 |
| 26:W:6:LYS:NZ | 26:W:11:VAL:HA | 2.19 | 0.56 |
| 6:A:1075:C:H2' | 6:A:1076:C:C6 | 2.41 | 0.56 |
| 6:A:1169:A:C3' | 6:A:1170:A:C8 | 2.88 | 0.56 |
| 6:A:1295:G:H1' | 20:Q:14:ARG:HH21 | 1.69 | 0.56 |
| 6:A:1329:A:O2' | 20:Q:24:GLY:HA2 | 2.05 | 0.56 |
| 6:A:1401:G:H5'' | 6:A:1402:C:OP2 | 2.06 | 0.56 |
| 6:A:1454:G:C6 | 6:A:1455:G:C8 | 2.92 | 0.56 |
| 6:A:410:G:H1' | 6:A:432:A:H61 | 1.70 | 0.56 |
| 6:A:500:G:H2' | 6:A:501:C:C6 | 2.41 | 0.56 |
| 56:B:238:THR:O | 56:B:239:VAL:HG12 | 2.05 | 0.56 |
| 56:B:398:ASP:HB3 | 56:B:399:PRO:CD | 2.36 | 0.56 |
| 56:B:66:VAL:O | 56:B:76:TYR:CE2 | 2.57 | 0.56 |
| 56:B:6:LEU:H | 56:B:6:LEU:HD12 | 1.70 | 0.56 |
| 56:B:169:LYS:HD3 | 57:B:701:GCP:N3 | 2.08 | 0.56 |
| 7:D:1735:C:H2' | 7:D:1741:C:N1 | 2.19 | 0.56 |
| 6:A:1495:U:OP1 | 7:D:1912:A:O2' | 2.23 | 0.56 |
| 7:D:2134:A:OP2 | 7:D:2134:A:C4 | 2.59 | 0.56 |
| 7:D:2503:A:O2' | 7:D:2505:G:OP2 | 2.23 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 7:D:2593:U:H2' | 7:D:2594:C:C6 | 2.40 | 0.56 |
| 7:D:2725:A:N6 | 7:D:2727:G:C4 | 2.73 | 0.56 |
| 7:D:339:U:H6 | 7:D:339:U:OP1 | 1.89 | 0.56 |
| 7:D:542:C:N3 | 7:D:543:C:N4 | 2.53 | 0.56 |
| 7:D:684:G:C4 | 7:D:775:G:C6 | 2.92 | 0.56 |
| 12:I:75:THR:HB | 12:I:117:ASP:OD2 | 2.05 | 0.56 |
| 19:P:86:ARG:NH2 | 19:P:99:HIS:HE1 | 2.04 | 0.56 |
| 22:S:7:GLU:HB2 | 22:S:10:LYS:HE3 | 1.87 | 0.56 |
| 29:Z:177:LYS:H | 29:Z:180:PHE:HD2 | 1.54 | 0.56 |
| 29:Z:43:VAL:HG21 | 29:Z:175:VAL:HG13 | 1.79 | 0.56 |
| 29:Z:45:ALA:O | 29:Z:171:ILE:HG22 | 2.05 | 0.56 |
| 6:A:1454:G:C6 | 6:A:1455:G:C5 | 2.93 | 0.56 |
| 6:A:815:A:H62 | 6:A:1509:C:H1' | 1.70 | 0.56 |
| 6:A:584:G:H2' | 6:A:585:G:C8 | 2.41 | 0.56 |
| 6:A:588:G:C2 | 6:A:589:C:C2 | 2.93 | 0.56 |
| 6:A:789:U:C4 | 6:A:791:G:OP2 | 2.59 | 0.56 |
| 56:B:17:HIS:CB | 56:B:20:HIS:CD2 | 2.88 | 0.56 |
| 56:B:242:VAL:O | 56:B:263:TRP:HD1 | 1.88 | 0.56 |
| 56:B:338:THR:CG2 | 56:B:502:ASP:OD1 | 2.53 | 0.56 |
| 56:B:67:THR:CA | 56:B:76:TYR:CB | 2.71 | 0.56 |
| 7:D:1085:A:O2' | 7:D:1086:A:O4' | 2.24 | 0.56 |
| 7:D:140:A:C2 | 7:D:141:A:H1' | 2.40 | 0.56 |
| 7:D:1421:G:H21 | 7:D:1495:A:N6 | 2.03 | 0.56 |
| 7:D:1589:C:H2' | 7:D:1590:U:H6 | 1.70 | 0.56 |
| 7:D:1725:G:N2 | 7:D:1735:C:C2 | 2.72 | 0.56 |
| 7:D:2630:G:OP1 | 7:D:2895:U:C4 | 2.57 | 0.56 |
| 7:D:270(W):G:H2' | 7:D:270(X):G:C8 | 2.40 | 0.56 |
| 7:D:363(F):A:C2' | 7:D:364:C:O4' | 2.50 | 0.56 |
| 7:D:556:G:H2' | 7:D:557:U:H6 | 1.68 | 0.56 |
| 7:D:611:C:N3 | 7:D:612:G:N1 | 2.53 | 0.56 |
| 7:D:59:U:O2' | 7:D:74:A:OP2 | 2.17 | 0.56 |
| 7:D:85:G:N2 | 7:D:97:C:O2 | 2.37 | 0.56 |
| 25:V:21:LYS:C | 25:V:55:ARG:HH12 | 2.09 | 0.56 |
| 26:W:54:GLY:O | 26:W:55:LYS:HB3 | 2.06 | 0.56 |
| 29:Z:192:PHE:O | 29:Z:195:ALA:HB3 | 2.05 | 0.56 |
| 29:Z:21:THR:OG1 | 29:Z:24:GLU:OE1 | 2.22 | 0.56 |
| 3:3:6:ALA:C | 3:3:8:VAL:H | 2.09 | 0.56 |
| 5:5:49:C:N4 | 5:5:63:G:O6 | 2.39 | 0.56 |
| 6:A:1085:U:H3' | 6:A:1086:U:C6 | 2.41 | 0.56 |
| 6:A:1229:A:H2' | 6:A:1230:C:H6 | 1.70 | 0.56 |
| 6:A:1306:A:N6 | 6:A:1307:U:O2 | 2.39 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 6:A:1454:G:N2 | 6:A:1455:G:H1' | 2.21 | 0.56 |
| 6:A:173:U:O2 | 6:A:197:A:N6 | 2.38 | 0.56 |
| 56:B:174:VAL:HG11 | 56:B:177:ILE:CD1 | 2.34 | 0.56 |
| 56:B:345:ARG:CZ | 56:B:348:PHE:CE1 | 2.88 | 0.56 |
| 56:B:379:LYS:HZ3 | 56:B:485:ARG:H | 1.54 | 0.56 |
| 56:B:379:LYS:NZ | 56:B:407:GLU:C | 2.49 | 0.56 |
| 56:B:411:LYS:NZ | 56:B:436:VAL:CG2 | 2.68 | 0.56 |
| 56:B:67:THR:O | 56:B:69:ARG:N | 2.39 | 0.56 |
| 7:D:1020:A:N6 | 7:D:1141:U:OP2 | 2.37 | 0.56 |
| 7:D:173:G:N1 | 7:D:174:C:C4 | 2.73 | 0.56 |
| 7:D:182:A:O5' | 7:D:182:A:H8 | 1.88 | 0.56 |
| 7:D:1784:A:C8 | 7:D:1981:A:C5 | 2.94 | 0.56 |
| 7:D:2094:G:C6 | 7:D:2195:C:N4 | 2.71 | 0.56 |
| 7:D:2205:C:C5 | 7:D:2206:C:N4 | 2.73 | 0.56 |
| 5:5:76:A:H62 | 7:D:2422:A:C5' | 2.17 | 0.56 |
| 7:D:2547:U:C2 | 7:D:2566:A:N6 | 2.73 | 0.56 |
| 7:D:2809:A:O4' | 7:D:2811:G:N7 | 2.38 | 0.56 |
| 7:D:307:G:H21 | 7:D:330:A:H62 | 1.53 | 0.56 |
| 7:D:729:G:H2' | 7:D:730:C:C1' | 2.36 | 0.56 |
| 7:D:777:A:C2 | 7:D:778:G:C4 | 2.94 | 0.56 |
| 7:D:807:U:H2' | 7:D:808:G:H8 | 1.71 | 0.56 |
| 7:D:83:G:H22 | 7:D:102:G:H2' | 1.70 | 0.56 |
| 7:D:974:G:C2 | 7:D:1186:G:N7 | 2.74 | 0.56 |
| 8:E:100:G:H2' | 8:E:101:A:O4' | 2.06 | 0.56 |
| 15:L:90:GLY:O | 24:U:34:LYS:HD3 | 2.06 | 0.56 |
| 22:S:88:ARG:HG2 | 22:S:89:GLY:N | 2.20 | 0.56 |
| 24:U:68:ARG:N | 24:U:70:ARG:HH12 | 2.03 | 0.56 |
| 5:5:17:C:N4 | 7:D:2181:G:C5' | 2.67 | 0.56 |
| 6:A:1021:G:H2' | 6:A:1022:G:C8 | 2.40 | 0.56 |
| 6:A:123:C:OP1 | 6:A:311:C:O2' | 2.22 | 0.56 |
| 6:A:1309:G:C2 | 6:A:1329:A:N7 | 2.67 | 0.56 |
| 6:A:1440:C:C5 | 6:A:1441:G:C5 | 2.94 | 0.56 |
| 6:A:1517:G:N9 | 7:D:1920:C:OP2 | 2.39 | 0.56 |
| 6:A:453:A:N1 | 6:A:454:C:N4 | 2.53 | 0.56 |
| 56:B:225:GLY:C | 56:B:239:VAL:HG11 | 2.21 | 0.56 |
| 56:B:226:ASP:N | 56:B:239:VAL:HG12 | 2.15 | 0.56 |
| 7:D:1007:C:H42 | 7:D:1135:C:H42 | 1.53 | 0.56 |
| 7:D:1193:G:N2 | 7:D:1194:A:C4 | 2.74 | 0.56 |
| 7:D:1312:U:O2 | 7:D:1603:A:N6 | 2.30 | 0.56 |
| 7:D:1286:A:N1 | 7:D:1329:U:H2' | 2.19 | 0.56 |
| 7:D:1485:G:H2' | 7:D:1486:A:H5' | 1.88 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 7:D:2126:A:H61 | 7:D:2172:U:H5' | 1.71 | 0.56 |
| 7:D:2461:C:H1' | 7:D:2492:U:C5 | 2.41 | 0.56 |
| 7:D:2805:G:H3' | 7:D:2807:G:H5'' | 1.88 | 0.56 |
| 7:D:355:G:N1 | 7:D:356:G:C6 | 2.74 | 0.56 |
| 7:D:415:A:H2' | 7:D:416:C:O4' | 2.05 | 0.56 |
| 7:D:482:A:C6 | 7:D:506:G:C5 | 2.94 | 0.56 |
| 9:F:126:GLU:O | 9:F:129:GLU:N | 2.30 | 0.56 |
| 9:F:134:GLU:HA | 9:F:137:ARG:HH11 | 1.70 | 0.56 |
| 9:F:74:LYS:HA | 9:F:169:LYS:HE2 | 1.87 | 0.56 |
| 10:G:5:ILE:HD11 | 10:G:10:PHE:CD2 | 2.40 | 0.56 |
| 6:A:1226:C:N3 | 20:Q:104:ARG:CD | 2.68 | 0.56 |
| 6:A:280:C:C4 | 24:U:91:ARG:NH1 | 2.74 | 0.56 |
| 6:A:113:G:HO2' | 6:A:353:A:HO2' | 1.51 | 0.56 |
| 6:A:1305:G:O2' | 6:A:1306:A:O4' | 2.24 | 0.56 |
| 6:A:1452:C:H1' | 6:A:1453:G:C2 | 2.40 | 0.56 |
| 6:A:1455:G:N2 | 6:A:1459:C:O2 | 2.39 | 0.56 |
| 6:A:256:U:H3 | 6:A:270:A:N6 | 2.03 | 0.56 |
| 6:A:342:C:C4 | 6:A:343:U:C4 | 2.94 | 0.56 |
| 6:A:848:C:C2 | 6:A:849:C:N4 | 2.73 | 0.56 |
| 56:B:265:VAL:CG2 | 56:B:266:ALA:H | 2.05 | 0.56 |
| 56:B:307:PRO:HD2 | 56:B:341:GLY:CA | 2.35 | 0.56 |
| 56:B:379:LYS:HD3 | 56:B:407:GLU:H | 1.71 | 0.56 |
| 56:B:407:GLU:OE1 | 56:B:409:TYR:HE1 | 1.88 | 0.56 |
| 56:B:455:PRO:CG | 56:B:458:GLU:HB2 | 2.36 | 0.56 |
| 56:B:47:ASP:OD1 | 56:B:53:ARG:N | 2.38 | 0.56 |
| 56:B:379:LYS:NZ | 56:B:484:TYR:HB3 | 2.21 | 0.56 |
| 56:B:524:LEU:O | 56:B:525:ALA:HB3 | 2.05 | 0.56 |
| 56:B:532:LEU:CB | 56:B:553:ALA:HB1 | 2.35 | 0.56 |
| 56:B:12:PHE:HE2 | 56:B:78:PHE:HB3 | 1.69 | 0.56 |
| 7:D:976:C:H5' | 7:D:1156:A:N6 | 2.18 | 0.56 |
| 7:D:1400:G:H2' | 7:D:1401:G:H8 | 1.69 | 0.56 |
| 7:D:1491:G:C3' | 7:D:1492:G:H4' | 2.33 | 0.56 |
| 7:D:172:C:O2' | 7:D:173:G:H5' | 2.06 | 0.56 |
| 7:D:173:G:C6 | 7:D:174:C:C4 | 2.94 | 0.56 |
| 7:D:1783:A:H2 | 7:D:2587:A:C5 | 2.23 | 0.56 |
| 7:D:439:G:N1 | 7:D:440:G:C6 | 2.73 | 0.56 |
| 7:D:46:C:C4 | 7:D:47:C:N4 | 2.73 | 0.56 |
| 7:D:615:G:OP2 | 7:D:615:G:H4' | 2.04 | 0.56 |
| 10:G:54:ARG:HD3 | 10:G:69:HIS:CD2 | 2.36 | 0.56 |
| 10:G:64:VAL:HG12 | 10:G:66:VAL:HG23 | 1.87 | 0.56 |
| 11:H:68:TYR:CE2 | 11:H:97:LEU:HD13 | 2.41 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 6:A:675:A:H1' | 18:O:116:HIS:ND1 | 2.20 | 0.56 |
| 23:T:60:LEU:HD21 | 23:T:66:PRO:HD3 | 1.88 | 0.56 |
| 26:W:15:LEU:O | 26:W:19:VAL:CG2 | 2.51 | 0.56 |
| 3:3:84:LEU:HD11 | 3:3:134:MET:HG3 | 1.87 | 0.56 |
| 5:5:64:A:H2' | 5:5:65:G:O4' | 2.06 | 0.56 |
| 6:A:1065:U:O2' | 6:A:1066:C:O5' | 2.24 | 0.56 |
| 6:A:1504:G:H4' | 6:A:1505:G:OP2 | 2.05 | 0.56 |
| 6:A:443:C:N3 | 6:A:492:G:C6 | 2.73 | 0.56 |
| 6:A:942:G:C6 | 6:A:943:U:C4 | 2.94 | 0.56 |
| 56:B:308:VAL:HG22 | 56:B:370:ILE:CD1 | 2.35 | 0.56 |
| 56:B:381:ARG:NH2 | 56:B:385:GLY:HA2 | 2.18 | 0.56 |
| 56:B:42:ARG:CZ | 56:B:53:ARG:NH2 | 2.68 | 0.56 |
| 7:D:1099:G:N2 | 7:D:1100:C:H1' | 2.21 | 0.56 |
| 7:D:974:G:C5 | 7:D:1186:G:C6 | 2.94 | 0.56 |
| 7:D:1204:A:C4 | 7:D:1204:A:OP2 | 2.59 | 0.56 |
| 7:D:1518:C:C4 | 7:D:1519:G:C8 | 2.94 | 0.56 |
| 7:D:1665:A:C2 | 7:D:1666:G:C4 | 2.94 | 0.56 |
| 7:D:173:G:N2 | 7:D:174:C:C2 | 2.73 | 0.56 |
| 7:D:1839:G:C6 | 7:D:1927:A:C5 | 2.94 | 0.56 |
| 7:D:2017:U:O2' | 7:D:2018:G:OP1 | 2.24 | 0.56 |
| 7:D:2110:G:C2 | 7:D:2180:U:C2 | 2.93 | 0.56 |
| 7:D:2184:G:C5 | 7:D:2185:C:C5 | 2.94 | 0.56 |
| 7:D:2268:A:H5' | 7:D:2269:A:OP2 | 2.05 | 0.56 |
| 7:D:2368:C:H2' | 7:D:2369:A:H8 | 1.70 | 0.56 |
| 7:D:273(B):C:N3 | 7:D:363(D):G:N1 | 2.52 | 0.56 |
| 7:D:43:G:C4 | 7:D:44:A:N7 | 2.73 | 0.56 |
| 7:D:729:G:H2' | 7:D:730:C:H1' | 1.88 | 0.56 |
| 25:V:53:ARG:NH1 | 25:V:58:LEU:O | 2.39 | 0.56 |
| 26:W:3:ARG:HG2 | 26:W:42:PRO:CB | 2.32 | 0.56 |
| 26:W:51:VAL:O | 26:W:57:HIS:HB3 | 2.06 | 0.56 |
| 29:Z:91:ALA:HB2 | 29:Z:153:ILE:HG23 | 1.88 | 0.56 |
| 29:Z:42:GLU:HB2 | 29:Z:215:THR:O | 2.06 | 0.56 |
| 3:3:65:PHE:HD1 | 3:3:65:PHE:H | 1.54 | 0.56 |
| 6:A:1088:G:H2' | 6:A:1089:G:H8 | 1.70 | 0.56 |
| 6:A:1281:U:H5'' | 6:A:1282:C:H5 | 1.71 | 0.56 |
| 6:A:1422:G:H2' | 6:A:1423:G:C8 | 2.41 | 0.56 |
| 6:A:1442:G:H3' | 6:A:1442:G:N3 | 2.20 | 0.56 |
| 6:A:443:C:N3 | 6:A:444:C:N4 | 2.54 | 0.56 |
| 6:A:96:G:N1 | 6:A:97:U:N3 | 2.54 | 0.56 |
| 56:B:206:ASP:CB | 56:B:210:GLY:HA2 | 2.36 | 0.56 |
| 56:B:23:SER:HB2 | 57:B:701:GCP:PA | 2.45 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 56:B:339:ALA:O | 56:B:341:GLY:N | 2.39 | 0.56 |
| 56:B:361:LEU:HD13 | 56:B:362:GLU:H | 1.69 | 0.56 |
| 56:B:497:HIS:HE1 | 56:B:533:PHE:CE1 | 2.23 | 0.56 |
| 7:D:1102:C:C4 | 7:D:1104:C:N4 | 2.74 | 0.56 |
| 7:D:1153:C:C2 | 7:D:1154:G:C8 | 2.94 | 0.56 |
| 7:D:1425:G:H1' | 7:D:1573:G:H22 | 1.71 | 0.56 |
| 7:D:189:G:H2' | 7:D:205:G:N2 | 2.16 | 0.56 |
| 7:D:2212:A:H4' | 7:D:2212:A:OP1 | 2.06 | 0.56 |
| 7:D:2254:C:H2' | 7:D:2255:G:H5' | 1.88 | 0.56 |
| 7:D:309:G:C6 | 7:D:330:A:C5 | 2.94 | 0.56 |
| 7:D:356:G:H3' | 7:D:357:A:C8 | 2.41 | 0.56 |
| 7:D:363(E):U:H2' | 7:D:363(F):A:C8 | 2.41 | 0.56 |
| 7:D:5:A:H2' | 7:D:6:A:H8 | 1.70 | 0.56 |
| 14:K:18:TYR:HD2 | 14:K:23:VAL:HG21 | 1.70 | 0.56 |
| 6:A:1347:G:OP1 | 16:M:107:ARG:HG2 | 2.05 | 0.56 |
| 20:Q:23:TYR:CB | 20:Q:70:LEU:HD21 | 2.31 | 0.56 |
| 23:T:40:ASP:OD1 | 23:T:40:ASP:N | 2.37 | 0.56 |
| 26:W:14:HIS:NE2 | 26:W:35:SER:HA | 2.19 | 0.56 |
| 26:W:32:LYS:CE | 26:W:52:TYR:CD2 | 2.76 | 0.56 |
| 29:Z:180:PHE:HB3 | 29:Z:185:LEU:CG | 2.35 | 0.56 |
| 6:A:1169:A:C2 | 6:A:1170:A:C6 | 2.94 | 0.56 |
| 6:A:1227:A:P | 20:Q:111:LYS:NZ | 2.79 | 0.56 |
| 6:A:1271:G:H2' | 6:A:1272:G:H8 | 1.70 | 0.56 |
| 6:A:1438:G:C6 | 6:A:1439:C:N4 | 2.75 | 0.56 |
| 6:A:1508:G:H2' | 6:A:1509:C:H6 | 1.71 | 0.56 |
| 6:A:186(B):C:H4' | 27:X:89:ARG:HH12 | 1.67 | 0.56 |
| 6:A:409:G:H5'' | 11:H:25:ARG:HB2 | 1.87 | 0.56 |
| 6:A:717:C:HO2' | 6:A:718:G:P | 2.28 | 0.56 |
| 56:B:16:ALA:N | 56:B:22:LYS:HE3 | 2.21 | 0.56 |
| 56:B:490:VAL:HG11 | 56:B:508:ALA:HB1 | 1.88 | 0.56 |
| 7:D:1042:G:H1' | 7:D:1113:U:O2 | 2.05 | 0.56 |
| 7:D:1375:C:H2' | 7:D:1376:C:H6 | 1.71 | 0.56 |
| 7:D:1507:A:N3 | 7:D:1507:A:H2' | 2.21 | 0.56 |
| 7:D:1520:U:C2' | 7:D:1521:G:H5'' | 2.36 | 0.56 |
| 7:D:1613:G:C2 | 7:D:1619:G:C5 | 2.94 | 0.56 |
| 7:D:1783:A:C2 | 7:D:2587:A:C5 | 2.94 | 0.56 |
| 7:D:2114:A:H3' | 7:D:2115:G:C8 | 2.41 | 0.56 |
| 7:D:2206:C:O2 | 7:D:2219:G:C2 | 2.58 | 0.56 |
| 7:D:963:U:O2' | 7:D:2250:G:N3 | 2.39 | 0.56 |
| 7:D:271(B):G:H5'' | 7:D:271(C):U:O2' | 2.06 | 0.56 |
| 7:D:38:A:C4 | 7:D:442:G:N2 | 2.74 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:523:C:H1' | 7:D:553:U:O2' | 2.06 | 0.56 |
| 7:D:792:G:N2 | 7:D:2072:G:O2' | 2.37 | 0.56 |
| 7:D:860:U:H2' | 7:D:861:A:H5' | 1.88 | 0.56 |
| 7:D:873:G:C2 | 7:D:874:G:C4 | 2.94 | 0.56 |
| 7:D:7:G:H21 | 7:D:8:A:H1' | 1.71 | 0.56 |
| 7:D:918:A:C2 | 7:D:919:G:H1' | 2.41 | 0.56 |
| 11:H:127:THR:N | 11:H:147:ALA:O | 2.34 | 0.56 |
| 11:H:197:PRO:O | 11:H:198:VAL:HG13 | 2.06 | 0.56 |
| 14:K:107:ALA:O | 14:K:123:GLU:HG3 | 2.06 | 0.56 |
| 17:N:79:ARG:NH1 | 17:N:82:ILE:HG21 | 2.21 | 0.56 |
| 22:S:26:GLU:CD | 22:S:77:ARG:HH11 | 2.09 | 0.56 |
| 26:W:26:GLY:CA | 26:W:47:HIS:ND1 | 2.68 | 0.56 |
| 6:A:1150:U:H5'' | 6:A:1151:A:OP2 | 2.06 | 0.55 |
| 6:A:962:C:H1' | 6:A:1201:A:N6 | 2.21 | 0.55 |
| 6:A:1226:C:C4 | 20:Q:104:ARG:CG | 2.87 | 0.55 |
| 6:A:137:C:H2' | 6:A:138:G:H8 | 1.70 | 0.55 |
| 6:A:191(F):U:H2' | 6:A:191:G:H8 | 1.71 | 0.55 |
| 6:A:465:A:C1' | 6:A:466:C:P | 2.94 | 0.55 |
| 6:A:492:G:C2 | 6:A:493:G:H1' | 2.41 | 0.55 |
| 6:A:86:U:H5 | 6:A:87:A:N3 | 2.03 | 0.55 |
| 56:B:206:ASP:O | 56:B:207:ALA:HB3 | 2.05 | 0.55 |
| 56:B:351:LEU:HD13 | 56:B:351:LEU:O | 2.05 | 0.55 |
| 56:B:412:LEU:HG | 56:B:478:ASP:O | 2.05 | 0.55 |
| 56:B:524:LEU:HG | 56:B:524:LEU:O | 2.05 | 0.55 |
| 7:D:1102:C:H2' | 7:D:1103:A:C5' | 2.34 | 0.55 |
| 7:D:1345:C:H2' | 7:D:1346:G:H8 | 1.71 | 0.55 |
| 7:D:1657:C:C2 | 7:D:2004:G:N2 | 2.74 | 0.55 |
| 7:D:1778:U:H3 | 7:D:1786:A:H61 | 1.52 | 0.55 |
| 7:D:1835:G:H1 | 7:D:1905:C:H42 | 1.53 | 0.55 |
| 7:D:2160:G:H22 | 29:Z:6:ARG:HH22 | 1.54 | 0.55 |
| 7:D:1128:A:N7 | 7:D:2518:A:C6 | 2.74 | 0.55 |
| 7:D:10:G:N2 | 7:D:2629:A:N3 | 2.55 | 0.55 |
| 7:D:2834:G:C6 | 7:D:2879:C:C2 | 2.94 | 0.55 |
| 7:D:492:A:C8 | 7:D:493:G:N7 | 2.75 | 0.55 |
| 7:D:862:G:H2' | 7:D:863:A:O4' | 2.06 | 0.55 |
| 7:D:926:A:H4' | 7:D:928:G:OP1 | 2.06 | 0.55 |
| 9:F:82:ARG:NE | 9:F:86:GLU:OE2 | 2.39 | 0.55 |
| 11:H:30:LYS:NZ | 11:H:35:ARG:HG3 | 2.21 | 0.55 |
| 12:I:102:ALA:H | 12:I:107:ARG:HH22 | 1.53 | 0.55 |
| 15:L:20:TYR:HE2 | 15:L:75:ARG:HG3 | 1.69 | 0.55 |
| 23:T:81:ARG:HG2 | 23:T:83:GLU:HG2 | 1.89 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 23:T:8:ARG:HB3 | 23:T:28:ARG:NH1 | 2.20 | 0.55 |
| 26:W:19:VAL:O | 26:W:21:GLU:HG2 | 2.06 | 0.55 |
| 26:W:25:LYS:C | 26:W:27:GLU:H | 2.09 | 0.55 |
| 3:3:4:VAL:O | 3:3:5:VAL:HG12 | 2.06 | 0.55 |
| 3:3:93:ARG:HH11 | 3:3:93:ARG:CG | 2.20 | 0.55 |
| 5:5:52:G:H3' | 5:5:53:G:H8 | 1.70 | 0.55 |
| 6:A:1116:C:H2' | 6:A:1117:G:O4' | 2.07 | 0.55 |
| 6:A:1171:G:H2' | 6:A:1172:C:C6 | 2.42 | 0.55 |
| 6:A:1449:C:C2 | 6:A:1455:G:N2 | 2.75 | 0.55 |
| 6:A:295:C:H2' | 6:A:296:U:C6 | 2.41 | 0.55 |
| 6:A:113:G:O6 | 6:A:313:A:N6 | 2.40 | 0.55 |
| 6:A:687:A:H1' | 6:A:688:G:OP2 | 2.07 | 0.55 |
| 6:A:74:C:C2 | 6:A:75:C:C4 | 2.94 | 0.55 |
| 6:A:838:G:H4' | 6:A:841:U:OP1 | 2.04 | 0.55 |
| 56:B:425:MET:CE | 56:B:452:TYR:HH | 2.14 | 0.55 |
| 56:B:118:LEU:CG | 56:B:446:LYS:NZ | 2.69 | 0.55 |
| 56:B:49:LEU:O | 56:B:51:LEU:N | 2.35 | 0.55 |
| 56:B:64:VAL:HG21 | 56:B:80:LEU:H | 1.68 | 0.55 |
| 7:D:1019:U:HO2' | 7:D:1021:A:H2 | 1.54 | 0.55 |
| 7:D:1450:C:H2' | 7:D:1451:C:C1' | 2.37 | 0.55 |
| 7:D:1456:G:C6 | 7:D:1457:A:N6 | 2.73 | 0.55 |
| 7:D:1467:C:C2 | 7:D:1525:G:N2 | 2.75 | 0.55 |
| 7:D:1924:C:C4 | 7:D:1925:C:H5 | 2.24 | 0.55 |
| 7:D:2003:G:N2 | 7:D:2004:G:N3 | 2.53 | 0.55 |
| 7:D:2184:G:C6 | 7:D:2185:C:N3 | 2.74 | 0.55 |
| 7:D:2206:C:O2 | 7:D:2219:G:N2 | 2.39 | 0.55 |
| 7:D:2492:U:O2 | 7:D:2492:U:H2' | 2.05 | 0.55 |
| 7:D:2694:G:N2 | 7:D:2695:C:O2 | 2.38 | 0.55 |
| 7:D:343:C:H2' | 7:D:344:G:O4' | 2.06 | 0.55 |
| 7:D:559:G:H4' | 7:D:560:C:OP1 | 2.04 | 0.55 |
| 7:D:729:G:C2 | 7:D:730:C:C2 | 2.93 | 0.55 |
| 11:H:29:PRO:HB3 | 11:H:34:GLU:HG2 | 1.89 | 0.55 |
| 14:K:26:PHE:HA | 14:K:101:LEU:HD21 | 1.88 | 0.55 |
| 14:K:20:ASP:OD1 | 14:K:21:VAL:N | 2.39 | 0.55 |
| 26:W:23:ASN:ND2 | 26:W:23:ASN:O | 2.39 | 0.55 |
| 26:W:51:VAL:HG21 | 26:W:75:ALA:CB | 2.29 | 0.55 |
| 3:3:35:MET:HG3 | 3:3:36:GLU:H | 1.72 | 0.55 |
| 6:A:119:A:H4' | 6:A:120:A:O5' | 2.06 | 0.55 |
| 6:A:440:A:H62 | 6:A:493:G:C2' | 2.19 | 0.55 |
| 6:A:498:A:H4' | 6:A:500:G:OP1 | 2.04 | 0.55 |
| 6:A:728:A:H2' | 6:A:729:A:C8 | 2.36 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 56:B:497:HIS:CE1 | 56:B:533:PHE:CE1 | 2.94 | 0.55 |
| 56:B:523:LYS:O | 56:B:524:LEU:HB3 | 2.07 | 0.55 |
| 7:D:1143:A:C4 | 7:D:1144:G:C8 | 2.94 | 0.55 |
| 7:D:1527:G:H1' | 7:D:1528:A:C2 | 2.41 | 0.55 |
| 7:D:1765:C:H42 | 7:D:1987:G:H1 | 1.55 | 0.55 |
| 7:D:2701:C:H5' | 7:D:2702:U:H5'' | 1.89 | 0.55 |
| 7:D:2848:G:N1 | 7:D:2867:G:O2' | 2.40 | 0.55 |
| 7:D:500:G:N2 | 7:D:503:A:OP2 | 2.39 | 0.55 |
| 7:D:877:U:N3 | 7:D:899:A:N7 | 2.55 | 0.55 |
| 11:H:125:HIS:HA | 11:H:149:ALA:HB2 | 1.87 | 0.55 |
| 6:A:409:G:OP2 | 11:H:22:LYS:HE3 | 2.07 | 0.55 |
| 13:J:67:MET:SD | 13:J:72:VAL:HG12 | 2.45 | 0.55 |
| 19:P:60:LEU:O | 19:P:63:GLY:N | 2.40 | 0.55 |
| 6:A:194:C:C3' | 27:X:68:LYS:HZ1 | 2.17 | 0.55 |
| 29:Z:163:PHE:HZ | 29:Z:195:ALA:CB | 2.17 | 0.55 |
| 1:1:35:ARG:NH2 | 7:D:2742:C:H5'' | 2.21 | 0.55 |
| 4:4:73:A:H5' | 4:4:74:C:H5' | 1.88 | 0.55 |
| 6:A:1006:C:N4 | 6:A:1024:G:H1' | 2.15 | 0.55 |
| 6:A:1326:C:H2' | 6:A:1327:C:C6 | 2.41 | 0.55 |
| 6:A:1394:A:H4' | 6:A:1395:C:OP2 | 2.06 | 0.55 |
| 6:A:678:U:H2' | 6:A:679:C:C6 | 2.41 | 0.55 |
| 6:A:870:U:H4' | 6:A:871:U:H5'' | 1.88 | 0.55 |
| 56:B:69:ARG:HH21 | 56:B:178:LEU:HD11 | 1.66 | 0.55 |
| 56:B:188:PRO:O | 56:B:189:LYS:HD2 | 2.07 | 0.55 |
| 56:B:242:VAL:HG12 | 56:B:256:LEU:CD1 | 2.37 | 0.55 |
| 56:B:594:GLN:O | 56:B:595:GLU:HB3 | 2.06 | 0.55 |
| 7:D:1025:G:N3 | 7:D:1025:G:H2' | 2.21 | 0.55 |
| 7:D:1084:A:C2' | 7:D:1106:G:C8 | 2.90 | 0.55 |
| 7:D:1048:A:N1 | 7:D:1111:A:N3 | 2.55 | 0.55 |
| 7:D:1473:G:N2 | 7:D:1474:C:C2 | 2.74 | 0.55 |
| 7:D:1831:G:C4 | 7:D:1975:G:N2 | 2.75 | 0.55 |
| 7:D:2147:G:H3' | 7:D:2148:G:H8 | 1.71 | 0.55 |
| 7:D:859:G:H21 | 7:D:2268:A:H2 | 1.54 | 0.55 |
| 7:D:227:A:N6 | 7:D:410:G:H21 | 2.04 | 0.55 |
| 7:D:2344:U:O2' | 7:D:2345:G:H3' | 2.06 | 0.55 |
| 7:D:2077:A:C8 | 7:D:2435:A:C4 | 2.94 | 0.55 |
| 7:D:25:U:H3 | 7:D:515:A:N6 | 2.04 | 0.55 |
| 7:D:261:G:N2 | 7:D:262:A:C4 | 2.74 | 0.55 |
| 7:D:2046:G:N2 | 7:D:2623:G:C4 | 2.74 | 0.55 |
| 7:D:360:G:C2 | 7:D:361:G:H1' | 2.42 | 0.55 |
| 7:D:684:G:C2 | 7:D:794:G:C2 | 2.95 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:687:C:N4 | 7:D:774:A:N6 | 2.51 | 0.55 |
| 7:D:728:G:H2' | 7:D:763:G:OP2 | 2.07 | 0.55 |
| 8:E:28:C:H2' | 8:E:29:A:O4' | 2.07 | 0.55 |
| 18:O:110:ASP:OD1 | 18:O:111:ASP:N | 2.39 | 0.55 |
| 6:A:608:A:H4' | 23:T:32:TYR:OH | 2.07 | 0.55 |
| 26:W:3:ARG:HH21 | 26:W:3:ARG:HG2 | 1.72 | 0.55 |
| 26:W:59:PRO:O | 26:W:60:VAL:HG23 | 1.95 | 0.55 |
| 26:W:15:LEU:HB3 | 26:W:71:LEU:HD13 | 1.88 | 0.55 |
| 4:4:43:A:H2' | 4:4:44:A:C8 | 2.42 | 0.55 |
| 4:4:19:G:C8 | 4:4:57:A:H2 | 2.25 | 0.55 |
| 5:5:28:G:H2' | 5:5:29:G:C8 | 2.38 | 0.55 |
| 6:A:1128:C:O2' | 6:A:1130:A:N7 | 2.40 | 0.55 |
| 6:A:1160:G:O6 | 6:A:1181:G:N1 | 2.31 | 0.55 |
| 6:A:1404:C:H2' | 6:A:1405:G:C8 | 2.42 | 0.55 |
| 6:A:1454:G:H2' | 6:A:1455:G:C5' | 2.37 | 0.55 |
| 6:A:237:C:OP1 | 24:U:25:ARG:NH2 | 2.39 | 0.55 |
| 6:A:529:G:H4' | 6:A:533:A:H2 | 1.70 | 0.55 |
| 6:A:80:G:N3 | 6:A:81:G:C8 | 2.74 | 0.55 |
| 56:B:197:LYS:HG3 | 56:B:287:THR:OG1 | 2.06 | 0.55 |
| 56:B:488:ASP:O | 56:B:509:HIS:CB | 2.54 | 0.55 |
| 56:B:406:LEU:HD21 | 56:B:489:LEU:HD12 | 1.88 | 0.55 |
| 56:B:556:LYS:H | 56:B:577:GLN:NE2 | 2.04 | 0.55 |
| 7:D:1385:G:C2 | 7:D:1386:C:N3 | 2.75 | 0.55 |
| 7:D:14:A:N3 | 7:D:2625:G:O2' | 2.35 | 0.55 |
| 7:D:2106:G:C6 | 7:D:2108:C:N4 | 2.73 | 0.55 |
| 7:D:2287:A:HO2' | 7:D:2288:A:P | 2.29 | 0.55 |
| 7:D:2344:U:O2' | 7:D:2345:G:O5' | 2.23 | 0.55 |
| 7:D:2631:G:OP2 | 7:D:2893:G:H1' | 2.07 | 0.55 |
| 7:D:2839:G:H2' | 7:D:2840:C:C6 | 2.41 | 0.55 |
| 7:D:265:A:C4 | 7:D:428:A:N1 | 2.74 | 0.55 |
| 10:G:139:GLN:O | 10:G:143:GLU:HG3 | 2.06 | 0.55 |
| 15:L:119:LEU:HD23 | 15:L:124:ALA:HA | 1.87 | 0.55 |
| 6:A:1249:C:O2' | 16:M:69:GLY:O | 2.23 | 0.55 |
| 6:A:116:A:C8 | 6:A:116:A:OP2 | 2.58 | 0.55 |
| 6:A:1263:C:H2' | 6:A:1264:C:H6 | 1.71 | 0.55 |
| 6:A:1255:G:H22 | 6:A:1277:C:H1' | 1.71 | 0.55 |
| 6:A:1461:G:C4 | 6:A:1462:G:C8 | 2.92 | 0.55 |
| 6:A:1399:C:C2 | 6:A:1502:A:N6 | 2.75 | 0.55 |
| 6:A:196:A:HO2' | 6:A:197:A:P | 2.29 | 0.55 |
| 6:A:210:U:H2' | 6:A:210:U:O2 | 2.07 | 0.55 |
| 6:A:475:G:C6 | 6:A:476:G:N7 | 2.75 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 6:A:440:A:N6 | 6:A:493:G:O2' | 2.40 | 0.55 |
| 56:B:218:PHE:C | 56:B:258:ALA:HB1 | 2.22 | 0.55 |
| 56:B:349:LEU:HD12 | 56:B:353:HIS:CD2 | 2.39 | 0.55 |
| 56:B:380:VAL:HG22 | 56:B:381:ARG:H | 1.72 | 0.55 |
| 56:B:431:LYS:CG | 56:B:455:PRO:HG2 | 2.33 | 0.55 |
| 56:B:432:ARG:NH2 | 56:B:487:GLY:HA2 | 2.22 | 0.55 |
| 56:B:466:ARG:O | 56:B:470:VAL:HG23 | 2.07 | 0.55 |
| 56:B:423:SER:OG | 56:B:470:VAL:CG1 | 2.54 | 0.55 |
| 7:D:1062:G:O2' | 7:D:1063:G:H8 | 1.90 | 0.55 |
| 7:D:1168:G:H2' | 7:D:1169:G:O4' | 2.07 | 0.55 |
| 7:D:1267:U:HO2' | 7:D:1268:A:P | 2.29 | 0.55 |
| 7:D:1267:U:O2' | 7:D:1268:A:OP1 | 2.19 | 0.55 |
| 7:D:1515:C:N3 | 7:D:1516:U:N3 | 2.54 | 0.55 |
| 7:D:173:G:C2 | 7:D:174:C:C2 | 2.95 | 0.55 |
| 7:D:2717:G:H2' | 7:D:2718:G:H5'' | 1.88 | 0.55 |
| 7:D:288:C:C4 | 7:D:289:A:H1' | 2.41 | 0.55 |
| 7:D:527:C:H4' | 7:D:527:C:OP1 | 2.05 | 0.55 |
| 7:D:943:U:H2' | 7:D:944:G:H5' | 1.88 | 0.55 |
| 10:G:6:HIS:CD2 | 10:G:8:ILE:HG22 | 2.42 | 0.55 |
| 11:H:46:LYS:HE2 | 11:H:50:ARG:NH1 | 21.11 | 0.55 |
| 6:A:1308:U:OP1 | 20:Q:97:PRO:HD3 | 2.07 | 0.55 |
| 6:A:1358:U:H5' | 21:R:34:TYR:HA | 1.88 | 0.55 |
| 26:W:30:LEU:O | 26:W:31:ILE:HB | 2.06 | 0.55 |
| 26:W:50:ALA:HB1 | 26:W:57:HIS:CG | 2.42 | 0.55 |
| 29:Z:135:GLY:HA3 | 29:Z:164:ARG:HH12 | 1.72 | 0.55 |
| 6:A:1105:A:H2' | 6:A:1106:G:C8 | 2.42 | 0.55 |
| 6:A:114:U:H2' | 6:A:115:G:C8 | 2.41 | 0.55 |
| 6:A:1531:A:O2' | 6:A:1532:U:OP1 | 2.22 | 0.55 |
| 6:A:280:C:H4' | 6:A:281:G:OP2 | 2.07 | 0.55 |
| 6:A:113:G:O2' | 6:A:353:A:O2' | 2.19 | 0.55 |
| 6:A:405:U:C2 | 6:A:497:U:H5 | 2.22 | 0.55 |
| 6:A:960:U:H4' | 6:A:961:U:H5'' | 1.89 | 0.55 |
| 56:B:15:ILE:HG23 | 56:B:120:LYS:CD | 2.36 | 0.55 |
| 56:B:242:VAL:HA | 56:B:264:LEU:CD1 | 2.36 | 0.55 |
| 56:B:298:LYS:H | 56:B:299:PRO:HD3 | 1.71 | 0.55 |
| 56:B:92:GLU:HA | 56:B:96:ALA:CB | 2.36 | 0.55 |
| 7:D:1545:A:N6 | 7:D:1545(A):A:N1 | 2.54 | 0.55 |
| 7:D:1710:C:H6 | 7:D:1710:C:O5' | 1.89 | 0.55 |
| 7:D:1709:U:C5 | 7:D:1710:C:N4 | 2.75 | 0.55 |
| 7:D:1869:G:C2 | 7:D:1878:G:N1 | 2.74 | 0.55 |
| 7:D:960:A:HO2' | 7:D:2456:C:HO2' | 1.51 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:2563:U:H2' | 7:D:2565:A:OP2 | 2.06 | 0.55 |
| 7:D:685:A:C6 | 7:D:774:A:C2 | 2.95 | 0.55 |
| 7:D:920:G:H2' | 7:D:921:G:O4' | 2.07 | 0.55 |
| 8:E:87:G:H5' | 8:E:88:C:OP2 | 2.07 | 0.55 |
| 15:L:112:LEU:HB3 | 15:L:133:LEU:HD23 | 1.89 | 0.55 |
| 17:N:24:VAL:O | 17:N:28:ARG:N | 2.40 | 0.55 |
| 24:U:9:VAL:HG21 | 24:U:84:LEU:HD21 | 1.89 | 0.55 |
| 26:W:51:VAL:HG12 | 26:W:53:ASN:H | 1.71 | 0.55 |
| 6:A:192:U:C3' | 27:X:57:ARG:HH12 | 2.20 | 0.55 |
| 29:Z:152:ILE:HG22 | 29:Z:160:ARG:HH11 | 1.71 | 0.55 |
| 5:5:69:G:H5'' | 5:5:70:G:OP2 | 2.05 | 0.55 |
| 6:A:1282:C:OP2 | 6:A:1283:G:OP2 | 2.25 | 0.55 |
| 6:A:1380:U:C4 | 14:K:3:ARG:HD3 | 2.42 | 0.55 |
| 6:A:909:A:OP2 | 19:P:21:LYS:NZ | 2.40 | 0.55 |
| 56:B:16:ALA:HB3 | 56:B:22:LYS:HG3 | 1.88 | 0.55 |
| 56:B:266:ALA:O | 56:B:267:ALA:HB3 | 2.05 | 0.55 |
| 56:B:338:THR:O | 56:B:338:THR:HG22 | 2.07 | 0.55 |
| 56:B:67:THR:CA | 56:B:76:TYR:CG | 2.85 | 0.55 |
| 7:D:1035:U:H2' | 7:D:1036:G:C8 | 2.41 | 0.55 |
| 7:D:1314:C:N4 | 7:D:1315:C:C4 | 2.75 | 0.55 |
| 7:D:1397:U:O2' | 7:D:1398:C:P | 2.65 | 0.55 |
| 7:D:1484:G:C5 | 7:D:1485:G:C8 | 2.94 | 0.55 |
| 7:D:1528:A:C8 | 7:D:1529:A:C5 | 2.94 | 0.55 |
| 7:D:1537:C:C5 | 7:D:1538:G:H1' | 2.41 | 0.55 |
| 7:D:1324:G:H1' | 7:D:1616:A:N6 | 2.22 | 0.55 |
| 7:D:2129:C:H1' | 29:Z:6:ARG:HH11 | 1.70 | 0.55 |
| 7:D:2807:G:OP2 | 7:D:2891:G:O6 | 2.25 | 0.55 |
| 7:D:342:G:C2 | 7:D:343:C:C2 | 2.94 | 0.55 |
| 7:D:78:A:H2' | 7:D:79:G:C8 | 2.40 | 0.55 |
| 7:D:80:G:N2 | 7:D:81:G:C4 | 2.74 | 0.55 |
| 7:D:898:C:H2' | 7:D:900:A:OP1 | 2.06 | 0.55 |
| 7:D:99:U:H4' | 7:D:101:G:H5' | 1.88 | 0.55 |
| 14:K:14:PRO:HB3 | 14:K:19:GLY:O | 2.07 | 0.55 |
| 3:3:34:ILE:HG22 | 3:3:63:ARG:CG | 2.36 | 0.55 |
| 6:A:934:C:H5 | 6:A:1345:U:OP2 | 1.90 | 0.55 |
| 6:A:1377:A:O2' | 6:A:1378:C:OP1 | 2.22 | 0.55 |
| 6:A:191(F):U:O2 | 27:X:105:SER:HB2 | 2.07 | 0.55 |
| 6:A:201:C:H6 | 6:A:201:C:H3' | 1.72 | 0.55 |
| 56:B:427:LEU:HD11 | 56:B:466:ARG:HD2 | 1.88 | 0.55 |
| 56:B:66:VAL:C | 56:B:76:TYR:CD1 | 2.80 | 0.55 |
| 7:D:1064:C:N4 | 7:D:1074:G:C6 | 2.75 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 7:D:1181:C:C2 | 7:D:1182:A:C8 | 2.95 | 0.55 |
| 7:D:1434:A:H2' | 7:D:1435:G:C8 | 2.36 | 0.55 |
| 7:D:1528:A:N7 | 7:D:1529:A:C5 | 2.75 | 0.55 |
| 7:D:162:U:H2' | 7:D:162:U:O2 | 2.07 | 0.55 |
| 7:D:1779:U:O4 | 7:D:1785:A:N1 | 2.40 | 0.55 |
| 7:D:1786:A:O2' | 7:D:1938:A:N1 | 2.40 | 0.55 |
| 7:D:1926:U:H3 | 7:D:1929:G:N2 | 2.05 | 0.55 |
| 7:D:2276:G:C2 | 7:D:2277:G:C8 | 2.95 | 0.55 |
| 7:D:2291:U:H2' | 7:D:2292:C:C6 | 2.41 | 0.55 |
| 7:D:2358:G:C6 | 7:D:2359:C:C4 | 2.94 | 0.55 |
| 7:D:2663:G:C5 | 7:D:2664:G:C5 | 2.95 | 0.55 |
| 7:D:2692:C:H2' | 7:D:2693:A:H8 | 1.71 | 0.55 |
| 7:D:2787:C:H2' | 7:D:2788:C:C6 | 2.37 | 0.55 |
| 7:D:2807:G:C3' | 7:D:2808:U:H5' | 2.37 | 0.55 |
| 7:D:684:G:C6 | 7:D:775:G:N7 | 2.75 | 0.55 |
| 8:E:2:C:N4 | 8:E:118:G:H1 | 2.03 | 0.55 |
| 8:E:58:A:N7 | 8:E:59:A:N6 | 2.54 | 0.55 |
| 10:G:125:GLU:OE2 | 10:G:191:THR:N | 2.40 | 0.55 |
| 11:H:24:GLU:HA | 11:H:27:TYR:HB3 | 1.89 | 0.55 |
| 12:I:15:ARG:NH1 | 12:I:26:PHE:CD2 | 2.75 | 0.55 |
| 6:A:562:C:C5 | 19:P:18:VAL:HG12 | 2.42 | 0.55 |
| 20:Q:96:LEU:CD2 | 20:Q:101:GLN:HG3 | 2.36 | 0.55 |
| 20:Q:16:ASP:OD1 | 20:Q:17:VAL:N | 2.37 | 0.55 |
| 21:R:18:VAL:O | 21:R:20:ALA:N | 2.34 | 0.55 |
| 22:S:31:LEU:O | 22:S:35:ARG:HG3 | 2.06 | 0.55 |
| 26:W:36:ARG:HD3 | 26:W:71:LEU:O | 2.07 | 0.55 |
| 5:5:7:A:C8 | 5:5:49:C:H1' | 2.42 | 0.55 |
| 6:A:1195:C:H5'' | 6:A:1196:U:OP2 | 2.06 | 0.55 |
| 6:A:1381:U:C2 | 14:K:78:ARG:NH1 | 2.75 | 0.55 |
| 6:A:677:U:H2' | 6:A:678:U:C6 | 2.41 | 0.55 |
| 56:B:17:HIS:HB3 | 56:B:20:HIS:CG | 2.42 | 0.55 |
| 56:B:218:PHE:C | 56:B:258:ALA:CB | 2.73 | 0.55 |
| 56:B:303:ALA:HB3 | 56:B:346:CYS:C | 2.28 | 0.55 |
| 56:B:435:LEU:HA | 56:B:451:VAL:O | 2.06 | 0.55 |
| 7:D:1039:G:OP2 | 7:D:1039:G:N2 | 2.40 | 0.55 |
| 7:D:819:A:C4 | 7:D:1189:A:C2 | 2.95 | 0.55 |
| 7:D:1210:A:O2' | 7:D:1211:U:OP2 | 2.21 | 0.55 |
| 7:D:1400:G:H2' | 7:D:1401:G:C8 | 2.41 | 0.55 |
| 7:D:2081:C:H2' | 7:D:2082:A:H8 | 1.72 | 0.55 |
| 7:D:2335:A:C8 | 7:D:2335:A:OP2 | 2.60 | 0.55 |
| 7:D:2516:G:C4 | 7:D:2569:G:N2 | 2.75 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:335:C:H2' | 7:D:336:C:H6 | 1.71 | 0.55 |
| 7:D:341:G:C6 | 7:D:342:G:C4 | 2.95 | 0.55 |
| 7:D:411:G:N2 | 7:D:416:C:N3 | 2.54 | 0.55 |
| 7:D:539:G:N1 | 7:D:556:G:O6 | 2.39 | 0.55 |
| 6:A:671:G:O3' | 13:J:80:ARG:NH2 | 2.40 | 0.55 |
| 6:A:189:U:N3 | 24:U:72:ARG:NH1 | 2.55 | 0.55 |
| 6:A:115:G:H4' | 6:A:116:A:O5' | 2.06 | 0.54 |
| 6:A:1273:G:H3' | 6:A:1274:G:C8 | 2.42 | 0.54 |
| 6:A:476:G:H2' | 6:A:476:G:N3 | 2.21 | 0.54 |
| 6:A:894:G:H2' | 6:A:895:G:C8 | 2.42 | 0.54 |
| 6:A:952:U:H5' | 6:A:972:C:H41 | 1.72 | 0.54 |
| 56:B:11:ASN:CA | 56:B:100:VAL:HG13 | 2.34 | 0.54 |
| 56:B:166:ALA:CB | 56:B:172:GLU:CG | 2.86 | 0.54 |
| 56:B:234:GLY:O | 56:B:237:PHE:HE1 | 1.88 | 0.54 |
| 56:B:303:ALA:HB3 | 56:B:345:ARG:C | 2.28 | 0.54 |
| 56:B:526:GLU:O | 56:B:527:VAL:HG22 | 2.06 | 0.54 |
| 56:B:46:LEU:HB2 | 56:B:61:ALA:CB | 2.27 | 0.54 |
| 7:D:1069:A:H4' | 7:D:1070:A:H5'' | 1.89 | 0.54 |
| 7:D:1006:C:C2 | 7:D:1137:G:N2 | 2.75 | 0.54 |
| 7:D:1341:U:H4' | 7:D:1342:A:OP1 | 2.08 | 0.54 |
| 7:D:145:G:H2' | 7:D:146:G:H8 | 1.71 | 0.54 |
| 7:D:1857:G:C6 | 7:D:1858:G:C6 | 2.95 | 0.54 |
| 7:D:1993:U:H5 | 7:D:1994:C:N3 | 2.05 | 0.54 |
| 7:D:2070:G:C2 | 7:D:2071:A:C4 | 2.95 | 0.54 |
| 7:D:2081:C:C4 | 7:D:2237:G:N2 | 2.75 | 0.54 |
| 7:D:2124:G:O6 | 7:D:2125:G:N2 | 2.39 | 0.54 |
| 7:D:2368:C:H2' | 7:D:2369:A:C8 | 2.42 | 0.54 |
| 7:D:284:U:C6 | 7:D:284:U:OP2 | 2.60 | 0.54 |
| 7:D:2631:G:OP2 | 7:D:2893:G:O3' | 2.25 | 0.54 |
| 7:D:310:A:C6 | 7:D:312:G:C4 | 2.95 | 0.54 |
| 7:D:571:A:C6 | 7:D:2030:A:N1 | 2.75 | 0.54 |
| 11:H:26:CYS:O | 11:H:31:CYS:HB3 | 2.07 | 0.54 |
| 12:I:20:GLN:HG2 | 12:I:25:ARG:NH2 | 2.22 | 0.54 |
| 6:A:673:G:H4' | 13:J:87:ARG:HH22 | 1.72 | 0.54 |
| 15:L:1:MET:HG2 | 15:L:2:LEU:O | 2.07 | 0.54 |
| 7:D:456:C:N3 | 19:P:69:TYR:HD2 | 139.93 | 0.54 |
| 6:A:1156:G:H1' | 6:A:1179:A:H61 | 1.73 | 0.54 |
| 6:A:1288:A:N3 | 6:A:1352:C:O2' | 2.37 | 0.54 |
| 6:A:1450:U:O2' | 6:A:1451:A:N7 | 2.25 | 0.54 |
| 56:B:200:ILE:HG13 | 56:B:279:THR:OG1 | 2.07 | 0.54 |
| 56:B:25:LEU:HD21 | 56:B:29:ILE:HD11 | 1.89 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 56:B:360:ARG:O | 56:B:364:GLU:HB2 | 2.07 | 0.54 |
| 56:B:380:VAL:HG23 | 56:B:404:GLU:HA | 1.87 | 0.54 |
| 56:B:431:LYS:HB2 | 56:B:455:PRO:CD | 2.33 | 0.54 |
| 56:B:49:LEU:C | 56:B:51:LEU:H | 2.10 | 0.54 |
| 56:B:68:TYR:HA | 56:B:75:GLU:CG | 2.29 | 0.54 |
| 56:B:69:ARG:HA | 56:B:69:ARG:NE | 2.20 | 0.54 |
| 3:3:126:MET:CG | 7:D:1059:G:C4 | 2.89 | 0.54 |
| 7:D:1657:C:H42 | 7:D:2003:G:H1 | 1.55 | 0.54 |
| 7:D:1747:G:C2' | 7:D:1748:G:C5' | 2.86 | 0.54 |
| 7:D:1784:A:O3' | 7:D:1785:A:O4' | 2.25 | 0.54 |
| 7:D:202:U:H2' | 7:D:203:C:C6 | 2.42 | 0.54 |
| 7:D:2196:C:H3' | 7:D:2197:U:H5 | 1.73 | 0.54 |
| 7:D:273(A):G:N2 | 7:D:363(F):A:H62 | 2.05 | 0.54 |
| 7:D:40:C:C2' | 7:D:41:C:H5' | 2.38 | 0.54 |
| 7:D:471:A:C8 | 7:D:472:A:C8 | 2.96 | 0.54 |
| 7:D:531:C:H5' | 7:D:532:A:C2 | 2.42 | 0.54 |
| 9:F:87:ARG:HD2 | 9:F:234:PRO:HD3 | 1.88 | 0.54 |
| 19:P:27:LEU:O | 19:P:29:GLY:N | 2.38 | 0.54 |
| 23:T:23:ASP:HB3 | 23:T:25:ARG:HG2 | 1.89 | 0.54 |
| 26:W:43:GLU:OE1 | 26:W:64:GLU:CB | 2.46 | 0.54 |
| 4:4:18:G:N7 | 4:4:57:A:N6 | 2.55 | 0.54 |
| 6:A:1007:C:N3 | 6:A:1023:G:C6 | 2.75 | 0.54 |
| 6:A:69:G:N1 | 6:A:101:A:C2 | 2.75 | 0.54 |
| 6:A:1023:G:H2' | 6:A:1023:G:N3 | 2.22 | 0.54 |
| 6:A:1261:A:C5 | 6:A:1262:C:C4 | 2.95 | 0.54 |
| 6:A:1266:G:C8 | 6:A:1268:A:OP2 | 2.60 | 0.54 |
| 6:A:1454:G:C2 | 6:A:1455:G:C1' | 2.91 | 0.54 |
| 6:A:452:A:O2' | 23:T:72:ARG:HD2 | 2.07 | 0.54 |
| 6:A:76:G:N2 | 6:A:93:U:O2 | 2.28 | 0.54 |
| 56:B:135:ILE:HG12 | 56:B:165:PHE:CA | 2.28 | 0.54 |
| 56:B:532:LEU:CD2 | 56:B:555:ARG:H | 2.19 | 0.54 |
| 56:B:55:ARG:HB3 | 56:B:57:ILE:HG13 | 1.89 | 0.54 |
| 4:4:75:C:C4 | 56:B:569:ARG:NH2 | 2.66 | 0.54 |
| 56:B:89:PHE:N | 56:B:89:PHE:CD1 | 2.75 | 0.54 |
| 7:D:1177:A:C2 | 7:D:1178:C:C6 | 2.94 | 0.54 |
| 7:D:1312:U:O2' | 7:D:1313:U:O4' | 2.24 | 0.54 |
| 7:D:1633:G:N7 | 7:D:1635:G:C6 | 2.76 | 0.54 |
| 7:D:1779:U:H6 | 7:D:1779:U:H3' | 1.72 | 0.54 |
| 7:D:2227:A:C8 | 7:D:2228:G:N7 | 2.76 | 0.54 |
| 7:D:2693:A:H2' | 7:D:2694:G:H8 | 1.72 | 0.54 |
| 7:D:2807:G:N1 | 7:D:2892:A:N7 | 2.54 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 7:D:2895:U:H6 | 7:D:2895:U:H3' | 1.72 | 0.54 |
| 7:D:532:A:H2 | 7:D:2035:G:N2 | 1.98 | 0.54 |
| 7:D:99:U:O2 | 7:D:99:U:H2' | 2.07 | 0.54 |
| 8:E:13:A:N7 | 8:E:70:C:H4' | 2.22 | 0.54 |
| 17:N:51:ARG:HB2 | 17:N:59:SER:O | 2.08 | 0.54 |
| 10:G:22:TRP:CE2 | 21:R:54:PRO:HG2 | 2.41 | 0.54 |
| 22:S:8:LYS:O | 22:S:12:ILE:HG13 | 2.07 | 0.54 |
| 24:U:86:GLU:O | 24:U:90:ILE:HG13 | 2.07 | 0.54 |
| 29:Z:41:VAL:HB | 29:Z:176:GLY:O | 2.07 | 0.54 |
| 6:A:1447:G:N1 | 6:A:1460:A:C5 | 2.75 | 0.54 |
| 6:A:1426:C:H42 | 6:A:1474:G:H1 | 1.56 | 0.54 |
| 6:A:157:G:C6 | 6:A:165:C:C4 | 2.95 | 0.54 |
| 6:A:218:C:N3 | 6:A:219:C:N4 | 2.55 | 0.54 |
| 6:A:361:G:H5' | 6:A:362:G:OP2 | 2.08 | 0.54 |
| 6:A:694:A:C2 | 6:A:695:A:H1' | 2.42 | 0.54 |
| 56:B:409:TYR:HB3 | 56:B:453:GLU:HG3 | 1.89 | 0.54 |
| 3:3:75:SER:OG | 7:D:1059:G:N2 | 2.40 | 0.54 |
| 7:D:1693:U:H4' | 7:D:1694:C:OP2 | 2.07 | 0.54 |
| 7:D:2120:G:C2 | 7:D:2179:C:C2 | 2.92 | 0.54 |
| 7:D:2208:U:O2 | 7:D:2217:G:N2 | 2.40 | 0.54 |
| 7:D:2637:U:O2' | 7:D:2638:G:O4' | 2.22 | 0.54 |
| 7:D:30:G:C5 | 7:D:31:C:C4 | 2.96 | 0.54 |
| 7:D:366:C:H6 | 7:D:366:C:O5' | 1.90 | 0.54 |
| 7:D:729:G:C6 | 7:D:730:C:C4 | 2.96 | 0.54 |
| 7:D:869:G:H1 | 7:D:908:C:N4 | 2.00 | 0.54 |
| 7:D:893:C:H2' | 7:D:894:C:C4' | 2.37 | 0.54 |
| 11:H:207:TYR:O | 11:H:209:ARG:NH1 | 2.40 | 0.54 |
| 24:U:12:SER:N | 24:U:20:THR:OG1 | 2.40 | 0.54 |
| 26:W:70:LYS:C | 26:W:72:GLY:N | 2.42 | 0.54 |
| 6:A:1002:G:H2' | 6:A:1003:G:C8 | 2.42 | 0.54 |
| 6:A:299:G:C6 | 6:A:300:A:C6 | 2.95 | 0.54 |
| 6:A:695:A:H2' | 6:A:696:A:C8 | 2.42 | 0.54 |
| 56:B:65:ARG:CD | 56:B:76:TYR:OH | 2.55 | 0.54 |
| 56:B:8:ARG:NH1 | 56:B:73:GLY:O | 2.41 | 0.54 |
| 7:D:1084:A:C2' | 7:D:1106:G:N7 | 2.70 | 0.54 |
| 1:1:36:GLN:NE2 | 7:D:1124:C:O2 | 2.40 | 0.54 |
| 7:D:1142(A):A:H8 | 7:D:1142(A):A:OP2 | 1.91 | 0.54 |
| 7:D:120:U:O2' | 7:D:121:G:P | 2.65 | 0.54 |
| 7:D:1327:C:C5 | 7:D:1328:G:C6 | 2.95 | 0.54 |
| 7:D:1588:C:H6 | 7:D:1588:C:O5' | 1.91 | 0.54 |
| 7:D:1778:U:H2' | 7:D:1779:U:C6 | 2.43 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:2003:G:C2 | 7:D:2004:G:C4 | 2.95 | 0.54 |
| 7:D:2058:A:O5' | 7:D:2058:A:H8 | 1.89 | 0.54 |
| 7:D:2226:C:H2' | 7:D:2227:A:C5' | 2.37 | 0.54 |
| 7:D:411:G:N2 | 7:D:2407:G:C6 | 2.76 | 0.54 |
| 7:D:2889:C:H6 | 7:D:2889:C:O5' | 1.90 | 0.54 |
| 7:D:668:G:C2 | 7:D:670:A:C6 | 2.96 | 0.54 |
| 16:M:50:LEU:HD22 | 16:M:51:ARG:NH1 | 2.21 | 0.54 |
| 18:O:91:ARG:HG3 | 18:O:92:GLU:N | 2.22 | 0.54 |
| 20:Q:12:ASN:HD21 | 20:Q:44:ARG:HB3 | 1.72 | 0.54 |
| 20:Q:23:TYR:HB3 | 20:Q:70:LEU:CD2 | 2.37 | 0.54 |
| 24:U:9:VAL:HG21 | 24:U:84:LEU:HD11 | 1.89 | 0.54 |
| 3:3:7:VAL:HG12 | 3:3:58:THR:OG1 | 2.06 | 0.54 |
| 3:3:5:VAL:C | 3:3:7:VAL:H | 2.11 | 0.54 |
| 6:A:1072:G:C5 | 6:A:1073:U:C4 | 2.95 | 0.54 |
| 6:A:125:U:H2' | 6:A:126:G:H8 | 1.72 | 0.54 |
| 6:A:344:A:H3' | 6:A:345:C:H5' | 1.90 | 0.54 |
| 6:A:477:G:C2 | 6:A:478:A:C4 | 2.95 | 0.54 |
| 6:A:443:C:C2 | 6:A:492:G:C2 | 2.96 | 0.54 |
| 6:A:992:U:O2 | 6:A:1044:A:N6 | 2.19 | 0.54 |
| 56:B:16:ALA:H | 56:B:22:LYS:HE3 | 1.72 | 0.54 |
| 56:B:330:LEU:CD2 | 56:B:346:CYS:N | 2.70 | 0.54 |
| 56:B:374:PRO:CG | 56:B:461:TYR:HD1 | 2.21 | 0.54 |
| 56:B:70:ALA:HA | 56:B:178:LEU:HD21 | 1.88 | 0.54 |
| 7:D:1007:C:OP2 | 7:D:1009:A:OP2 | 2.25 | 0.54 |
| 7:D:1061:U:O2' | 7:D:1062:G:OP1 | 2.21 | 0.54 |
| 7:D:1138:G:H2' | 7:D:1139:G:C8 | 2.43 | 0.54 |
| 7:D:839:U:O2' | 7:D:1191:G:N3 | 2.39 | 0.54 |
| 7:D:1240:U:H3' | 7:D:1241:A:C8 | 2.43 | 0.54 |
| 7:D:1287:A:C5 | 7:D:1288:U:N3 | 2.74 | 0.54 |
| 7:D:1527:G:C8 | 7:D:1528:A:C5 | 2.95 | 0.54 |
| 7:D:1528:A:H5'' | 7:D:1529:A:OP2 | 2.07 | 0.54 |
| 7:D:1533:C:H2' | 7:D:1534:G:C8 | 2.43 | 0.54 |
| 7:D:2207:C:H3' | 7:D:2207:C:H6 | 1.73 | 0.54 |
| 7:D:2312:U:H2' | 7:D:2313:C:O4' | 2.07 | 0.54 |
| 7:D:2651:C:N3 | 7:D:2652:C:C4 | 2.76 | 0.54 |
| 7:D:2797:U:H2' | 7:D:2797:U:O2 | 2.06 | 0.54 |
| 7:D:342:G:H2' | 7:D:343:C:O4' | 2.07 | 0.54 |
| 7:D:435:C:H6 | 7:D:435:C:H3' | 1.73 | 0.54 |
| 7:D:877:U:H2' | 7:D:899:A:N6 | 2.22 | 0.54 |
| 11:H:108:LEU:HD23 | 11:H:170:VAL:HG11 | 1.89 | 0.54 |
| 20:Q:87:TYR:OH | 26:W:77:THR:HG22 | 2.07 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 6:A:1202:G:H21 | 21:R:27:CYS:HB3 | 1.72 | 0.54 |
| 6:A:1319:A:C4' | 26:W:37:ARG:O | 2.53 | 0.54 |
| 6:A:1320:C:H6 | 26:W:70:LYS:HD2 | 1.72 | 0.54 |
| 7:D:2123:G:P | 29:Z:164:ARG:HE | 2.30 | 0.54 |
| 3:3:19:PRO:O | 3:3:23:VAL:HB | 2.08 | 0.54 |
| 5:5:67:C:H2' | 5:5:68:C:C6 | 2.43 | 0.54 |
| 6:A:986:A:N1 | 6:A:1220:G:C6 | 2.75 | 0.54 |
| 6:A:1269:A:OP2 | 6:A:1270:C:C4 | 2.61 | 0.54 |
| 6:A:1320:C:P | 26:W:70:LYS:HZ1 | 2.30 | 0.54 |
| 6:A:1099:G:O2' | 6:A:1542:U:H4' | 2.08 | 0.54 |
| 6:A:198:G:N2 | 6:A:199:G:C4 | 2.76 | 0.54 |
| 6:A:44:G:N1 | 6:A:45:U:O2 | 2.40 | 0.54 |
| 6:A:96:G:C6 | 6:A:97:U:C4 | 2.96 | 0.54 |
| 56:B:230:ILE:CG2 | 56:B:280:ILE:HG22 | 2.37 | 0.54 |
| 56:B:555:ARG:HG2 | 56:B:556:LYS:H | 1.72 | 0.54 |
| 7:D:1024:G:H3' | 7:D:1025:G:H5'' | 1.89 | 0.54 |
| 7:D:1050:A:C5 | 7:D:2751:G:N1 | 2.76 | 0.54 |
| 3:3:126:MET:CE | 7:D:1059:G:C8 | 2.91 | 0.54 |
| 7:D:818:G:N2 | 7:D:1190:G:C5 | 2.76 | 0.54 |
| 7:D:1227:A:H2' | 7:D:1228:G:O4' | 2.07 | 0.54 |
| 7:D:1238:G:H2' | 7:D:1239:G:O4' | 2.07 | 0.54 |
| 7:D:1380:G:C2 | 7:D:1381:G:C8 | 2.96 | 0.54 |
| 7:D:1478:G:O2' | 7:D:1479:G:H5' | 2.08 | 0.54 |
| 7:D:1786:A:N6 | 7:D:1787:A:C2 | 2.76 | 0.54 |
| 7:D:1952:A:H5'' | 7:D:1953:A:OP2 | 2.08 | 0.54 |
| 7:D:2458:G:O2' | 7:D:2459:A:O5' | 2.25 | 0.54 |
| 7:D:270(M):U:H4' | 7:D:270(N):G:H4' | 1.89 | 0.54 |
| 7:D:2870:C:H2' | 7:D:2871:C:O4' | 2.06 | 0.54 |
| 7:D:489:G:C4 | 7:D:1284:A:N6 | 2.75 | 0.54 |
| 7:D:695:G:C2 | 7:D:768:G:C5 | 2.95 | 0.54 |
| 13:J:95:GLU:H | 13:J:96:PRO:HD2 | 1.73 | 0.54 |
| 15:L:63:LEU:HD13 | 15:L:65:TYR:H | 1.71 | 0.54 |
| 26:W:12:ASP:OD2 | 26:W:38:SER:HB2 | 2.08 | 0.54 |
| 26:W:79:THR:HG22 | 26:W:80:TYR:N | 2.23 | 0.54 |
| 29:Z:160:ARG:O | 29:Z:161:ILE:HG13 | 2.07 | 0.54 |
| 29:Z:77:ILE:HD13 | 29:Z:100:ILE:HD11 | 1.90 | 0.54 |
| 5:5:19:G:O4' | 5:5:57:G:N2 | 2.35 | 0.54 |
| 6:A:57:G:H2' | 6:A:58:C:C6 | 2.43 | 0.54 |
| 56:B:135:ILE:H | 56:B:165:PHE:HD1 | 1.55 | 0.54 |
| 56:B:36:VAL:HG11 | 56:B:39:ARG:O | 2.08 | 0.54 |
| 56:B:41:MET:HA | 56:B:45:PHE:CE1 | 2.43 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 56:B:492:VAL:C | 56:B:505:THR:CB | 2.63 | 0.54 |
| 56:B:495:LEU:CD1 | 56:B:540:ALA:HB3 | 2.03 | 0.54 |
| 56:B:46:LEU:CD1 | 56:B:61:ALA:O | 2.31 | 0.54 |
| 56:B:67:THR:C | 56:B:76:TYR:CB | 2.65 | 0.54 |
| 56:B:169:LYS:CG | 57:B:701:GCP:C4 | 2.85 | 0.54 |
| 7:D:1008:C:O2' | 7:D:1009:A:N7 | 2.39 | 0.54 |
| 7:D:1107:G:P | 7:D:1107:G:H8 | 2.31 | 0.54 |
| 7:D:1030:G:C5 | 7:D:1125:G:N2 | 2.76 | 0.54 |
| 7:D:1208:C:N4 | 7:D:1209:G:O6 | 2.41 | 0.54 |
| 7:D:1302:A:H5' | 7:D:1608:A:OP2 | 2.08 | 0.54 |
| 7:D:1386:C:H2' | 7:D:1387:C:H6 | 1.72 | 0.54 |
| 7:D:2347:C:H2' | 7:D:2348:U:H6 | 1.73 | 0.54 |
| 7:D:2360:A:H2' | 7:D:2361:A:O4' | 2.06 | 0.54 |
| 7:D:239:U:H2' | 7:D:240:G:O4' | 2.07 | 0.54 |
| 5:5:76:A:H62 | 7:D:2422:A:H5' | 1.71 | 0.54 |
| 7:D:338:G:P | 7:D:339:U:OP2 | 2.65 | 0.54 |
| 7:D:38:A:C2' | 7:D:39:C:H5' | 2.38 | 0.54 |
| 7:D:540:G:C2 | 7:D:541:C:C2 | 2.96 | 0.54 |
| 7:D:58:G:H1' | 7:D:70:G:H22 | 1.72 | 0.54 |
| 7:D:748:G:H5' | 7:D:749:C:OP2 | 2.07 | 0.54 |
| 7:D:944:G:H4' | 7:D:945:A:H5'' | 1.89 | 0.54 |
| 8:E:118:G:C8 | 8:E:118:G:OP2 | 2.61 | 0.54 |
| 6:A:1104:G:H4' | 9:F:111:ARG:HH21 | 1.73 | 0.54 |
| 12:I:149:GLU:HA | 12:I:152:ARG:HB3 | 1.90 | 0.54 |
| 5:5:42:C:P | 14:K:143:ARG:NH1 | 2.79 | 0.54 |
| 17:N:42:THR:HG23 | 17:N:67:THR:C | 2.28 | 0.54 |
| 6:A:995:C:H1' | 21:R:4:LYS:HE2 | 1.90 | 0.54 |
| 29:Z:11:LEU:HD12 | 29:Z:14:VAL:HB | 1.90 | 0.54 |
| 29:Z:18:LYS:HG2 | 29:Z:20:TYR:N | 2.19 | 0.54 |
| 6:A:110:C:H2' | 6:A:111:G:H8 | 1.73 | 0.54 |
| 6:A:477:G:C6 | 6:A:478:A:C5 | 2.96 | 0.54 |
| 6:A:723:U:OP2 | 6:A:724:G:OP2 | 2.26 | 0.54 |
| 6:A:968:A:H4' | 6:A:969:A:OP2 | 2.06 | 0.54 |
| 56:B:137:LYS:HG3 | 57:B:701:GCP:C8 | 2.33 | 0.54 |
| 56:B:25:LEU:CB | 56:B:168:GLY:HA3 | 2.38 | 0.54 |
| 56:B:417:PRO:HD2 | 56:B:420:TYR:CD2 | 2.42 | 0.54 |
| 7:D:1002:G:C6 | 7:D:1003:G:N7 | 2.76 | 0.54 |
| 7:D:1044:G:O2' | 7:D:1047:G:H4' | 2.08 | 0.54 |
| 7:D:1047:G:H3' | 7:D:1110:G:N2 | 2.20 | 0.54 |
| 7:D:1084:A:H1' | 7:D:1106:G:C5 | 2.35 | 0.54 |
| 7:D:583:G:N2 | 7:D:1258:C:O2 | 2.40 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 7:D:1425:G:H1' | 7:D:1573:G:N2 | 2.23 | 0.54 |
| 7:D:146:G:H2' | 7:D:147:U:H6 | 1.71 | 0.54 |
| 7:D:1492:G:H8 | 7:D:1495:A:OP2 | 1.90 | 0.54 |
| 7:D:155:C:C2' | 7:D:161:U:H3' | 2.36 | 0.54 |
| 7:D:154:G:C3' | 7:D:155:C:H5' | 2.38 | 0.54 |
| 7:D:1572:A:H3' | 7:D:1573:G:C8 | 2.42 | 0.54 |
| 7:D:1995:U:H3' | 7:D:1996:C:H5'' | 1.89 | 0.54 |
| 7:D:2107:C:H1' | 7:D:2108:C:O5' | 2.07 | 0.54 |
| 7:D:2133:G:C8 | 7:D:2133:G:OP2 | 2.59 | 0.54 |
| 7:D:2242:G:C6 | 7:D:2243:U:N3 | 2.76 | 0.54 |
| 7:D:2524:G:N2 | 7:D:2540:C:C2 | 2.76 | 0.54 |
| 7:D:2589:A:C6 | 7:D:2606:C:N4 | 2.76 | 0.54 |
| 7:D:2653:U:H3' | 7:D:2654:A:H8 | 1.73 | 0.54 |
| 7:D:2781:A:O3' | 7:D:2782:G:H4' | 2.07 | 0.54 |
| 7:D:2788:C:H5'' | 7:D:2789:C:OP2 | 2.07 | 0.54 |
| 7:D:2809:A:O3' | 7:D:2811:G:OP2 | 2.26 | 0.54 |
| 7:D:491:G:C4 | 7:D:492:A:C8 | 2.96 | 0.54 |
| 14:K:61:VAL:HG12 | 14:K:128:ALA:HB1 | 1.89 | 0.54 |
| 6:A:736:C:H5'' | 25:V:72:ARG:HH12 | 1.72 | 0.54 |
| 6:A:1320:C:C6 | 26:W:70:LYS:HD2 | 2.43 | 0.54 |
| 26:W:36:ARG:CB | 26:W:72:GLY:N | 2.68 | 0.54 |
| 26:W:51:VAL:HG11 | 26:W:75:ALA:HB3 | 1.90 | 0.54 |
| 29:Z:166:ASP:N | 29:Z:166:ASP:OD1 | 2.41 | 0.54 |
| 3:3:104:VAL:CA | 3:3:107:ILE:HD12 | 2.28 | 0.54 |
| 6:A:1252:A:H2' | 6:A:1253:G:O4' | 2.08 | 0.54 |
| 6:A:1285:A:H1' | 6:A:1286:A:OP2 | 2.08 | 0.54 |
| 6:A:1455:G:C2 | 6:A:1459:C:N3 | 2.76 | 0.54 |
| 6:A:162:A:OP2 | 6:A:162:A:C8 | 2.60 | 0.54 |
| 56:B:490:VAL:CG1 | 56:B:491:LYS:N | 2.67 | 0.54 |
| 56:B:497:HIS:HE1 | 56:B:533:PHE:CD1 | 2.26 | 0.54 |
| 7:D:1131:G:H4' | 7:D:1132:A:OP1 | 2.06 | 0.54 |
| 7:D:1444:G:H1 | 7:D:1547:C:H42 | 1.56 | 0.54 |
| 7:D:1582:C:H3' | 7:D:1582:C:H6 | 1.72 | 0.54 |
| 7:D:161:U:H2' | 7:D:161:U:O2 | 2.07 | 0.54 |
| 7:D:1626:G:N3 | 7:D:1626:G:H2' | 2.23 | 0.54 |
| 7:D:1861:G:H2' | 7:D:1862:G:H5' | 1.89 | 0.54 |
| 7:D:2093:G:C5 | 7:D:2225:A:N7 | 2.75 | 0.54 |
| 7:D:2056:G:C4 | 7:D:2577:A:C2 | 2.96 | 0.54 |
| 7:D:308:G:O2' | 7:D:329:G:N2 | 2.41 | 0.54 |
| 7:D:884:C:H1' | 7:D:885:C:C6 | 2.43 | 0.54 |
| 8:E:38:C:H2' | 8:E:39:A:H8 | 1.71 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 9:F:79:ASP:O | 9:F:82:ARG:HB3 | 2.07 | 0.54 |
| 10:G:152:ILE:HG13 | 10:G:199:LYS:HB2 | 1.89 | 0.54 |
| 11:H:26:CYS:HA | 11:H:31:CYS:HB2 | 1.89 | 0.54 |
| 6:A:1092:A:C5' | 14:K:4:ARG:HH12 | 2.11 | 0.54 |
| 15:L:20:TYR:CE2 | 15:L:75:ARG:HG3 | 2.43 | 0.54 |
| 15:L:44:PHE:O | 15:L:64:LYS:HD3 | 2.08 | 0.54 |
| 26:W:36:ARG:CB | 26:W:71:LEU:CA | 2.84 | 0.54 |
| 27:X:20:LEU:O | 27:X:23:ARG:HG2 | 2.08 | 0.54 |
| 6:A:1018:C:H2' | 6:A:1019:C:C6 | 2.43 | 0.53 |
| 6:A:1292:U:H2' | 6:A:1293:G:C8 | 2.44 | 0.53 |
| 6:A:160:A:H2' | 6:A:161:A:C8 | 2.43 | 0.53 |
| 6:A:225:C:H2' | 6:A:226:G:C8 | 2.43 | 0.53 |
| 6:A:262:A:C6 | 6:A:263:A:C6 | 2.96 | 0.53 |
| 6:A:738:C:OP2 | 13:J:92:LYS:NZ | 2.38 | 0.53 |
| 6:A:751:U:C4 | 6:A:752:G:C2 | 2.96 | 0.53 |
| 6:A:778:G:H2' | 6:A:779:C:O4' | 2.08 | 0.53 |
| 6:A:798:G:OP1 | 18:O:122:LYS:NZ | 2.33 | 0.53 |
| 56:B:335:GLU:CG | 56:B:375:SER:HG | 2.18 | 0.53 |
| 56:B:80:LEU:HD23 | 56:B:81:ILE:H | 1.73 | 0.53 |
| 56:B:92:GLU:O | 56:B:96:ALA:HB3 | 2.08 | 0.53 |
| 7:D:1171:G:O6 | 7:D:1177:A:N1 | 2.42 | 0.53 |
| 7:D:1171:G:H2' | 7:D:1174:A:P | 2.48 | 0.53 |
| 7:D:1580:A:C2' | 7:D:1581:G:C8 | 2.89 | 0.53 |
| 7:D:49:A:C5 | 7:D:177:G:C6 | 2.96 | 0.53 |
| 7:D:1950:G:H1 | 7:D:1956:U:H3 | 1.56 | 0.53 |
| 7:D:1785:A:H5' | 7:D:1982:C:O4' | 2.07 | 0.53 |
| 7:D:2491:U:H6 | 7:D:2491:U:H3' | 1.73 | 0.53 |
| 7:D:315:G:H2' | 7:D:316:C:O4' | 2.09 | 0.53 |
| 7:D:662:G:H2' | 7:D:663:G:C8 | 2.36 | 0.53 |
| 7:D:947:G:N2 | 7:D:948:G:C4 | 2.76 | 0.53 |
| 8:E:76:G:C6 | 8:E:77:U:N3 | 2.77 | 0.53 |
| 9:F:57:PHE:O | 9:F:60:ASP:HB3 | 2.09 | 0.53 |
| 9:F:96:ARG:HB2 | 9:F:98:LEU:HD12 | 1.90 | 0.53 |
| 10:G:152:ILE:HG22 | 10:G:167:TRP:CB | 2.37 | 0.53 |
| 15:L:10:LEU:HD22 | 15:L:83:ILE:HD11 | 1.89 | 0.53 |
| 25:V:20:ALA:HB1 | 25:V:55:ARG:CZ | 2.38 | 0.53 |
| 29:Z:212:VAL:O | 29:Z:223:ARG:HG3 | 2.08 | 0.53 |
| 3:3:49:GLY:O | 3:3:53:VAL:CG2 | 2.55 | 0.53 |
| 6:A:1146:A:H3' | 6:A:1147:C:H6 | 1.72 | 0.53 |
| 6:A:1300:G:HO2' | 6:A:1301:U:P | 2.30 | 0.53 |
| 6:A:195:A:P | 27:X:68:LYS:NZ | 2.82 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 6:A:509:A:N7 | 6:A:510:A:C6 | 2.76 | 0.53 |
| 6:A:762:C:H2' | 6:A:763:G:C8 | 2.44 | 0.53 |
| 56:B:221:ARG:HG2 | 56:B:257:GLU:N | 2.22 | 0.53 |
| 56:B:317:ARG:CG | 56:B:317:ARG:HH11 | 2.21 | 0.53 |
| 56:B:31:GLU:HG3 | 56:B:40:GLU:HG2 | 1.76 | 0.53 |
| 56:B:432:ARG:HH21 | 56:B:487:GLY:CA | 2.21 | 0.53 |
| 56:B:455:PRO:CD | 56:B:458:GLU:HB2 | 2.38 | 0.53 |
| 56:B:47:ASP:OD1 | 56:B:52:GLU:HB3 | 2.08 | 0.53 |
| 3:3:78:ILE:CD1 | 7:D:1059:G:H1' | 2.37 | 0.53 |
| 7:D:1062:G:N3 | 7:D:1063:G:H5' | 2.23 | 0.53 |
| 7:D:124:G:N2 | 7:D:128:C:N3 | 2.56 | 0.53 |
| 7:D:1577:C:OP2 | 7:D:1577:C:C6 | 2.61 | 0.53 |
| 7:D:49:A:N6 | 7:D:176:G:C5 | 2.76 | 0.53 |
| 7:D:1:G:H2' | 7:D:2:G:C8 | 2.43 | 0.53 |
| 7:D:2067:G:C6 | 7:D:2069:G:N7 | 2.76 | 0.53 |
| 7:D:2218:G:N2 | 7:D:2219:G:C4 | 2.76 | 0.53 |
| 7:D:2406:U:OP2 | 7:D:2411:A:N6 | 2.40 | 0.53 |
| 7:D:248:G:C2 | 7:D:2431:U:H4' | 2.44 | 0.53 |
| 7:D:251:A:OP1 | 11:H:50:ARG:NH2 | 149.32 | 0.53 |
| 7:D:310:A:C5 | 7:D:312:G:C5 | 2.96 | 0.53 |
| 7:D:403:U:O2' | 7:D:404:C:OP2 | 2.24 | 0.53 |
| 7:D:553:U:O2 | 7:D:553:U:H2' | 2.07 | 0.53 |
| 7:D:698:C:O2' | 7:D:735:A:N1 | 2.41 | 0.53 |
| 7:D:883:G:O2' | 7:D:892:G:N1 | 2.41 | 0.53 |
| 9:F:135:GLN:OE1 | 9:F:135:GLN:N | 2.39 | 0.53 |
| 10:G:108:ASN:HD22 | 10:G:111:LEU:HD13 | 1.74 | 0.53 |
| 11:H:86:LYS:N | 11:H:86:LYS:HD2 | 4.49 | 0.53 |
| 14:K:20:ASP:OD2 | 14:K:22:LEU:HB2 | 2.08 | 0.53 |
| 6:A:1248:A:C2' | 16:M:70:LYS:HZ2 | 2.21 | 0.53 |
| 16:M:82:ALA:HB2 | 16:M:101:PHE:HD2 | 1.72 | 0.53 |
| 26:W:36:ARG:HB3 | 26:W:71:LEU:O | 2.04 | 0.53 |
| 26:W:63:THR:O | 26:W:66:MET:HG3 | 2.08 | 0.53 |
| 6:A:263:A:OP2 | 27:X:79:ARG:NH1 | 2.41 | 0.53 |
| 3:3:120:LEU:HD21 | 3:3:125:ARG:NH1 | 2.20 | 0.53 |
| 6:A:1306:A:C6 | 6:A:1307:U:C2 | 2.96 | 0.53 |
| 6:A:136:C:N4 | 6:A:227:G:H1 | 2.06 | 0.53 |
| 6:A:1488:G:N2 | 6:A:1489:G:C4 | 2.76 | 0.53 |
| 6:A:148:G:H2' | 6:A:149:A:C8 | 2.43 | 0.53 |
| 6:A:557:G:C6 | 6:A:558:G:C6 | 2.96 | 0.53 |
| 6:A:594:G:H3' | 6:A:595:G:H8 | 1.73 | 0.53 |
| 6:A:79:G:H2' | 6:A:80:G:O4' | 2.09 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 6:A:827:U:H4' | 15:L:19:VAL:HG21 | 1.91 | 0.53 |
| 56:B:241:LYS:NZ | 56:B:243:GLY:HA2 | 2.24 | 0.53 |
| 4:4:75:C:N4 | 56:B:569:ARG:NH2 | 2.56 | 0.53 |
| 7:D:1357:U:H2' | 7:D:1358:G:C8 | 2.44 | 0.53 |
| 7:D:1456:G:C2 | 7:D:1457:A:C5 | 2.95 | 0.53 |
| 7:D:1477:A:C4 | 7:D:1478:G:C2 | 2.97 | 0.53 |
| 7:D:1668:A:H62 | 7:D:1674:G:C1' | 2.17 | 0.53 |
| 7:D:2106:G:C6 | 7:D:2108:C:N3 | 2.76 | 0.53 |
| 7:D:2197:U:H4' | 7:D:2198:A:N7 | 2.23 | 0.53 |
| 7:D:270(U):C:H2' | 7:D:270(V):G:H8 | 1.73 | 0.53 |
| 7:D:289:A:H2' | 7:D:351:G:C2 | 2.43 | 0.53 |
| 7:D:899:A:N3 | 7:D:900:A:N1 | 2.57 | 0.53 |
| 7:D:934:G:H2' | 7:D:935:C:C6 | 2.44 | 0.53 |
| 7:D:822:U:OP2 | 7:D:946:G:OP2 | 2.26 | 0.53 |
| 6:A:1074:G:H4' | 9:F:103:THR:O | 2.08 | 0.53 |
| 6:A:876:G:P | 15:L:14:ARG:HH21 | 2.32 | 0.53 |
| 18:O:121:PRO:HB2 | 18:O:125:PHE:HB2 | 1.91 | 0.53 |
| 24:U:66:SER:HB3 | 24:U:69:LYS:HE2 | 1.89 | 0.53 |
| 6:A:1320:C:C6 | 26:W:36:ARG:HG3 | 2.36 | 0.53 |
| 29:Z:40:THR:HB | 29:Z:216:THR:HB | 1.91 | 0.53 |
| 6:A:1221:G:H5' | 6:A:1321:C:O2 | 2.09 | 0.53 |
| 6:A:1447:G:N2 | 6:A:1460:A:N3 | 2.53 | 0.53 |
| 6:A:260:G:H2' | 6:A:261:U:C6 | 2.43 | 0.53 |
| 6:A:370:C:H2' | 6:A:371:G:C8 | 2.43 | 0.53 |
| 6:A:66:G:C6 | 6:A:67:C:N4 | 2.76 | 0.53 |
| 6:A:762:C:H2' | 6:A:763:G:H8 | 1.73 | 0.53 |
| 6:A:89:U:C2' | 6:A:90:C:H5" | 2.37 | 0.53 |
| 56:B:206:ASP:OD1 | 56:B:206:ASP:N | 2.40 | 0.53 |
| 56:B:242:VAL:CG2 | 56:B:256:LEU:HD21 | 2.38 | 0.53 |
| 56:B:378:TYR:HA | 56:B:406:LEU:HB2 | 1.90 | 0.53 |
| 56:B:41:MET:HB3 | 56:B:45:PHE:HD1 | 1.73 | 0.53 |
| 56:B:505:THR:O | 56:B:506:PHE:CD1 | 2.61 | 0.53 |
| 7:D:577:G:O2' | 7:D:1254:A:OP1 | 2.25 | 0.53 |
| 7:D:1324:G:O2' | 7:D:1325:G:OP1 | 2.26 | 0.53 |
| 7:D:1467:C:N4 | 7:D:1468:C:H41 | 2.06 | 0.53 |
| 7:D:1581:G:O5' | 7:D:1581:G:H8 | 1.91 | 0.53 |
| 7:D:1730:U:C2 | 7:D:1733:G:N2 | 2.77 | 0.53 |
| 7:D:1864:U:H4' | 7:D:2409:G:N2 | 2.23 | 0.53 |
| 7:D:2141:G:H2' | 7:D:2142:C:C6 | 2.43 | 0.53 |
| 7:D:2168:G:N2 | 7:D:2170:A:H2' | 2.24 | 0.53 |
| 7:D:2631:G:C2 | 7:D:2632:A:C4 | 2.96 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:270(Z):U:H3 | 7:D:271(B):G:P | 2.31 | 0.53 |
| 7:D:295:G:N2 | 7:D:343:C:N3 | 2.44 | 0.53 |
| 7:D:455:C:HO2' | 7:D:456:C:P | 2.27 | 0.53 |
| 7:D:458:G:O2' | 7:D:459:U:P | 2.65 | 0.53 |
| 7:D:568:U:C6 | 7:D:570:G:OP2 | 2.61 | 0.53 |
| 7:D:878:A:C8 | 7:D:897:C:N3 | 2.76 | 0.53 |
| 7:D:889:C:C4 | 7:D:890:A:C2 | 2.97 | 0.53 |
| 7:D:928:G:H5' | 7:D:929:G:OP2 | 2.09 | 0.53 |
| 7:D:972:G:C8 | 7:D:972:G:OP2 | 2.61 | 0.53 |
| 9:F:121:LEU:HD22 | 9:F:126:GLU:OE1 | 2.08 | 0.53 |
| 6:A:972:C:P | 17:N:57:LYS:HD3 | 2.49 | 0.53 |
| 26:W:41:VAL:HB | 26:W:42:PRO:HD2 | 1.89 | 0.53 |
| 26:W:67:VAL:O | 26:W:69:HIS:N | 2.38 | 0.53 |
| 29:Z:200:LYS:NZ | 29:Z:208:PHE:CD1 | 2.72 | 0.53 |
| 2:2:39:ALA:HA | 3:3:116:ASN:HB2 | 1.90 | 0.53 |
| 5:5:4:C:N3 | 5:5:69:G:N2 | 2.46 | 0.53 |
| 5:5:55:U:H4' | 29:Z:167:LYS:HD3 | 1.91 | 0.53 |
| 5:5:69:G:C2 | 5:5:70:G:C5 | 2.97 | 0.53 |
| 6:A:1034:G:H2' | 6:A:1035:A:C8 | 2.41 | 0.53 |
| 6:A:1221:G:OP2 | 6:A:1221:G:H8 | 1.91 | 0.53 |
| 6:A:1443:G:HO2' | 6:A:1446:A:P | 2.30 | 0.53 |
| 6:A:363:A:C6 | 6:A:364:A:C6 | 2.97 | 0.53 |
| 6:A:767:A:H2' | 6:A:768:A:H8 | 1.72 | 0.53 |
| 6:A:837:G:C2' | 6:A:838:G:H5' | 2.39 | 0.53 |
| 6:A:964:A:H1' | 17:N:55:LYS:NZ | 2.24 | 0.53 |
| 56:B:88:ASP:O | 56:B:349:LEU:HD22 | 2.09 | 0.53 |
| 56:B:450:LEU:HD21 | 56:B:452:TYR:CD1 | 2.44 | 0.53 |
| 56:B:409:TYR:CD2 | 56:B:453:GLU:O | 2.61 | 0.53 |
| 56:B:493:ASN:HB2 | 56:B:540:ALA:O | 2.08 | 0.53 |
| 7:D:1140:C:O2' | 7:D:1142(A):A:N6 | 2.41 | 0.53 |
| 7:D:1177:A:C2 | 7:D:1178:C:C5 | 2.96 | 0.53 |
| 7:D:1257:C:N3 | 7:D:1258:C:C4 | 2.77 | 0.53 |
| 7:D:116:C:O2' | 7:D:126:A:N3 | 2.36 | 0.53 |
| 7:D:190:A:C5 | 7:D:207:A:C2 | 2.97 | 0.53 |
| 7:D:2657:A:C6 | 7:D:2665:A:C8 | 2.96 | 0.53 |
| 7:D:2686:G:C2 | 7:D:2687:U:C2 | 2.96 | 0.53 |
| 7:D:2714:G:C2 | 7:D:2715:C:C2 | 2.96 | 0.53 |
| 7:D:707:G:H2' | 7:D:708:C:O4' | 2.09 | 0.53 |
| 7:D:893:C:H2' | 7:D:893:C:O2 | 2.08 | 0.53 |
| 8:E:40:U:O2' | 8:E:43:C:N4 | 2.41 | 0.53 |
| 11:H:30:LYS:N | 11:H:34:GLU:HB3 | 2.23 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 18:O:81:ASP:OD1 | 18:O:106:LYS:HD2 | 2.08 | 0.53 |
| 6:A:538:G:P | 19:P:113:ARG:NH1 | 2.82 | 0.53 |
| 20:Q:80:ARG:HH11 | 20:Q:80:ARG:CG | 2.21 | 0.53 |
| 29:Z:216:THR:OG1 | 29:Z:220:PRO:O | 2.16 | 0.53 |
| 6:A:1044:A:C6 | 6:A:1045:C:H1' | 2.43 | 0.53 |
| 6:A:1064:G:HO2' | 6:A:1190:G:N2 | 2.07 | 0.53 |
| 6:A:1380:U:C2 | 14:K:3:ARG:NH1 | 2.76 | 0.53 |
| 6:A:1502:A:H5' | 6:A:1504:G:C8 | 2.44 | 0.53 |
| 6:A:200:G:H8 | 6:A:200:G:O5' | 1.92 | 0.53 |
| 6:A:339:C:H2' | 6:A:340:U:C6 | 2.44 | 0.53 |
| 6:A:440:A:N6 | 6:A:493:G:O3' | 2.41 | 0.53 |
| 6:A:592:G:O6 | 6:A:648:A:N6 | 2.41 | 0.53 |
| 56:B:135:ILE:HD11 | 56:B:145:PRO:CG | 2.30 | 0.53 |
| 56:B:242:VAL:CG2 | 56:B:256:LEU:HG | 2.37 | 0.53 |
| 56:B:196:LEU:CB | 56:B:282:LEU:HB3 | 2.23 | 0.53 |
| 56:B:195:PRO:HG3 | 56:B:286:PRO:C | 2.24 | 0.53 |
| 56:B:421:VAL:HG13 | 56:B:425:MET:HG3 | 1.90 | 0.53 |
| 56:B:80:LEU:O | 56:B:81:ILE:HG12 | 2.08 | 0.53 |
| 7:D:1138:G:H2' | 7:D:1139:G:H8 | 1.74 | 0.53 |
| 7:D:1153:C:C2 | 7:D:1154:G:H8 | 2.26 | 0.53 |
| 7:D:1174:A:C2' | 7:D:1175:U:H5 | 2.19 | 0.53 |
| 7:D:1182:A:N6 | 7:D:1183:G:O6 | 2.42 | 0.53 |
| 7:D:1698:A:O2' | 7:D:1699:G:O5' | 2.27 | 0.53 |
| 7:D:1749:A:HO2' | 7:D:1750:G:H5' | 1.67 | 0.53 |
| 7:D:2269:A:H8 | 7:D:2269:A:O5' | 1.92 | 0.53 |
| 7:D:2336:A:O2' | 7:D:2337:G:P | 2.67 | 0.53 |
| 7:D:249:C:O2' | 7:D:250:G:OP2 | 2.16 | 0.53 |
| 7:D:336:C:H2' | 7:D:337:C:H5' | 1.90 | 0.53 |
| 7:D:442:G:C5 | 7:D:444:C:C4 | 2.97 | 0.53 |
| 7:D:573:G:H1 | 7:D:2031:A:P | 2.31 | 0.53 |
| 7:D:884:C:O2' | 7:D:885:C:P | 2.65 | 0.53 |
| 7:D:962:G:H2' | 7:D:963:U:O4' | 2.09 | 0.53 |
| 10:G:61:ALA:O | 10:G:63:ASN:N | 2.36 | 0.53 |
| 15:L:70:GLN:HE21 | 15:L:72:PRO:HD2 | 1.74 | 0.53 |
| 6:A:707:C:H4' | 18:O:20:TYR:CE2 | 2.44 | 0.53 |
| 21:R:33:VAL:HG23 | 21:R:34:TYR:H | 1.74 | 0.53 |
| 29:Z:66:HIS:H | 29:Z:158:ALA:C | 2.12 | 0.53 |
| 7:D:243:U:P | 29:Z:5:LYS:NZ | 89.07 | 0.53 |
| 5:5:27:G:H2' | 5:5:28:G:O4' | 2.08 | 0.53 |
| 6:A:1164:G:C5 | 6:A:1165:C:N4 | 2.76 | 0.53 |
| 6:A:1170:A:H3' | 6:A:1171:G:H8 | 1.73 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 6:A:322:C:H2' | 6:A:323:U:H6 | 1.73 | 0.53 |
| 6:A:444:C:C2' | 6:A:445:G:H5' | 2.38 | 0.53 |
| 6:A:495:A:C2 | 6:A:496:A:C6 | 2.97 | 0.53 |
| 6:A:837:G:O5' | 6:A:837:G:H8 | 1.90 | 0.53 |
| 6:A:870:U:O5' | 6:A:870:U:H6 | 1.91 | 0.53 |
| 6:A:575:G:C2 | 6:A:881:G:C2 | 2.96 | 0.53 |
| 56:B:416:THR:HB | 56:B:420:TYR:HB2 | 1.91 | 0.53 |
| 56:B:396:LEU:HD11 | 56:B:491:LYS:CG | 2.24 | 0.53 |
| 7:D:1023:U:O4 | 7:D:1024:G:N2 | 2.28 | 0.53 |
| 7:D:1485:G:C2 | 7:D:1486:A:N7 | 2.76 | 0.53 |
| 7:D:1664:A:H2' | 7:D:1665:A:C8 | 2.44 | 0.53 |
| 7:D:1903:G:H2' | 7:D:1904:G:H8 | 1.72 | 0.53 |
| 7:D:528:A:H62 | 7:D:2042:A:N6 | 2.06 | 0.53 |
| 7:D:2347:C:H2' | 7:D:2348:U:C6 | 2.43 | 0.53 |
| 7:D:2642:G:H1 | 7:D:2772:C:N4 | 2.06 | 0.53 |
| 7:D:2748:A:C8 | 7:D:2749:A:N7 | 2.77 | 0.53 |
| 7:D:2779:U:O2' | 7:D:2780:G:O5' | 2.21 | 0.53 |
| 7:D:534:U:O2 | 7:D:559:G:N2 | 2.24 | 0.53 |
| 7:D:775:G:N2 | 7:D:787:U:HO2' | 2.03 | 0.53 |
| 7:D:784:A:O2' | 7:D:785:G:O5' | 2.27 | 0.53 |
| 7:D:948:G:N2 | 7:D:970:C:O2 | 2.42 | 0.53 |
| 8:E:52:A:H4' | 8:E:52:A:OP1 | 2.08 | 0.53 |
| 9:F:152:PHE:O | 9:F:154:LEU:N | 2.41 | 0.53 |
| 23:T:39:TYR:OH | 23:T:41:PRO:HA | 2.08 | 0.53 |
| 26:W:29:ARG:HD2 | 26:W:29:ARG:C | 2.29 | 0.53 |
| 26:W:36:ARG:CA | 26:W:71:LEU:HB3 | 2.32 | 0.53 |
| 6:A:1231:G:OP1 | 16:M:127:LYS:HE2 | 2.09 | 0.53 |
| 6:A:1472:U:H2' | 6:A:1473:A:O4' | 2.09 | 0.53 |
| 6:A:665:A:H1' | 6:A:733:A:H1' | 1.91 | 0.53 |
| 6:A:78:G:H2' | 6:A:79:G:H8 | 1.74 | 0.53 |
| 56:B:222:VAL:HG21 | 56:B:228:ILE:CD1 | 2.39 | 0.53 |
| 56:B:241:LYS:HG2 | 56:B:243:GLY:N | 2.23 | 0.53 |
| 56:B:410:VAL:HG11 | 56:B:480:GLU:N | 2.16 | 0.53 |
| 56:B:510:ARG:O | 56:B:511:GLU:HB2 | 2.08 | 0.53 |
| 7:D:1168:G:C4 | 7:D:1182:A:C2 | 2.97 | 0.53 |
| 7:D:1748:G:N1 | 7:D:1749:A:C2 | 2.77 | 0.53 |
| 7:D:46:C:C2 | 7:D:180:G:N2 | 2.77 | 0.53 |
| 7:D:1870:C:C2' | 7:D:1871:A:H8 | 2.17 | 0.53 |
| 7:D:1944:U:HO2' | 7:D:1945:G:P | 2.31 | 0.53 |
| 7:D:1948:G:H2' | 7:D:1949:G:H8 | 1.73 | 0.53 |
| 7:D:2086:U:H2' | 7:D:2087:G:H8 | 1.73 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:2123:G:OP1 | 29:Z:164:ARG:NH2 | 2.40 | 0.53 |
| 7:D:2162:G:H2' | 7:D:2163:C:O4' | 2.09 | 0.53 |
| 7:D:2698:U:H2' | 7:D:2699:C:C6 | 2.44 | 0.53 |
| 7:D:2781:A:N1 | 7:D:2782:G:N2 | 2.57 | 0.53 |
| 7:D:364:C:O2 | 7:D:364:C:H2' | 2.08 | 0.53 |
| 7:D:500:G:C2 | 7:D:503:A:OP2 | 2.62 | 0.53 |
| 7:D:646:A:H3' | 7:D:647:G:H8 | 1.74 | 0.53 |
| 7:D:717:G:H2' | 7:D:718:A:O4' | 2.09 | 0.53 |
| 7:D:972:G:OP1 | 7:D:974(A):C:H5' | 2.07 | 0.53 |
| 10:G:89:GLU:OE2 | 10:G:93:LYS:HE2 | 2.08 | 0.53 |
| 16:M:47:LEU:HD12 | 16:M:50:LEU:HB3 | 1.90 | 0.53 |
| 6:A:1239:A:H1' | 6:A:1241:G:C4 | 2.44 | 0.53 |
| 6:A:1416:G:H2' | 6:A:1417:G:O4' | 2.09 | 0.53 |
| 6:A:235:C:H5'' | 24:U:70:ARG:HG3 | 1.91 | 0.53 |
| 6:A:361:G:N7 | 6:A:362:G:C4 | 2.77 | 0.53 |
| 6:A:516:U:H3' | 6:A:517:G:C8 | 2.44 | 0.53 |
| 6:A:579:G:C5 | 6:A:580:U:C4 | 2.97 | 0.53 |
| 6:A:66:G:N2 | 6:A:104:G:H1' | 2.24 | 0.53 |
| 6:A:681:C:N4 | 6:A:709:G:H1 | 2.05 | 0.53 |
| 6:A:579:G:N2 | 6:A:763:G:C4 | 2.77 | 0.53 |
| 6:A:934:C:O2' | 6:A:935:A:O5' | 2.25 | 0.53 |
| 56:B:13:SER:HB2 | 56:B:97:LEU:CD2 | 2.39 | 0.53 |
| 56:B:406:LEU:HG | 56:B:489:LEU:CD1 | 2.35 | 0.53 |
| 56:B:431:LYS:CG | 56:B:458:GLU:CG | 2.22 | 0.53 |
| 56:B:492:VAL:HG13 | 56:B:541:ILE:HD11 | 1.86 | 0.53 |
| 56:B:537:ILE:HD12 | 56:B:551:VAL:CG2 | 2.36 | 0.53 |
| 56:B:584:LEU:HD23 | 56:B:587:ILE:HD13 | 1.91 | 0.53 |
| 7:D:1102:C:H2' | 7:D:1102:C:O2 | 2.08 | 0.53 |
| 7:D:119:A:O2' | 7:D:120:U:H3' | 2.09 | 0.53 |
| 7:D:1265:A:H4' | 7:D:1266:G:OP1 | 2.09 | 0.53 |
| 7:D:1548:C:H2' | 7:D:1549:C:C6 | 2.44 | 0.53 |
| 7:D:1668:A:N1 | 7:D:1993:U:C2 | 2.77 | 0.53 |
| 7:D:2362:G:C2 | 7:D:2363:C:C2 | 2.97 | 0.53 |
| 7:D:2399:G:N2 | 7:D:2400:G:C4 | 2.77 | 0.53 |
| 7:D:273:G:C2 | 7:D:365:C:C2 | 2.97 | 0.53 |
| 7:D:344:G:C2 | 7:D:345:A:C8 | 2.97 | 0.53 |
| 7:D:506:G:O2' | 7:D:507:A:O5' | 2.27 | 0.53 |
| 7:D:513:A:N3 | 7:D:513:A:H2' | 2.24 | 0.53 |
| 7:D:681:G:C6 | 7:D:682:G:C5 | 2.96 | 0.53 |
| 7:D:7:G:C2 | 7:D:2897:U:O2 | 2.62 | 0.53 |
| 7:D:924:C:O5' | 7:D:924:C:H6 | 1.92 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 8:E:26:A:H2' | 8:E:27:C:O4' | 2.09 | 0.53 |
| 9:F:24:TRP:CG | 9:F:25:ASN:N | 2.77 | 0.53 |
| 12:I:75:THR:OG1 | 12:I:90:VAL:HA | 12.67 | 0.53 |
| 13:J:4:TYR:CE2 | 13:J:72:VAL:HG11 | 2.44 | 0.53 |
| 20:Q:26:GLY:O | 20:Q:29:ARG:HB3 | 2.08 | 0.53 |
| 20:Q:77:ASN:OD1 | 20:Q:78:ILE:N | 2.42 | 0.53 |
| 26:W:16:LEU:O | 26:W:20:LEU:CG | 2.57 | 0.53 |
| 6:A:101:A:N3 | 6:A:102:G:C8 | 2.77 | 0.53 |
| 6:A:102:G:C2 | 6:A:103:C:C2 | 2.97 | 0.53 |
| 6:A:1145:C:O2' | 6:A:1146:A:O5' | 2.27 | 0.53 |
| 6:A:369:C:H2' | 6:A:370:C:C6 | 2.44 | 0.53 |
| 6:A:465:A:O5' | 6:A:467:G:O6 | 2.27 | 0.53 |
| 6:A:727:G:C2 | 6:A:731:G:C2 | 2.97 | 0.53 |
| 6:A:652:U:H2' | 6:A:752:G:C6 | 2.44 | 0.53 |
| 6:A:836:G:C6 | 6:A:837:G:C6 | 2.97 | 0.53 |
| 56:B:135:ILE:HG13 | 56:B:138:ILE:HD11 | 1.90 | 0.53 |
| 56:B:523:LYS:HB2 | 56:B:598:LEU:CD2 | 2.00 | 0.53 |
| 7:D:1020:A:H5'' | 7:D:1021:A:OP1 | 2.09 | 0.53 |
| 7:D:1230:C:O2' | 7:D:1231:G:H5' | 2.08 | 0.53 |
| 7:D:1242:A:N3 | 7:D:1242:A:H2' | 2.24 | 0.53 |
| 7:D:1339:G:H22 | 7:D:1603:A:H8 | 1.56 | 0.53 |
| 7:D:1795:C:H42 | 7:D:1824:G:H1 | 1.57 | 0.53 |
| 7:D:186:G:N2 | 7:D:187:G:C4 | 2.77 | 0.53 |
| 7:D:2067:G:H1' | 7:D:2444:G:N2 | 2.24 | 0.53 |
| 7:D:2487:G:N2 | 7:D:2488:A:C4 | 2.77 | 0.53 |
| 7:D:2490:G:N2 | 7:D:2491:U:H3 | 2.06 | 0.53 |
| 7:D:2497:A:O2' | 7:D:2498:C:P | 2.67 | 0.53 |
| 7:D:2517:C:C5 | 7:D:2542:A:C5 | 2.97 | 0.53 |
| 7:D:467:G:C2 | 7:D:468:G:C4 | 2.97 | 0.53 |
| 7:D:485:C:C2 | 7:D:486:C:C5 | 2.97 | 0.53 |
| 7:D:650:C:H2' | 7:D:650:C:O2 | 2.08 | 0.53 |
| 7:D:833:U:H2' | 7:D:834:C:H6 | 1.73 | 0.53 |
| 8:E:73:A:C6 | 8:E:104:A:C2 | 2.97 | 0.53 |
| 20:Q:60:VAL:HG12 | 20:Q:60:VAL:O | 2.09 | 0.53 |
| 22:S:75:PRO:O | 22:S:78:TYR:HB3 | 2.09 | 0.53 |
| 29:Z:38:ASP:N | 29:Z:177:LYS:HE3 | 2.23 | 0.53 |
| 3:3:98:ARG:HG2 | 3:3:100:THR:H | 1.73 | 0.52 |
| 3:3:77:LEU:HD12 | 3:3:111:LYS:HD3 | 1.89 | 0.52 |
| 6:A:1081:G:C2 | 6:A:1082:G:C4 | 2.97 | 0.52 |
| 6:A:1316:G:C2 | 6:A:1319:A:OP2 | 2.62 | 0.52 |
| 6:A:373:A:N1 | 6:A:391:G:O2' | 2.33 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 6:A:563:A:O2' | 19:P:15:ARG:NH1 | 2.42 | 0.52 |
| 6:A:658:G:C6 | 6:A:749:C:N4 | 2.77 | 0.52 |
| 6:A:695:A:N1 | 6:A:786:G:N2 | 2.52 | 0.52 |
| 6:A:903:G:H2' | 6:A:904:C:C6 | 2.44 | 0.52 |
| 56:B:536:PRO:HB3 | 56:B:550:THR:CG2 | 2.34 | 0.52 |
| 56:B:92:GLU:CA | 56:B:96:ALA:HB3 | 2.36 | 0.52 |
| 7:D:1001:A:H5'' | 7:D:1002:G:OP2 | 2.09 | 0.52 |
| 7:D:1041:C:H1' | 7:D:1115:G:C2 | 2.44 | 0.52 |
| 7:D:999:U:H3' | 7:D:1154:G:H1 | 1.74 | 0.52 |
| 7:D:1252:G:H4' | 7:D:1252:G:OP2 | 2.09 | 0.52 |
| 7:D:1480:G:OP1 | 7:D:1559:G:C6 | 2.62 | 0.52 |
| 7:D:1637:A:H5' | 7:D:1760:A:O2' | 2.08 | 0.52 |
| 7:D:1956:U:C4 | 7:D:1957:C:C4 | 2.97 | 0.52 |
| 7:D:2184:G:H2' | 7:D:2185:C:O4' | 2.09 | 0.52 |
| 7:D:2653:U:H3 | 7:D:2654:A:H62 | 1.57 | 0.52 |
| 7:D:2774:C:H2' | 7:D:2775:A:C8 | 2.44 | 0.52 |
| 7:D:2805:G:C2' | 7:D:2807:G:C5' | 2.86 | 0.52 |
| 7:D:363(F):A:H3' | 7:D:364:C:H6 | 1.73 | 0.52 |
| 7:D:49:A:C6 | 7:D:177:G:C4 | 2.97 | 0.52 |
| 7:D:603:A:N1 | 7:D:604:G:N2 | 2.57 | 0.52 |
| 7:D:814:C:H42 | 7:D:1193:G:H1 | 1.57 | 0.52 |
| 8:E:34:U:O2' | 8:E:35:U:O5' | 2.26 | 0.52 |
| 9:F:136:VAL:O | 9:F:139:LYS:HG2 | 2.09 | 0.52 |
| 9:F:96:ARG:HB2 | 9:F:98:LEU:CD1 | 2.39 | 0.52 |
| 10:G:54:ARG:HB3 | 10:G:69:HIS:HB2 | 1.92 | 0.52 |
| 12:I:91:LEU:HD21 | 12:I:118:ILE:HG21 | 1.91 | 0.52 |
| 17:N:27:ALA:HB2 | 17:N:85:LEU:HD11 | 1.91 | 0.52 |
| 29:Z:155:GLU:CB | 29:Z:160:ARG:HA | 2.37 | 0.52 |
| 6:A:1356:G:N2 | 6:A:1366:C:N3 | 2.53 | 0.52 |
| 6:A:1419:G:N2 | 6:A:1482:G:H1' | 2.24 | 0.52 |
| 6:A:1447:G:O5' | 6:A:1447:G:H8 | 1.92 | 0.52 |
| 6:A:59:A:C5 | 6:A:354:G:C6 | 2.97 | 0.52 |
| 6:A:691:G:N7 | 18:O:26:ASN:ND2 | 2.56 | 0.52 |
| 6:A:73:G:C5 | 6:A:74:C:C5 | 2.97 | 0.52 |
| 6:A:73:G:C6 | 6:A:74:C:C2 | 2.96 | 0.52 |
| 6:A:966:G:C2 | 6:A:967:C:C2 | 2.97 | 0.52 |
| 56:B:195:PRO:HG3 | 56:B:286:PRO:O | 2.09 | 0.52 |
| 56:B:531:GLN:CD | 56:B:532:LEU:HG | 2.30 | 0.52 |
| 56:B:60:LYS:HG3 | 56:B:60:LYS:O | 2.10 | 0.52 |
| 7:D:1065:U:OP2 | 7:D:1066:U:OP2 | 2.27 | 0.52 |
| 7:D:1098:A:C6 | 7:D:1099:G:C6 | 2.97 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:1419:A:H3' | 7:D:1420:U:C2 | 2.45 | 0.52 |
| 7:D:1469:A:C6 | 7:D:1470:G:N2 | 2.77 | 0.52 |
| 7:D:1854:A:C8 | 7:D:1855:G:C8 | 2.97 | 0.52 |
| 7:D:2185:C:O2' | 7:D:2186:G:H5' | 2.09 | 0.52 |
| 7:D:259:G:H2' | 7:D:260:G:H8 | 1.73 | 0.52 |
| 7:D:2731:G:N2 | 7:D:2732:G:C2 | 2.78 | 0.52 |
| 7:D:2043:C:OP1 | 7:D:2777:G:O2' | 2.28 | 0.52 |
| 7:D:371:A:N6 | 7:D:424:G:C5 | 2.77 | 0.52 |
| 7:D:616:A:H3' | 7:D:616:A:OP2 | 2.10 | 0.52 |
| 7:D:774:A:C4 | 7:D:775:G:C5 | 2.97 | 0.52 |
| 7:D:83:G:H22 | 7:D:102:G:C2' | 2.23 | 0.52 |
| 7:D:866:A:H2' | 7:D:866:A:N3 | 2.24 | 0.52 |
| 15:L:113:SER:HB2 | 15:L:134:ILE:HD11 | 1.90 | 0.52 |
| 6:A:808:C:C5' | 22:S:48:LYS:HZ1 | 2.17 | 0.52 |
| 6:A:391:G:H5'' | 23:T:8:ARG:HH21 | 1.73 | 0.52 |
| 24:U:99:SER:OG | 24:U:100:LYS:N | 2.42 | 0.52 |
| 27:X:49:ALA:O | 27:X:53:LEU:HG | 2.08 | 0.52 |
| 5:5:35:A:H2' | 5:5:36:A:C8 | 2.44 | 0.52 |
| 6:A:1118:C:C6 | 6:A:1118:C:OP2 | 2.62 | 0.52 |
| 6:A:1225:A:OP2 | 6:A:1225:A:C8 | 2.62 | 0.52 |
| 6:A:1361:G:H5'' | 6:A:1362:C:OP2 | 2.10 | 0.52 |
| 6:A:384:G:C8 | 6:A:384:G:OP2 | 2.62 | 0.52 |
| 6:A:405:U:C4 | 6:A:498:A:N7 | 2.77 | 0.52 |
| 6:A:509:A:OP2 | 6:A:510:A:OP2 | 2.27 | 0.52 |
| 56:B:227:ARG:HD3 | 56:B:227:ARG:N | 2.24 | 0.52 |
| 56:B:241:LYS:HE3 | 56:B:243:GLY:HA2 | 1.90 | 0.52 |
| 56:B:398:ASP:CB | 56:B:399:PRO:CD | 2.87 | 0.52 |
| 56:B:409:TYR:HD2 | 56:B:453:GLU:CG | 2.17 | 0.52 |
| 56:B:414:ILE:HG22 | 56:B:416:THR:HG23 | 1.90 | 0.52 |
| 56:B:405:ILE:CA | 56:B:486:PRO:HA | 2.36 | 0.52 |
| 7:D:1004:C:H42 | 7:D:1151:G:H1 | 1.57 | 0.52 |
| 7:D:1047:G:C5 | 7:D:1110:G:C2 | 2.97 | 0.52 |
| 7:D:1278:A:H2' | 7:D:1279:G:H8 | 1.74 | 0.52 |
| 7:D:1397:U:OP2 | 7:D:1397:U:O4' | 2.27 | 0.52 |
| 7:D:1575:C:N4 | 7:D:1576:U:O4 | 2.43 | 0.52 |
| 7:D:1586:A:C3' | 7:D:1587:A:H5'' | 2.39 | 0.52 |
| 7:D:1749:A:C2' | 7:D:1750:G:C8 | 2.74 | 0.52 |
| 7:D:563:G:C2 | 7:D:2018:G:N3 | 2.77 | 0.52 |
| 7:D:2185:C:H2' | 7:D:2186:G:C8 | 2.43 | 0.52 |
| 7:D:219:G:O6 | 7:D:220:G:N1 | 2.42 | 0.52 |
| 7:D:2306:C:OP2 | 7:D:2307:G:C8 | 2.61 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 7:D:2585:U:H4' | 7:D:2586:C:H5' | 1.90 | 0.52 |
| 7:D:2686:G:N2 | 7:D:2687:U:O2 | 2.42 | 0.52 |
| 7:D:698:C:N4 | 7:D:762:U:H3 | 2.06 | 0.52 |
| 9:F:164:VAL:HG22 | 9:F:166:ASP:H | 1.74 | 0.52 |
| 11:H:10:ARG:HA | 11:H:13:ARG:HD3 | 1.91 | 0.52 |
| 13:J:95:GLU:H | 13:J:96:PRO:CD | 2.22 | 0.52 |
| 7:D:2318:G:P | 14:K:3:ARG:HH22 | 102.52 | 0.52 |
| 6:A:1226:C:C5' | 20:Q:94:ARG:CZ | 2.78 | 0.52 |
| 22:S:3:ILE:HG13 | 22:S:38:ARG:NH2 | 2.24 | 0.52 |
| 26:W:29:ARG:CG | 26:W:48:THR:CG2 | 2.76 | 0.52 |
| 26:W:5:LEU:CG | 26:W:6:LYS:H | 2.21 | 0.52 |
| 1:1:2:LYS:HD2 | 7:D:2539:C:H4' | 1.91 | 0.52 |
| 6:A:1065:U:HO2' | 6:A:1066:C:H6 | 1.58 | 0.52 |
| 6:A:1241:G:H2' | 6:A:1242:C:O4' | 2.10 | 0.52 |
| 6:A:1280:A:OP2 | 17:N:43:ARG:NH2 | 2.39 | 0.52 |
| 6:A:1321:C:H1' | 20:Q:87:TYR:CE2 | 2.44 | 0.52 |
| 6:A:1443:G:P | 6:A:1443:G:C3' | 2.97 | 0.52 |
| 6:A:927:G:OP2 | 6:A:1503:A:N6 | 2.43 | 0.52 |
| 6:A:162:A:C8 | 6:A:163:C:H1' | 2.44 | 0.52 |
| 6:A:594:G:H3' | 6:A:595:G:C8 | 2.43 | 0.52 |
| 6:A:842:C:H4' | 6:A:848:C:OP2 | 2.08 | 0.52 |
| 56:B:195:PRO:HB3 | 56:B:286:PRO:CA | 2.03 | 0.52 |
| 56:B:210:GLY:HA2 | 56:B:269:ARG:CB | 2.34 | 0.52 |
| 56:B:509:HIS:O | 56:B:510:ARG:HB3 | 2.10 | 0.52 |
| 7:D:1057:A:HO2' | 7:D:1058:G:H5' | 1.72 | 0.52 |
| 7:D:997:G:H1 | 7:D:1158:C:H42 | 1.56 | 0.52 |
| 7:D:1369:G:C6 | 7:D:1370:C:C4 | 2.97 | 0.52 |
| 7:D:1332:G:H2' | 7:D:1609:A:N1 | 2.24 | 0.52 |
| 7:D:1668:A:N6 | 7:D:1674:G:C4 | 2.78 | 0.52 |
| 7:D:2211:G:N3 | 7:D:2211:G:C2' | 2.73 | 0.52 |
| 7:D:295:G:N3 | 7:D:344:G:N2 | 2.57 | 0.52 |
| 7:D:351:G:O2' | 7:D:352:G:OP2 | 2.24 | 0.52 |
| 7:D:450:G:N1 | 7:D:454:A:OP2 | 2.42 | 0.52 |
| 7:D:536:A:N3 | 7:D:558:G:N2 | 2.57 | 0.52 |
| 7:D:66:C:C4 | 7:D:67:U:C4 | 2.97 | 0.52 |
| 7:D:68:G:H21 | 7:D:74:A:C4' | 2.23 | 0.52 |
| 7:D:879:G:N1 | 7:D:898:C:OP1 | 2.43 | 0.52 |
| 8:E:9:G:C2 | 8:E:10:C:C2 | 2.98 | 0.52 |
| 16:M:12:GLU:O | 16:M:68:GLY:N | 2.43 | 0.52 |
| 6:A:674:G:HO2' | 25:V:81:PHE:HZ | 1.56 | 0.52 |
| 29:Z:139:ASN:OD1 | 29:Z:140:PRO:HD2 | 2.10 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 5:5:15:G:N2 | 5:5:48:C:O2 | 2.41 | 0.52 |
| 6:A:189:U:C2 | 24:U:72:ARG:NH1 | 2.78 | 0.52 |
| 6:A:455:C:O2 | 6:A:455:C:H2' | 2.08 | 0.52 |
| 6:A:475:G:C5 | 6:A:476:G:N7 | 2.78 | 0.52 |
| 6:A:723:U:H5'' | 6:A:724:G:OP2 | 2.09 | 0.52 |
| 6:A:893:C:H2' | 6:A:894:G:H8 | 1.75 | 0.52 |
| 56:B:237:PHE:O | 56:B:267:ALA:HB1 | 2.09 | 0.52 |
| 56:B:24:THR:O | 56:B:28:ARG:HB2 | 2.10 | 0.52 |
| 56:B:432:ARG:NH2 | 56:B:487:GLY:CA | 2.73 | 0.52 |
| 56:B:411:LYS:HZ2 | 56:B:436:VAL:HG22 | 1.75 | 0.52 |
| 7:D:1245:G:C2 | 7:D:1246:A:C5 | 2.97 | 0.52 |
| 7:D:1485:G:C2' | 7:D:1486:A:H5' | 2.39 | 0.52 |
| 7:D:189:G:C4 | 7:D:205:G:N2 | 2.77 | 0.52 |
| 7:D:2078:C:C4 | 7:D:2079:U:C4 | 2.97 | 0.52 |
| 7:D:1268:A:O2' | 7:D:2613:U:O2 | 2.23 | 0.52 |
| 7:D:2044:C:H42 | 7:D:2624:G:H1 | 1.57 | 0.52 |
| 7:D:356:G:C6 | 7:D:357:A:C6 | 2.97 | 0.52 |
| 7:D:592:G:C2 | 7:D:593:G:C8 | 2.97 | 0.52 |
| 7:D:633:A:H5'' | 7:D:634:C:OP2 | 2.09 | 0.52 |
| 7:D:778:G:O6 | 7:D:779:U:N3 | 2.43 | 0.52 |
| 7:D:974:G:N2 | 7:D:1187:G:C6 | 2.78 | 0.52 |
| 8:E:33:G:H2' | 8:E:34:U:H6 | 1.74 | 0.52 |
| 9:F:234:PRO:HB2 | 9:F:238:LEU:HD13 | 1.91 | 0.52 |
| 9:F:82:ARG:NH1 | 9:F:92:TYR:HH | 2.07 | 0.52 |
| 15:L:38:ILE:O | 15:L:41:ARG:HB3 | 2.09 | 0.52 |
| 26:W:53:ASN:HD21 | 26:W:75:ALA:CB | 2.17 | 0.52 |
| 6:A:1305:G:H5' | 28:Y:4:GLY:HA3 | 1.91 | 0.52 |
| 3:3:21:PRO:HB2 | 7:D:1067:A:P | 2.49 | 0.52 |
| 5:5:18:G:O2' | 5:5:57:G:O6 | 2.21 | 0.52 |
| 6:A:1165:C:C2' | 6:A:1166:G:H5' | 2.39 | 0.52 |
| 6:A:198:G:N2 | 6:A:199:G:H1' | 2.24 | 0.52 |
| 6:A:380:G:C2 | 6:A:384:G:C6 | 2.97 | 0.52 |
| 6:A:924:C:N4 | 6:A:925:G:O6 | 2.43 | 0.52 |
| 56:B:13:SER:H | 56:B:103:VAL:HG12 | 1.75 | 0.52 |
| 56:B:219:GLU:HG3 | 56:B:219:GLU:O | 2.09 | 0.52 |
| 56:B:228:ILE:HD13 | 56:B:264:LEU:HD23 | 1.91 | 0.52 |
| 56:B:409:TYR:OH | 56:B:432:ARG:HD2 | 2.08 | 0.52 |
| 56:B:13:SER:OG | 56:B:97:LEU:HG | 2.08 | 0.52 |
| 7:D:1324:G:C2 | 7:D:1328:G:C6 | 2.97 | 0.52 |
| 7:D:1381:G:N1 | 7:D:1382:G:N3 | 2.58 | 0.52 |
| 7:D:1423:G:C2 | 7:D:1424:G:C5 | 2.97 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 7:D:1429:G:C5 | 7:D:1568:G:C6 | 2.97 | 0.52 |
| 7:D:1484:G:C6 | 7:D:1485:G:C5 | 2.97 | 0.52 |
| 7:D:149:A:N7 | 7:D:150:C:N3 | 2.58 | 0.52 |
| 7:D:1746:G:C2 | 7:D:1747:G:N3 | 2.77 | 0.52 |
| 7:D:1750:G:C2' | 7:D:1751:C:H5' | 2.40 | 0.52 |
| 7:D:1944:U:O2' | 7:D:1945:G:P | 2.67 | 0.52 |
| 7:D:2022:U:H3' | 7:D:2022:U:OP2 | 2.10 | 0.52 |
| 7:D:2196:C:H2' | 7:D:2196:C:O2 | 2.08 | 0.52 |
| 7:D:2285:C:C5 | 27:X:27:LYS:NZ | 151.95 | 0.52 |
| 7:D:2484:G:C2 | 7:D:2485:G:C8 | 2.98 | 0.52 |
| 7:D:2631:G:O5' | 7:D:2894:G:C8 | 2.63 | 0.52 |
| 7:D:2762:G:C6 | 7:D:2763:G:C4 | 2.97 | 0.52 |
| 7:D:321:G:H2' | 7:D:341:G:O2' | 2.08 | 0.52 |
| 7:D:326:G:H2' | 7:D:327:G:H8 | 1.75 | 0.52 |
| 7:D:354:G:H2' | 7:D:355:G:C8 | 2.44 | 0.52 |
| 7:D:38:A:C5 | 7:D:39:C:N4 | 2.78 | 0.52 |
| 7:D:705:A:C8 | 7:D:727:A:C2 | 2.98 | 0.52 |
| 7:D:878:A:H8 | 7:D:897:C:C4 | 2.27 | 0.52 |
| 8:E:32:C:N4 | 8:E:50:G:H1 | 2.08 | 0.52 |
| 10:G:79:ARG:N | 10:G:82:GLU:OE1 | 2.43 | 0.52 |
| 18:O:54:ARG:O | 18:O:57:THR:HG22 | 2.10 | 0.52 |
| 23:T:18:ARG:HH12 | 23:T:35:LYS:CE | 2.23 | 0.52 |
| 26:W:61:TYR:O | 26:W:62:ILE:HB | 2.10 | 0.52 |
| 3:3:137:GLU:OE1 | 7:D:1078:U:C6 | 2.63 | 0.52 |
| 6:A:1095:U:H5'' | 6:A:1096:C:OP2 | 2.10 | 0.52 |
| 6:A:1106:G:H5'' | 10:G:172:ARG:HG2 | 1.91 | 0.52 |
| 6:A:1243:C:H2' | 6:A:1244:C:C6 | 2.44 | 0.52 |
| 6:A:1323:G:H2' | 6:A:1324:A:H8 | 1.74 | 0.52 |
| 6:A:976:G:N2 | 6:A:1363:A:C5 | 2.78 | 0.52 |
| 6:A:436:C:H2' | 6:A:437:U:C2 | 2.45 | 0.52 |
| 6:A:852:G:H5'' | 6:A:853:G:OP2 | 2.10 | 0.52 |
| 56:B:152:VAL:HA | 56:B:156:LEU:HB2 | 1.89 | 0.52 |
| 56:B:145:PRO:HB3 | 56:B:165:PHE:CG | 2.43 | 0.52 |
| 56:B:27:ASP:O | 56:B:41:MET:SD | 2.67 | 0.52 |
| 56:B:376:VAL:CG1 | 56:B:377:VAL:H | 2.06 | 0.52 |
| 56:B:381:ARG:O | 56:B:401:ARG:O | 2.27 | 0.52 |
| 56:B:382:LEU:CB | 56:B:386:GLU:CG | 2.87 | 0.52 |
| 56:B:415:PHE:CA | 56:B:448:VAL:O | 2.55 | 0.52 |
| 56:B:443:GLY:O | 56:B:444:ALA:HB2 | 2.10 | 0.52 |
| 56:B:520:ILE:O | 56:B:520:ILE:HD13 | 2.10 | 0.52 |
| 7:D:1140:C:H4' | 7:D:1142(A):A:N1 | 2.25 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 7:D:1183:G:H21 | 7:D:1184:G:H1' | 1.75 | 0.52 |
| 7:D:1229:G:C6 | 7:D:1230:C:C4 | 2.98 | 0.52 |
| 7:D:141:A:C6 | 7:D:141(A):C:C2 | 2.98 | 0.52 |
| 7:D:1424:G:H22 | 7:D:1574:C:H1' | 1.74 | 0.52 |
| 7:D:1746:G:C3' | 7:D:1747:G:C8 | 2.86 | 0.52 |
| 7:D:1818:U:HO2' | 7:D:1819:A:P | 2.33 | 0.52 |
| 7:D:2224:G:O2' | 7:D:2225:A:O4' | 2.27 | 0.52 |
| 7:D:830:G:C4 | 7:D:2448:A:C2 | 2.97 | 0.52 |
| 7:D:43:G:N7 | 7:D:44:A:N7 | 2.56 | 0.52 |
| 7:D:512:G:O2' | 7:D:513:A:OP2 | 2.19 | 0.52 |
| 7:D:560:C:O2 | 7:D:560:C:H2' | 2.08 | 0.52 |
| 7:D:859:G:H2' | 7:D:860:U:OP2 | 2.10 | 0.52 |
| 8:E:100:G:C6 | 8:E:101:A:C5 | 2.98 | 0.52 |
| 27:X:34:LYS:O | 27:X:37:SER:OG | 2.24 | 0.52 |
| 29:Z:107:TRP:CZ2 | 29:Z:109:ASP:HB2 | 2.45 | 0.52 |
| 6:A:1016:A:H8 | 6:A:1016:A:OP2 | 1.93 | 0.52 |
| 6:A:1213:A:C5 | 6:A:1215:G:C4 | 2.98 | 0.52 |
| 6:A:1306:A:N7 | 6:A:1307:U:N3 | 2.57 | 0.52 |
| 6:A:1370:G:C2 | 6:A:1371:G:C8 | 2.98 | 0.52 |
| 6:A:1453:G:H5'' | 6:A:1453:G:N3 | 2.25 | 0.52 |
| 6:A:388:G:O5' | 6:A:388:G:H8 | 1.93 | 0.52 |
| 6:A:507:C:H3' | 6:A:508:C:H2' | 1.91 | 0.52 |
| 6:A:664:G:OP1 | 25:V:64:ARG:NH2 | 2.42 | 0.52 |
| 6:A:801:U:C2 | 6:A:802:A:C8 | 2.98 | 0.52 |
| 6:A:836:G:N7 | 6:A:851:G:C2 | 2.78 | 0.52 |
| 56:B:597:PHE:C | 56:B:599:ALA:H | 2.12 | 0.52 |
| 56:B:81:ILE:HG22 | 56:B:83:THR:HG23 | 1.92 | 0.52 |
| 7:D:1015:G:H2' | 7:D:1016:G:H8 | 1.74 | 0.52 |
| 7:D:1296:G:OP1 | 7:D:2709:G:O2' | 2.19 | 0.52 |
| 7:D:1381:G:O2' | 7:D:1571:A:N6 | 2.42 | 0.52 |
| 7:D:1468:C:N4 | 7:D:1524:G:H1 | 2.08 | 0.52 |
| 7:D:1446:C:O2' | 7:D:1545(A):A:O2' | 2.21 | 0.52 |
| 7:D:1657:C:N3 | 7:D:2004:G:N2 | 2.58 | 0.52 |
| 7:D:1707:G:N3 | 7:D:1756:G:C2 | 2.78 | 0.52 |
| 7:D:1709:U:N3 | 7:D:1750:G:N2 | 2.58 | 0.52 |
| 7:D:1819:A:O2' | 7:D:1820:U:P | 2.68 | 0.52 |
| 7:D:2024:G:H2' | 7:D:2025:C:H6 | 1.74 | 0.52 |
| 7:D:2352:A:C6 | 7:D:2366:A:C4 | 2.97 | 0.52 |
| 7:D:2519:U:C4 | 7:D:2541:A:C6 | 2.98 | 0.52 |
| 7:D:2588:G:C5 | 7:D:2607:G:N2 | 2.78 | 0.52 |
| 7:D:2694:G:C2 | 7:D:2695:C:C2 | 2.97 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:272:G:C2 | 7:D:366:C:N3 | 2.78 | 0.52 |
| 7:D:568:U:H5' | 7:D:945:A:N6 | 2.25 | 0.52 |
| 7:D:666:G:H2' | 7:D:667:U:H6 | 1.74 | 0.52 |
| 9:F:117:GLU:O | 9:F:121:LEU:HG | 2.10 | 0.52 |
| 14:K:66:VAL:O | 14:K:70:LYS:HG3 | 2.10 | 0.52 |
| 20:Q:16:ASP:O | 20:Q:20:THR:OG1 | 2.17 | 0.52 |
| 26:W:6:LYS:HD2 | 26:W:41:VAL:HG12 | 1.91 | 0.52 |
| 4:4:50:U:H3 | 4:4:64:G:H1 | 1.57 | 0.52 |
| 6:A:1014:A:H3' | 6:A:1015:A:C8 | 2.45 | 0.52 |
| 6:A:57:G:O6 | 6:A:356:A:N6 | 2.43 | 0.52 |
| 6:A:404:U:H2' | 6:A:405:U:H6 | 1.74 | 0.52 |
| 6:A:474:G:C2' | 6:A:475:G:C8 | 2.86 | 0.52 |
| 56:B:416:THR:HG21 | 56:B:424:LEU:CD1 | 2.13 | 0.52 |
| 56:B:565:GLY:O | 56:B:566:ASP:HB2 | 2.09 | 0.52 |
| 7:D:1151:G:C2 | 7:D:1152:C:C2 | 2.98 | 0.52 |
| 7:D:1361:G:C2 | 7:D:1362:C:C2 | 2.97 | 0.52 |
| 7:D:1748:G:N2 | 7:D:1749:A:N3 | 2.58 | 0.52 |
| 7:D:1753:G:N2 | 7:D:1756:G:N3 | 2.57 | 0.52 |
| 7:D:1769:G:H2' | 7:D:1770:G:H8 | 1.74 | 0.52 |
| 7:D:2000:G:H2' | 7:D:2001:A:H8 | 1.75 | 0.52 |
| 7:D:573:G:C2 | 7:D:2031:A:OP2 | 2.61 | 0.52 |
| 7:D:2046:G:N2 | 7:D:2623:G:N3 | 2.58 | 0.52 |
| 7:D:2124:G:H22 | 7:D:2174:C:N4 | 2.08 | 0.52 |
| 7:D:2175:C:H1' | 29:Z:219:GLY:O | 2.09 | 0.52 |
| 7:D:2299:G:C2 | 7:D:2300:G:C4 | 2.97 | 0.52 |
| 7:D:270(D):C:C2 | 7:D:270(E):G:C8 | 2.98 | 0.52 |
| 7:D:317:G:H2' | 7:D:318:C:H6 | 1.74 | 0.52 |
| 7:D:337:C:C5' | 7:D:338:G:OP2 | 2.58 | 0.52 |
| 7:D:356:G:H3' | 7:D:357:A:H8 | 1.74 | 0.52 |
| 7:D:49:A:C8 | 7:D:49:A:OP2 | 2.63 | 0.52 |
| 7:D:612:G:OP2 | 7:D:612:G:C8 | 2.63 | 0.52 |
| 7:D:697:C:H5'' | 7:D:698:C:OP2 | 2.10 | 0.52 |
| 6:A:495:A:H61 | 11:H:119:GLN:HE22 | 1.58 | 0.52 |
| 24:U:68:ARG:N | 24:U:70:ARG:NH1 | 2.58 | 0.52 |
| 26:W:28:LYS:HA | 26:W:28:LYS:HE3 | 1.92 | 0.52 |
| 3:3:80:LYS:O | 3:3:82:ALA:N | 2.42 | 0.52 |
| 5:5:45:U:H5'' | 5:5:46:G:OP2 | 2.09 | 0.52 |
| 6:A:1529:G:O2' | 6:A:1530:G:OP1 | 2.24 | 0.52 |
| 6:A:262:A:H2' | 6:A:263:A:C8 | 2.45 | 0.52 |
| 6:A:712:A:H2' | 6:A:713:G:O4' | 2.10 | 0.52 |
| 6:A:939:G:O3' | 14:K:102:ARG:NH2 | 2.43 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 56:B:203:SER:HA | 56:B:213:PRO:HA | 1.91 | 0.52 |
| 56:B:23:SER:HB3 | 56:B:44:GLN:HG2 | 1.90 | 0.52 |
| 56:B:517:ALA:C | 56:B:519:ALA:H | 2.12 | 0.52 |
| 56:B:537:ILE:HD11 | 56:B:551:VAL:HG23 | 1.89 | 0.52 |
| 56:B:555:ARG:HG2 | 56:B:556:LYS:N | 2.24 | 0.52 |
| 7:D:1160:G:H2' | 7:D:1161:C:C6 | 2.45 | 0.52 |
| 7:D:120:U:H2' | 7:D:120:U:O2 | 2.09 | 0.52 |
| 7:D:1368:G:C2 | 7:D:1369:G:C8 | 2.98 | 0.52 |
| 7:D:1477:A:C6 | 7:D:1478:G:N1 | 2.78 | 0.52 |
| 7:D:1664:A:C8 | 7:D:1664:A:OP2 | 2.63 | 0.52 |
| 7:D:1682:G:C2 | 7:D:1683:C:C2 | 2.98 | 0.52 |
| 7:D:1747:G:H8 | 7:D:1747:G:O5' | 1.93 | 0.52 |
| 7:D:1985:G:C2 | 7:D:1986:A:C8 | 2.98 | 0.52 |
| 7:D:573:G:C6 | 7:D:2031:A:OP2 | 2.60 | 0.52 |
| 7:D:2034:U:H5'' | 7:D:2035:G:OP2 | 2.10 | 0.52 |
| 7:D:2104:G:H2' | 7:D:2105:C:H5' | 1.91 | 0.52 |
| 7:D:2332:U:C4' | 7:D:2336:A:H62 | 2.21 | 0.52 |
| 7:D:2392:A:N6 | 7:D:2393:A:C6 | 2.78 | 0.52 |
| 7:D:2805:G:H2' | 7:D:2807:G:H5'' | 1.92 | 0.52 |
| 7:D:2805:G:C3' | 7:D:2807:G:H5'' | 2.40 | 0.52 |
| 7:D:476:G:C2 | 7:D:479:A:OP2 | 2.62 | 0.52 |
| 7:D:619:G:C8 | 7:D:620:G:N2 | 2.78 | 0.52 |
| 9:F:44:LEU:O | 9:F:47:THR:HB | 2.09 | 0.52 |
| 11:H:171:GLY:HA3 | 11:H:173:TRP:CZ3 | 2.45 | 0.52 |
| 17:N:13:HIS:CE1 | 17:N:70:ARG:HH21 | 2.28 | 0.52 |
| 20:Q:69:GLU:HB3 | 20:Q:73:GLU:CB | 2.39 | 0.52 |
| 3:3:81:ALA:HB3 | 3:3:107:ILE:CD1 | 2.39 | 0.51 |
| 3:3:90:LYS:HB3 | 3:3:91:PRO:CD | 2.40 | 0.51 |
| 5:5:19:G:N2 | 5:5:56:C:N3 | 2.58 | 0.51 |
| 6:A:1310:G:C2 | 6:A:1311:G:C5 | 2.98 | 0.51 |
| 6:A:210:U:C5 | 6:A:216:G:N7 | 2.78 | 0.51 |
| 6:A:428:G:O2' | 6:A:429:U:OP2 | 2.19 | 0.51 |
| 6:A:484:G:H1' | 6:A:485:G:OP1 | 2.10 | 0.51 |
| 6:A:607:A:C2 | 6:A:608:A:H1' | 2.45 | 0.51 |
| 6:A:837:G:N3 | 6:A:838:G:C8 | 2.78 | 0.51 |
| 56:B:413:THR:HG22 | 56:B:451:VAL:CG2 | 2.38 | 0.51 |
| 56:B:448:VAL:HG12 | 56:B:449:GLU:N | 2.18 | 0.51 |
| 56:B:48:SER:C | 56:B:50:GLU:H | 2.13 | 0.51 |
| 7:D:154:G:H8 | 7:D:154:G:O5' | 1.93 | 0.51 |
| 7:D:1654:A:C6 | 7:D:1655:A:N7 | 2.78 | 0.51 |
| 7:D:1668:A:O4' | 7:D:1668:A:OP2 | 2.28 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 7:D:1687:G:H1' | 7:D:1702:G:N2 | 2.25 | 0.51 |
| 7:D:1824:G:N2 | 7:D:1825:A:N3 | 2.59 | 0.51 |
| 7:D:1861:G:N3 | 7:D:1862:G:C8 | 2.79 | 0.51 |
| 7:D:191:A:OP2 | 7:D:191:A:H8 | 1.92 | 0.51 |
| 7:D:2020:A:C2' | 7:D:2021:C:H5'' | 2.37 | 0.51 |
| 7:D:2021:C:O2' | 7:D:2022:U:OP1 | 2.21 | 0.51 |
| 7:D:216:A:O4' | 7:D:216:A:OP2 | 2.28 | 0.51 |
| 7:D:2211:G:N3 | 7:D:2211:G:C3' | 2.73 | 0.51 |
| 7:D:2391:G:O2' | 7:D:2392:A:P | 2.66 | 0.51 |
| 7:D:38:A:C4 | 7:D:39:C:C5 | 2.98 | 0.51 |
| 7:D:548:A:H62 | 7:D:549:G:N2 | 2.08 | 0.51 |
| 7:D:923:C:H6 | 7:D:923:C:O5' | 1.93 | 0.51 |
| 7:D:958:U:H4' | 7:D:959:A:O5' | 2.11 | 0.51 |
| 6:A:1075:C:H5'' | 9:F:179:LYS:HZ1 | 1.75 | 0.51 |
| 12:I:95:ALA:HB3 | 12:I:96:PRO:HD3 | 1.91 | 0.51 |
| 13:J:7:ASN:ND2 | 13:J:62:TRP:HD1 | 2.07 | 0.51 |
| 13:J:91:VAL:HG12 | 13:J:92:LYS:O | 2.09 | 0.51 |
| 15:L:110:ALA:HA | 15:L:136:GLU:HA | 1.91 | 0.51 |
| 15:L:84:ARG:HB3 | 15:L:136:GLU:OE2 | 2.10 | 0.51 |
| 15:L:88:LYS:O | 15:L:90:GLY:N | 2.42 | 0.51 |
| 16:M:105:ASP:O | 16:M:107:ARG:HG3 | 2.10 | 0.51 |
| 18:O:18:ARG:HE | 18:O:35:PRO:HA | 1.75 | 0.51 |
| 6:A:582:U:H5'' | 22:S:64:ARG:HH22 | 1.76 | 0.51 |
| 23:T:22:THR:OG1 | 23:T:26:ARG:NH2 | 2.44 | 0.51 |
| 25:V:56:THR:HB | 25:V:58:LEU:HG | 1.91 | 0.51 |
| 29:Z:162:GLU:HG2 | 29:Z:163:PHE:N | 2.25 | 0.51 |
| 29:Z:59:ARG:HD3 | 29:Z:164:ARG:HG3 | 1.91 | 0.51 |
| 29:Z:96:GLY:O | 29:Z:99:ILE:HG22 | 2.09 | 0.51 |
| 3:3:129:GLY:C | 7:D:1059:G:H22 | 2.13 | 0.51 |
| 6:A:1032(A):G:H2' | 6:A:1032(B):G:C8 | 2.45 | 0.51 |
| 6:A:1123:A:H5'' | 6:A:1124:G:OP2 | 2.10 | 0.51 |
| 6:A:1134:G:C6 | 6:A:1135:U:C2 | 2.98 | 0.51 |
| 6:A:1261:A:H61 | 6:A:1274:G:H1' | 1.75 | 0.51 |
| 6:A:1308:U:H2' | 6:A:1309:G:O4' | 2.10 | 0.51 |
| 6:A:1330:U:N3 | 6:A:1331:G:H1' | 2.25 | 0.51 |
| 6:A:232:G:H2' | 6:A:233:C:C6 | 2.45 | 0.51 |
| 6:A:328:C:H4' | 6:A:329:A:H5' | 1.92 | 0.51 |
| 6:A:656:C:N4 | 6:A:750:G:H1 | 2.08 | 0.51 |
| 6:A:665:A:C1' | 6:A:733:A:H1' | 2.40 | 0.51 |
| 56:B:17:HIS:CE1 | 56:B:116:GLU:H | 2.20 | 0.51 |
| 56:B:206:ASP:HA | 56:B:210:GLY:C | 2.29 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 56:B:15:ILE:CA | 56:B:22:LYS:HE3 | 2.41 | 0.51 |
| 56:B:306:TYR:CB | 56:B:370:ILE:CG2 | 2.77 | 0.51 |
| 56:B:488:ASP:CB | 56:B:510:ARG:H | 2.22 | 0.51 |
| 7:D:1048:A:H8 | 7:D:1048:A:O5' | 1.93 | 0.51 |
| 7:D:1142(A):A:C5 | 7:D:1143:A:C8 | 2.97 | 0.51 |
| 7:D:136:G:H1 | 7:D:143:C:H42 | 1.57 | 0.51 |
| 7:D:1459:G:H2' | 7:D:1461:G:OP2 | 2.10 | 0.51 |
| 7:D:1510:A:N6 | 7:D:1511:A:N1 | 2.58 | 0.51 |
| 7:D:1521:G:H4' | 7:D:1522:G:OP2 | 2.11 | 0.51 |
| 7:D:2126:A:H4' | 7:D:2127:G:OP1 | 2.09 | 0.51 |
| 7:D:2301:C:N4 | 7:D:2315:G:H1 | 2.09 | 0.51 |
| 7:D:2486:G:C6 | 7:D:2487:G:N7 | 2.78 | 0.51 |
| 7:D:2516:G:C2 | 7:D:2569:G:C2 | 2.98 | 0.51 |
| 7:D:270(D):C:H2' | 7:D:270(E):G:C8 | 2.43 | 0.51 |
| 7:D:270(X):G:H2' | 7:D:270(Y):G:O4' | 2.11 | 0.51 |
| 7:D:2764:A:N7 | 7:D:2766:G:C5 | 2.79 | 0.51 |
| 7:D:43:G:H2' | 7:D:44:A:H8 | 1.74 | 0.51 |
| 7:D:461:C:H2' | 7:D:462:C:C6 | 2.39 | 0.51 |
| 7:D:27:G:H1' | 7:D:513:A:N6 | 2.25 | 0.51 |
| 7:D:616:A:O2' | 7:D:617:G:OP1 | 2.28 | 0.51 |
| 7:D:788:A:H4' | 7:D:789:A:H5' | 1.91 | 0.51 |
| 7:D:794:G:C5 | 7:D:795:C:C5 | 2.98 | 0.51 |
| 7:D:96:G:C5 | 7:D:97:C:N4 | 2.78 | 0.51 |
| 9:F:74:LYS:HZ3 | 9:F:76:GLN:HB2 | 1.74 | 0.51 |
| 17:N:12:ASP:OD1 | 17:N:13:HIS:N | 2.44 | 0.51 |
| 24:U:81:ARG:NH1 | 24:U:83:ASP:OD1 | 2.41 | 0.51 |
| 29:Z:59:ARG:HD2 | 29:Z:164:ARG:HH11 | 1.75 | 0.51 |
| 3:3:12:LEU:H | 3:3:54:PRO:HB2 | 1.72 | 0.51 |
| 4:4:69:C:H2' | 4:4:70:G:H8 | 1.74 | 0.51 |
| 6:A:1039:C:H2' | 6:A:1040:U:C6 | 2.44 | 0.51 |
| 6:A:166:G:H2' | 6:A:167:G:H8 | 1.74 | 0.51 |
| 6:A:324:G:H22 | 6:A:327:A:P | 2.33 | 0.51 |
| 6:A:467:G:N3 | 6:A:468:A:H1' | 2.26 | 0.51 |
| 6:A:477:G:C6 | 6:A:478:A:C6 | 2.99 | 0.51 |
| 6:A:698:G:C6 | 6:A:699:C:C4 | 2.98 | 0.51 |
| 6:A:815:A:O4' | 6:A:817:C:N4 | 2.43 | 0.51 |
| 6:A:79:G:O6 | 6:A:90:C:N3 | 2.44 | 0.51 |
| 56:B:105:LEU:HD22 | 56:B:131:ILE:HG21 | 1.92 | 0.51 |
| 56:B:123:MET:O | 56:B:127:HIS:HB2 | 2.09 | 0.51 |
| 56:B:200:ILE:HD12 | 56:B:274:VAL:HG12 | 1.84 | 0.51 |
| 56:B:242:VAL:HG12 | 56:B:256:LEU:HD12 | 1.92 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 7:D:1447:G:HO2' | 7:D:1448:G:H5' | 1.74 | 0.51 |
| 7:D:1480:G:C2' | 7:D:1480:G:N3 | 2.73 | 0.51 |
| 7:D:1485:G:C2 | 7:D:1486:A:C5 | 2.98 | 0.51 |
| 7:D:1632:A:O5' | 7:D:1632:A:H8 | 1.93 | 0.51 |
| 7:D:1742:C:C4 | 7:D:1743:G:C8 | 2.98 | 0.51 |
| 6:A:1484:C:O2' | 7:D:1960:A:O2' | 2.07 | 0.51 |
| 7:D:2102:U:N3 | 7:D:2187:G:O6 | 2.43 | 0.51 |
| 7:D:2285:C:H5 | 27:X:27:LYS:NZ | 151.28 | 0.51 |
| 7:D:228:A:C5 | 7:D:230:U:C2 | 2.98 | 0.51 |
| 7:D:2331:G:N2 | 7:D:2385:C:C4 | 2.78 | 0.51 |
| 7:D:40:C:HO2' | 7:D:41:C:H5' | 1.73 | 0.51 |
| 7:D:49:A:N6 | 7:D:177:G:C8 | 2.79 | 0.51 |
| 7:D:532:A:H3' | 7:D:533:G:O4' | 2.09 | 0.51 |
| 7:D:617:G:C5 | 7:D:618:G:C2 | 2.99 | 0.51 |
| 7:D:960:A:O2' | 7:D:2456:C:O2' | 2.22 | 0.51 |
| 22:S:81:LEU:HA | 22:S:84:LYS:CB | 2.39 | 0.51 |
| 4:4:49:G:H1 | 4:4:65:C:H42 | 1.58 | 0.51 |
| 5:5:16:U:H5' | 5:5:17:C:H5' | 1.91 | 0.51 |
| 6:A:1219:U:H2' | 6:A:1220:G:H8 | 1.76 | 0.51 |
| 6:A:1320:C:P | 26:W:70:LYS:NZ | 2.84 | 0.51 |
| 6:A:1348:U:OP2 | 6:A:1373:G:N1 | 2.39 | 0.51 |
| 6:A:1360:A:C6 | 6:A:1361:G:C4 | 2.98 | 0.51 |
| 6:A:1442:G:C5' | 6:A:1442:G:N3 | 2.73 | 0.51 |
| 6:A:303:A:H5'' | 6:A:304:U:OP2 | 2.10 | 0.51 |
| 6:A:409:G:C5 | 6:A:410:G:C5 | 2.99 | 0.51 |
| 6:A:450:G:H2' | 6:A:481:G:H22 | 1.75 | 0.51 |
| 6:A:464:G:H8 | 6:A:464:G:O5' | 1.93 | 0.51 |
| 6:A:475:G:H2' | 6:A:476:G:O4' | 2.11 | 0.51 |
| 6:A:577:G:C2 | 6:A:578:C:C2 | 2.98 | 0.51 |
| 56:B:199:LEU:O | 56:B:215:LEU:CB | 2.58 | 0.51 |
| 56:B:229:ARG:NH2 | 56:B:282:LEU:C | 2.50 | 0.51 |
| 56:B:577:GLN:O | 56:B:581:LYS:HG2 | 2.11 | 0.51 |
| 56:B:68:TYR:CA | 56:B:75:GLU:HG2 | 2.30 | 0.51 |
| 7:D:1082:U:C6 | 7:D:1082:U:OP2 | 2.63 | 0.51 |
| 7:D:1477:A:C6 | 7:D:1515:C:N4 | 2.77 | 0.51 |
| 7:D:1485:G:C6 | 7:D:1486:A:N7 | 2.78 | 0.51 |
| 7:D:2120:G:C6 | 7:D:2121:G:C5 | 2.99 | 0.51 |
| 7:D:2225:A:H4' | 7:D:2226:C:C5 | 2.45 | 0.51 |
| 7:D:2459:A:C8 | 7:D:2494:G:N2 | 2.79 | 0.51 |
| 7:D:2489:G:C6 | 7:D:2490:G:C2 | 2.98 | 0.51 |
| 7:D:2791:C:H3' | 7:D:2792:G:C8 | 2.46 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:499:U:H3 | 7:D:503:A:H62 | 1.56 | 0.51 |
| 7:D:803:U:H2' | 7:D:804:A:H5' | 1.92 | 0.51 |
| 7:D:818:G:O6 | 7:D:1188:U:OP2 | 2.28 | 0.51 |
| 7:D:858:U:H2' | 7:D:2268:A:H2' | 1.93 | 0.51 |
| 8:E:81:G:C5 | 8:E:82:G:C8 | 2.98 | 0.51 |
| 9:F:193:ASP:N | 9:F:193:ASP:OD1 | 2.41 | 0.51 |
| 10:G:38:ARG:HB3 | 10:G:94:LEU:HD21 | 1.92 | 0.51 |
| 12:I:152:ARG:NH1 | 15:L:44:PHE:CE1 | 2.79 | 0.51 |
| 13:J:23:LYS:O | 13:J:27:GLN:HG2 | 2.10 | 0.51 |
| 6:A:876:G:H4' | 15:L:14:ARG:HH22 | 1.76 | 0.51 |
| 17:N:54:PHE:CE2 | 17:N:55:LYS:HG2 | 2.46 | 0.51 |
| 20:Q:23:TYR:CB | 20:Q:70:LEU:CD2 | 2.87 | 0.51 |
| 21:R:40:CYS:N | 21:R:43:CYS:SG | 2.58 | 0.51 |
| 26:W:16:LEU:CD1 | 26:W:16:LEU:N | 2.73 | 0.51 |
| 26:W:5:LEU:CG | 26:W:6:LYS:N | 2.73 | 0.51 |
| 26:W:69:HIS:HB2 | 26:W:74:PHE:HZ | 0.59 | 0.51 |
| 29:Z:156:ILE:CG1 | 29:Z:160:ARG:HD3 | 2.40 | 0.51 |
| 3:3:117:THR:O | 3:3:118:THR:OG1 | 2.17 | 0.51 |
| 6:A:1014:A:C5' | 26:W:18:LYS:CE | 2.70 | 0.51 |
| 6:A:1189:C:H4' | 10:G:10:PHE:CZ | 2.44 | 0.51 |
| 6:A:566:G:O2' | 6:A:567:G:O5' | 2.29 | 0.51 |
| 6:A:81:G:H3' | 6:A:82:U:C5 | 2.46 | 0.51 |
| 6:A:851:G:C6 | 6:A:852:G:C5 | 2.98 | 0.51 |
| 56:B:105:LEU:HD22 | 56:B:131:ILE:HG23 | 1.93 | 0.51 |
| 56:B:118:LEU:HD21 | 56:B:155:VAL:O | 2.10 | 0.51 |
| 56:B:230:ILE:HG23 | 56:B:280:ILE:HG22 | 1.91 | 0.51 |
| 56:B:212:ILE:HG22 | 56:B:263:TRP:HE3 | 1.72 | 0.51 |
| 56:B:49:LEU:HD23 | 56:B:60:LYS:NZ | 2.22 | 0.51 |
| 7:D:1061:U:O2' | 7:D:1061:U:O2 | 2.27 | 0.51 |
| 7:D:1480:G:N3 | 7:D:1480:G:C3' | 2.73 | 0.51 |
| 7:D:1670:C:H6 | 7:D:1670:C:O5' | 1.93 | 0.51 |
| 7:D:1799:G:O2' | 7:D:1800:C:O4' | 2.24 | 0.51 |
| 7:D:1919:A:HO2' | 7:D:1920:C:P | 2.30 | 0.51 |
| 7:D:2307:G:C2 | 7:D:2308:G:H1' | 2.45 | 0.51 |
| 7:D:2327:A:H2' | 7:D:2328:A:C8 | 2.46 | 0.51 |
| 7:D:271(C):U:C2 | 7:D:421:U:C5 | 2.98 | 0.51 |
| 7:D:627:A:N3 | 7:D:637:A:C6 | 2.79 | 0.51 |
| 7:D:648:G:C5 | 7:D:649:G:C5 | 2.97 | 0.51 |
| 7:D:76:C:H42 | 7:D:110:G:H1 | 1.59 | 0.51 |
| 7:D:88:G:C2 | 7:D:89:G:C8 | 2.98 | 0.51 |
| 7:D:931:G:C8 | 7:D:932:G:C2' | 2.93 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-----------------|------------------|--------------------------|-------------------|
| 6:A:412:A:H1' | 11:H:36:ARG:HH22 | 1.75 | 0.51 |
| 11:H:80:GLU:O | 11:H:84:LYS:HG3 | 2.11 | 0.51 |
| 12:I:81:GLU:HG3 | 12:I:90:VAL:HG13 | 1.92 | 0.51 |
| 13:J:18:GLN:HG3 | 13:J:21:LEU:HD23 | 1.92 | 0.51 |
| 17:N:35:SER:HB3 | 17:N:72:VAL:O | 2.11 | 0.51 |
| 26:W:32:LYS:HD2 | 26:W:32:LYS:N | 2.25 | 0.51 |
| 26:W:15:LEU:CD2 | 26:W:33:THR:CG2 | 2.43 | 0.51 |
| 5:5:9:A:OP2 | 5:5:13:C:N4 | 2.44 | 0.51 |
| 6:A:1005:A:OP2 | 6:A:1006:C:N4 | 2.43 | 0.51 |
| 6:A:1015:A:OP1 | 26:W:18:LYS:CD | 2.58 | 0.51 |
| 6:A:1093:A:HO2' | 6:A:1094:G:H5' | 1.75 | 0.51 |
| 6:A:147:G:C2 | 6:A:148:G:C8 | 2.98 | 0.51 |
| 6:A:156:G:C2 | 6:A:166:G:C4 | 2.98 | 0.51 |
| 6:A:272:C:H2' | 6:A:273:A:C8 | 2.46 | 0.51 |
| 6:A:575:G:N2 | 6:A:881:G:N3 | 2.57 | 0.51 |
| 6:A:685:G:C6 | 6:A:686:U:C4 | 2.99 | 0.51 |
| 6:A:836:G:P | 25:V:61:LYS:NZ | 2.84 | 0.51 |
| 56:B:227:ARG:CD | 56:B:227:ARG:N | 2.73 | 0.51 |
| 56:B:420:TYR:CZ | 56:B:471:SER:O | 2.63 | 0.51 |
| 7:D:1051:G:C6 | 7:D:1052:C:N3 | 2.79 | 0.51 |
| 7:D:1090:U:N3 | 7:D:1091:G:N7 | 2.59 | 0.51 |
| 7:D:1173:G:C4 | 7:D:1174:A:C2 | 2.98 | 0.51 |
| 7:D:1313:U:N3 | 7:D:1314:C:C4 | 2.79 | 0.51 |
| 7:D:1314:C:N4 | 7:D:1338:G:H1 | 2.05 | 0.51 |
| 7:D:171:G:C4 | 7:D:172:C:N4 | 2.79 | 0.51 |
| 7:D:1797:C:H2' | 7:D:1798:U:C6 | 2.45 | 0.51 |
| 7:D:1858:G:N7 | 7:D:1883:G:C6 | 2.78 | 0.51 |
| 7:D:2104:G:C6 | 7:D:2105:C:C4 | 2.99 | 0.51 |
| 7:D:2255:G:N2 | 7:D:2275:C:N3 | 2.57 | 0.51 |
| 7:D:2404:C:N4 | 7:D:2413:G:H1 | 2.08 | 0.51 |
| 7:D:273(C):C:N3 | 7:D:363(C):G:N1 | 2.38 | 0.51 |
| 7:D:2763:G:H5'' | 7:D:2764:A:OP2 | 2.11 | 0.51 |
| 7:D:284:U:H2' | 7:D:285:C:C6 | 2.45 | 0.51 |
| 7:D:438:G:C2 | 7:D:439:G:C4 | 2.99 | 0.51 |
| 7:D:531:C:O2 | 7:D:531:C:H2' | 2.10 | 0.51 |
| 7:D:603:A:C6 | 7:D:604:G:C2 | 2.99 | 0.51 |
| 7:D:795:C:N3 | 7:D:796:C:C4 | 2.78 | 0.51 |
| 7:D:819:A:C5 | 7:D:1189:A:C2 | 2.99 | 0.51 |
| 7:D:928:G:C5 | 7:D:929:G:C5 | 2.99 | 0.51 |
| 8:E:75:G:O6 | 8:E:76:G:N1 | 2.43 | 0.51 |
| 9:F:55:PHE:HD1 | 9:F:58:ILE:HD12 | 1.76 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 9:F:82:ARG:O | 9:F:86:GLU:HG3 | 2.10 | 0.51 |
| 12:I:152:ARG:NH1 | 15:L:44:PHE:CZ | 2.70 | 0.51 |
| 16:M:28:VAL:HG22 | 16:M:63:ILE:HB | 1.91 | 0.51 |
| 17:N:55:LYS:O | 17:N:55:LYS:HG3 | 2.11 | 0.51 |
| 17:N:6:ILE:O | 17:N:71:LEU:HD22 | 2.11 | 0.51 |
| 19:P:83:VAL:HG21 | 19:P:100:ILE:HG12 | 1.92 | 0.51 |
| 19:P:84:LEU:HD13 | 19:P:104:VAL:HG11 | 1.93 | 0.51 |
| 6:A:526:C:P | 19:P:91:LYS:NZ | 2.81 | 0.51 |
| 22:S:80:ALA:O | 22:S:83:GLU:HB3 | 2.10 | 0.51 |
| 26:W:16:LEU:CB | 26:W:20:LEU:HD12 | 2.39 | 0.51 |
| 26:W:3:ARG:CG | 26:W:42:PRO:HB3 | 2.36 | 0.51 |
| 29:Z:32:LEU:HD11 | 29:Z:222:VAL:HG23 | 1.93 | 0.51 |
| 3:3:22:PRO:CD | 3:3:23:VAL:H | 2.24 | 0.51 |
| 4:4:31:G:OP1 | 16:M:127:LYS:HE3 | 2.11 | 0.51 |
| 6:A:1104:G:OP1 | 9:F:144:ARG:NH2 | 2.44 | 0.51 |
| 6:A:1258:G:O6 | 6:A:1259:C:N4 | 2.43 | 0.51 |
| 6:A:934:C:N4 | 6:A:1344:C:N3 | 2.59 | 0.51 |
| 6:A:247:G:OP2 | 24:U:99:SER:HA | 2.11 | 0.51 |
| 6:A:400:C:H5'' | 11:H:73:ARG:NH2 | 2.25 | 0.51 |
| 6:A:448:A:O2' | 6:A:449:C:O4' | 2.16 | 0.51 |
| 6:A:477:G:C2 | 6:A:478:A:C8 | 2.99 | 0.51 |
| 6:A:696:A:H2 | 6:A:786:G:H1' | 1.74 | 0.51 |
| 6:A:836:G:N7 | 6:A:851:G:N2 | 2.59 | 0.51 |
| 56:B:226:ASP:H | 56:B:239:VAL:HB | 1.75 | 0.51 |
| 56:B:326:ASN:O | 56:B:327:ASP:HB2 | 2.11 | 0.51 |
| 56:B:494:VAL:HG22 | 56:B:520:ILE:HD12 | 1.89 | 0.51 |
| 56:B:66:VAL:C | 56:B:76:TYR:CE1 | 2.84 | 0.51 |
| 56:B:64:VAL:CG1 | 56:B:80:LEU:C | 2.62 | 0.51 |
| 56:B:81:ILE:HD13 | 56:B:100:VAL:HG23 | 1.85 | 0.51 |
| 7:D:1128:A:H8 | 7:D:2516:G:HO2' | 1.59 | 0.51 |
| 7:D:1178:C:O2' | 7:D:1179:C:H5' | 2.10 | 0.51 |
| 7:D:1264:G:N7 | 7:D:1265:A:C5 | 2.79 | 0.51 |
| 7:D:1288:U:N3 | 7:D:1327:C:O2 | 2.42 | 0.51 |
| 7:D:1514:U:C6 | 7:D:1514:U:OP2 | 2.64 | 0.51 |
| 7:D:1477:A:H2 | 7:D:1516:U:H3 | 1.59 | 0.51 |
| 7:D:153:C:C2' | 7:D:154:G:C8 | 2.86 | 0.51 |
| 7:D:1613:G:C5 | 7:D:1617:C:C4 | 2.99 | 0.51 |
| 7:D:1784:A:N3 | 7:D:1784:A:OP2 | 2.44 | 0.51 |
| 7:D:1857:G:C5 | 7:D:1858:G:C5 | 2.98 | 0.51 |
| 7:D:2163:C:H3' | 7:D:2164:C:C6 | 2.46 | 0.51 |
| 7:D:2163:C:C5 | 7:D:2164:C:C4 | 2.99 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 7:D:2198:A:N3 | 7:D:2198:A:C2' | 2.74 | 0.51 |
| 7:D:2453:A:O2' | 7:D:2572:A:H1' | 2.10 | 0.51 |
| 7:D:2791:C:OP2 | 7:D:2792:G:N7 | 2.43 | 0.51 |
| 7:D:2794:C:C2 | 7:D:2802:G:N1 | 2.78 | 0.51 |
| 7:D:2873:A:HO2' | 7:D:2874:C:P | 2.34 | 0.51 |
| 7:D:541:C:H42 | 7:D:552:G:H1 | 1.57 | 0.51 |
| 7:D:775:G:H2' | 7:D:794:G:C8 | 2.46 | 0.51 |
| 7:D:931:G:H5' | 7:D:932:G:C1' | 2.40 | 0.51 |
| 7:D:974(A):C:O2 | 7:D:989:G:C2 | 2.63 | 0.51 |
| 8:E:24:G:C5 | 8:E:56:G:C2 | 2.99 | 0.51 |
| 8:E:63:G:C6 | 8:E:64:C:C4 | 2.99 | 0.51 |
| 19:P:80:HIS:CD2 | 56:B:316:LEU:CB | 2.92 | 0.51 |
| 20:Q:87:TYR:HB2 | 26:W:73:GLU:CB | 2.40 | 0.51 |
| 24:U:51:TYR:CE2 | 24:U:73:VAL:HG11 | 2.46 | 0.51 |
| 26:W:5:LEU:CD1 | 26:W:6:LYS:N | 2.73 | 0.51 |
| 27:X:61:SER:O | 27:X:65:LYS:HG2 | 2.11 | 0.51 |
| 28:Y:3:LYS:HB3 | 28:Y:14:TRP:CD2 | 2.46 | 0.51 |
| 29:Z:164:ARG:H | 29:Z:171:ILE:HG13 | 1.75 | 0.51 |
| 6:A:1098:C:H2' | 6:A:1099:G:O4' | 2.09 | 0.51 |
| 6:A:1317:C:H2' | 6:A:1318:A:O4' | 2.11 | 0.51 |
| 6:A:187:C:C2 | 6:A:188:U:H1' | 2.45 | 0.51 |
| 6:A:79:G:H22 | 6:A:90:C:H1' | 1.75 | 0.51 |
| 6:A:941:G:N3 | 6:A:1343:G:N2 | 2.58 | 0.51 |
| 56:B:17:HIS:CD2 | 56:B:116:GLU:CD | 2.84 | 0.51 |
| 56:B:95:ARG:HH12 | 56:B:199:LEU:HD21 | 1.76 | 0.51 |
| 56:B:27:ASP:O | 56:B:30:LEU:HB2 | 2.10 | 0.51 |
| 56:B:35:ALA:C | 56:B:36:VAL:HG23 | 2.31 | 0.51 |
| 56:B:66:VAL:HG23 | 56:B:76:TYR:HE1 | 1.54 | 0.51 |
| 7:D:1068:G:N2 | 7:D:1095:A:O3' | 2.28 | 0.51 |
| 7:D:1107:G:N7 | 7:D:1108:U:C4 | 2.79 | 0.51 |
| 7:D:1197:G:N2 | 7:D:1250:G:C5 | 2.79 | 0.51 |
| 7:D:579:G:C2 | 7:D:1262:A:C5 | 2.98 | 0.51 |
| 7:D:1450:C:H2' | 7:D:1450:C:O2 | 2.09 | 0.51 |
| 7:D:1467:C:O2 | 7:D:1525:G:N2 | 2.44 | 0.51 |
| 7:D:149:A:C8 | 7:D:150:C:C2 | 2.98 | 0.51 |
| 7:D:1625:C:C2 | 7:D:1626:G:H8 | 2.29 | 0.51 |
| 7:D:163:U:C3' | 7:D:164:U:C5' | 2.89 | 0.51 |
| 7:D:1652:A:N6 | 7:D:1653:G:N2 | 2.54 | 0.51 |
| 7:D:1652:A:C8 | 7:D:1652:A:OP2 | 2.64 | 0.51 |
| 7:D:1861:G:C2 | 7:D:1882:C:C2 | 2.99 | 0.51 |
| 7:D:2000:G:C2 | 7:D:2001:A:C5 | 2.99 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-----------------|-------------------|--------------------------|-------------------|
| 7:D:2246:G:C2 | 7:D:2426:A:H1' | 2.45 | 0.51 |
| 7:D:241:A:O4' | 7:D:243:U:C2 | 2.64 | 0.51 |
| 7:D:2610:C:H5'' | 7:D:2610:C:H6 | 1.76 | 0.51 |
| 7:D:2886:G:N2 | 7:D:2887:U:H3 | 2.08 | 0.51 |
| 7:D:339:U:HO2' | 7:D:340:A:C4' | 2.24 | 0.51 |
| 7:D:739:G:O3' | 7:D:1784:A:N6 | 2.44 | 0.51 |
| 7:D:848:G:C8 | 7:D:929:G:N2 | 2.75 | 0.51 |
| 7:D:973:A:H4' | 7:D:974:G:OP1 | 2.11 | 0.51 |
| 8:E:57:A:H2' | 8:E:58:A:O4' | 2.10 | 0.51 |
| 8:E:78:A:C2 | 8:E:99:A:C4 | 2.99 | 0.51 |
| 6:A:737:A:O2' | 13:J:73:ASN:ND2 | 2.43 | 0.51 |
| 14:K:79:ARG:NH1 | 14:K:83:ALA:HA | 2.25 | 0.51 |
| 15:L:53:VAL:HB | 15:L:58:TYR:CE1 | 2.45 | 0.51 |
| 15:L:87:SER:HB3 | 15:L:93:VAL:H | 1.75 | 0.51 |
| 22:S:13:GLN:NE2 | 22:S:19:PRO:HA | 2.26 | 0.51 |
| 26:W:36:ARG:CB | 26:W:71:LEU:HB2 | 2.28 | 0.51 |
| 6:A:1320:C:C1' | 26:W:73:GLU:HB3 | 2.39 | 0.51 |
| 29:Z:37:PHE:HD1 | 29:Z:38:ASP:O | 1.94 | 0.51 |
| 29:Z:97:GLU:HA | 29:Z:100:ILE:HD12 | 1.93 | 0.51 |
| 6:A:1032:A:H5'' | 6:A:1032(A):G:OP2 | 2.10 | 0.51 |
| 6:A:1464:G:N2 | 6:A:1465:C:C2 | 2.79 | 0.51 |
| 6:A:234:C:O2' | 6:A:235:C:H5' | 2.11 | 0.51 |
| 6:A:237:C:H2' | 6:A:238:G:C8 | 2.45 | 0.51 |
| 6:A:542:G:H2' | 6:A:543:C:C6 | 2.46 | 0.51 |
| 6:A:851:G:H2' | 6:A:852:G:H8 | 1.76 | 0.51 |
| 56:B:17:HIS:HE1 | 56:B:116:GLU:N | 2.06 | 0.51 |
| 6:A:55:A:C1' | 56:B:208:TYR:CZ | 2.81 | 0.51 |
| 56:B:529:PRO:CD | 56:B:530:ARG:H | 2.23 | 0.51 |
| 56:B:562:CYS:O | 56:B:564:GLY:N | 2.44 | 0.51 |
| 3:3:21:PRO:HA | 7:D:1067:A:H5' | 1.92 | 0.51 |
| 7:D:1173:G:H2' | 7:D:1174:A:C2 | 2.45 | 0.51 |
| 7:D:1222:C:N4 | 7:D:1227:A:H61 | 2.08 | 0.51 |
| 7:D:1512:G:C8 | 7:D:1512:G:OP2 | 2.63 | 0.51 |
| 7:D:1630:G:N2 | 7:D:1630(A):C:C2 | 2.79 | 0.51 |
| 7:D:1698:A:O2' | 7:D:1699:G:P | 2.69 | 0.51 |
| 7:D:2306:C:H5 | 7:D:2307:G:HO2' | 1.58 | 0.51 |
| 7:D:282:A:N6 | 7:D:283:A:O2' | 2.44 | 0.51 |
| 7:D:2839:G:N2 | 7:D:2880:C:C4 | 2.79 | 0.51 |
| 7:D:878:A:H2' | 7:D:879:G:C5' | 2.41 | 0.51 |
| 7:D:879:G:O6 | 7:D:897:C:H1' | 2.11 | 0.51 |
| 9:F:19:HIS:HB3 | 9:F:20:GLU:OE1 | 2.11 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 17:N:79:ARG:HH11 | 17:N:82:ILE:CD1 | 2.24 | 0.51 |
| 19:P:109:GLY:HA3 | 19:P:121:GLY:O | 2.10 | 0.51 |
| 6:A:1014:A:C4' | 26:W:18:LYS:NZ | 2.51 | 0.51 |
| 29:Z:116:THR:OG1 | 29:Z:118:ASP:OD1 | 2.27 | 0.51 |
| 29:Z:175:VAL:HA | 29:Z:188:ASN:HD22 | 1.76 | 0.51 |
| 3:3:6:ALA:C | 3:3:59:ILE:CB | 2.60 | 0.51 |
| 4:4:11:A:C6 | 4:4:12:G:C5 | 2.99 | 0.51 |
| 5:5:9:A:H61 | 5:5:22:G:H3' | 1.75 | 0.51 |
| 5:5:55:U:N3 | 5:5:57:G:OP2 | 2.44 | 0.51 |
| 5:5:75:C:HO2' | 5:5:76:A:P | 2.28 | 0.51 |
| 6:A:1131:G:H1 | 6:A:1144:G:HO2' | 1.47 | 0.51 |
| 6:A:1135:U:H2' | 6:A:1137:C:H1' | 1.93 | 0.51 |
| 6:A:1523:G:H2' | 6:A:1524:C:H6 | 1.76 | 0.51 |
| 6:A:681:C:N4 | 6:A:710:G:O6 | 2.43 | 0.51 |
| 6:A:976:G:OP2 | 6:A:1358:U:H1' | 2.10 | 0.51 |
| 56:B:133:PRO:O | 56:B:163:ALA:HB1 | 1.91 | 0.51 |
| 56:B:192:PRO:CD | 56:B:193:GLU:H | 2.23 | 0.51 |
| 56:B:204:VAL:C | 56:B:211:VAL:HG13 | 2.30 | 0.51 |
| 56:B:281:THR:HB | 56:B:286:PRO:CB | 2.40 | 0.51 |
| 56:B:373:ALA:CB | 56:B:374:PRO:CD | 2.86 | 0.51 |
| 56:B:407:GLU:OE1 | 56:B:431:LYS:NZ | 2.40 | 0.51 |
| 3:3:11:GLN:C | 7:D:1070:A:N6 | 2.64 | 0.51 |
| 7:D:1034:G:C4 | 7:D:1122:G:N2 | 2.79 | 0.51 |
| 7:D:1316:U:O4 | 7:D:1317:A:N6 | 2.44 | 0.51 |
| 7:D:1335:U:H2' | 7:D:1336:A:H8 | 1.75 | 0.51 |
| 7:D:1480:G:N2 | 7:D:1482:U:C1' | 2.73 | 0.51 |
| 7:D:1428:C:O2' | 7:D:1569:A:OP1 | 2.21 | 0.51 |
| 7:D:1641:A:N7 | 7:D:1642:G:C4 | 2.79 | 0.51 |
| 7:D:1854:A:H62 | 7:D:1888:G:H8 | 1.59 | 0.51 |
| 7:D:1859:A:C8 | 7:D:1860:G:C8 | 2.98 | 0.51 |
| 7:D:1855:G:H1 | 7:D:1887:C:H42 | 1.58 | 0.51 |
| 7:D:197:A:C6 | 7:D:2430:A:C5 | 2.99 | 0.51 |
| 7:D:2067:G:C6 | 7:D:2069:G:C5 | 2.98 | 0.51 |
| 7:D:2121:G:H2' | 7:D:2122:U:O4' | 2.11 | 0.51 |
| 7:D:2137:C:H42 | 7:D:2154:G:H1 | 1.59 | 0.51 |
| 7:D:2138:C:C2 | 7:D:2154:G:N2 | 2.79 | 0.51 |
| 7:D:2168:G:N1 | 7:D:2171:A:OP2 | 2.44 | 0.51 |
| 7:D:2230:G:H2' | 7:D:2231:C:C6 | 2.45 | 0.51 |
| 7:D:255:A:C6 | 7:D:256:A:C5 | 2.99 | 0.51 |
| 7:D:270(D):C:C4 | 7:D:270(E):G:N7 | 2.78 | 0.51 |
| 7:D:359:A:H5'' | 7:D:360:G:H5' | 1.92 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:492:A:H2' | 7:D:493:G:H5' | 1.92 | 0.51 |
| 7:D:668:G:C2 | 7:D:670:A:C5 | 2.99 | 0.51 |
| 7:D:817:C:H2' | 7:D:818:G:O4' | 2.10 | 0.51 |
| 7:D:848:G:N7 | 7:D:929:G:C2 | 2.74 | 0.51 |
| 6:A:1297:C:H1' | 14:K:114:ARG:NH1 | 2.26 | 0.51 |
| 24:U:84:LEU:HD12 | 24:U:85:VAL:N | 2.26 | 0.51 |
| 26:W:34:TRP:C | 26:W:36:ARG:H | 2.14 | 0.51 |
| 26:W:54:GLY:N | 26:W:77:THR:HB | 2.25 | 0.51 |
| 29:Z:60:GLY:O | 29:Z:162:GLU:HG2 | 2.11 | 0.51 |
| 29:Z:64:LEU:HD13 | 29:Z:188:ASN:OD1 | 2.11 | 0.51 |
| 3:3:112:MET:HG2 | 3:3:122:ALA:HB2 | 1.93 | 0.50 |
| 4:4:71:C:C2 | 4:4:72:A:C8 | 2.99 | 0.50 |
| 6:A:1036:G:OP2 | 6:A:1037:C:H5 | 1.94 | 0.50 |
| 6:A:1364:U:HO2' | 6:A:1365:G:P | 2.32 | 0.50 |
| 6:A:1452:C:H1' | 6:A:1453:G:N2 | 2.26 | 0.50 |
| 6:A:500:G:C2 | 6:A:546:G:N3 | 2.78 | 0.50 |
| 6:A:623:C:H2' | 6:A:624:C:O4' | 2.11 | 0.50 |
| 6:A:690:G:H2' | 6:A:691:G:C8 | 2.46 | 0.50 |
| 6:A:828:A:OP1 | 6:A:828:A:H4' | 2.10 | 0.50 |
| 6:A:835:U:C2 | 6:A:851:G:N2 | 2.56 | 0.50 |
| 6:A:876:G:C6 | 6:A:877:C:C4 | 2.99 | 0.50 |
| 56:B:164:ILE:HG23 | 56:B:176:GLU:CD | 2.29 | 0.50 |
| 56:B:16:ALA:H | 56:B:22:LYS:NZ | 2.09 | 0.50 |
| 56:B:305:LEU:CD2 | 56:B:358:GLN:NE2 | 2.66 | 0.50 |
| 56:B:352:LEU:HD22 | 56:B:356:ILE:HG13 | 1.93 | 0.50 |
| 7:D:1694:C:O2 | 7:D:1695:G:N2 | 2.44 | 0.50 |
| 7:D:1812:A:C2 | 7:D:1813:G:C5 | 2.99 | 0.50 |
| 7:D:2051:A:C2 | 7:D:2614:A:C6 | 2.99 | 0.50 |
| 7:D:2079:U:H2' | 7:D:2080:G:O4' | 2.11 | 0.50 |
| 7:D:2115:G:H4' | 7:D:2116:G:OP2 | 2.11 | 0.50 |
| 7:D:2453:A:H4' | 7:D:2572:A:O2' | 2.11 | 0.50 |
| 7:D:2481:G:O2' | 7:D:2482:G:P | 2.69 | 0.50 |
| 7:D:269:U:C4 | 7:D:270(Z):U:OP2 | 2.63 | 0.50 |
| 7:D:2746:U:H3 | 7:D:2758:A:N6 | 2.07 | 0.50 |
| 7:D:302:C:H2' | 7:D:303:U:C6 | 2.47 | 0.50 |
| 7:D:323:G:H4' | 7:D:324:A:O5' | 2.11 | 0.50 |
| 7:D:49:A:H8 | 7:D:49:A:OP2 | 1.93 | 0.50 |
| 7:D:556:G:C5 | 7:D:557:U:C4 | 2.99 | 0.50 |
| 7:D:562:U:O2 | 7:D:572:A:C4 | 2.64 | 0.50 |
| 7:D:84:A:N7 | 7:D:99:U:C2 | 2.79 | 0.50 |
| 16:M:26:VAL:HA | 16:M:61:ALA:HB3 | 1.93 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 18:O:120:ARG:NH1 | 18:O:126:ARG:HH22 | 2.10 | 0.50 |
| 19:P:110:VAL:HG22 | 19:P:120:TYR:HB3 | 1.92 | 0.50 |
| 24:U:25:ARG:HG2 | 24:U:38:ARG:O | 2.11 | 0.50 |
| 27:X:47:GLY:O | 27:X:49:ALA:N | 2.42 | 0.50 |
| 29:Z:69:GLY:C | 29:Z:157:LYS:CA | 2.71 | 0.50 |
| 1:1:31:LYS:HD3 | 7:D:2528:U:H5'' | 1.92 | 0.50 |
| 3:3:52:ILE:O | 3:3:54:PRO:HD3 | 2.11 | 0.50 |
| 6:A:1317:C:OP2 | 21:R:17:LYS:HG2 | 2.12 | 0.50 |
| 6:A:1459:C:H2' | 6:A:1460:A:C5' | 2.42 | 0.50 |
| 6:A:432:A:H2' | 6:A:433:C:O4' | 2.10 | 0.50 |
| 6:A:663:A:H2' | 6:A:664:G:C8 | 2.46 | 0.50 |
| 6:A:748:C:H1' | 6:A:749:C:H5 | 1.76 | 0.50 |
| 6:A:979:C:O2' | 6:A:980:C:OP1 | 2.23 | 0.50 |
| 56:B:506:PHE:C | 56:B:507:ILE:HG12 | 2.31 | 0.50 |
| 7:D:1108:U:H6 | 7:D:1108:U:H3' | 1.75 | 0.50 |
| 7:D:1232:G:C6 | 7:D:1233:C:C4 | 3.00 | 0.50 |
| 7:D:1351:C:O2' | 7:D:1571:A:H1' | 2.11 | 0.50 |
| 7:D:1425:G:O5' | 7:D:1425:G:H8 | 1.94 | 0.50 |
| 7:D:1809:A:OP1 | 7:D:1809:A:H4' | 2.11 | 0.50 |
| 7:D:1895:C:H2' | 7:D:1896:G:H8 | 1.75 | 0.50 |
| 7:D:1945:G:C2 | 7:D:1946:U:C2 | 3.00 | 0.50 |
| 7:D:532:A:P | 7:D:2021:C:H5 | 2.34 | 0.50 |
| 7:D:2117:A:OP2 | 7:D:2117:A:C4 | 2.64 | 0.50 |
| 7:D:2259:G:H1' | 7:D:2427:C:C2 | 2.46 | 0.50 |
| 7:D:2487:G:C2 | 7:D:2488:A:C5 | 3.00 | 0.50 |
| 7:D:2586:C:OP1 | 7:D:2608:G:N1 | 2.32 | 0.50 |
| 7:D:270(A):A:H61 | 7:D:273:G:C4' | 2.24 | 0.50 |
| 7:D:270(K):C:C4 | 7:D:270(L):U:H1' | 2.47 | 0.50 |
| 7:D:2867:G:H5' | 7:D:2868:A:OP1 | 2.11 | 0.50 |
| 7:D:81:G:H1' | 7:D:294:A:O2' | 2.11 | 0.50 |
| 7:D:421:U:HO2' | 7:D:422:A:P | 2.34 | 0.50 |
| 7:D:528:A:N6 | 7:D:2042:A:C5 | 2.79 | 0.50 |
| 7:D:926:A:O2' | 7:D:928:G:O4' | 2.28 | 0.50 |
| 7:D:971:C:OP2 | 7:D:974(A):C:C4 | 2.64 | 0.50 |
| 14:K:15:ASP:HB2 | 14:K:23:VAL:HB | 1.93 | 0.50 |
| 14:K:77:SER:HB3 | 14:K:84:ASN:HD22 | 1.76 | 0.50 |
| 9:F:181:PHE:CD1 | 15:L:71:GLY:HA3 | 2.46 | 0.50 |
| 20:Q:108:ARG:CZ | 20:Q:114:ARG:HA | 2.40 | 0.50 |
| 20:Q:29:ARG:HD3 | 20:Q:32:GLU:OE1 | 2.11 | 0.50 |
| 20:Q:98:VAL:HG22 | 20:Q:98:VAL:O | 2.11 | 0.50 |
| 29:Z:118:ASP:OD1 | 29:Z:119:VAL:N | 2.44 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 4:4:21:A:N6 | 4:4:46:G:N3 | 2.60 | 0.50 |
| 6:A:1302:U:C5 | 20:Q:13:LYS:HD3 | 2.44 | 0.50 |
| 6:A:1350:A:C2 | 6:A:1351:U:C2 | 3.00 | 0.50 |
| 6:A:186(A):C:N3 | 27:X:105:SER:HB3 | 2.27 | 0.50 |
| 6:A:186(C):G:C6 | 6:A:191(E):G:C5 | 2.99 | 0.50 |
| 6:A:639:G:C2 | 6:A:640:A:C8 | 2.99 | 0.50 |
| 6:A:848:C:H3' | 6:A:848:C:H6 | 1.75 | 0.50 |
| 6:A:87:A:H2' | 6:A:88:C:C6 | 2.47 | 0.50 |
| 6:A:979:C:HO2' | 6:A:980:C:P | 2.35 | 0.50 |
| 56:B:528:ILE:CG2 | 56:B:592:VAL:CG1 | 2.89 | 0.50 |
| 7:D:1068:G:C4 | 7:D:1069:A:N6 | 2.80 | 0.50 |
| 7:D:1174:A:C3' | 7:D:1174:A:N3 | 2.73 | 0.50 |
| 7:D:974:G:C4 | 7:D:1186:G:C5 | 2.99 | 0.50 |
| 7:D:586:A:N6 | 7:D:1251:C:C4 | 2.79 | 0.50 |
| 7:D:1397:U:HO2' | 7:D:1398:C:P | 2.33 | 0.50 |
| 7:D:1635:G:C6 | 7:D:1636:C:C4 | 3.00 | 0.50 |
| 7:D:163:U:H3' | 7:D:164:U:H5'' | 1.92 | 0.50 |
| 7:D:1815:A:C2 | 7:D:1817:G:C6 | 2.99 | 0.50 |
| 7:D:1859:A:H2 | 7:D:1885:A:C8 | 2.30 | 0.50 |
| 7:D:2056:G:N2 | 7:D:2057:A:C4 | 2.79 | 0.50 |
| 7:D:2345:G:N3 | 7:D:2381:C:H2' | 2.25 | 0.50 |
| 7:D:465:G:N1 | 7:D:466:A:N1 | 2.59 | 0.50 |
| 7:D:627:A:H1' | 7:D:637:A:N6 | 2.26 | 0.50 |
| 7:D:715:G:O6 | 7:D:716:A:N6 | 2.44 | 0.50 |
| 7:D:812:C:C2 | 7:D:1250:G:N1 | 2.80 | 0.50 |
| 7:D:848:G:H8 | 7:D:848:G:O5' | 1.94 | 0.50 |
| 7:D:872:A:C6 | 7:D:873:G:N7 | 2.80 | 0.50 |
| 7:D:898:C:N4 | 7:D:899:A:C2 | 2.79 | 0.50 |
| 6:A:1370:G:N7 | 16:M:109:VAL:HG11 | 2.26 | 0.50 |
| 19:P:33:ARG:HG2 | 19:P:60:LEU:HD13 | 1.93 | 0.50 |
| 20:Q:96:LEU:HD22 | 20:Q:101:GLN:CB | 2.41 | 0.50 |
| 29:Z:69:GLY:C | 29:Z:157:LYS:HG2 | 2.25 | 0.50 |
| 29:Z:29:VAL:HG22 | 29:Z:41:VAL:HG22 | 1.94 | 0.50 |
| 6:A:1029:G:O2' | 6:A:1031:G:N7 | 2.45 | 0.50 |
| 6:A:1071:C:H2' | 6:A:1072:G:C8 | 2.44 | 0.50 |
| 6:A:1113:C:H1' | 10:G:178:LEU:HD23 | 1.93 | 0.50 |
| 6:A:1164:G:C8 | 6:A:1165:C:C5 | 3.00 | 0.50 |
| 6:A:1527:C:N4 | 6:A:1528:U:O4 | 2.44 | 0.50 |
| 6:A:223:U:H5'' | 6:A:224:C:OP2 | 2.10 | 0.50 |
| 6:A:272:C:H2' | 6:A:273:A:H8 | 1.76 | 0.50 |
| 6:A:274:A:H4' | 6:A:275:G:OP1 | 2.12 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 6:A:50:A:OP1 | 6:A:50:A:H8 | 1.95 | 0.50 |
| 6:A:614:A:H2' | 6:A:615:C:H6 | 1.76 | 0.50 |
| 6:A:859:A:OP2 | 6:A:869:G:C6 | 2.62 | 0.50 |
| 56:B:15:ILE:HD11 | 56:B:97:LEU:CD1 | 2.42 | 0.50 |
| 56:B:212:ILE:CD1 | 56:B:212:ILE:N | 2.74 | 0.50 |
| 56:B:65:ARG:HB2 | 56:B:246:THR:C | 2.30 | 0.50 |
| 2:2:34:ALA:N | 7:D:1056:G:OP1 | 2.27 | 0.50 |
| 7:D:1142(A):A:C6 | 7:D:1143:A:N7 | 2.80 | 0.50 |
| 7:D:1345:C:H2' | 7:D:1346:G:C8 | 2.46 | 0.50 |
| 7:D:1492:G:N3 | 7:D:1493:C:N3 | 2.59 | 0.50 |
| 7:D:1625:C:N3 | 7:D:1626:G:H8 | 2.10 | 0.50 |
| 7:D:23:G:N2 | 7:D:24:G:C4 | 2.80 | 0.50 |
| 7:D:2570:G:C6 | 7:D:2571:C:C2 | 2.99 | 0.50 |
| 7:D:270(Y):G:H5' | 7:D:270(Z):U:H4' | 1.93 | 0.50 |
| 7:D:2834:G:O4' | 7:D:2879:C:N4 | 2.44 | 0.50 |
| 7:D:2863:C:H2' | 7:D:2864:G:C8 | 2.46 | 0.50 |
| 7:D:350:U:OP2 | 7:D:350:U:C6 | 2.64 | 0.50 |
| 7:D:44:A:C2 | 7:D:45:G:C4 | 2.99 | 0.50 |
| 7:D:48:G:C2 | 7:D:178:G:C5 | 2.99 | 0.50 |
| 7:D:595:C:H2' | 7:D:596:G:H8 | 1.76 | 0.50 |
| 7:D:928:G:C8 | 7:D:929:G:C5 | 2.92 | 0.50 |
| 9:F:43:ASP:OD2 | 9:F:46:LYS:HB2 | 2.10 | 0.50 |
| 11:H:31:CYS:O | 11:H:33:MET:N | 2.44 | 0.50 |
| 12:I:105:VAL:HB | 12:I:106:PRO:HD3 | 1.93 | 0.50 |
| 21:R:42:ILE:HG13 | 21:R:43:CYS:N | 2.26 | 0.50 |
| 24:U:65:ILE:HG12 | 24:U:69:LYS:HE3 | 1.93 | 0.50 |
| 24:U:97:SER:OG | 24:U:103:GLY:HA2 | 2.10 | 0.50 |
| 26:W:50:ALA:HB1 | 26:W:57:HIS:HB2 | 1.94 | 0.50 |
| 29:Z:143:GLY:O | 29:Z:152:ILE:HD13 | 2.11 | 0.50 |
| 7:D:2123:G:OP1 | 29:Z:164:ARG:NE | 2.43 | 0.50 |
| 5:5:10:G:C6 | 5:5:26:A:C5 | 2.98 | 0.50 |
| 6:A:1134:G:N2 | 6:A:1136:U:O4 | 2.39 | 0.50 |
| 6:A:1148:U:H4' | 16:M:14:VAL:HG11 | 1.93 | 0.50 |
| 6:A:1308:U:O5' | 6:A:1308:U:H6 | 1.95 | 0.50 |
| 6:A:148:G:H2' | 6:A:149:A:H8 | 1.77 | 0.50 |
| 6:A:60:A:H1' | 6:A:61:G:OP2 | 2.10 | 0.50 |
| 6:A:632:A:H2' | 6:A:633:G:O4' | 2.11 | 0.50 |
| 6:A:778:G:C6 | 6:A:779:C:N3 | 2.79 | 0.50 |
| 6:A:75:C:N1 | 6:A:96:G:N2 | 2.60 | 0.50 |
| 56:B:153:GLU:CB | 56:B:159:PRO:HA | 2.41 | 0.50 |
| 56:B:242:VAL:O | 56:B:256:LEU:HD11 | 2.12 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 56:B:338:THR:OG1 | 56:B:502:ASP:CG | 2.50 | 0.50 |
| 56:B:412:LEU:HD23 | 56:B:477:MET:SD | 2.49 | 0.50 |
| 7:D:1134:G:O2' | 7:D:1135:C:OP1 | 2.27 | 0.50 |
| 7:D:1374:G:C2 | 7:D:1375:C:C2 | 2.99 | 0.50 |
| 7:D:1475:G:C2 | 7:D:1476:C:H6 | 2.30 | 0.50 |
| 7:D:1476:C:C5 | 7:D:1477:A:C2 | 3.00 | 0.50 |
| 7:D:1483:G:N2 | 7:D:1507:A:O2' | 2.45 | 0.50 |
| 7:D:1691:C:C4 | 7:D:1692:U:N3 | 2.79 | 0.50 |
| 7:D:1847:A:H4' | 7:D:1848:A:N7 | 2.27 | 0.50 |
| 7:D:1890:A:C8 | 7:D:1891:G:C8 | 2.99 | 0.50 |
| 7:D:2146:C:H2' | 7:D:2147:G:H8 | 1.75 | 0.50 |
| 7:D:2339:G:H2' | 7:D:2340:G:C8 | 2.46 | 0.50 |
| 7:D:1050:A:O2' | 7:D:2752:C:O2 | 2.30 | 0.50 |
| 7:D:282:A:N6 | 7:D:283:A:HO2' | 2.09 | 0.50 |
| 7:D:535:C:N3 | 7:D:559:G:C6 | 2.80 | 0.50 |
| 7:D:590:A:N7 | 7:D:591:C:N4 | 2.59 | 0.50 |
| 7:D:609:A:C5 | 7:D:609(A):G:N7 | 2.79 | 0.50 |
| 7:D:61:G:C4 | 7:D:62:C:C5 | 2.99 | 0.50 |
| 7:D:685:A:C5 | 7:D:774:A:N1 | 2.80 | 0.50 |
| 7:D:870:A:C6 | 7:D:871:U:N3 | 2.80 | 0.50 |
| 7:D:848:G:N2 | 7:D:931:G:C6 | 2.79 | 0.50 |
| 12:I:110:LEU:HD22 | 12:I:115:VAL:HG21 | 1.93 | 0.50 |
| 13:J:7:ASN:HD21 | 13:J:62:TRP:HD1 | 1.58 | 0.50 |
| 18:O:40:ILE:HG21 | 18:O:75:TYR:CE2 | 2.35 | 0.50 |
| 20:Q:65:LYS:CG | 20:Q:73:GLU:HG3 | 2.35 | 0.50 |
| 3:3:75:SER:HB3 | 3:3:130:SER:HB3 | 1.93 | 0.50 |
| 5:5:30:G:H1 | 5:5:40:C:H42 | 1.60 | 0.50 |
| 6:A:191(F):U:H3 | 27:X:105:SER:HB2 | 1.75 | 0.50 |
| 6:A:192:U:H4' | 27:X:57:ARG:NH1 | 2.27 | 0.50 |
| 6:A:477:G:O2' | 6:A:478:A:H5' | 2.11 | 0.50 |
| 6:A:495:A:C2 | 6:A:496:A:C5 | 3.00 | 0.50 |
| 6:A:947:G:O3' | 20:Q:109:THR:OG1 | 2.27 | 0.50 |
| 56:B:133:PRO:O | 56:B:163:ALA:C | 2.47 | 0.50 |
| 19:P:80:HIS:HD2 | 56:B:316:LEU:CG | 2.14 | 0.50 |
| 56:B:317:ARG:CD | 56:B:342:PHE:HE2 | 2.25 | 0.50 |
| 56:B:374:PRO:CD | 56:B:461:TYR:CD1 | 2.95 | 0.50 |
| 56:B:379:LYS:HE3 | 56:B:484:TYR:CD2 | 2.47 | 0.50 |
| 56:B:555:ARG:CG | 56:B:577:GLN:OE1 | 2.60 | 0.50 |
| 7:D:1265:A:C8 | 7:D:1267:U:C4 | 3.00 | 0.50 |
| 7:D:1478:G:H4' | 7:D:1478:G:OP1 | 2.12 | 0.50 |
| 7:D:1725:G:N2 | 7:D:1726:G:C5 | 2.79 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:2020:A:H4' | 7:D:2020:A:OP1 | 2.12 | 0.50 |
| 7:D:2238:G:HO2' | 7:D:2239:G:P | 2.26 | 0.50 |
| 7:D:2255:G:H1 | 7:D:2275:C:H42 | 1.60 | 0.50 |
| 7:D:2679:A:C2 | 7:D:2680:C:C2 | 2.99 | 0.50 |
| 7:D:2695:C:H2' | 7:D:2696:U:H6 | 1.76 | 0.50 |
| 7:D:1629:U:O2 | 7:D:2698:U:H5'' | 2.12 | 0.50 |
| 7:D:2824:C:H5'' | 7:D:2825:C:OP2 | 2.11 | 0.50 |
| 7:D:295:G:N3 | 7:D:344:G:C2 | 2.80 | 0.50 |
| 7:D:55:G:N2 | 7:D:56:A:C4 | 2.79 | 0.50 |
| 7:D:618(A):C:C5 | 7:D:619:G:C5 | 3.00 | 0.50 |
| 7:D:848:G:C8 | 7:D:848:G:OP2 | 2.65 | 0.50 |
| 7:D:900:A:C6 | 7:D:901:A:C4 | 2.99 | 0.50 |
| 7:D:901:A:C6 | 7:D:902:C:C2 | 2.99 | 0.50 |
| 7:D:919:G:N2 | 7:D:920:G:H1' | 2.27 | 0.50 |
| 7:D:919:G:H5' | 7:D:920:G:OP2 | 2.12 | 0.50 |
| 9:F:21:ARG:HA | 9:F:39:ILE:HA | 1.93 | 0.50 |
| 18:O:110:ASP:CB | 25:V:85:LEU:HB3 | 2.42 | 0.50 |
| 19:P:45:PRO:HB3 | 19:P:93:LEU:HB3 | 1.93 | 0.50 |
| 19:P:41:ARG:HH12 | 19:P:57:LYS:HE2 | 1.76 | 0.50 |
| 6:A:391:G:H5'' | 23:T:8:ARG:NH2 | 2.27 | 0.50 |
| 24:U:26:GLN:HG2 | 24:U:37:LYS:HA | 1.92 | 0.50 |
| 26:W:53:ASN:ND2 | 26:W:75:ALA:HB3 | 2.27 | 0.50 |
| 3:3:103:GLN:O | 3:3:107:ILE:HD11 | 2.11 | 0.50 |
| 6:A:1146:A:C6 | 6:A:1147:C:C2 | 2.99 | 0.50 |
| 6:A:1309:G:C8 | 6:A:1310:G:C8 | 3.00 | 0.50 |
| 6:A:1505:G:C8 | 6:A:1505:G:OP2 | 2.65 | 0.50 |
| 6:A:1517:G:C4 | 7:D:1920:C:OP2 | 2.64 | 0.50 |
| 6:A:179:A:H3' | 6:A:180:U:C6 | 2.46 | 0.50 |
| 6:A:495:A:N3 | 6:A:496:A:C5 | 2.80 | 0.50 |
| 6:A:495:A:C4 | 6:A:496:A:N7 | 2.80 | 0.50 |
| 6:A:597:G:N7 | 6:A:598:U:C4 | 2.80 | 0.50 |
| 6:A:663:A:C2 | 6:A:664:G:C4 | 3.00 | 0.50 |
| 6:A:664:G:N2 | 6:A:666:G:C8 | 2.79 | 0.50 |
| 6:A:585:G:O2' | 6:A:879:C:H5'' | 2.12 | 0.50 |
| 56:B:11:ASN:HB2 | 56:B:100:VAL:HA | 1.93 | 0.50 |
| 56:B:205:TYR:CZ | 56:B:271:ILE:HG23 | 2.41 | 0.50 |
| 56:B:382:LEU:HB2 | 56:B:401:ARG:HG3 | 0.52 | 0.50 |
| 56:B:456:PHE:CZ | 56:B:460:LEU:HD21 | 2.46 | 0.50 |
| 56:B:409:TYR:CG | 56:B:485:ARG:CD | 2.94 | 0.50 |
| 56:B:489:LEU:HD22 | 56:B:507:ILE:HG21 | 1.94 | 0.50 |
| 56:B:66:VAL:O | 56:B:76:TYR:CE1 | 2.65 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:1001:A:N7 | 7:D:1002:G:C4 | 2.80 | 0.50 |
| 7:D:1014:U:OP2 | 7:D:1142:U:H1' | 2.11 | 0.50 |
| 7:D:1047:G:O6 | 7:D:1110:G:C5 | 2.64 | 0.50 |
| 7:D:1062:G:OP2 | 7:D:1070:A:C2 | 2.64 | 0.50 |
| 3:3:128:ALA:HB1 | 7:D:1079:C:O2' | 2.11 | 0.50 |
| 7:D:1103:A:H2' | 7:D:1103:A:N3 | 2.26 | 0.50 |
| 7:D:1230:C:H2' | 7:D:1231:G:C8 | 2.35 | 0.50 |
| 7:D:1449:A:H2' | 7:D:1449(A):G:C5' | 2.41 | 0.50 |
| 7:D:1725:G:C2 | 7:D:1735:C:C2 | 2.98 | 0.50 |
| 7:D:1363:C:O3' | 7:D:1809:A:C5 | 2.64 | 0.50 |
| 7:D:2106:G:C2 | 7:D:2108:C:C2 | 2.99 | 0.50 |
| 7:D:2308:G:H2' | 7:D:2309:A:OP2 | 2.12 | 0.50 |
| 7:D:276:A:HO2' | 7:D:278:A:N6 | 2.10 | 0.50 |
| 7:D:2776:A:C2 | 7:D:2778:A:C4 | 2.99 | 0.50 |
| 7:D:2630:G:OP1 | 7:D:2895:U:N3 | 2.45 | 0.50 |
| 7:D:298:G:O5' | 7:D:298:G:H8 | 1.95 | 0.50 |
| 7:D:37:C:H2' | 7:D:38:A:C8 | 2.46 | 0.50 |
| 7:D:409:C:H2' | 7:D:410:G:C8 | 2.47 | 0.50 |
| 7:D:438:G:N2 | 7:D:439:G:C4 | 2.79 | 0.50 |
| 7:D:481:G:O2' | 7:D:507:A:N6 | 2.44 | 0.50 |
| 7:D:27:G:N2 | 7:D:512:G:O2' | 2.44 | 0.50 |
| 7:D:548:A:N6 | 7:D:549:G:H21 | 2.08 | 0.50 |
| 7:D:5:A:H2' | 7:D:6:A:C8 | 2.47 | 0.50 |
| 7:D:903:C:H2' | 7:D:904:C:C6 | 2.46 | 0.50 |
| 7:D:974:G:H5'' | 7:D:974(A):C:OP2 | 2.11 | 0.50 |
| 8:E:57:A:OP2 | 8:E:58:A:OP2 | 2.30 | 0.50 |
| 9:F:61:LEU:HD22 | 9:F:68:ILE:HG13 | 1.93 | 0.50 |
| 9:F:84:GLU:HG3 | 9:F:219:VAL:HG21 | 1.94 | 0.50 |
| 13:J:46:ARG:HH22 | 25:V:37:VAL:HB | 1.76 | 0.50 |
| 6:A:302:G:H4' | 19:P:17:LYS:NZ | 2.27 | 0.50 |
| 20:Q:16:ASP:HB2 | 20:Q:30:ALA:HA | 1.93 | 0.50 |
| 29:Z:156:ILE:HG12 | 29:Z:160:ARG:HD3 | 1.92 | 0.50 |
| 3:3:79:ARG:CZ | 3:3:134:MET:HB2 | 2.41 | 0.50 |
| 6:A:101:A:N6 | 6:A:102:G:O6 | 2.44 | 0.50 |
| 6:A:13:U:N3 | 6:A:21:G:N1 | 2.59 | 0.50 |
| 6:A:179:A:C5 | 6:A:180:U:C4 | 2.99 | 0.50 |
| 6:A:262:A:C6 | 6:A:263:A:C5 | 3.00 | 0.50 |
| 6:A:270:A:H2' | 6:A:271:C:O4' | 2.12 | 0.50 |
| 6:A:653:A:H5' | 6:A:654:G:OP2 | 2.12 | 0.50 |
| 6:A:848:C:C2' | 6:A:849:C:C5 | 2.86 | 0.50 |
| 56:B:127:HIS:HD2 | 56:B:127:HIS:O | 1.95 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 56:B:170:THR:HG22 | 56:B:171:GLY:N | 2.18 | 0.50 |
| 7:D:1128:A:H62 | 7:D:2518:A:H61 | 1.59 | 0.50 |
| 7:D:1173:G:N3 | 7:D:1173:G:C5' | 2.73 | 0.50 |
| 7:D:1174:A:C6 | 7:D:1176:G:C8 | 2.95 | 0.50 |
| 7:D:1485:G:C6 | 7:D:1486:A:C6 | 3.00 | 0.50 |
| 7:D:1748:G:N1 | 7:D:1749:A:N1 | 2.59 | 0.50 |
| 7:D:1784:A:N3 | 7:D:1785:A:C6 | 2.80 | 0.50 |
| 7:D:1789:A:C5 | 7:D:1790:C:C2 | 2.99 | 0.50 |
| 7:D:1945:G:N2 | 7:D:1946:U:O2 | 2.45 | 0.50 |
| 7:D:2141:G:N2 | 7:D:2150:U:O2 | 2.42 | 0.50 |
| 7:D:2277:G:C6 | 7:D:2278:A:N7 | 2.80 | 0.50 |
| 7:D:273(A):G:C2 | 7:D:273(B):C:C2 | 3.00 | 0.50 |
| 7:D:2793:G:C2 | 7:D:2803:C:N3 | 2.72 | 0.50 |
| 7:D:283:A:H3' | 7:D:284:U:H6 | 1.75 | 0.50 |
| 7:D:2887:U:O5' | 7:D:2887:U:H6 | 1.95 | 0.50 |
| 7:D:512:G:HO2' | 7:D:513:A:P | 2.31 | 0.50 |
| 8:E:44:G:C2 | 8:E:48:A:C2 | 3.00 | 0.50 |
| 8:E:83:G:H5' | 8:E:84:C:OP2 | 2.12 | 0.50 |
| 9:F:61:LEU:HD11 | 9:F:160:ASP:HB3 | 1.93 | 0.50 |
| 22:S:36:ILE:HG13 | 22:S:56:LEU:HD11 | 1.93 | 0.50 |
| 25:V:85:LEU:HD11 | 25:V:87:ARG:HB3 | 1.94 | 0.50 |
| 28:Y:10:ARG:HA | 28:Y:13:ILE:HG22 | 1.94 | 0.50 |
| 29:Z:42:GLU:OE1 | 29:Z:71:GLN:NE2 | 2.45 | 0.50 |
| 3:3:102:GLU:C | 3:3:106:GLU:OE2 | 2.51 | 0.50 |
| 3:3:66:THR:HG22 | 3:3:67:PHE:N | 2.19 | 0.50 |
| 6:A:1368:G:H2' | 6:A:1369:C:H6 | 1.77 | 0.50 |
| 6:A:1504:G:H4' | 6:A:1505:G:O4' | 2.11 | 0.50 |
| 6:A:505:G:C5 | 6:A:535:A:C2 | 2.99 | 0.50 |
| 6:A:590:C:H2' | 6:A:591:U:C6 | 2.43 | 0.50 |
| 6:A:686:U:N3 | 6:A:703:G:N3 | 2.59 | 0.50 |
| 56:B:196:LEU:HD11 | 56:B:221:ARG:N | 2.13 | 0.50 |
| 56:B:200:ILE:HG23 | 56:B:213:PRO:HB2 | 1.94 | 0.50 |
| 56:B:558:VAL:CG1 | 56:B:573:LEU:HB3 | 2.42 | 0.50 |
| 7:D:1168:G:N3 | 7:D:1182:A:C2 | 2.80 | 0.50 |
| 7:D:1268:A:C4 | 7:D:2013:A:N6 | 2.80 | 0.50 |
| 7:D:1436:G:C2 | 7:D:1437:C:C2 | 3.00 | 0.50 |
| 7:D:1475:G:C2 | 7:D:1476:C:C6 | 2.99 | 0.50 |
| 7:D:1561:G:N2 | 7:D:1562:A:C4 | 2.80 | 0.50 |
| 7:D:1572:A:C8 | 7:D:1573:G:C8 | 3.00 | 0.50 |
| 7:D:1915:U:C4 | 7:D:1916:A:N7 | 2.80 | 0.50 |
| 7:D:2104:G:C5 | 7:D:2105:C:C4 | 3.00 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 7:D:2126:A:HO2' | 7:D:2163:C:HO2' | 1.44 | 0.50 |
| 7:D:2346:A:C2 | 7:D:2383:G:N1 | 2.80 | 0.50 |
| 7:D:2446:G:C2 | 7:D:2501:C:C5 | 2.99 | 0.50 |
| 7:D:2455:G:C2 | 7:D:2498:C:N4 | 2.80 | 0.50 |
| 7:D:2548:G:C6 | 7:D:2561:A:N1 | 2.80 | 0.50 |
| 7:D:2594:C:C2 | 7:D:2600:A:H2 | 2.30 | 0.50 |
| 7:D:270(B):A:H1' | 7:D:270(C):C:H5 | 1.77 | 0.50 |
| 7:D:38:A:C2 | 7:D:39:C:C2 | 3.00 | 0.50 |
| 7:D:493:G:N2 | 7:D:494:G:C4 | 2.79 | 0.50 |
| 7:D:640:C:H6 | 7:D:640:C:OP2 | 1.95 | 0.50 |
| 7:D:674:G:C5 | 7:D:804:A:N6 | 2.80 | 0.50 |
| 10:G:63:ASN:O | 10:G:99:VAL:HA | 2.12 | 0.50 |
| 15:L:87:SER:HB2 | 15:L:92:ARG:HA | 1.94 | 0.50 |
| 18:O:14:VAL:O | 18:O:77:MET:HG2 | 2.12 | 0.50 |
| 20:Q:71:ARG:HG2 | 20:Q:71:ARG:O | 2.11 | 0.50 |
| 20:Q:81:LEU:HD12 | 20:Q:84:ILE:HG23 | 1.92 | 0.50 |
| 23:T:21:VAL:HG22 | 23:T:34:GLU:O | 2.12 | 0.50 |
| 24:U:67:LYS:O | 24:U:69:LYS:N | 2.38 | 0.50 |
| 3:3:58:THR:O | 3:3:64:SER:HB2 | 2.12 | 0.49 |
| 3:3:77:LEU:HD11 | 3:3:111:LYS:HD3 | 1.93 | 0.49 |
| 6:A:1014:A:H8 | 6:A:1015:A:N7 | 2.10 | 0.49 |
| 6:A:1056:U:OP1 | 10:G:163:ALA:N | 2.44 | 0.49 |
| 6:A:1169:A:C2' | 6:A:1170:A:C8 | 2.93 | 0.49 |
| 6:A:978:A:C5 | 6:A:1318:A:N6 | 2.80 | 0.49 |
| 6:A:1498:U:O2' | 6:A:1499:A:P | 2.69 | 0.49 |
| 6:A:31:G:H8 | 6:A:31:G:OP1 | 1.94 | 0.49 |
| 6:A:388:G:O2' | 6:A:389:A:OP2 | 2.30 | 0.49 |
| 6:A:78:G:H2' | 6:A:79:G:C8 | 2.47 | 0.49 |
| 56:B:65:ARG:CG | 56:B:246:THR:HA | 2.42 | 0.49 |
| 56:B:222:VAL:CB | 56:B:264:LEU:HD21 | 2.42 | 0.49 |
| 56:B:278:ASP:O | 56:B:279:THR:HG23 | 2.11 | 0.49 |
| 56:B:32:LEU:HD22 | 56:B:173:GLY:O | 2.12 | 0.49 |
| 56:B:332:PHE:HD1 | 56:B:333:GLU:N | 2.10 | 0.49 |
| 56:B:48:SER:C | 56:B:49:LEU:HD12 | 2.32 | 0.49 |
| 7:D:987:G:O2' | 7:D:1000:A:N3 | 2.45 | 0.49 |
| 7:D:1062:G:C1' | 7:D:1063:G:P | 3.00 | 0.49 |
| 7:D:1059:G:O6 | 7:D:1081:U:O2 | 2.30 | 0.49 |
| 7:D:1266:G:HO2' | 7:D:1267:U:P | 2.31 | 0.49 |
| 7:D:1313:U:C2 | 7:D:1314:C:C6 | 3.00 | 0.49 |
| 7:D:1356:G:C6 | 7:D:1357:U:C4 | 3.00 | 0.49 |
| 7:D:1417:C:N4 | 7:D:1581:G:H1 | 2.10 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 7:D:1668:A:H2 | 7:D:1993:U:C5 | 2.29 | 0.49 |
| 7:D:1668:A:N1 | 7:D:1993:U:N3 | 2.60 | 0.49 |
| 7:D:1861:G:OP1 | 29:Z:205:LYS:HG3 | 2.12 | 0.49 |
| 7:D:2116:G:N7 | 7:D:2165:G:N1 | 2.58 | 0.49 |
| 7:D:2262:U:O2' | 7:D:2263:C:H5' | 2.12 | 0.49 |
| 7:D:411:G:N2 | 7:D:2408:U:O4 | 2.40 | 0.49 |
| 7:D:2537:U:N3 | 7:D:2538:C:C4 | 2.80 | 0.49 |
| 7:D:2807:G:N3 | 7:D:2807:G:H2' | 2.27 | 0.49 |
| 7:D:2821:A:H2' | 7:D:2822:G:O4' | 2.12 | 0.49 |
| 7:D:2889:C:N4 | 7:D:2891:G:C6 | 2.80 | 0.49 |
| 7:D:358:U:H2' | 7:D:359:A:H5' | 1.94 | 0.49 |
| 7:D:423:A:OP2 | 7:D:423:A:H8 | 1.94 | 0.49 |
| 7:D:439:G:H2' | 7:D:440:G:H8 | 1.71 | 0.49 |
| 7:D:507:A:HO2' | 7:D:508:G:H21 | 1.60 | 0.49 |
| 7:D:13:A:C2 | 7:D:526:A:N7 | 2.80 | 0.49 |
| 7:D:752:A:O2' | 7:D:753:C:P | 2.70 | 0.49 |
| 7:D:969:U:OP1 | 24:U:17:LYS:N | 147.83 | 0.49 |
| 10:G:147:LYS:HB2 | 10:G:203:PHE:CD1 | 2.46 | 0.49 |
| 10:G:52:LEU:HA | 10:G:70:VAL:HG22 | 1.94 | 0.49 |
| 6:A:401:C:OP2 | 11:H:73:ARG:CZ | 2.60 | 0.49 |
| 6:A:1058:G:N2 | 17:N:53:PRO:HG3 | 2.26 | 0.49 |
| 23:T:56:ALA:HB3 | 23:T:79:VAL:HG21 | 1.95 | 0.49 |
| 26:W:20:LEU:C | 26:W:22:LEU:H | 2.14 | 0.49 |
| 27:X:81:LYS:O | 27:X:85:MET:HG2 | 2.12 | 0.49 |
| 29:Z:37:PHE:HE1 | 29:Z:40:THR:OG1 | 1.94 | 0.49 |
| 3:3:21:PRO:CD | 3:3:22:PRO:CD | 2.86 | 0.49 |
| 4:4:7:G:N2 | 4:4:67:C:O2 | 2.45 | 0.49 |
| 6:A:1201:A:O2' | 6:A:1202:G:O5' | 2.22 | 0.49 |
| 6:A:1412:C:H2' | 6:A:1413:A:C8 | 2.47 | 0.49 |
| 6:A:180:U:N3 | 6:A:195:A:N7 | 2.61 | 0.49 |
| 56:B:210:GLY:CA | 56:B:269:ARG:HG2 | 2.42 | 0.49 |
| 56:B:374:PRO:HG3 | 56:B:461:TYR:HB3 | 1.95 | 0.49 |
| 56:B:413:THR:CA | 56:B:450:LEU:O | 2.57 | 0.49 |
| 56:B:47:ASP:OD2 | 56:B:53:ARG:HA | 2.12 | 0.49 |
| 7:D:1106:G:O3' | 7:D:1107:G:O4' | 2.30 | 0.49 |
| 7:D:124:G:N2 | 7:D:128:C:C4 | 2.81 | 0.49 |
| 7:D:1350:C:C4 | 7:D:1382:G:N2 | 2.80 | 0.49 |
| 7:D:1440:G:C5 | 7:D:1552:G:N2 | 2.81 | 0.49 |
| 7:D:1587:A:H2' | 7:D:1588:C:O4' | 2.12 | 0.49 |
| 7:D:1662:C:H2' | 7:D:1663:C:C6 | 2.46 | 0.49 |
| 7:D:529:A:N6 | 7:D:2023:G:C5 | 2.80 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 7:D:2133:G:OP1 | 7:D:2156:G:O2' | 2.26 | 0.49 |
| 7:D:2315:G:H2' | 7:D:2316:C:C6 | 2.47 | 0.49 |
| 7:D:2376:A:P | 7:D:2376:A:H8 | 2.36 | 0.49 |
| 7:D:2655:G:H2' | 7:D:2664:G:N1 | 2.26 | 0.49 |
| 7:D:2793:G:C6 | 7:D:2802:G:O6 | 2.65 | 0.49 |
| 7:D:2896:C:H3' | 7:D:2897:U:C5 | 2.47 | 0.49 |
| 7:D:719:C:C2 | 7:D:720:C:C5 | 3.00 | 0.49 |
| 7:D:890:A:H4' | 7:D:892:G:OP2 | 2.12 | 0.49 |
| 8:E:29:A:H2 | 8:E:56:G:C4 | 2.30 | 0.49 |
| 8:E:43:C:C4 | 8:E:45:A:N6 | 2.80 | 0.49 |
| 6:A:587:G:H4' | 15:L:3:THR:O | 2.11 | 0.49 |
| 6:A:1321:C:HO2' | 20:Q:87:TYR:HH | 1.59 | 0.49 |
| 22:S:7:GLU:HA | 22:S:10:LYS:HG2 | 1.94 | 0.49 |
| 26:W:40:ILE:HG23 | 26:W:67:VAL:CG2 | 2.29 | 0.49 |
| 29:Z:215:THR:HA | 29:Z:221:SER:HB2 | 1.93 | 0.49 |
| 5:5:63:G:H2' | 5:5:64:A:H8 | 1.78 | 0.49 |
| 6:A:1129:C:H1' | 6:A:1130:A:C8 | 2.46 | 0.49 |
| 6:A:1129:C:H1' | 6:A:1130:A:N7 | 2.27 | 0.49 |
| 6:A:1134:G:H1 | 6:A:1140:C:N4 | 2.11 | 0.49 |
| 6:A:1306:A:C6 | 6:A:1307:U:O2 | 2.65 | 0.49 |
| 6:A:1397:C:O2' | 6:A:1398:A:OP2 | 2.22 | 0.49 |
| 6:A:1422:G:H2' | 6:A:1423:G:H8 | 1.76 | 0.49 |
| 6:A:157:G:H2' | 6:A:158:G:H8 | 1.77 | 0.49 |
| 6:A:309:G:C2 | 6:A:310:G:C8 | 3.00 | 0.49 |
| 56:B:239:VAL:HG13 | 56:B:240:ASP:N | 2.28 | 0.49 |
| 56:B:349:LEU:HD12 | 56:B:353:HIS:HB2 | 1.94 | 0.49 |
| 56:B:379:LYS:CE | 56:B:485:ARG:H | 2.25 | 0.49 |
| 56:B:66:VAL:HG23 | 56:B:76:TYR:HD1 | 1.66 | 0.49 |
| 56:B:8:ARG:O | 56:B:9:ILE:HB | 2.12 | 0.49 |
| 2:2:11:ALA:CB | 7:D:1046:A:N7 | 2.69 | 0.49 |
| 7:D:1287:A:H2 | 7:D:1649:G:H4' | 1.77 | 0.49 |
| 7:D:1305:C:C2 | 7:D:1624:G:C2 | 3.00 | 0.49 |
| 7:D:1492:G:O6 | 7:D:1496:A:C6 | 2.65 | 0.49 |
| 7:D:1816:G:O2' | 7:D:1817:G:OP2 | 2.21 | 0.49 |
| 7:D:2053:G:C2 | 7:D:2617:C:C2 | 3.00 | 0.49 |
| 7:D:2490:G:N2 | 7:D:2491:U:O2 | 2.45 | 0.49 |
| 7:D:2864:G:C5 | 7:D:2865:U:C4 | 3.00 | 0.49 |
| 7:D:35:G:C4 | 7:D:36:G:C8 | 3.00 | 0.49 |
| 7:D:532:A:C2 | 7:D:2035:G:N2 | 2.76 | 0.49 |
| 7:D:752:A:O2' | 7:D:753:C:O5' | 2.28 | 0.49 |
| 7:D:685:A:C5 | 7:D:774:A:C6 | 2.99 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:784:A:HO2' | 7:D:785:G:P | 2.35 | 0.49 |
| 7:D:839:U:H2' | 7:D:840:C:C6 | 2.47 | 0.49 |
| 7:D:875:G:C6 | 7:D:876:C:N3 | 2.80 | 0.49 |
| 7:D:876:C:H5'' | 7:D:877:U:OP2 | 2.12 | 0.49 |
| 7:D:896:A:OP2 | 7:D:897:C:OP2 | 2.31 | 0.49 |
| 7:D:952:G:H5'' | 7:D:953:A:OP2 | 2.13 | 0.49 |
| 10:G:11:ARG:HH21 | 10:G:182:ILE:HD12 | 1.76 | 0.49 |
| 11:H:127:THR:HB | 11:H:147:ALA:N | 2.26 | 0.49 |
| 11:H:152:SER:O | 11:H:154:ASN:N | 2.42 | 0.49 |
| 13:J:33:TYR:CE2 | 13:J:75:LEU:HD22 | 2.47 | 0.49 |
| 29:Z:155:GLU:HB3 | 29:Z:159:GLY:O | 2.12 | 0.49 |
| 6:A:1049:U:H4' | 6:A:1050:G:C5' | 2.43 | 0.49 |
| 6:A:1143:G:H2' | 6:A:1144:G:H8 | 1.76 | 0.49 |
| 6:A:1256:A:N6 | 6:A:1278:U:O2 | 2.40 | 0.49 |
| 6:A:439:A:C6 | 6:A:440:A:H1' | 2.47 | 0.49 |
| 6:A:798:G:H5'' | 6:A:799:G:OP2 | 2.11 | 0.49 |
| 6:A:819:A:C6 | 6:A:1529:G:C6 | 3.00 | 0.49 |
| 56:B:17:HIS:HB3 | 56:B:20:HIS:CE1 | 2.47 | 0.49 |
| 56:B:193:GLU:HA | 56:B:193:GLU:OE1 | 2.12 | 0.49 |
| 56:B:196:LEU:HD23 | 56:B:282:LEU:HB2 | 1.94 | 0.49 |
| 56:B:290:PRO:O | 56:B:292:PRO:HD3 | 2.12 | 0.49 |
| 56:B:300:VAL:HG23 | 56:B:301:VAL:N | 2.27 | 0.49 |
| 56:B:383:LYS:H | 56:B:402:ILE:CB | 2.25 | 0.49 |
| 56:B:425:MET:HE2 | 56:B:452:TYR:HH | 1.76 | 0.49 |
| 56:B:456:PHE:CD1 | 56:B:459:ILE:HD11 | 2.47 | 0.49 |
| 7:D:1091:G:H2' | 7:D:1092:C:C6 | 2.47 | 0.49 |
| 7:D:1096:A:H2' | 7:D:1097:U:O4' | 2.11 | 0.49 |
| 7:D:1263:U:C5 | 7:D:1264:G:C6 | 3.00 | 0.49 |
| 7:D:1272:A:C5 | 7:D:1618:A:H1' | 2.48 | 0.49 |
| 7:D:1480:G:P | 7:D:1559:G:O6 | 2.70 | 0.49 |
| 7:D:1565:C:N3 | 7:D:1567:A:H8 | 2.09 | 0.49 |
| 7:D:749:C:HO2' | 7:D:1617:C:HO2' | 1.57 | 0.49 |
| 7:D:1681:G:O2' | 7:D:1682:G:P | 2.70 | 0.49 |
| 7:D:1993:U:C5 | 7:D:1994:C:C2 | 3.01 | 0.49 |
| 7:D:2072:G:N1 | 7:D:2438:U:O2 | 2.46 | 0.49 |
| 7:D:2134:A:O2' | 7:D:2157:G:OP1 | 2.29 | 0.49 |
| 7:D:2391:G:HO2' | 7:D:2392:A:C5' | 2.25 | 0.49 |
| 7:D:2772:C:H5' | 7:D:2773:C:OP2 | 2.12 | 0.49 |
| 7:D:2639:A:C4 | 7:D:2778:A:C6 | 3.01 | 0.49 |
| 7:D:2781:A:C3' | 7:D:2782:G:H4' | 2.42 | 0.49 |
| 7:D:308:G:C2 | 7:D:501:A:C5 | 3.00 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:563:G:C6 | 7:D:564:C:C4 | 3.00 | 0.49 |
| 7:D:661:C:H2' | 7:D:662:G:C8 | 2.47 | 0.49 |
| 7:D:848:G:O6 | 7:D:929:G:N3 | 2.45 | 0.49 |
| 9:F:49:GLU:HA | 9:F:52:GLU:CD | 2.31 | 0.49 |
| 11:H:162:LEU:O | 11:H:165:MET:N | 2.45 | 0.49 |
| 13:J:33:TYR:CZ | 13:J:75:LEU:HD22 | 2.46 | 0.49 |
| 6:A:1227:A:P | 20:Q:111:LYS:HZ2 | 2.33 | 0.49 |
| 6:A:186(B):C:C4' | 27:X:89:ARG:NH1 | 2.74 | 0.49 |
| 29:Z:127:LEU:HA | 29:Z:130:ILE:HD13 | 1.93 | 0.49 |
| 29:Z:86:ALA:HA | 29:Z:153:ILE:HD12 | 1.94 | 0.49 |
| 29:Z:44:HIS:HA | 29:Z:172:HIS:HA | 1.95 | 0.49 |
| 29:Z:36:LYS:HG3 | 29:Z:37:PHE:CD2 | 2.48 | 0.49 |
| 6:A:996:A:N6 | 6:A:1046:A:H1' | 2.27 | 0.49 |
| 6:A:978:A:H61 | 6:A:1316:G:H1' | 1.78 | 0.49 |
| 6:A:1453:G:C3' | 6:A:1453:G:N3 | 2.73 | 0.49 |
| 6:A:429:U:H1' | 6:A:430:A:H5'' | 1.94 | 0.49 |
| 6:A:48:C:OP2 | 6:A:49:U:OP2 | 2.30 | 0.49 |
| 6:A:5:U:H1' | 6:A:6:G:OP2 | 2.12 | 0.49 |
| 6:A:837:G:C2 | 6:A:838:G:C5 | 3.00 | 0.49 |
| 56:B:222:VAL:HG22 | 56:B:239:VAL:HG21 | 1.94 | 0.49 |
| 7:D:976:C:C5' | 7:D:1156:A:H62 | 2.23 | 0.49 |
| 7:D:1313:U:H2' | 7:D:1314:C:O4' | 2.12 | 0.49 |
| 7:D:1511:A:OP2 | 7:D:1511:A:C8 | 2.66 | 0.49 |
| 7:D:1603:A:C4 | 7:D:1604:C:C5 | 3.01 | 0.49 |
| 7:D:1869:G:C2 | 7:D:1872:A:OP2 | 2.59 | 0.49 |
| 7:D:2026:C:C2 | 7:D:2038:G:N2 | 2.81 | 0.49 |
| 7:D:2458:G:O5' | 7:D:2458:G:H8 | 1.96 | 0.49 |
| 1:I:30:PRO:HB2 | 7:D:2527:C:H5'' | 1.93 | 0.49 |
| 7:D:284:U:H3' | 7:D:284:U:OP2 | 2.13 | 0.49 |
| 7:D:508:G:OP2 | 7:D:508:G:N2 | 2.46 | 0.49 |
| 7:D:529:A:C6 | 7:D:2042:A:N1 | 2.80 | 0.49 |
| 7:D:696:G:N2 | 7:D:697:C:C2 | 2.80 | 0.49 |
| 7:D:738:G:N2 | 7:D:759:G:C5 | 2.80 | 0.49 |
| 7:D:83:G:C2 | 7:D:84:A:C2 | 3.00 | 0.49 |
| 7:D:932:G:C5 | 7:D:933:A:N7 | 2.80 | 0.49 |
| 9:F:45:GLN:OE1 | 9:F:45:GLN:N | 2.45 | 0.49 |
| 10:G:131:ARG:HG3 | 10:G:166:GLU:OE2 | 2.13 | 0.49 |
| 11:H:20:TYR:O | 11:H:26:CYS:HB3 | 2.13 | 0.49 |
| 20:Q:25:ILE:HA | 20:Q:29:ARG:HG2 | 1.94 | 0.49 |
| 23:T:69:THR:O | 23:T:72:ARG:HG2 | 2.13 | 0.49 |
| 23:T:78:GLY:O | 23:T:80:PHE:N | 2.45 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 26:W:28:LYS:O | 26:W:48:THR:HB | 2.13 | 0.49 |
| 27:X:73:HIS:CD2 | 27:X:74:LYS:HD2 | 2.48 | 0.49 |
| 29:Z:117:PRO:HG2 | 29:Z:147:PHE:CE2 | 2.47 | 0.49 |
| 1:1:22:ARG:HD2 | 1:1:37:GLY:HA3 | 1.93 | 0.49 |
| 3:3:103:GLN:N | 3:3:106:GLU:OE2 | 2.46 | 0.49 |
| 3:3:34:ILE:CG2 | 3:3:63:ARG:HG2 | 2.43 | 0.49 |
| 4:4:33:U:N3 | 4:4:36:U:OP2 | 2.42 | 0.49 |
| 6:A:1229:A:H2' | 6:A:1230:C:C6 | 2.46 | 0.49 |
| 6:A:1250:A:C2 | 6:A:1287:A:C6 | 3.01 | 0.49 |
| 6:A:185:A:N6 | 6:A:192:U:H3 | 2.09 | 0.49 |
| 6:A:321:A:C2 | 6:A:333:G:C2 | 3.00 | 0.49 |
| 6:A:384:G:H2' | 6:A:385:C:C6 | 2.47 | 0.49 |
| 6:A:372:C:N4 | 6:A:389:A:H62 | 2.10 | 0.49 |
| 6:A:401:C:H2' | 6:A:402:G:H8 | 1.76 | 0.49 |
| 6:A:477:G:C5 | 6:A:478:A:N7 | 2.81 | 0.49 |
| 6:A:506:G:C5 | 6:A:507:C:C4 | 3.00 | 0.49 |
| 6:A:735:C:H2' | 6:A:736:C:C6 | 2.47 | 0.49 |
| 56:B:233:THR:OG1 | 56:B:234:GLY:N | 2.46 | 0.49 |
| 56:B:67:THR:OG1 | 56:B:68:TYR:N | 2.45 | 0.49 |
| 7:D:1000:A:N6 | 7:D:1001:A:N1 | 2.61 | 0.49 |
| 7:D:1414:G:C2 | 7:D:1589:C:N3 | 2.80 | 0.49 |
| 7:D:1497:U:OP2 | 7:D:1498:C:C5 | 2.66 | 0.49 |
| 7:D:1483:G:C2 | 7:D:1507:A:O2' | 2.66 | 0.49 |
| 7:D:1583:A:H4' | 7:D:1585:C:C4 | 2.46 | 0.49 |
| 7:D:1684:C:H2' | 7:D:1685:C:O4' | 2.13 | 0.49 |
| 7:D:1707:G:N2 | 7:D:1708:C:O2 | 2.45 | 0.49 |
| 7:D:1726:G:H2' | 7:D:1726:G:N3 | 2.26 | 0.49 |
| 7:D:1732:A:H3' | 7:D:1733:G:H5" | 1.93 | 0.49 |
| 7:D:202:U:H2' | 7:D:203:C:H6 | 1.78 | 0.49 |
| 7:D:2086:U:H2' | 7:D:2087:G:C8 | 2.48 | 0.49 |
| 7:D:2340:G:N2 | 7:D:2341:G:C4 | 2.80 | 0.49 |
| 7:D:2491:U:C4 | 7:D:2492:U:C4 | 3.01 | 0.49 |
| 7:D:1128:A:H8 | 7:D:2516:G:O2' | 1.95 | 0.49 |
| 7:D:266:G:H5' | 7:D:271(A):C:N4 | 2.21 | 0.49 |
| 7:D:2819:G:C5 | 7:D:2821:A:C6 | 3.00 | 0.49 |
| 7:D:2847:U:C4 | 7:D:2848:G:N7 | 2.81 | 0.49 |
| 7:D:292:C:H3' | 7:D:293:U:C6 | 2.46 | 0.49 |
| 7:D:296:C:O2' | 7:D:297:C:O4' | 2.16 | 0.49 |
| 7:D:669:G:H5" | 7:D:670:A:OP2 | 2.12 | 0.49 |
| 7:D:684:G:C2 | 7:D:775:G:C5 | 3.01 | 0.49 |
| 7:D:817:C:O2' | 7:D:839:U:H5" | 2.13 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:863:A:H61 | 7:D:912:C:H42 | 1.61 | 0.49 |
| 8:E:85:G:C6 | 8:E:92:G:C6 | 3.01 | 0.49 |
| 9:F:12:GLU:HB3 | 9:F:16:HIS:CE1 | 2.47 | 0.49 |
| 10:G:159:GLY:HA2 | 10:G:193:TYR:CE1 | 2.48 | 0.49 |
| 12:I:15:ARG:HG3 | 12:I:28:PHE:CE1 | 2.47 | 0.49 |
| 15:L:100:ILE:HB | 15:L:125:ARG:NH2 | 2.28 | 0.49 |
| 16:M:18:PHE:HB2 | 16:M:62:TYR:HD2 | 1.78 | 0.49 |
| 24:U:66:SER:OG | 24:U:67:LYS:N | 2.44 | 0.49 |
| 6:A:583:A:H5' | 24:U:90:ILE:HG21 | 1.95 | 0.49 |
| 3:3:77:LEU:HD12 | 3:3:111:LYS:CD | 2.42 | 0.49 |
| 6:A:1028(B):C:H2' | 6:A:1029:G:H5' | 1.95 | 0.49 |
| 6:A:1089:G:H1 | 6:A:1096:C:N4 | 2.10 | 0.49 |
| 6:A:137:C:H42 | 6:A:226:G:H1 | 1.60 | 0.49 |
| 6:A:424:G:H2' | 6:A:425:G:C8 | 2.48 | 0.49 |
| 6:A:464:G:C3' | 6:A:465:A:C5' | 2.88 | 0.49 |
| 6:A:475:G:H2' | 6:A:476:G:H1' | 1.92 | 0.49 |
| 56:B:134:VAL:HA | 56:B:163:ALA:CA | 2.43 | 0.49 |
| 56:B:200:ILE:HG21 | 56:B:213:PRO:HB2 | 1.95 | 0.49 |
| 56:B:88:ASP:HA | 56:B:349:LEU:HB3 | 1.94 | 0.49 |
| 56:B:468:LYS:HA | 56:B:473:GLY:HA2 | 1.95 | 0.49 |
| 56:B:531:GLN:CD | 56:B:584:LEU:HD13 | 2.31 | 0.49 |
| 7:D:1042:G:C4 | 7:D:1114:G:O6 | 2.66 | 0.49 |
| 7:D:1071:G:H21 | 7:D:1089:G:C2' | 2.23 | 0.49 |
| 7:D:1162:G:C2 | 7:D:1163:G:C8 | 3.01 | 0.49 |
| 7:D:974:G:N2 | 7:D:1187:G:C5 | 2.80 | 0.49 |
| 7:D:1286:A:N7 | 7:D:1289:C:N4 | 2.61 | 0.49 |
| 7:D:1341:U:H3' | 7:D:1397:U:O2 | 2.12 | 0.49 |
| 7:D:1871:A:H8 | 7:D:1871:A:O5' | 1.95 | 0.49 |
| 7:D:1862:G:C2 | 7:D:1881:C:O2 | 2.66 | 0.49 |
| 7:D:191:A:H2' | 7:D:192:C:C6 | 2.47 | 0.49 |
| 7:D:2033:A:C6 | 7:D:2036:C:C4 | 3.01 | 0.49 |
| 7:D:2026:C:O2 | 7:D:2038:G:N2 | 2.45 | 0.49 |
| 7:D:2184:G:H2' | 7:D:2185:C:C6 | 2.47 | 0.49 |
| 7:D:2327:A:H8 | 7:D:2327:A:OP2 | 1.95 | 0.49 |
| 7:D:2339:G:C2 | 7:D:2340:G:C5 | 3.00 | 0.49 |
| 7:D:2632:A:H2' | 7:D:2633:G:C8 | 2.39 | 0.49 |
| 7:D:2648:C:O2 | 7:D:2673:G:C2 | 2.66 | 0.49 |
| 7:D:2749:A:OP2 | 7:D:2751:G:OP2 | 2.31 | 0.49 |
| 7:D:294:A:H3' | 7:D:295:G:C5' | 2.42 | 0.49 |
| 7:D:448:U:HO2' | 7:D:449:A:P | 2.32 | 0.49 |
| 8:E:16:G:C6 | 8:E:69:G:C2 | 3.01 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 11:H:18:LYS:HE2 | 11:H:20:TYR:HE2 | 1.78 | 0.49 |
| 6:A:909:A:P | 19:P:21:LYS:NZ | 2.86 | 0.49 |
| 20:Q:37:THR:HG23 | 20:Q:39:ILE:H | 1.78 | 0.49 |
| 20:Q:80:ARG:O | 20:Q:81:LEU:HD22 | 2.13 | 0.49 |
| 26:W:29:ARG:HD2 | 26:W:30:LEU:N | 2.28 | 0.49 |
| 1:1:10:ILE:HG13 | 1:1:32:HIS:HD2 | 1.76 | 0.49 |
| 3:3:112:MET:HG3 | 3:3:112:MET:O | 2.12 | 0.49 |
| 3:3:27:LEU:C | 3:3:32:ALA:HB3 | 2.33 | 0.49 |
| 6:A:1016:A:C8 | 6:A:1016:A:OP2 | 2.66 | 0.49 |
| 6:A:1228:C:C5' | 20:Q:108:ARG:HH12 | 2.26 | 0.49 |
| 6:A:1255:G:C5 | 6:A:1279:A:C6 | 3.01 | 0.49 |
| 6:A:1306:A:N7 | 6:A:1307:U:C4 | 2.80 | 0.49 |
| 6:A:222:U:H2' | 6:A:223:U:C6 | 2.48 | 0.49 |
| 6:A:443:C:N4 | 6:A:492:G:O6 | 2.45 | 0.49 |
| 6:A:837:G:H2' | 6:A:838:G:C8 | 2.48 | 0.49 |
| 6:A:841:U:H3' | 6:A:841:U:H6 | 1.77 | 0.49 |
| 6:A:838:G:C6 | 6:A:849:C:N3 | 2.80 | 0.49 |
| 6:A:927:G:OP2 | 6:A:1503:A:C6 | 2.66 | 0.49 |
| 6:A:95:G:H2' | 6:A:96:G:H8 | 1.78 | 0.49 |
| 56:B:214:TYR:HA | 56:B:263:TRP:HA | 1.95 | 0.49 |
| 56:B:332:PHE:CE1 | 56:B:333:GLU:HB2 | 2.48 | 0.49 |
| 56:B:353:HIS:O | 56:B:357:VAL:HG23 | 2.12 | 0.49 |
| 56:B:46:LEU:C | 56:B:48:SER:H | 2.16 | 0.49 |
| 56:B:5:ASP:C | 56:B:7:SER:H | 2.16 | 0.49 |
| 7:D:1128:A:OP2 | 7:D:1128:A:O4' | 2.30 | 0.49 |
| 7:D:1251:C:P | 16:M:10:ARG:HG3 | 172.93 | 0.49 |
| 7:D:1299:G:N1 | 7:D:1640:C:OP2 | 2.45 | 0.49 |
| 7:D:1405:U:H2' | 7:D:1406:U:C6 | 2.48 | 0.49 |
| 7:D:1541:U:O2 | 7:D:1542:G:C6 | 2.65 | 0.49 |
| 7:D:1625:C:H5'' | 7:D:1626:G:OP2 | 2.12 | 0.49 |
| 7:D:1688:U:HO2' | 7:D:1689:A:P | 2.35 | 0.49 |
| 7:D:1746:G:C6 | 7:D:1747:G:N1 | 2.79 | 0.49 |
| 7:D:1778:U:H2' | 7:D:1779:U:C5 | 2.48 | 0.49 |
| 7:D:1872:A:H2' | 7:D:1872:A:N3 | 2.27 | 0.49 |
| 7:D:1881:C:N4 | 7:D:1882:C:N4 | 2.60 | 0.49 |
| 7:D:1911:U:H5'' | 7:D:1912:A:OP1 | 2.13 | 0.49 |
| 7:D:2023:G:C2 | 7:D:2024:G:C8 | 3.01 | 0.49 |
| 7:D:2333:A:H1' | 7:D:2335:A:C2 | 2.46 | 0.49 |
| 7:D:2624:G:C2 | 7:D:2625:G:C4 | 3.01 | 0.49 |
| 7:D:559:G:O2' | 7:D:560:C:O4' | 2.30 | 0.49 |
| 7:D:620:G:H4' | 7:D:621:A:H5'' | 1.94 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:641:C:H42 | 7:D:646:A:N6 | 2.01 | 0.49 |
| 7:D:64:A:C2 | 7:D:65:C:C2 | 3.01 | 0.49 |
| 7:D:71:A:N3 | 7:D:73:A:C6 | 2.81 | 0.49 |
| 8:E:61:G:C6 | 8:E:62:C:C4 | 3.00 | 0.49 |
| 8:E:78:A:C2 | 8:E:99:A:C5 | 3.01 | 0.49 |
| 9:F:25:ASN:ND2 | 9:F:192:SER:O | 2.46 | 0.49 |
| 12:I:118:ILE:HG22 | 12:I:119:LEU:O | 2.13 | 0.49 |
| 20:Q:66:LEU:HG | 20:Q:67:GLU:N | 2.28 | 0.49 |
| 24:U:57:VAL:HG12 | 24:U:76:LEU:HA | 1.93 | 0.49 |
| 25:V:61:LYS:O | 25:V:65:ILE:HG12 | 2.13 | 0.49 |
| 26:W:12:ASP:C | 26:W:14:HIS:H | 2.13 | 0.49 |
| 29:Z:120:MET:HE1 | 29:Z:138:PRO:HB2 | 1.94 | 0.49 |
| 5:5:20:U:H2' | 5:5:21:A:H4' | 1.95 | 0.49 |
| 6:A:1228:C:H5' | 20:Q:115:LYS:H | 1.78 | 0.49 |
| 6:A:327:A:C4 | 6:A:329:A:C8 | 3.00 | 0.49 |
| 56:B:204:VAL:O | 56:B:211:VAL:CG1 | 2.58 | 0.49 |
| 56:B:229:ARG:NE | 56:B:283:ALA:CA | 2.72 | 0.49 |
| 56:B:246:THR:CG2 | 56:B:251:VAL:CG2 | 2.90 | 0.49 |
| 56:B:222:VAL:CG1 | 56:B:264:LEU:HD21 | 2.43 | 0.49 |
| 56:B:300:VAL:HG13 | 56:B:477:MET:SD | 2.51 | 0.49 |
| 7:D:1048:A:C2 | 7:D:1111:A:C2 | 3.00 | 0.49 |
| 7:D:103:A:C5 | 7:D:104:U:C5 | 3.01 | 0.49 |
| 7:D:1168:G:C6 | 7:D:1182:A:N1 | 2.81 | 0.49 |
| 7:D:154:G:C2 | 7:D:173:G:C2 | 3.00 | 0.49 |
| 7:D:1583:A:H4' | 7:D:1585:C:N1 | 2.24 | 0.49 |
| 7:D:49:A:N6 | 7:D:176:G:C6 | 2.81 | 0.49 |
| 7:D:1810:A:H5'' | 7:D:1811:G:OP2 | 2.13 | 0.49 |
| 7:D:792:G:N2 | 7:D:2072:G:HO2' | 2.11 | 0.49 |
| 7:D:2088:G:C6 | 7:D:2089:U:N3 | 2.80 | 0.49 |
| 7:D:209:C:H2' | 7:D:210:C:H6 | 1.78 | 0.49 |
| 7:D:2196:C:H3' | 7:D:2197:U:C5 | 2.47 | 0.49 |
| 7:D:2197:U:O2 | 7:D:2225:A:N7 | 2.46 | 0.49 |
| 7:D:2557:G:C2 | 7:D:2558:C:C2 | 3.01 | 0.49 |
| 7:D:2663:G:C5 | 7:D:2664:G:N7 | 2.80 | 0.49 |
| 7:D:1050:A:N6 | 7:D:2751:G:C5 | 2.81 | 0.49 |
| 7:D:379:G:C6 | 7:D:396:G:O6 | 2.66 | 0.49 |
| 7:D:528:A:H62 | 7:D:2042:A:H62 | 1.59 | 0.49 |
| 7:D:778:G:N2 | 7:D:787:U:C2 | 2.81 | 0.49 |
| 7:D:950:G:C2 | 7:D:951:C:C2 | 3.00 | 0.49 |
| 9:F:22:LYS:HZ1 | 9:F:35:GLU:CD | 2.16 | 0.49 |
| 10:G:3:ASN:OD1 | 10:G:3:ASN:N | 2.43 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 12:I:8:GLU:HB3 | 12:I:34:VAL:HG22 | 1.93 | 0.49 |
| 16:M:24:GLY:N | 16:M:57:GLY:HA2 | 2.28 | 0.49 |
| 20:Q:66:LEU:O | 20:Q:69:GLU:HB2 | 2.13 | 0.49 |
| 22:S:38:ARG:HA | 22:S:41:GLU:HB3 | 1.94 | 0.49 |
| 29:Z:155:GLU:HB3 | 29:Z:159:GLY:C | 2.33 | 0.49 |
| 29:Z:182:PRO:HD2 | 29:Z:183:GLU:H | 1.77 | 0.49 |
| 4:A:62:C:H2' | 4:A:63:G:C8 | 2.41 | 0.49 |
| 6:A:1134:G:H1 | 6:A:1140:C:H42 | 1.61 | 0.49 |
| 6:A:1206:G:H2' | 6:A:1207:G:O4' | 2.13 | 0.49 |
| 6:A:1218:C:H2' | 6:A:1219:U:C6 | 2.48 | 0.49 |
| 6:A:976:G:C2 | 6:A:1363:A:C6 | 3.01 | 0.49 |
| 6:A:1488:G:C2 | 6:A:1489:G:C5 | 3.01 | 0.49 |
| 6:A:306:G:C8 | 6:A:306:G:OP2 | 2.66 | 0.49 |
| 6:A:46:G:H5'' | 6:A:47:C:OP1 | 2.13 | 0.49 |
| 6:A:658:G:C6 | 6:A:659:U:C4 | 3.00 | 0.49 |
| 56:B:345:ARG:CG | 56:B:345:ARG:NH1 | 2.73 | 0.49 |
| 56:B:303:ALA:HB1 | 56:B:346:CYS:O | 2.11 | 0.49 |
| 56:B:46:LEU:O | 56:B:48:SER:N | 2.37 | 0.49 |
| 56:B:58:THR:CB | 56:B:84:PRO:CG | 2.86 | 0.49 |
| 7:D:1022:G:N2 | 7:D:1140:C:C2 | 2.81 | 0.49 |
| 7:D:1073:A:OP2 | 7:D:1073:A:H4' | 2.11 | 0.49 |
| 7:D:1107:G:H2' | 7:D:1108:U:H5' | 1.94 | 0.49 |
| 7:D:1109:C:H5 | 7:D:1110:G:C4 | 2.30 | 0.49 |
| 7:D:1137:G:O5' | 7:D:1137:G:H8 | 1.96 | 0.49 |
| 7:D:1022:G:H22 | 7:D:1140:C:H1' | 1.77 | 0.49 |
| 7:D:1385:G:O2' | 7:D:1386:C:O4' | 2.31 | 0.49 |
| 7:D:1528:A:C8 | 7:D:1529:A:C4 | 3.01 | 0.49 |
| 7:D:151:C:N4 | 7:D:152:G:O6 | 2.46 | 0.49 |
| 7:D:1527:G:H21 | 7:D:1545:A:N6 | 2.11 | 0.49 |
| 7:D:1668:A:C2 | 7:D:1993:U:N3 | 2.81 | 0.49 |
| 7:D:1682:G:H2' | 7:D:1682:G:N3 | 2.28 | 0.49 |
| 7:D:1754:C:C5 | 15:L:98:LYS:NZ | 96.06 | 0.49 |
| 7:D:1780:A:OP2 | 7:D:1782:C:OP1 | 2.30 | 0.49 |
| 7:D:1935:G:N2 | 7:D:1964:G:O4' | 2.46 | 0.49 |
| 7:D:2123:G:H5' | 7:D:2124:G:OP2 | 2.13 | 0.49 |
| 7:D:2290:G:C5 | 7:D:2291:U:C4 | 3.01 | 0.49 |
| 7:D:2632:A:HO2' | 7:D:2811:G:HO2' | 1.57 | 0.49 |
| 7:D:2748:A:H2' | 7:D:2749:A:C8 | 2.48 | 0.49 |
| 7:D:701:G:H1 | 7:D:731:C:N4 | 2.11 | 0.49 |
| 7:D:715:G:C8 | 7:D:715:G:H3' | 2.47 | 0.49 |
| 7:D:728:G:N7 | 7:D:728:G:OP2 | 2.46 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 7:D:780:G:C2 | 7:D:782:A:C2 | 3.01 | 0.49 |
| 7:D:859:G:C2' | 7:D:860:U:OP2 | 2.60 | 0.49 |
| 7:D:863:A:N6 | 7:D:912:C:H42 | 2.11 | 0.49 |
| 7:D:906:G:H5'' | 7:D:907:U:OP2 | 2.13 | 0.49 |
| 13:J:41:GLU:HB3 | 13:J:62:TRP:CZ3 | 2.47 | 0.49 |
| 15:L:31:PHE:O | 15:L:35:ILE:HG12 | 2.13 | 0.49 |
| 18:O:25:TYR:HA | 18:O:89:ALA:HB2 | 1.95 | 0.49 |
| 2:2:30:GLN:O | 2:2:32:LEU:N | 2.36 | 0.48 |
| 5:5:13:C:H2' | 5:5:14:A:H5'' | 1.94 | 0.48 |
| 6:A:1125:U:H4' | 6:A:1126:U:C5 | 2.47 | 0.48 |
| 6:A:1130:A:OP2 | 6:A:1131:G:OP2 | 2.31 | 0.48 |
| 6:A:1288:A:C2 | 6:A:1289:A:C4 | 3.01 | 0.48 |
| 6:A:137:C:H2' | 6:A:138:G:C8 | 2.47 | 0.48 |
| 6:A:1411:C:H2' | 6:A:1412:C:H6 | 1.78 | 0.48 |
| 6:A:18:C:OP1 | 12:I:127:ASN:ND2 | 2.44 | 0.48 |
| 6:A:616:G:C2 | 6:A:625:G:C5 | 3.01 | 0.48 |
| 6:A:606:G:N2 | 6:A:631:G:C4 | 2.81 | 0.48 |
| 6:A:665:A:C8 | 6:A:725:G:C2 | 3.01 | 0.48 |
| 6:A:707:C:O2' | 6:A:708:C:H5' | 2.13 | 0.48 |
| 6:A:902:G:H2' | 6:A:903:G:C8 | 2.33 | 0.48 |
| 56:B:131:ILE:O | 56:B:132:ILE:HG13 | 2.13 | 0.48 |
| 56:B:241:LYS:HZ1 | 56:B:243:GLY:HA2 | 1.76 | 0.48 |
| 7:D:1094:U:O2' | 7:D:1095:A:N7 | 2.43 | 0.48 |
| 7:D:1224:G:H2' | 7:D:1225:C:C5' | 2.41 | 0.48 |
| 7:D:1263:U:O4 | 7:D:1264:G:N1 | 2.46 | 0.48 |
| 7:D:1417:C:H42 | 7:D:1581:G:N2 | 2.10 | 0.48 |
| 7:D:1608:A:N6 | 7:D:1611:C:C2 | 2.81 | 0.48 |
| 7:D:1698:A:HO2' | 7:D:1699:G:P | 2.36 | 0.48 |
| 7:D:1746:G:N3 | 7:D:1746:G:H2' | 2.27 | 0.48 |
| 7:D:1814:G:C4 | 7:D:1815:A:N7 | 2.80 | 0.48 |
| 7:D:1948:G:N1 | 7:D:1959:G:C6 | 2.81 | 0.48 |
| 7:D:1933:G:C6 | 7:D:1968:G:N2 | 2.81 | 0.48 |
| 7:D:1833:U:O2 | 7:D:1973:G:C2 | 2.66 | 0.48 |
| 7:D:220:G:H5'' | 7:D:221:A:OP1 | 2.13 | 0.48 |
| 7:D:2287:A:C5 | 7:D:2289:G:C5 | 3.01 | 0.48 |
| 7:D:2392:A:OP2 | 29:Z:32:LEU:HD12 | 76.33 | 0.48 |
| 7:D:240:G:C8 | 7:D:241:A:C8 | 3.01 | 0.48 |
| 7:D:2652:C:HO2' | 7:D:2653:U:H6 | 1.61 | 0.48 |
| 7:D:270(Q):C:H2' | 7:D:270(R):G:H8 | 1.78 | 0.48 |
| 7:D:280:C:O3' | 7:D:281:G:H3' | 2.13 | 0.48 |
| 7:D:2843:G:H2' | 7:D:2844:G:O4' | 2.12 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 7:D:298:G:O2' | 7:D:322:A:N1 | 2.43 | 0.48 |
| 7:D:452:G:N2 | 7:D:458:G:C4 | 2.81 | 0.48 |
| 7:D:838:C:H2' | 7:D:839:U:C6 | 2.48 | 0.48 |
| 7:D:884:C:C6 | 7:D:885:C:C5 | 3.00 | 0.48 |
| 7:D:926:A:C3' | 7:D:928:G:H8 | 2.25 | 0.48 |
| 8:E:100:G:C4 | 8:E:101:A:C8 | 3.01 | 0.48 |
| 8:E:52:A:N6 | 8:E:53:A:N3 | 2.61 | 0.48 |
| 10:G:24:ALA:HB3 | 10:G:29:TYR:HD1 | 1.76 | 0.48 |
| 11:H:3:ARG:HH11 | 11:H:70:ILE:HA | 1.75 | 0.48 |
| 2:2:59:ILE:O | 2:2:61:LEU:N | 2.39 | 0.48 |
| 6:A:361:G:N7 | 6:A:362:G:C5 | 2.81 | 0.48 |
| 6:A:477:G:N1 | 6:A:478:A:C5 | 2.81 | 0.48 |
| 6:A:50:A:H4' | 6:A:51:A:O5' | 2.12 | 0.48 |
| 6:A:848:C:C2' | 6:A:849:C:C6 | 2.90 | 0.48 |
| 6:A:922:G:H2' | 6:A:923:A:C8 | 2.47 | 0.48 |
| 56:B:70:ALA:N | 56:B:178:LEU:HD21 | 2.28 | 0.48 |
| 56:B:214:TYR:C | 56:B:215:LEU:HG | 2.33 | 0.48 |
| 7:D:1613:G:C8 | 7:D:1617:C:N4 | 2.80 | 0.48 |
| 7:D:2022:U:O2' | 7:D:2617:C:H5' | 2.12 | 0.48 |
| 7:D:2422:A:C5 | 7:D:2424:C:N4 | 2.81 | 0.48 |
| 7:D:2872:G:O2' | 7:D:2873:A:O4' | 2.31 | 0.48 |
| 7:D:571:A:N6 | 7:D:575:A:C8 | 2.80 | 0.48 |
| 7:D:574:C:N4 | 7:D:2034:U:OP1 | 2.45 | 0.48 |
| 7:D:672:C:C2 | 7:D:809:G:N2 | 2.81 | 0.48 |
| 7:D:690:G:H5' | 7:D:691:C:OP2 | 2.13 | 0.48 |
| 7:D:715:G:N7 | 7:D:716:A:C8 | 2.82 | 0.48 |
| 9:F:220:ASP:O | 9:F:224:GLN:HG3 | 2.13 | 0.48 |
| 10:G:11:ARG:NH2 | 10:G:182:ILE:HD12 | 2.28 | 0.48 |
| 11:H:46:LYS:HE2 | 11:H:50:ARG:NE | 20.31 | 0.48 |
| 16:M:9:ARG:HG3 | 16:M:104:ARG:CZ | 2.43 | 0.48 |
| 16:M:26:VAL:HG12 | 16:M:28:VAL:HG23 | 1.95 | 0.48 |
| 20:Q:77:ASN:O | 20:Q:80:ARG:HB3 | 2.13 | 0.48 |
| 20:Q:96:LEU:HD22 | 20:Q:101:GLN:HB2 | 1.96 | 0.48 |
| 7:D:715:G:H5'' | 22:S:60:VAL:HG11 | 1.96 | 0.48 |
| 23:T:21:VAL:HG23 | 23:T:33:ILE:HB | 1.94 | 0.48 |
| 26:W:7:LYS:HG3 | 26:W:7:LYS:O | 2.14 | 0.48 |
| 29:Z:44:HIS:HB2 | 29:Z:213:TYR:CE2 | 2.48 | 0.48 |
| 4:4:48:C:C2 | 4:4:59:A:H1' | 2.48 | 0.48 |
| 6:A:1159:U:C5 | 6:A:1182:G:H1' | 2.48 | 0.48 |
| 6:A:1325:C:H2' | 6:A:1326:C:H6 | 1.78 | 0.48 |
| 6:A:438:G:N2 | 6:A:495:A:C8 | 2.81 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 6:A:730:G:O2' | 6:A:766:A:O4' | 2.29 | 0.48 |
| 6:A:853:G:C6 | 6:A:854:G:N7 | 2.81 | 0.48 |
| 6:A:874:G:C6 | 6:A:875:C:C4 | 3.01 | 0.48 |
| 56:B:200:ILE:HG13 | 56:B:279:THR:CG2 | 2.33 | 0.48 |
| 56:B:377:VAL:C | 56:B:378:TYR:CD1 | 2.86 | 0.48 |
| 56:B:412:LEU:N | 56:B:412:LEU:CD1 | 2.76 | 0.48 |
| 56:B:431:LYS:CD | 56:B:455:PRO:CB | 2.66 | 0.48 |
| 7:D:1173:G:N3 | 7:D:1173:G:C3' | 2.76 | 0.48 |
| 7:D:1206:G:C8 | 7:D:1206:G:OP2 | 2.66 | 0.48 |
| 7:D:1342:A:C8 | 7:D:1342:A:OP2 | 2.63 | 0.48 |
| 7:D:133:C:N4 | 7:D:134:C:H41 | 2.11 | 0.48 |
| 7:D:1426:G:C8 | 7:D:1427:A:N7 | 2.81 | 0.48 |
| 7:D:1516:U:H2' | 7:D:1517:G:H8 | 1.78 | 0.48 |
| 7:D:1674:G:N2 | 7:D:1677:A:N1 | 2.61 | 0.48 |
| 7:D:1783:A:H5'' | 7:D:1784:A:OP1 | 2.13 | 0.48 |
| 7:D:739:G:C3' | 7:D:1784:A:H61 | 2.25 | 0.48 |
| 7:D:1912:A:C2 | 7:D:1919:A:N6 | 2.81 | 0.48 |
| 7:D:2103:C:H2' | 7:D:2104:G:C8 | 2.48 | 0.48 |
| 7:D:2246:G:H1 | 7:D:2258:C:H42 | 1.61 | 0.48 |
| 7:D:2705:A:O2' | 7:D:2706:G:OP1 | 2.31 | 0.48 |
| 7:D:270(L):U:C6 | 7:D:270(L):U:OP2 | 2.67 | 0.48 |
| 7:D:447:A:N6 | 7:D:473:G:C4 | 2.82 | 0.48 |
| 7:D:513:A:C2 | 7:D:514:A:C5 | 3.01 | 0.48 |
| 7:D:72:U:H4' | 7:D:73:A:OP1 | 2.12 | 0.48 |
| 7:D:808:G:N2 | 7:D:809:G:C4 | 2.82 | 0.48 |
| 15:L:29:SER:HB2 | 15:L:32:LYS:NZ | 2.28 | 0.48 |
| 16:M:96:LEU:HA | 16:M:100:GLY:HA3 | 1.93 | 0.48 |
| 17:N:7:LYS:HD3 | 17:N:9:ARG:NH2 | 2.27 | 0.48 |
| 18:O:52:GLY:O | 18:O:55:LYS:HD3 | 2.13 | 0.48 |
| 19:P:65:GLU:N | 19:P:65:GLU:OE1 | 2.45 | 0.48 |
| 6:A:1226:C:N3 | 20:Q:104:ARG:HD2 | 2.13 | 0.48 |
| 26:W:11:VAL:HG22 | 26:W:41:VAL:CG1 | 2.15 | 0.48 |
| 6:A:1017:G:H2' | 6:A:1018:C:O4' | 2.14 | 0.48 |
| 6:A:101:A:H2' | 6:A:102:G:C8 | 2.41 | 0.48 |
| 6:A:1128:C:H5' | 6:A:1129:C:OP1 | 2.13 | 0.48 |
| 6:A:1433:A:H2' | 6:A:1433:A:N3 | 2.28 | 0.48 |
| 6:A:1438:G:C2' | 6:A:1439:C:H5' | 2.42 | 0.48 |
| 6:A:155:C:H2' | 6:A:156:G:O4' | 2.13 | 0.48 |
| 6:A:27:G:H2' | 6:A:28:G:C8 | 2.45 | 0.48 |
| 6:A:703:G:H4' | 6:A:704:A:O5' | 2.13 | 0.48 |
| 6:A:666:G:C2 | 6:A:741:G:C4 | 3.01 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 6:A:947:G:C5 | 6:A:948:C:C4 | 3.01 | 0.48 |
| 6:A:979:C:H42 | 21:R:18:VAL:HG21 | 1.78 | 0.48 |
| 56:B:134:VAL:CA | 56:B:163:ALA:CB | 2.62 | 0.48 |
| 56:B:194:ALA:O | 56:B:219:GLU:OE1 | 2.28 | 0.48 |
| 56:B:27:ASP:OD2 | 56:B:41:MET:CB | 2.61 | 0.48 |
| 56:B:67:THR:O | 56:B:76:TYR:HA | 2.13 | 0.48 |
| 7:D:1039:G:N7 | 7:D:1117:G:C2 | 2.81 | 0.48 |
| 7:D:1095:A:N7 | 7:D:1096:A:C8 | 2.82 | 0.48 |
| 7:D:1281:G:H1 | 7:D:1289:C:H42 | 1.59 | 0.48 |
| 7:D:1335:U:H2' | 7:D:1336:A:C8 | 2.48 | 0.48 |
| 7:D:1379:A:HO2' | 7:D:1380:G:P | 2.32 | 0.48 |
| 7:D:1707:G:C2 | 7:D:1708:C:C2 | 3.01 | 0.48 |
| 7:D:1842:G:H2' | 7:D:1843:C:O4' | 2.13 | 0.48 |
| 7:D:2107:C:O2 | 7:D:2108:C:H5'' | 2.14 | 0.48 |
| 7:D:2159:G:H2' | 7:D:2160:G:H8 | 1.79 | 0.48 |
| 7:D:2188:C:C4 | 7:D:2189:U:C4 | 3.02 | 0.48 |
| 7:D:2301:C:N3 | 7:D:2315:G:N2 | 2.60 | 0.48 |
| 7:D:2342:C:N4 | 7:D:2343:C:N3 | 2.61 | 0.48 |
| 7:D:2377:A:O2' | 7:D:2378:A:O5' | 2.29 | 0.48 |
| 7:D:2467:C:N3 | 7:D:2468:G:N2 | 2.60 | 0.48 |
| 7:D:2486:G:N1 | 7:D:2487:G:C5 | 2.81 | 0.48 |
| 7:D:2526:G:C2 | 7:D:2527:C:C2 | 3.02 | 0.48 |
| 7:D:2713:A:H5'' | 7:D:2714:G:OP2 | 2.13 | 0.48 |
| 7:D:2807:G:H3' | 7:D:2808:U:C6 | 2.48 | 0.48 |
| 7:D:325:G:H2' | 7:D:326:G:H8 | 1.77 | 0.48 |
| 7:D:38:A:H2' | 7:D:39:C:H6 | 1.75 | 0.48 |
| 7:D:39:C:H2' | 7:D:40:C:C5 | 2.42 | 0.48 |
| 7:D:540:G:N2 | 7:D:541:C:O2 | 2.46 | 0.48 |
| 7:D:629:G:H1' | 7:D:639:U:O2' | 2.14 | 0.48 |
| 7:D:813:U:O2' | 7:D:1225:C:H1' | 2.14 | 0.48 |
| 8:E:61:G:C2 | 8:E:62:C:C2 | 3.02 | 0.48 |
| 6:A:1060:C:C5 | 10:G:2:GLY:HA2 | 2.48 | 0.48 |
| 10:G:30:ARG:HB2 | 21:R:37:PHE:O | 2.12 | 0.48 |
| 10:G:38:ARG:CB | 10:G:94:LEU:HD21 | 2.44 | 0.48 |
| 13:J:70:ASP:OD1 | 13:J:70:ASP:N | 2.45 | 0.48 |
| 14:K:26:PHE:O | 14:K:30:ILE:HG13 | 2.13 | 0.48 |
| 15:L:52:ASP:HB3 | 15:L:55:GLY:HA2 | 1.95 | 0.48 |
| 23:T:42:ARG:O | 23:T:44:THR:N | 2.47 | 0.48 |
| 23:T:58:TYR:O | 23:T:61:SER:OG | 2.26 | 0.48 |
| 24:U:25:ARG:HH21 | 24:U:40:LYS:HD2 | 1.79 | 0.48 |
| 6:A:279:A:C2 | 24:U:98:LEU:HD23 | 2.48 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 29:Z:156:ILE:HA | 29:Z:160:ARG:CB | 2.32 | 0.48 |
| 3:3:67:PHE:O | 3:3:68:VAL:HG23 | 2.13 | 0.48 |
| 6:A:1144:G:N2 | 6:A:1145:C:H1' | 2.29 | 0.48 |
| 6:A:277:C:OP1 | 24:U:41:LYS:HE3 | 2.12 | 0.48 |
| 6:A:302:G:C2 | 6:A:303:A:C4 | 3.01 | 0.48 |
| 6:A:451:A:N7 | 6:A:481:G:N1 | 2.62 | 0.48 |
| 6:A:588:G:N2 | 6:A:589:C:O2 | 2.46 | 0.48 |
| 6:A:595:G:C5 | 6:A:641:U:C4 | 3.02 | 0.48 |
| 6:A:736:C:H5'' | 25:V:72:ARG:NH1 | 2.29 | 0.48 |
| 6:A:864:A:H8 | 6:A:864:A:P | 2.35 | 0.48 |
| 56:B:105:LEU:N | 56:B:132:ILE:O | 2.46 | 0.48 |
| 56:B:222:VAL:HG23 | 56:B:228:ILE:HD11 | 1.93 | 0.48 |
| 56:B:382:LEU:N | 56:B:386:GLU:CB | 2.73 | 0.48 |
| 56:B:378:TYR:CD2 | 56:B:507:ILE:HG23 | 2.43 | 0.48 |
| 56:B:493:ASN:O | 56:B:540:ALA:N | 2.47 | 0.48 |
| 7:D:83:G:C6 | 7:D:102:G:N3 | 2.81 | 0.48 |
| 7:D:1182:A:H3' | 7:D:1183:G:H2' | 1.94 | 0.48 |
| 7:D:1377:G:O5' | 7:D:1377:G:H8 | 1.97 | 0.48 |
| 7:D:1413:G:C2 | 7:D:1414:G:C4 | 3.01 | 0.48 |
| 7:D:1580:A:O5' | 7:D:1580:A:H8 | 1.97 | 0.48 |
| 7:D:118:A:C2 | 7:D:177:G:C6 | 3.01 | 0.48 |
| 7:D:2630:G:N3 | 7:D:2630:G:H2' | 2.28 | 0.48 |
| 7:D:2869:G:H2' | 7:D:2870:C:O4' | 2.13 | 0.48 |
| 7:D:270:A:H1' | 7:D:371:A:C2 | 2.49 | 0.48 |
| 7:D:384:U:H5'' | 7:D:385:C:OP2 | 2.13 | 0.48 |
| 7:D:40:C:C2 | 7:D:440:G:N2 | 2.81 | 0.48 |
| 7:D:465:G:C6 | 7:D:466:A:N6 | 2.81 | 0.48 |
| 7:D:470:A:H2' | 7:D:471:A:O4' | 2.12 | 0.48 |
| 7:D:535:C:C4 | 7:D:536:A:N7 | 2.82 | 0.48 |
| 7:D:638:G:C5 | 7:D:639:U:N3 | 2.81 | 0.48 |
| 7:D:685:A:C8 | 7:D:773:U:C4 | 3.01 | 0.48 |
| 7:D:919:G:N1 | 7:D:920:G:C4 | 2.82 | 0.48 |
| 10:G:130:VAL:HG21 | 10:G:157:ILE:HG23 | 1.94 | 0.48 |
| 12:I:76:ILE:HD12 | 12:I:91:LEU:HD21 | 1.95 | 0.48 |
| 21:R:23:ARG:HD3 | 21:R:30:ALA:HA | 1.94 | 0.48 |
| 6:A:229:U:O2' | 23:T:23:ASP:OD1 | 2.31 | 0.48 |
| 23:T:8:ARG:H | 23:T:28:ARG:HH11 | 1.60 | 0.48 |
| 23:T:59:TRP:HA | 23:T:62:VAL:HG22 | 1.94 | 0.48 |
| 6:A:1319:A:P | 26:W:38:SER:HA | 2.47 | 0.48 |
| 6:A:108:G:H5' | 6:A:109:A:H5'' | 1.96 | 0.48 |
| 6:A:110:C:H2' | 6:A:111:G:C8 | 2.48 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 6:A:1134:G:C2 | 6:A:1141:C:C4 | 3.01 | 0.48 |
| 6:A:1411:C:H2' | 6:A:1412:C:C6 | 2.48 | 0.48 |
| 6:A:345:C:H5'' | 6:A:346:G:C4 | 2.48 | 0.48 |
| 6:A:415:A:H2' | 6:A:416:G:O4' | 2.14 | 0.48 |
| 6:A:427:U:C4 | 6:A:428:G:C6 | 3.01 | 0.48 |
| 6:A:500:G:O6 | 6:A:546:G:N1 | 2.46 | 0.48 |
| 6:A:588:G:N1 | 6:A:589:C:N3 | 2.61 | 0.48 |
| 6:A:721:G:C2 | 6:A:733:A:C6 | 3.01 | 0.48 |
| 6:A:851:G:C2' | 6:A:852:G:O4' | 2.61 | 0.48 |
| 56:B:228:ILE:CB | 56:B:282:LEU:CD2 | 2.91 | 0.48 |
| 56:B:90:THR:O | 56:B:94:SER:OG | 2.22 | 0.48 |
| 56:B:93:VAL:O | 56:B:93:VAL:HG22 | 2.13 | 0.48 |
| 7:D:564:C:O2' | 7:D:1252:G:O6 | 2.29 | 0.48 |
| 7:D:1353:A:C4 | 7:D:1378:A:N6 | 2.81 | 0.48 |
| 7:D:1414:G:N2 | 7:D:1589:C:C4 | 2.82 | 0.48 |
| 7:D:1426:G:C6 | 7:D:1427:A:N6 | 2.82 | 0.48 |
| 7:D:1472:A:C5 | 7:D:1473:G:C6 | 3.01 | 0.48 |
| 7:D:1581:G:O2' | 7:D:1582:C:H5' | 2.13 | 0.48 |
| 7:D:1676:A:N6 | 7:D:1677:A:C6 | 2.81 | 0.48 |
| 7:D:1776:G:N2 | 7:D:1777:U:C2 | 2.82 | 0.48 |
| 7:D:1906:G:C4 | 7:D:1929:G:C6 | 3.01 | 0.48 |
| 7:D:1906:G:C8 | 7:D:1929:G:C5 | 3.02 | 0.48 |
| 7:D:1909:C:O2 | 7:D:1922:G:N2 | 2.46 | 0.48 |
| 7:D:1933:G:C2 | 7:D:1934:C:C2 | 3.01 | 0.48 |
| 7:D:2080:G:N2 | 7:D:2241:A:C4 | 2.81 | 0.48 |
| 7:D:2199:A:C2' | 7:D:2205:C:H5' | 2.28 | 0.48 |
| 7:D:2307:G:O3' | 7:D:2311:A:N6 | 2.46 | 0.48 |
| 7:D:2345:G:C4 | 7:D:2381:C:C2 | 3.01 | 0.48 |
| 7:D:2374:C:N4 | 7:D:2375:G:O6 | 2.47 | 0.48 |
| 7:D:2589:A:C2 | 7:D:2590:A:C5 | 3.02 | 0.48 |
| 7:D:2822:G:OP1 | 56:B:112:GLY:N | 74.54 | 0.48 |
| 7:D:700:G:C2 | 7:D:701:G:C4 | 3.02 | 0.48 |
| 7:D:726:G:H4' | 7:D:727:A:OP1 | 2.14 | 0.48 |
| 7:D:862:G:C6 | 7:D:863:A:C4 | 3.01 | 0.48 |
| 7:D:921:G:C5 | 7:D:922:U:C5 | 3.02 | 0.48 |
| 16:M:21:PRO:HB3 | 16:M:59:PHE:CD1 | 2.49 | 0.48 |
| 6:A:909:A:P | 19:P:21:LYS:HZ3 | 2.35 | 0.48 |
| 20:Q:108:ARG:HH21 | 20:Q:114:ARG:NH1 | 2.10 | 0.48 |
| 20:Q:91:ARG:CA | 20:Q:91:ARG:HE | 2.26 | 0.48 |
| 25:V:52:PRO:HG2 | 25:V:54:ARG:HB3 | 1.95 | 0.48 |
| 6:A:1157:A:N6 | 6:A:1180:A:C6 | 2.82 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 6:A:1396:A:H4' | 6:A:1397:C:H5'' | 1.95 | 0.48 |
| 6:A:162:A:H3' | 6:A:163:C:C4' | 2.43 | 0.48 |
| 6:A:115:G:C2 | 6:A:289:G:N7 | 2.82 | 0.48 |
| 6:A:38:G:N2 | 6:A:397:A:C4 | 2.81 | 0.48 |
| 6:A:96:G:N2 | 6:A:97:U:H1' | 2.29 | 0.48 |
| 56:B:20:HIS:HE1 | 56:B:111:GLN:HG3 | 1.77 | 0.48 |
| 56:B:14:ILE:CD1 | 56:B:26:ALA:CB | 2.90 | 0.48 |
| 56:B:386:GLU:OE1 | 56:B:401:ARG:CD | 2.62 | 0.48 |
| 56:B:382:LEU:CA | 56:B:401:ARG:CB | 2.92 | 0.48 |
| 56:B:488:ASP:O | 56:B:509:HIS:HB2 | 2.14 | 0.48 |
| 56:B:555:ARG:HA | 56:B:581:LYS:HZ1 | 1.79 | 0.48 |
| 56:B:80:LEU:CD2 | 56:B:81:ILE:H | 2.26 | 0.48 |
| 7:D:1024:G:H3' | 7:D:1025:G:C5' | 2.43 | 0.48 |
| 7:D:1047:G:C5 | 7:D:1110:G:N1 | 2.82 | 0.48 |
| 7:D:1171:G:C8 | 7:D:1173:G:C4' | 2.86 | 0.48 |
| 7:D:818:G:C8 | 7:D:1187:G:C6 | 3.02 | 0.48 |
| 7:D:1239:G:N2 | 7:D:1240:U:O2' | 2.47 | 0.48 |
| 7:D:1203:G:N1 | 7:D:1241:A:C8 | 2.81 | 0.48 |
| 7:D:1251:C:H2' | 7:D:1252:G:H5' | 1.96 | 0.48 |
| 7:D:1504:C:OP2 | 7:D:1504:C:H6 | 1.96 | 0.48 |
| 7:D:153:C:H2' | 7:D:154:G:N7 | 2.26 | 0.48 |
| 7:D:1939:U:O2' | 7:D:1940:U:P | 2.71 | 0.48 |
| 7:D:2173:A:C5 | 7:D:2174:C:H1' | 2.49 | 0.48 |
| 7:D:2526:G:C6 | 7:D:2527:C:C4 | 3.02 | 0.48 |
| 7:D:2674:G:C5 | 7:D:2675:A:N7 | 2.81 | 0.48 |
| 7:D:272:G:N2 | 7:D:366:C:C2 | 2.82 | 0.48 |
| 7:D:539:G:H2' | 7:D:540:G:C8 | 2.49 | 0.48 |
| 7:D:973:A:HO2' | 7:D:974:G:P | 2.37 | 0.48 |
| 7:D:993:G:C6 | 7:D:1162:G:C6 | 3.02 | 0.48 |
| 9:F:50:GLU:O | 9:F:53:ARG:HG2 | 2.13 | 0.48 |
| 10:G:180:ALA:HB1 | 10:G:182:ILE:HG13 | 1.95 | 0.48 |
| 12:I:60:TYR:OH | 12:I:64:ARG:NH2 | 2.47 | 0.48 |
| 15:L:97:VAL:HG13 | 15:L:98:LYS:N | 2.27 | 0.48 |
| 19:P:28:LYS:HD2 | 19:P:33:ARG:HH12 | 1.78 | 0.48 |
| 6:A:836:G:P | 25:V:61:LYS:HZ1 | 2.36 | 0.48 |
| 6:A:1320:C:H5 | 26:W:36:ARG:HG3 | 1.64 | 0.48 |
| 6:A:1319:A:H4' | 26:W:37:ARG:O | 2.14 | 0.48 |
| 6:A:195:A:C5' | 27:X:68:LYS:HZ2 | 2.26 | 0.48 |
| 27:X:84:LEU:O | 27:X:88:VAL:HG23 | 2.14 | 0.48 |
| 29:Z:47:LEU:HD22 | 29:Z:208:PHE:CZ | 2.48 | 0.48 |
| 29:Z:66:HIS:NE2 | 29:Z:188:ASN:OD1 | 2.47 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 2:2:13:LEU:HA | 2:2:16:ASN:CB | 2.43 | 0.48 |
| 6:A:102:G:C2 | 6:A:103:C:N3 | 2.82 | 0.48 |
| 6:A:1087:G:C6 | 6:A:1088:G:N7 | 2.82 | 0.48 |
| 6:A:1092:A:N6 | 6:A:1093:A:N1 | 2.62 | 0.48 |
| 6:A:1163:C:H2' | 6:A:1164:G:H8 | 1.79 | 0.48 |
| 6:A:1164:G:H2' | 6:A:1165:C:C6 | 2.49 | 0.48 |
| 6:A:250:A:O2' | 6:A:251:G:OP2 | 2.26 | 0.48 |
| 56:B:160:ALA:C | 56:B:162:GLU:H | 2.17 | 0.48 |
| 56:B:502:ASP:O | 56:B:503:ALA:HB3 | 2.13 | 0.48 |
| 56:B:532:LEU:HB3 | 56:B:554:LEU:H | 1.78 | 0.48 |
| 56:B:558:VAL:CG1 | 56:B:573:LEU:HD22 | 2.44 | 0.48 |
| 56:B:595:GLU:O | 56:B:595:GLU:HG3 | 2.14 | 0.48 |
| 56:B:86:HIS:O | 56:B:87:VAL:CB | 2.60 | 0.48 |
| 7:D:1003:G:N2 | 7:D:1004:C:C2 | 2.82 | 0.48 |
| 7:D:1057:A:C2 | 7:D:1058:G:C2 | 3.02 | 0.48 |
| 7:D:1245:G:N2 | 7:D:1246:A:C4 | 2.82 | 0.48 |
| 7:D:1708:C:N3 | 7:D:1750:G:N2 | 2.45 | 0.48 |
| 7:D:1785:A:P | 7:D:1785:A:C8 | 3.07 | 0.48 |
| 7:D:1811:G:O6 | 7:D:1812:A:N6 | 2.47 | 0.48 |
| 7:D:187:G:N2 | 7:D:210:C:C2 | 2.81 | 0.48 |
| 7:D:2071:A:H8 | 7:D:2071:A:O5' | 1.96 | 0.48 |
| 7:D:2134:A:H1' | 7:D:2155:G:O6 | 2.14 | 0.48 |
| 7:D:2275:C:H4' | 7:D:2276:G:O5' | 2.14 | 0.48 |
| 7:D:244:A:C6 | 7:D:255:A:C8 | 3.02 | 0.48 |
| 7:D:2548:G:C2 | 7:D:2561:A:C2 | 3.02 | 0.48 |
| 7:D:26:G:C6 | 7:D:27:G:N2 | 2.82 | 0.48 |
| 7:D:2895:U:O2' | 7:D:2896:C:O5' | 2.32 | 0.48 |
| 7:D:390:A:O2' | 7:D:391:G:O4' | 2.32 | 0.48 |
| 7:D:751:A:H62 | 7:D:789:A:N6 | 2.11 | 0.48 |
| 7:D:852:G:C5 | 7:D:926:A:N1 | 2.82 | 0.48 |
| 8:E:66:A:C2 | 8:E:107:U:C2 | 3.02 | 0.48 |
| 8:E:19:G:C2 | 8:E:20:C:C2 | 3.02 | 0.48 |
| 8:E:81:G:C6 | 8:E:96:G:C2 | 3.01 | 0.48 |
| 15:L:102:ARG:NH1 | 15:L:106:GLY:N | 2.61 | 0.48 |
| 26:W:67:VAL:HG13 | 26:W:68:GLY:N | 2.29 | 0.48 |
| 6:A:1002:G:C2 | 6:A:1003:G:C5 | 3.02 | 0.48 |
| 6:A:1228:C:H5' | 20:Q:108:ARG:HH12 | 1.79 | 0.48 |
| 6:A:1440:C:C5 | 6:A:1441:G:N7 | 2.82 | 0.48 |
| 6:A:217:C:C4 | 6:A:218:C:N4 | 2.82 | 0.48 |
| 6:A:115:G:N3 | 6:A:289:G:C8 | 2.82 | 0.48 |
| 6:A:352:C:H42 | 6:A:357:G:H22 | 1.61 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 6:A:631:G:O3' | 6:A:632:A:H8 | 1.95 | 0.48 |
| 6:A:727:G:N2 | 6:A:731:G:N3 | 2.61 | 0.48 |
| 6:A:744:C:H2' | 6:A:745:C:C6 | 2.49 | 0.48 |
| 6:A:781:A:H2' | 6:A:782:A:O4' | 2.14 | 0.48 |
| 6:A:79:G:N1 | 6:A:80:G:N3 | 2.62 | 0.48 |
| 6:A:952:U:H5' | 6:A:972:C:N4 | 2.29 | 0.48 |
| 56:B:186:PRO:HB2 | 56:B:187:PRO:HD2 | 1.96 | 0.48 |
| 56:B:191:ASP:OD2 | 56:B:219:GLU:HB3 | 2.13 | 0.48 |
| 56:B:227:ARG:C | 56:B:237:PHE:CD2 | 2.87 | 0.48 |
| 56:B:28:ARG:HD2 | 56:B:28:ARG:HA | 1.69 | 0.48 |
| 56:B:295:ARG:HD2 | 56:B:295:ARG:H | 1.78 | 0.48 |
| 56:B:388:VAL:O | 56:B:389:GLU:HB3 | 2.14 | 0.48 |
| 56:B:516:MET:O | 56:B:520:ILE:HG22 | 2.14 | 0.48 |
| 56:B:572:LYS:C | 56:B:574:LEU:H | 2.17 | 0.48 |
| 7:D:1007:C:O2 | 7:D:1136:G:N2 | 2.47 | 0.48 |
| 7:D:1155:A:H2' | 7:D:1156:A:H5'' | 1.94 | 0.48 |
| 7:D:1361:G:C6 | 7:D:1371:G:N2 | 2.82 | 0.48 |
| 7:D:1491:G:N2 | 7:D:1493:C:H41 | 2.12 | 0.48 |
| 7:D:1521:G:H3' | 7:D:1522:G:O4' | 2.13 | 0.48 |
| 7:D:1611:C:H42 | 7:D:1620:G:H1 | 1.60 | 0.48 |
| 7:D:1670:C:N4 | 7:D:1674:G:OP2 | 2.46 | 0.48 |
| 7:D:1689:A:C8 | 7:D:1700:A:C6 | 3.02 | 0.48 |
| 7:D:1879:C:H6 | 7:D:1879:C:O5' | 1.96 | 0.48 |
| 7:D:1267:U:C5 | 7:D:2012:G:N2 | 2.82 | 0.48 |
| 7:D:2170:A:C8 | 7:D:2170:A:OP2 | 2.64 | 0.48 |
| 7:D:2249:U:H4' | 7:D:2250:G:OP2 | 2.14 | 0.48 |
| 7:D:2259:G:C2 | 7:D:2282:G:C6 | 3.02 | 0.48 |
| 7:D:411:G:N1 | 7:D:2407:G:O6 | 2.45 | 0.48 |
| 7:D:2396:G:C2 | 7:D:2421:G:C2 | 3.02 | 0.48 |
| 7:D:2428:G:H5'' | 7:D:2429:G:OP1 | 2.13 | 0.48 |
| 7:D:2687:U:C4 | 7:D:2688:U:N3 | 2.82 | 0.48 |
| 7:D:2681:C:N3 | 7:D:2724:C:H5 | 2.12 | 0.48 |
| 7:D:539:G:N2 | 7:D:556:G:N1 | 2.41 | 0.48 |
| 7:D:542:C:H6 | 7:D:542:C:O5' | 1.96 | 0.48 |
| 7:D:719:C:N3 | 7:D:720:C:N4 | 2.61 | 0.48 |
| 7:D:972:G:C6 | 7:D:973:A:C6 | 3.02 | 0.48 |
| 8:E:13:A:N6 | 8:E:69:G:O2' | 2.47 | 0.48 |
| 10:G:139:GLN:HG3 | 10:G:143:GLU:OE2 | 2.14 | 0.48 |
| 6:A:619:U:O2 | 11:H:133:VAL:HG13 | 2.13 | 0.48 |
| 15:L:100:ILE:HG23 | 15:L:101:PRO:HD2 | 1.96 | 0.48 |
| 17:N:3:LYS:N | 17:N:77:PRO:HD3 | 2.29 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 21:R:14:PRO:HB2 | 21:R:16:PHE:O | 2.14 | 0.48 |
| 23:T:23:ASP:H | 23:T:26:ARG:NH2 | 2.12 | 0.48 |
| 26:W:11:VAL:C | 26:W:38:SER:HG | 2.11 | 0.48 |
| 29:Z:115:ALA:HB3 | 29:Z:120:MET:SD | 2.54 | 0.48 |
| 29:Z:41:VAL:HG12 | 29:Z:175:VAL:CG2 | 2.44 | 0.48 |
| 6:A:1005:A:OP2 | 6:A:1006:C:C4 | 2.67 | 0.48 |
| 6:A:1065:U:O2' | 6:A:1066:C:H6 | 1.96 | 0.48 |
| 6:A:1120:G:C6 | 6:A:1121:U:C4 | 3.01 | 0.48 |
| 6:A:1169:A:H3' | 6:A:1170:A:C8 | 2.48 | 0.48 |
| 6:A:178:C:C2 | 6:A:179:A:C8 | 3.02 | 0.48 |
| 6:A:262:A:C5 | 6:A:263:A:C5 | 3.02 | 0.48 |
| 6:A:645:C:N3 | 6:A:646:U:N3 | 2.62 | 0.48 |
| 6:A:786:G:H2' | 6:A:787:A:O4' | 2.13 | 0.48 |
| 6:A:789:U:C2 | 6:A:791:G:OP2 | 2.66 | 0.48 |
| 6:A:96:G:N2 | 6:A:97:U:C2 | 2.82 | 0.48 |
| 56:B:450:LEU:CG | 56:B:452:TYR:HE1 | 2.26 | 0.48 |
| 7:D:585:G:C2 | 7:D:1251:C:C4 | 3.02 | 0.48 |
| 7:D:1256:G:C6 | 7:D:1257:C:C4 | 3.02 | 0.48 |
| 7:D:1259:G:C4 | 7:D:1260:G:C8 | 3.01 | 0.48 |
| 7:D:1266:G:O2' | 7:D:1267:U:P | 2.70 | 0.48 |
| 7:D:1471:A:N7 | 7:D:1519:G:C2 | 2.82 | 0.48 |
| 7:D:1578:U:C5 | 7:D:1579:A:C5 | 3.01 | 0.48 |
| 7:D:1819:A:H1' | 7:D:1821:A:C5 | 2.49 | 0.48 |
| 7:D:1965:C:O2 | 56:B:576:LYS:NZ | 2.46 | 0.48 |
| 7:D:276:A:N3 | 7:D:276:A:H3' | 2.29 | 0.48 |
| 7:D:442:G:C6 | 7:D:444:C:C4 | 3.02 | 0.48 |
| 7:D:476:G:N2 | 7:D:479:A:O4' | 2.46 | 0.48 |
| 7:D:503:A:O2' | 7:D:506:G:OP2 | 2.27 | 0.48 |
| 7:D:763:G:C6 | 7:D:765:G:C5 | 3.02 | 0.48 |
| 7:D:839:U:H2' | 7:D:840:C:H6 | 1.79 | 0.48 |
| 7:D:817:C:O2' | 7:D:839:U:OP1 | 2.26 | 0.48 |
| 7:D:898:C:H5'' | 7:D:899:A:OP2 | 2.14 | 0.48 |
| 10:G:53:ALA:N | 10:G:69:HIS:O | 2.47 | 0.48 |
| 6:A:737:A:C5' | 13:J:92:LYS:HZ2 | 2.27 | 0.48 |
| 15:L:82:HIS:CD2 | 15:L:138:TRP:NE1 | 2.81 | 0.48 |
| 22:S:42:HIS:O | 22:S:46:HIS:HB2 | 2.13 | 0.48 |
| 29:Z:164:ARG:N | 29:Z:171:ILE:HG13 | 2.28 | 0.48 |
| 29:Z:68:LEU:HD23 | 29:Z:70:LYS:H | 1.79 | 0.48 |
| 2:2:34:ALA:H | 7:D:1056:G:P | 2.33 | 0.47 |
| 6:A:1022:G:H2' | 6:A:1023:G:H8 | 1.79 | 0.47 |
| 6:A:1163:C:C2 | 6:A:1164:G:C8 | 3.02 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 6:A:1202:G:C4 | 21:R:42:ILE:HD11 | 2.49 | 0.47 |
| 6:A:1215:G:N1 | 6:A:1216:G:C5 | 2.82 | 0.47 |
| 6:A:1517:G:C8 | 7:D:1920:C:OP2 | 2.67 | 0.47 |
| 6:A:455:C:C2' | 6:A:456:C:H5' | 2.44 | 0.47 |
| 6:A:626:U:C2 | 6:A:627:G:C8 | 3.02 | 0.47 |
| 6:A:69:G:C4 | 6:A:73:G:C8 | 3.02 | 0.47 |
| 6:A:999:U:H3 | 6:A:1041:A:N6 | 2.11 | 0.47 |
| 56:B:236:GLU:CA | 56:B:268:ILE:HG21 | 2.36 | 0.47 |
| 56:B:328:ALA:O | 56:B:330:LEU:HD13 | 2.13 | 0.47 |
| 56:B:118:LEU:CD2 | 56:B:446:LYS:HZ1 | 2.10 | 0.47 |
| 56:B:468:LYS:CA | 56:B:473:GLY:HA2 | 2.44 | 0.47 |
| 7:D:1474:C:O2 | 7:D:1475:G:C8 | 2.67 | 0.47 |
| 7:D:148:C:H5'' | 7:D:149:A:OP2 | 2.14 | 0.47 |
| 7:D:1478:G:N2 | 7:D:1515:C:C2 | 2.82 | 0.47 |
| 7:D:1515:C:HO2' | 7:D:1516:U:P | 2.35 | 0.47 |
| 7:D:1583:A:C4' | 7:D:1585:C:C5 | 2.89 | 0.47 |
| 7:D:1588:C:H2' | 7:D:1589:C:C6 | 2.48 | 0.47 |
| 7:D:1680:U:H2' | 7:D:1681:G:O4' | 2.13 | 0.47 |
| 7:D:2196:C:C2 | 7:D:2197:U:C5 | 3.02 | 0.47 |
| 7:D:247:G:N2 | 7:D:249:C:H1' | 2.29 | 0.47 |
| 7:D:2659:G:H21 | 7:D:2661:G:H8 | 1.61 | 0.47 |
| 7:D:2691:C:C4 | 7:D:2719:G:N2 | 2.82 | 0.47 |
| 7:D:270(R):G:C2 | 7:D:270(S):G:C8 | 3.02 | 0.47 |
| 7:D:2637:U:N3 | 7:D:2781:A:N6 | 2.62 | 0.47 |
| 7:D:2781:A:N1 | 7:D:2782:G:C2 | 2.83 | 0.47 |
| 7:D:513:A:H2 | 7:D:514:A:C4 | 2.32 | 0.47 |
| 7:D:646:A:H3' | 7:D:647:G:C8 | 2.48 | 0.47 |
| 7:D:702:G:C2 | 7:D:731:C:C2 | 3.02 | 0.47 |
| 7:D:776:G:H1' | 7:D:777:A:OP2 | 2.13 | 0.47 |
| 7:D:820:A:C2 | 7:D:821:A:C4 | 3.02 | 0.47 |
| 9:F:133:LYS:HB3 | 9:F:137:ARG:NH2 | 2.29 | 0.47 |
| 9:F:53:ARG:HA | 9:F:56:ARG:NE | 2.29 | 0.47 |
| 11:H:118:ARG:CZ | 11:H:136:PRO:HB3 | 2.43 | 0.47 |
| 18:O:18:ARG:NE | 18:O:35:PRO:HA | 2.29 | 0.47 |
| 19:P:39:VAL:HG11 | 19:P:41:ARG:CZ | 2.44 | 0.47 |
| 6:A:522:C:OP2 | 19:P:69:TYR:OH | 2.31 | 0.47 |
| 22:S:9:GLN:HA | 22:S:12:ILE:HD12 | 1.95 | 0.47 |
| 27:X:82:SER:OG | 27:X:83:ARG:N | 2.47 | 0.47 |
| 6:A:1015:A:H2' | 6:A:1016:A:C8 | 2.49 | 0.47 |
| 6:A:1131:G:O6 | 6:A:1144:G:H1' | 2.13 | 0.47 |
| 6:A:1145:C:O2 | 6:A:1147:C:N4 | 2.46 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-----------------|-------------------|--------------------------|-------------------|
| 6:A:1454:G:N1 | 6:A:1455:G:C4 | 2.82 | 0.47 |
| 6:A:1440:C:C2 | 6:A:1462:G:N2 | 2.81 | 0.47 |
| 6:A:179:A:H3' | 6:A:180:U:H6 | 1.77 | 0.47 |
| 6:A:19:C:C6 | 6:A:20:U:H5 | 2.32 | 0.47 |
| 6:A:655:A:H2' | 6:A:656:C:O4' | 2.14 | 0.47 |
| 6:A:696:A:C2 | 6:A:786:G:H1' | 2.48 | 0.47 |
| 6:A:894:G:C2 | 6:A:895:G:C4 | 3.03 | 0.47 |
| 6:A:895:G:C2 | 6:A:896:C:C2 | 3.02 | 0.47 |
| 6:A:982:U:H5'' | 21:R:6:LEU:HD11 | 1.96 | 0.47 |
| 56:B:380:VAL:CA | 56:B:406:LEU:HD23 | 2.43 | 0.47 |
| 56:B:411:LYS:CB | 56:B:452:TYR:O | 2.62 | 0.47 |
| 56:B:42:ARG:HD2 | 56:B:43:GLU:H | 1.79 | 0.47 |
| 7:D:1492:G:C8 | 7:D:1495:A:OP2 | 2.67 | 0.47 |
| 7:D:1332:G:C8 | 7:D:1609:A:N6 | 2.82 | 0.47 |
| 7:D:1300:U:O2' | 7:D:1626:G:C2 | 2.68 | 0.47 |
| 7:D:1747:G:C5 | 7:D:1748:G:N7 | 2.83 | 0.47 |
| 7:D:571:A:C6 | 7:D:2030:A:C6 | 3.02 | 0.47 |
| 7:D:2067:G:C2 | 7:D:2069:G:C8 | 3.02 | 0.47 |
| 7:D:2126:A:O2' | 7:D:2163:C:O2' | 2.21 | 0.47 |
| 7:D:2190:G:H2' | 7:D:2191:G:H8 | 1.79 | 0.47 |
| 7:D:2481:G:O2' | 7:D:2482:G:OP2 | 2.31 | 0.47 |
| 7:D:2486:G:C2 | 7:D:2487:G:C8 | 3.02 | 0.47 |
| 7:D:2554:U:H2' | 7:D:2555:U:C6 | 2.49 | 0.47 |
| 7:D:2565:A:H5'' | 7:D:2566:A:OP2 | 2.13 | 0.47 |
| 7:D:2793:G:C2 | 7:D:2794:C:N3 | 2.82 | 0.47 |
| 7:D:2824:C:N4 | 7:D:2825:C:N3 | 2.62 | 0.47 |
| 7:D:2871:C:H5' | 7:D:2872:G:OP1 | 2.14 | 0.47 |
| 7:D:311:A:O2' | 7:D:312:G:OP2 | 2.32 | 0.47 |
| 7:D:363(B):G:C6 | 7:D:363(C):G:N7 | 2.82 | 0.47 |
| 7:D:464:U:C5 | 7:D:465:G:C5 | 3.02 | 0.47 |
| 7:D:621:A:N7 | 7:D:622:G:H1' | 2.29 | 0.47 |
| 7:D:723:G:C2 | 7:D:724:U:C2 | 3.02 | 0.47 |
| 7:D:728:G:H8 | 7:D:728:G:H3' | 1.79 | 0.47 |
| 7:D:861:A:H61 | 7:D:917:A:H1' | 1.77 | 0.47 |
| 9:F:188:ALA:N | 9:F:201:ILE:O | 2.47 | 0.47 |
| 18:O:120:ARG:CZ | 18:O:126:ARG:NH1 | 2.76 | 0.47 |
| 25:V:29:PHE:CG | 25:V:30:ASP:N | 2.83 | 0.47 |
| 26:W:8:GLY:O | 26:W:10:PHE:N | 2.47 | 0.47 |
| 3:3:23:VAL:HG12 | 3:3:24:GLY:N | 2.29 | 0.47 |
| 3:3:40:ALA:HA | 3:3:43:ALA:HB3 | 1.95 | 0.47 |
| 6:A:1455:G:C2 | 6:A:1459:C:C2 | 3.01 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 6:A:192:U:H4' | 27:X:57:ARG:HH12 | 1.77 | 0.47 |
| 6:A:261:U:C4 | 27:X:79:ARG:NH1 | 2.82 | 0.47 |
| 6:A:266:G:HO2' | 6:A:267:C:P | 2.38 | 0.47 |
| 6:A:219:C:H4' | 6:A:381:C:H5' | 1.96 | 0.47 |
| 6:A:382:A:C8 | 6:A:382:A:OP2 | 2.57 | 0.47 |
| 6:A:515:G:C6 | 6:A:516:U:C2 | 3.02 | 0.47 |
| 6:A:61:G:N7 | 6:A:107:G:N2 | 2.62 | 0.47 |
| 6:A:64:G:H5'' | 6:A:65:U:OP1 | 2.14 | 0.47 |
| 6:A:96:G:C2 | 6:A:97:U:N1 | 2.82 | 0.47 |
| 56:B:379:LYS:HZ2 | 56:B:407:GLU:CA | 2.26 | 0.47 |
| 56:B:474:TYR:O | 56:B:475:ALA:C | 2.53 | 0.47 |
| 7:D:1039:G:C8 | 7:D:1117:G:C2 | 3.02 | 0.47 |
| 3:3:137:GLU:OE1 | 7:D:1078:U:H3' | 2.14 | 0.47 |
| 7:D:1141:U:H5' | 7:D:1142(A):A:N6 | 2.29 | 0.47 |
| 7:D:1239:G:C2 | 7:D:1240:U:H1' | 2.49 | 0.47 |
| 7:D:1288:U:C4 | 7:D:1327:C:H1' | 2.49 | 0.47 |
| 7:D:1375:C:H2' | 7:D:1376:C:C6 | 2.50 | 0.47 |
| 7:D:141:A:N6 | 7:D:141(A):C:N3 | 2.61 | 0.47 |
| 7:D:142:G:H2' | 7:D:143:C:O4' | 2.15 | 0.47 |
| 7:D:1517:G:N2 | 7:D:1518:C:C2 | 2.82 | 0.47 |
| 7:D:1543:A:H8 | 7:D:1544:C:HO2' | 1.57 | 0.47 |
| 7:D:1731:G:N3 | 7:D:1731:G:H2' | 2.29 | 0.47 |
| 7:D:1796:U:H2' | 7:D:1797:C:C6 | 2.49 | 0.47 |
| 7:D:18:C:H2' | 7:D:19:C:C6 | 2.48 | 0.47 |
| 7:D:194:G:O6 | 7:D:195:A:C6 | 2.66 | 0.47 |
| 7:D:2497:A:H4' | 7:D:2498:C:O5' | 2.14 | 0.47 |
| 7:D:2603:G:C2 | 7:D:2604:U:O2 | 2.68 | 0.47 |
| 7:D:2707:G:N2 | 7:D:2708:G:C4 | 2.83 | 0.47 |
| 7:D:270(V):G:H3' | 7:D:270(W):G:H8 | 1.78 | 0.47 |
| 7:D:2723:C:N4 | 7:D:2724:C:C4 | 2.82 | 0.47 |
| 7:D:2749:A:C8 | 7:D:2750:A:N7 | 2.83 | 0.47 |
| 7:D:648:G:C2' | 7:D:649:G:C8 | 2.86 | 0.47 |
| 7:D:684:G:N1 | 7:D:775:G:C5 | 2.83 | 0.47 |
| 8:E:118:G:H8 | 8:E:118:G:OP2 | 1.97 | 0.47 |
| 9:F:144:ARG:NH1 | 9:F:148:TYR:CZ | 2.80 | 0.47 |
| 13:J:10:LEU:HD22 | 13:J:85:VAL:HG22 | 1.96 | 0.47 |
| 16:M:55:ALA:O | 16:M:58:HIS:ND1 | 2.46 | 0.47 |
| 6:A:35:G:N3 | 19:P:118:SER:OG | 2.46 | 0.47 |
| 20:Q:98:VAL:O | 20:Q:98:VAL:HG13 | 2.12 | 0.47 |
| 20:Q:97:PRO:C | 20:Q:99:ARG:H | 2.18 | 0.47 |
| 22:S:54:ARG:HG2 | 22:S:58:MET:HE2 | 1.95 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-----------------|-------------------|--------------------------|-------------------|
| 26:W:36:ARG:HD3 | 26:W:71:LEU:C | 2.35 | 0.47 |
| 28:Y:6:ARG:H | 28:Y:11:GLY:HA3 | 1.79 | 0.47 |
| 29:Z:69:GLY:HA3 | 29:Z:157:LYS:HB3 | 1.94 | 0.47 |
| 4:4:74:C:C2' | 4:4:75:C:H5' | 2.44 | 0.47 |
| 6:A:1009:G:C6 | 6:A:1021:G:C5 | 3.03 | 0.47 |
| 6:A:1170:A:H3' | 6:A:1171:G:C8 | 2.49 | 0.47 |
| 6:A:1055:A:C5 | 6:A:1206:G:C2 | 3.02 | 0.47 |
| 6:A:1311:G:H8 | 6:A:1311:G:O5' | 1.97 | 0.47 |
| 6:A:1447:G:N2 | 6:A:1460:A:C5 | 2.72 | 0.47 |
| 6:A:1528:U:O2' | 6:A:1530:G:O4' | 2.30 | 0.47 |
| 6:A:886:G:C2 | 6:A:887:G:H1' | 2.50 | 0.47 |
| 56:B:307:PRO:O | 56:B:370:ILE:HD11 | 2.14 | 0.47 |
| 56:B:360:ARG:HA | 56:B:364:GLU:OE1 | 2.13 | 0.47 |
| 56:B:382:LEU:CB | 56:B:386:GLU:HG2 | 2.44 | 0.47 |
| 56:B:379:LYS:CE | 56:B:407:GLU:H | 2.27 | 0.47 |
| 56:B:86:HIS:NE2 | 56:B:352:LEU:HD12 | 2.29 | 0.47 |
| 7:D:1143:A:C5 | 7:D:1144:G:N7 | 2.82 | 0.47 |
| 7:D:1228:G:N1 | 7:D:1229:G:C5 | 2.82 | 0.47 |
| 7:D:1287:A:N6 | 7:D:1288:U:H3 | 2.12 | 0.47 |
| 7:D:1308:A:N6 | 7:D:1309:G:C2 | 2.82 | 0.47 |
| 7:D:1385:G:H1 | 7:D:1402:C:H42 | 1.60 | 0.47 |
| 7:D:1592:C:H2' | 7:D:1593:G:C8 | 2.50 | 0.47 |
| 7:D:1681:G:HO2' | 7:D:1682:G:P | 2.37 | 0.47 |
| 7:D:1690:A:N7 | 7:D:1691:C:C2 | 2.82 | 0.47 |
| 7:D:1692:U:O2' | 7:D:1693:U:H2' | 2.15 | 0.47 |
| 7:D:1725:G:C2 | 7:D:1726:G:C5 | 3.00 | 0.47 |
| 7:D:1728:G:N3 | 7:D:1728:G:H2' | 2.29 | 0.47 |
| 7:D:1784:A:O4' | 7:D:1784:A:OP2 | 2.32 | 0.47 |
| 7:D:2033:A:C6 | 7:D:2036:C:N3 | 2.82 | 0.47 |
| 7:D:2264:C:H2' | 7:D:2265:U:C6 | 2.48 | 0.47 |
| 7:D:2456:C:C5 | 7:D:2457:U:C4 | 3.02 | 0.47 |
| 7:D:270(J):G:N1 | 7:D:270(K):C:C2 | 2.83 | 0.47 |
| 7:D:273(A):G:C6 | 7:D:273(B):C:C4 | 3.03 | 0.47 |
| 7:D:27:G:O2' | 7:D:513:A:N6 | 2.47 | 0.47 |
| 7:D:2839:G:C5 | 7:D:2840:C:C4 | 3.03 | 0.47 |
| 7:D:290:G:H22 | 7:D:350:U:C1' | 2.28 | 0.47 |
| 7:D:329:G:C8 | 7:D:329:G:H5'' | 2.49 | 0.47 |
| 7:D:492:A:H3' | 7:D:493:G:H8 | 1.79 | 0.47 |
| 7:D:836:G:N7 | 7:D:837:C:N4 | 2.63 | 0.47 |
| 7:D:869:G:N2 | 7:D:870:A:C4 | 2.82 | 0.47 |
| 7:D:8:A:C6 | 7:D:9:U:C4 | 3.02 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 12:I:18:ARG:HB3 | 12:I:25:ARG:O | 2.15 | 0.47 |
| 14:K:22:LEU:HD21 | 14:K:97:GLN:HE21 | 1.78 | 0.47 |
| 21:R:40:CYS:HB2 | 21:R:43:CYS:H | 1.79 | 0.47 |
| 5:5:5:G:N2 | 5:5:68:C:N3 | 2.51 | 0.47 |
| 5:5:5:G:H1 | 5:5:68:C:N4 | 2.09 | 0.47 |
| 6:A:99:C:C2' | 6:A:101:A:C8 | 2.86 | 0.47 |
| 6:A:1169:A:N1 | 6:A:1170:A:N6 | 2.61 | 0.47 |
| 6:A:1244:C:H2' | 6:A:1245:A:C8 | 2.50 | 0.47 |
| 6:A:1440:C:N3 | 6:A:1462:G:C6 | 2.82 | 0.47 |
| 6:A:1529:G:HO2' | 6:A:1530:G:P | 2.37 | 0.47 |
| 6:A:231:G:N1 | 6:A:232:G:C5 | 2.82 | 0.47 |
| 6:A:363:A:H2' | 6:A:364:A:C8 | 2.49 | 0.47 |
| 6:A:446:G:H2' | 6:A:447:G:O4' | 2.14 | 0.47 |
| 6:A:654:G:H2' | 6:A:654:G:N3 | 2.30 | 0.47 |
| 6:A:728:A:N6 | 22:S:54:ARG:HD2 | 2.29 | 0.47 |
| 56:B:28:ARG:HG2 | 56:B:168:GLY:O | 2.14 | 0.47 |
| 56:B:222:VAL:HG11 | 56:B:264:LEU:HD22 | 1.92 | 0.47 |
| 56:B:42:ARG:HD2 | 56:B:43:GLU:N | 2.29 | 0.47 |
| 56:B:528:ILE:HG21 | 56:B:592:VAL:HB | 1.96 | 0.47 |
| 7:D:1168:G:C4 | 7:D:1182:A:H2 | 2.33 | 0.47 |
| 7:D:1206:G:H1 | 7:D:1242:A:H62 | 1.61 | 0.47 |
| 7:D:1257:C:H2' | 7:D:1258:C:C6 | 2.50 | 0.47 |
| 7:D:1307:A:N1 | 7:D:1308:A:C4 | 2.82 | 0.47 |
| 7:D:1332:G:C5' | 7:D:1333:C:OP2 | 2.63 | 0.47 |
| 7:D:1340:U:HO2' | 7:D:1341:U:P | 2.38 | 0.47 |
| 7:D:1410:G:C6 | 7:D:1411:C:C4 | 3.02 | 0.47 |
| 7:D:1798:U:N3 | 7:D:1822:G:N1 | 2.62 | 0.47 |
| 7:D:2099:U:H1' | 7:D:2191:G:H22 | 1.78 | 0.47 |
| 7:D:2125:G:O2' | 7:D:2126:A:O4' | 2.26 | 0.47 |
| 7:D:2548:G:C2 | 7:D:2549:G:C8 | 3.02 | 0.47 |
| 7:D:270(W):G:C5 | 7:D:270(X):G:C6 | 3.03 | 0.47 |
| 7:D:270(W):G:H2' | 7:D:270(X):G:O4' | 2.15 | 0.47 |
| 7:D:49:A:C5 | 7:D:177:G:C5 | 3.02 | 0.47 |
| 7:D:548:A:H5'' | 7:D:549:G:OP2 | 2.14 | 0.47 |
| 7:D:587:C:H4' | 7:D:588:U:O5' | 2.14 | 0.47 |
| 7:D:638:G:C2 | 7:D:650:C:C2 | 3.01 | 0.47 |
| 7:D:685:A:H5' | 7:D:687:C:N4 | 2.30 | 0.47 |
| 7:D:975:G:C2 | 7:D:990:A:C8 | 3.03 | 0.47 |
| 9:F:163:PHE:HA | 9:F:185:ILE:HG13 | 1.95 | 0.47 |
| 9:F:181:PHE:CE1 | 15:L:72:PRO:HD3 | 2.50 | 0.47 |
| 14:K:48:LYS:HA | 14:K:51:GLN:OE1 | 2.13 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 19:P:27:LEU:HG | 19:P:28:LYS:N | 2.30 | 0.47 |
| 20:Q:93:ARG:C | 20:Q:95:GLY:H | 2.18 | 0.47 |
| 22:S:33:THR:HG22 | 22:S:37:ASN:HD21 | 1.79 | 0.47 |
| 24:U:50:LYS:HD2 | 24:U:51:TYR:CE1 | 2.50 | 0.47 |
| 27:X:41:ILE:O | 27:X:45:GLN:HG2 | 2.14 | 0.47 |
| 6:A:1015:A:P | 26:W:18:LYS:HE2 | 2.54 | 0.47 |
| 6:A:124:G:C6 | 6:A:125:U:N3 | 2.83 | 0.47 |
| 6:A:1363:A:O2' | 6:A:1364:U:O5' | 2.28 | 0.47 |
| 6:A:191(A):G:C2 | 6:A:191(B):G:C4 | 3.03 | 0.47 |
| 6:A:198:G:C2 | 6:A:199:G:N9 | 2.83 | 0.47 |
| 6:A:208:U:H6 | 6:A:208:U:H3' | 1.80 | 0.47 |
| 6:A:464:G:H1' | 6:A:468:A:N6 | 2.29 | 0.47 |
| 6:A:651:C:C4 | 6:A:652:U:C4 | 3.02 | 0.47 |
| 6:A:708:C:H2' | 6:A:709:G:C8 | 2.49 | 0.47 |
| 6:A:588:G:C4 | 6:A:753:A:C6 | 3.03 | 0.47 |
| 56:B:268:ILE:HG23 | 56:B:268:ILE:O | 2.15 | 0.47 |
| 56:B:296:PRO:HG2 | 56:B:297:ALA:H | 1.79 | 0.47 |
| 56:B:349:LEU:CD1 | 56:B:353:HIS:CD2 | 2.97 | 0.47 |
| 56:B:537:ILE:HB | 56:B:549:ALA:O | 2.14 | 0.47 |
| 7:D:1202:C:C5 | 7:D:1203:G:C8 | 3.01 | 0.47 |
| 7:D:1455:G:N3 | 7:D:1456:G:C8 | 2.82 | 0.47 |
| 7:D:149:A:C5 | 7:D:150:C:C4 | 3.02 | 0.47 |
| 7:D:1543:A:H8 | 7:D:1544:C:H4' | 1.80 | 0.47 |
| 7:D:1579:A:C8 | 7:D:1580:A:N3 | 2.82 | 0.47 |
| 7:D:1613:G:C5 | 7:D:1617:C:N4 | 2.83 | 0.47 |
| 7:D:1708:C:H42 | 7:D:1750:G:H1 | 1.62 | 0.47 |
| 7:D:1839:G:C4 | 7:D:1927:A:C8 | 3.03 | 0.47 |
| 7:D:1937:A:HO2' | 7:D:1938:A:P | 2.32 | 0.47 |
| 7:D:2307:G:H3' | 7:D:2308:G:O4' | 2.15 | 0.47 |
| 7:D:2445:G:N2 | 7:D:2446:G:C4 | 2.82 | 0.47 |
| 7:D:273(F):C:C5 | 7:D:274:G:C8 | 3.03 | 0.47 |
| 7:D:2869:G:C6 | 7:D:2870:C:N3 | 2.83 | 0.47 |
| 7:D:279:C:N4 | 7:D:359:A:H2 | 2.10 | 0.47 |
| 7:D:596:G:C2 | 7:D:597:U:C2 | 3.02 | 0.47 |
| 7:D:869:G:H2' | 7:D:870:A:C8 | 2.47 | 0.47 |
| 7:D:890:A:H5' | 7:D:892:G:OP2 | 2.14 | 0.47 |
| 7:D:909:A:O2' | 7:D:910:A:H5' | 2.15 | 0.47 |
| 7:D:952:G:C2 | 7:D:966:G:C2 | 3.03 | 0.47 |
| 8:E:91:C:H2' | 8:E:92:G:C8 | 2.49 | 0.47 |
| 9:F:88:ALA:HB1 | 9:F:90:MET:HG2 | 1.95 | 0.47 |
| 14:K:155:ARG:CG | 14:K:156:TRP:H | 2.15 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 17:N:57:LYS:CG | 17:N:60:ARG:HH12 | 2.14 | 0.47 |
| 19:P:85:ILE:HD12 | 19:P:100:ILE:HA | 1.96 | 0.47 |
| 26:W:13:ASP:OD2 | 26:W:17:GLU:CB | 2.56 | 0.47 |
| 28:Y:3:LYS:HB3 | 28:Y:14:TRP:CG | 2.49 | 0.47 |
| 29:Z:33:ALA:HB2 | 29:Z:220:PRO:HG2 | 1.95 | 0.47 |
| 29:Z:60:GLY:O | 29:Z:163:PHE:HD1 | 1.98 | 0.47 |
| 3:3:93:ARG:CG | 3:3:93:ARG:NH1 | 2.77 | 0.47 |
| 6:A:1046:A:H3' | 6:A:1047:G:H8 | 1.79 | 0.47 |
| 6:A:1089:G:H1' | 6:A:1169:A:C2 | 2.49 | 0.47 |
| 6:A:345:C:H6 | 6:A:346:G:C2 | 2.33 | 0.47 |
| 6:A:59:A:C6 | 6:A:354:G:C6 | 3.03 | 0.47 |
| 6:A:89:U:O2' | 6:A:90:C:H5'' | 2.14 | 0.47 |
| 6:A:917:G:C2 | 6:A:918:A:C4 | 3.02 | 0.47 |
| 6:A:9:G:OP2 | 12:I:121:LYS:HD2 | 2.14 | 0.47 |
| 56:B:188:PRO:O | 56:B:189:LYS:HG3 | 2.14 | 0.47 |
| 56:B:241:LYS:CE | 56:B:243:GLY:HA2 | 2.45 | 0.47 |
| 56:B:525:ALA:O | 56:B:527:VAL:N | 2.48 | 0.47 |
| 7:D:1346:G:C2 | 7:D:1601:G:C2 | 3.02 | 0.47 |
| 7:D:1655:A:OP1 | 13:J:2:ARG:HD3 | 116.95 | 0.47 |
| 7:D:1689:A:C2 | 7:D:1690:A:C4 | 3.02 | 0.47 |
| 7:D:1784:A:H1' | 7:D:1785:A:OP2 | 2.15 | 0.47 |
| 7:D:1831:G:C6 | 7:D:1832:C:C4 | 3.02 | 0.47 |
| 7:D:1856:G:N7 | 7:D:1857:G:C2 | 2.82 | 0.47 |
| 7:D:2053:G:C6 | 7:D:2617:C:C4 | 3.03 | 0.47 |
| 7:D:2124:G:H22 | 7:D:2174:C:H42 | 1.63 | 0.47 |
| 7:D:2148:G:C2 | 7:D:2149:G:C2 | 3.02 | 0.47 |
| 7:D:2109:U:H1' | 7:D:2181:G:H22 | 1.79 | 0.47 |
| 7:D:2205:C:C4 | 7:D:2206:C:N4 | 2.82 | 0.47 |
| 7:D:2376:A:C6 | 7:D:2377:A:C5 | 3.03 | 0.47 |
| 7:D:2672:G:H5'' | 7:D:2673:G:OP2 | 2.15 | 0.47 |
| 7:D:2764:A:N7 | 7:D:2766:G:C6 | 2.82 | 0.47 |
| 7:D:2802:G:C8 | 7:D:2803:C:C5 | 3.03 | 0.47 |
| 7:D:293:U:C2 | 7:D:294:A:C8 | 3.03 | 0.47 |
| 7:D:339:U:O2' | 7:D:340:A:O5' | 2.31 | 0.47 |
| 7:D:341:G:N1 | 7:D:342:G:N3 | 2.63 | 0.47 |
| 7:D:363(F):A:H2' | 7:D:364:C:C1' | 2.45 | 0.47 |
| 7:D:470:A:H4' | 7:D:471:A:OP1 | 2.15 | 0.47 |
| 7:D:457:A:N6 | 7:D:470:A:H5'' | 2.30 | 0.47 |
| 7:D:607:U:C2 | 7:D:621:A:N6 | 2.82 | 0.47 |
| 7:D:609:A:H8 | 7:D:609:A:O5' | 1.98 | 0.47 |
| 7:D:627:A:C2 | 7:D:637:A:C4 | 3.02 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:878:A:O2' | 7:D:898:C:N4 | 2.48 | 0.47 |
| 7:D:894:C:N4 | 7:D:897:C:N4 | 2.59 | 0.47 |
| 7:D:999:U:C2 | 7:D:1154:G:N2 | 2.82 | 0.47 |
| 12:I:79:GLU:HB3 | 12:I:93:PRO:HD2 | 1.96 | 0.47 |
| 4:4:31:G:H5' | 16:M:127:LYS:HD2 | 1.96 | 0.47 |
| 6:A:1226:C:H42 | 20:Q:104:ARG:CD | 2.01 | 0.47 |
| 20:Q:97:PRO:O | 20:Q:99:ARG:N | 2.41 | 0.47 |
| 25:V:29:PHE:HD2 | 25:V:31:LEU:HD12 | 1.78 | 0.47 |
| 29:Z:112:ALA:HA | 29:Z:136:LEU:HD23 | 1.95 | 0.47 |
| 6:A:1170:A:O5' | 6:A:1170:A:H8 | 1.97 | 0.47 |
| 6:A:1196:U:H5' | 6:A:1197:G:H5' | 1.97 | 0.47 |
| 6:A:1256:A:OP2 | 6:A:1256:A:C8 | 2.68 | 0.47 |
| 6:A:1288:A:H2' | 6:A:1289:A:H8 | 1.77 | 0.47 |
| 6:A:131:C:O2' | 6:A:132:C:H5' | 2.15 | 0.47 |
| 6:A:1437:C:H2' | 6:A:1438:G:C8 | 2.50 | 0.47 |
| 6:A:19:C:C2 | 6:A:20:U:C5 | 3.03 | 0.47 |
| 6:A:236:G:H3' | 6:A:237:C:H6 | 1.80 | 0.47 |
| 6:A:250:A:N3 | 6:A:252:U:C4 | 2.83 | 0.47 |
| 6:A:44:G:C6 | 6:A:45:U:C2 | 3.03 | 0.47 |
| 6:A:494:U:O2 | 6:A:496:A:C6 | 2.66 | 0.47 |
| 6:A:670:G:H1 | 6:A:736:C:H42 | 1.61 | 0.47 |
| 56:B:16:ALA:HB1 | 56:B:106:VAL:O | 2.15 | 0.47 |
| 56:B:174:VAL:HG12 | 56:B:177:ILE:CG1 | 2.34 | 0.47 |
| 56:B:236:GLU:CA | 56:B:268:ILE:CG2 | 2.76 | 0.47 |
| 56:B:275:GLN:O | 56:B:277:GLY:N | 2.48 | 0.47 |
| 56:B:374:PRO:CG | 56:B:461:TYR:CD1 | 2.98 | 0.47 |
| 56:B:424:LEU:CD1 | 56:B:471:SER:HB3 | 2.44 | 0.47 |
| 56:B:489:LEU:O | 56:B:508:ALA:CB | 2.62 | 0.47 |
| 56:B:74:GLU:CG | 56:B:77:VAL:HG11 | 2.44 | 0.47 |
| 7:D:1041:C:H1' | 7:D:1115:G:N2 | 2.30 | 0.47 |
| 7:D:1084:A:C4' | 7:D:1106:G:C8 | 2.97 | 0.47 |
| 7:D:1177:A:C2 | 7:D:1178:C:C4 | 3.03 | 0.47 |
| 7:D:1273:U:O2' | 7:D:1274:A:H5'' | 2.14 | 0.47 |
| 7:D:1275:A:HO2' | 7:D:1276:A:P | 2.37 | 0.47 |
| 7:D:489:G:N9 | 7:D:1284:A:C6 | 2.83 | 0.47 |
| 7:D:1412:A:H2' | 7:D:1413:G:C8 | 2.50 | 0.47 |
| 7:D:1422:G:C2 | 7:D:1423:G:C8 | 3.02 | 0.47 |
| 7:D:1812:A:H2' | 7:D:1813:G:C8 | 2.50 | 0.47 |
| 7:D:1840:G:H1 | 7:D:1902:C:H42 | 1.63 | 0.47 |
| 7:D:1863:G:H8 | 7:D:1863:G:O5' | 1.97 | 0.47 |
| 7:D:1925:C:H2' | 7:D:1925:C:O2 | 2.15 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 7:D:2006:C:O2' | 7:D:2823:A:H1' | 2.15 | 0.47 |
| 7:D:2040:C:N3 | 7:D:2041:U:C4 | 2.82 | 0.47 |
| 7:D:2270:G:O6 | 7:D:2271:G:N1 | 2.48 | 0.47 |
| 7:D:2255:G:H1 | 7:D:2275:C:N4 | 2.13 | 0.47 |
| 7:D:2320:A:H3' | 7:D:2320:A:P | 2.55 | 0.47 |
| 7:D:23:G:N2 | 7:D:24:G:N3 | 2.63 | 0.47 |
| 7:D:410:G:O2' | 7:D:2407:G:OP2 | 2.31 | 0.47 |
| 7:D:2448:A:OP2 | 7:D:2499:C:OP2 | 2.33 | 0.47 |
| 7:D:2692:C:N4 | 7:D:2718:G:O6 | 2.48 | 0.47 |
| 7:D:2773:C:H2' | 7:D:2774:C:C6 | 2.50 | 0.47 |
| 7:D:2638:G:N2 | 7:D:2776:A:C8 | 2.81 | 0.47 |
| 7:D:28:A:C2 | 7:D:513:A:C8 | 3.03 | 0.47 |
| 7:D:295:G:P | 7:D:338:G:N1 | 2.80 | 0.47 |
| 7:D:299:A:C2 | 7:D:322:A:C8 | 3.03 | 0.47 |
| 7:D:327:G:H1 | 7:D:335:C:H42 | 1.61 | 0.47 |
| 7:D:381:G:N2 | 7:D:382:G:C4 | 2.83 | 0.47 |
| 7:D:464:U:H2' | 7:D:465:G:O4' | 2.15 | 0.47 |
| 7:D:556:G:C8 | 7:D:557:U:C5 | 3.02 | 0.47 |
| 7:D:598:G:H2' | 7:D:599:G:O4' | 2.15 | 0.47 |
| 7:D:680:G:N2 | 7:D:681:G:N3 | 2.63 | 0.47 |
| 7:D:741:G:C6 | 7:D:742:G:N7 | 2.82 | 0.47 |
| 7:D:807:U:C5 | 7:D:808:G:N7 | 2.83 | 0.47 |
| 7:D:812:C:O2' | 7:D:813:U:H5' | 2.14 | 0.47 |
| 7:D:894:C:H6 | 7:D:894:C:O5' | 1.97 | 0.47 |
| 9:F:100:GLY:O | 9:F:103:THR:N | 2.42 | 0.47 |
| 9:F:187:LEU:HD21 | 9:F:204:ASN:O | 2.14 | 0.47 |
| 10:G:65:ALA:O | 10:G:100:ALA:HB3 | 2.14 | 0.47 |
| 13:J:41:GLU:HB3 | 13:J:62:TRP:HE3 | 1.79 | 0.47 |
| 15:L:37:ARG:O | 15:L:41:ARG:HB2 | 2.14 | 0.47 |
| 20:Q:12:ASN:ND2 | 20:Q:44:ARG:HB3 | 2.29 | 0.47 |
| 20:Q:91:ARG:C | 20:Q:93:ARG:H | 2.18 | 0.47 |
| 27:X:81:LYS:HB3 | 27:X:85:MET:HE3 | 1.96 | 0.47 |
| 29:Z:74:VAL:HA | 29:Z:112:ALA:O | 2.15 | 0.47 |
| 3:3:132:ARG:NH2 | 7:D:1060:U:H2' | 2.30 | 0.47 |
| 4:4:4:G:N1 | 4:4:70:G:C6 | 2.82 | 0.47 |
| 5:5:68:C:H2' | 5:5:69:G:O4' | 2.15 | 0.47 |
| 6:A:1027:C:N4 | 6:A:1034:G:H1 | 2.13 | 0.47 |
| 6:A:1244:C:H2' | 6:A:1245:A:H8 | 1.79 | 0.47 |
| 6:A:1365:G:C6 | 6:A:1366:C:N3 | 2.83 | 0.47 |
| 6:A:738:C:OP1 | 13:J:92:LYS:HE3 | 2.15 | 0.47 |
| 6:A:741:G:H2' | 6:A:742:G:C8 | 2.50 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 6:A:92:G:H2' | 6:A:93:U:H5' | 1.95 | 0.47 |
| 6:A:962:C:H1' | 6:A:1201:A:C6 | 2.49 | 0.47 |
| 56:B:134:VAL:O | 56:B:134:VAL:HG13 | 2.15 | 0.47 |
| 56:B:174:VAL:CG1 | 56:B:177:ILE:CD1 | 2.93 | 0.47 |
| 56:B:20:HIS:CD2 | 56:B:108:ASP:N | 2.80 | 0.47 |
| 56:B:242:VAL:C | 56:B:256:LEU:HD11 | 2.34 | 0.47 |
| 56:B:347:GLY:HA2 | 56:B:354:ALA:HB2 | 1.96 | 0.47 |
| 56:B:459:ILE:CA | 56:B:463:PHE:CD2 | 2.97 | 0.47 |
| 7:D:1943:U:H5 | 56:B:531:GLN:NE2 | 2.12 | 0.47 |
| 7:D:1074:G:C2 | 7:D:1075:C:N4 | 2.83 | 0.47 |
| 7:D:1449:A:C5 | 7:D:1449(A):G:C8 | 3.02 | 0.47 |
| 7:D:1488:G:C2 | 7:D:1502:C:C2 | 3.03 | 0.47 |
| 7:D:1510:A:N7 | 7:D:1511:A:C6 | 2.83 | 0.47 |
| 7:D:155:C:O3' | 7:D:161:U:H3' | 2.15 | 0.47 |
| 7:D:1871:A:C2' | 7:D:1872:A:H8 | 2.11 | 0.47 |
| 7:D:1917:U:C5 | 7:D:1918:A:C2 | 3.02 | 0.47 |
| 7:D:199:A:O2' | 7:D:200:U:O5' | 2.23 | 0.47 |
| 7:D:2033:A:HO2' | 7:D:2034:U:P | 2.37 | 0.47 |
| 7:D:2115:G:O3' | 7:D:2117:A:N6 | 2.48 | 0.47 |
| 7:D:2450:A:N7 | 7:D:2501:C:N4 | 2.63 | 0.47 |
| 7:D:2044:C:N3 | 7:D:2625:G:C2 | 2.83 | 0.47 |
| 7:D:301:G:H1 | 7:D:316:C:H42 | 1.62 | 0.47 |
| 7:D:295:G:C2 | 7:D:344:G:C2 | 3.03 | 0.47 |
| 7:D:418:G:C6 | 7:D:419:C:C4 | 3.03 | 0.47 |
| 7:D:35:G:C6 | 7:D:446:G:N2 | 2.83 | 0.47 |
| 7:D:485:C:H42 | 7:D:486:C:H42 | 1.63 | 0.47 |
| 7:D:827:U:H4' | 7:D:828:U:C2 | 2.49 | 0.47 |
| 7:D:953:A:C6 | 7:D:965:C:N3 | 2.83 | 0.47 |
| 7:D:968:G:H5' | 7:D:969:U:OP2 | 2.14 | 0.47 |
| 12:I:33:VAL:HG11 | 12:I:109:ILE:HG13 | 1.96 | 0.47 |
| 14:K:51:GLN:HG3 | 14:K:58:PRO:HD3 | 1.96 | 0.47 |
| 15:L:41:ARG:NH1 | 15:L:42:GLU:OE2 | 2.48 | 0.47 |
| 19:P:66:VAL:HG21 | 19:P:98:TYR:HE2 | 1.80 | 0.47 |
| 21:R:6:LEU:HB3 | 21:R:23:ARG:NH2 | 2.29 | 0.47 |
| 26:W:21:GLU:O | 26:W:22:LEU:HB2 | 2.15 | 0.47 |
| 26:W:3:ARG:NH2 | 26:W:3:ARG:CG | 2.73 | 0.47 |
| 29:Z:66:HIS:H | 29:Z:158:ALA:HB1 | 1.78 | 0.47 |
| 29:Z:162:GLU:HG2 | 29:Z:163:PHE:H | 1.78 | 0.47 |
| 3:3:36:GLU:C | 3:3:38:VAL:H | 2.17 | 0.47 |
| 3:3:48:MET:O | 3:3:53:VAL:HG21 | 2.15 | 0.47 |
| 5:5:28:G:N2 | 5:5:43:C:C4 | 2.83 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 5:5:52:G:C2 | 5:5:63:G:C2 | 3.03 | 0.47 |
| 6:A:103:C:C2' | 6:A:104:G:H5' | 2.45 | 0.47 |
| 6:A:1076:C:C2 | 6:A:1082:G:N2 | 2.83 | 0.47 |
| 6:A:1104:G:O3' | 9:F:111:ARG:NH2 | 2.45 | 0.47 |
| 6:A:1135:U:H4' | 6:A:1136:U:C5 | 2.50 | 0.47 |
| 6:A:1294:G:C4 | 6:A:1295:G:N7 | 2.83 | 0.47 |
| 6:A:1454:G:C2 | 6:A:1455:G:C4 | 3.03 | 0.47 |
| 6:A:1440:C:O2 | 6:A:1462:G:N3 | 2.47 | 0.47 |
| 6:A:236:G:N3 | 6:A:236:G:H2' | 2.30 | 0.47 |
| 6:A:535:A:H5' | 6:A:536:C:H5 | 1.80 | 0.47 |
| 6:A:608:A:C4 | 6:A:609:A:C8 | 3.03 | 0.47 |
| 6:A:401:C:O2' | 6:A:621:A:N3 | 2.47 | 0.47 |
| 6:A:741:G:H2' | 6:A:742:G:O4' | 2.15 | 0.47 |
| 6:A:851:G:H2' | 6:A:852:G:C8 | 2.49 | 0.47 |
| 56:B:142:ASN:HD21 | 56:B:144:ARG:NH2 | 2.12 | 0.47 |
| 56:B:441:LEU:HD22 | 56:B:442:PRO:CD | 2.45 | 0.47 |
| 56:B:409:TYR:CD2 | 56:B:485:ARG:HD3 | 2.49 | 0.47 |
| 56:B:486:PRO:HG2 | 56:B:487:GLY:H | 1.79 | 0.47 |
| 56:B:504:LEU:CD1 | 56:B:504:LEU:N | 2.78 | 0.47 |
| 7:D:1003:G:C6 | 7:D:1153:C:N4 | 2.83 | 0.47 |
| 7:D:1353:A:C6 | 7:D:1378:A:C5 | 3.03 | 0.47 |
| 7:D:1456:G:N2 | 7:D:1457:A:C8 | 2.82 | 0.47 |
| 7:D:1705:G:C2 | 7:D:1706:U:O2 | 2.67 | 0.47 |
| 7:D:1857:G:H8 | 7:D:1858:G:H5'' | 1.79 | 0.47 |
| 7:D:1862:G:N2 | 7:D:1880:C:C2 | 2.79 | 0.47 |
| 7:D:1910:G:C2 | 7:D:1921:G:N3 | 2.83 | 0.47 |
| 7:D:2298:A:C6 | 7:D:2299:G:C4 | 3.03 | 0.47 |
| 7:D:2358:G:O5' | 7:D:2358:G:H8 | 1.98 | 0.47 |
| 7:D:2781:A:C6 | 7:D:2782:G:C2 | 3.03 | 0.47 |
| 7:D:460:A:C2 | 7:D:470:A:C6 | 3.03 | 0.47 |
| 7:D:495:G:N2 | 7:D:496:G:N3 | 2.62 | 0.47 |
| 7:D:557:U:O5' | 7:D:557:U:H6 | 1.98 | 0.47 |
| 7:D:686:G:H4' | 7:D:687:C:OP2 | 2.14 | 0.47 |
| 7:D:768:G:C2 | 7:D:769:G:C4 | 3.02 | 0.47 |
| 7:D:778:G:C6 | 7:D:779:U:C2 | 3.03 | 0.47 |
| 7:D:809:G:C2 | 7:D:810:U:O2 | 2.68 | 0.47 |
| 7:D:921:G:H5'' | 7:D:922:U:OP2 | 2.15 | 0.47 |
| 7:D:848:G:N2 | 7:D:931:G:O6 | 2.47 | 0.47 |
| 7:D:947:G:N2 | 7:D:948:G:N3 | 2.63 | 0.47 |
| 8:E:30:C:C4 | 8:E:31:C:H1' | 2.49 | 0.47 |
| 8:E:57:A:C8 | 8:E:58:A:C8 | 3.03 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-----------------|-------------------|--------------------------|-------------------|
| 11:H:68:TYR:CD2 | 11:H:97:LEU:HD13 | 2.50 | 0.47 |
| 19:P:84:LEU:O | 19:P:101:VAL:HG22 | 2.15 | 0.47 |
| 19:P:41:ARG:NH1 | 19:P:57:LYS:HE2 | 2.30 | 0.47 |
| 26:W:32:LYS:HB3 | 26:W:50:ALA:O | 2.14 | 0.47 |
| 28:Y:10:ARG:O | 28:Y:13:ILE:HG22 | 2.15 | 0.47 |
| 29:Z:59:ARG:CD | 29:Z:164:ARG:HH11 | 2.28 | 0.47 |
| 3:3:25:PRO:CA | 56:B:440:TYR:CZ | 2.84 | 0.47 |
| 3:3:5:VAL:HG13 | 3:3:5:VAL:O | 2.15 | 0.47 |
| 3:3:74:ALA:HA | 7:D:1061:U:OP1 | 2.15 | 0.47 |
| 6:A:1311:G:H2' | 6:A:1312:G:O5' | 2.15 | 0.47 |
| 6:A:937:A:C2 | 6:A:1379:G:C6 | 3.03 | 0.47 |
| 6:A:1415:G:C5 | 6:A:1486:G:C2 | 3.03 | 0.47 |
| 6:A:1461:G:N2 | 6:A:1462:G:C4 | 2.82 | 0.47 |
| 6:A:1511:G:H2' | 6:A:1512:U:O4' | 2.15 | 0.47 |
| 6:A:191(F):U:C2 | 27:X:105:SER:HB2 | 2.50 | 0.47 |
| 6:A:264:U:H6 | 6:A:264:U:OP2 | 1.97 | 0.47 |
| 6:A:275:G:C4 | 6:A:276:G:C8 | 3.03 | 0.47 |
| 6:A:563:A:C2 | 6:A:567:G:C4 | 3.03 | 0.47 |
| 6:A:773:G:H1 | 6:A:806:C:N4 | 2.13 | 0.47 |
| 56:B:34:HIS:ND1 | 56:B:35:ALA:N | 2.62 | 0.47 |
| 56:B:380:VAL:N | 56:B:406:LEU:HB3 | 2.28 | 0.47 |
| 7:D:1183:G:N2 | 7:D:1184:G:H1' | 2.30 | 0.47 |
| 7:D:1240:U:H3' | 7:D:1241:A:N7 | 2.30 | 0.47 |
| 7:D:1260:G:N2 | 7:D:1261:C:O2 | 2.48 | 0.47 |
| 7:D:1369:G:C2 | 7:D:1370:C:C2 | 3.03 | 0.47 |
| 7:D:1530:G:C5 | 7:D:1531:C:N4 | 2.83 | 0.47 |
| 7:D:1555:G:C2 | 7:D:1556:C:C2 | 3.03 | 0.47 |
| 7:D:1332:G:C5 | 7:D:1609:A:C6 | 3.03 | 0.47 |
| 7:D:1637:A:H4' | 7:D:2711:A:O2' | 2.15 | 0.47 |
| 7:D:1996:C:H2' | 7:D:1997:G:O4' | 2.15 | 0.47 |
| 7:D:203:C:C4 | 7:D:204:A:N7 | 2.83 | 0.47 |
| 7:D:2063:C:N4 | 7:D:2064:C:N4 | 2.62 | 0.47 |
| 7:D:2070:G:C2 | 7:D:2071:A:N3 | 2.83 | 0.47 |
| 7:D:2106:G:O5' | 7:D:2106:G:H8 | 1.98 | 0.47 |
| 7:D:2210:G:O2' | 7:D:2211:G:N7 | 2.48 | 0.47 |
| 7:D:919:G:C2 | 7:D:2268:A:C8 | 3.02 | 0.47 |
| 7:D:2315:G:H2' | 7:D:2316:C:H6 | 1.80 | 0.47 |
| 7:D:2410:G:C6 | 7:D:2411:A:C4 | 3.03 | 0.47 |
| 7:D:2528:U:HO2' | 7:D:2529:G:P | 2.37 | 0.47 |
| 7:D:1457:A:C6 | 7:D:2703:C:N4 | 2.82 | 0.47 |
| 7:D:283:A:N1 | 7:D:358:U:N3 | 2.63 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 7:D:46:C:OP2 | 7:D:215:G:C2' | 2.54 | 0.47 |
| 8:E:92:G:N2 | 8:E:93:C:O2 | 2.48 | 0.47 |
| 10:G:184:TYR:HE1 | 10:G:201:TYR:HE1 | 1.62 | 0.47 |
| 10:G:22:TRP:CG | 10:G:59:ARG:NH1 | 2.83 | 0.47 |
| 11:H:63:LYS:O | 11:H:67:ILE:HG23 | 2.14 | 0.47 |
| 18:O:33:THR:HG22 | 18:O:39:PRO:CA | 2.39 | 0.47 |
| 19:P:27:LEU:HG | 19:P:28:LYS:H | 1.80 | 0.47 |
| 20:Q:55:ARG:HA | 20:Q:58:GLU:CG | 2.45 | 0.47 |
| 20:Q:88:ARG:NH1 | 20:Q:88:ARG:CG | 2.73 | 0.47 |
| 3:3:132:ARG:CZ | 7:D:1080:C:H42 | 2.28 | 0.46 |
| 3:3:132:ARG:O | 7:D:1077:A:N3 | 2.48 | 0.46 |
| 3:3:25:PRO:O | 3:3:29:GLN:HB3 | 2.15 | 0.46 |
| 3:3:55:VAL:HG23 | 3:3:69:THR:HA | 1.97 | 0.46 |
| 5:5:74:C:O5' | 5:5:75:C:OP2 | 2.32 | 0.46 |
| 6:A:1023:G:OP2 | 6:A:1024:G:N7 | 2.49 | 0.46 |
| 6:A:1088:G:C2 | 6:A:1098:C:C2 | 3.04 | 0.46 |
| 6:A:113:G:C2 | 6:A:315:A:C2 | 3.03 | 0.46 |
| 6:A:1147:C:O2 | 6:A:1148:U:H5 | 1.98 | 0.46 |
| 6:A:1494:G:H1' | 6:A:1495:U:C5 | 2.50 | 0.46 |
| 6:A:165:C:H2' | 6:A:166:G:H8 | 1.80 | 0.46 |
| 6:A:481:G:H4' | 6:A:482:A:OP1 | 2.13 | 0.46 |
| 6:A:648:A:H2' | 6:A:649:G:H8 | 1.78 | 0.46 |
| 6:A:703:G:HO2' | 6:A:704:A:P | 2.29 | 0.46 |
| 6:A:695:A:N6 | 6:A:797:C:H1' | 2.31 | 0.46 |
| 6:A:812:C:H2' | 6:A:813:U:OP2 | 2.15 | 0.46 |
| 6:A:958:A:OP2 | 6:A:959:A:OP2 | 2.33 | 0.46 |
| 56:B:16:ALA:O | 56:B:22:LYS:HD2 | 2.15 | 0.46 |
| 56:B:196:LEU:CD2 | 56:B:282:LEU:HG | 2.45 | 0.46 |
| 56:B:218:PHE:CE1 | 56:B:291:TYR:CD2 | 3.03 | 0.46 |
| 56:B:22:LYS:C | 57:B:701:GCP:O2B | 2.53 | 0.46 |
| 56:B:306:TYR:CE1 | 56:B:339:ALA:C | 2.83 | 0.46 |
| 56:B:330:LEU:CD2 | 56:B:346:CYS:CA | 2.92 | 0.46 |
| 56:B:306:TYR:CB | 56:B:370:ILE:HG21 | 2.41 | 0.46 |
| 56:B:431:LYS:CB | 56:B:458:GLU:CG | 2.83 | 0.46 |
| 56:B:543:GLY:O | 56:B:544:LYS:HG2 | 2.16 | 0.46 |
| 7:D:1942:C:O2' | 56:B:577:GLN:HA | 2.16 | 0.46 |
| 56:B:65:ARG:CG | 56:B:246:THR:N | 2.78 | 0.46 |
| 56:B:92:GLU:O | 56:B:97:LEU:N | 2.48 | 0.46 |
| 7:D:1113:U:H2' | 7:D:1114:G:C8 | 2.49 | 0.46 |
| 7:D:1205:U:O2 | 7:D:1205:U:H2' | 2.15 | 0.46 |
| 7:D:122:G:C6 | 7:D:123:G:N7 | 2.83 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 7:D:1301:A:N6 | 7:D:1303:G:C4 | 2.82 | 0.46 |
| 7:D:1416:G:O2' | 7:D:1417:C:O4' | 2.32 | 0.46 |
| 7:D:145:G:H2' | 7:D:146:G:C8 | 2.49 | 0.46 |
| 7:D:121:G:H5'' | 7:D:149:A:H5' | 1.97 | 0.46 |
| 7:D:1511:A:H2' | 7:D:1512:G:C8 | 2.49 | 0.46 |
| 7:D:1784:A:N3 | 7:D:1785:A:N6 | 2.64 | 0.46 |
| 7:D:17:G:C4 | 7:D:18:C:C5 | 3.03 | 0.46 |
| 7:D:2413:G:N2 | 7:D:2414:G:C4 | 2.83 | 0.46 |
| 7:D:2051:A:C4 | 7:D:2614:A:N6 | 2.83 | 0.46 |
| 7:D:2740:A:C2 | 7:D:2741:A:C6 | 3.03 | 0.46 |
| 7:D:2819:G:C2 | 7:D:2821:A:C5 | 3.03 | 0.46 |
| 7:D:295:G:OP2 | 7:D:338:G:C2 | 2.68 | 0.46 |
| 7:D:29:U:H6 | 7:D:29:U:O5' | 1.99 | 0.46 |
| 7:D:752:A:HO2' | 7:D:753:C:P | 2.38 | 0.46 |
| 7:D:900:A:H2' | 7:D:901:A:O4' | 2.15 | 0.46 |
| 9:F:181:PHE:HD1 | 15:L:71:GLY:HA3 | 1.79 | 0.46 |
| 9:F:22:LYS:O | 9:F:24:TRP:HD1 | 1.98 | 0.46 |
| 10:G:33:LEU:O | 10:G:36:ASP:HB3 | 2.15 | 0.46 |
| 12:I:51:VAL:HB | 12:I:52:PRO:HD3 | 1.97 | 0.46 |
| 16:M:20:ARG:O | 16:M:60:ASP:HB2 | 2.15 | 0.46 |
| 7:D:2884:U:C2 | 26:W:52:TYR:HD1 | 170.69 | 0.46 |
| 26:W:70:LYS:HB3 | 26:W:73:GLU:N | 2.29 | 0.46 |
| 5:5:54:U:H3 | 5:5:58:A:N6 | 2.04 | 0.46 |
| 6:A:1084:G:H2' | 6:A:1085:U:H2' | 1.96 | 0.46 |
| 6:A:1089:G:O2' | 6:A:1169:A:N1 | 2.34 | 0.46 |
| 6:A:1287:A:H2' | 6:A:1288:A:C8 | 2.50 | 0.46 |
| 6:A:285:G:C4 | 6:A:286:G:C8 | 3.04 | 0.46 |
| 6:A:498:A:O4' | 6:A:500:G:H5' | 2.16 | 0.46 |
| 6:A:519:C:C2 | 6:A:520:A:C8 | 3.03 | 0.46 |
| 6:A:544:G:C6 | 6:A:545:C:C4 | 3.03 | 0.46 |
| 6:A:498:A:N1 | 6:A:547:A:N9 | 2.64 | 0.46 |
| 6:A:550:G:H2' | 6:A:551:U:C6 | 2.50 | 0.46 |
| 6:A:585:G:H1 | 6:A:756:C:N4 | 2.13 | 0.46 |
| 6:A:690:G:C6 | 6:A:691:G:C6 | 3.03 | 0.46 |
| 6:A:769:G:N2 | 6:A:770:C:C2 | 2.83 | 0.46 |
| 6:A:80:G:C4 | 6:A:81:G:C8 | 3.02 | 0.46 |
| 56:B:230:ILE:HG12 | 56:B:279:THR:HA | 1.97 | 0.46 |
| 56:B:386:GLU:HG2 | 56:B:401:ARG:HG3 | 1.97 | 0.46 |
| 56:B:425:MET:HG2 | 56:B:452:TYR:HH | 1.75 | 0.46 |
| 56:B:434:ARG:O | 56:B:452:TYR:CA | 2.47 | 0.46 |
| 56:B:474:TYR:C | 56:B:475:ALA:O | 2.52 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 56:B:559:LEU:HG | 56:B:559:LEU:H | 1.47 | 0.46 |
| 56:B:88:ASP:O | 56:B:349:LEU:CD1 | 2.58 | 0.46 |
| 7:D:1067:A:H2' | 7:D:1068:G:C4 | 2.50 | 0.46 |
| 7:D:1095:A:H2' | 7:D:1096:A:O4' | 2.14 | 0.46 |
| 7:D:130:C:H2' | 7:D:131:G:O4' | 2.16 | 0.46 |
| 7:D:1468:C:H42 | 7:D:1524:G:H1 | 1.62 | 0.46 |
| 7:D:152:G:C6 | 7:D:153:C:C4 | 3.03 | 0.46 |
| 7:D:1670:C:C4 | 7:D:1671:U:C2 | 3.03 | 0.46 |
| 7:D:1823:G:C2 | 7:D:1824:G:C8 | 3.03 | 0.46 |
| 7:D:1928:A:H8 | 7:D:1928:A:OP2 | 1.98 | 0.46 |
| 7:D:2335:A:N6 | 7:D:2337:G:C4 | 2.82 | 0.46 |
| 1:1:10:ILE:HG21 | 7:D:2477:C:H42 | 1.81 | 0.46 |
| 7:D:255:A:N6 | 7:D:256:A:C6 | 2.83 | 0.46 |
| 7:D:2648:C:O2 | 7:D:2673:G:N2 | 2.48 | 0.46 |
| 7:D:2781:A:N1 | 7:D:2782:G:N3 | 2.62 | 0.46 |
| 7:D:2837:G:C2 | 7:D:2882:A:C2 | 3.03 | 0.46 |
| 7:D:2873:A:O2' | 7:D:2874:C:OP1 | 2.31 | 0.46 |
| 7:D:2629:A:N6 | 7:D:2896:C:O4' | 2.48 | 0.46 |
| 7:D:585:G:N3 | 7:D:1251:C:N4 | 2.63 | 0.46 |
| 7:D:612:G:H1' | 7:D:617:G:N2 | 2.29 | 0.46 |
| 7:D:743:G:N1 | 7:D:744:G:C4 | 2.84 | 0.46 |
| 7:D:744:G:N2 | 7:D:754:C:C2 | 2.83 | 0.46 |
| 7:D:860:U:N3 | 7:D:917:A:N6 | 2.55 | 0.46 |
| 8:E:53:A:C5 | 8:E:54:G:N7 | 2.83 | 0.46 |
| 10:G:141:VAL:O | 10:G:144:SER:OG | 2.24 | 0.46 |
| 11:H:125:HIS:HA | 11:H:149:ALA:CB | 2.45 | 0.46 |
| 11:H:185:PHE:CZ | 11:H:188:LEU:HD23 | 2.50 | 0.46 |
| 12:I:40:ARG:HG2 | 12:I:66:MET:CE | 2.46 | 0.46 |
| 13:J:40:VAL:O | 13:J:41:GLU:HB2 | 2.15 | 0.46 |
| 16:M:4:TYR:CE2 | 16:M:88:TYR:HD1 | 2.34 | 0.46 |
| 20:Q:80:ARG:CG | 20:Q:80:ARG:NH1 | 2.79 | 0.46 |
| 26:W:40:ILE:CG1 | 26:W:67:VAL:O | 2.62 | 0.46 |
| 29:Z:174:PRO:O | 29:Z:175:VAL:HG13 | 2.15 | 0.46 |
| 29:Z:200:LYS:HZ2 | 29:Z:208:PHE:CB | 2.28 | 0.46 |
| 29:Z:20:TYR:O | 29:Z:225:ASN:ND2 | 2.49 | 0.46 |
| 4:4:12:G:N1 | 4:4:13:C:C2 | 2.83 | 0.46 |
| 6:A:1156:G:H21 | 6:A:1179:A:H2 | 1.62 | 0.46 |
| 6:A:1203:C:OP1 | 21:R:2:ALA:N | 2.48 | 0.46 |
| 6:A:1319:A:C5 | 6:A:1323:G:C4 | 3.04 | 0.46 |
| 6:A:1452:C:C1' | 6:A:1453:G:N2 | 2.78 | 0.46 |
| 6:A:156:G:C5 | 6:A:166:G:C6 | 3.03 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 6:A:230:G:C6 | 6:A:231:G:N7 | 2.84 | 0.46 |
| 6:A:237:C:H2' | 6:A:238:G:H8 | 1.81 | 0.46 |
| 6:A:767:A:O5' | 6:A:767:A:H8 | 1.97 | 0.46 |
| 6:A:767:A:H2' | 6:A:768:A:O4' | 2.15 | 0.46 |
| 56:B:372:THR:HG22 | 56:B:373:ALA:N | 2.29 | 0.46 |
| 56:B:335:GLU:HG2 | 56:B:375:SER:OG | 2.07 | 0.46 |
| 56:B:432:ARG:HH21 | 56:B:487:GLY:HA3 | 1.79 | 0.46 |
| 7:D:1177:A:N3 | 7:D:1178:C:C6 | 2.83 | 0.46 |
| 7:D:1203:G:OP1 | 7:D:1204:A:H8 | 1.98 | 0.46 |
| 7:D:1277:G:C2 | 7:D:1278:A:C4 | 3.03 | 0.46 |
| 7:D:1312:U:H2' | 7:D:1313:U:C6 | 2.50 | 0.46 |
| 7:D:1427:A:O2' | 7:D:1428:C:P | 2.73 | 0.46 |
| 7:D:1650:G:C2 | 7:D:1651:G:C8 | 3.04 | 0.46 |
| 7:D:1784:A:N7 | 7:D:1981:A:C6 | 2.83 | 0.46 |
| 7:D:1764:G:C5 | 7:D:1989:G:N2 | 2.83 | 0.46 |
| 7:D:2287:A:N6 | 7:D:2344:U:N3 | 2.62 | 0.46 |
| 7:D:2310:A:O2' | 7:D:2311:A:O5' | 2.27 | 0.46 |
| 7:D:2370:G:C5 | 7:D:2371:G:C5 | 3.03 | 0.46 |
| 7:D:2397:G:C2 | 7:D:2398:U:C2 | 3.03 | 0.46 |
| 7:D:2246:G:N2 | 7:D:2426:A:H1' | 2.30 | 0.46 |
| 7:D:2595:G:N2 | 7:D:2599:G:C4 | 2.83 | 0.46 |
| 7:D:2653:U:C2 | 7:D:2654:A:N7 | 2.83 | 0.46 |
| 7:D:270(J):G:C2 | 7:D:270(K):C:C2 | 3.03 | 0.46 |
| 7:D:279:C:N4 | 7:D:359:A:C2 | 2.81 | 0.46 |
| 7:D:685:A:N9 | 7:D:774:A:N6 | 2.63 | 0.46 |
| 7:D:725:G:C6 | 7:D:726:G:N2 | 2.83 | 0.46 |
| 7:D:766:C:C4 | 7:D:767:U:C4 | 3.03 | 0.46 |
| 7:D:930:U:O4' | 7:D:932:G:C5 | 2.68 | 0.46 |
| 7:D:821:A:N7 | 7:D:946:G:C5 | 2.84 | 0.46 |
| 12:I:147:ASP:HA | 12:I:150:ARG:HB2 | 1.96 | 0.46 |
| 7:D:456:C:C4 | 19:P:69:TYR:HD2 | 140.08 | 0.46 |
| 23:T:22:THR:OG1 | 23:T:23:ASP:N | 2.47 | 0.46 |
| 29:Z:3:HIS:O | 29:Z:5:LYS:N | 2.44 | 0.46 |
| 3:3:21:PRO:CG | 3:3:22:PRO:HD3 | 2.45 | 0.46 |
| 3:3:23:VAL:HG13 | 3:3:27:LEU:HG | 1.97 | 0.46 |
| 4:4:12:G:H2' | 4:4:13:C:O4' | 2.15 | 0.46 |
| 5:5:8:U:O2 | 5:5:21:A:H2 | 1.98 | 0.46 |
| 6:A:1044:A:C5 | 6:A:1045:C:H1' | 2.50 | 0.46 |
| 6:A:1084:G:H3' | 6:A:1086:U:C5 | 2.50 | 0.46 |
| 6:A:1196:U:O2' | 6:A:1197:G:OP2 | 2.25 | 0.46 |
| 6:A:1215:G:C2 | 6:A:1216:G:C8 | 3.03 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 6:A:1326:C:H2' | 6:A:1327:C:C5 | 2.50 | 0.46 |
| 6:A:159:G:H2' | 6:A:161:A:OP2 | 2.15 | 0.46 |
| 6:A:200:G:N3 | 6:A:201:C:N4 | 2.63 | 0.46 |
| 6:A:270:A:C5 | 6:A:271:C:C4 | 3.03 | 0.46 |
| 6:A:345:C:OP2 | 6:A:345:C:H3' | 2.16 | 0.46 |
| 6:A:357:G:H2' | 6:A:358:U:H6 | 1.79 | 0.46 |
| 6:A:381:C:C4 | 6:A:382:A:C6 | 3.04 | 0.46 |
| 6:A:408:A:C6 | 6:A:409:G:C5 | 3.03 | 0.46 |
| 6:A:5:U:H5' | 6:A:6:G:C8 | 2.50 | 0.46 |
| 56:B:11:ASN:O | 56:B:100:VAL:HG12 | 2.14 | 0.46 |
| 56:B:201:PHE:CD2 | 56:B:215:LEU:HA | 2.51 | 0.46 |
| 56:B:245:PHE:CZ | 56:B:263:TRP:N | 2.84 | 0.46 |
| 56:B:229:ARG:NH2 | 56:B:286:PRO:CD | 2.61 | 0.46 |
| 56:B:352:LEU:HD13 | 56:B:356:ILE:HD11 | 1.97 | 0.46 |
| 56:B:584:LEU:C | 56:B:586:ALA:N | 2.66 | 0.46 |
| 7:D:1084:A:C8 | 7:D:1085:A:N7 | 2.83 | 0.46 |
| 7:D:119:A:O2' | 7:D:120:U:O5' | 2.27 | 0.46 |
| 7:D:1228:G:H5' | 7:D:1229:G:OP2 | 2.16 | 0.46 |
| 7:D:1286:A:C2 | 7:D:1329:U:C2 | 3.03 | 0.46 |
| 7:D:1410:G:C5 | 7:D:1411:C:C5 | 3.03 | 0.46 |
| 7:D:1425:G:C6 | 7:D:1426:G:C6 | 3.03 | 0.46 |
| 7:D:1449(A):G:H2' | 7:D:1450:C:O4' | 2.16 | 0.46 |
| 7:D:1504:C:H2' | 7:D:1505:C:C6 | 2.51 | 0.46 |
| 7:D:152:G:H8 | 7:D:152:G:O5' | 1.98 | 0.46 |
| 7:D:154:G:N1 | 7:D:155:C:C2 | 2.83 | 0.46 |
| 7:D:1708:C:H5'' | 7:D:1709:U:OP2 | 2.15 | 0.46 |
| 7:D:1732:A:H3' | 7:D:1733:G:C5' | 2.46 | 0.46 |
| 7:D:215:G:H4' | 7:D:216:A:H4' | 1.97 | 0.46 |
| 7:D:2194:G:C6 | 7:D:2195:C:N4 | 2.84 | 0.46 |
| 7:D:2209:C:H2' | 7:D:2211:G:P | 2.55 | 0.46 |
| 7:D:2565:A:H2' | 7:D:2566:A:H1' | 1.96 | 0.46 |
| 7:D:747:U:N3 | 7:D:2613:U:H5 | 2.14 | 0.46 |
| 7:D:266:G:C2 | 7:D:267:C:H1' | 2.51 | 0.46 |
| 7:D:1638:C:H5'' | 7:D:2710:C:O2' | 2.15 | 0.46 |
| 7:D:479:A:O2' | 7:D:480:A:H8 | 1.94 | 0.46 |
| 7:D:503:A:C2 | 7:D:506:G:C4 | 3.04 | 0.46 |
| 7:D:800:A:H8 | 7:D:800:A:O5' | 1.98 | 0.46 |
| 7:D:881:G:H2' | 7:D:882:G:C5' | 2.44 | 0.46 |
| 7:D:884:C:O2 | 7:D:885:C:C6 | 2.62 | 0.46 |
| 8:E:14:U:HO2' | 8:E:106:G:N2 | 2.11 | 0.46 |
| 8:E:92:G:C2 | 8:E:93:C:C2 | 3.04 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 10:G:140:ARG:HA | 10:G:143:GLU:HB2 | 1.98 | 0.46 |
| 12:I:91:LEU:CD2 | 12:I:118:ILE:HG21 | 2.46 | 0.46 |
| 24:U:97:SER:O | 24:U:103:GLY:N | 2.49 | 0.46 |
| 6:A:1318:A:H1' | 26:W:34:TRP:CZ3 | 2.50 | 0.46 |
| 4:4:17:C:OP2 | 4:4:17(A):U:H5 | 1.98 | 0.46 |
| 6:A:1063:C:N4 | 6:A:1193:G:H1 | 2.14 | 0.46 |
| 6:A:234:C:H2' | 6:A:235:C:C6 | 2.51 | 0.46 |
| 6:A:254:G:C6 | 6:A:273:A:C6 | 3.03 | 0.46 |
| 6:A:451:A:H8 | 6:A:451:A:O5' | 1.98 | 0.46 |
| 6:A:51:A:H4' | 6:A:52:G:H5' | 1.97 | 0.46 |
| 6:A:802:A:C4 | 6:A:803:G:C8 | 3.03 | 0.46 |
| 6:A:831:U:H2' | 6:A:832:C:H6 | 1.80 | 0.46 |
| 6:A:838:G:N1 | 6:A:849:C:C4 | 2.71 | 0.46 |
| 6:A:925:G:N3 | 6:A:927:G:C8 | 2.84 | 0.46 |
| 56:B:147:GLU:O | 56:B:150:LEU:HB2 | 2.16 | 0.46 |
| 56:B:380:VAL:N | 56:B:406:LEU:HD22 | 2.31 | 0.46 |
| 56:B:492:VAL:CG2 | 56:B:541:ILE:HG21 | 2.43 | 0.46 |
| 56:B:69:ARG:HH21 | 56:B:178:LEU:HD12 | 1.78 | 0.46 |
| 56:B:58:THR:HG1 | 56:B:84:PRO:CG | 2.28 | 0.46 |
| 7:D:1024:G:N1 | 7:D:1139:G:N2 | 2.63 | 0.46 |
| 7:D:1229:G:C5 | 7:D:1230:C:C4 | 3.03 | 0.46 |
| 7:D:1256:G:C5 | 7:D:1257:C:C5 | 3.04 | 0.46 |
| 7:D:1482:U:H3' | 7:D:1482:U:O2 | 2.15 | 0.46 |
| 7:D:1629:U:H2' | 7:D:1630:G:H8 | 1.80 | 0.46 |
| 7:D:1707:G:H2' | 7:D:1708:C:O4' | 2.14 | 0.46 |
| 7:D:1798:U:C2 | 7:D:1822:G:N2 | 2.83 | 0.46 |
| 7:D:1839:G:C5 | 7:D:1840:G:C8 | 3.04 | 0.46 |
| 7:D:1869:G:C2' | 7:D:1871:A:N7 | 2.76 | 0.46 |
| 7:D:1871:A:C2 | 7:D:1872:A:C5 | 3.03 | 0.46 |
| 7:D:1869:G:C6 | 7:D:1878:G:O6 | 2.68 | 0.46 |
| 7:D:2013:A:H2' | 7:D:2014:A:H8 | 1.80 | 0.46 |
| 7:D:2054:A:H62 | 7:D:2577:A:H61 | 1.63 | 0.46 |
| 7:D:2192:G:C2 | 7:D:2193:G:C8 | 3.04 | 0.46 |
| 7:D:2301:C:H2' | 7:D:2302:G:C8 | 2.51 | 0.46 |
| 7:D:238:C:O2 | 7:D:260:G:C2 | 2.69 | 0.46 |
| 7:D:2511:U:H2' | 7:D:2512:C:O4' | 2.16 | 0.46 |
| 7:D:489:G:C2 | 7:D:491:G:C2 | 3.04 | 0.46 |
| 7:D:558:G:N3 | 7:D:559:G:N7 | 2.64 | 0.46 |
| 7:D:707:G:O6 | 7:D:725:G:N2 | 2.49 | 0.46 |
| 7:D:785:G:C2 | 7:D:786:C:C2 | 3.03 | 0.46 |
| 7:D:828:U:O2' | 7:D:829:A:O4' | 2.32 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 7:D:852:G:C4 | 7:D:926:A:N1 | 2.84 | 0.46 |
| 10:G:19:GLU:OE1 | 10:G:19:GLU:N | 2.48 | 0.46 |
| 14:K:52:GLU:HG2 | 14:K:53:LYS:HD3 | 1.97 | 0.46 |
| 6:A:1248:A:H1' | 16:M:70:LYS:HZ1 | 1.80 | 0.46 |
| 6:A:1492:A:OP1 | 19:P:47:LYS:HB3 | 2.16 | 0.46 |
| 20:Q:36:LYS:HG3 | 20:Q:37:THR:N | 2.31 | 0.46 |
| 6:A:280:C:C5 | 24:U:91:ARG:NH1 | 2.83 | 0.46 |
| 26:W:66:MET:C | 26:W:66:MET:SD | 2.94 | 0.46 |
| 6:A:1320:C:O2' | 26:W:73:GLU:HB3 | 2.15 | 0.46 |
| 29:Z:200:LYS:HZ3 | 29:Z:208:PHE:HB2 | 1.81 | 0.46 |
| 5:5:4:C:N4 | 5:5:69:G:H1 | 2.09 | 0.46 |
| 6:A:1015:A:H2' | 6:A:1016:A:H8 | 1.81 | 0.46 |
| 6:A:1023:G:C6 | 6:A:1024:G:C4 | 3.04 | 0.46 |
| 6:A:1182:G:OP2 | 6:A:1182:G:C5 | 2.68 | 0.46 |
| 6:A:1380:U:N3 | 14:K:3:ARG:NH1 | 2.64 | 0.46 |
| 6:A:1520:G:C2 | 6:A:1521:G:C4 | 3.04 | 0.46 |
| 6:A:16:A:O2' | 6:A:17:U:H5' | 2.16 | 0.46 |
| 6:A:422:C:H4' | 6:A:423:G:N3 | 2.30 | 0.46 |
| 6:A:513:C:H2' | 6:A:514:C:C6 | 2.51 | 0.46 |
| 6:A:607:A:H2' | 6:A:608:A:O4' | 2.16 | 0.46 |
| 6:A:688:G:H1 | 6:A:699:C:H42 | 1.63 | 0.46 |
| 6:A:767:A:H2' | 6:A:768:A:C8 | 2.50 | 0.46 |
| 6:A:814:A:OP2 | 6:A:816:A:N6 | 2.48 | 0.46 |
| 56:B:12:PHE:HB2 | 56:B:102:GLY:O | 2.16 | 0.46 |
| 56:B:211:VAL:HG12 | 56:B:212:ILE:N | 2.31 | 0.46 |
| 56:B:317:ARG:N | 56:B:317:ARG:HD2 | 2.31 | 0.46 |
| 56:B:338:THR:O | 56:B:339:ALA:CB | 2.64 | 0.46 |
| 7:D:1049:C:C4 | 7:D:1050:A:N7 | 2.84 | 0.46 |
| 7:D:1056:G:H8 | 7:D:1056:G:H3' | 1.81 | 0.46 |
| 7:D:1416:G:N2 | 7:D:1417:C:N4 | 2.64 | 0.46 |
| 7:D:1613:G:C4 | 7:D:1617:C:N4 | 2.84 | 0.46 |
| 7:D:1633:G:C5 | 7:D:1635:G:C5 | 3.04 | 0.46 |
| 7:D:48:G:C2 | 7:D:178:G:C6 | 3.03 | 0.46 |
| 7:D:1897:G:C2 | 7:D:1898:U:C2 | 3.04 | 0.46 |
| 7:D:2012:G:O2' | 7:D:2013:A:O5' | 2.31 | 0.46 |
| 7:D:2069:G:C2 | 7:D:2070:G:C8 | 3.04 | 0.46 |
| 7:D:2116:G:H3' | 7:D:2117:A:C2 | 2.50 | 0.46 |
| 7:D:2116:G:N7 | 7:D:2165:G:N2 | 2.62 | 0.46 |
| 7:D:226:G:N2 | 7:D:227:A:C2 | 2.83 | 0.46 |
| 7:D:2848:G:N1 | 7:D:2867:G:N3 | 2.64 | 0.46 |
| 7:D:429:A:N7 | 7:D:430:G:C6 | 2.84 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 7:D:500:G:H22 | 7:D:503:A:P | 2.39 | 0.46 |
| 7:D:649:G:H2' | 7:D:650:C:O4' | 2.15 | 0.46 |
| 7:D:689:A:N3 | 7:D:779:U:O2' | 2.49 | 0.46 |
| 7:D:699:A:H1' | 7:D:1634:A:N7 | 2.31 | 0.46 |
| 7:D:702:G:C2 | 7:D:703:U:C2 | 3.04 | 0.46 |
| 7:D:888:C:H4' | 7:D:889:C:OP1 | 2.15 | 0.46 |
| 8:E:110:G:H2' | 8:E:111:U:O4' | 2.16 | 0.46 |
| 11:H:146:ILE:O | 11:H:183:GLY:N | 2.38 | 0.46 |
| 13:J:14:LEU:HD21 | 13:J:18:GLN:HB3 | 1.98 | 0.46 |
| 15:L:49:GLU:OE2 | 15:L:60:ARG:HD2 | 2.15 | 0.46 |
| 3:3:137:GLU:CB | 7:D:1078:U:H5'' | 2.44 | 0.46 |
| 6:A:102:G:N2 | 6:A:103:C:C2 | 2.84 | 0.46 |
| 6:A:1119:C:N3 | 6:A:1154:G:N1 | 2.59 | 0.46 |
| 6:A:1225:A:OP2 | 6:A:1225:A:H3' | 2.15 | 0.46 |
| 6:A:1316:G:H22 | 6:A:1319:A:C5' | 2.29 | 0.46 |
| 6:A:158:G:C6 | 6:A:159:G:C5 | 3.04 | 0.46 |
| 6:A:45:U:H2' | 6:A:46:G:C8 | 2.50 | 0.46 |
| 6:A:475:G:O5' | 6:A:475:G:H8 | 1.98 | 0.46 |
| 6:A:738:C:P | 13:J:92:LYS:NZ | 2.89 | 0.46 |
| 6:A:748:C:O2' | 6:A:749:C:O5' | 2.34 | 0.46 |
| 6:A:77:C:N4 | 6:A:78:G:O6 | 2.48 | 0.46 |
| 6:A:75:C:O2 | 6:A:96:G:C4 | 2.69 | 0.46 |
| 6:A:95:G:H2' | 6:A:96:G:C8 | 2.51 | 0.46 |
| 56:B:144:ARG:N | 56:B:144:ARG:HD2 | 2.31 | 0.46 |
| 56:B:23:SER:HB2 | 57:B:701:GCP:O2B | 2.15 | 0.46 |
| 56:B:223:ARG:HD2 | 56:B:255:ALA:HB2 | 1.97 | 0.46 |
| 56:B:360:ARG:C | 56:B:364:GLU:OE1 | 2.54 | 0.46 |
| 56:B:409:TYR:HB3 | 56:B:453:GLU:CG | 2.45 | 0.46 |
| 56:B:562:CYS:CB | 56:B:570:LYS:NZ | 2.78 | 0.46 |
| 7:D:1138:G:C6 | 7:D:1139:G:C6 | 3.04 | 0.46 |
| 7:D:1310:G:O2' | 7:D:1311:G:OP1 | 2.27 | 0.46 |
| 7:D:1499:C:H2' | 7:D:1500:G:H8 | 1.81 | 0.46 |
| 7:D:1792:G:C6 | 7:D:1793:C:C4 | 3.03 | 0.46 |
| 7:D:2106:G:C5 | 7:D:2108:C:N4 | 2.84 | 0.46 |
| 7:D:216:A:H2' | 7:D:217:G:C8 | 2.50 | 0.46 |
| 7:D:2249:U:O2' | 7:D:2250:G:OP1 | 2.33 | 0.46 |
| 7:D:248:G:O2' | 7:D:2432:A:OP1 | 2.15 | 0.46 |
| 7:D:2588:G:C5 | 7:D:2589:A:C8 | 3.04 | 0.46 |
| 7:D:2700:C:H42 | 7:D:2707:G:H1 | 1.62 | 0.46 |
| 7:D:270(M):U:C4' | 7:D:270(N):G:H4' | 2.45 | 0.46 |
| 7:D:279:C:HO2' | 7:D:280:C:P | 2.39 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 7:D:2889:C:H2' | 7:D:2891:G:O5' | 2.16 | 0.46 |
| 7:D:326:G:C4 | 7:D:327:G:C8 | 3.04 | 0.46 |
| 7:D:487:C:H2' | 7:D:488:G:C8 | 2.50 | 0.46 |
| 7:D:529:A:HO2' | 7:D:530:G:P | 2.39 | 0.46 |
| 7:D:655:A:O2' | 7:D:656:G:O5' | 2.33 | 0.46 |
| 7:D:657:U:H2' | 7:D:658:C:C6 | 2.50 | 0.46 |
| 7:D:715:G:C6 | 7:D:716:A:C6 | 3.04 | 0.46 |
| 8:E:91:C:O2' | 8:E:92:G:H5' | 2.16 | 0.46 |
| 9:F:196:LEU:HD12 | 9:F:197:VAL:HG23 | 1.98 | 0.46 |
| 10:G:14:ILE:HG21 | 10:G:178:LEU:HG | 1.97 | 0.46 |
| 10:G:5:ILE:HD12 | 10:G:6:HIS:O | 2.16 | 0.46 |
| 12:I:75:THR:OG1 | 12:I:76:ILE:N | 2.48 | 0.46 |
| 14:K:75:VAL:HG23 | 14:K:145:ALA:HB2 | 1.97 | 0.46 |
| 15:L:28:ALA:O | 15:L:29:SER:OG | 2.32 | 0.46 |
| 17:N:95:GLU:OE1 | 17:N:95:GLU:N | 2.49 | 0.46 |
| 19:P:81:SER:HB3 | 19:P:106:ASP:OD2 | 2.15 | 0.46 |
| 20:Q:36:LYS:HE3 | 20:Q:59:TYR:HB3 | 1.98 | 0.46 |
| 23:T:8:ARG:HD3 | 23:T:17:TYR:CE1 | 2.46 | 0.46 |
| 29:Z:69:GLY:C | 29:Z:157:LYS:CB | 2.83 | 0.46 |
| 3:3:23:VAL:HG13 | 3:3:27:LEU:CG | 2.45 | 0.46 |
| 4:4:17:C:OP2 | 4:4:17(A):U:C5 | 2.69 | 0.46 |
| 6:A:1053:G:C2' | 6:A:1054:C:OP2 | 2.64 | 0.46 |
| 6:A:1055:A:H5' | 6:A:1055:A:H8 | 1.81 | 0.46 |
| 6:A:1241:G:H8 | 6:A:1241:G:OP2 | 1.97 | 0.46 |
| 6:A:1261:A:H61 | 6:A:1274:G:C1' | 2.28 | 0.46 |
| 6:A:1321:C:OP2 | 6:A:1322:C:H3' | 2.15 | 0.46 |
| 6:A:1330:U:C4 | 6:A:1331:G:H1' | 2.51 | 0.46 |
| 6:A:1461:G:N1 | 6:A:1462:G:C5 | 2.83 | 0.46 |
| 6:A:1501:C:N4 | 6:A:1504:G:C2 | 2.84 | 0.46 |
| 6:A:216:G:C4 | 6:A:217:C:N3 | 2.84 | 0.46 |
| 6:A:310:G:C6 | 6:A:311:C:C4 | 3.04 | 0.46 |
| 6:A:458:C:C5' | 6:A:465:A:N1 | 2.66 | 0.46 |
| 6:A:705:U:C4 | 6:A:706:A:C5 | 3.03 | 0.46 |
| 6:A:85:U:O5' | 6:A:85:U:H6 | 1.98 | 0.46 |
| 6:A:945:G:H2' | 6:A:945:G:N3 | 2.31 | 0.46 |
| 56:B:214:TYR:HB2 | 56:B:245:PHE:HZ | 1.76 | 0.46 |
| 56:B:432:ARG:HG3 | 56:B:432:ARG:O | 2.16 | 0.46 |
| 7:D:1040:C:H3' | 7:D:1041:C:C5 | 2.51 | 0.46 |
| 7:D:585:G:C6 | 7:D:1251:C:C4 | 3.04 | 0.46 |
| 7:D:1316:U:H2' | 7:D:1317:A:H8 | 1.80 | 0.46 |
| 7:D:1472:A:C5 | 7:D:1473:G:C5 | 3.03 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 7:D:1472:A:C8 | 7:D:1473:G:C8 | 3.04 | 0.46 |
| 7:D:1484:G:C4 | 7:D:1485:G:C8 | 3.03 | 0.46 |
| 7:D:1563:G:N3 | 7:D:1564:C:H1' | 2.31 | 0.46 |
| 7:D:1578:U:H5' | 7:D:1579:A:OP2 | 2.16 | 0.46 |
| 7:D:1860:G:N3 | 7:D:1861:G:C8 | 2.84 | 0.46 |
| 7:D:1655:A:N6 | 7:D:2005:A:O2' | 2.49 | 0.46 |
| 7:D:532:A:OP2 | 7:D:2021:C:C5 | 2.69 | 0.46 |
| 7:D:2230:G:N2 | 7:D:2231:C:C2 | 2.83 | 0.46 |
| 7:D:2450:A:N1 | 7:D:2451:A:C5 | 2.83 | 0.46 |
| 7:D:2589:A:H2' | 7:D:2590:A:C8 | 2.51 | 0.46 |
| 7:D:2717:G:C5 | 7:D:2718:G:N7 | 2.83 | 0.46 |
| 7:D:2797:U:H4' | 7:D:2798:C:OP1 | 2.15 | 0.46 |
| 7:D:326:G:N3 | 7:D:327:G:C8 | 2.84 | 0.46 |
| 7:D:366:C:H2' | 7:D:370:G:O5' | 2.16 | 0.46 |
| 7:D:470:A:C2 | 7:D:471:A:N3 | 2.84 | 0.46 |
| 7:D:594:U:N3 | 7:D:595:C:C4 | 2.84 | 0.46 |
| 7:D:67:U:HO2' | 7:D:68:G:P | 2.38 | 0.46 |
| 7:D:716:A:N6 | 7:D:717:G:N3 | 2.60 | 0.46 |
| 7:D:85:G:C6 | 7:D:98:G:C6 | 3.03 | 0.46 |
| 15:L:17:THR:HG23 | 15:L:65:TYR:HE1 | 1.80 | 0.46 |
| 17:N:6:ILE:HA | 17:N:97:GLU:O | 2.15 | 0.46 |
| 22:S:39:LEU:HD22 | 22:S:56:LEU:HB2 | 1.98 | 0.46 |
| 23:T:43:LYS:HA | 23:T:48:TRP:CD1 | 2.50 | 0.46 |
| 3:3:49:GLY:C | 3:3:51:ALA:H | 2.18 | 0.46 |
| 5:5:7:A:H61 | 5:5:66:U:C2' | 2.29 | 0.46 |
| 6:A:1016:A:H3' | 6:A:1017:G:C8 | 2.50 | 0.46 |
| 6:A:1045:C:H2' | 6:A:1046:A:H8 | 1.80 | 0.46 |
| 6:A:11:G:H1 | 6:A:23:C:H42 | 1.64 | 0.46 |
| 6:A:1288:A:C6 | 6:A:1289:A:C5 | 3.04 | 0.46 |
| 6:A:1455:G:N1 | 6:A:1459:C:N3 | 2.63 | 0.46 |
| 6:A:1479:C:H2' | 6:A:1480:G:C8 | 2.47 | 0.46 |
| 6:A:195:A:H4' | 27:X:68:LYS:HZ3 | 1.80 | 0.46 |
| 6:A:404:U:H2' | 6:A:405:U:C6 | 2.50 | 0.46 |
| 6:A:763:G:C6 | 6:A:764:C:C4 | 3.03 | 0.46 |
| 7:D:2572:A:OP2 | 56:B:144:ARG:O | 76.95 | 0.46 |
| 56:B:282:LEU:CD1 | 56:B:283:ALA:HB3 | 2.45 | 0.46 |
| 56:B:386:GLU:OE1 | 56:B:401:ARG:HD2 | 2.16 | 0.46 |
| 56:B:411:LYS:HZ2 | 56:B:436:VAL:CG2 | 2.26 | 0.46 |
| 7:D:1174:A:H3' | 7:D:1175:U:C5' | 2.46 | 0.46 |
| 7:D:1221:C:O2' | 7:D:1222:C:OP1 | 2.29 | 0.46 |
| 7:D:1229:G:C6 | 7:D:1230:C:N3 | 2.84 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 7:D:1213:A:C8 | 7:D:1237:A:C5 | 3.03 | 0.46 |
| 7:D:1342:A:C6 | 7:D:1345:C:C4 | 3.04 | 0.46 |
| 7:D:1419:A:H3' | 7:D:1420:U:O2 | 2.16 | 0.46 |
| 7:D:1509:C:H5' | 7:D:1510:A:C8 | 2.50 | 0.46 |
| 7:D:1298:C:C2 | 7:D:1643:G:N2 | 2.84 | 0.46 |
| 7:D:1910:G:C6 | 7:D:1921:G:C6 | 3.04 | 0.46 |
| 7:D:191:A:C2 | 7:D:192:C:C4 | 3.04 | 0.46 |
| 7:D:2379:G:N2 | 7:D:2380:C:O2 | 2.49 | 0.46 |
| 7:D:2749:A:C6 | 7:D:2750:A:N6 | 2.83 | 0.46 |
| 7:D:30:G:C6 | 7:D:31:C:N3 | 2.84 | 0.46 |
| 7:D:452:G:H5'' | 7:D:453:C:P | 2.56 | 0.46 |
| 7:D:453:C:H5' | 7:D:454:A:OP2 | 2.16 | 0.46 |
| 7:D:489:G:O2' | 7:D:491:G:O4' | 2.34 | 0.46 |
| 7:D:498:G:N2 | 7:D:499:U:C2 | 2.83 | 0.46 |
| 7:D:607:U:OP2 | 7:D:619:G:N1 | 2.38 | 0.46 |
| 7:D:618(A):C:H5 | 7:D:619:G:C6 | 2.33 | 0.46 |
| 7:D:868:U:N3 | 7:D:869:G:N7 | 2.64 | 0.46 |
| 7:D:895:U:H5'' | 7:D:896:A:OP1 | 2.16 | 0.46 |
| 9:F:133:LYS:O | 9:F:137:ARG:HG2 | 2.16 | 0.46 |
| 10:G:152:ILE:CG1 | 10:G:199:LYS:HB2 | 2.46 | 0.46 |
| 10:G:7:PRO:HG2 | 10:G:184:TYR:CD1 | 2.51 | 0.46 |
| 11:H:30:LYS:HZ2 | 11:H:36:ARG:HH12 | 1.59 | 0.46 |
| 12:I:79:GLU:HB3 | 12:I:92:LYS:HG3 | 1.97 | 0.46 |
| 13:J:97:PHE:HD2 | 25:V:30:ASP:HA | 1.81 | 0.46 |
| 19:P:16:GLU:OE1 | 19:P:17:LYS:N | 2.49 | 0.46 |
| 19:P:86:ARG:HG2 | 19:P:99:HIS:O | 2.15 | 0.46 |
| 22:S:65:ARG:O | 22:S:68:ARG:HB3 | 2.16 | 0.46 |
| 20:Q:86:CYS:HB2 | 26:W:74:PHE:HD1 | 1.81 | 0.46 |
| 29:Z:175:VAL:O | 29:Z:185:LEU:HD23 | 2.16 | 0.46 |
| 3:3:79:ARG:HE | 3:3:130:SER:HB2 | 1.81 | 0.46 |
| 5:5:5:G:C2 | 5:5:69:G:C2 | 3.04 | 0.46 |
| 6:A:1049:U:H6 | 6:A:1049:U:O5' | 1.99 | 0.46 |
| 6:A:1187:G:N2 | 6:A:1188:A:N3 | 2.64 | 0.46 |
| 6:A:953:G:N2 | 6:A:1229:A:C4 | 2.84 | 0.46 |
| 6:A:216:G:H2' | 6:A:217:C:N1 | 2.28 | 0.46 |
| 6:A:38:G:H4' | 6:A:547:A:H61 | 1.81 | 0.46 |
| 6:A:519:C:C4 | 6:A:520:A:N7 | 2.84 | 0.46 |
| 6:A:542:G:H2' | 6:A:543:C:H6 | 1.79 | 0.46 |
| 6:A:900:A:N6 | 6:A:901:A:C6 | 2.84 | 0.46 |
| 56:B:199:LEU:HB2 | 56:B:218:PHE:HE1 | 1.81 | 0.46 |
| 56:B:205:TYR:HD1 | 56:B:206:ASP:H | 1.61 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 56:B:237:PHE:C | 56:B:239:VAL:H | 2.19 | 0.46 |
| 56:B:397:PRO:CB | 56:B:401:ARG:HH21 | 2.28 | 0.46 |
| 56:B:414:ILE:CG2 | 56:B:416:THR:HG23 | 2.46 | 0.46 |
| 7:D:110:G:N2 | 7:D:111:A:C4 | 2.83 | 0.46 |
| 7:D:1239:G:H5'' | 7:D:1240:U:OP2 | 2.15 | 0.46 |
| 7:D:1374:G:C6 | 7:D:1375:C:C4 | 3.04 | 0.46 |
| 7:D:1479:G:C2' | 7:D:1480:G:C8 | 2.99 | 0.46 |
| 7:D:1504:C:C6 | 7:D:1504:C:OP2 | 2.69 | 0.46 |
| 7:D:1562:A:C2 | 7:D:1563:G:C4 | 3.04 | 0.46 |
| 7:D:1609:A:N3 | 7:D:1609:A:H2' | 2.31 | 0.46 |
| 7:D:1306:C:N3 | 7:D:1623:G:C6 | 2.84 | 0.46 |
| 7:D:1625:C:C4 | 7:D:1626:G:H8 | 2.32 | 0.46 |
| 7:D:1633:G:N7 | 7:D:1635:G:C5 | 2.84 | 0.46 |
| 7:D:1642:G:C6 | 7:D:1643:G:C5 | 3.04 | 0.46 |
| 7:D:1681:G:O2' | 7:D:1682:G:OP1 | 2.27 | 0.46 |
| 7:D:173:G:N1 | 7:D:174:C:N3 | 2.64 | 0.46 |
| 7:D:1779:U:C6 | 7:D:1779:U:H3' | 2.51 | 0.46 |
| 7:D:1785:A:H2' | 7:D:1786:A:C8 | 2.51 | 0.46 |
| 7:D:216:A:C2 | 7:D:217:G:C4 | 3.04 | 0.46 |
| 7:D:2287:A:H61 | 7:D:2344:U:H3 | 1.63 | 0.46 |
| 7:D:247:G:C2 | 7:D:249:C:H1' | 2.51 | 0.46 |
| 7:D:2542:A:OP2 | 7:D:2542:A:C8 | 2.69 | 0.46 |
| 7:D:2693:A:C2 | 7:D:2694:G:C5 | 3.04 | 0.46 |
| 7:D:2845:G:H2' | 7:D:2846:G:C8 | 2.49 | 0.46 |
| 7:D:332:A:C5 | 7:D:335:C:C4 | 3.04 | 0.46 |
| 7:D:442:G:HO2' | 7:D:444:C:H6 | 1.62 | 0.46 |
| 7:D:521:G:H2' | 7:D:522:G:H8 | 1.80 | 0.46 |
| 7:D:537:C:H2' | 7:D:539:G:H8 | 1.70 | 0.46 |
| 7:D:677:A:C5 | 7:D:678:C:C5 | 3.04 | 0.46 |
| 7:D:893:C:C2 | 7:D:894:C:H1' | 2.51 | 0.46 |
| 7:D:962:G:C2 | 7:D:963:U:O2 | 2.69 | 0.46 |
| 8:E:69:G:N2 | 8:E:70:C:H1' | 2.31 | 0.46 |
| 11:H:145:GLU:OE1 | 11:H:184:LYS:HD3 | 2.16 | 0.46 |
| 14:K:16:LEU:HD11 | 16:M:42:ARG:HD3 | 1.97 | 0.46 |
| 15:L:63:LEU:HD22 | 15:L:65:TYR:CE2 | 2.51 | 0.46 |
| 20:Q:2:ALA:N | 20:Q:10:PRO:HD2 | 2.31 | 0.46 |
| 20:Q:25:ILE:CD1 | 20:Q:66:LEU:HD13 | 2.45 | 0.46 |
| 23:T:12:LYS:O | 23:T:14:ASN:N | 2.49 | 0.46 |
| 6:A:1182:G:H3' | 6:A:1182:G:C8 | 2.51 | 0.45 |
| 6:A:1333:A:H2' | 6:A:1334:G:O4' | 2.16 | 0.45 |
| 6:A:503:C:O5' | 6:A:503:C:H6 | 1.99 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 6:A:743:U:H2' | 6:A:744:C:H6 | 1.80 | 0.45 |
| 6:A:73:G:C6 | 6:A:74:C:N3 | 2.84 | 0.45 |
| 6:A:886:G:C2 | 6:A:912:C:O2 | 2.69 | 0.45 |
| 6:A:973:G:H3' | 6:A:974:A:H5'' | 1.98 | 0.45 |
| 56:B:111:GLN:HG2 | 56:B:111:GLN:H | 1.49 | 0.45 |
| 56:B:27:ASP:OD2 | 56:B:41:MET:CG | 2.64 | 0.45 |
| 56:B:575:GLU:HA | 56:B:575:GLU:OE1 | 2.16 | 0.45 |
| 7:D:1035:U:C2 | 7:D:1036:G:N7 | 2.85 | 0.45 |
| 7:D:117:G:H3' | 7:D:119:A:C8 | 2.50 | 0.45 |
| 7:D:1209:G:C2 | 7:D:1238:G:C6 | 3.04 | 0.45 |
| 7:D:1457:A:O2' | 7:D:1459:G:H1' | 2.15 | 0.45 |
| 7:D:1534:G:O5' | 7:D:1534:G:H8 | 1.99 | 0.45 |
| 7:D:1789:A:N7 | 7:D:1790:C:C4 | 2.84 | 0.45 |
| 7:D:1818:U:O2' | 7:D:1819:A:OP2 | 2.33 | 0.45 |
| 7:D:1862:G:H2' | 7:D:1863:G:H8 | 1.75 | 0.45 |
| 7:D:186:G:C2 | 7:D:187:G:C4 | 3.04 | 0.45 |
| 7:D:1952:A:C6 | 7:D:1953:A:N1 | 2.85 | 0.45 |
| 7:D:2069:G:N1 | 7:D:2070:G:C5 | 2.84 | 0.45 |
| 7:D:2123:G:N2 | 7:D:2176:A:N1 | 2.64 | 0.45 |
| 7:D:2425:A:H1' | 7:D:2427:C:C4 | 2.51 | 0.45 |
| 7:D:2495:G:H2' | 7:D:2496:C:C6 | 2.51 | 0.45 |
| 7:D:2653:U:N3 | 7:D:2654:A:N7 | 2.63 | 0.45 |
| 7:D:270(W):G:C6 | 7:D:270(X):G:C2 | 3.04 | 0.45 |
| 7:D:2715:C:C6 | 7:D:2716:U:H5 | 2.33 | 0.45 |
| 7:D:2737:G:C2 | 7:D:2738:A:C4 | 3.04 | 0.45 |
| 7:D:2780:G:O2' | 7:D:2781:A:H4' | 2.16 | 0.45 |
| 7:D:2783:G:C2 | 7:D:2784:C:C2 | 3.05 | 0.45 |
| 7:D:2789:C:H2' | 7:D:2790:A:O4' | 2.17 | 0.45 |
| 7:D:2807:G:N2 | 7:D:2892:A:N6 | 2.64 | 0.45 |
| 7:D:296:C:C2 | 7:D:297:C:C5 | 3.05 | 0.45 |
| 7:D:357:A:C4 | 7:D:358:U:N3 | 2.84 | 0.45 |
| 7:D:387:U:H4' | 7:D:388:G:C5 | 2.51 | 0.45 |
| 7:D:489:G:C2 | 7:D:491:G:N3 | 2.84 | 0.45 |
| 7:D:756:C:N4 | 7:D:757:U:H3 | 2.14 | 0.45 |
| 7:D:952:G:H3' | 7:D:953:A:H5'' | 1.98 | 0.45 |
| 9:F:180:LEU:HD23 | 9:F:180:LEU:HA | 1.80 | 0.45 |
| 9:F:45:GLN:O | 9:F:48:MET:N | 2.48 | 0.45 |
| 11:H:193:ASP:OD1 | 11:H:194:LEU:HD12 | 2.15 | 0.45 |
| 13:J:10:LEU:HD12 | 13:J:11:ASN:N | 2.31 | 0.45 |
| 16:M:13:ALA:HB2 | 16:M:68:GLY:HA3 | 1.98 | 0.45 |
| 18:O:120:ARG:HA | 18:O:121:PRO:HD2 | 1.72 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 19:P:27:LEU:C | 19:P:29:GLY:N | 2.69 | 0.45 |
| 20:Q:40:ASN:HB3 | 20:Q:43:THR:HG23 | 1.97 | 0.45 |
| 26:W:46:GLY:HA3 | 26:W:64:GLU:OE1 | 2.16 | 0.45 |
| 6:A:1325:C:H4' | 28:Y:17:THR:HG21 | 1.98 | 0.45 |
| 3:3:131:ALA:O | 3:3:137:GLU:HA | 2.16 | 0.45 |
| 3:3:12:LEU:O | 3:3:54:PRO:HB3 | 2.16 | 0.45 |
| 5:5:6:G:N2 | 5:5:67:C:O2 | 2.41 | 0.45 |
| 6:A:1184:G:OP1 | 6:A:1185:G:OP2 | 2.34 | 0.45 |
| 6:A:1309:G:H2' | 6:A:1310:G:H5' | 1.98 | 0.45 |
| 6:A:1316:G:C8 | 6:A:1318:A:OP2 | 2.69 | 0.45 |
| 6:A:1340:A:C6 | 6:A:1341:U:C4 | 3.04 | 0.45 |
| 6:A:162:A:H3' | 6:A:163:C:O4' | 2.16 | 0.45 |
| 6:A:30:U:O4 | 6:A:32:A:N6 | 2.49 | 0.45 |
| 6:A:376:G:C2 | 6:A:377:G:C5 | 3.05 | 0.45 |
| 6:A:515:G:H2' | 6:A:516:U:O4' | 2.17 | 0.45 |
| 6:A:682:G:C2 | 6:A:709:G:C2 | 3.04 | 0.45 |
| 56:B:133:PRO:HB2 | 56:B:163:ALA:HB2 | 1.97 | 0.45 |
| 56:B:21:GLY:HA2 | 57:B:701:GCP:O2A | 2.16 | 0.45 |
| 56:B:317:ARG:CG | 56:B:317:ARG:NH1 | 2.78 | 0.45 |
| 56:B:411:LYS:H | 56:B:480:GLU:CD | 2.20 | 0.45 |
| 56:B:338:THR:HG21 | 56:B:502:ASP:CG | 2.37 | 0.45 |
| 7:D:1181:C:C4 | 7:D:1182:A:C5 | 3.04 | 0.45 |
| 7:D:1321:A:H8 | 7:D:1321:A:OP1 | 1.99 | 0.45 |
| 7:D:1509:C:OP2 | 7:D:1510:A:C6 | 2.69 | 0.45 |
| 7:D:1530:G:C2 | 7:D:1542:G:C2 | 3.04 | 0.45 |
| 7:D:1663:C:O3' | 7:D:1664:A:C8 | 2.70 | 0.45 |
| 7:D:1363:C:O3' | 7:D:1809:A:N7 | 2.49 | 0.45 |
| 7:D:1839:G:C4 | 7:D:1840:G:C8 | 3.04 | 0.45 |
| 7:D:186:G:N2 | 7:D:187:G:N3 | 2.65 | 0.45 |
| 7:D:1842:G:N2 | 7:D:1901:A:C4 | 2.84 | 0.45 |
| 7:D:221:A:O2' | 7:D:222:A:OP2 | 2.26 | 0.45 |
| 7:D:2273:A:N7 | 7:D:2274:A:C5 | 2.84 | 0.45 |
| 7:D:2377:A:C2 | 7:D:2378:A:C4 | 3.03 | 0.45 |
| 7:D:2531:A:C6 | 7:D:2532:G:C5 | 3.04 | 0.45 |
| 7:D:2641:G:H2' | 7:D:2642:G:C8 | 2.49 | 0.45 |
| 7:D:272:G:C2 | 7:D:273:G:C8 | 3.04 | 0.45 |
| 7:D:2779:U:HO2' | 7:D:2780:G:C5' | 2.29 | 0.45 |
| 7:D:422:A:H2' | 7:D:423:A:C8 | 2.51 | 0.45 |
| 7:D:481:G:O2' | 7:D:482:A:P | 2.74 | 0.45 |
| 7:D:700:G:H2' | 7:D:701:G:C8 | 2.51 | 0.45 |
| 7:D:821:A:C8 | 7:D:946:G:C8 | 3.04 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:852:G:N1 | 7:D:853:G:C5 | 2.84 | 0.45 |
| 7:D:855:G:H2' | 7:D:856:C:C6 | 2.48 | 0.45 |
| 7:D:919:G:N1 | 7:D:920:G:N3 | 2.64 | 0.45 |
| 8:E:75:G:O6 | 8:E:76:G:C2 | 2.69 | 0.45 |
| 12:I:109:ILE:HG21 | 12:I:135:THR:HG21 | 1.98 | 0.45 |
| 13:J:6:VAL:HA | 13:J:90:VAL:HA | 1.97 | 0.45 |
| 14:K:24:THR:HG22 | 14:K:28:ASN:ND2 | 2.30 | 0.45 |
| 20:Q:54:VAL:O | 20:Q:58:GLU:HG3 | 2.16 | 0.45 |
| 22:S:4:THR:OG1 | 22:S:7:GLU:HG2 | 2.16 | 0.45 |
| 23:T:38:TYR:OH | 23:T:47:ASP:O | 2.20 | 0.45 |
| 29:Z:186:ALA:HB1 | 29:Z:190:ARG:NH1 | 2.32 | 0.45 |
| 6:A:1273:G:C2 | 6:A:1274:G:H1' | 2.51 | 0.45 |
| 6:A:1290:G:C6 | 6:A:1291:G:C5 | 3.05 | 0.45 |
| 6:A:1353:G:C2 | 6:A:1370:G:C2 | 3.04 | 0.45 |
| 6:A:1363:A:C5 | 6:A:1365:G:C2 | 3.04 | 0.45 |
| 6:A:234:C:H2' | 6:A:235:C:H6 | 1.82 | 0.45 |
| 6:A:687:A:H61 | 6:A:701:C:H5' | 1.81 | 0.45 |
| 6:A:825:G:C2 | 6:A:826:C:C2 | 3.04 | 0.45 |
| 6:A:876:G:O6 | 6:A:877:C:N4 | 2.50 | 0.45 |
| 6:A:946:A:H2' | 6:A:947:G:H8 | 1.81 | 0.45 |
| 56:B:17:HIS:HB3 | 56:B:20:HIS:ND1 | 2.32 | 0.45 |
| 56:B:282:LEU:HD13 | 56:B:283:ALA:HB3 | 1.98 | 0.45 |
| 56:B:315:LYS:HE2 | 56:B:318:ASP:CB | 2.44 | 0.45 |
| 56:B:447:ARG:O | 56:B:448:VAL:HG22 | 2.16 | 0.45 |
| 56:B:497:HIS:ND1 | 56:B:535:VAL:CB | 2.80 | 0.45 |
| 56:B:532:LEU:HB3 | 56:B:553:ALA:HB1 | 1.99 | 0.45 |
| 56:B:77:VAL:O | 56:B:78:PHE:CG | 2.69 | 0.45 |
| 7:D:1068:G:H1' | 7:D:1096:A:H4' | 1.99 | 0.45 |
| 7:D:1090:U:C4 | 7:D:1091:G:N7 | 2.84 | 0.45 |
| 7:D:1163:G:N2 | 7:D:1164:G:C4 | 2.84 | 0.45 |
| 7:D:1164:G:C2 | 7:D:1165:U:C2 | 3.04 | 0.45 |
| 7:D:1167:U:O4 | 7:D:1168:G:O6 | 2.34 | 0.45 |
| 7:D:1213:A:N7 | 7:D:1237:A:N7 | 2.64 | 0.45 |
| 7:D:1295:C:H2' | 7:D:1296:G:C8 | 2.43 | 0.45 |
| 7:D:1302:A:H5' | 7:D:1608:A:P | 2.56 | 0.45 |
| 7:D:1324:G:C4 | 7:D:1328:G:O6 | 2.69 | 0.45 |
| 7:D:1519:G:N3 | 7:D:1519:G:H2' | 2.32 | 0.45 |
| 7:D:1777:U:H3 | 7:D:1787:A:N6 | 2.14 | 0.45 |
| 7:D:2101:G:C2 | 7:D:2102:U:C2 | 3.05 | 0.45 |
| 7:D:2114:A:H2' | 7:D:2115:G:O4' | 2.17 | 0.45 |
| 7:D:2166:G:H1 | 7:D:2171:A:H2' | 1.82 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 7:D:2491:U:N3 | 7:D:2492:U:C4 | 2.84 | 0.45 |
| 7:D:2629:A:H2' | 7:D:2895:U:O5' | 2.15 | 0.45 |
| 7:D:2701:C:H5' | 7:D:2702:U:C5' | 2.46 | 0.45 |
| 7:D:2759:G:N2 | 7:D:2760:C:C2 | 2.85 | 0.45 |
| 7:D:2834:G:C4 | 7:D:2879:C:C4 | 3.04 | 0.45 |
| 7:D:28:A:N6 | 7:D:29:U:O2 | 2.49 | 0.45 |
| 7:D:337:C:H5'' | 7:D:338:G:OP2 | 2.17 | 0.45 |
| 7:D:477:A:H2' | 7:D:478:A:C8 | 2.50 | 0.45 |
| 7:D:485:C:C2 | 7:D:486:C:C4 | 3.02 | 0.45 |
| 7:D:51:G:H22 | 7:D:120:U:H3 | 1.63 | 0.45 |
| 7:D:668:G:C4 | 7:D:670:A:N7 | 2.84 | 0.45 |
| 7:D:685:A:O4' | 7:D:774:A:N6 | 2.50 | 0.45 |
| 7:D:743:G:C6 | 7:D:744:G:C5 | 3.04 | 0.45 |
| 7:D:748:G:C4 | 7:D:750:A:N7 | 2.84 | 0.45 |
| 7:D:944:G:H3' | 7:D:944:G:N3 | 2.32 | 0.45 |
| 9:F:152:PHE:CE1 | 9:F:155:LEU:HD12 | 2.51 | 0.45 |
| 12:I:9:LYS:HG2 | 12:I:112:LEU:HD11 | 1.98 | 0.45 |
| 15:L:25:ASP:HB3 | 15:L:58:TYR:CD2 | 2.51 | 0.45 |
| 12:I:151:LEU:HB3 | 15:L:79:VAL:HG22 | 1.98 | 0.45 |
| 19:P:125:PRO:O | 19:P:127:GLU:N | 2.43 | 0.45 |
| 19:P:39:VAL:HG12 | 19:P:41:ARG:H | 1.81 | 0.45 |
| 6:A:1307:U:OP1 | 20:Q:101:GLN:OE1 | 2.33 | 0.45 |
| 20:Q:102:ARG:CB | 20:Q:102:ARG:NH1 | 2.74 | 0.45 |
| 20:Q:67:GLU:HG3 | 20:Q:68:GLY:H | 1.82 | 0.45 |
| 20:Q:68:GLY:O | 20:Q:70:LEU:N | 2.48 | 0.45 |
| 1:I:26:ILE:HG12 | 1:I:33:LYS:NZ | 2.31 | 0.45 |
| 1:I:31:LYS:HZ1 | 7:D:2478:A:P | 2.39 | 0.45 |
| 3:3:33:ASN:O | 3:3:63:ARG:HB2 | 2.17 | 0.45 |
| 4:4:53:G:C6 | 4:4:54:U:C4 | 3.05 | 0.45 |
| 6:A:1084:G:OP1 | 6:A:1086:U:H1' | 2.16 | 0.45 |
| 6:A:1145:C:O2' | 6:A:1147:C:N4 | 2.50 | 0.45 |
| 6:A:1175:G:H2' | 6:A:1176:A:C8 | 2.39 | 0.45 |
| 6:A:1201:A:O2' | 6:A:1202:G:P | 2.74 | 0.45 |
| 6:A:1247:U:H2' | 6:A:1248:A:H8 | 1.81 | 0.45 |
| 6:A:1265:G:H1' | 6:A:1271:G:H22 | 1.82 | 0.45 |
| 6:A:1300:G:O2' | 6:A:1303:C:N4 | 2.50 | 0.45 |
| 6:A:1305:G:HO2' | 6:A:1306:A:H8 | 1.64 | 0.45 |
| 6:A:1321:C:O2' | 20:Q:87:TYR:OH | 2.33 | 0.45 |
| 6:A:1454:G:N3 | 6:A:1455:G:C1' | 2.80 | 0.45 |
| 6:A:1463:C:H2' | 6:A:1464:G:C8 | 2.48 | 0.45 |
| 6:A:1475:G:C2 | 6:A:1476:G:C8 | 3.03 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 6:A:267:C:OP2 | 24:U:67:LYS:HE2 | 2.16 | 0.45 |
| 6:A:714:G:C4 | 6:A:715:A:C8 | 3.03 | 0.45 |
| 6:A:837:G:H2' | 6:A:838:G:H5' | 1.96 | 0.45 |
| 56:B:131:ILE:C | 56:B:132:ILE:HG13 | 2.37 | 0.45 |
| 56:B:152:VAL:HG13 | 56:B:156:LEU:CG | 2.46 | 0.45 |
| 56:B:16:ALA:H | 56:B:22:LYS:HZ2 | 1.64 | 0.45 |
| 56:B:435:LEU:HD12 | 56:B:452:TYR:CE1 | 2.49 | 0.45 |
| 56:B:502:ASP:HB3 | 56:B:504:LEU:CD1 | 2.46 | 0.45 |
| 56:B:493:ASN:C | 56:B:540:ALA:O | 2.54 | 0.45 |
| 56:B:541:ILE:HG13 | 56:B:546:ILE:HD12 | 1.96 | 0.45 |
| 56:B:137:LYS:HZ2 | 57:B:701:GCP:H1' | 1.81 | 0.45 |
| 7:D:1023:U:C4 | 7:D:1024:G:N3 | 2.84 | 0.45 |
| 7:D:1063:G:N1 | 7:D:1064:C:N3 | 2.64 | 0.45 |
| 7:D:109:G:C6 | 7:D:110:G:N7 | 2.85 | 0.45 |
| 7:D:1171:G:H3' | 7:D:1173:G:C5' | 2.47 | 0.45 |
| 7:D:1453:A:H3' | 7:D:1454:U:C5' | 2.45 | 0.45 |
| 7:D:1785:A:H2' | 7:D:1786:A:C4 | 2.51 | 0.45 |
| 7:D:1778:U:N3 | 7:D:1787:A:C2 | 2.83 | 0.45 |
| 7:D:1921:G:H2' | 7:D:1922:G:O4' | 2.15 | 0.45 |
| 7:D:1766:U:C2 | 7:D:1987:G:N2 | 2.84 | 0.45 |
| 7:D:198:C:N4 | 7:D:248:G:O6 | 2.50 | 0.45 |
| 7:D:2080:G:C5 | 7:D:2081:C:C5 | 3.04 | 0.45 |
| 7:D:2134:A:H5' | 7:D:2158:A:OP2 | 2.16 | 0.45 |
| 7:D:2259:G:C6 | 7:D:2260:C:C4 | 3.05 | 0.45 |
| 7:D:2333:A:C8 | 7:D:2335:A:N1 | 2.84 | 0.45 |
| 7:D:2447:G:H3' | 7:D:2500:U:OP2 | 2.17 | 0.45 |
| 7:D:270(F):U:OP2 | 7:D:270(F):U:C6 | 2.70 | 0.45 |
| 7:D:374:A:C8 | 7:D:375:C:C5 | 3.05 | 0.45 |
| 7:D:383:U:O2 | 7:D:385:C:N4 | 2.50 | 0.45 |
| 7:D:485:C:C2 | 7:D:496:G:N2 | 2.84 | 0.45 |
| 7:D:623:G:C2 | 7:D:624:C:O2 | 2.70 | 0.45 |
| 7:D:464:U:C2 | 7:D:788:A:C6 | 3.04 | 0.45 |
| 7:D:875:G:H2' | 7:D:876:C:C6 | 2.52 | 0.45 |
| 7:D:900:A:C8 | 7:D:901:A:H1' | 2.51 | 0.45 |
| 7:D:950:G:C4 | 7:D:968:G:N2 | 2.84 | 0.45 |
| 8:E:30:C:N4 | 8:E:31:C:O2 | 2.49 | 0.45 |
| 11:H:141:ARG:HB3 | 11:H:144:ASP:HB2 | 1.99 | 0.45 |
| 11:H:68:TYR:HA | 11:H:114:ARG:NH1 | 2.31 | 0.45 |
| 17:N:16:LEU:HD23 | 17:N:94:VAL:HG22 | 1.97 | 0.45 |
| 24:U:29:HIS:CG | 24:U:30:PRO:HD2 | 2.52 | 0.45 |
| 27:X:30:LYS:NZ | 27:X:80:ARG:HH22 | 2.13 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 29:Z:195:ALA:HA | 29:Z:198:ALA:HB3 | 1.98 | 0.45 |
| 29:Z:49:ILE:HB | 29:Z:56:GLN:OE1 | 2.16 | 0.45 |
| 3:3:20:ALA:N | 3:3:21:PRO:CD | 2.80 | 0.45 |
| 4:4:21:A:N7 | 4:4:46:G:C6 | 2.84 | 0.45 |
| 4:4:63:G:C2 | 4:4:64:G:C4 | 3.04 | 0.45 |
| 6:A:1076:C:C2 | 6:A:1082:G:C2 | 3.04 | 0.45 |
| 6:A:1224:G:N2 | 6:A:1362(A):C:N3 | 2.65 | 0.45 |
| 6:A:1381:U:N1 | 14:K:78:ARG:NH1 | 2.65 | 0.45 |
| 6:A:324:G:N2 | 6:A:327:A:C8 | 2.85 | 0.45 |
| 6:A:411:A:C6 | 6:A:429:U:C4 | 3.04 | 0.45 |
| 6:A:438:G:N1 | 6:A:495:A:OP2 | 2.50 | 0.45 |
| 6:A:495:A:O4' | 6:A:496:A:H8 | 2.00 | 0.45 |
| 6:A:439:A:N7 | 6:A:496:A:C2 | 2.85 | 0.45 |
| 6:A:53:A:H2' | 6:A:54:C:O4' | 2.16 | 0.45 |
| 6:A:69:G:C6 | 6:A:101:A:N1 | 2.85 | 0.45 |
| 6:A:750:G:C2 | 6:A:751:U:C2 | 3.05 | 0.45 |
| 6:A:80:G:N2 | 6:A:89:U:C2 | 2.80 | 0.45 |
| 6:A:842:C:H6 | 6:A:842:C:O5' | 1.99 | 0.45 |
| 6:A:851:G:C6 | 6:A:852:G:C6 | 3.04 | 0.45 |
| 56:B:230:ILE:CD1 | 56:B:279:THR:HG22 | 2.47 | 0.45 |
| 7:D:108:U:O2' | 7:D:348:G:N2 | 2.40 | 0.45 |
| 7:D:1072:C:H42 | 7:D:1100:C:H41 | 1.63 | 0.45 |
| 7:D:1348:G:C6 | 7:D:1349:A:N7 | 2.85 | 0.45 |
| 7:D:1419:A:N6 | 7:D:1421:G:C2 | 2.85 | 0.45 |
| 7:D:1592:C:H2' | 7:D:1593:G:H8 | 1.81 | 0.45 |
| 7:D:1622:G:H2' | 7:D:1623:G:H8 | 1.82 | 0.45 |
| 7:D:1363:C:O3' | 7:D:1809:A:N6 | 2.49 | 0.45 |
| 7:D:1363:C:H4' | 7:D:1809:A:N7 | 2.32 | 0.45 |
| 7:D:1814:G:C8 | 7:D:1815:A:C8 | 3.05 | 0.45 |
| 7:D:1943:U:OP1 | 56:B:532:LEU:HD21 | 2.16 | 0.45 |
| 7:D:2123:G:N2 | 29:Z:215:THR:HG21 | 2.32 | 0.45 |
| 7:D:2124:G:C6 | 7:D:2125:G:N2 | 2.84 | 0.45 |
| 7:D:2179:C:H5'' | 7:D:2179:C:H6 | 1.82 | 0.45 |
| 7:D:2234:G:C6 | 7:D:2235:G:C5 | 3.05 | 0.45 |
| 7:D:2302:G:N3 | 7:D:2303:G:C8 | 2.84 | 0.45 |
| 7:D:2320:A:H1' | 7:D:2333:A:C6 | 2.52 | 0.45 |
| 7:D:2456:C:H5 | 7:D:2457:U:C4 | 2.35 | 0.45 |
| 7:D:2458:G:H2' | 7:D:2490:G:O6 | 2.16 | 0.45 |
| 7:D:2485:G:H2' | 7:D:2486:G:H8 | 1.82 | 0.45 |
| 7:D:2537:U:H2' | 7:D:2538:C:C6 | 2.51 | 0.45 |
| 7:D:2579:C:N4 | 7:D:2580:U:C4 | 2.84 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:270(I):G:C2 | 7:D:270(J):G:H1' | 2.51 | 0.45 |
| 7:D:2791:C:C4 | 7:D:2792:G:C6 | 3.05 | 0.45 |
| 7:D:67:U:H1' | 7:D:88:G:N2 | 2.31 | 0.45 |
| 7:D:841:A:C6 | 7:D:842:G:C5 | 3.05 | 0.45 |
| 7:D:971:C:C5 | 7:D:972:G:C5 | 3.05 | 0.45 |
| 8:E:40:U:N3 | 8:E:43:C:OP2 | 2.50 | 0.45 |
| 8:E:53:A:C5 | 8:E:54:G:C8 | 3.04 | 0.45 |
| 9:F:69:LEU:HD12 | 9:F:92:TYR:HA | 1.99 | 0.45 |
| 11:H:3:ARG:HH12 | 11:H:70:ILE:CD1 | 2.29 | 0.45 |
| 12:I:24:ARG:O | 12:I:26:PHE:HD2 | 2.00 | 0.45 |
| 14:K:145:ALA:O | 14:K:147:ALA:N | 2.45 | 0.45 |
| 15:L:36:LEU:HD12 | 15:L:37:ARG:N | 2.31 | 0.45 |
| 16:M:33:PHE:HD2 | 16:M:34:ASN:ND2 | 2.14 | 0.45 |
| 18:O:120:ARG:NH2 | 18:O:126:ARG:NH1 | 2.64 | 0.45 |
| 19:P:60:LEU:HD11 | 19:P:64:TYR:HB2 | 1.97 | 0.45 |
| 2:2:126:ALA:O | 2:2:130:THR:N | 2.50 | 0.45 |
| 3:3:24:GLY:C | 56:B:440:TYR:CZ | 2.90 | 0.45 |
| 3:3:39:LYS:O | 3:3:43:ALA:N | 2.37 | 0.45 |
| 3:3:87:GLY:HA2 | 3:3:92:GLY:H | 1.81 | 0.45 |
| 3:3:84:LEU:HD23 | 3:3:96:VAL:HG12 | 1.97 | 0.45 |
| 5:5:5:G:H2' | 5:5:6:G:H8 | 1.82 | 0.45 |
| 6:A:1054:C:OP1 | 6:A:1198:G:OP2 | 2.34 | 0.45 |
| 6:A:1325:C:H2' | 6:A:1326:C:C6 | 2.51 | 0.45 |
| 6:A:1350:A:C5 | 6:A:1351:U:C4 | 3.04 | 0.45 |
| 6:A:1423:G:C6 | 6:A:1424:C:C4 | 3.05 | 0.45 |
| 6:A:174:C:H2' | 6:A:175:C:O4' | 2.17 | 0.45 |
| 6:A:185:A:C6 | 6:A:186:C:C4 | 3.04 | 0.45 |
| 6:A:129(A):G:N2 | 6:A:191(A):G:C8 | 2.84 | 0.45 |
| 6:A:199:G:N2 | 6:A:200:G:C2 | 2.85 | 0.45 |
| 6:A:600:C:N3 | 6:A:639:G:C6 | 2.84 | 0.45 |
| 6:A:675:A:C4 | 6:A:676:A:C8 | 3.04 | 0.45 |
| 6:A:687:A:H4' | 6:A:688:G:O5' | 2.17 | 0.45 |
| 6:A:575:G:N2 | 6:A:881:G:C4 | 2.85 | 0.45 |
| 56:B:101:GLU:O | 56:B:101:GLU:HG3 | 2.16 | 0.45 |
| 56:B:205:TYR:CD1 | 56:B:206:ASP:N | 2.82 | 0.45 |
| 56:B:34:HIS:O | 56:B:35:ALA:HB3 | 2.17 | 0.45 |
| 56:B:305:LEU:HD12 | 56:B:369:LEU:HD23 | 1.90 | 0.45 |
| 56:B:401:ARG:HA | 56:B:401:ARG:HD3 | 1.76 | 0.45 |
| 56:B:95:ARG:HE | 56:B:294:PHE:HZ | 1.62 | 0.45 |
| 7:D:1030:G:C6 | 7:D:1031:G:C5 | 3.05 | 0.45 |
| 7:D:1078:U:C6 | 7:D:1078:U:OP2 | 2.70 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 7:D:1171:G:H3' | 7:D:1173:G:H4' | 1.97 | 0.45 |
| 7:D:1182:A:C5 | 7:D:1183:G:N7 | 2.84 | 0.45 |
| 7:D:1236:G:HO2' | 7:D:1237:A:P | 2.40 | 0.45 |
| 7:D:1342:A:C5 | 7:D:1345:C:C4 | 3.05 | 0.45 |
| 7:D:1353:A:C8 | 7:D:1377:G:N2 | 2.85 | 0.45 |
| 7:D:1443:G:C4 | 7:D:1444:G:C8 | 3.04 | 0.45 |
| 7:D:1455:G:OP2 | 7:D:1456:G:P | 2.73 | 0.45 |
| 7:D:1472:A:H61 | 7:D:1518:C:N4 | 2.14 | 0.45 |
| 7:D:1496:A:N3 | 7:D:1496:A:H2' | 2.32 | 0.45 |
| 7:D:1497:U:OP2 | 7:D:1498:C:H5 | 1.99 | 0.45 |
| 7:D:1510:A:N7 | 7:D:1511:A:N6 | 2.65 | 0.45 |
| 7:D:1627:G:C4 | 7:D:1640:C:N3 | 2.85 | 0.45 |
| 7:D:1650:G:N1 | 7:D:1651:G:C5 | 2.85 | 0.45 |
| 7:D:1897:G:N2 | 7:D:1898:U:O2 | 2.50 | 0.45 |
| 7:D:1956:U:C4 | 7:D:1957:C:N4 | 2.84 | 0.45 |
| 7:D:2095:C:C4 | 7:D:2096:U:C4 | 3.04 | 0.45 |
| 7:D:2115:G:H5'' | 7:D:2116:G:OP2 | 2.16 | 0.45 |
| 7:D:2335:A:C6 | 7:D:2337:G:C4 | 3.05 | 0.45 |
| 7:D:411:G:N2 | 7:D:2408:U:C4 | 2.78 | 0.45 |
| 7:D:2536:G:C5 | 7:D:2537:U:C5 | 3.04 | 0.45 |
| 7:D:2693:A:H2' | 7:D:2694:G:C8 | 2.50 | 0.45 |
| 7:D:270(F):U:H6 | 7:D:270(F):U:OP2 | 1.99 | 0.45 |
| 7:D:2882:A:N6 | 7:D:2883:A:N7 | 2.65 | 0.45 |
| 7:D:376:C:N3 | 7:D:377:C:C4 | 2.84 | 0.45 |
| 7:D:452:G:N2 | 7:D:458:G:N3 | 2.64 | 0.45 |
| 7:D:579:G:N2 | 7:D:580:C:O2 | 2.49 | 0.45 |
| 7:D:599:G:N2 | 7:D:659:C:C2 | 2.85 | 0.45 |
| 7:D:667:U:C4 | 7:D:668:G:N7 | 2.84 | 0.45 |
| 7:D:730:C:H5'' | 7:D:763:G:OP1 | 2.17 | 0.45 |
| 9:F:32:ILE:CD1 | 9:F:40:HIS:HB3 | 2.47 | 0.45 |
| 9:F:7:VAL:HG23 | 9:F:8:LYS:H | 1.82 | 0.45 |
| 11:H:2:GLY:O | 11:H:4:TYR:N | 2.45 | 0.45 |
| 12:I:17:ALA:HA | 12:I:26:PHE:HB3 | 1.99 | 0.45 |
| 16:M:2:GLU:O | 16:M:21:PRO:HD2 | 2.17 | 0.45 |
| 17:N:44:VAL:HG11 | 17:N:46:ARG:CZ | 2.47 | 0.45 |
| 17:N:42:THR:HG23 | 17:N:67:THR:O | 2.17 | 0.45 |
| 19:P:80:HIS:HD2 | 56:B:316:LEU:CB | 2.27 | 0.45 |
| 24:U:56:VAL:HB | 24:U:78:GLU:HB3 | 1.97 | 0.45 |
| 25:V:88:LYS:HG2 | 25:V:88:LYS:OXT | 2.16 | 0.45 |
| 29:Z:43:VAL:HG23 | 29:Z:175:VAL:CG2 | 2.47 | 0.45 |
| 29:Z:42:GLU:CD | 29:Z:71:GLN:HE22 | 2.18 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 4:4:75:C:O5' | 4:4:76:A:OP2 | 2.35 | 0.45 |
| 5:5:1:G:C2 | 5:5:72:C:N3 | 2.84 | 0.45 |
| 6:A:1046:A:H2' | 6:A:1046:A:N3 | 2.32 | 0.45 |
| 6:A:1116:C:C4 | 6:A:1117:G:C8 | 3.05 | 0.45 |
| 6:A:130:A:O2' | 6:A:131:C:O5' | 2.28 | 0.45 |
| 6:A:1345:U:C2 | 6:A:1377:A:N1 | 2.85 | 0.45 |
| 6:A:1384:C:H2' | 6:A:1385:G:C8 | 2.51 | 0.45 |
| 6:A:1419:G:N1 | 6:A:1420:C:O2 | 2.50 | 0.45 |
| 6:A:1452:C:H1' | 6:A:1453:G:N1 | 2.31 | 0.45 |
| 6:A:29:G:H1 | 6:A:554:C:N4 | 2.14 | 0.45 |
| 6:A:456:C:C2 | 6:A:477:G:N2 | 2.84 | 0.45 |
| 6:A:511:C:N3 | 6:A:512:U:C4 | 2.85 | 0.45 |
| 6:A:593:G:C2 | 6:A:594:G:C4 | 3.04 | 0.45 |
| 6:A:709:G:C2 | 6:A:710:G:N7 | 2.84 | 0.45 |
| 6:A:80:G:O2' | 6:A:81:G:H5' | 2.17 | 0.45 |
| 6:A:907:A:N6 | 6:A:908:A:N1 | 2.63 | 0.45 |
| 56:B:166:ALA:HB1 | 56:B:172:GLU:CG | 2.27 | 0.45 |
| 56:B:47:ASP:CG | 56:B:53:ARG:HD2 | 2.37 | 0.45 |
| 56:B:493:ASN:CA | 56:B:540:ALA:O | 2.65 | 0.45 |
| 56:B:567:VAL:O | 56:B:567:VAL:HG12 | 2.17 | 0.45 |
| 7:D:1034:G:C2 | 7:D:1035:U:C2 | 3.05 | 0.45 |
| 7:D:1042:G:N3 | 7:D:1113:U:N3 | 2.64 | 0.45 |
| 7:D:1092:C:OP2 | 7:D:1092:C:C6 | 2.69 | 0.45 |
| 7:D:1278:A:H61 | 7:D:1292:U:H3 | 1.63 | 0.45 |
| 7:D:1613:G:N1 | 7:D:1619:G:C5 | 2.84 | 0.45 |
| 7:D:1627:G:C2 | 7:D:1628:G:C8 | 3.04 | 0.45 |
| 7:D:16:G:C2 | 7:D:17:G:C8 | 3.05 | 0.45 |
| 7:D:1860:G:C4 | 7:D:1861:G:N7 | 2.85 | 0.45 |
| 7:D:2094:G:H1 | 7:D:2195:C:N4 | 2.15 | 0.45 |
| 7:D:2104:G:C6 | 7:D:2105:C:N3 | 2.85 | 0.45 |
| 7:D:2332:U:H5'' | 7:D:2333:A:OP2 | 2.17 | 0.45 |
| 7:D:2444:G:H8 | 7:D:2444:G:H5'' | 1.81 | 0.45 |
| 7:D:2489:G:C6 | 7:D:2490:G:N1 | 2.85 | 0.45 |
| 7:D:270(V):G:C4 | 7:D:270(W):G:N7 | 2.85 | 0.45 |
| 7:D:2740:A:N6 | 7:D:2764:A:C4 | 2.84 | 0.45 |
| 7:D:2627:G:N2 | 7:D:2777:G:C4 | 2.85 | 0.45 |
| 7:D:285:C:H2' | 7:D:286:C:H6 | 1.81 | 0.45 |
| 7:D:329:G:OP2 | 7:D:329:G:O4' | 2.35 | 0.45 |
| 7:D:363(F):A:C4 | 7:D:364:C:H1' | 2.52 | 0.45 |
| 7:D:513:A:C2 | 7:D:514:A:C4 | 3.05 | 0.45 |
| 7:D:565:C:H4' | 7:D:1253:A:C6 | 2.52 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:609:A:H61 | 7:D:618(A):C:N4 | 2.14 | 0.45 |
| 7:D:690:G:N2 | 7:D:773:U:C2 | 2.85 | 0.45 |
| 7:D:819:A:C2 | 7:D:820:A:C4 | 3.05 | 0.45 |
| 7:D:829:A:C8 | 7:D:2248:C:H5' | 2.51 | 0.45 |
| 7:D:974:G:C6 | 7:D:1186:G:O6 | 2.70 | 0.45 |
| 7:D:993:G:C5 | 7:D:994:C:C5 | 3.05 | 0.45 |
| 8:E:100:G:C2 | 8:E:101:A:C4 | 3.05 | 0.45 |
| 8:E:9:G:C2 | 8:E:112:G:C4 | 3.04 | 0.45 |
| 8:E:40:U:C2 | 8:E:43:C:OP2 | 2.69 | 0.45 |
| 8:E:66:A:O2' | 8:E:67:G:OP2 | 2.29 | 0.45 |
| 10:G:58:GLU:HB2 | 10:G:65:ALA:HB3 | 1.99 | 0.45 |
| 11:H:143:GLY:HA2 | 11:H:185:PHE:HB3 | 1.98 | 0.45 |
| 12:I:15:ARG:HG3 | 12:I:28:PHE:HE1 | 1.82 | 0.45 |
| 14:K:5:ARG:NH1 | 14:K:7:ALA:HA | 2.31 | 0.45 |
| 16:M:110:GLU:OE1 | 16:M:119:ALA:HB1 | 2.16 | 0.45 |
| 18:O:32:ILE:O | 18:O:40:ILE:HD12 | 2.17 | 0.45 |
| 18:O:66:LEU:C | 18:O:70:LYS:HZ3 | 2.20 | 0.45 |
| 24:U:21:VAL:CG2 | 24:U:42:TYR:HB2 | 2.47 | 0.45 |
| 26:W:16:LEU:C | 26:W:20:LEU:HD13 | 2.36 | 0.45 |
| 29:Z:44:HIS:HB2 | 29:Z:213:TYR:CD2 | 2.52 | 0.45 |
| 3:3:102:GLU:O | 3:3:106:GLU:OE2 | 2.35 | 0.45 |
| 6:A:1179:A:H8 | 6:A:1179:A:P | 2.39 | 0.45 |
| 6:A:181:G:N1 | 6:A:194:C:C2 | 2.85 | 0.45 |
| 6:A:374:A:C2 | 6:A:375:U:C2 | 3.05 | 0.45 |
| 6:A:495:A:N6 | 11:H:119:GLN:HE22 | 2.13 | 0.45 |
| 6:A:516:U:H3' | 6:A:517:G:H8 | 1.80 | 0.45 |
| 6:A:592:G:C6 | 6:A:648:A:C6 | 3.05 | 0.45 |
| 6:A:664:G:HO2' | 6:A:666:G:P | 2.27 | 0.45 |
| 6:A:718:G:O5' | 18:O:117:ASN:ND2 | 2.49 | 0.45 |
| 6:A:874:G:C2 | 6:A:875:C:C2 | 3.05 | 0.45 |
| 6:A:918:A:H2' | 6:A:919:A:C8 | 2.51 | 0.45 |
| 56:B:121:PHE:CZ | 56:B:157:GLY:HA2 | 2.37 | 0.45 |
| 56:B:196:LEU:HA | 56:B:219:GLU:O | 2.16 | 0.45 |
| 56:B:265:VAL:HG13 | 56:B:266:ALA:N | 2.32 | 0.45 |
| 56:B:536:PRO:HB2 | 56:B:550:THR:HG22 | 1.88 | 0.45 |
| 7:D:1024:G:O6 | 7:D:1025:G:C6 | 2.69 | 0.45 |
| 7:D:1061:U:H2' | 7:D:1061:U:P | 2.57 | 0.45 |
| 7:D:1168:G:H2' | 7:D:1169:G:O5' | 2.17 | 0.45 |
| 7:D:1274:A:C6 | 7:D:1302:A:C2 | 3.05 | 0.45 |
| 7:D:1281:G:N2 | 7:D:1290:C:C2 | 2.85 | 0.45 |
| 7:D:1336:A:H2' | 7:D:1337:G:H8 | 1.82 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 7:D:1664:A:N7 | 7:D:1664:A:OP2 | 2.50 | 0.45 |
| 7:D:1819:A:H4' | 7:D:1820:U:C5' | 2.45 | 0.45 |
| 7:D:2049:G:O2' | 7:D:2050:C:OP1 | 2.32 | 0.45 |
| 7:D:2106:G:C4 | 7:D:2108:C:C2 | 3.04 | 0.45 |
| 7:D:2166:G:H2' | 7:D:2167:U:C6 | 2.52 | 0.45 |
| 7:D:2168:G:H22 | 7:D:2170:A:H2' | 1.81 | 0.45 |
| 7:D:270(I):G:O6 | 7:D:270(Q):C:N4 | 2.35 | 0.45 |
| 7:D:2712:U:OP1 | 7:D:2714:G:H4' | 2.16 | 0.45 |
| 1:I:35:ARG:NH1 | 7:D:2742:C:OP1 | 2.50 | 0.45 |
| 7:D:2744:G:N7 | 7:D:2755:C:H1' | 2.32 | 0.45 |
| 7:D:2814:C:N4 | 7:D:2886:G:H1 | 2.13 | 0.45 |
| 7:D:421:U:O2' | 7:D:422:A:P | 2.74 | 0.45 |
| 7:D:498:G:H5'' | 7:D:499:U:OP2 | 2.16 | 0.45 |
| 7:D:529:A:O2' | 7:D:530:G:O5' | 2.27 | 0.45 |
| 7:D:612:G:N3 | 7:D:615:G:N2 | 2.65 | 0.45 |
| 7:D:684:G:O3' | 7:D:686:G:N2 | 2.50 | 0.45 |
| 7:D:957:A:H8 | 7:D:957:A:O5' | 1.99 | 0.45 |
| 8:E:24:G:O2' | 8:E:27:C:N4 | 2.50 | 0.45 |
| 8:E:46:A:H2' | 8:E:47:C:O4' | 2.17 | 0.45 |
| 10:G:6:HIS:HD2 | 10:G:8:ILE:CG2 | 2.29 | 0.45 |
| 11:H:185:PHE:CZ | 11:H:188:LEU:HA | 2.46 | 0.45 |
| 11:H:190:ASP:O | 11:H:192:GLU:N | 2.47 | 0.45 |
| 13:J:14:LEU:HD11 | 13:J:18:GLN:HB3 | 1.98 | 0.45 |
| 16:M:73:GLN:O | 16:M:77:ILE:HG13 | 2.17 | 0.45 |
| 25:V:29:PHE:CD2 | 25:V:31:LEU:HD12 | 2.51 | 0.45 |
| 25:V:38:GLU:OE1 | 25:V:38:GLU:N | 2.43 | 0.45 |
| 6:A:719:C:O2' | 25:V:49:LYS:HD2 | 2.17 | 0.45 |
| 26:W:29:ARG:HE | 26:W:29:ARG:H | 1.63 | 0.45 |
| 29:Z:38:ASP:CG | 29:Z:177:LYS:HD3 | 2.03 | 0.45 |
| 2:2:62:ALA:O | 2:2:66:LEU:N | 2.49 | 0.45 |
| 6:A:1057:G:C6 | 6:A:1058:G:C4 | 3.04 | 0.45 |
| 6:A:1058:G:C6 | 6:A:1059:C:C4 | 3.05 | 0.45 |
| 6:A:1248:A:C6 | 6:A:1290:G:C6 | 3.05 | 0.45 |
| 6:A:1447:G:P | 6:A:1447:G:H8 | 2.39 | 0.45 |
| 6:A:1489:G:C2 | 6:A:1490:C:O2 | 2.70 | 0.45 |
| 6:A:1520:G:N1 | 6:A:1521:G:C5 | 2.85 | 0.45 |
| 6:A:154:C:C2 | 6:A:168:G:C2 | 3.05 | 0.45 |
| 6:A:456:C:N1 | 6:A:477:G:N2 | 2.65 | 0.45 |
| 6:A:566:G:H4' | 6:A:567:G:OP1 | 2.16 | 0.45 |
| 6:A:701:C:C4 | 6:A:703:G:N2 | 2.85 | 0.45 |
| 6:A:898:G:C2 | 6:A:902:G:C6 | 3.05 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-----------------|--------------------------|-------------------|
| 6:A:941:G:C2 | 6:A:1343:G:C2 | 3.05 | 0.45 |
| 56:B:396:LEU:O | 56:B:491:LYS:NZ | 2.48 | 0.45 |
| 56:B:555:ARG:CG | 56:B:556:LYS:H | 2.30 | 0.45 |
| 56:B:64:VAL:HG23 | 56:B:64:VAL:O | 2.17 | 0.45 |
| 7:D:1000:A:OP2 | 7:D:1154:G:C6 | 2.69 | 0.45 |
| 7:D:1174:A:C2' | 7:D:1175:U:C5 | 2.88 | 0.45 |
| 7:D:1281:G:C5 | 7:D:1282:U:C4 | 3.04 | 0.45 |
| 7:D:1395:A:N1 | 7:D:1398:C:C2 | 2.85 | 0.45 |
| 7:D:1450:C:O3' | 7:D:1451:C:H4' | 2.16 | 0.45 |
| 7:D:1513:C:OP2 | 7:D:1513:C:H6 | 2.00 | 0.45 |
| 7:D:151:C:H42 | 7:D:175:G:H1 | 1.64 | 0.45 |
| 7:D:1579:A:C5' | 7:D:1580:A:N7 | 2.77 | 0.45 |
| 7:D:1641:A:C8 | 7:D:1642:G:C8 | 3.04 | 0.45 |
| 7:D:1675:C:N4 | 7:D:1676:A:C2 | 2.85 | 0.45 |
| 7:D:1716:U:O2 | 7:D:1743:G:C6 | 2.70 | 0.45 |
| 7:D:1798:U:C4 | 7:D:1819:A:C2 | 3.05 | 0.45 |
| 7:D:2033:A:O2' | 7:D:2034:U:P | 2.75 | 0.45 |
| 7:D:2067:G:C4 | 7:D:2444:G:N2 | 2.85 | 0.45 |
| 7:D:2135:A:O5' | 7:D:2159:G:O2' | 2.35 | 0.45 |
| 7:D:216:A:C5 | 7:D:432:A:C6 | 3.04 | 0.45 |
| 7:D:2218:G:C2 | 7:D:2219:G:C5 | 3.05 | 0.45 |
| 7:D:2377:A:H2' | 7:D:2378:A:C8 | 2.52 | 0.45 |
| 7:D:2411:A:H2' | 7:D:2412:A:H8 | 1.82 | 0.45 |
| 7:D:244:A:C2 | 7:D:255:A:C4 | 3.05 | 0.45 |
| 1:1:6:SER:OG | 7:D:2466:C:H5'' | 2.17 | 0.45 |
| 7:D:2499:C:H5' | 7:D:2500:U:OP2 | 2.16 | 0.45 |
| 7:D:270(J):G:N2 | 7:D:270(P):C:O2 | 2.28 | 0.45 |
| 7:D:2792:G:H2' | 7:D:2793:G:H8 | 1.81 | 0.45 |
| 7:D:26:G:C6 | 7:D:27:G:C2 | 3.05 | 0.45 |
| 7:D:375:C:N3 | 7:D:399:G:N2 | 2.52 | 0.45 |
| 7:D:390:A:N3 | 7:D:390:A:H2' | 2.32 | 0.45 |
| 7:D:491:G:N7 | 7:D:492:A:N7 | 2.65 | 0.45 |
| 7:D:549:G:H2' | 7:D:550:G:O4' | 2.17 | 0.45 |
| 7:D:704:G:C6 | 7:D:726:G:C6 | 3.05 | 0.45 |
| 7:D:748:G:C2 | 7:D:750:A:N6 | 2.84 | 0.45 |
| 7:D:844:C:H3' | 7:D:845:G:C8 | 2.52 | 0.45 |
| 8:E:23:G:H1 | 8:E:60:C:H42 | 1.64 | 0.45 |
| 8:E:64:C:H2' | 8:E:65:C:C6 | 2.51 | 0.45 |
| 9:F:95:GLN:HA | 9:F:96:ARG:NH1 | 2.32 | 0.45 |
| 7:D:2406:U:C5 | 11:H:65:ARG:HB3 | 169.08 | 0.45 |
| 7:D:1251:C:OP1 | 16:M:10:ARG:HG3 | 174.22 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 20:Q:25:ILE:HG23 | 20:Q:29:ARG:CG | 2.46 | 0.45 |
| 26:W:40:ILE:HB | 26:W:67:VAL:C | 2.37 | 0.45 |
| 28:Y:10:ARG:HA | 28:Y:13:ILE:CG2 | 2.47 | 0.45 |
| 29:Z:42:GLU:H | 29:Z:214:VAL:CG1 | 2.29 | 0.45 |
| 5:5:18:G:N2 | 5:5:55:U:H6 | 2.15 | 0.45 |
| 5:5:74:C:O2' | 5:5:75:C:OP1 | 2.24 | 0.45 |
| 6:A:1386:G:H2' | 6:A:1387:G:H8 | 1.81 | 0.45 |
| 6:A:1447:G:C2 | 6:A:1460:A:N3 | 2.85 | 0.45 |
| 6:A:1452:C:O4' | 6:A:1453:G:C2 | 2.71 | 0.45 |
| 6:A:163:C:C4 | 6:A:164:U:C4 | 3.05 | 0.45 |
| 6:A:21:G:H21 | 6:A:914:A:H62 | 1.65 | 0.45 |
| 6:A:44:G:N3 | 6:A:399:G:N2 | 2.65 | 0.45 |
| 6:A:479:C:OP2 | 6:A:479:C:C5 | 2.70 | 0.45 |
| 6:A:57:G:H2' | 6:A:58:C:H6 | 1.81 | 0.45 |
| 6:A:737:A:H2' | 6:A:738:C:C6 | 2.52 | 0.45 |
| 6:A:773:G:C2 | 6:A:774:G:C5 | 3.05 | 0.45 |
| 6:A:80:G:N2 | 6:A:90:C:C2 | 2.85 | 0.45 |
| 6:A:849:C:C5 | 6:A:850:U:O4 | 2.70 | 0.45 |
| 6:A:92:G:C4 | 6:A:93:U:C5 | 3.05 | 0.45 |
| 56:B:118:LEU:HA | 56:B:118:LEU:HD23 | 1.83 | 0.45 |
| 56:B:36:VAL:CG2 | 56:B:248:GLN:HE21 | 2.24 | 0.45 |
| 7:D:1037:G:C2 | 7:D:1038:C:C2 | 3.05 | 0.45 |
| 7:D:1072:C:OP2 | 7:D:1073:A:OP1 | 2.35 | 0.45 |
| 7:D:1056:G:O6 | 7:D:1101:U:H5'' | 2.16 | 0.45 |
| 7:D:1106:G:H5'' | 7:D:1107:G:OP2 | 2.17 | 0.45 |
| 1:1:36:GLN:NE2 | 7:D:1124:C:H1' | 2.32 | 0.45 |
| 7:D:1354:A:N7 | 7:D:1355:G:C4 | 2.85 | 0.45 |
| 7:D:1344:G:C2 | 7:D:1385:G:C8 | 3.05 | 0.45 |
| 7:D:154:G:C6 | 7:D:155:C:N4 | 2.84 | 0.45 |
| 7:D:1594:G:C4 | 7:D:1595:G:C8 | 3.04 | 0.45 |
| 7:D:1682:G:H5'' | 7:D:1683:C:OP2 | 2.17 | 0.45 |
| 7:D:764:A:N6 | 7:D:1775:U:H3 | 2.02 | 0.45 |
| 7:D:2335:A:H2' | 7:D:2336:A:H3' | 1.99 | 0.45 |
| 7:D:2362:G:N2 | 7:D:2363:C:O2 | 2.50 | 0.45 |
| 7:D:2510:C:C4 | 7:D:2511:U:N3 | 2.84 | 0.45 |
| 7:D:2521:C:HO2' | 7:D:2564:A:HO2' | 1.65 | 0.45 |
| 7:D:2572:A:C2' | 7:D:2573:C:OP2 | 2.65 | 0.45 |
| 7:D:270(I):G:C2 | 7:D:270(R):G:C5 | 3.05 | 0.45 |
| 7:D:2837:G:C2 | 7:D:2838:G:C8 | 3.05 | 0.45 |
| 7:D:373:U:HO2' | 7:D:374:A:P | 2.38 | 0.45 |
| 7:D:509:C:O2' | 7:D:510:C:H5' | 2.16 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 7:D:696:G:C2 | 7:D:767:U:O2 | 2.69 | 0.45 |
| 7:D:922:U:O2 | 7:D:923:C:N3 | 2.48 | 0.45 |
| 7:D:926:A:C2' | 7:D:928:G:C8 | 3.00 | 0.45 |
| 7:D:948:G:H2' | 7:D:949:C:O4' | 2.16 | 0.45 |
| 7:D:974:G:OP2 | 7:D:974(A):C:C5' | 2.65 | 0.45 |
| 6:A:1104:G:C3' | 9:F:111:ARG:HH21 | 2.30 | 0.45 |
| 17:N:7:LYS:HA | 17:N:71:LEU:CD2 | 2.46 | 0.45 |
| 20:Q:80:ARG:HH11 | 20:Q:80:ARG:HG3 | 1.81 | 0.45 |
| 6:A:761:G:P | 24:U:102:GLY:HA3 | 2.57 | 0.45 |
| 26:W:51:VAL:HG11 | 26:W:75:ALA:CB | 2.47 | 0.45 |
| 6:A:1320:C:H5'' | 26:W:70:LYS:HZ2 | 0.49 | 0.45 |
| 27:X:53:LEU:O | 27:X:57:ARG:HG3 | 2.17 | 0.45 |
| 3:3:134:MET:HE2 | 3:3:136:VAL:HB | 1.99 | 0.44 |
| 6:A:122:G:N1 | 6:A:123:C:C2 | 2.85 | 0.44 |
| 6:A:127:G:N2 | 24:U:61:GLU:OE2 | 2.49 | 0.44 |
| 6:A:1399:C:N3 | 6:A:1401:G:C2 | 2.85 | 0.44 |
| 6:A:1433:A:H5'' | 6:A:1434:A:OP2 | 2.16 | 0.44 |
| 6:A:172:A:H5'' | 6:A:173:U:OP2 | 2.17 | 0.44 |
| 6:A:286:G:C2 | 6:A:287:U:C2 | 3.05 | 0.44 |
| 6:A:443:C:O2 | 6:A:491:G:N1 | 2.47 | 0.44 |
| 6:A:464:G:OP2 | 6:A:465:A:C4 | 2.70 | 0.44 |
| 6:A:503:C:O5' | 6:A:503:C:C6 | 2.71 | 0.44 |
| 6:A:577:G:H2' | 6:A:578:C:H6 | 1.83 | 0.44 |
| 6:A:597:G:H5'' | 6:A:598:U:OP2 | 2.18 | 0.44 |
| 6:A:666:G:C5 | 6:A:667:G:N7 | 2.85 | 0.44 |
| 6:A:583:A:H2 | 6:A:759:A:C4 | 2.35 | 0.44 |
| 6:A:977:A:O2' | 6:A:979:C:OP2 | 2.29 | 0.44 |
| 56:B:131:ILE:HG22 | 56:B:132:ILE:N | 2.32 | 0.44 |
| 56:B:241:LYS:CG | 56:B:242:VAL:N | 2.80 | 0.44 |
| 56:B:280:ILE:CG2 | 56:B:281:THR:H | 2.07 | 0.44 |
| 56:B:328:ALA:O | 56:B:330:LEU:CD1 | 2.66 | 0.44 |
| 56:B:40:GLU:HG2 | 56:B:41:MET:H | 1.82 | 0.44 |
| 7:D:1034:G:C6 | 7:D:1035:U:C4 | 3.05 | 0.44 |
| 7:D:1137:G:H5'' | 7:D:1138:G:OP2 | 2.17 | 0.44 |
| 7:D:1221:C:HO2' | 7:D:1222:C:P | 2.40 | 0.44 |
| 7:D:1296:G:N2 | 7:D:1297:C:C2 | 2.85 | 0.44 |
| 7:D:1447:G:C2 | 7:D:1448:G:C4 | 3.05 | 0.44 |
| 7:D:1492:G:N3 | 7:D:1493:C:C4 | 2.85 | 0.44 |
| 7:D:1538:G:C6 | 7:D:1539:G:C6 | 3.06 | 0.44 |
| 7:D:1589:C:C4 | 7:D:1590:U:O4 | 2.70 | 0.44 |
| 7:D:740:U:O5' | 7:D:1784:A:C6 | 2.70 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 7:D:1821:A:C6 | 7:D:1822:G:C6 | 3.06 | 0.44 |
| 7:D:1847:A:C6 | 7:D:1890:A:OP2 | 2.65 | 0.44 |
| 7:D:1900:A:HO2' | 7:D:1901:A:P | 2.41 | 0.44 |
| 7:D:2027:G:C2 | 7:D:2037:G:C2 | 3.05 | 0.44 |
| 7:D:2105:C:HO2' | 7:D:2106:G:H5' | 1.82 | 0.44 |
| 7:D:2230:G:C2 | 7:D:2231:C:C2 | 3.04 | 0.44 |
| 7:D:2671:A:H2' | 7:D:2672:G:H8 | 1.82 | 0.44 |
| 7:D:270(X):G:C6 | 7:D:270(Y):G:C4 | 3.05 | 0.44 |
| 7:D:2744:G:C2 | 7:D:2761:G:C4 | 3.05 | 0.44 |
| 7:D:301:G:H1 | 7:D:316:C:N4 | 2.14 | 0.44 |
| 7:D:309:G:C6 | 7:D:330:A:C6 | 3.05 | 0.44 |
| 7:D:354:G:C6 | 7:D:355:G:C6 | 3.04 | 0.44 |
| 7:D:492:A:C5 | 7:D:493:G:C8 | 3.05 | 0.44 |
| 7:D:541:C:H5'' | 7:D:541:C:H6 | 1.83 | 0.44 |
| 7:D:558:G:C6 | 7:D:559:G:O6 | 2.70 | 0.44 |
| 7:D:648:G:HO2' | 7:D:649:G:H5' | 1.83 | 0.44 |
| 7:D:763:G:C2 | 7:D:765:G:C4 | 3.04 | 0.44 |
| 7:D:838:C:H2' | 7:D:839:U:H6 | 1.82 | 0.44 |
| 7:D:974:G:OP2 | 7:D:974(A):C:P | 2.74 | 0.44 |
| 11:H:20:TYR:HA | 11:H:31:CYS:SG | 2.56 | 0.44 |
| 11:H:22:LYS:HB3 | 11:H:26:CYS:HB2 | 1.98 | 0.44 |
| 13:J:69:GLU:O | 13:J:72:VAL:HG13 | 2.16 | 0.44 |
| 6:A:1378:C:O3' | 14:K:6:ARG:NH1 | 2.48 | 0.44 |
| 17:N:47:PHE:CE1 | 21:R:44:LEU:HD21 | 2.51 | 0.44 |
| 21:R:21:TYR:OH | 21:R:23:ARG:NH2 | 2.49 | 0.44 |
| 23:T:45:THR:OG1 | 23:T:48:TRP:HB3 | 2.17 | 0.44 |
| 4:4:9:G:N2 | 4:4:45:G:C5 | 2.86 | 0.44 |
| 6:A:123:C:H2' | 6:A:124:G:C8 | 2.51 | 0.44 |
| 6:A:1480:G:C6 | 6:A:1481:U:N3 | 2.85 | 0.44 |
| 6:A:14:U:N3 | 6:A:17:U:OP2 | 2.40 | 0.44 |
| 6:A:328:C:H4' | 6:A:329:A:C5' | 2.48 | 0.44 |
| 6:A:512:U:H2' | 6:A:513:C:H6 | 1.82 | 0.44 |
| 6:A:635:G:C6 | 6:A:636:U:C4 | 3.04 | 0.44 |
| 6:A:663:A:H2' | 6:A:664:G:H8 | 1.82 | 0.44 |
| 6:A:708:C:H2' | 6:A:709:G:H8 | 1.83 | 0.44 |
| 6:A:717:C:N4 | 6:A:734:G:N7 | 2.65 | 0.44 |
| 6:A:764:C:H2' | 6:A:765:G:C8 | 2.53 | 0.44 |
| 6:A:85:U:C6 | 6:A:85:U:O5' | 2.71 | 0.44 |
| 6:A:85:U:C2' | 6:A:86:U:C5' | 2.87 | 0.44 |
| 6:A:90:C:C2' | 6:A:91:C:C6 | 2.86 | 0.44 |
| 56:B:106:VAL:HG11 | 56:B:136:ASN:ND2 | 2.32 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 56:B:16:ALA:N | 56:B:22:LYS:CE | 2.74 | 0.44 |
| 56:B:197:LYS:HA | 56:B:281:THR:HG22 | 1.54 | 0.44 |
| 56:B:33:THR:HG21 | 56:B:69:ARG:CG | 2.47 | 0.44 |
| 56:B:383:LYS:N | 56:B:402:ILE:CB | 2.78 | 0.44 |
| 56:B:490:VAL:HB | 56:B:508:ALA:C | 2.36 | 0.44 |
| 56:B:338:THR:CG2 | 56:B:502:ASP:CG | 2.86 | 0.44 |
| 56:B:530:ARG:HB3 | 56:B:533:PHE:HD2 | 1.83 | 0.44 |
| 56:B:13:SER:HB2 | 56:B:97:LEU:HD21 | 2.00 | 0.44 |
| 7:D:1024:G:C6 | 7:D:1139:G:N1 | 2.76 | 0.44 |
| 7:D:1041:C:O2 | 7:D:1115:G:C6 | 2.70 | 0.44 |
| 7:D:1047:G:C5 | 7:D:1110:G:C6 | 3.05 | 0.44 |
| 7:D:1015:G:O6 | 7:D:1148:A:N6 | 2.50 | 0.44 |
| 7:D:1171:G:C5 | 7:D:1173:G:O2' | 2.70 | 0.44 |
| 7:D:1255:U:H5' | 7:D:1256:G:H5'' | 2.00 | 0.44 |
| 7:D:1278:A:H2' | 7:D:1279:G:C8 | 2.53 | 0.44 |
| 7:D:1410:G:C6 | 7:D:1593:G:C6 | 3.04 | 0.44 |
| 7:D:1485:G:C6 | 7:D:1486:A:N6 | 2.85 | 0.44 |
| 7:D:1588:C:C6 | 7:D:1588:C:O5' | 2.70 | 0.44 |
| 7:D:1717:G:O5' | 7:D:1717:G:H8 | 2.00 | 0.44 |
| 7:D:1764:G:N2 | 7:D:1765:C:C2 | 2.85 | 0.44 |
| 7:D:1802:A:OP2 | 7:D:1815:A:N6 | 2.38 | 0.44 |
| 7:D:1363:C:C5' | 7:D:1809:A:H62 | 2.29 | 0.44 |
| 7:D:1881:C:H41 | 7:D:1882:C:N4 | 2.15 | 0.44 |
| 7:D:1916:A:C6 | 7:D:1917:U:O4 | 2.70 | 0.44 |
| 7:D:2087:G:C6 | 7:D:2088:G:C5 | 3.06 | 0.44 |
| 7:D:2227:A:C5 | 7:D:2228:G:C6 | 3.01 | 0.44 |
| 7:D:227:A:H1' | 7:D:228:A:C5 | 2.51 | 0.44 |
| 7:D:242:G:O2' | 7:D:243:U:OP2 | 2.36 | 0.44 |
| 7:D:250:G:N1 | 7:D:251:A:C2 | 2.85 | 0.44 |
| 7:D:2517:C:C4 | 7:D:2542:A:C6 | 3.05 | 0.44 |
| 7:D:2657:A:C4 | 7:D:2665:A:C6 | 3.05 | 0.44 |
| 7:D:2839:G:N2 | 7:D:2880:C:N3 | 2.66 | 0.44 |
| 7:D:335:C:H2' | 7:D:336:C:C6 | 2.50 | 0.44 |
| 7:D:295:G:OP2 | 7:D:338:G:N2 | 2.50 | 0.44 |
| 7:D:460:A:C2 | 7:D:470:A:C5 | 3.05 | 0.44 |
| 7:D:54:G:C6 | 7:D:55:G:N7 | 2.86 | 0.44 |
| 7:D:699:A:N7 | 7:D:734:A:C6 | 2.85 | 0.44 |
| 7:D:776:G:C2 | 7:D:793:A:N6 | 2.85 | 0.44 |
| 7:D:81:G:C5 | 7:D:82:G:C5 | 3.06 | 0.44 |
| 7:D:854:G:N1 | 7:D:855:G:C5 | 2.85 | 0.44 |
| 7:D:926:A:C3' | 7:D:928:G:C8 | 3.01 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 7:D:974:G:C5' | 7:D:974(A):C:OP2 | 2.66 | 0.44 |
| 8:E:116:G:C2 | 8:E:117:G:C4 | 3.06 | 0.44 |
| 9:F:130:ARG:O | 9:F:135:GLN:NE2 | 2.38 | 0.44 |
| 9:F:182:ILE:HA | 9:F:183:PRO:HD3 | 1.78 | 0.44 |
| 10:G:68:VAL:HG12 | 10:G:70:VAL:HG23 | 1.98 | 0.44 |
| 11:H:18:LYS:HG2 | 11:H:33:MET:HG3 | 1.99 | 0.44 |
| 11:H:68:TYR:CD2 | 11:H:97:LEU:HD22 | 2.52 | 0.44 |
| 13:J:91:VAL:HG11 | 13:J:94:GLN:HE22 | 1.81 | 0.44 |
| 15:L:81:HIS:HD2 | 15:L:138:TRP:CZ3 | 2.34 | 0.44 |
| 15:L:73:ASP:OD1 | 15:L:74:PRO:HD2 | 2.16 | 0.44 |
| 16:M:105:ASP:HB3 | 16:M:107:ARG:HB2 | 1.99 | 0.44 |
| 17:N:6:ILE:HG12 | 17:N:73:ASP:OD1 | 2.15 | 0.44 |
| 7:D:2884:U:C5 | 26:W:52:TYR:HE1 | 167.21 | 0.44 |
| 1:1:10:ILE:HG21 | 7:D:2477:C:N4 | 2.32 | 0.44 |
| 3:3:27:LEU:C | 3:3:32:ALA:CB | 2.86 | 0.44 |
| 6:A:1263:C:H2' | 6:A:1264:C:C6 | 2.51 | 0.44 |
| 6:A:1356:G:H1 | 6:A:1366:C:H42 | 1.65 | 0.44 |
| 6:A:1384:C:C4 | 6:A:1385:G:N7 | 2.85 | 0.44 |
| 6:A:1448:C:H2' | 6:A:1449:C:H6 | 1.82 | 0.44 |
| 6:A:243:A:C2 | 6:A:246:A:C8 | 3.05 | 0.44 |
| 6:A:251:G:H4' | 6:A:252:U:O5' | 2.16 | 0.44 |
| 6:A:258:G:C2 | 6:A:259:G:C4 | 3.05 | 0.44 |
| 6:A:321:A:N7 | 6:A:328:C:C6 | 2.85 | 0.44 |
| 6:A:325:A:H2' | 6:A:326:G:C8 | 2.53 | 0.44 |
| 6:A:451:A:C6 | 6:A:481:G:C5 | 3.06 | 0.44 |
| 6:A:714:G:C2 | 6:A:715:A:C4 | 3.05 | 0.44 |
| 6:A:755:G:N2 | 6:A:756:C:C2 | 2.85 | 0.44 |
| 6:A:875:C:O3' | 15:L:14:ARG:NH2 | 2.32 | 0.44 |
| 6:A:88:C:H2' | 6:A:89:U:C6 | 2.52 | 0.44 |
| 6:A:916:G:H2' | 6:A:917:G:C8 | 2.52 | 0.44 |
| 6:A:947:G:C6 | 6:A:948:C:C4 | 3.06 | 0.44 |
| 56:B:18:VAL:C | 56:B:20:HIS:H | 2.21 | 0.44 |
| 56:B:379:LYS:NZ | 56:B:485:ARG:N | 2.60 | 0.44 |
| 56:B:380:VAL:CG2 | 56:B:381:ARG:N | 2.80 | 0.44 |
| 56:B:431:LYS:HB2 | 56:B:458:GLU:CG | 2.46 | 0.44 |
| 56:B:537:ILE:CD1 | 56:B:551:VAL:HG22 | 2.45 | 0.44 |
| 56:B:58:THR:HB | 56:B:84:PRO:CG | 2.45 | 0.44 |
| 7:D:1054:A:N3 | 7:D:1107:G:N2 | 2.66 | 0.44 |
| 7:D:1144:G:C6 | 7:D:1145:C:C4 | 3.06 | 0.44 |
| 7:D:1167:U:C2' | 7:D:1168:G:H5' | 2.47 | 0.44 |
| 7:D:119:A:HO2' | 7:D:120:U:P | 2.39 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 7:D:1240:U:H2' | 7:D:1241:A:C8 | 2.53 | 0.44 |
| 7:D:1197:G:N2 | 7:D:1250:G:C4 | 2.85 | 0.44 |
| 7:D:1401:G:H5'' | 7:D:1402:C:OP2 | 2.18 | 0.44 |
| 7:D:1444(A):A:N6 | 7:D:1462:C:OP2 | 2.50 | 0.44 |
| 7:D:1456:G:O6 | 7:D:1457:A:N6 | 2.51 | 0.44 |
| 7:D:1692:U:O2 | 7:D:1696:G:C2 | 2.71 | 0.44 |
| 7:D:1732:A:OP1 | 7:D:1733:G:C5 | 2.70 | 0.44 |
| 7:D:1734:C:OP2 | 7:D:1734:C:C6 | 2.71 | 0.44 |
| 7:D:1881:C:N4 | 7:D:1882:C:C4 | 2.85 | 0.44 |
| 7:D:2267:A:O2' | 7:D:2268:A:OP2 | 2.24 | 0.44 |
| 7:D:1128:A:N6 | 7:D:2518:A:H61 | 2.15 | 0.44 |
| 7:D:2645:G:H4' | 7:D:2732:G:O2' | 2.17 | 0.44 |
| 7:D:2714:G:N2 | 7:D:2715:C:O2 | 2.51 | 0.44 |
| 7:D:2896:C:H3' | 7:D:2896:C:H6 | 1.81 | 0.44 |
| 7:D:290:G:OP2 | 7:D:290:G:O4' | 2.34 | 0.44 |
| 7:D:371:A:C5' | 7:D:423:A:H62 | 2.28 | 0.44 |
| 7:D:401:A:C4 | 7:D:402:A:C8 | 3.05 | 0.44 |
| 7:D:479:A:C2 | 7:D:480:A:C6 | 3.06 | 0.44 |
| 7:D:531:C:H5' | 7:D:532:A:N3 | 2.33 | 0.44 |
| 7:D:592:G:H1 | 7:D:665:C:H42 | 1.66 | 0.44 |
| 7:D:696:G:C2 | 7:D:697:C:C2 | 3.06 | 0.44 |
| 7:D:715:G:C3' | 7:D:715:G:C8 | 2.99 | 0.44 |
| 7:D:909:A:N6 | 7:D:912:C:O2 | 2.50 | 0.44 |
| 7:D:972:G:C6 | 7:D:973:A:C5 | 3.06 | 0.44 |
| 7:D:980:A:N7 | 7:D:981:A:C6 | 2.85 | 0.44 |
| 8:E:34:U:O4 | 8:E:44:G:H2' | 2.18 | 0.44 |
| 10:G:103:VAL:O | 10:G:104:GLN:NE2 | 2.50 | 0.44 |
| 10:G:37:GLN:HE21 | 21:R:26:ARG:HD2 | 1.81 | 0.44 |
| 12:I:128:PRO:O | 12:I:131:ILE:HG22 | 2.17 | 0.44 |
| 13:J:28:ARG:O | 13:J:31:GLU:HB3 | 2.18 | 0.44 |
| 23:T:60:LEU:HA | 23:T:60:LEU:HD23 | 1.76 | 0.44 |
| 24:U:12:SER:OG | 24:U:13:ASP:N | 2.50 | 0.44 |
| 24:U:90:ILE:O | 24:U:93:GLN:HB2 | 2.17 | 0.44 |
| 13:J:97:PHE:HZ | 25:V:62:GLU:OE1 | 2.00 | 0.44 |
| 7:D:2160:G:H22 | 29:Z:6:ARG:NH2 | 2.14 | 0.44 |
| 6:A:109:A:C8 | 6:A:327:A:N3 | 2.85 | 0.44 |
| 6:A:1256:A:O3' | 6:A:1257:U:H4' | 2.16 | 0.44 |
| 6:A:1312:G:N2 | 6:A:1313:U:C2 | 2.85 | 0.44 |
| 6:A:945:G:H21 | 6:A:1334:G:H4' | 1.82 | 0.44 |
| 6:A:1446:A:O2' | 6:A:1447:G:C8 | 2.71 | 0.44 |
| 6:A:1461:G:N2 | 6:A:1462:G:C5 | 2.85 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-----------------|-------------------|--------------------------|-------------------|
| 6:A:329:A:C6 | 6:A:332:G:C2 | 3.06 | 0.44 |
| 6:A:501:C:H6 | 6:A:501:C:O5' | 2.00 | 0.44 |
| 6:A:503:C:O2' | 6:A:504:C:H5' | 2.17 | 0.44 |
| 6:A:575:G:C2 | 6:A:881:G:N3 | 2.85 | 0.44 |
| 6:A:582:U:O2 | 6:A:583:A:C4 | 2.71 | 0.44 |
| 6:A:596:C:N4 | 6:A:645:C:N3 | 2.66 | 0.44 |
| 6:A:74:C:C4 | 6:A:75:C:N4 | 2.81 | 0.44 |
| 6:A:818:G:HO2' | 6:A:819:A:P | 2.39 | 0.44 |
| 6:A:890:G:H2' | 6:A:906:G:O6 | 2.17 | 0.44 |
| 56:B:203:SER:O | 56:B:204:VAL:HG22 | 2.17 | 0.44 |
| 56:B:17:HIS:CB | 56:B:20:HIS:CG | 3.00 | 0.44 |
| 56:B:331:THR:O | 56:B:332:PHE:CD2 | 2.71 | 0.44 |
| 56:B:306:TYR:CZ | 56:B:339:ALA:HB3 | 2.52 | 0.44 |
| 56:B:43:GLU:HB3 | 56:B:53:ARG:HH12 | 1.82 | 0.44 |
| 7:D:1138:G:C2 | 7:D:1139:G:C5 | 3.05 | 0.44 |
| 7:D:1167:U:H2' | 7:D:1168:G:H5' | 1.99 | 0.44 |
| 7:D:1262:A:C2 | 7:D:1263:U:C2 | 3.06 | 0.44 |
| 7:D:1300:U:C4 | 7:D:1627:G:OP2 | 2.70 | 0.44 |
| 7:D:121:G:N2 | 7:D:131:G:C4 | 2.86 | 0.44 |
| 7:D:1365:A:C6 | 7:D:1366:A:C5 | 3.06 | 0.44 |
| 7:D:138:G:N3 | 7:D:139:G:H5'' | 2.32 | 0.44 |
| 7:D:1475:G:N7 | 7:D:1517:G:C2 | 2.85 | 0.44 |
| 7:D:1513:C:OP2 | 7:D:1513:C:C6 | 2.70 | 0.44 |
| 7:D:1524:G:N2 | 7:D:1525:G:C4 | 2.86 | 0.44 |
| 7:D:1527:G:N1 | 7:D:1544:C:C2 | 2.77 | 0.44 |
| 7:D:1735:C:C6 | 7:D:1735:C:O5' | 2.70 | 0.44 |
| 7:D:1762:A:H5'' | 7:D:1763:G:OP2 | 2.18 | 0.44 |
| 7:D:1764:G:C2 | 7:D:1765:C:C2 | 3.06 | 0.44 |
| 7:D:1776:G:C2 | 7:D:1789:A:C2 | 3.05 | 0.44 |
| 7:D:16:G:C4 | 7:D:17:G:C8 | 3.06 | 0.44 |
| 7:D:1878:G:C2 | 7:D:1879:C:O2 | 2.70 | 0.44 |
| 7:D:1910:G:C2 | 7:D:1921:G:C4 | 3.05 | 0.44 |
| 7:D:1947:C:H5'' | 7:D:1948:G:OP2 | 2.17 | 0.44 |
| 7:D:1268:A:N3 | 7:D:2013:A:C6 | 2.85 | 0.44 |
| 7:D:2013:A:N3 | 7:D:2014:A:C8 | 2.86 | 0.44 |
| 7:D:2122:U:C4 | 7:D:2123:G:C4 | 3.06 | 0.44 |
| 7:D:2508:G:C6 | 7:D:2582:G:O6 | 2.70 | 0.44 |
| 7:D:2851:A:N7 | 7:D:2852:G:N7 | 2.65 | 0.44 |
| 7:D:2889:C:C6 | 7:D:2889:C:O5' | 2.70 | 0.44 |
| 7:D:38:A:N3 | 7:D:442:G:N2 | 2.64 | 0.44 |
| 7:D:436:C:C4 | 7:D:438:G:N7 | 2.86 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 7:D:35:G:C4 | 7:D:454:A:C2 | 3.06 | 0.44 |
| 7:D:608:A:H2' | 7:D:609:A:O4' | 2.18 | 0.44 |
| 7:D:890:A:C3' | 7:D:892:G:C5' | 2.86 | 0.44 |
| 9:F:158:LEU:HA | 9:F:159:PRO:HD3 | 1.58 | 0.44 |
| 10:G:29:TYR:CE2 | 10:G:33:LEU:HD11 | 2.52 | 0.44 |
| 11:H:39:PRO:HG2 | 11:H:44:GLY:CA | 2.47 | 0.44 |
| 12:I:102:ALA:H | 12:I:107:ARG:NH2 | 2.16 | 0.44 |
| 14:K:146:GLU:HG2 | 14:K:149:ARG:NE | 2.32 | 0.44 |
| 6:A:778:G:H21 | 18:O:120:ARG:HG2 | 1.82 | 0.44 |
| 18:O:48:ILE:HG21 | 18:O:63:LEU:HD22 | 1.99 | 0.44 |
| 18:O:50:TYR:CD1 | 18:O:54:ARG:NH1 | 2.85 | 0.44 |
| 20:Q:96:LEU:HD12 | 20:Q:103:THR:CG2 | 2.34 | 0.44 |
| 26:W:70:LYS:O | 26:W:73:GLU:N | 2.49 | 0.44 |
| 29:Z:153:ILE:HA | 29:Z:156:ILE:HD12 | 1.99 | 0.44 |
| 29:Z:32:LEU:HB3 | 29:Z:220:PRO:HB2 | 2.00 | 0.44 |
| 29:Z:71:GLN:HG3 | 29:Z:72:VAL:HG23 | 1.99 | 0.44 |
| 3:3:79:ARG:NH2 | 3:3:134:MET:HB2 | 2.33 | 0.44 |
| 6:A:1134:G:C2 | 6:A:1135:U:H1' | 2.53 | 0.44 |
| 6:A:1268:A:C5 | 6:A:1269:A:N6 | 2.85 | 0.44 |
| 6:A:1449:C:N4 | 6:A:1455:G:C6 | 2.86 | 0.44 |
| 6:A:156:G:C6 | 6:A:157:G:N7 | 2.86 | 0.44 |
| 6:A:438:G:OP1 | 11:H:123:HIS:HB3 | 2.17 | 0.44 |
| 6:A:464:G:OP2 | 6:A:464:G:C8 | 2.70 | 0.44 |
| 6:A:686:U:H4' | 6:A:687:A:OP1 | 2.18 | 0.44 |
| 6:A:830:G:H2' | 6:A:831:U:O4' | 2.18 | 0.44 |
| 56:B:593:PRO:O | 56:B:597:PHE:CE1 | 2.70 | 0.44 |
| 7:D:1071:G:N2 | 7:D:1089:G:H2' | 2.29 | 0.44 |
| 7:D:1258:C:H2' | 7:D:1259:G:H8 | 1.82 | 0.44 |
| 7:D:1279:G:C4 | 7:D:1280:G:C8 | 3.06 | 0.44 |
| 7:D:1361:G:N2 | 7:D:1362:C:O2 | 2.51 | 0.44 |
| 7:D:1472:A:H62 | 7:D:1474:C:N4 | 2.16 | 0.44 |
| 7:D:1477:A:N7 | 7:D:1478:G:C5 | 2.86 | 0.44 |
| 7:D:1483:G:N1 | 7:D:1484:G:C5 | 2.86 | 0.44 |
| 7:D:1486:A:H2' | 7:D:1487:G:C8 | 2.53 | 0.44 |
| 7:D:1487:G:N3 | 7:D:1488:G:C8 | 2.85 | 0.44 |
| 7:D:1559:G:N2 | 7:D:1561:G:OP1 | 2.49 | 0.44 |
| 7:D:1582:C:C6 | 7:D:1582:C:C3' | 3.00 | 0.44 |
| 7:D:1869:G:C5 | 7:D:1871:A:OP2 | 2.71 | 0.44 |
| 7:D:1853:A:N1 | 7:D:1889:A:C6 | 2.86 | 0.44 |
| 7:D:2028:U:H2' | 7:D:2029:G:C8 | 2.53 | 0.44 |
| 7:D:2211:G:N3 | 7:D:2211:G:H2' | 2.33 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 7:D:2400:G:C2 | 7:D:2401:U:C2 | 3.05 | 0.44 |
| 7:D:2613:U:O2' | 7:D:2614:A:OP1 | 2.30 | 0.44 |
| 7:D:261:G:O2' | 7:D:262:A:H5' | 2.17 | 0.44 |
| 7:D:2786:U:O4 | 7:D:2787:C:N4 | 2.50 | 0.44 |
| 7:D:273(A):G:H1 | 7:D:363(E):U:H3 | 1.66 | 0.44 |
| 7:D:381:G:N2 | 7:D:382:G:N3 | 2.66 | 0.44 |
| 7:D:441:U:O5' | 7:D:441:U:C6 | 2.71 | 0.44 |
| 7:D:447:A:N1 | 7:D:454:A:C8 | 2.85 | 0.44 |
| 7:D:602:G:N2 | 7:D:656:G:N7 | 2.65 | 0.44 |
| 7:D:729:G:H2' | 7:D:730:C:O4' | 2.17 | 0.44 |
| 8:E:51:G:H2' | 8:E:51:G:N3 | 2.33 | 0.44 |
| 8:E:87:G:N2 | 8:E:90:C:C2 | 2.86 | 0.44 |
| 9:F:12:GLU:O | 9:F:16:HIS:ND1 | 2.50 | 0.44 |
| 9:F:208:ILE:O | 9:F:212:GLN:HG2 | 2.18 | 0.44 |
| 10:G:11:ARG:HD3 | 10:G:178:LEU:HD12 | 1.98 | 0.44 |
| 10:G:25:GLY:O | 10:G:29:TYR:HB2 | 2.18 | 0.44 |
| 6:A:403:C:HO2' | 11:H:122:ARG:HH12 | 1.54 | 0.44 |
| 15:L:109:ILE:HA | 15:L:121:ASP:OD2 | 2.17 | 0.44 |
| 19:P:39:VAL:HG11 | 19:P:41:ARG:NH2 | 2.33 | 0.44 |
| 22:S:18:PHE:HA | 22:S:19:PRO:HD3 | 1.85 | 0.44 |
| 23:T:36:ILE:HG23 | 23:T:37:GLY:N | 5.07 | 0.44 |
| 23:T:52:ASP:OD2 | 23:T:54:GLU:HB3 | 2.17 | 0.44 |
| 24:U:45:HIS:CG | 24:U:65:ILE:HD13 | 2.53 | 0.44 |
| 26:W:28:LYS:HA | 26:W:28:LYS:CE | 2.46 | 0.44 |
| 3:3:75:SER:O | 3:3:79:ARG:HG2 | 2.18 | 0.44 |
| 5:5:21:A:C6 | 5:5:46:G:C2 | 3.06 | 0.44 |
| 6:A:999:U:C2 | 6:A:1041:A:N1 | 2.86 | 0.44 |
| 6:A:1252:A:H61 | 6:A:1285:A:H61 | 1.65 | 0.44 |
| 6:A:131:C:H2' | 6:A:132:C:H6 | 1.82 | 0.44 |
| 6:A:1400:C:HO2' | 6:A:1401:G:P | 2.41 | 0.44 |
| 6:A:1521:G:C2 | 6:A:1522:U:C2 | 3.06 | 0.44 |
| 6:A:254:G:C6 | 6:A:273:A:N1 | 2.86 | 0.44 |
| 6:A:38:G:H1 | 6:A:397:A:H5'' | 1.83 | 0.44 |
| 6:A:414:A:H2' | 6:A:415:A:C8 | 2.53 | 0.44 |
| 6:A:417:C:C6 | 6:A:417:C:OP2 | 2.70 | 0.44 |
| 6:A:443:C:C2 | 6:A:492:G:C4 | 3.06 | 0.44 |
| 6:A:501:C:C6 | 6:A:501:C:O5' | 2.71 | 0.44 |
| 6:A:533:A:H5' | 6:A:534:U:OP2 | 2.18 | 0.44 |
| 6:A:650:G:C2 | 6:A:651:C:C6 | 3.06 | 0.44 |
| 6:A:727:G:N2 | 6:A:731:G:H1' | 2.33 | 0.44 |
| 6:A:81:G:OP2 | 6:A:82:U:C5 | 2.71 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 6:A:834:C:H2' | 6:A:835:U:C6 | 2.49 | 0.44 |
| 6:A:939:G:N2 | 6:A:940:C:C2 | 2.85 | 0.44 |
| 56:B:9:ILE:C | 56:B:10:ARG:HD2 | 2.38 | 0.44 |
| 56:B:144:ARG:CD | 56:B:148:VAL:HG23 | 2.44 | 0.44 |
| 56:B:226:ASP:O | 56:B:228:ILE:N | 2.51 | 0.44 |
| 56:B:275:GLN:C | 56:B:277:GLY:N | 2.70 | 0.44 |
| 56:B:196:LEU:CD2 | 56:B:282:LEU:HB2 | 2.48 | 0.44 |
| 56:B:378:TYR:O | 56:B:391:HIS:HB2 | 2.17 | 0.44 |
| 56:B:406:LEU:O | 56:B:407:GLU:HG3 | 2.18 | 0.44 |
| 7:D:1082:U:H2' | 7:D:1083:U:O4' | 2.18 | 0.44 |
| 7:D:1047:G:C8 | 7:D:1110:G:N2 | 2.86 | 0.44 |
| 7:D:1164:G:H2' | 7:D:1165:U:O4' | 2.18 | 0.44 |
| 7:D:1174:A:C4 | 7:D:1174:A:OP1 | 2.71 | 0.44 |
| 7:D:1222:C:H42 | 7:D:1227:A:N6 | 2.11 | 0.44 |
| 7:D:1471:A:C4 | 7:D:1521:G:N2 | 2.86 | 0.44 |
| 7:D:1591:G:C2' | 7:D:1592:C:H5' | 2.46 | 0.44 |
| 7:D:1749:A:P | 7:D:1749:A:H8 | 2.41 | 0.44 |
| 7:D:1750:G:H2' | 7:D:1751:C:C6 | 2.51 | 0.44 |
| 7:D:1781:C:C2' | 7:D:1782:C:OP2 | 2.65 | 0.44 |
| 7:D:1864:U:H2' | 7:D:1869:G:C8 | 2.52 | 0.44 |
| 7:D:195:A:C6 | 7:D:198:C:C5 | 3.05 | 0.44 |
| 7:D:571:A:C5 | 7:D:2030:A:N6 | 2.86 | 0.44 |
| 7:D:2115:G:H8 | 7:D:2115:G:O5' | 2.01 | 0.44 |
| 7:D:2125:G:O2' | 7:D:2126:A:O5' | 2.35 | 0.44 |
| 7:D:2217:G:O5' | 7:D:2217:G:H8 | 2.01 | 0.44 |
| 7:D:2330:G:N2 | 7:D:2386:C:C2 | 2.83 | 0.44 |
| 7:D:255:A:C6 | 7:D:256:A:C4 | 3.06 | 0.44 |
| 7:D:2795:G:C8 | 7:D:2795:G:OP2 | 2.70 | 0.44 |
| 7:D:323:G:C6 | 7:D:333:G:C5 | 3.05 | 0.44 |
| 7:D:342:G:N2 | 7:D:343:C:C2 | 2.86 | 0.44 |
| 7:D:436:C:H2' | 7:D:438:G:O5' | 2.18 | 0.44 |
| 7:D:572:A:N6 | 7:D:573:G:C6 | 2.85 | 0.44 |
| 7:D:746:A:OP1 | 7:D:748:G:O2' | 2.25 | 0.44 |
| 7:D:829:A:N7 | 7:D:2247:A:O2' | 2.51 | 0.44 |
| 7:D:879:G:C6 | 7:D:897:C:H1' | 2.52 | 0.44 |
| 8:E:43:C:N3 | 8:E:45:A:C6 | 2.86 | 0.44 |
| 8:E:75:G:N7 | 8:E:76:G:C5 | 2.86 | 0.44 |
| 9:F:215:LEU:O | 9:F:218:ALA:HB3 | 2.18 | 0.44 |
| 9:F:60:ASP:OD1 | 9:F:64:ARG:NH1 | 2.51 | 0.44 |
| 9:F:9:GLU:OE1 | 9:F:12:GLU:HG2 | 2.18 | 0.44 |
| 7:D:1251:C:C5' | 16:M:10:ARG:HE | 170.99 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 16:M:28:VAL:O | 16:M:31:GLN:N | 2.44 | 0.44 |
| 18:O:123:LYS:HA | 18:O:126:ARG:HB3 | 1.99 | 0.44 |
| 18:O:12:ARG:HH12 | 18:O:38:ASN:HB2 | 1.83 | 0.44 |
| 18:O:57:THR:OG1 | 18:O:58:PRO:HD2 | 2.18 | 0.44 |
| 10:G:22:TRP:CZ2 | 21:R:54:PRO:HG2 | 2.53 | 0.44 |
| 23:T:43:LYS:HA | 23:T:48:TRP:CG | 2.52 | 0.44 |
| 25:V:29:PHE:CE2 | 25:V:39:VAL:HG11 | 2.53 | 0.44 |
| 28:Y:6:ARG:HH11 | 28:Y:15:ARG:NE | 2.16 | 0.44 |
| 29:Z:18:LYS:HE3 | 29:Z:20:TYR:HA | 1.99 | 0.44 |
| 3:3:34:ILE:CG1 | 3:3:35:MET:H | 2.29 | 0.44 |
| 3:3:67:PHE:C | 3:3:68:VAL:CG2 | 2.86 | 0.44 |
| 3:3:71:THR:O | 3:3:73:PRO:HD3 | 2.18 | 0.44 |
| 3:3:89:HIS:ND1 | 3:3:90:LYS:HG2 | 2.33 | 0.44 |
| 6:A:1019:C:N4 | 6:A:1020:U:C4 | 2.86 | 0.44 |
| 6:A:1156:G:P | 6:A:1157:A:OP2 | 2.76 | 0.44 |
| 6:A:1452:C:O5' | 6:A:1452:C:C6 | 2.71 | 0.44 |
| 6:A:173:U:C2 | 6:A:197:A:N6 | 2.85 | 0.44 |
| 6:A:406:G:C5 | 6:A:495:A:C5 | 3.05 | 0.44 |
| 6:A:428:G:H1' | 6:A:429:U:OP2 | 2.18 | 0.44 |
| 6:A:543:C:H2' | 6:A:544:G:H8 | 1.82 | 0.44 |
| 6:A:587:G:N2 | 6:A:755:G:C8 | 2.85 | 0.44 |
| 6:A:630:G:H2' | 6:A:631:G:O4' | 2.17 | 0.44 |
| 6:A:823:G:H2' | 6:A:824:C:C6 | 2.53 | 0.44 |
| 6:A:885:G:C2 | 6:A:886:G:C8 | 3.05 | 0.44 |
| 56:B:101:GLU:HA | 56:B:129:HIS:ND1 | 2.32 | 0.44 |
| 56:B:98:ALA:CB | 56:B:127:HIS:HE1 | 2.30 | 0.44 |
| 56:B:195:PRO:CG | 56:B:287:THR:N | 2.56 | 0.44 |
| 56:B:65:ARG:HG2 | 56:B:245:PHE:CB | 2.45 | 0.44 |
| 3:3:126:MET:O | 7:D:1059:G:N2 | 2.51 | 0.44 |
| 7:D:1058:G:OP2 | 7:D:1060:U:C5 | 2.71 | 0.44 |
| 7:D:1106:G:C8 | 7:D:1106:G:OP1 | 2.71 | 0.44 |
| 7:D:109:G:C5 | 7:D:110:G:N7 | 2.86 | 0.44 |
| 7:D:1206:G:H22 | 7:D:1242:A:N6 | 2.15 | 0.44 |
| 7:D:1264:G:O6 | 7:D:1265:A:N6 | 2.51 | 0.44 |
| 7:D:1485:G:O2' | 7:D:1486:A:H5' | 2.17 | 0.44 |
| 7:D:1485:G:H2' | 7:D:1486:A:H8 | 1.83 | 0.44 |
| 7:D:1580:A:O5' | 7:D:1580:A:C8 | 2.70 | 0.44 |
| 7:D:1697:G:C6 | 7:D:1698:A:C6 | 3.06 | 0.44 |
| 7:D:1779:U:C3' | 7:D:1779:U:C6 | 3.00 | 0.44 |
| 7:D:1795:C:N4 | 7:D:1796:U:C4 | 2.86 | 0.44 |
| 7:D:1840:G:H1 | 7:D:1902:C:N4 | 2.16 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 7:D:2060:A:C2 | 7:D:2502:G:C6 | 3.06 | 0.44 |
| 7:D:1128:A:C8 | 7:D:2516:G:O2' | 2.70 | 0.44 |
| 7:D:2759:G:H2' | 7:D:2760:C:H6 | 1.83 | 0.44 |
| 7:D:2895:U:HO2' | 7:D:2896:C:C1' | 2.30 | 0.44 |
| 7:D:297:C:H2' | 7:D:298:G:O4' | 2.18 | 0.44 |
| 7:D:350:U:H2' | 7:D:351:G:OP1 | 2.17 | 0.44 |
| 7:D:43:G:N2 | 7:D:438:G:C4 | 2.86 | 0.44 |
| 7:D:894:C:H5' | 7:D:895:U:OP2 | 2.18 | 0.44 |
| 10:G:130:VAL:O | 10:G:133:ALA:N | 2.51 | 0.44 |
| 12:I:151:LEU:HA | 12:I:151:LEU:HD23 | 1.78 | 0.44 |
| 13:J:29:ALA:HA | 13:J:32:ASN:OD1 | 2.18 | 0.44 |
| 17:N:34:VAL:HG12 | 17:N:36:GLY:N | 2.33 | 0.44 |
| 19:P:67:THR:OG1 | 19:P:96:VAL:HA | 2.17 | 0.44 |
| 22:S:25:THR:O | 22:S:28:GLN:HB2 | 2.18 | 0.44 |
| 26:W:43:GLU:CA | 26:W:67:VAL:HG11 | 2.41 | 0.44 |
| 3:3:103:GLN:HA | 3:3:106:GLU:HG2 | 1.99 | 0.44 |
| 3:3:106:GLU:O | 3:3:109:LYS:HG2 | 2.17 | 0.44 |
| 3:3:5:VAL:HG22 | 3:3:5:VAL:O | 2.17 | 0.44 |
| 3:3:60:TYR:CD2 | 3:3:61:ALA:N | 2.86 | 0.44 |
| 3:3:95:LYS:HD2 | 3:3:95:LYS:HA | 1.63 | 0.44 |
| 5:5:28:G:C5 | 5:5:29:G:N7 | 2.85 | 0.44 |
| 6:A:1049:U:H4' | 6:A:1050:G:H5' | 1.99 | 0.44 |
| 6:A:1169:A:H5' | 6:A:1170:A:OP2 | 2.17 | 0.44 |
| 6:A:1188:A:C8 | 6:A:1188:A:OP2 | 2.59 | 0.44 |
| 6:A:954:G:H21 | 6:A:1227:A:H62 | 1.66 | 0.44 |
| 6:A:1261:A:N7 | 6:A:1262:C:N4 | 2.65 | 0.44 |
| 6:A:791:G:N1 | 6:A:1498:U:OP1 | 2.40 | 0.44 |
| 6:A:201:C:H2' | 6:A:208:U:OP1 | 2.17 | 0.44 |
| 6:A:437:U:O5' | 6:A:437:U:C6 | 2.71 | 0.44 |
| 6:A:444:C:C4 | 6:A:445:G:O6 | 2.71 | 0.44 |
| 6:A:540:G:H2' | 6:A:541:G:H8 | 1.82 | 0.44 |
| 6:A:731:G:C6 | 6:A:732:C:C4 | 3.06 | 0.44 |
| 6:A:790:A:OP1 | 6:A:790:A:H8 | 2.00 | 0.44 |
| 6:A:810:C:H2' | 6:A:811:C:O4' | 2.17 | 0.44 |
| 6:A:941:G:H2' | 6:A:942:G:O4' | 2.18 | 0.44 |
| 56:B:109:ALA:HB2 | 56:B:135:ILE:HB | 1.99 | 0.44 |
| 56:B:229:ARG:C | 56:B:230:ILE:HG13 | 2.37 | 0.44 |
| 56:B:307:PRO:HD2 | 56:B:341:GLY:HA3 | 2.00 | 0.44 |
| 56:B:382:LEU:CG | 56:B:401:ARG:CA | 2.61 | 0.44 |
| 56:B:383:LYS:CD | 56:B:402:ILE:HG22 | 2.47 | 0.44 |
| 56:B:502:ASP:C | 56:B:504:LEU:H | 2.20 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|--------------------|--------------------------|-------------------|
| 56:B:526:GLU:OE1 | 56:B:594:GLN:O | 2.36 | 0.44 |
| 7:D:81:G:C2 | 7:D:106:C:O2 | 2.71 | 0.44 |
| 7:D:1077:A:H62 | 7:D:1089:G:P | 2.41 | 0.44 |
| 7:D:110:G:N2 | 7:D:111:A:N3 | 2.66 | 0.44 |
| 7:D:1128:A:H3' | 7:D:1128:A:N3 | 2.33 | 0.44 |
| 7:D:119:A:O2' | 7:D:120:U:P | 2.76 | 0.44 |
| 7:D:1251:C:H2' | 7:D:1251:C:H6 | 1.53 | 0.44 |
| 7:D:1313:U:C4 | 7:D:1314:C:N4 | 2.86 | 0.44 |
| 7:D:1493:C:O2 | 7:D:1493:C:H2' | 2.17 | 0.44 |
| 7:D:1523:U:H2' | 7:D:1524:G:H8 | 1.82 | 0.44 |
| 7:D:14:A:N7 | 7:D:15:G:C4 | 2.86 | 0.44 |
| 7:D:155:C:O2' | 7:D:161:U:C2 | 2.63 | 0.44 |
| 7:D:1712:C:H6 | 7:D:1712:C:H3' | 1.82 | 0.44 |
| 7:D:1784:A:O3' | 7:D:1785:A:C8 | 2.71 | 0.44 |
| 7:D:1902:C:N4 | 7:D:1903:G:N3 | 2.66 | 0.44 |
| 7:D:190:A:C6 | 7:D:207:A:N3 | 2.86 | 0.44 |
| 7:D:2360:A:C2 | 7:D:2361:A:H1' | 2.52 | 0.44 |
| 7:D:247:G:O2' | 7:D:248:G:OP1 | 2.27 | 0.44 |
| 7:D:2447:G:C6 | 7:D:2501:C:N3 | 2.86 | 0.44 |
| 7:D:1130:U:OP2 | 7:D:2570:G:N2 | 2.51 | 0.44 |
| 7:D:2588:G:H2' | 7:D:2589:A:H5' | 2.00 | 0.44 |
| 7:D:267:C:OP2 | 7:D:271(A):C:C4 | 2.70 | 0.44 |
| 7:D:2693:A:N3 | 7:D:2694:G:C8 | 2.86 | 0.44 |
| 7:D:2712:U:H2' | 7:D:2712(A):A:H5'' | 2.00 | 0.44 |
| 7:D:2714:G:C2 | 7:D:2715:C:O2 | 2.71 | 0.44 |
| 7:D:30:G:C6 | 7:D:31:C:C4 | 3.06 | 0.44 |
| 7:D:344:G:N1 | 7:D:345:A:N7 | 2.66 | 0.44 |
| 7:D:381:G:C2 | 7:D:382:G:C4 | 3.06 | 0.44 |
| 7:D:389:G:H5'' | 7:D:390:A:OP2 | 2.17 | 0.44 |
| 7:D:454:A:H3' | 7:D:454:A:H8 | 1.83 | 0.44 |
| 7:D:464:U:C5 | 7:D:465:G:C4 | 3.06 | 0.44 |
| 7:D:467:G:N2 | 7:D:468:G:N3 | 2.65 | 0.44 |
| 7:D:458:G:O2' | 7:D:469:G:O6 | 2.36 | 0.44 |
| 7:D:745:G:N2 | 7:D:753:C:C4 | 2.86 | 0.44 |
| 7:D:93:C:N3 | 7:D:94:G:H1' | 2.33 | 0.44 |
| 14:K:77:SER:CB | 14:K:84:ASN:HD22 | 2.31 | 0.44 |
| 20:Q:108:ARG:HE | 20:Q:114:ARG:NH1 | 2.15 | 0.44 |
| 25:V:21:LYS:CA | 25:V:55:ARG:HH12 | 2.30 | 0.44 |
| 27:X:42:GLN:O | 27:X:45:GLN:HB2 | 2.18 | 0.44 |
| 3:3:72:PRO:HG2 | 3:3:77:LEU:HD22 | 1.99 | 0.44 |
| 5:5:29:G:H1 | 5:5:41:C:H42 | 1.66 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-----------------|-----------------|--------------------------|-------------------|
| 6:A:1025:U:H2' | 6:A:1026:G:C8 | 2.53 | 0.44 |
| 6:A:101:A:N6 | 6:A:102:G:C6 | 2.86 | 0.44 |
| 6:A:1119:C:N3 | 6:A:1155:G:N1 | 2.66 | 0.44 |
| 6:A:1167:A:N7 | 6:A:1169:A:N7 | 2.65 | 0.44 |
| 6:A:1244:C:C2 | 6:A:1294:G:N2 | 2.86 | 0.44 |
| 6:A:1442:G:C3' | 6:A:1442:G:N3 | 2.81 | 0.44 |
| 6:A:1426:C:N4 | 6:A:1474:G:H1 | 2.16 | 0.44 |
| 6:A:1509:C:H2' | 6:A:1510:U:O4' | 2.18 | 0.44 |
| 6:A:142:G:O2' | 6:A:196:A:N1 | 2.51 | 0.44 |
| 6:A:232:G:H2' | 6:A:233:C:O4' | 2.17 | 0.44 |
| 6:A:406:G:C5 | 6:A:495:A:C4 | 3.06 | 0.44 |
| 6:A:457:C:C2 | 6:A:476:G:N1 | 2.86 | 0.44 |
| 6:A:540:G:H2' | 6:A:541:G:C8 | 2.53 | 0.44 |
| 6:A:61:G:H2' | 6:A:62:U:C6 | 2.52 | 0.44 |
| 6:A:785:G:C2 | 6:A:798:G:N3 | 2.86 | 0.44 |
| 6:A:837:G:C6 | 6:A:838:G:O6 | 2.71 | 0.44 |
| 6:A:849:C:H3' | 6:A:849:C:H6 | 1.82 | 0.44 |
| 6:A:849:C:C4 | 6:A:850:U:O4 | 2.71 | 0.44 |
| 6:A:562:C:C2 | 6:A:884:U:C5 | 3.05 | 0.44 |
| 56:B:206:ASP:CB | 56:B:210:GLY:CA | 2.95 | 0.44 |
| 56:B:296:PRO:CG | 56:B:297:ALA:H | 2.31 | 0.44 |
| 56:B:486:PRO:CG | 56:B:487:GLY:H | 2.31 | 0.44 |
| 7:D:1000:A:H5'' | 7:D:1001:A:OP2 | 2.17 | 0.44 |
| 7:D:1080:C:H5 | 7:D:1086:A:N6 | 2.15 | 0.44 |
| 7:D:1190:G:N1 | 7:D:1191:G:C6 | 2.86 | 0.44 |
| 7:D:121:G:C2 | 7:D:131:G:C4 | 3.05 | 0.44 |
| 7:D:1309:G:HO2' | 7:D:1611:C:HO2' | 1.64 | 0.44 |
| 7:D:1746:G:H3' | 7:D:1747:G:N7 | 2.30 | 0.44 |
| 7:D:1786:A:N7 | 7:D:1787:A:C8 | 2.86 | 0.44 |
| 7:D:190:A:H2' | 7:D:191:A:C8 | 2.53 | 0.44 |
| 7:D:1:G:H2' | 7:D:2:G:O4' | 2.18 | 0.44 |
| 7:D:2253:G:C5 | 7:D:2254:C:C4 | 3.05 | 0.44 |
| 7:D:226:G:O2' | 7:D:227:A:O5' | 2.34 | 0.44 |
| 7:D:2305:A:N1 | 7:D:2312:U:C2 | 2.86 | 0.44 |
| 7:D:2642:G:N2 | 7:D:2643:G:C4 | 2.86 | 0.44 |
| 7:D:2663:G:C8 | 7:D:2664:G:N7 | 2.86 | 0.44 |
| 7:D:290:G:OP2 | 7:D:290:G:C8 | 2.71 | 0.44 |
| 7:D:301:G:C6 | 7:D:302:C:N4 | 2.86 | 0.44 |
| 7:D:311:A:H1' | 7:D:332:A:C4 | 2.53 | 0.44 |
| 7:D:382:G:H2' | 7:D:383:U:H5' | 2.00 | 0.44 |
| 7:D:453:C:H2' | 7:D:453:C:O2 | 2.18 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 7:D:512:G:C2' | 7:D:513:A:OP2 | 2.65 | 0.44 |
| 7:D:722:A:C2 | 7:D:723:G:C4 | 3.06 | 0.44 |
| 7:D:83:G:C2 | 7:D:84:A:H2 | 2.35 | 0.44 |
| 9:F:165:VAL:O | 9:F:187:LEU:HD22 | 2.18 | 0.44 |
| 9:F:210:SER:O | 9:F:214:ILE:HG12 | 2.18 | 0.44 |
| 11:H:145:GLU:HB3 | 11:H:184:LYS:HD3 | 1.98 | 0.44 |
| 6:A:718:G:C5 | 18:O:116:HIS:CD2 | 3.05 | 0.44 |
| 20:Q:29:ARG:O | 20:Q:32:GLU:HB2 | 2.18 | 0.44 |
| 20:Q:66:LEU:CG | 20:Q:67:GLU:N | 2.80 | 0.44 |
| 20:Q:86:CYS:O | 20:Q:89:GLY:N | 2.34 | 0.44 |
| 26:W:66:MET:O | 26:W:69:HIS:CG | 2.71 | 0.44 |
| 29:Z:89:ALA:O | 29:Z:154:ARG:HA | 2.18 | 0.44 |
| 3:3:80:LYS:HB3 | 3:3:111:LYS:HE3 | 1.99 | 0.43 |
| 6:A:1013:G:H22 | 6:A:1016:A:P | 2.40 | 0.43 |
| 6:A:101:A:H2' | 6:A:102:G:C5' | 2.44 | 0.43 |
| 6:A:1167:A:C8 | 6:A:1167:A:OP1 | 2.70 | 0.43 |
| 6:A:1167:A:C8 | 6:A:1167:A:O5' | 2.70 | 0.43 |
| 6:A:1342:C:O2' | 6:A:1343:G:H5' | 2.18 | 0.43 |
| 6:A:1452:C:O5' | 6:A:1452:C:H6 | 2.01 | 0.43 |
| 6:A:1508:G:C2 | 6:A:1509:C:C2 | 3.06 | 0.43 |
| 6:A:15:G:H3' | 6:A:16:A:H8 | 1.82 | 0.43 |
| 6:A:184:G:C2 | 6:A:185:A:C8 | 3.06 | 0.43 |
| 6:A:22:G:H4' | 6:A:885:G:C8 | 2.53 | 0.43 |
| 6:A:259:G:C5 | 6:A:260:G:C5 | 3.06 | 0.43 |
| 6:A:246:A:N6 | 6:A:279:A:C4 | 2.86 | 0.43 |
| 6:A:298:A:N6 | 6:A:299:G:N1 | 2.66 | 0.43 |
| 6:A:309:G:N3 | 6:A:310:G:C8 | 2.87 | 0.43 |
| 6:A:318:G:C2 | 6:A:319:G:C8 | 3.06 | 0.43 |
| 6:A:440:A:OP2 | 6:A:442:C:C5 | 2.71 | 0.43 |
| 6:A:593:G:C6 | 6:A:594:G:C5 | 3.06 | 0.43 |
| 6:A:309:G:O2' | 6:A:607:A:N6 | 2.51 | 0.43 |
| 6:A:829:G:C2 | 6:A:830:G:C4 | 3.06 | 0.43 |
| 6:A:925:G:C2 | 6:A:927:G:C8 | 3.06 | 0.43 |
| 6:A:953:G:C6 | 6:A:954:G:C4 | 3.06 | 0.43 |
| 56:B:105:LEU:HB3 | 56:B:133:PRO:HA | 1.99 | 0.43 |
| 56:B:207:ALA:O | 56:B:208:TYR:CD1 | 2.71 | 0.43 |
| 56:B:274:VAL:HG12 | 56:B:274:VAL:O | 2.17 | 0.43 |
| 56:B:327:ASP:OD2 | 56:B:353:HIS:CE1 | 2.71 | 0.43 |
| 56:B:331:THR:O | 56:B:332:PHE:CG | 2.70 | 0.43 |
| 19:P:80:HIS:CD2 | 56:B:342:PHE:CE1 | 3.06 | 0.43 |
| 56:B:299:PRO:HD3 | 56:B:348:PHE:CD2 | 2.49 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 7:D:1137:G:O6 | 7:D:1138:G:C2 | 2.71 | 0.43 |
| 7:D:1210:A:H4' | 7:D:1211:U:OP2 | 2.15 | 0.43 |
| 7:D:1241:A:N9 | 7:D:1241:A:OP2 | 2.51 | 0.43 |
| 7:D:1285:G:C6 | 7:D:1329:U:C5 | 3.06 | 0.43 |
| 7:D:1316:U:H2' | 7:D:1317:A:C8 | 2.53 | 0.43 |
| 7:D:1420:U:C6 | 7:D:1420:U:OP2 | 2.71 | 0.43 |
| 7:D:1456:G:N1 | 7:D:1457:A:C5 | 2.86 | 0.43 |
| 7:D:1630:G:C2 | 7:D:1630(A):C:C4 | 3.06 | 0.43 |
| 7:D:1682:G:C6 | 7:D:1683:C:C4 | 3.06 | 0.43 |
| 7:D:1726:G:H3' | 7:D:1727:U:C5 | 2.53 | 0.43 |
| 7:D:1879:C:C6 | 7:D:1879:C:O5' | 2.70 | 0.43 |
| 7:D:188:G:C6 | 7:D:189:G:C4 | 3.06 | 0.43 |
| 7:D:2001:A:H2' | 7:D:2002:G:H8 | 1.81 | 0.43 |
| 7:D:207:A:H2' | 7:D:208:C:O4' | 2.18 | 0.43 |
| 7:D:2164:C:OP2 | 7:D:2165:G:C8 | 2.71 | 0.43 |
| 7:D:2403:C:C4 | 7:D:2415:G:N1 | 2.86 | 0.43 |
| 7:D:2436:G:C2 | 7:D:2437:U:C2 | 3.06 | 0.43 |
| 7:D:2511:U:C5 | 7:D:2512:C:C4 | 3.06 | 0.43 |
| 7:D:2659:G:O3' | 7:D:2660:A:C5 | 2.71 | 0.43 |
| 7:D:2783:G:H2' | 7:D:2784:C:O4' | 2.18 | 0.43 |
| 7:D:296:C:N3 | 7:D:297:C:C4 | 2.87 | 0.43 |
| 7:D:322:A:O2' | 7:D:323:G:P | 2.76 | 0.43 |
| 7:D:673:C:C4 | 7:D:674:G:N7 | 2.86 | 0.43 |
| 7:D:699:A:N6 | 7:D:734:A:C8 | 2.86 | 0.43 |
| 7:D:738:G:H1' | 7:D:759:G:H22 | 1.83 | 0.43 |
| 8:E:24:G:C6 | 8:E:56:G:C2 | 3.06 | 0.43 |
| 8:E:59:A:H2' | 8:E:60:C:O4' | 2.18 | 0.43 |
| 8:E:83:G:N2 | 8:E:84:C:O2 | 2.50 | 0.43 |
| 10:G:125:GLU:OE2 | 10:G:190:ARG:C | 2.56 | 0.43 |
| 13:J:5:GLU:HB2 | 13:J:62:TRP:HE1 | 1.83 | 0.43 |
| 16:M:75:ASP:OD1 | 16:M:75:ASP:N | 2.49 | 0.43 |
| 17:N:7:LYS:HA | 17:N:71:LEU:HD22 | 2.00 | 0.43 |
| 18:O:50:TYR:HB3 | 18:O:54:ARG:HB2 | 1.99 | 0.43 |
| 23:T:28:ARG:HG3 | 23:T:29:ASP:OD1 | 2.18 | 0.43 |
| 26:W:69:HIS:HB3 | 26:W:70:LYS:H | 1.69 | 0.43 |
| 7:D:2175:C:OP2 | 29:Z:7:TYR:HB3 | 2.18 | 0.43 |
| 6:A:1170:A:C3' | 6:A:1171:G:H5' | 2.48 | 0.43 |
| 6:A:1183:A:HO2' | 6:A:1184:G:P | 2.41 | 0.43 |
| 6:A:1213:A:N7 | 6:A:1215:G:C5 | 2.86 | 0.43 |
| 6:A:1308:U:O5' | 6:A:1308:U:C6 | 2.70 | 0.43 |
| 6:A:1423:G:C5 | 6:A:1424:C:C4 | 3.06 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 6:A:1440:C:H5'' | 6:A:1440:C:H6 | 1.83 | 0.43 |
| 6:A:186(E):C:C2 | 6:A:191(C):G:N2 | 2.87 | 0.43 |
| 6:A:220:G:H2' | 6:A:221:C:O4' | 2.18 | 0.43 |
| 6:A:227:G:C6 | 6:A:228:A:C6 | 3.06 | 0.43 |
| 6:A:289:G:C6 | 6:A:290:C:C4 | 3.06 | 0.43 |
| 6:A:455:C:N3 | 6:A:478:A:H2 | 2.14 | 0.43 |
| 6:A:44:G:H2' | 6:A:45:U:O4' | 2.17 | 0.43 |
| 6:A:528:C:H2' | 6:A:529:G:O4' | 2.18 | 0.43 |
| 6:A:674:G:H2' | 6:A:675:A:C8 | 2.37 | 0.43 |
| 6:A:99:C:OP2 | 6:A:99:C:C6 | 2.71 | 0.43 |
| 56:B:335:GLU:O | 56:B:340:LEU:O | 2.35 | 0.43 |
| 56:B:387:GLU:HB3 | 56:B:388:VAL:H | 1.70 | 0.43 |
| 56:B:414:ILE:O | 56:B:449:GLU:HA | 2.18 | 0.43 |
| 56:B:49:LEU:HD23 | 56:B:60:LYS:HZ1 | 1.81 | 0.43 |
| 56:B:500:VAL:O | 56:B:500:VAL:HG13 | 2.17 | 0.43 |
| 7:D:1053:C:H3' | 7:D:1054:A:C8 | 2.53 | 0.43 |
| 7:D:1062:G:OP2 | 7:D:1070:A:N3 | 2.51 | 0.43 |
| 7:D:1062:G:O2' | 7:D:1063:G:C8 | 2.70 | 0.43 |
| 7:D:1071:G:OP2 | 7:D:1071:G:C8 | 2.68 | 0.43 |
| 7:D:1092:C:H3' | 7:D:1093:G:O4' | 2.18 | 0.43 |
| 7:D:1149:G:H2' | 7:D:1150:C:H6 | 1.83 | 0.43 |
| 7:D:55:G:H1 | 7:D:115:C:H42 | 1.66 | 0.43 |
| 7:D:1579:A:C8 | 7:D:1580:A:C4 | 3.05 | 0.43 |
| 7:D:1769:G:N3 | 7:D:1984:G:C2 | 2.86 | 0.43 |
| 7:D:1904:G:C2 | 7:D:1905:C:C2 | 3.07 | 0.43 |
| 7:D:1910:G:C2 | 7:D:1911:U:C2 | 3.06 | 0.43 |
| 7:D:197:A:C6 | 7:D:198:C:N3 | 2.86 | 0.43 |
| 7:D:2004:G:C6 | 7:D:2005:A:C4 | 3.06 | 0.43 |
| 7:D:571:A:N1 | 7:D:2030:A:C2 | 2.86 | 0.43 |
| 7:D:2093:G:C5 | 7:D:2225:A:C5 | 3.06 | 0.43 |
| 7:D:2199:A:H2' | 7:D:2205:C:O5' | 2.18 | 0.43 |
| 7:D:2217:G:C2 | 7:D:2218:G:C8 | 3.06 | 0.43 |
| 7:D:221:A:C5 | 7:D:266:G:N7 | 2.86 | 0.43 |
| 7:D:227:A:HO2' | 7:D:228:A:P | 2.41 | 0.43 |
| 7:D:2362:G:N1 | 7:D:2363:C:N3 | 2.66 | 0.43 |
| 7:D:2581:G:O2' | 7:D:2582:G:N7 | 2.49 | 0.43 |
| 7:D:2657:A:C8 | 7:D:2658:C:C5 | 3.06 | 0.43 |
| 7:D:267:C:OP2 | 7:D:271(A):C:C5 | 2.70 | 0.43 |
| 7:D:1051:G:H4' | 7:D:2752:C:O2' | 2.19 | 0.43 |
| 7:D:2777:G:C8 | 7:D:2777:G:H3' | 2.53 | 0.43 |
| 7:D:2845:G:N2 | 7:D:2846:G:C4 | 2.85 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:295:G:C2 | 7:D:296:C:C4 | 3.06 | 0.43 |
| 7:D:36:G:N2 | 7:D:37:C:C2 | 2.86 | 0.43 |
| 7:D:532:A:P | 7:D:2021:C:C5 | 3.11 | 0.43 |
| 7:D:58:G:N2 | 7:D:59:U:C2 | 2.86 | 0.43 |
| 7:D:786:C:O2' | 7:D:787:U:H5' | 2.18 | 0.43 |
| 14:K:12:LEU:HD13 | 14:K:24:THR:HB | 2.00 | 0.43 |
| 16:M:7:THR:N | 16:M:83:ARG:HD2 | 2.33 | 0.43 |
| 22:S:11:VAL:HA | 22:S:14:GLU:CD | 2.38 | 0.43 |
| 6:A:1318:A:O3' | 26:W:12:ASP:OD2 | 2.36 | 0.43 |
| 29:Z:117:PRO:HG3 | 29:Z:146:GLY:HA2 | 2.01 | 0.43 |
| 2:2:23:SER:C | 2:2:88:ALA:HB2 | 2.38 | 0.43 |
| 3:3:21:PRO:N | 3:3:22:PRO:CD | 2.81 | 0.43 |
| 4:4:31:G:O2' | 6:A:1340:A:O2' | 2.19 | 0.43 |
| 6:A:1078:U:O4 | 6:A:1079:G:N1 | 2.52 | 0.43 |
| 6:A:1079:G:C6 | 6:A:1080:A:N6 | 2.86 | 0.43 |
| 6:A:1129:C:O2' | 6:A:1130:A:O5' | 2.27 | 0.43 |
| 6:A:1236:A:C2 | 6:A:1237:C:N3 | 2.86 | 0.43 |
| 6:A:1347:G:H3' | 16:M:108:VAL:O | 2.18 | 0.43 |
| 6:A:1448:C:H2' | 6:A:1449:C:C6 | 2.53 | 0.43 |
| 6:A:1462:G:N2 | 6:A:1463:C:C2 | 2.86 | 0.43 |
| 6:A:201:C:C3' | 6:A:201:C:C6 | 3.01 | 0.43 |
| 6:A:300:A:H5'' | 6:A:301:G:OP2 | 2.19 | 0.43 |
| 6:A:438:G:C2 | 6:A:495:A:OP2 | 2.71 | 0.43 |
| 6:A:748:C:O2' | 6:A:749:C:P | 2.76 | 0.43 |
| 6:A:750:G:N2 | 6:A:751:U:O2 | 2.51 | 0.43 |
| 6:A:760:G:N2 | 24:U:104:LYS:HB3 | 2.33 | 0.43 |
| 6:A:899:C:H5'' | 6:A:900:A:OP2 | 2.18 | 0.43 |
| 6:A:89:U:C3' | 6:A:90:C:C5' | 2.97 | 0.43 |
| 6:A:986:A:N6 | 6:A:987:G:C6 | 2.85 | 0.43 |
| 56:B:203:SER:C | 56:B:204:VAL:CG2 | 2.87 | 0.43 |
| 56:B:222:VAL:HG11 | 56:B:264:LEU:CG | 2.48 | 0.43 |
| 56:B:230:ILE:CG2 | 56:B:279:THR:CA | 2.80 | 0.43 |
| 56:B:241:LYS:HG2 | 56:B:242:VAL:N | 2.33 | 0.43 |
| 56:B:45:PHE:CE2 | 56:B:247:PRO:O | 2.64 | 0.43 |
| 56:B:27:ASP:CG | 56:B:45:PHE:H | 2.21 | 0.43 |
| 56:B:230:ILE:C | 56:B:280:ILE:CG2 | 2.81 | 0.43 |
| 56:B:88:ASP:OD2 | 56:B:352:LEU:CB | 2.64 | 0.43 |
| 56:B:506:PHE:O | 56:B:507:ILE:HD13 | 2.18 | 0.43 |
| 56:B:537:ILE:CB | 56:B:549:ALA:O | 2.67 | 0.43 |
| 7:D:113:G:OP1 | 7:D:113:G:H4' | 2.18 | 0.43 |
| 7:D:1020:A:C2 | 7:D:1140:C:C2 | 3.06 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-----------------|-----------------|--------------------------|-------------------|
| 7:D:1310:G:OP2 | 28:Y:9:ARG:NH2 | 164.53 | 0.43 |
| 7:D:1325:G:OP2 | 7:D:1325:G:H4' | 2.17 | 0.43 |
| 7:D:1340:U:HO2' | 7:D:1394:U:HO2' | 1.63 | 0.43 |
| 7:D:1400:G:C6 | 7:D:1401:G:C6 | 3.06 | 0.43 |
| 7:D:1421:G:C2 | 7:D:1422:G:N7 | 2.86 | 0.43 |
| 7:D:1444:G:H2' | 7:D:1445:C:N4 | 2.33 | 0.43 |
| 7:D:1487:G:C4 | 7:D:1488:G:C8 | 3.06 | 0.43 |
| 7:D:1508:A:OP2 | 7:D:1508:A:N3 | 2.50 | 0.43 |
| 7:D:1711:C:H6 | 7:D:1711:C:O5' | 2.00 | 0.43 |
| 7:D:1814:G:H3' | 7:D:1815:A:H8 | 1.83 | 0.43 |
| 7:D:1860:G:C2 | 7:D:1861:G:C5 | 3.06 | 0.43 |
| 7:D:190:A:C6 | 7:D:207:A:C2 | 3.06 | 0.43 |
| 7:D:1909:C:C2 | 7:D:1922:G:C2 | 3.06 | 0.43 |
| 7:D:1933:G:O5' | 7:D:1933:G:H8 | 2.01 | 0.43 |
| 7:D:2082:A:C6 | 7:D:2083:G:C4 | 3.07 | 0.43 |
| 7:D:2137:C:H2' | 7:D:2138:C:C6 | 2.53 | 0.43 |
| 7:D:2167:U:H2' | 7:D:2168:G:O4' | 2.18 | 0.43 |
| 7:D:2226:C:C2' | 7:D:2227:A:C5' | 2.86 | 0.43 |
| 7:D:2325:G:C5 | 7:D:2326:C:C5 | 3.06 | 0.43 |
| 7:D:2031:A:H62 | 7:D:2498:C:H1' | 1.83 | 0.43 |
| 7:D:2540:C:C4 | 7:D:2541:A:C8 | 3.06 | 0.43 |
| 7:D:2545:G:C6 | 7:D:2546:U:O2 | 2.71 | 0.43 |
| 7:D:460:A:C6 | 7:D:470:A:N7 | 2.87 | 0.43 |
| 7:D:492:A:C8 | 7:D:493:G:C8 | 3.06 | 0.43 |
| 7:D:539:G:HO2' | 7:D:540:G:H5' | 1.79 | 0.43 |
| 7:D:728:G:O2' | 7:D:729:G:P | 2.76 | 0.43 |
| 7:D:948:G:C6 | 7:D:949:C:N3 | 2.86 | 0.43 |
| 8:E:9:G:H1' | 8:E:112:G:N2 | 2.33 | 0.43 |
| 11:H:10:ARG:O | 11:H:13:ARG:HB2 | 2.18 | 0.43 |
| 25:V:63:GLN:O | 25:V:66:LEU:HG | 2.18 | 0.43 |
| 26:W:34:TRP:O | 26:W:34:TRP:CE3 | 2.71 | 0.43 |
| 26:W:36:ARG:O | 26:W:70:LYS:CD | 2.66 | 0.43 |
| 3:3:12:LEU:HB3 | 3:3:13:PRO:CD | 2.48 | 0.43 |
| 6:A:1164:G:C2' | 6:A:1165:C:H5' | 2.48 | 0.43 |
| 6:A:1171:G:C2 | 6:A:1172:C:C4 | 3.07 | 0.43 |
| 6:A:1238:A:C2 | 6:A:1303:C:H4' | 2.52 | 0.43 |
| 6:A:1426:C:C2 | 6:A:1475:G:C2 | 3.06 | 0.43 |
| 6:A:370:C:H2' | 6:A:371:G:H8 | 1.80 | 0.43 |
| 6:A:393:A:C4 | 6:A:394:G:C8 | 3.07 | 0.43 |
| 6:A:413:G:H2' | 6:A:428:G:N2 | 2.34 | 0.43 |
| 6:A:837:G:N1 | 6:A:838:G:O6 | 2.51 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 6:A:892:A:C2 | 6:A:893:C:C2 | 3.06 | 0.43 |
| 6:A:996:A:H2' | 6:A:997:U:H6 | 1.83 | 0.43 |
| 56:B:179:GLU:O | 56:B:183:GLN:HG2 | 2.18 | 0.43 |
| 56:B:370:ILE:CG2 | 56:B:371:ALA:N | 2.76 | 0.43 |
| 56:B:64:VAL:CB | 56:B:80:LEU:CA | 2.96 | 0.43 |
| 56:B:91:TYR:O | 56:B:94:SER:HB2 | 2.19 | 0.43 |
| 7:D:1047:G:N2 | 7:D:1110:G:H2' | 2.34 | 0.43 |
| 7:D:1060:U:OP1 | 7:D:1061:U:C2 | 2.70 | 0.43 |
| 7:D:1062:G:O2' | 7:D:1063:G:O5' | 2.19 | 0.43 |
| 7:D:118:A:C4 | 7:D:177:G:N2 | 2.86 | 0.43 |
| 7:D:1203:G:O6 | 7:D:1205:U:H1' | 2.18 | 0.43 |
| 7:D:1165:U:H4' | 7:D:1224:G:H22 | 1.83 | 0.43 |
| 7:D:1314:C:N3 | 7:D:1338:G:N2 | 2.55 | 0.43 |
| 7:D:1416:G:HO2' | 7:D:1417:C:H6 | 1.65 | 0.43 |
| 7:D:1487:G:H2' | 7:D:1488:G:C8 | 2.50 | 0.43 |
| 7:D:1581:G:C6 | 7:D:1582:C:O2 | 2.71 | 0.43 |
| 7:D:1632:A:C6 | 7:D:1633:G:C6 | 3.06 | 0.43 |
| 7:D:1675:C:N4 | 56:B:129:HIS:CE1 | 85.82 | 0.43 |
| 7:D:1800:C:OP1 | 7:D:1800:C:H4' | 2.17 | 0.43 |
| 7:D:2033:A:N6 | 7:D:2036:C:C2 | 2.83 | 0.43 |
| 7:D:2037:G:C6 | 7:D:2038:G:C6 | 3.07 | 0.43 |
| 7:D:528:A:C6 | 7:D:2042:A:C5 | 3.06 | 0.43 |
| 7:D:208:C:H2' | 7:D:209:C:C6 | 2.53 | 0.43 |
| 7:D:2125:G:H1 | 7:D:2172:U:P | 2.38 | 0.43 |
| 7:D:2141:G:O2' | 7:D:2142:C:H5' | 2.19 | 0.43 |
| 7:D:2193:G:N1 | 7:D:2194:G:C5 | 2.87 | 0.43 |
| 7:D:2212:A:O2' | 7:D:2213:U:C5 | 2.70 | 0.43 |
| 4:4:75:C:C2 | 7:D:2252:G:N2 | 2.86 | 0.43 |
| 7:D:2379:G:C2 | 7:D:2380:C:C2 | 3.06 | 0.43 |
| 7:D:2399:G:C2 | 7:D:2400:G:C4 | 3.06 | 0.43 |
| 7:D:2548:G:N1 | 7:D:2549:G:C5 | 2.86 | 0.43 |
| 7:D:2652:C:H2' | 7:D:2653:U:C5 | 2.54 | 0.43 |
| 7:D:2691:C:N3 | 7:D:2719:G:N2 | 2.66 | 0.43 |
| 7:D:270(X):G:C4 | 7:D:270(Y):G:H1' | 2.54 | 0.43 |
| 7:D:2781:A:C4 | 7:D:2782:G:H1' | 2.53 | 0.43 |
| 7:D:2844:G:C4 | 7:D:2845:G:C8 | 3.07 | 0.43 |
| 7:D:2887:U:O5' | 7:D:2887:U:C6 | 2.71 | 0.43 |
| 7:D:312:G:H5'' | 7:D:313:C:OP2 | 2.18 | 0.43 |
| 7:D:438:G:H2' | 7:D:438:G:N3 | 2.33 | 0.43 |
| 7:D:56:A:C5 | 7:D:57:C:C4 | 3.06 | 0.43 |
| 7:D:742:G:N2 | 7:D:743:G:C4 | 2.86 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:880:G:C2' | 7:D:881:G:H4' | 2.46 | 0.43 |
| 7:D:93:C:N4 | 7:D:94:G:C4 | 2.87 | 0.43 |
| 7:D:958:U:O2' | 7:D:959:A:P | 2.76 | 0.43 |
| 9:F:209:ARG:O | 9:F:212:GLN:HB2 | 2.18 | 0.43 |
| 9:F:49:GLU:HA | 9:F:52:GLU:OE1 | 2.17 | 0.43 |
| 10:G:112:SER:HB3 | 10:G:115:LEU:HD12 | 1.99 | 0.43 |
| 11:H:18:LYS:O | 11:H:19:LEU:HD23 | 2.18 | 0.43 |
| 13:J:75:LEU:HD23 | 13:J:75:LEU:HA | 2.26 | 0.43 |
| 14:K:112:PRO:HB2 | 14:K:113:GLU:H | 1.56 | 0.43 |
| 6:A:1343:G:O2' | 16:M:121:ARG:HD2 | 2.19 | 0.43 |
| 17:N:55:LYS:HE3 | 17:N:55:LYS:HB2 | 1.82 | 0.43 |
| 6:A:302:G:H4' | 19:P:17:LYS:HZ2 | 1.81 | 0.43 |
| 24:U:93:GLN:HB3 | 24:U:104:LYS:HE2 | 1.99 | 0.43 |
| 18:O:110:ASP:HB3 | 25:V:85:LEU:HB3 | 1.99 | 0.43 |
| 29:Z:130:ILE:HG22 | 29:Z:131:LEU:HD23 | 2.00 | 0.43 |
| 29:Z:26:ALA:HA | 29:Z:29:VAL:HG12 | 2.00 | 0.43 |
| 29:Z:56:GLN:O | 29:Z:201:PRO:HB3 | 2.17 | 0.43 |
| 29:Z:60:GLY:HA2 | 29:Z:142:ALA:HA | 1.99 | 0.43 |
| 3:3:115:LEU:HD23 | 3:3:116:ASN:H | 1.83 | 0.43 |
| 3:3:115:LEU:HD23 | 3:3:116:ASN:N | 2.34 | 0.43 |
| 5:5:19:G:OP1 | 5:5:60:U:N3 | 2.52 | 0.43 |
| 6:A:1028(A):C:H3' | 6:A:1028(B):C:C6 | 2.53 | 0.43 |
| 6:A:1099:G:N1 | 6:A:1100:C:O2 | 2.52 | 0.43 |
| 6:A:1177:G:N2 | 6:A:1181:G:H21 | 2.16 | 0.43 |
| 6:A:11:G:H1 | 6:A:23:C:N4 | 2.16 | 0.43 |
| 6:A:1447:G:C2 | 6:A:1460:A:C2 | 3.07 | 0.43 |
| 6:A:1510:U:H2' | 6:A:1511:G:C8 | 2.53 | 0.43 |
| 6:A:218:C:C4 | 6:A:219:C:N4 | 2.86 | 0.43 |
| 6:A:448:A:H2' | 6:A:449:C:C6 | 2.53 | 0.43 |
| 6:A:476:G:C6 | 6:A:477:G:O6 | 2.72 | 0.43 |
| 6:A:502:G:N1 | 6:A:544:G:C5 | 2.86 | 0.43 |
| 6:A:565:U:C4 | 6:A:566:G:C6 | 3.07 | 0.43 |
| 6:A:579:G:C6 | 6:A:580:U:C4 | 3.06 | 0.43 |
| 6:A:594:G:H2' | 6:A:595:G:O4' | 2.18 | 0.43 |
| 6:A:597:G:N3 | 6:A:644:G:C2 | 2.86 | 0.43 |
| 6:A:645:C:C4 | 6:A:646:U:C4 | 3.06 | 0.43 |
| 6:A:681:C:C2 | 6:A:682:G:C8 | 3.06 | 0.43 |
| 6:A:722:A:H3' | 6:A:722:A:N3 | 2.32 | 0.43 |
| 6:A:843:U:H6 | 6:A:843:U:H5' | 1.83 | 0.43 |
| 6:A:86:U:OP2 | 6:A:87:A:C4 | 2.71 | 0.43 |
| 6:A:881:G:C6 | 6:A:882:C:C4 | 3.06 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 6:A:900:A:C6 | 6:A:901:A:C5 | 3.06 | 0.43 |
| 6:A:99:C:H2' | 6:A:101:A:H8 | 1.72 | 0.43 |
| 56:B:240:ASP:CB | 56:B:266:ALA:HB2 | 2.41 | 0.43 |
| 56:B:414:ILE:O | 56:B:449:GLU:C | 2.57 | 0.43 |
| 56:B:431:LYS:CB | 56:B:458:GLU:HB2 | 2.43 | 0.43 |
| 7:D:1109:C:C5 | 7:D:1110:G:N3 | 2.82 | 0.43 |
| 7:D:1142(A):A:C6 | 7:D:1143:A:C8 | 3.07 | 0.43 |
| 7:D:1139:G:O2' | 7:D:1143:A:O4' | 2.23 | 0.43 |
| 7:D:118:A:C4 | 7:D:177:G:C2 | 3.06 | 0.43 |
| 7:D:1203:G:H2' | 7:D:1203:G:N3 | 2.33 | 0.43 |
| 7:D:1205:U:N3 | 7:D:1207:C:N4 | 2.66 | 0.43 |
| 7:D:1379:A:O2' | 7:D:1380:G:P | 2.75 | 0.43 |
| 7:D:1480:G:N3 | 7:D:1480:G:H2' | 2.33 | 0.43 |
| 7:D:1512:G:H8 | 7:D:1512:G:OP2 | 2.00 | 0.43 |
| 7:D:154:G:C4 | 7:D:155:C:C6 | 3.06 | 0.43 |
| 7:D:1629:U:H2' | 7:D:1630:G:C8 | 2.53 | 0.43 |
| 7:D:1668:A:C6 | 7:D:1674:G:N3 | 2.82 | 0.43 |
| 7:D:1787:A:O5' | 7:D:1787:A:H8 | 2.02 | 0.43 |
| 7:D:1789:A:N7 | 7:D:1790:C:N3 | 2.66 | 0.43 |
| 7:D:1817:G:H5'' | 7:D:1818:U:OP2 | 2.18 | 0.43 |
| 7:D:1885:A:H5'' | 7:D:1886:C:OP2 | 2.18 | 0.43 |
| 7:D:1912:A:C6 | 7:D:1919:A:N6 | 2.87 | 0.43 |
| 7:D:1938:A:H4' | 7:D:1939:U:OP2 | 2.16 | 0.43 |
| 7:D:210:C:OP2 | 7:D:210:C:C6 | 2.72 | 0.43 |
| 7:D:2114:A:H3' | 7:D:2115:G:H8 | 1.84 | 0.43 |
| 7:D:21:A:N1 | 7:D:520:G:C6 | 2.86 | 0.43 |
| 7:D:2199:A:C2' | 7:D:2205:C:C5' | 2.89 | 0.43 |
| 7:D:2458:G:H21 | 7:D:2459:A:H61 | 1.66 | 0.43 |
| 7:D:2519:U:C2 | 7:D:2542:A:N6 | 2.87 | 0.43 |
| 7:D:257:A:OP2 | 7:D:257:A:H8 | 2.01 | 0.43 |
| 7:D:2703:C:N3 | 7:D:2704:C:N4 | 2.66 | 0.43 |
| 7:D:270(A):A:H5' | 7:D:270(B):A:O5' | 2.18 | 0.43 |
| 7:D:344:G:N2 | 7:D:345:A:C5 | 2.86 | 0.43 |
| 7:D:435:C:C2' | 7:D:436:C:C5' | 2.86 | 0.43 |
| 7:D:627:A:N3 | 7:D:637:A:C5 | 2.87 | 0.43 |
| 7:D:707:G:N1 | 7:D:708:C:O2 | 2.51 | 0.43 |
| 7:D:774:A:C1' | 7:D:775:G:C8 | 3.01 | 0.43 |
| 7:D:835:A:C6 | 7:D:836:G:C5 | 3.06 | 0.43 |
| 13:J:2:ARG:HD2 | 13:J:69:GLU:HB2 | 2.00 | 0.43 |
| 6:A:1343:G:H1' | 16:M:121:ARG:NH1 | 2.33 | 0.43 |
| 24:U:45:HIS:O | 24:U:73:VAL:HG23 | 2.19 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 25:V:84:LYS:N | 25:V:84:LYS:HD2 | 2.34 | 0.43 |
| 26:W:60:VAL:HB | 26:W:61:TYR:H | 1.70 | 0.43 |
| 29:Z:201:PRO:HD2 | 29:Z:208:PHE:CZ | 2.54 | 0.43 |
| 3:3:12:LEU:C | 3:3:54:PRO:HB3 | 2.39 | 0.43 |
| 3:3:60:TYR:CG | 3:3:61:ALA:N | 2.86 | 0.43 |
| 6:A:1177:G:H8 | 6:A:1177:G:O5' | 2.01 | 0.43 |
| 6:A:1187:G:C2 | 6:A:1188:A:C4 | 3.06 | 0.43 |
| 6:A:1321:C:H41 | 26:W:37:ARG:HH21 | 1.67 | 0.43 |
| 6:A:141:A:C6 | 6:A:142:G:C5 | 3.07 | 0.43 |
| 6:A:247:G:C5 | 6:A:278:G:C2 | 3.07 | 0.43 |
| 6:A:256:U:H2' | 6:A:257:G:C8 | 2.54 | 0.43 |
| 6:A:381:C:N4 | 6:A:382:A:N1 | 2.66 | 0.43 |
| 6:A:391:G:C6 | 6:A:392:G:C5 | 3.06 | 0.43 |
| 6:A:414:A:C4 | 6:A:415:A:C8 | 3.07 | 0.43 |
| 6:A:498:A:C2 | 6:A:547:A:C4 | 3.06 | 0.43 |
| 6:A:763:G:H2' | 6:A:764:C:C6 | 2.54 | 0.43 |
| 56:B:142:ASN:ND2 | 56:B:144:ARG:NH2 | 2.67 | 0.43 |
| 7:D:1301:A:HO2' | 7:D:1302:A:P | 2.39 | 0.43 |
| 7:D:1364:G:C2 | 7:D:1368:G:C5 | 3.07 | 0.43 |
| 7:D:1369:G:N1 | 7:D:1370:C:N3 | 2.67 | 0.43 |
| 7:D:1419:A:N1 | 7:D:1421:G:C4 | 2.87 | 0.43 |
| 7:D:1427:A:H1' | 7:D:1428:C:C5 | 2.54 | 0.43 |
| 7:D:1454:U:C5 | 7:D:1455:G:N7 | 2.86 | 0.43 |
| 7:D:1591:G:O5' | 7:D:1591:G:C8 | 2.70 | 0.43 |
| 7:D:1664:A:H3' | 7:D:1664:A:C8 | 2.53 | 0.43 |
| 7:D:1687:G:C2 | 7:D:1688:U:C5 | 3.06 | 0.43 |
| 7:D:1726:G:O6 | 7:D:1734:C:C2 | 2.71 | 0.43 |
| 7:D:1803:A:C8 | 7:D:1804:C:C6 | 3.07 | 0.43 |
| 7:D:1939:U:HO2' | 7:D:1940:U:P | 2.41 | 0.43 |
| 7:D:2207:C:C3' | 7:D:2207:C:C6 | 3.01 | 0.43 |
| 7:D:270(G):C:H2' | 7:D:270(H):C:C1' | 2.49 | 0.43 |
| 7:D:2801:A:H2' | 7:D:2802:G:OP1 | 2.18 | 0.43 |
| 7:D:2847:U:C5 | 7:D:2848:G:N7 | 2.87 | 0.43 |
| 7:D:326:G:C2 | 7:D:327:G:C8 | 3.07 | 0.43 |
| 7:D:41:C:H2' | 7:D:43:G:O4' | 2.18 | 0.43 |
| 7:D:520:G:C2 | 7:D:521:G:C4 | 3.06 | 0.43 |
| 7:D:535:C:C2 | 7:D:536:A:C8 | 3.06 | 0.43 |
| 7:D:17:G:H21 | 7:D:554:U:P | 2.41 | 0.43 |
| 7:D:590:A:C2 | 7:D:668:G:C2 | 3.07 | 0.43 |
| 7:D:675:A:C5 | 7:D:676:A:N1 | 2.86 | 0.43 |
| 7:D:685:A:N1 | 7:D:689:A:C2 | 2.87 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:744:G:C6 | 7:D:745:G:C4 | 3.07 | 0.43 |
| 7:D:787:U:C2 | 7:D:791:C:N4 | 2.86 | 0.43 |
| 7:D:89:G:H3' | 7:D:90:U:H5'' | 2.01 | 0.43 |
| 7:D:918:A:H3' | 7:D:919:G:O4' | 2.19 | 0.43 |
| 9:F:69:LEU:HD11 | 9:F:93:VAL:HG23 | 2.01 | 0.43 |
| 13:J:11:ASN:HA | 13:J:12:PRO:HD2 | 1.73 | 0.43 |
| 13:J:74:ASP:O | 13:J:78:GLU:N | 2.49 | 0.43 |
| 13:J:99:ALA:HB2 | 25:V:31:LEU:HD13 | 2.01 | 0.43 |
| 17:N:32:ALA:HB2 | 17:N:76:ASN:HB2 | 2.00 | 0.43 |
| 26:W:52:TYR:CD1 | 26:W:52:TYR:O | 2.72 | 0.43 |
| 28:Y:18:TYR:CE2 | 28:Y:24:ARG:NH1 | 2.86 | 0.43 |
| 6:A:1046:A:C8 | 6:A:1046:A:OP2 | 2.72 | 0.43 |
| 6:A:1088:G:H2' | 6:A:1089:G:C8 | 2.53 | 0.43 |
| 6:A:1195:C:H2' | 6:A:1197:G:O4' | 2.19 | 0.43 |
| 6:A:1235:U:H2' | 6:A:1236:A:C8 | 2.48 | 0.43 |
| 6:A:1413:A:N1 | 6:A:1488:G:C2 | 2.86 | 0.43 |
| 6:A:166:G:C2 | 6:A:167:G:C4 | 3.07 | 0.43 |
| 6:A:286:G:C6 | 6:A:287:U:N3 | 2.87 | 0.43 |
| 6:A:308:C:O2' | 6:A:309:G:OP1 | 2.33 | 0.43 |
| 6:A:411:A:C5 | 6:A:429:U:C4 | 3.06 | 0.43 |
| 6:A:457:C:O2 | 6:A:476:G:C2 | 2.70 | 0.43 |
| 6:A:698:G:C2 | 6:A:699:C:C2 | 3.06 | 0.43 |
| 6:A:755:G:H2' | 6:A:756:C:C6 | 2.54 | 0.43 |
| 6:A:806:C:H2' | 6:A:807:A:C8 | 2.53 | 0.43 |
| 6:A:806:C:H2' | 6:A:807:A:H8 | 1.83 | 0.43 |
| 56:B:251:VAL:CG1 | 56:B:252:ALA:N | 2.39 | 0.43 |
| 56:B:33:THR:HG23 | 56:B:34:HIS:H | 1.83 | 0.43 |
| 56:B:379:LYS:H | 56:B:406:LEU:CA | 2.25 | 0.43 |
| 56:B:382:LEU:HD22 | 56:B:402:ILE:HG23 | 2.01 | 0.43 |
| 56:B:447:ARG:C | 56:B:448:VAL:CG2 | 2.86 | 0.43 |
| 56:B:89:PHE:C | 56:B:91:TYR:H | 2.22 | 0.43 |
| 3:3:132:ARG:HH22 | 7:D:1060:U:C2' | 2.31 | 0.43 |
| 7:D:1246:A:H2' | 7:D:1247:A:O4' | 2.19 | 0.43 |
| 7:D:1332:G:C5 | 7:D:1609:A:N6 | 2.86 | 0.43 |
| 7:D:1663:C:H5'' | 7:D:1664:A:OP1 | 2.18 | 0.43 |
| 7:D:1728:G:N2 | 7:D:1729:A:C5 | 2.87 | 0.43 |
| 7:D:1773:A:H2' | 7:D:1774:C:H5' | 2.01 | 0.43 |
| 7:D:1776:G:C4 | 7:D:1789:A:C2 | 3.07 | 0.43 |
| 7:D:1916:A:C5 | 7:D:1917:U:O4 | 2.72 | 0.43 |
| 7:D:1993:U:C5 | 7:D:1994:C:C4 | 3.06 | 0.43 |
| 7:D:2085:C:C4 | 7:D:2086:U:C4 | 3.07 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:2246:G:C6 | 7:D:2247:A:C6 | 3.06 | 0.43 |
| 7:D:2271:G:C6 | 7:D:2272:U:N3 | 2.85 | 0.43 |
| 7:D:2290:G:C6 | 7:D:2291:U:N3 | 2.87 | 0.43 |
| 7:D:2519:U:H4' | 7:D:2520:C:OP1 | 2.19 | 0.43 |
| 7:D:2655:G:H2' | 7:D:2664:G:C6 | 2.54 | 0.43 |
| 7:D:1050:A:C5 | 7:D:2751:G:C2 | 3.07 | 0.43 |
| 7:D:2881:C:H5'' | 7:D:2882:A:OP2 | 2.18 | 0.43 |
| 7:D:30:G:C2 | 7:D:511:U:O2 | 2.71 | 0.43 |
| 7:D:337:C:O3' | 7:D:339:U:OP2 | 2.36 | 0.43 |
| 7:D:364:C:C4 | 7:D:365:C:N4 | 2.86 | 0.43 |
| 7:D:366:C:HO2' | 7:D:370:G:P | 2.42 | 0.43 |
| 7:D:411:G:O5' | 7:D:412:A:OP2 | 2.37 | 0.43 |
| 7:D:564:C:N4 | 7:D:573:G:OP1 | 2.49 | 0.43 |
| 7:D:579:G:C2 | 7:D:580:C:C2 | 3.07 | 0.43 |
| 7:D:860:U:O4 | 7:D:917:A:N6 | 2.52 | 0.43 |
| 7:D:973:A:O2' | 7:D:974:G:O5' | 2.22 | 0.43 |
| 9:F:19:HIS:HA | 9:F:39:ILE:HD11 | 2.00 | 0.43 |
| 12:I:112:LEU:HD23 | 12:I:112:LEU:HA | 1.86 | 0.43 |
| 13:J:51:PRO:HA | 13:J:55:ASP:O | 2.19 | 0.43 |
| 15:L:39:LEU:HD12 | 15:L:39:LEU:HA | 1.79 | 0.43 |
| 29:Z:176:GLY:CA | 29:Z:180:PHE:CD2 | 3.02 | 0.43 |
| 29:Z:24:GLU:O | 29:Z:27:HIS:HB2 | 2.18 | 0.43 |
| 3:3:98:ARG:CZ | 3:3:100:THR:HA | 2.49 | 0.43 |
| 5:5:5:G:H2' | 5:5:6:G:C8 | 2.53 | 0.43 |
| 6:A:193:C:O2' | 6:A:194:C:H5' | 2.18 | 0.43 |
| 6:A:533:A:OP2 | 6:A:533:A:O4' | 2.36 | 0.43 |
| 6:A:606:G:N2 | 6:A:631:G:H2' | 2.30 | 0.43 |
| 6:A:695:A:C6 | 6:A:696:A:C6 | 3.07 | 0.43 |
| 6:A:802:A:C2 | 6:A:803:G:H1' | 2.54 | 0.43 |
| 6:A:860:A:H2' | 6:A:861:G:O4' | 2.19 | 0.43 |
| 56:B:195:PRO:HG2 | 56:B:287:THR:HA | 1.98 | 0.43 |
| 56:B:330:LEU:HB3 | 56:B:345:ARG:HH11 | 1.84 | 0.43 |
| 56:B:396:LEU:CD2 | 56:B:491:LYS:HG3 | 2.49 | 0.43 |
| 56:B:417:PRO:HB3 | 56:B:446:LYS:C | 2.21 | 0.43 |
| 7:D:1047:G:N7 | 7:D:1110:G:C2 | 2.86 | 0.43 |
| 7:D:126:A:C5 | 7:D:127:A:C6 | 3.07 | 0.43 |
| 7:D:1306:C:H2' | 7:D:1307:A:O4' | 2.19 | 0.43 |
| 7:D:1433:U:H2' | 7:D:1434:A:H8 | 1.83 | 0.43 |
| 7:D:1728:G:N2 | 7:D:1730:U:H1' | 2.33 | 0.43 |
| 7:D:1741:C:H3' | 7:D:1741:C:H6 | 1.82 | 0.43 |
| 7:D:1749:A:C8 | 7:D:1749:A:OP2 | 2.71 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 7:D:2019:A:H3' | 7:D:2020:A:C5' | 2.48 | 0.43 |
| 7:D:2120:G:H5'' | 7:D:2121:G:OP2 | 2.18 | 0.43 |
| 7:D:2169:A:H8 | 7:D:2169:A:P | 2.42 | 0.43 |
| 7:D:2432:A:C2 | 7:D:2433:A:C5 | 3.07 | 0.43 |
| 7:D:2603:G:H2' | 7:D:2604:U:O4' | 2.19 | 0.43 |
| 7:D:2696:U:O2 | 7:D:2697:G:C8 | 2.71 | 0.43 |
| 7:D:270(C):C:H2' | 7:D:270(D):C:O4' | 2.19 | 0.43 |
| 7:D:2807:G:H5' | 7:D:2808:U:C5 | 2.50 | 0.43 |
| 7:D:2845:G:N1 | 7:D:2871:C:O2 | 2.48 | 0.43 |
| 7:D:2893:G:H4' | 7:D:2894:G:OP1 | 2.17 | 0.43 |
| 7:D:233:A:N6 | 7:D:429:A:H61 | 2.17 | 0.43 |
| 7:D:454:A:H4' | 7:D:455:C:O2 | 2.19 | 0.43 |
| 7:D:479:A:O2' | 7:D:480:A:C8 | 2.69 | 0.43 |
| 7:D:541:C:N4 | 7:D:552:G:H1 | 2.16 | 0.43 |
| 7:D:616:A:H2' | 7:D:617:G:N3 | 2.34 | 0.43 |
| 7:D:728:G:C8 | 7:D:728:G:H3' | 2.54 | 0.43 |
| 7:D:83:G:N2 | 7:D:102:G:O2' | 2.51 | 0.43 |
| 7:D:889:C:N4 | 7:D:890:A:C2 | 2.87 | 0.43 |
| 7:D:978:G:C2 | 7:D:986:C:C2 | 3.06 | 0.43 |
| 11:H:201:GLN:O | 11:H:205:GLU:HB2 | 2.19 | 0.43 |
| 11:H:63:LYS:HZ1 | 11:H:198:VAL:HG12 | 1.83 | 0.43 |
| 14:K:139:GLU:O | 14:K:143:ARG:HG2 | 2.19 | 0.43 |
| 16:M:50:LEU:O | 16:M:54:ASP:N | 2.51 | 0.43 |
| 17:N:24:VAL:HG11 | 17:N:28:ARG:HH21 | 1.83 | 0.43 |
| 6:A:718:G:C5 | 18:O:116:HIS:NE2 | 2.86 | 0.43 |
| 19:P:43:VAL:HG12 | 19:P:44:THR:O | 2.18 | 0.43 |
| 6:A:1360:A:OP2 | 21:R:35:ARG:NH2 | 2.51 | 0.43 |
| 24:U:40:LYS:HE3 | 24:U:42:TYR:CE1 | 2.54 | 0.43 |
| 13:J:89:MET:HB2 | 25:V:76:LEU:HD11 | 2.01 | 0.43 |
| 26:W:79:THR:CG2 | 26:W:80:TYR:N | 2.82 | 0.43 |
| 27:X:14:LYS:O | 27:X:18:GLN:HG3 | 2.19 | 0.43 |
| 29:Z:152:ILE:CG2 | 29:Z:160:ARG:NH1 | 2.80 | 0.43 |
| 5:5:17:C:H41 | 7:D:2181:G:H5' | 1.81 | 0.43 |
| 5:5:24:G:O5' | 5:5:24:G:H8 | 2.00 | 0.43 |
| 5:5:36:A:C5 | 5:5:37:A:C8 | 3.07 | 0.43 |
| 6:A:1010:G:C4 | 6:A:1011:G:C8 | 3.07 | 0.43 |
| 6:A:1035:A:C6 | 6:A:1036:G:N7 | 2.87 | 0.43 |
| 6:A:1041:A:H8 | 6:A:1041:A:O5' | 2.02 | 0.43 |
| 6:A:1059:C:N3 | 6:A:1060:C:C4 | 2.86 | 0.43 |
| 6:A:1167:A:H8 | 6:A:1167:A:OP1 | 2.02 | 0.43 |
| 6:A:216:G:H3' | 6:A:217:C:C5 | 2.53 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 6:A:262:A:C2 | 6:A:263:A:C4 | 3.07 | 0.43 |
| 6:A:345:C:H4' | 6:A:346:G:O5' | 2.18 | 0.43 |
| 6:A:46:G:C2 | 6:A:396:G:C2 | 3.06 | 0.43 |
| 6:A:425:G:C4 | 6:A:426:G:C8 | 3.07 | 0.43 |
| 6:A:464:G:P | 6:A:464:G:H8 | 2.42 | 0.43 |
| 6:A:527:G:N1 | 6:A:528:C:N3 | 2.67 | 0.43 |
| 6:A:580:U:O4 | 6:A:581:G:N1 | 2.51 | 0.43 |
| 6:A:617:G:C6 | 6:A:624:C:N3 | 2.87 | 0.43 |
| 6:A:76:G:C8 | 6:A:95:G:N1 | 2.82 | 0.43 |
| 6:A:774:G:C2 | 6:A:806:C:C2 | 3.06 | 0.43 |
| 6:A:818:G:O2' | 6:A:819:A:H5'' | 2.18 | 0.43 |
| 6:A:872:A:HO2' | 6:A:873:A:P | 2.40 | 0.43 |
| 6:A:994:A:H2' | 6:A:994:A:N3 | 2.33 | 0.43 |
| 56:B:127:HIS:CD2 | 56:B:127:HIS:O | 2.71 | 0.43 |
| 56:B:250:LEU:CD1 | 56:B:250:LEU:N | 2.81 | 0.43 |
| 56:B:417:PRO:CB | 56:B:447:ARG:N | 2.74 | 0.43 |
| 56:B:19:ASP:HA | 57:B:701:GCP:H5'2 | 2.00 | 0.43 |
| 56:B:70:ALA:HB3 | 56:B:75:GLU:H | 1.83 | 0.43 |
| 7:D:1174:A:C3' | 7:D:1175:U:H5'' | 2.46 | 0.43 |
| 7:D:1297:C:OP1 | 7:D:2710:C:H4' | 2.19 | 0.43 |
| 7:D:1369:G:N1 | 7:D:1370:C:C2 | 2.86 | 0.43 |
| 7:D:1449(A):G:N2 | 7:D:1450:C:H1' | 2.34 | 0.43 |
| 7:D:1451:C:H2' | 7:D:1453:A:OP1 | 2.19 | 0.43 |
| 7:D:1477:A:C6 | 7:D:1478:G:O6 | 2.72 | 0.43 |
| 7:D:1519:G:H3' | 7:D:1520:U:N1 | 2.33 | 0.43 |
| 7:D:1537:C:H2' | 7:D:1538:G:H4' | 2.00 | 0.43 |
| 7:D:1439:A:N1 | 7:D:1553:A:C4 | 2.87 | 0.43 |
| 7:D:1557:C:H2' | 7:D:1558:A:N7 | 2.34 | 0.43 |
| 7:D:1580:A:C2' | 7:D:1581:G:N9 | 2.82 | 0.43 |
| 7:D:1707:G:C2 | 7:D:1756:G:N2 | 2.87 | 0.43 |
| 7:D:1725:G:N1 | 7:D:1726:G:N7 | 2.67 | 0.43 |
| 7:D:173:G:C6 | 7:D:174:C:N4 | 2.87 | 0.43 |
| 7:D:1792:G:C6 | 7:D:1828:G:N2 | 2.86 | 0.43 |
| 7:D:1850:G:C5 | 7:D:1851:U:C5 | 3.07 | 0.43 |
| 7:D:1853:A:C6 | 7:D:1889:A:C6 | 3.06 | 0.43 |
| 7:D:1993:U:O4' | 7:D:1993:U:O2 | 2.37 | 0.43 |
| 7:D:2099:U:C2 | 7:D:2100:G:N7 | 2.87 | 0.43 |
| 7:D:2196:C:C4 | 7:D:2197:U:O4 | 2.71 | 0.43 |
| 7:D:2266:A:N3 | 7:D:2272:U:H5 | 2.16 | 0.43 |
| 7:D:2333:A:H1' | 7:D:2335:A:C4 | 2.54 | 0.43 |
| 7:D:2383:G:C5 | 7:D:2384:G:N7 | 2.87 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:2396:G:C2 | 7:D:2397:G:C8 | 3.07 | 0.43 |
| 7:D:261:G:C2 | 7:D:262:A:C4 | 3.06 | 0.43 |
| 7:D:2695:C:H2' | 7:D:2696:U:C6 | 2.53 | 0.43 |
| 7:D:2813:A:H2' | 7:D:2814:C:C6 | 2.53 | 0.43 |
| 7:D:2849:U:C2' | 7:D:2850:A:OP2 | 2.67 | 0.43 |
| 7:D:353:G:C6 | 7:D:354:G:C5 | 3.06 | 0.43 |
| 7:D:375:C:N4 | 7:D:399:G:H1 | 2.17 | 0.43 |
| 7:D:479:A:N6 | 7:D:481:G:N3 | 2.66 | 0.43 |
| 7:D:560:C:N4 | 7:D:561:G:C6 | 2.87 | 0.43 |
| 7:D:563:G:N1 | 7:D:2018:G:N3 | 2.65 | 0.43 |
| 7:D:718:A:H8 | 7:D:718:A:O5' | 2.01 | 0.43 |
| 9:F:124:SER:OG | 9:F:125:PRO:HD2 | 2.18 | 0.43 |
| 9:F:74:LYS:HE3 | 9:F:205:ASP:CG | 2.39 | 0.43 |
| 11:H:203:VAL:O | 11:H:206:PHE:N | 2.51 | 0.43 |
| 12:I:144:THR:HG22 | 12:I:145:LYS:N | 2.33 | 0.43 |
| 12:I:79:GLU:N | 12:I:79:GLU:OE1 | 2.36 | 0.43 |
| 24:U:25:ARG:HD2 | 24:U:27:PHE:HE2 | 1.84 | 0.43 |
| 26:W:70:LYS:HB2 | 26:W:73:GLU:OE2 | 2.15 | 0.43 |
| 29:Z:39:GLU:OE2 | 29:Z:216:THR:HG21 | 2.18 | 0.43 |
| 29:Z:91:ALA:HB3 | 29:Z:94:VAL:HG23 | 2.00 | 0.43 |
| 3:3:23:VAL:O | 3:3:25:PRO:HD2 | 2.19 | 0.43 |
| 5:5:55:U:C4 | 5:5:57:G:OP2 | 2.72 | 0.43 |
| 6:A:1175:G:N3 | 6:A:1176:A:C8 | 2.87 | 0.43 |
| 6:A:1201:A:HO2' | 6:A:1202:G:P | 2.41 | 0.43 |
| 6:A:1235:U:C2 | 6:A:1236:A:C8 | 3.07 | 0.43 |
| 6:A:1304:G:H1 | 6:A:1332:A:P | 2.42 | 0.43 |
| 6:A:1343:G:H4' | 16:M:122:ALA:O | 2.19 | 0.43 |
| 6:A:285:G:H2' | 6:A:286:G:C8 | 2.54 | 0.43 |
| 6:A:538:G:C2 | 6:A:539:A:C4 | 3.06 | 0.43 |
| 6:A:5:U:C1' | 6:A:6:G:OP2 | 2.66 | 0.43 |
| 6:A:710:G:H2' | 6:A:711:G:H8 | 1.84 | 0.43 |
| 6:A:830:G:C6 | 6:A:831:U:C4 | 3.07 | 0.43 |
| 6:A:848:C:OP1 | 6:A:848:C:C6 | 2.72 | 0.43 |
| 6:A:981:U:C2 | 6:A:982:U:H5 | 2.37 | 0.43 |
| 56:B:143:ALA:O | 56:B:145:PRO:HD3 | 2.19 | 0.43 |
| 56:B:361:LEU:HA | 56:B:365:PHE:HD1 | 1.84 | 0.43 |
| 56:B:385:GLY:O | 56:B:386:GLU:HB2 | 2.19 | 0.43 |
| 56:B:80:LEU:C | 56:B:81:ILE:CG1 | 2.87 | 0.43 |
| 7:D:1022:G:H21 | 7:D:1024:G:H22 | 1.63 | 0.43 |
| 7:D:1062:G:O6 | 7:D:1077:A:C4 | 2.72 | 0.43 |
| 7:D:1293:C:N3 | 7:D:1294:U:C4 | 2.87 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-----------------|------------------|--------------------------|-------------------|
| 7:D:1434:A:C4 | 7:D:1435:G:C8 | 3.06 | 0.43 |
| 7:D:1449:A:OP1 | 7:D:1543:A:N1 | 2.52 | 0.43 |
| 7:D:1859:A:C2 | 7:D:1885:A:C8 | 3.07 | 0.43 |
| 7:D:2396:G:C2 | 7:D:2421:G:N1 | 2.87 | 0.43 |
| 7:D:2399:G:H1 | 7:D:2417:C:N4 | 2.14 | 0.43 |
| 7:D:2631:G:C5' | 7:D:2894:G:H5'' | 2.49 | 0.43 |
| 7:D:2711:A:C5' | 7:D:2712:U:H5' | 2.47 | 0.43 |
| 7:D:271:G:C5 | 7:D:404:C:N3 | 2.87 | 0.43 |
| 7:D:2638:G:C5 | 7:D:2775:A:C6 | 3.07 | 0.43 |
| 7:D:465:G:C6 | 7:D:466:A:C6 | 3.06 | 0.43 |
| 7:D:602:G:N2 | 7:D:656:G:C5 | 2.87 | 0.43 |
| 7:D:660:G:C6 | 7:D:661:C:N3 | 2.86 | 0.43 |
| 7:D:775:G:H5'' | 7:D:777:A:C8 | 2.54 | 0.43 |
| 7:D:875:G:C5 | 7:D:876:C:C4 | 3.07 | 0.43 |
| 7:D:909:A:N7 | 7:D:912:C:N3 | 2.66 | 0.43 |
| 7:D:921:G:C5 | 7:D:922:U:C4 | 3.07 | 0.43 |
| 8:E:21:G:C2 | 8:E:22:U:C2 | 3.07 | 0.43 |
| 8:E:7:G:H3' | 8:E:8:U:C5 | 2.54 | 0.43 |
| 12:I:70:PRO:HA | 12:I:95:ALA:HB2 | 16.94 | 0.43 |
| 15:L:19:VAL:O | 15:L:20:TYR:HB2 | 2.19 | 0.43 |
| 15:L:49:GLU:OE1 | 15:L:49:GLU:N | 2.52 | 0.43 |
| 18:O:40:ILE:HB | 18:O:41:THR:H | 1.56 | 0.43 |
| 19:P:85:ILE:HA | 19:P:85:ILE:HD12 | 1.82 | 0.43 |
| 20:Q:30:ALA:O | 20:Q:33:ALA:N | 2.52 | 0.43 |
| 22:S:80:ALA:O | 22:S:84:LYS:HB2 | 2.18 | 0.43 |
| 6:A:44:G:OP2 | 23:T:12:LYS:HB2 | 2.19 | 0.43 |
| 23:T:74:LEU:HA | 23:T:77:ALA:HB3 | 1.99 | 0.43 |
| 24:U:13:ASP:CG | 24:U:14:LYS:H | 2.20 | 0.43 |
| 27:X:76:ALA:O | 27:X:80:ARG:HG2 | 2.19 | 0.43 |
| 29:Z:163:PHE:O | 29:Z:164:ARG:HB2 | 2.19 | 0.43 |
| 3:3:35:MET:HG3 | 3:3:36:GLU:N | 2.32 | 0.42 |
| 3:3:55:VAL:O | 3:3:55:VAL:HG13 | 2.19 | 0.42 |
| 4:4:28:C:H2' | 4:4:29:G:H8 | 1.83 | 0.42 |
| 4:4:30:G:C2 | 4:4:31:G:C8 | 3.07 | 0.42 |
| 4:4:49:G:H1 | 4:4:65:C:N4 | 2.16 | 0.42 |
| 6:A:1043:C:H2' | 6:A:1044:A:C8 | 2.50 | 0.42 |
| 6:A:1074:G:O2' | 6:A:1101:A:N1 | 2.37 | 0.42 |
| 6:A:1120:G:C2 | 6:A:1121:U:C2 | 3.07 | 0.42 |
| 6:A:1206:G:C6 | 6:A:1207:G:C5 | 3.07 | 0.42 |
| 6:A:1300:G:OP2 | 6:A:1300:G:O4' | 2.37 | 0.42 |
| 6:A:1419:G:C5 | 6:A:1482:G:C2 | 3.07 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 6:A:1452:C:C2' | 6:A:1453:G:N2 | 2.80 | 0.42 |
| 6:A:172:A:N7 | 6:A:174:C:C2 | 2.87 | 0.42 |
| 6:A:294:U:H2' | 6:A:295:C:H6 | 1.84 | 0.42 |
| 6:A:403:C:H2' | 6:A:404:U:C6 | 2.53 | 0.42 |
| 6:A:448:A:C2 | 6:A:449:C:C4 | 3.07 | 0.42 |
| 6:A:474:G:N2 | 6:A:475:G:N3 | 2.67 | 0.42 |
| 6:A:575:G:C4 | 6:A:881:G:N2 | 2.87 | 0.42 |
| 6:A:741:G:H2' | 6:A:742:G:H8 | 1.84 | 0.42 |
| 6:A:586:C:H42 | 6:A:755:G:H1 | 1.67 | 0.42 |
| 6:A:814:A:C8 | 6:A:816:A:N7 | 2.87 | 0.42 |
| 6:A:848:C:N3 | 6:A:849:C:N4 | 2.66 | 0.42 |
| 56:B:121:PHE:CZ | 56:B:157:GLY:N | 2.80 | 0.42 |
| 56:B:238:THR:OG1 | 56:B:267:ALA:HB1 | 2.15 | 0.42 |
| 56:B:252:ALA:O | 56:B:253:THR:OG1 | 2.32 | 0.42 |
| 56:B:281:THR:CG2 | 56:B:287:THR:OG1 | 2.66 | 0.42 |
| 56:B:396:LEU:HD22 | 56:B:491:LYS:HG3 | 2.01 | 0.42 |
| 56:B:489:LEU:CA | 56:B:509:HIS:CA | 2.67 | 0.42 |
| 56:B:543:GLY:O | 56:B:545:ILE:N | 2.52 | 0.42 |
| 7:D:1056:G:C8 | 7:D:1056:G:H3' | 2.54 | 0.42 |
| 7:D:1131:G:N2 | 7:D:1132:A:C2 | 2.87 | 0.42 |
| 7:D:1138:G:C2 | 7:D:1139:G:C4 | 3.07 | 0.42 |
| 7:D:1163:G:C2 | 7:D:1164:G:C4 | 3.06 | 0.42 |
| 7:D:818:G:N2 | 7:D:1190:G:C4 | 2.87 | 0.42 |
| 7:D:1192:G:C2 | 7:D:1193:G:C8 | 3.07 | 0.42 |
| 7:D:1251:C:H5' | 16:M:10:ARG:NE | 170.81 | 0.42 |
| 7:D:1258:C:N4 | 7:D:1259:G:O6 | 2.51 | 0.42 |
| 7:D:1268:A:C5 | 7:D:1269:A:C5 | 3.07 | 0.42 |
| 7:D:1288:U:O4 | 7:D:1327:C:H1' | 2.18 | 0.42 |
| 7:D:1429:G:C2 | 7:D:1430:C:C2 | 3.07 | 0.42 |
| 7:D:1623:G:C2 | 7:D:1624:G:C8 | 3.07 | 0.42 |
| 7:D:1627:G:C5 | 7:D:1640:C:N3 | 2.87 | 0.42 |
| 7:D:1725:G:N1 | 7:D:1735:C:N3 | 2.66 | 0.42 |
| 7:D:1872:A:H2' | 7:D:1878:G:OP1 | 2.19 | 0.42 |
| 7:D:1899:G:N2 | 7:D:1902:C:H41 | 2.16 | 0.42 |
| 7:D:1992:G:O6 | 7:D:1997:G:C2 | 2.71 | 0.42 |
| 7:D:1995:U:C4 | 7:D:1996:C:C5 | 3.07 | 0.42 |
| 7:D:2104:G:H2' | 7:D:2105:C:C6 | 2.54 | 0.42 |
| 7:D:2105:C:H2' | 7:D:2106:G:C8 | 2.54 | 0.42 |
| 7:D:223:A:O2' | 7:D:224:G:OP2 | 2.30 | 0.42 |
| 7:D:2448:A:O2' | 7:D:2449:U:OP1 | 2.37 | 0.42 |
| 7:D:2528:U:O2' | 7:D:2529:G:H3' | 2.18 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:2572:A:O2' | 7:D:2573:C:P | 2.77 | 0.42 |
| 7:D:2782:G:C2 | 7:D:2783:G:C5 | 3.06 | 0.42 |
| 7:D:2818:G:C2 | 7:D:2819:G:C4 | 3.07 | 0.42 |
| 7:D:799:G:N1 | 7:D:800:A:N6 | 2.67 | 0.42 |
| 7:D:869:G:C2 | 7:D:870:A:C5 | 3.07 | 0.42 |
| 7:D:883:G:C2' | 7:D:892:G:O6 | 2.62 | 0.42 |
| 8:E:4:C:C2 | 8:E:117:G:N2 | 2.87 | 0.42 |
| 8:E:13:A:N6 | 8:E:69:G:HO2' | 2.17 | 0.42 |
| 9:F:52:GLU:O | 9:F:56:ARG:HG2 | 2.18 | 0.42 |
| 11:H:196:LEU:O | 11:H:196:LEU:HD12 | 2.19 | 0.42 |
| 13:J:46:ARG:HB3 | 13:J:60:PHE:CE2 | 2.54 | 0.42 |
| 7:D:456:C:C4 | 19:P:69:TYR:CD2 | 139.94 | 0.42 |
| 19:P:93:LEU:HA | 19:P:94:PRO:HD3 | 1.76 | 0.42 |
| 25:V:58:LEU:HB2 | 25:V:63:GLN:OE1 | 2.19 | 0.42 |
| 18:O:108:ILE:HB | 25:V:88:LYS:OXT | 2.19 | 0.42 |
| 29:Z:44:HIS:ND1 | 29:Z:172:HIS:HB3 | 2.34 | 0.42 |
| 1:1:2:LYS:HE2 | 1:1:37:GLY:OXT | 2.19 | 0.42 |
| 3:3:79:ARG:NH1 | 3:3:134:MET:SD | 2.93 | 0.42 |
| 3:3:10:LEU:HG | 3:3:57:ILE:CG1 | 2.43 | 0.42 |
| 4:4:17:C:H5'' | 4:4:17(A):U:C6 | 2.54 | 0.42 |
| 6:A:1044:A:H5'' | 6:A:1045:C:OP2 | 2.19 | 0.42 |
| 6:A:954:G:O6 | 6:A:1225:A:N6 | 2.52 | 0.42 |
| 6:A:1235:U:C2 | 6:A:1236:A:N7 | 2.87 | 0.42 |
| 6:A:1284:C:H3' | 6:A:1285:A:C8 | 2.52 | 0.42 |
| 6:A:1354:C:N4 | 6:A:1368:G:H1 | 2.17 | 0.42 |
| 6:A:1426:C:H2' | 6:A:1427:U:H6 | 1.83 | 0.42 |
| 6:A:284:G:N1 | 6:A:285:G:C5 | 2.87 | 0.42 |
| 6:A:373:A:C2 | 6:A:374:A:C8 | 3.07 | 0.42 |
| 6:A:410:G:H3' | 6:A:410:G:OP2 | 2.18 | 0.42 |
| 6:A:447:G:N2 | 6:A:488:C:C4 | 2.87 | 0.42 |
| 6:A:52:G:C2 | 6:A:53:A:C4 | 3.07 | 0.42 |
| 6:A:560:U:C5 | 6:A:566:G:C4 | 3.07 | 0.42 |
| 6:A:597:G:N1 | 6:A:644:G:C6 | 2.87 | 0.42 |
| 6:A:671:G:C6 | 6:A:672:U:C2 | 3.07 | 0.42 |
| 6:A:722:A:C2 | 6:A:724:G:C5 | 3.08 | 0.42 |
| 6:A:754:C:H3' | 6:A:755:G:C5' | 2.49 | 0.42 |
| 6:A:837:G:C8 | 6:A:837:G:O5' | 2.71 | 0.42 |
| 56:B:397:PRO:HB2 | 56:B:401:ARG:HH21 | 1.83 | 0.42 |
| 56:B:398:ASP:OD2 | 56:B:399:PRO:HD3 | 2.19 | 0.42 |
| 56:B:537:ILE:HD11 | 56:B:551:VAL:HG21 | 1.96 | 0.42 |
| 56:B:74:GLU:HG3 | 56:B:77:VAL:HG11 | 2.00 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 7:D:1423:G:H2' | 7:D:1424:G:C8 | 2.53 | 0.42 |
| 7:D:1457:A:O2' | 7:D:1459:G:C1' | 2.67 | 0.42 |
| 7:D:1459:G:O6 | 7:D:1461:G:C2 | 2.72 | 0.42 |
| 7:D:1605:C:C5 | 7:D:1606:G:C8 | 3.07 | 0.42 |
| 7:D:1697:G:C4 | 7:D:1698:A:C2 | 3.07 | 0.42 |
| 7:D:1707:G:H3' | 7:D:1707:G:OP2 | 2.19 | 0.42 |
| 7:D:1735:C:H6 | 7:D:1735:C:H3' | 1.85 | 0.42 |
| 7:D:1799:G:O2' | 7:D:1800:C:O2 | 2.38 | 0.42 |
| 7:D:1812:A:C2 | 7:D:1813:G:C4 | 3.07 | 0.42 |
| 7:D:1860:G:C4 | 7:D:1861:G:C8 | 3.07 | 0.42 |
| 7:D:2067:G:N1 | 7:D:2069:G:C5 | 2.87 | 0.42 |
| 7:D:2266:A:C4 | 7:D:2272:U:C5 | 3.07 | 0.42 |
| 7:D:2487:G:N3 | 7:D:2488:A:C8 | 2.88 | 0.42 |
| 7:D:2588:G:C5 | 7:D:2589:A:N7 | 2.87 | 0.42 |
| 7:D:2654:A:C4 | 7:D:2656:U:C4 | 3.07 | 0.42 |
| 7:D:270(G):C:H5" | 7:D:270(H):C:OP2 | 2.19 | 0.42 |
| 7:D:2740:A:N6 | 7:D:2764:A:C5 | 2.87 | 0.42 |
| 1:I:35:ARG:CZ | 7:D:2742:C:H5" | 2.49 | 0.42 |
| 7:D:2836:U:H3' | 7:D:2836:U:H6 | 1.84 | 0.42 |
| 7:D:1:G:C2' | 7:D:2:G:H8 | 2.32 | 0.42 |
| 7:D:37:C:C2 | 7:D:38:A:C8 | 3.06 | 0.42 |
| 7:D:425:G:N2 | 7:D:426:C:C2 | 2.87 | 0.42 |
| 7:D:5:A:C6 | 7:D:6:A:C5 | 3.07 | 0.42 |
| 7:D:685:A:C8 | 7:D:773:U:C5 | 3.07 | 0.42 |
| 7:D:833:U:H2' | 7:D:834:C:C6 | 2.54 | 0.42 |
| 7:D:834:C:C2 | 7:D:835:A:C8 | 3.07 | 0.42 |
| 7:D:880:G:P | 7:D:881:G:OP2 | 2.77 | 0.42 |
| 7:D:923:C:O5' | 7:D:923:C:C6 | 2.70 | 0.42 |
| 7:D:932:G:H2' | 7:D:933:A:C1' | 2.49 | 0.42 |
| 7:D:971:C:OP2 | 7:D:974(A):C:C5 | 2.72 | 0.42 |
| 8:E:34:U:O2' | 8:E:35:U:P | 2.77 | 0.42 |
| 9:F:208:ILE:HG22 | 9:F:212:GLN:HE21 | 1.84 | 0.42 |
| 12:I:15:ARG:NH1 | 12:I:26:PHE:CE2 | 2.88 | 0.42 |
| 14:K:22:LEU:CD2 | 14:K:97:GLN:HE21 | 2.32 | 0.42 |
| 14:K:45:ASP:HA | 14:K:48:LYS:HZ3 | 1.83 | 0.42 |
| 20:Q:24:GLY:HA3 | 20:Q:66:LEU:CB | 2.49 | 0.42 |
| 20:Q:67:GLU:OE1 | 20:Q:67:GLU:HA | 2.19 | 0.42 |
| 22:S:5:LYS:O | 22:S:9:GLN:HG2 | 2.19 | 0.42 |
| 23:T:82:GLN:HG3 | 23:T:83:GLU:N | 2.34 | 0.42 |
| 6:A:237:C:H5" | 24:U:25:ARG:NH1 | 2.35 | 0.42 |
| 26:W:36:ARG:HG2 | 26:W:36:ARG:H | 1.50 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 29:Z:131:LEU:HA | 29:Z:136:LEU:HD12 | 2.01 | 0.42 |
| 4:4:7:G:O2' | 4:4:49:G:O4' | 2.30 | 0.42 |
| 6:A:1147:C:O2 | 16:M:16:ARG:NH2 | 2.41 | 0.42 |
| 6:A:114:U:O2' | 6:A:115:G:H5' | 2.19 | 0.42 |
| 6:A:1319:A:HO2' | 6:A:1320:C:P | 2.42 | 0.42 |
| 6:A:150:C:O2 | 6:A:171:A:N6 | 2.51 | 0.42 |
| 6:A:440:A:N6 | 6:A:494:U:O5' | 2.52 | 0.42 |
| 6:A:537:G:C6 | 6:A:538:G:C5 | 3.07 | 0.42 |
| 6:A:539:A:C6 | 6:A:540:G:C5 | 3.08 | 0.42 |
| 6:A:52:G:N1 | 6:A:53:A:C4 | 2.87 | 0.42 |
| 6:A:576:G:H3' | 6:A:577:G:C5' | 2.49 | 0.42 |
| 6:A:635:G:C2 | 6:A:636:U:C2 | 3.08 | 0.42 |
| 6:A:767:A:N6 | 6:A:813:U:H3 | 2.17 | 0.42 |
| 6:A:943:U:H2' | 6:A:944:G:H8 | 1.82 | 0.42 |
| 56:B:425:MET:HE3 | 56:B:435:LEU:HD13 | 2.01 | 0.42 |
| 56:B:42:ARG:CG | 56:B:43:GLU:N | 2.80 | 0.42 |
| 56:B:504:LEU:HD12 | 56:B:504:LEU:N | 2.35 | 0.42 |
| 56:B:66:VAL:O | 56:B:76:TYR:CD2 | 2.72 | 0.42 |
| 7:D:1025:G:N3 | 7:D:1025:G:C2' | 2.83 | 0.42 |
| 7:D:118:A:C2 | 7:D:177:G:N1 | 2.87 | 0.42 |
| 7:D:117:G:C5 | 7:D:119:A:N6 | 2.87 | 0.42 |
| 7:D:1206:G:N2 | 7:D:1242:A:N6 | 2.67 | 0.42 |
| 7:D:1206:G:H8 | 7:D:1206:G:OP2 | 2.01 | 0.42 |
| 7:D:1319:G:C2 | 7:D:1334:G:C5 | 3.07 | 0.42 |
| 7:D:1394:U:N3 | 7:D:1395:A:C6 | 2.87 | 0.42 |
| 7:D:1412:A:C4 | 7:D:1591:G:N2 | 2.87 | 0.42 |
| 7:D:1415:U:O3' | 7:D:1416:G:H4' | 2.19 | 0.42 |
| 7:D:1443:G:C2 | 7:D:1444:G:C4 | 3.07 | 0.42 |
| 7:D:1515:C:N3 | 7:D:1516:U:C4 | 2.87 | 0.42 |
| 7:D:1534:G:C5 | 7:D:1536:A:OP2 | 2.72 | 0.42 |
| 7:D:1583:A:H5' | 7:D:1585:C:O5' | 2.19 | 0.42 |
| 7:D:155:C:O2' | 7:D:161:U:P | 2.77 | 0.42 |
| 7:D:1735:C:H2' | 7:D:1741:C:C2 | 2.54 | 0.42 |
| 7:D:2077:A:C2 | 7:D:2078:C:C4 | 3.07 | 0.42 |
| 7:D:2104:G:N1 | 7:D:2105:C:N3 | 2.66 | 0.42 |
| 7:D:2166:G:N2 | 7:D:2171:A:C8 | 2.87 | 0.42 |
| 7:D:2356:C:H5' | 7:D:2357:U:OP2 | 2.20 | 0.42 |
| 7:D:2418:A:C5 | 7:D:2419:U:C2 | 3.07 | 0.42 |
| 7:D:2422:A:C8 | 7:D:2424:C:N4 | 2.87 | 0.42 |
| 7:D:2509:G:C2 | 7:D:2510:C:C2 | 3.07 | 0.42 |
| 7:D:259:G:N3 | 7:D:260:G:C8 | 2.86 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 7:D:2709:G:C6 | 7:D:2710:C:N3 | 2.87 | 0.42 |
| 7:D:270(O):U:H5'' | 7:D:270(P):C:H5 | 1.84 | 0.42 |
| 7:D:2774:C:H2' | 7:D:2775:A:H8 | 1.85 | 0.42 |
| 7:D:2805:G:C5 | 7:D:2807:G:C8 | 3.08 | 0.42 |
| 7:D:2837:G:N3 | 7:D:2838:G:C8 | 2.86 | 0.42 |
| 7:D:309:G:O2' | 7:D:329:G:C4 | 2.72 | 0.42 |
| 7:D:273(F):C:O2' | 7:D:363(A):A:N3 | 2.52 | 0.42 |
| 7:D:435:C:C3' | 7:D:435:C:C6 | 3.01 | 0.42 |
| 7:D:441:U:O5' | 7:D:441:U:H6 | 2.01 | 0.42 |
| 7:D:455:C:O2' | 7:D:456:C:P | 2.77 | 0.42 |
| 7:D:478:A:C6 | 7:D:480:A:N6 | 2.87 | 0.42 |
| 7:D:491:G:H2' | 7:D:492:A:O5' | 2.19 | 0.42 |
| 7:D:571:A:C6 | 7:D:575:A:N7 | 2.87 | 0.42 |
| 7:D:775:G:C5' | 7:D:777:A:C4 | 3.01 | 0.42 |
| 7:D:884:C:H1' | 7:D:885:C:C5 | 2.55 | 0.42 |
| 7:D:857:C:C2 | 7:D:921:G:N2 | 2.88 | 0.42 |
| 7:D:960:A:N7 | 7:D:962:G:C4 | 2.88 | 0.42 |
| 8:E:9:G:C5 | 8:E:112:G:C6 | 3.07 | 0.42 |
| 8:E:118:G:OP2 | 8:E:118:G:H3' | 2.18 | 0.42 |
| 12:I:76:ILE:HD12 | 12:I:91:LEU:CD2 | 2.49 | 0.42 |
| 13:J:35:ALA:HA | 13:J:66:GLU:O | 2.20 | 0.42 |
| 25:V:18:ARG:HD2 | 25:V:21:LYS:HB2 | 2.02 | 0.42 |
| 6:A:1319:A:O5' | 26:W:37:ARG:HB3 | 2.18 | 0.42 |
| 28:Y:8:THR:HB | 28:Y:9:ARG:H | 1.57 | 0.42 |
| 29:Z:116:THR:O | 29:Z:120:MET:HG2 | 2.19 | 0.42 |
| 3:3:51:ALA:HB1 | 3:3:77:LEU:HA | 2.01 | 0.42 |
| 6:A:1040:U:C4 | 6:A:1041:A:N6 | 2.87 | 0.42 |
| 6:A:1128:C:H3' | 6:A:1139:G:N7 | 2.34 | 0.42 |
| 6:A:1129:C:N3 | 6:A:1143:G:C2 | 2.88 | 0.42 |
| 6:A:1152:A:N6 | 6:A:1153:C:C4 | 2.87 | 0.42 |
| 6:A:1321:C:H5 | 26:W:37:ARG:CZ | 2.31 | 0.42 |
| 6:A:1431:C:H2' | 6:A:1432:G:O4' | 2.19 | 0.42 |
| 6:A:363:A:OP1 | 19:P:33:ARG:HD3 | 2.20 | 0.42 |
| 6:A:410:G:C2 | 6:A:429:U:N3 | 2.87 | 0.42 |
| 6:A:424:G:C2 | 6:A:425:G:C4 | 3.07 | 0.42 |
| 6:A:49:U:C2 | 6:A:364:A:N6 | 2.88 | 0.42 |
| 6:A:691:G:C8 | 18:O:26:ASN:ND2 | 2.87 | 0.42 |
| 6:A:703:G:O2' | 6:A:704:A:P | 2.74 | 0.42 |
| 6:A:799:G:H3' | 6:A:800:G:C8 | 2.54 | 0.42 |
| 6:A:81:G:OP2 | 6:A:82:U:H5 | 2.02 | 0.42 |
| 6:A:848:C:C3' | 6:A:848:C:C6 | 3.02 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 6:A:853:G:C2 | 6:A:854:G:C8 | 3.07 | 0.42 |
| 6:A:922:G:N2 | 6:A:1396:A:C4 | 2.88 | 0.42 |
| 6:A:934:C:HO2' | 6:A:935:A:P | 2.41 | 0.42 |
| 56:B:17:HIS:NE2 | 56:B:116:GLU:CD | 2.73 | 0.42 |
| 56:B:138:ILE:O | 56:B:138:ILE:HG22 | 2.20 | 0.42 |
| 56:B:204:VAL:CG1 | 56:B:205:TYR:H | 2.12 | 0.42 |
| 56:B:360:ARG:O | 56:B:364:GLU:CB | 2.68 | 0.42 |
| 56:B:427:LEU:CD1 | 56:B:466:ARG:HD2 | 2.48 | 0.42 |
| 7:D:1037:G:N2 | 7:D:1038:C:O2 | 2.52 | 0.42 |
| 7:D:1239:G:C4 | 7:D:1240:U:H1' | 2.54 | 0.42 |
| 7:D:1284:A:H2' | 7:D:1285:G:C8 | 2.54 | 0.42 |
| 7:D:1368:G:N3 | 7:D:1369:G:C8 | 2.88 | 0.42 |
| 7:D:1492:G:OP1 | 7:D:1493:C:OP2 | 2.36 | 0.42 |
| 7:D:1486:A:N6 | 7:D:1504:C:H42 | 2.17 | 0.42 |
| 7:D:1643:G:H2' | 7:D:1644:C:O4' | 2.20 | 0.42 |
| 7:D:1795:C:H2' | 7:D:1796:U:O4' | 2.19 | 0.42 |
| 7:D:1817:G:O5' | 7:D:1817:G:H8 | 2.02 | 0.42 |
| 7:D:1919:A:OP2 | 7:D:1920:C:C5 | 2.72 | 0.42 |
| 7:D:1924:C:N3 | 7:D:1925:C:H5 | 2.17 | 0.42 |
| 7:D:1935:G:C2 | 7:D:1964:G:C4 | 3.07 | 0.42 |
| 7:D:1965:C:C2 | 7:D:1966:A:N7 | 2.88 | 0.42 |
| 7:D:1967:C:N4 | 7:D:1968:G:C6 | 2.88 | 0.42 |
| 7:D:2114:A:N3 | 7:D:2167:U:O2' | 2.34 | 0.42 |
| 7:D:2206:C:C2' | 7:D:2207:C:H5' | 2.48 | 0.42 |
| 1:I:31:LYS:NZ | 7:D:2478:A:O5' | 2.51 | 0.42 |
| 7:D:2497:A:HO2' | 7:D:2498:C:P | 2.37 | 0.42 |
| 7:D:2692:C:H2' | 7:D:2693:A:C8 | 2.52 | 0.42 |
| 7:D:2895:U:C3' | 7:D:2895:U:C6 | 3.02 | 0.42 |
| 7:D:38:A:C2 | 7:D:39:C:N3 | 2.88 | 0.42 |
| 7:D:55:G:H2' | 7:D:56:A:C8 | 2.54 | 0.42 |
| 7:D:708:C:N4 | 7:D:709:U:O4 | 2.53 | 0.42 |
| 7:D:710:G:C4 | 7:D:711:G:C8 | 3.07 | 0.42 |
| 7:D:78:A:C6 | 7:D:109:G:C6 | 3.06 | 0.42 |
| 7:D:918:A:N3 | 7:D:919:G:H1' | 2.34 | 0.42 |
| 7:D:938:G:H2' | 7:D:939:G:H8 | 1.84 | 0.42 |
| 8:E:-1:A:N7 | 8:E:0:A:H8 | 2.18 | 0.42 |
| 9:F:118:LEU:HA | 9:F:121:LEU:HB2 | 2.01 | 0.42 |
| 9:F:54:THR:HG21 | 9:F:201:ILE:CD1 | 2.46 | 0.42 |
| 13:J:6:VAL:O | 13:J:7:ASN:ND2 | 2.52 | 0.42 |
| 15:L:34:GLU:CG | 15:L:118:VAL:HB | 2.49 | 0.42 |
| 17:N:8:LEU:HD21 | 17:N:16:LEU:HD22 | 2.01 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 19:P:124:LYS:HD3 | 19:P:127:GLU:OE1 | 2.19 | 0.42 |
| 19:P:68:ALA:HB1 | 19:P:85:ILE:HD11 | 2.01 | 0.42 |
| 26:W:15:LEU:CB | 26:W:71:LEU:HD13 | 2.50 | 0.42 |
| 6:A:1003:G:C6 | 6:A:1004:A:C5 | 3.07 | 0.42 |
| 6:A:1015:A:C2 | 6:A:1016:A:C4 | 3.08 | 0.42 |
| 6:A:1074:G:C6 | 6:A:1075:C:C4 | 3.07 | 0.42 |
| 6:A:1129:C:O2' | 6:A:1130:A:H3' | 2.20 | 0.42 |
| 6:A:1144:G:N1 | 6:A:1145:C:C2 | 2.87 | 0.42 |
| 6:A:1245:A:N6 | 6:A:1291:G:O6 | 2.52 | 0.42 |
| 6:A:1250:A:C6 | 6:A:1251:A:C2 | 3.08 | 0.42 |
| 6:A:1260:C:O5' | 6:A:1284:C:H4' | 2.19 | 0.42 |
| 6:A:192:U:H5'' | 27:X:57:ARG:HH22 | 1.84 | 0.42 |
| 6:A:277:C:C2 | 6:A:278:G:C8 | 3.08 | 0.42 |
| 6:A:59:A:C4 | 6:A:331:G:N2 | 2.86 | 0.42 |
| 6:A:392:G:C2 | 6:A:393:A:C5 | 3.08 | 0.42 |
| 6:A:440:A:C6 | 6:A:494:U:H6 | 2.37 | 0.42 |
| 6:A:545:C:H2' | 6:A:546:G:O4' | 2.20 | 0.42 |
| 6:A:680:C:H2' | 6:A:681:C:C6 | 2.51 | 0.42 |
| 6:A:73:G:N3 | 6:A:73:G:H2' | 2.34 | 0.42 |
| 6:A:781:A:O2' | 6:A:782:A:OP1 | 2.35 | 0.42 |
| 6:A:773:G:N1 | 6:A:807:A:C6 | 2.87 | 0.42 |
| 6:A:894:G:C4 | 6:A:895:G:C8 | 3.08 | 0.42 |
| 56:B:150:LEU:HA | 56:B:150:LEU:HD13 | 1.85 | 0.42 |
| 56:B:282:LEU:CD1 | 56:B:283:ALA:CA | 2.79 | 0.42 |
| 56:B:294:PHE:CD1 | 56:B:294:PHE:N | 2.82 | 0.42 |
| 56:B:358:GLN:O | 56:B:362:GLU:HG3 | 2.20 | 0.42 |
| 56:B:412:LEU:HD12 | 56:B:479:TYR:CA | 2.26 | 0.42 |
| 56:B:415:PHE:HD1 | 56:B:448:VAL:O | 2.02 | 0.42 |
| 56:B:48:SER:C | 56:B:50:GLU:N | 2.73 | 0.42 |
| 56:B:65:ARG:HD3 | 56:B:65:ARG:HA | 1.58 | 0.42 |
| 7:D:1048:A:C8 | 7:D:1048:A:O5' | 2.73 | 0.42 |
| 7:D:1057:A:C2 | 7:D:1058:G:N1 | 2.87 | 0.42 |
| 7:D:1059:G:C2 | 7:D:1060:U:O2' | 2.71 | 0.42 |
| 7:D:1090:U:C2 | 7:D:1103:A:N6 | 2.87 | 0.42 |
| 7:D:1148:A:C2 | 7:D:1149:G:C4 | 3.08 | 0.42 |
| 7:D:116:C:H2' | 7:D:117:G:C8 | 2.54 | 0.42 |
| 7:D:1194:A:N1 | 7:D:1195:G:C5 | 2.87 | 0.42 |
| 7:D:1319:G:H1 | 7:D:1333:C:H42 | 1.66 | 0.42 |
| 7:D:1323:U:C4 | 7:D:1324:G:N7 | 2.88 | 0.42 |
| 7:D:137(A):G:C2 | 7:D:142:G:C2 | 3.08 | 0.42 |
| 7:D:1529:A:H8 | 7:D:1530:G:N7 | 2.15 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 7:D:1586:A:H2' | 7:D:1587:A:C5' | 2.32 | 0.42 |
| 7:D:164:U:O2 | 7:D:164:U:H3' | 2.19 | 0.42 |
| 7:D:150:C:N4 | 7:D:176:G:N1 | 2.64 | 0.42 |
| 7:D:1778:U:H6 | 7:D:1778:U:H3' | 1.85 | 0.42 |
| 7:D:1784:A:OP2 | 7:D:1785:A:N1 | 2.53 | 0.42 |
| 7:D:1799:G:N2 | 7:D:1818:U:O2' | 2.53 | 0.42 |
| 7:D:1930:G:H2' | 7:D:1931:U:OP2 | 2.19 | 0.42 |
| 7:D:1664:A:H61 | 7:D:1992:G:P | 2.43 | 0.42 |
| 7:D:2009:G:C2 | 7:D:2010:G:C8 | 3.08 | 0.42 |
| 7:D:2013:A:H2' | 7:D:2014:A:C8 | 2.55 | 0.42 |
| 7:D:2158:A:H1' | 7:D:2159:G:OP2 | 2.19 | 0.42 |
| 7:D:2195:C:H3' | 7:D:2196:C:C6 | 2.55 | 0.42 |
| 7:D:2205:C:H6 | 7:D:2205:C:H3' | 1.85 | 0.42 |
| 7:D:2333:A:C8 | 7:D:2335:A:C2 | 3.08 | 0.42 |
| 7:D:2345:G:N3 | 7:D:2381:C:C2 | 2.86 | 0.42 |
| 7:D:246:C:H2' | 7:D:247:G:C8 | 2.54 | 0.42 |
| 7:D:2491:U:H3' | 7:D:2491:U:C6 | 2.52 | 0.42 |
| 7:D:1670:C:OP2 | 7:D:2550:G:OP1 | 2.37 | 0.42 |
| 7:D:2571:C:N4 | 7:D:2574:G:C8 | 2.87 | 0.42 |
| 7:D:2577:A:O2' | 7:D:2612:C:H2' | 2.20 | 0.42 |
| 7:D:259:G:C4 | 7:D:260:G:C8 | 3.08 | 0.42 |
| 7:D:2699:C:O2 | 7:D:2709:G:C2 | 2.72 | 0.42 |
| 7:D:2773:C:H2' | 7:D:2774:C:H6 | 1.85 | 0.42 |
| 7:D:2865:U:C4 | 7:D:2866:U:C5 | 3.08 | 0.42 |
| 7:D:290:G:N1 | 7:D:349:G:N2 | 2.67 | 0.42 |
| 7:D:289:A:O2' | 7:D:352:G:O6 | 2.34 | 0.42 |
| 7:D:471:A:N7 | 7:D:472:A:C5 | 2.88 | 0.42 |
| 7:D:547:A:C4 | 7:D:548:A:C8 | 3.08 | 0.42 |
| 7:D:464:U:O2' | 7:D:686:G:O6 | 2.37 | 0.42 |
| 7:D:713:G:H5' | 7:D:714:U:OP1 | 2.19 | 0.42 |
| 7:D:775:G:H21 | 7:D:787:U:C2' | 2.32 | 0.42 |
| 7:D:6:A:C5 | 7:D:7:G:N7 | 2.87 | 0.42 |
| 7:D:926:A:HO2' | 7:D:928:G:P | 2.37 | 0.42 |
| 8:E:99:A:C6 | 8:E:100:G:C5 | 3.07 | 0.42 |
| 10:G:159:GLY:HA2 | 10:G:193:TYR:CZ | 2.54 | 0.42 |
| 15:L:36:LEU:HD13 | 15:L:48:TYR:CG | 2.55 | 0.42 |
| 16:M:127:LYS:HG3 | 16:M:127:LYS:O | 2.20 | 0.42 |
| 16:M:48:GLU:N | 16:M:49:PRO:HD2 | 2.35 | 0.42 |
| 6:A:1124:G:H4' | 17:N:38:ILE:HD11 | 2.00 | 0.42 |
| 17:N:40:LEU:O | 17:N:69:ASN:HB2 | 2.19 | 0.42 |
| 20:Q:8:GLU:HG3 | 20:Q:21:TYR:HB2 | 2.01 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 20:Q:60:VAL:O | 20:Q:66:LEU:HD21 | 2.20 | 0.42 |
| 20:Q:71:ARG:HA | 20:Q:75:ALA:HB2 | 1.99 | 0.42 |
| 23:T:55:ARG:HD2 | 23:T:59:TRP:HE1 | 1.84 | 0.42 |
| 26:W:36:ARG:HD3 | 26:W:72:GLY:N | 2.30 | 0.42 |
| 26:W:44:MET:C | 26:W:45:VAL:HG22 | 2.22 | 0.42 |
| 29:Z:176:GLY:HA3 | 29:Z:180:PHE:CD2 | 2.54 | 0.42 |
| 5:5:13:C:C2 | 5:5:23:A:C6 | 3.08 | 0.42 |
| 6:A:1024:G:H2' | 6:A:1025:U:OP2 | 2.19 | 0.42 |
| 6:A:1032(A):G:H2' | 6:A:1032(B):G:H8 | 1.82 | 0.42 |
| 6:A:1141:C:C4 | 6:A:1142:G:N7 | 2.88 | 0.42 |
| 6:A:1307:U:C4 | 6:A:1308:U:O4 | 2.72 | 0.42 |
| 6:A:1340:A:C5 | 6:A:1341:U:C5 | 3.07 | 0.42 |
| 6:A:20:U:OP2 | 12:I:125:SER:HB2 | 2.19 | 0.42 |
| 6:A:21:G:N2 | 6:A:914:A:H62 | 2.17 | 0.42 |
| 6:A:430:A:OP1 | 11:H:9:CYS:N | 2.45 | 0.42 |
| 6:A:468:A:N6 | 6:A:474:G:C2 | 2.87 | 0.42 |
| 6:A:475:G:C8 | 6:A:475:G:O5' | 2.72 | 0.42 |
| 6:A:601:C:H42 | 6:A:637:G:H1 | 1.68 | 0.42 |
| 6:A:668:G:H2' | 6:A:669:U:C6 | 2.55 | 0.42 |
| 6:A:683:G:C6 | 6:A:684:A:C6 | 3.08 | 0.42 |
| 6:A:686:U:N3 | 6:A:703:G:O2' | 2.46 | 0.42 |
| 6:A:578:C:O2' | 6:A:728:A:N3 | 2.44 | 0.42 |
| 6:A:796:C:H2' | 6:A:797:C:H6 | 1.83 | 0.42 |
| 6:A:786:G:O6 | 6:A:797:C:N4 | 2.53 | 0.42 |
| 56:B:196:LEU:O | 56:B:281:THR:HA | 2.15 | 0.42 |
| 56:B:200:ILE:HB | 56:B:277:GLY:CA | 2.49 | 0.42 |
| 56:B:242:VAL:C | 56:B:263:TRP:O | 2.46 | 0.42 |
| 56:B:285:ARG:HD3 | 56:B:285:ARG:HA | 1.85 | 0.42 |
| 56:B:411:LYS:CD | 56:B:436:VAL:CG2 | 2.75 | 0.42 |
| 56:B:493:ASN:O | 56:B:540:ALA:CA | 2.67 | 0.42 |
| 56:B:536:PRO:CA | 56:B:550:THR:HG22 | 2.49 | 0.42 |
| 7:D:1024:G:H5'' | 7:D:1025:G:H5'' | 2.00 | 0.42 |
| 7:D:1081:U:H3' | 7:D:1082:U:C5 | 2.54 | 0.42 |
| 7:D:1280:G:C2 | 7:D:1281:G:C4 | 3.08 | 0.42 |
| 7:D:1350:C:C2 | 7:D:1382:G:N2 | 2.88 | 0.42 |
| 7:D:135:G:N1 | 7:D:145:G:C6 | 2.88 | 0.42 |
| 7:D:1345:C:OP1 | 7:D:1385:G:H5'' | 2.20 | 0.42 |
| 7:D:1422:G:N3 | 7:D:1423:G:C8 | 2.87 | 0.42 |
| 7:D:1434:A:N3 | 7:D:1435:G:C8 | 2.88 | 0.42 |
| 7:D:1496:A:H2 | 7:D:1498:C:N3 | 2.18 | 0.42 |
| 7:D:1581:G:H2' | 7:D:1582:C:O4' | 2.20 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-----------------|------------------|--------------------------|-------------------|
| 7:D:1708:C:C4 | 7:D:1709:U:C4 | 3.08 | 0.42 |
| 7:D:1746:G:O6 | 7:D:1747:G:C2 | 2.70 | 0.42 |
| 7:D:1762:A:C8 | 7:D:1762:A:OP2 | 2.73 | 0.42 |
| 7:D:1860:G:H1 | 7:D:1882:C:H42 | 1.66 | 0.42 |
| 7:D:1964:G:N2 | 7:D:1967:C:N3 | 2.68 | 0.42 |
| 7:D:200:U:O2 | 7:D:200:U:H2' | 2.19 | 0.42 |
| 7:D:2054:A:H62 | 7:D:2577:A:N6 | 2.16 | 0.42 |
| 7:D:2078:C:N4 | 7:D:2079:U:O4 | 2.53 | 0.42 |
| 7:D:2094:G:H1 | 7:D:2195:C:H42 | 1.67 | 0.42 |
| 7:D:210:C:H2' | 7:D:211:A:C8 | 2.54 | 0.42 |
| 7:D:2138:C:H2' | 7:D:2153:G:H22 | 1.85 | 0.42 |
| 7:D:2312:U:N3 | 7:D:2313:C:C4 | 2.88 | 0.42 |
| 7:D:2673:G:C6 | 7:D:2674:G:C6 | 3.08 | 0.42 |
| 7:D:2692:C:H1' | 7:D:2847:U:O2' | 2.20 | 0.42 |
| 7:D:2732:G:C4' | 7:D:2733:A:OP2 | 2.61 | 0.42 |
| 7:D:2805:G:C2' | 7:D:2807:G:H5'' | 2.49 | 0.42 |
| 7:D:2862:G:C5 | 7:D:2863:C:C5 | 3.06 | 0.42 |
| 7:D:2901:C:C2 | 7:D:2902:C:N4 | 2.87 | 0.42 |
| 7:D:346:A:H8 | 7:D:346:A:O5' | 2.03 | 0.42 |
| 7:D:280:C:C4 | 7:D:360:G:N7 | 2.88 | 0.42 |
| 7:D:463:G:C2 | 7:D:467:G:C5 | 3.07 | 0.42 |
| 7:D:607:U:C2 | 7:D:621:A:C6 | 3.07 | 0.42 |
| 7:D:669:G:N3 | 7:D:801:G:N1 | 2.68 | 0.42 |
| 7:D:836:G:C5 | 7:D:837:C:C4 | 3.07 | 0.42 |
| 7:D:89:G:C4 | 7:D:90:U:C5 | 3.02 | 0.42 |
| 7:D:94:G:C6 | 7:D:95:G:C5 | 3.07 | 0.42 |
| 8:E:49:C:C4 | 8:E:50:G:N7 | 2.88 | 0.42 |
| 8:E:73:A:N1 | 8:E:74:U:C2 | 2.87 | 0.42 |
| 6:A:877:C:OP1 | 15:L:88:LYS:HD3 | 2.20 | 0.42 |
| 6:A:684:A:O2' | 18:O:38:ASN:HB3 | 2.19 | 0.42 |
| 19:P:65:GLU:HG2 | 19:P:65:GLU:O | 2.19 | 0.42 |
| 20:Q:94:ARG:CZ | 20:Q:94:ARG:CB | 2.96 | 0.42 |
| 26:W:21:GLU:HG2 | 26:W:21:GLU:H | 1.52 | 0.42 |
| 26:W:70:LYS:HB3 | 26:W:73:GLU:CA | 2.45 | 0.42 |
| 29:Z:22:ILE:HB | 29:Z:190:ARG:NH1 | 2.33 | 0.42 |
| 3:3:55:VAL:CG2 | 3:3:69:THR:HA | 2.50 | 0.42 |
| 4:4:6:G:N2 | 4:4:68:C:O2 | 2.52 | 0.42 |
| 5:5:18:G:C8 | 5:5:58:A:N1 | 2.88 | 0.42 |
| 6:A:1061:G:C2 | 6:A:1062:U:O2 | 2.72 | 0.42 |
| 6:A:1088:G:C4 | 6:A:1089:G:N7 | 2.88 | 0.42 |
| 6:A:1125:U:H5' | 6:A:1126:U:C5 | 2.54 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 6:A:1250:A:C6 | 6:A:1287:A:C4 | 3.07 | 0.42 |
| 6:A:1302:U:C4 | 20:Q:17:VAL:HG21 | 2.54 | 0.42 |
| 6:A:1303:C:N4 | 6:A:1304:G:C2 | 2.88 | 0.42 |
| 6:A:138:G:C4 | 6:A:139:G:C8 | 3.08 | 0.42 |
| 6:A:146:G:H2' | 6:A:147:G:C8 | 2.55 | 0.42 |
| 6:A:181:G:O2' | 6:A:182:U:P | 2.77 | 0.42 |
| 6:A:280:C:N3 | 24:U:39:SER:HB3 | 2.34 | 0.42 |
| 6:A:377:G:O2' | 6:A:378:G:H5' | 2.20 | 0.42 |
| 6:A:479:C:H5 | 6:A:479:C:OP2 | 2.01 | 0.42 |
| 6:A:593:G:C2 | 6:A:647:C:O2 | 2.73 | 0.42 |
| 6:A:643:C:H2' | 6:A:644:G:C8 | 2.54 | 0.42 |
| 6:A:73:G:N7 | 6:A:74:C:C4 | 2.88 | 0.42 |
| 6:A:949:A:C6 | 6:A:950:U:C2 | 3.08 | 0.42 |
| 56:B:152:VAL:HA | 56:B:156:LEU:H | 1.85 | 0.42 |
| 56:B:197:LYS:HB2 | 56:B:281:THR:HG21 | 1.89 | 0.42 |
| 56:B:299:PRO:HB2 | 56:B:300:VAL:H | 1.72 | 0.42 |
| 56:B:509:HIS:CD2 | 56:B:509:HIS:O | 2.73 | 0.42 |
| 56:B:488:ASP:HB2 | 56:B:510:ARG:HA | 2.01 | 0.42 |
| 56:B:537:ILE:O | 56:B:549:ALA:CB | 2.67 | 0.42 |
| 56:B:43:GLU:CB | 56:B:53:ARG:NH2 | 2.29 | 0.42 |
| 56:B:93:VAL:HA | 56:B:97:LEU:HB2 | 2.01 | 0.42 |
| 7:D:1003:G:C2 | 7:D:1153:C:C2 | 3.07 | 0.42 |
| 7:D:1007:C:H42 | 7:D:1135:C:N4 | 2.16 | 0.42 |
| 7:D:1230:C:O5' | 7:D:1230:C:H6 | 2.02 | 0.42 |
| 7:D:1245:G:N1 | 7:D:1246:A:C5 | 2.88 | 0.42 |
| 7:D:1324:G:C5 | 7:D:1328:G:O6 | 2.73 | 0.42 |
| 7:D:1442:G:C2 | 7:D:1443:G:C8 | 3.08 | 0.42 |
| 7:D:1454:U:H5 | 7:D:1455:G:O6 | 2.03 | 0.42 |
| 7:D:1454:U:H5 | 7:D:1455:G:C6 | 2.37 | 0.42 |
| 7:D:1517:G:C2 | 7:D:1518:C:C2 | 3.07 | 0.42 |
| 7:D:1627:G:N2 | 7:D:1628:G:C4 | 2.88 | 0.42 |
| 7:D:1942:C:O3' | 56:B:577:GLN:HG3 | 2.20 | 0.42 |
| 7:D:2159:G:C5 | 7:D:2160:G:N7 | 2.88 | 0.42 |
| 7:D:222:A:H5'' | 7:D:421:U:OP1 | 2.20 | 0.42 |
| 7:D:2372:G:H1 | 7:D:2381:C:H42 | 1.68 | 0.42 |
| 7:D:2429:G:H5'' | 7:D:2430:A:OP2 | 2.20 | 0.42 |
| 7:D:2631:G:N2 | 7:D:2632:A:N3 | 2.68 | 0.42 |
| 7:D:2668:G:N2 | 7:D:2669:G:C2 | 2.87 | 0.42 |
| 7:D:2736:G:H2' | 7:D:2737:G:H8 | 1.83 | 0.42 |
| 7:D:276:A:N3 | 7:D:276:A:OP2 | 2.52 | 0.42 |
| 7:D:2824:C:C4 | 7:D:2825:C:N3 | 2.87 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 7:D:2808:U:O4 | 7:D:2891:G:C5 | 2.72 | 0.42 |
| 7:D:29:U:H2' | 7:D:30:G:C8 | 2.55 | 0.42 |
| 7:D:311:A:O2' | 7:D:312:G:P | 2.76 | 0.42 |
| 7:D:295:G:C2 | 7:D:344:G:N3 | 2.88 | 0.42 |
| 7:D:13:A:N6 | 7:D:525:U:C4 | 2.84 | 0.42 |
| 7:D:549:G:C6 | 7:D:550:G:C5 | 3.08 | 0.42 |
| 7:D:626:U:O2' | 7:D:627:A:OP1 | 2.34 | 0.42 |
| 7:D:627:A:N6 | 7:D:636:G:H2' | 2.19 | 0.42 |
| 7:D:683:C:N4 | 7:D:684:G:O6 | 2.52 | 0.42 |
| 7:D:80:G:C2 | 7:D:81:G:C8 | 3.07 | 0.42 |
| 7:D:909:A:N7 | 7:D:912:C:C2 | 2.87 | 0.42 |
| 7:D:93:C:N4 | 7:D:94:G:C2 | 2.88 | 0.42 |
| 8:E:83:G:C2 | 8:E:84:C:C2 | 3.08 | 0.42 |
| 11:H:165:MET:HG3 | 11:H:166:LYS:N | 2.33 | 0.42 |
| 13:J:8:ILE:O | 13:J:61:LEU:HB2 | 2.19 | 0.42 |
| 14:K:73:MET:HG3 | 14:K:89:MET:C | 2.40 | 0.42 |
| 15:L:86:ILE:HD12 | 15:L:135:CYS:HA | 2.01 | 0.42 |
| 17:N:70:ARG:O | 17:N:71:LEU:HD23 | 2.20 | 0.42 |
| 17:N:79:ARG:HH11 | 17:N:82:ILE:HD12 | 1.84 | 0.42 |
| 24:U:65:ILE:HG23 | 24:U:69:LYS:HG2 | 2.00 | 0.42 |
| 6:A:255:G:P | 24:U:69:LYS:NZ | 2.93 | 0.42 |
| 3:3:35:MET:CA | 3:3:63:ARG:HH12 | 2.32 | 0.42 |
| 3:3:75:SER:HB3 | 3:3:130:SER:CB | 2.50 | 0.42 |
| 3:3:84:LEU:HA | 3:3:96:VAL:HG11 | 2.01 | 0.42 |
| 6:A:1006:C:H6 | 6:A:1006:C:O5' | 2.03 | 0.42 |
| 6:A:1131:G:C6 | 6:A:1144:G:H1' | 2.54 | 0.42 |
| 6:A:1355:G:C6 | 6:A:1356:G:C5 | 3.07 | 0.42 |
| 6:A:1461:G:N1 | 6:A:1462:G:C6 | 2.88 | 0.42 |
| 6:A:1514:C:H2' | 6:A:1515:C:O4' | 2.20 | 0.42 |
| 6:A:115:G:C2 | 6:A:313:A:C2 | 3.08 | 0.42 |
| 6:A:608:A:C6 | 6:A:609:A:C5 | 3.08 | 0.42 |
| 6:A:763:G:C2 | 6:A:764:C:C2 | 3.07 | 0.42 |
| 6:A:829:G:H1 | 6:A:857:C:N4 | 2.14 | 0.42 |
| 6:A:897:C:H2' | 6:A:898:G:H8 | 1.84 | 0.42 |
| 56:B:17:HIS:ND1 | 56:B:114:GLU:HB2 | 2.28 | 0.42 |
| 56:B:162:GLU:O | 56:B:164:ILE:N | 2.52 | 0.42 |
| 56:B:17:HIS:CE1 | 56:B:116:GLU:CD | 2.93 | 0.42 |
| 56:B:199:LEU:HB2 | 56:B:218:PHE:CE1 | 2.54 | 0.42 |
| 56:B:317:ARG:CD | 56:B:342:PHE:CE2 | 3.03 | 0.42 |
| 56:B:380:VAL:HA | 56:B:404:GLU:O | 2.20 | 0.42 |
| 56:B:392:ASN:C | 56:B:394:ALA:N | 2.68 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 56:B:450:LEU:HD21 | 56:B:452:TYR:CE1 | 2.55 | 0.42 |
| 56:B:506:PHE:HB2 | 56:B:507:ILE:H | 1.70 | 0.42 |
| 56:B:89:PHE:C | 56:B:91:TYR:N | 2.73 | 0.42 |
| 7:D:1112:G:C5 | 7:D:1113:U:C4 | 3.08 | 0.42 |
| 7:D:1141:U:H5' | 7:D:1142(A):A:C6 | 2.53 | 0.42 |
| 7:D:1212:G:H2' | 7:D:1236:G:H22 | 1.84 | 0.42 |
| 7:D:1324:G:N1 | 7:D:1328:G:C6 | 2.88 | 0.42 |
| 7:D:1346:G:C4 | 7:D:1601:G:N2 | 2.88 | 0.42 |
| 7:D:1445:C:H2' | 7:D:1446:C:C6 | 2.55 | 0.42 |
| 7:D:1499:C:C4 | 7:D:1500:G:N7 | 2.88 | 0.42 |
| 7:D:1552:G:H5' | 7:D:1553:A:OP2 | 2.20 | 0.42 |
| 7:D:1583:A:OP1 | 7:D:1586:A:H1' | 2.19 | 0.42 |
| 7:D:1748:G:C6 | 7:D:1749:A:C6 | 3.08 | 0.42 |
| 7:D:1824:G:C2 | 7:D:1825:A:C4 | 3.07 | 0.42 |
| 7:D:1996:C:HO2' | 7:D:1997:G:P | 2.43 | 0.42 |
| 7:D:2003:G:N2 | 7:D:2004:G:C4 | 2.88 | 0.42 |
| 7:D:2013:A:C4 | 7:D:2014:A:C8 | 3.08 | 0.42 |
| 7:D:2312:U:OP1 | 7:D:2313:C:OP2 | 2.37 | 0.42 |
| 7:D:2687:U:H2' | 7:D:2688:U:O4' | 2.19 | 0.42 |
| 7:D:270:A:C4 | 7:D:371:A:C2 | 3.08 | 0.42 |
| 7:D:270(W):G:C6 | 7:D:270(X):G:C6 | 3.06 | 0.42 |
| 7:D:273(A):G:H2' | 7:D:273(B):C:C6 | 2.55 | 0.42 |
| 7:D:2643:G:N2 | 7:D:2772:C:O2 | 2.53 | 0.42 |
| 7:D:2777:G:C2' | 7:D:2778:A:OP2 | 2.66 | 0.42 |
| 7:D:2776:A:C4 | 7:D:2781:A:C8 | 3.07 | 0.42 |
| 7:D:2822:G:H2' | 7:D:2823:A:H5'' | 2.02 | 0.42 |
| 7:D:2836:U:N3 | 7:D:2883:A:C6 | 2.88 | 0.42 |
| 7:D:317:G:N2 | 7:D:334:C:O2 | 2.49 | 0.42 |
| 7:D:381:G:H21 | 7:D:382:G:H1' | 1.85 | 0.42 |
| 7:D:503:A:H4' | 7:D:504:U:O5' | 2.20 | 0.42 |
| 7:D:611:C:N3 | 7:D:612:G:C2 | 2.88 | 0.42 |
| 7:D:690:G:C6 | 7:D:691:C:C4 | 3.07 | 0.42 |
| 7:D:740:U:H2' | 7:D:741:G:C8 | 2.53 | 0.42 |
| 7:D:791:C:O2 | 7:D:791:C:H2' | 2.20 | 0.42 |
| 7:D:889:C:N4 | 7:D:890:A:H2 | 2.18 | 0.42 |
| 11:H:202:LEU:HA | 11:H:202:LEU:HD23 | 1.73 | 0.42 |
| 6:A:280:C:O4' | 24:U:38:ARG:NH1 | 2.52 | 0.42 |
| 25:V:29:PHE:CZ | 25:V:39:VAL:HG11 | 2.55 | 0.42 |
| 26:W:34:TRP:HE3 | 26:W:34:TRP:O | 2.03 | 0.42 |
| 26:W:40:ILE:CA | 26:W:68:GLY:HA2 | 2.49 | 0.42 |
| 29:Z:200:LYS:HZ2 | 29:Z:208:PHE:HB2 | 1.84 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-----------------|--------------------------|-------------------|
| 3:3:6:ALA:HB1 | 3:3:59:ILE:CD1 | 2.44 | 0.42 |
| 6:A:1162:C:H2' | 6:A:1163:C:C6 | 2.54 | 0.42 |
| 6:A:1220:G:H5'' | 26:W:34:TRP:HB3 | 2.02 | 0.42 |
| 6:A:960:U:O4 | 6:A:1225:A:H1' | 2.20 | 0.42 |
| 6:A:1302:U:H2' | 6:A:1302:U:OP1 | 2.19 | 0.42 |
| 6:A:1396:A:HO2' | 6:A:1397:C:P | 2.29 | 0.42 |
| 6:A:1454:G:C5 | 6:A:1455:G:N7 | 2.86 | 0.42 |
| 6:A:156:G:N1 | 6:A:165:C:O2 | 2.47 | 0.42 |
| 6:A:298:A:H2' | 6:A:299:G:O4' | 2.20 | 0.42 |
| 6:A:311:C:H2' | 6:A:312:C:O4' | 2.18 | 0.42 |
| 6:A:361:G:O6 | 6:A:362:G:C2 | 2.73 | 0.42 |
| 6:A:376:G:N3 | 6:A:377:G:C8 | 2.88 | 0.42 |
| 6:A:397:A:N3 | 6:A:397:A:H3' | 2.35 | 0.42 |
| 6:A:424:G:C2 | 6:A:425:G:C5 | 3.08 | 0.42 |
| 6:A:437:U:H3' | 6:A:437:U:H6 | 1.85 | 0.42 |
| 6:A:454:C:H6 | 6:A:455:C:C5 | 2.38 | 0.42 |
| 6:A:464:G:OP2 | 6:A:464:G:H8 | 2.02 | 0.42 |
| 6:A:597:G:C5 | 6:A:598:U:C2 | 3.08 | 0.42 |
| 6:A:774:G:C5 | 6:A:775:G:C8 | 3.08 | 0.42 |
| 6:A:779:C:N4 | 6:A:780:A:C6 | 2.88 | 0.42 |
| 6:A:823:G:C6 | 6:A:824:C:C4 | 3.08 | 0.42 |
| 56:B:411:LYS:CA | 56:B:480:GLU:CD | 2.88 | 0.42 |
| 56:B:490:VAL:CG2 | 56:B:508:ALA:O | 2.68 | 0.42 |
| 56:B:574:LEU:HD12 | 56:B:574:LEU:HA | 1.82 | 0.42 |
| 56:B:69:ARG:NH2 | 56:B:69:ARG:CA | 2.83 | 0.42 |
| 56:B:18:VAL:HG21 | 56:B:86:HIS:CB | 2.48 | 0.42 |
| 7:D:1043:C:H4' | 7:D:1044:G:C8 | 2.55 | 0.42 |
| 3:3:78:ILE:HD11 | 7:D:1059:G:H1' | 2.01 | 0.42 |
| 7:D:1104:C:H5'' | 7:D:1104:C:H6 | 1.84 | 0.42 |
| 7:D:1020:A:C2 | 7:D:1140:C:H2' | 2.55 | 0.42 |
| 7:D:1174:A:H5'' | 7:D:1175:U:OP2 | 2.20 | 0.42 |
| 7:D:1174:A:N7 | 7:D:1176:G:C6 | 2.87 | 0.42 |
| 7:D:1227:A:C4 | 7:D:1228:G:C8 | 3.08 | 0.42 |
| 7:D:1275:A:O2' | 7:D:1276:A:O5' | 2.33 | 0.42 |
| 7:D:1300:U:H1' | 7:D:1301:A:OP2 | 2.19 | 0.42 |
| 7:D:134:C:H2' | 7:D:135:G:O4' | 2.20 | 0.42 |
| 7:D:1381:G:C6 | 7:D:1382:G:C4 | 3.07 | 0.42 |
| 7:D:1434:A:C6 | 7:D:1560:G:C2 | 3.08 | 0.42 |
| 7:D:132:G:C2 | 7:D:148:C:O2 | 2.72 | 0.42 |
| 7:D:1486:A:H61 | 7:D:1504:C:H42 | 1.66 | 0.42 |
| 7:D:1528:A:C6 | 7:D:1529:A:N6 | 2.88 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 7:D:1571:A:OP2 | 7:D:1571:A:C8 | 2.73 | 0.42 |
| 7:D:163:U:H3' | 7:D:164:U:C5' | 2.48 | 0.42 |
| 7:D:1685:C:H2' | 7:D:1686:C:H6 | 1.84 | 0.42 |
| 7:D:1735:C:C4' | 7:D:1741:C:OP1 | 2.67 | 0.42 |
| 7:D:1786:A:N7 | 7:D:1787:A:C5 | 2.88 | 0.42 |
| 7:D:2046:G:C6 | 7:D:2047:U:O4 | 2.73 | 0.42 |
| 7:D:2060:A:HO2' | 7:D:2061:G:P | 2.32 | 0.42 |
| 7:D:2124:G:N7 | 7:D:2125:G:N1 | 2.67 | 0.42 |
| 7:D:2141:G:C6 | 7:D:2151:G:C6 | 3.07 | 0.42 |
| 7:D:2168:G:C6 | 7:D:2171:A:OP2 | 2.72 | 0.42 |
| 7:D:2264:C:C6 | 7:D:2265:U:H5 | 2.37 | 0.42 |
| 7:D:2508:G:C2 | 7:D:2582:G:O6 | 2.72 | 0.42 |
| 7:D:2613:U:HO2' | 7:D:2614:A:P | 2.43 | 0.42 |
| 7:D:2634:G:C4 | 7:D:2635:C:C5 | 3.08 | 0.42 |
| 7:D:2687:U:C4 | 7:D:2688:U:C2 | 3.07 | 0.42 |
| 7:D:270(S):G:N1 | 7:D:270(T):G:C5 | 2.87 | 0.42 |
| 7:D:270(W):G:C8 | 7:D:270(X):G:N7 | 2.88 | 0.42 |
| 7:D:2735:G:C2 | 7:D:2736:G:C4 | 3.08 | 0.42 |
| 7:D:2758:A:C6 | 7:D:2759:G:C5 | 3.08 | 0.42 |
| 7:D:2799:A:OP1 | 7:D:2801:A:C4 | 2.72 | 0.42 |
| 7:D:2805:G:H2' | 7:D:2807:G:O4' | 2.19 | 0.42 |
| 7:D:2809:A:H4' | 7:D:2811:G:C8 | 2.54 | 0.42 |
| 7:D:2825:C:N4 | 7:D:2826:A:C4 | 2.88 | 0.42 |
| 7:D:298:G:O6 | 7:D:338:G:H4' | 2.20 | 0.42 |
| 7:D:363(A):A:C6 | 7:D:363(B):G:C5 | 3.07 | 0.42 |
| 7:D:43:G:N7 | 7:D:44:A:C5 | 2.88 | 0.42 |
| 7:D:49:A:O4' | 7:D:49:A:OP2 | 2.38 | 0.42 |
| 7:D:663:G:C2 | 7:D:664:C:C2 | 3.08 | 0.42 |
| 7:D:725:G:C6 | 7:D:726:G:C2 | 3.08 | 0.42 |
| 7:D:775:G:C2' | 7:D:794:G:C8 | 3.03 | 0.42 |
| 7:D:808:G:C2 | 7:D:809:G:C4 | 3.08 | 0.42 |
| 7:D:919:G:N1 | 7:D:2268:A:N7 | 2.68 | 0.42 |
| 7:D:946:G:C4 | 7:D:947:G:C8 | 3.08 | 0.42 |
| 9:F:56:ARG:HA | 9:F:59:GLU:OE2 | 2.20 | 0.42 |
| 11:H:187:ARG:HG3 | 11:H:188:LEU:O | 2.20 | 0.42 |
| 11:H:19:LEU:HA | 11:H:19:LEU:HD23 | 1.75 | 0.42 |
| 14:K:37:ASN:O | 14:K:41:ARG:HG2 | 2.20 | 0.42 |
| 16:M:89:ASN:HB3 | 16:M:91:ASP:OD1 | 2.20 | 0.42 |
| 20:Q:103:THR:C | 20:Q:105:THR:N | 2.73 | 0.42 |
| 6:A:1359:C:P | 21:R:35:ARG:HH21 | 2.42 | 0.42 |
| 23:T:14:ASN:HA | 23:T:15:PRO:HD2 | 1.75 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 23:T:6:LEU:HA | 23:T:18:ARG:O | 2.20 | 0.42 |
| 26:W:62:ILE:C | 26:W:63:THR:OG1 | 2.57 | 0.42 |
| 6:A:1320:C:H4' | 26:W:70:LYS:HE3 | 0.60 | 0.42 |
| 20:Q:87:TYR:CD2 | 26:W:73:GLU:HA | 2.52 | 0.42 |
| 29:Z:209:LEU:HD21 | 29:Z:226:PRO:CG | 2.49 | 0.42 |
| 6:A:1083:U:H5'' | 6:A:1084:G:OP2 | 2.20 | 0.42 |
| 6:A:1357:A:N6 | 6:A:1358:U:C4 | 2.87 | 0.42 |
| 6:A:1377:A:H3' | 6:A:1378:C:H5' | 2.02 | 0.42 |
| 6:A:1448:C:O2' | 6:A:1449:C:H5' | 2.19 | 0.42 |
| 6:A:1515:C:O2 | 6:A:1521:G:N2 | 2.53 | 0.42 |
| 6:A:324:G:C2 | 6:A:327:A:OP2 | 2.73 | 0.42 |
| 6:A:355:C:N4 | 6:A:356:A:N6 | 2.68 | 0.42 |
| 6:A:355:C:C4 | 6:A:356:A:N7 | 2.88 | 0.42 |
| 6:A:474:G:C2 | 6:A:475:G:C4 | 3.08 | 0.42 |
| 6:A:688:G:O4' | 6:A:688:G:OP2 | 2.38 | 0.42 |
| 6:A:696:A:N1 | 6:A:697:U:C4 | 2.88 | 0.42 |
| 6:A:838:G:O2' | 6:A:841:U:C6 | 2.70 | 0.42 |
| 6:A:92:G:N1 | 6:A:93:U:N3 | 2.68 | 0.42 |
| 6:A:986:A:C6 | 6:A:987:G:C6 | 3.08 | 0.42 |
| 56:B:229:ARG:CZ | 56:B:283:ALA:CA | 2.69 | 0.42 |
| 56:B:361:LEU:HD22 | 56:B:366:GLY:CA | 2.34 | 0.42 |
| 56:B:306:TYR:N | 56:B:370:ILE:HB | 2.35 | 0.42 |
| 56:B:448:VAL:CG1 | 56:B:449:GLU:H | 2.24 | 0.42 |
| 56:B:489:LEU:C | 56:B:509:HIS:N | 2.66 | 0.42 |
| 56:B:528:ILE:CD1 | 56:B:551:VAL:HG21 | 2.50 | 0.42 |
| 56:B:499:GLU:CB | 56:B:589:LYS:HD3 | 2.50 | 0.42 |
| 3:3:126:MET:O | 7:D:1059:G:C2 | 2.73 | 0.42 |
| 3:3:78:ILE:HD12 | 7:D:1059:G:H1' | 2.01 | 0.42 |
| 7:D:1112:G:C6 | 7:D:1113:U:N3 | 2.87 | 0.42 |
| 7:D:1125:G:N7 | 7:D:1126:A:C5 | 2.88 | 0.42 |
| 7:D:1022:G:C6 | 7:D:1139:G:C5 | 3.08 | 0.42 |
| 7:D:1190:G:C2 | 7:D:1191:G:C5 | 3.08 | 0.42 |
| 7:D:1285:G:C5 | 7:D:1329:U:C4 | 3.07 | 0.42 |
| 7:D:1406:U:C4 | 7:D:1407:C:C5 | 3.08 | 0.42 |
| 7:D:1472:A:C6 | 7:D:1473:G:C6 | 3.07 | 0.42 |
| 7:D:1491:G:C2 | 7:D:1493:C:N4 | 2.78 | 0.42 |
| 7:D:120:U:C2 | 7:D:149:A:C2 | 3.08 | 0.42 |
| 7:D:1630:G:C2 | 7:D:1637:A:N1 | 2.88 | 0.42 |
| 7:D:1951:U:O2 | 7:D:1951:U:H3' | 2.20 | 0.42 |
| 7:D:1959:G:C2 | 7:D:1960:A:C4 | 3.08 | 0.42 |
| 7:D:1992:G:C6 | 7:D:1997:G:C2 | 3.08 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 7:D:1997:G:C5 | 7:D:1998:G:N7 | 2.88 | 0.42 |
| 7:D:2099:U:O2 | 7:D:2191:G:N1 | 2.53 | 0.42 |
| 7:D:2196:C:C5 | 7:D:2197:U:O4 | 2.73 | 0.42 |
| 7:D:2354:G:C6 | 7:D:2355:C:N4 | 2.88 | 0.42 |
| 7:D:2485:G:N3 | 7:D:2486:G:C8 | 2.88 | 0.42 |
| 7:D:2563:U:O2 | 7:D:2566:A:C5 | 2.72 | 0.42 |
| 7:D:2582:G:OP2 | 7:D:2583:G:OP2 | 2.38 | 0.42 |
| 7:D:2589:A:N3 | 7:D:2590:A:C8 | 2.88 | 0.42 |
| 7:D:2639:A:C4 | 7:D:2778:A:C5 | 3.07 | 0.42 |
| 7:D:339:U:N3 | 7:D:340:A:C2 | 2.82 | 0.42 |
| 7:D:436:C:O5' | 7:D:436:C:H6 | 2.02 | 0.42 |
| 7:D:447:A:C5 | 7:D:473:G:C5 | 3.08 | 0.42 |
| 7:D:493:G:N2 | 7:D:494:G:N3 | 2.68 | 0.42 |
| 7:D:562:U:C2' | 7:D:563:G:OP2 | 2.68 | 0.42 |
| 7:D:662:G:C4 | 7:D:663:G:N7 | 2.88 | 0.42 |
| 7:D:738:G:C6 | 7:D:739:G:N7 | 2.88 | 0.42 |
| 7:D:685:A:N7 | 7:D:774:A:C6 | 2.88 | 0.42 |
| 7:D:887:A:H2' | 7:D:888:C:O4' | 2.20 | 0.42 |
| 7:D:901:A:C5 | 7:D:902:C:C2 | 3.07 | 0.42 |
| 7:D:89:G:N1 | 7:D:90:U:O4 | 2.53 | 0.42 |
| 7:D:920:G:C6 | 7:D:921:G:C5 | 3.08 | 0.42 |
| 8:E:0:A:N3 | 8:E:0:A:H3' | 2.35 | 0.42 |
| 8:E:13:A:O2' | 8:E:15:A:H5'' | 2.20 | 0.42 |
| 8:E:46:A:C6 | 8:E:47:C:C2 | 3.08 | 0.42 |
| 8:E:52:A:C6 | 8:E:53:A:H1' | 2.55 | 0.42 |
| 8:E:7:G:HO2' | 8:E:8:U:P | 2.40 | 0.42 |
| 9:F:133:LYS:HB3 | 9:F:137:ARG:HH22 | 1.85 | 0.42 |
| 11:H:59:ARG:HD3 | 11:H:59:ARG:HA | 1.81 | 0.42 |
| 11:H:9:CYS:O | 11:H:12:CYS:HB2 | 2.19 | 0.42 |
| 15:L:119:LEU:HB3 | 15:L:124:ALA:HB2 | 2.01 | 0.42 |
| 16:M:50:LEU:HD22 | 16:M:51:ARG:HH11 | 1.85 | 0.42 |
| 17:N:9:ARG:NH1 | 17:N:69:ASN:OD1 | 2.52 | 0.42 |
| 20:Q:55:ARG:HA | 20:Q:58:GLU:CD | 2.41 | 0.42 |
| 20:Q:68:GLY:C | 20:Q:70:LEU:N | 2.73 | 0.42 |
| 23:T:12:LYS:C | 23:T:14:ASN:H | 2.23 | 0.42 |
| 29:Z:32:LEU:HD13 | 29:Z:220:PRO:HB2 | 2.02 | 0.42 |
| 5:5:75:C:HO2' | 5:5:76:A:C5' | 2.24 | 0.41 |
| 6:A:1033:G:H2' | 6:A:1034:G:O4' | 2.20 | 0.41 |
| 6:A:1110:A:N6 | 6:A:1111:A:C6 | 2.88 | 0.41 |
| 6:A:978:A:C2 | 6:A:1319:A:C4 | 3.08 | 0.41 |
| 6:A:1319:A:N7 | 6:A:1323:G:C6 | 2.88 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 6:A:1366:C:C4 | 6:A:1367:C:C4 | 3.07 | 0.41 |
| 6:A:1469:G:C6 | 6:A:1470:G:C5 | 3.08 | 0.41 |
| 6:A:1470:G:N1 | 6:A:1471:G:C5 | 2.88 | 0.41 |
| 6:A:191(B):G:H2' | 6:A:191(C):G:H8 | 1.84 | 0.41 |
| 6:A:352:C:H4' | 6:A:354:G:OP1 | 2.20 | 0.41 |
| 6:A:371:G:C2' | 6:A:372:C:H5'' | 2.50 | 0.41 |
| 6:A:439:A:OP2 | 6:A:493:G:C2 | 2.58 | 0.41 |
| 6:A:542:G:N2 | 6:A:543:C:C2 | 2.88 | 0.41 |
| 6:A:828:A:N6 | 6:A:829:G:C2 | 2.88 | 0.41 |
| 6:A:829:G:N1 | 6:A:830:G:C5 | 2.88 | 0.41 |
| 6:A:9:G:C2 | 6:A:10:A:C8 | 3.08 | 0.41 |
| 56:B:121:PHE:CE1 | 56:B:157:GLY:CA | 2.94 | 0.41 |
| 19:P:80:HIS:NE2 | 56:B:316:LEU:CD2 | 2.83 | 0.41 |
| 56:B:455:PRO:C | 56:B:457:ALA:N | 2.74 | 0.41 |
| 56:B:75:GLU:CG | 56:B:76:TYR:N | 2.79 | 0.41 |
| 56:B:15:ILE:HD11 | 56:B:97:LEU:HD13 | 2.00 | 0.41 |
| 7:D:1174:A:N6 | 7:D:1177:A:C5 | 2.88 | 0.41 |
| 7:D:1186:G:O2' | 7:D:1187:G:H5' | 2.20 | 0.41 |
| 7:D:1203:G:H22 | 7:D:1241:A:H1' | 1.83 | 0.41 |
| 7:D:1319:G:C2 | 7:D:1334:G:C6 | 3.07 | 0.41 |
| 7:D:1317:A:C6 | 7:D:1336:A:N1 | 2.88 | 0.41 |
| 7:D:1337:G:N1 | 7:D:1338:G:C5 | 2.88 | 0.41 |
| 7:D:1444:G:H5'' | 7:D:1444(A):A:OP2 | 2.20 | 0.41 |
| 7:D:1500:G:C2 | 7:D:1501:C:C2 | 3.08 | 0.41 |
| 7:D:1506:C:H3' | 7:D:1507:A:H4' | 2.02 | 0.41 |
| 7:D:1540:G:N3 | 7:D:1541:U:H5' | 2.35 | 0.41 |
| 7:D:188:G:C2 | 7:D:209:C:N3 | 2.88 | 0.41 |
| 7:D:1670:C:O2 | 7:D:1993:U:H1' | 2.19 | 0.41 |
| 7:D:190:A:N7 | 7:D:207:A:C6 | 2.88 | 0.41 |
| 7:D:2188:C:OP2 | 7:D:2188:C:H6 | 2.02 | 0.41 |
| 7:D:2265:U:N3 | 7:D:2266:A:C5 | 2.88 | 0.41 |
| 7:D:234:C:H2' | 7:D:235:U:O4' | 2.20 | 0.41 |
| 7:D:199:A:C6 | 7:D:2433:A:N1 | 2.88 | 0.41 |
| 7:D:2614:A:O2' | 7:D:2615:U:P | 2.78 | 0.41 |
| 7:D:273(B):C:N3 | 7:D:273(C):C:N4 | 2.68 | 0.41 |
| 7:D:626:U:H3' | 7:D:627:A:H5' | 2.02 | 0.41 |
| 8:E:87:G:C2 | 8:E:90:C:C2 | 3.08 | 0.41 |
| 12:I:9:LYS:HG2 | 12:I:112:LEU:CD1 | 2.50 | 0.41 |
| 12:I:147:ASP:HA | 12:I:150:ARG:CB | 2.50 | 0.41 |
| 14:K:125:MET:O | 14:K:128:ALA:HB3 | 2.19 | 0.41 |
| 14:K:138:LYS:NZ | 14:K:139:GLU:CD | 2.63 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 7:D:2876:G:H4' | 15:L:1:MET:N | 132.40 | 0.41 |
| 14:K:16:LEU:HD12 | 16:M:41:VAL:HG12 | 2.02 | 0.41 |
| 17:N:11:PHE:CZ | 21:R:55:GLY:HA2 | 2.55 | 0.41 |
| 20:Q:15:VAL:O | 20:Q:18:ALA:HB3 | 2.20 | 0.41 |
| 6:A:191(F):U:N3 | 27:X:105:SER:HB2 | 2.35 | 0.41 |
| 27:X:14:LYS:HB3 | 27:X:14:LYS:HE2 | 1.71 | 0.41 |
| 29:Z:153:ILE:HA | 29:Z:156:ILE:CD1 | 2.49 | 0.41 |
| 29:Z:19:ILE:HG22 | 29:Z:225:ASN:HA | 2.01 | 0.41 |
| 29:Z:26:ALA:O | 29:Z:30:LYS:HG3 | 2.20 | 0.41 |
| 3:3:34:ILE:HG22 | 3:3:63:ARG:HG2 | 2.02 | 0.41 |
| 3:3:34:ILE:CG2 | 3:3:63:ARG:HB3 | 2.44 | 0.41 |
| 4:4:23:C:H2' | 4:4:24:U:C6 | 2.51 | 0.41 |
| 6:A:1005:A:C4 | 6:A:1036:G:N2 | 2.88 | 0.41 |
| 6:A:1038:C:N3 | 6:A:1039:C:C4 | 2.88 | 0.41 |
| 6:A:1178:G:O2' | 6:A:1179:A:N7 | 2.40 | 0.41 |
| 6:A:1183:A:H8 | 6:A:1183:A:O5' | 2.03 | 0.41 |
| 6:A:1278:U:H4' | 6:A:1279:A:H8 | 1.85 | 0.41 |
| 6:A:1320:C:OP1 | 26:W:70:LYS:NZ | 2.45 | 0.41 |
| 6:A:1517:G:C6 | 6:A:1518:A:C6 | 3.08 | 0.41 |
| 6:A:154:C:H2' | 6:A:155:C:C6 | 2.55 | 0.41 |
| 6:A:157:G:O6 | 6:A:165:C:N4 | 2.53 | 0.41 |
| 6:A:299:G:C5 | 6:A:300:A:C6 | 3.08 | 0.41 |
| 6:A:414:A:C6 | 6:A:415:A:C5 | 3.08 | 0.41 |
| 6:A:512:U:O2 | 6:A:540:G:N2 | 2.52 | 0.41 |
| 6:A:814:A:N7 | 6:A:816:A:C5 | 2.88 | 0.41 |
| 6:A:21:G:H21 | 6:A:914:A:N6 | 2.16 | 0.41 |
| 6:A:925:G:C2 | 6:A:927:G:N7 | 2.89 | 0.41 |
| 56:B:337:SER:CB | 56:B:393:PRO:HB2 | 2.50 | 0.41 |
| 56:B:23:SER:CB | 56:B:44:GLN:HB3 | 2.50 | 0.41 |
| 56:B:460:LEU:HA | 56:B:460:LEU:HD23 | 1.78 | 0.41 |
| 56:B:44:GLN:O | 56:B:47:ASP:HB2 | 2.20 | 0.41 |
| 7:D:1071:G:N3 | 7:D:1089:G:C8 | 2.88 | 0.41 |
| 7:D:1078:U:P | 7:D:1078:U:H6 | 2.42 | 0.41 |
| 7:D:1153:C:C5 | 7:D:1154:G:N7 | 2.88 | 0.41 |
| 7:D:1169:G:N2 | 7:D:1180:C:N3 | 2.68 | 0.41 |
| 7:D:1194:A:C6 | 7:D:1195:G:N7 | 2.88 | 0.41 |
| 7:D:1204:A:H5' | 7:D:1205:U:O3' | 2.20 | 0.41 |
| 7:D:1273:U:H4' | 7:D:1275:A:OP2 | 2.20 | 0.41 |
| 7:D:1341:U:O2' | 7:D:1342:A:P | 2.78 | 0.41 |
| 7:D:1529:A:C8 | 7:D:1530:G:C8 | 2.94 | 0.41 |
| 7:D:1565:C:C5 | 7:D:1567:A:H8 | 2.36 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 7:D:1586:A:H2' | 7:D:1587:A:C8 | 2.55 | 0.41 |
| 7:D:1653:G:HO2' | 7:D:1654:A:P | 2.43 | 0.41 |
| 7:D:1696:G:C6 | 7:D:1697:G:C4 | 3.08 | 0.41 |
| 7:D:171:G:H1' | 7:D:172:C:C6 | 2.54 | 0.41 |
| 7:D:1784:A:H4' | 7:D:1785:A:C4 | 2.55 | 0.41 |
| 7:D:191:A:C4 | 7:D:192:C:C5 | 3.08 | 0.41 |
| 7:D:1941:C:C5 | 7:D:1942:C:C4 | 3.08 | 0.41 |
| 7:D:207:A:C5 | 7:D:208:C:C2 | 3.08 | 0.41 |
| 7:D:2128:C:O2' | 29:Z:6:ARG:NH2 | 2.52 | 0.41 |
| 7:D:2196:C:C4 | 7:D:2197:U:C4 | 3.08 | 0.41 |
| 7:D:2211:G:N2 | 7:D:2212:A:C8 | 2.73 | 0.41 |
| 7:D:2298:A:C6 | 7:D:2321:G:O6 | 2.73 | 0.41 |
| 7:D:2373:G:H2' | 7:D:2374:C:O4' | 2.19 | 0.41 |
| 7:D:2431:U:P | 7:D:2432:A:OP2 | 2.78 | 0.41 |
| 7:D:2570:G:C5 | 7:D:2571:C:C2 | 3.08 | 0.41 |
| 7:D:2594:C:C2 | 7:D:2600:A:C2 | 3.08 | 0.41 |
| 7:D:2670:A:H2' | 7:D:2670:A:N3 | 2.35 | 0.41 |
| 7:D:271:G:N2 | 7:D:272:G:C4 | 2.88 | 0.41 |
| 7:D:287:C:C2 | 7:D:288:C:H5 | 2.38 | 0.41 |
| 7:D:2808:U:C5 | 7:D:2891:G:C2 | 3.08 | 0.41 |
| 7:D:308:G:C6 | 7:D:309:G:C2 | 3.08 | 0.41 |
| 7:D:356:G:N1 | 7:D:357:A:C2 | 2.88 | 0.41 |
| 7:D:434:U:C6 | 7:D:434:U:O5' | 2.71 | 0.41 |
| 7:D:507:A:C2' | 7:D:508:G:OP2 | 2.68 | 0.41 |
| 7:D:603:A:N1 | 7:D:604:G:C2 | 2.88 | 0.41 |
| 7:D:685:A:H1' | 7:D:688:U:O4 | 2.20 | 0.41 |
| 7:D:724:U:H2' | 7:D:725:G:O4' | 2.20 | 0.41 |
| 7:D:809:G:N2 | 7:D:810:U:O2 | 2.54 | 0.41 |
| 8:E:3:C:C2 | 8:E:118:G:N2 | 2.88 | 0.41 |
| 8:E:16:G:N2 | 8:E:17:C:C2 | 2.88 | 0.41 |
| 11:H:196:LEU:HA | 11:H:197:PRO:HD2 | 1.86 | 0.41 |
| 12:I:109:ILE:HD11 | 12:I:136:MET:SD | 2.60 | 0.41 |
| 6:A:673:G:H4' | 13:J:87:ARG:HH12 | 1.85 | 0.41 |
| 16:M:89:ASN:C | 16:M:91:ASP:H | 2.23 | 0.41 |
| 19:P:5:PRO:HA | 19:P:10:LEU:HD11 | 2.02 | 0.41 |
| 19:P:5:PRO:HB2 | 19:P:6:THR:H | 1.56 | 0.41 |
| 22:S:2:PRO:C | 22:S:38:ARG:HH12 | 2.13 | 0.41 |
| 24:U:87:LYS:HA | 24:U:90:ILE:HD12 | 2.02 | 0.41 |
| 26:W:60:VAL:O | 26:W:61:TYR:HB3 | 2.20 | 0.41 |
| 29:Z:215:THR:HA | 29:Z:221:SER:CB | 2.50 | 0.41 |
| 2:2:44:LEU:O | 2:2:48:GLY:N | 2.52 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 2:2:42:GLN:CB | 3:3:117:THR:HB | 2.51 | 0.41 |
| 3:3:94:GLU:N | 3:3:94:GLU:OE1 | 2.54 | 0.41 |
| 5:5:51:U:H2' | 5:5:52:G:C8 | 2.56 | 0.41 |
| 6:A:1002:G:H1 | 6:A:1038:C:N4 | 2.17 | 0.41 |
| 6:A:1007:C:O5' | 6:A:1007:C:H6 | 2.03 | 0.41 |
| 6:A:1028:C:N4 | 6:A:1028(A):C:C4 | 2.88 | 0.41 |
| 6:A:1063:C:H42 | 6:A:1193:G:H1 | 1.68 | 0.41 |
| 6:A:1401:G:C5 | 6:A:1402:C:C2 | 3.09 | 0.41 |
| 6:A:163:C:N3 | 6:A:164:U:N3 | 2.68 | 0.41 |
| 6:A:259:G:C6 | 6:A:260:G:C6 | 3.09 | 0.41 |
| 6:A:291:C:O2' | 6:A:292:G:H5' | 2.20 | 0.41 |
| 6:A:475:G:H5'' | 6:A:476:G:OP2 | 2.20 | 0.41 |
| 6:A:549:C:N3 | 6:A:550:G:C8 | 2.87 | 0.41 |
| 6:A:710:G:H2' | 6:A:711:G:C8 | 2.55 | 0.41 |
| 6:A:735:C:H2' | 6:A:736:C:H6 | 1.84 | 0.41 |
| 6:A:778:G:C6 | 6:A:779:C:C2 | 3.08 | 0.41 |
| 6:A:811:C:H5 | 6:A:812:C:C4 | 2.38 | 0.41 |
| 6:A:866:C:C4 | 6:A:867:G:H1' | 2.55 | 0.41 |
| 6:A:79:G:C6 | 6:A:90:C:N3 | 2.88 | 0.41 |
| 6:A:942:G:C5 | 6:A:943:U:C5 | 3.08 | 0.41 |
| 56:B:217:LEU:HD23 | 56:B:220:GLY:O | 2.19 | 0.41 |
| 56:B:382:LEU:CB | 56:B:386:GLU:OE1 | 2.68 | 0.41 |
| 56:B:442:PRO:HB2 | 56:B:443:GLY:H | 1.72 | 0.41 |
| 56:B:57:ILE:O | 56:B:59:ILE:HG13 | 2.20 | 0.41 |
| 56:B:90:THR:HA | 56:B:93:VAL:HG12 | 2.02 | 0.41 |
| 56:B:99:ALA:O | 56:B:216:ARG:HD3 | 2.19 | 0.41 |
| 7:D:1062:G:H1' | 7:D:1063:G:OP1 | 2.20 | 0.41 |
| 7:D:1069:A:C6 | 7:D:1073:A:C8 | 3.08 | 0.41 |
| 3:3:126:MET:HA | 7:D:1080:C:O2 | 2.20 | 0.41 |
| 7:D:1142(A):A:C5 | 7:D:1143:A:N7 | 2.88 | 0.41 |
| 7:D:1162:G:N2 | 7:D:1163:G:C4 | 2.88 | 0.41 |
| 7:D:1165:U:H2' | 7:D:1166:C:H6 | 1.84 | 0.41 |
| 7:D:1223:C:N3 | 7:D:1227:A:N1 | 2.68 | 0.41 |
| 7:D:1252:G:N7 | 7:D:1253:A:C2 | 2.88 | 0.41 |
| 7:D:1272:A:OP2 | 7:D:1647:G:OP1 | 2.38 | 0.41 |
| 7:D:1284:A:C6 | 7:D:1285:G:C2 | 3.08 | 0.41 |
| 7:D:1288:U:C4 | 7:D:1327:C:O2 | 2.73 | 0.41 |
| 7:D:1341:U:O2' | 7:D:1342:A:O5' | 2.38 | 0.41 |
| 7:D:13:A:H2' | 7:D:15:G:N7 | 2.34 | 0.41 |
| 7:D:1455:G:P | 7:D:1455:G:H3' | 2.60 | 0.41 |
| 7:D:1497:U:H3' | 7:D:1497:U:H6 | 1.85 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 7:D:1511:A:C5 | 7:D:1512:G:C6 | 3.08 | 0.41 |
| 7:D:1520:U:C4 | 7:D:1522:G:O6 | 2.73 | 0.41 |
| 7:D:1520:U:N3 | 7:D:1522:G:N1 | 2.67 | 0.41 |
| 7:D:1716:U:O2' | 7:D:1717:G:H5' | 2.20 | 0.41 |
| 7:D:2112:G:C6 | 7:D:2113:U:C2 | 3.07 | 0.41 |
| 7:D:2147:G:H2' | 7:D:2148:G:H5' | 2.02 | 0.41 |
| 7:D:2184:G:H2' | 7:D:2185:C:H6 | 1.85 | 0.41 |
| 7:D:2209:C:H6 | 7:D:2209:C:H5' | 1.85 | 0.41 |
| 7:D:224:G:C2 | 7:D:225:A:C8 | 3.08 | 0.41 |
| 7:D:2573:C:H5'' | 7:D:2574:G:H5' | 2.02 | 0.41 |
| 7:D:2043:C:N4 | 7:D:2625:G:H1 | 2.17 | 0.41 |
| 7:D:2625:G:N7 | 7:D:2626:C:C5 | 2.88 | 0.41 |
| 7:D:1457:A:H61 | 7:D:2703:C:N4 | 2.17 | 0.41 |
| 7:D:269:U:C5 | 7:D:270(Z):U:OP2 | 2.73 | 0.41 |
| 7:D:273(B):C:H2' | 7:D:273(C):C:C6 | 2.56 | 0.41 |
| 1:1:35:ARG:HH12 | 7:D:2742:C:H5' | 1.86 | 0.41 |
| 7:D:2791:C:C2 | 7:D:2807:G:C2 | 3.08 | 0.41 |
| 7:D:2819:G:C2 | 7:D:2821:A:C4 | 3.08 | 0.41 |
| 7:D:290:G:H22 | 7:D:350:U:H1' | 1.84 | 0.41 |
| 7:D:432:A:C8 | 7:D:433:C:H5 | 2.38 | 0.41 |
| 7:D:579:G:C2 | 7:D:580:C:N3 | 2.88 | 0.41 |
| 7:D:584:C:H2' | 7:D:585:G:O4' | 2.20 | 0.41 |
| 7:D:679:C:H2' | 7:D:680:G:C8 | 2.49 | 0.41 |
| 7:D:728:G:C3' | 7:D:728:G:C8 | 3.03 | 0.41 |
| 7:D:852:G:C5 | 7:D:926:A:C6 | 3.06 | 0.41 |
| 7:D:858:U:O2' | 7:D:859:G:OP1 | 2.34 | 0.41 |
| 11:H:30:LYS:HZ2 | 11:H:36:ARG:NH1 | 2.17 | 0.41 |
| 16:M:75:ASP:O | 16:M:78:LYS:HB3 | 2.21 | 0.41 |
| 17:N:13:HIS:CE1 | 17:N:17:ASP:OD2 | 2.73 | 0.41 |
| 17:N:44:VAL:HG11 | 17:N:46:ARG:NE | 2.35 | 0.41 |
| 17:N:74:ILE:HG22 | 17:N:75:ILE:O | 2.20 | 0.41 |
| 20:Q:112:GLY:HA3 | 20:Q:113:PRO:HD2 | 1.85 | 0.41 |
| 25:V:66:LEU:O | 25:V:70:ILE:HG13 | 2.20 | 0.41 |
| 26:W:25:LYS:O | 26:W:27:GLU:N | 2.53 | 0.41 |
| 29:Z:66:HIS:N | 29:Z:158:ALA:C | 2.72 | 0.41 |
| 29:Z:182:PRO:CD | 29:Z:183:GLU:H | 2.33 | 0.41 |
| 29:Z:72:VAL:HG12 | 29:Z:74:VAL:HG23 | 2.02 | 0.41 |
| 3:3:19:PRO:C | 3:3:22:PRO:CD | 2.86 | 0.41 |
| 4:4:35:A:C2 | 4:4:36:U:C2 | 3.08 | 0.41 |
| 6:A:1028(B):C:C4 | 6:A:1029:G:N7 | 2.89 | 0.41 |
| 6:A:104:G:C2 | 6:A:105:G:C8 | 3.08 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 6:A:104:G:N2 | 6:A:105:G:C4 | 2.88 | 0.41 |
| 6:A:1074:G:C5 | 6:A:1075:C:C4 | 3.08 | 0.41 |
| 6:A:1310:G:N1 | 6:A:1311:G:C6 | 2.89 | 0.41 |
| 6:A:1329:A:C6 | 6:A:1330:U:C4 | 3.08 | 0.41 |
| 6:A:1362:C:C2' | 6:A:1362(A):C:H5'' | 2.50 | 0.41 |
| 6:A:1379:G:P | 14:K:6:ARG:NH1 | 2.81 | 0.41 |
| 6:A:158:G:H2' | 6:A:159:G:O4' | 2.20 | 0.41 |
| 6:A:168:G:C2 | 6:A:169:C:N3 | 2.88 | 0.41 |
| 6:A:355:C:N4 | 6:A:356:A:H62 | 2.18 | 0.41 |
| 6:A:477:G:C2 | 6:A:478:A:C5 | 3.08 | 0.41 |
| 6:A:605:U:H5'' | 6:A:606:G:OP2 | 2.21 | 0.41 |
| 6:A:737:A:H3' | 13:J:92:LYS:NZ | 2.36 | 0.41 |
| 6:A:829:G:C6 | 6:A:830:G:C5 | 3.08 | 0.41 |
| 56:B:200:ILE:HD11 | 56:B:279:THR:HG21 | 1.82 | 0.41 |
| 56:B:25:LEU:HA | 56:B:168:GLY:CA | 2.50 | 0.41 |
| 56:B:427:LEU:HD11 | 56:B:466:ARG:CD | 2.49 | 0.41 |
| 56:B:492:VAL:H | 56:B:505:THR:HB | 1.86 | 0.41 |
| 56:B:49:LEU:C | 56:B:51:LEU:N | 2.73 | 0.41 |
| 56:B:497:HIS:CE1 | 56:B:533:PHE:CD1 | 3.08 | 0.41 |
| 56:B:87:VAL:O | 56:B:87:VAL:HG12 | 2.20 | 0.41 |
| 56:B:97:LEU:HD23 | 56:B:97:LEU:C | 2.39 | 0.41 |
| 7:D:1069:A:C8 | 7:D:1074:G:C6 | 3.09 | 0.41 |
| 7:D:1180:C:C4 | 7:D:1181:C:N4 | 2.88 | 0.41 |
| 7:D:1203:G:N2 | 7:D:1206:G:O6 | 2.53 | 0.41 |
| 7:D:1238:G:C2 | 7:D:1239:G:C4 | 3.08 | 0.41 |
| 7:D:1339:G:H5'' | 7:D:1340:U:OP1 | 2.20 | 0.41 |
| 7:D:1453:A:C6 | 7:D:1454:U:H1' | 2.56 | 0.41 |
| 7:D:151:C:C4 | 7:D:176:G:N2 | 2.88 | 0.41 |
| 7:D:1582:C:H3' | 7:D:1582:C:C6 | 2.54 | 0.41 |
| 7:D:1975:G:C5 | 7:D:1976:U:N3 | 2.89 | 0.41 |
| 7:D:1995:U:C4 | 7:D:1996:C:N4 | 2.89 | 0.41 |
| 7:D:2025:C:H2' | 7:D:2026:C:C6 | 2.56 | 0.41 |
| 7:D:2195:C:C3' | 7:D:2196:C:H6 | 2.33 | 0.41 |
| 7:D:2251:G:O6 | 7:D:2252:G:C6 | 2.74 | 0.41 |
| 7:D:240:G:N7 | 7:D:241:A:C5 | 2.88 | 0.41 |
| 7:D:240:G:C6 | 7:D:241:A:N6 | 2.88 | 0.41 |
| 7:D:2494:G:C5 | 7:D:2495:G:N7 | 2.88 | 0.41 |
| 7:D:2566:A:HO2' | 7:D:2567:G:P | 2.44 | 0.41 |
| 7:D:2588:G:C6 | 7:D:2607:G:C2 | 3.09 | 0.41 |
| 7:D:2594:C:N3 | 7:D:2600:A:C2 | 2.89 | 0.41 |
| 7:D:2648:C:H2' | 7:D:2649:U:C6 | 2.52 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 7:D:2736:G:C4 | 7:D:2737:G:C8 | 3.09 | 0.41 |
| 7:D:2791:C:C5 | 7:D:2892:A:C8 | 3.08 | 0.41 |
| 7:D:2629:A:H3' | 7:D:2895:U:C2 | 2.55 | 0.41 |
| 7:D:290:G:C5 | 7:D:291:C:C4 | 3.09 | 0.41 |
| 7:D:297:C:C4 | 7:D:298:G:C4 | 3.07 | 0.41 |
| 7:D:306:U:O4 | 7:D:307:G:C2 | 2.73 | 0.41 |
| 7:D:406:G:H2' | 7:D:407:G:O4' | 2.21 | 0.41 |
| 7:D:408:G:C2 | 7:D:420:C:O2 | 2.73 | 0.41 |
| 7:D:616:A:O2' | 7:D:617:G:P | 2.79 | 0.41 |
| 7:D:643:A:H4' | 7:D:644:A:OP1 | 2.18 | 0.41 |
| 7:D:71:A:C2 | 7:D:73:A:N1 | 2.89 | 0.41 |
| 7:D:724:U:H6 | 7:D:724:U:O5' | 2.04 | 0.41 |
| 7:D:81:G:N3 | 7:D:294:A:O2' | 2.54 | 0.41 |
| 7:D:827:U:H4' | 7:D:828:U:H3 | 1.84 | 0.41 |
| 7:D:919:G:C6 | 7:D:2268:A:N7 | 2.88 | 0.41 |
| 9:F:186:ALA:HB3 | 9:F:197:VAL:HG11 | 2.01 | 0.41 |
| 9:F:7:VAL:HG12 | 9:F:221:LEU:HD13 | 2.01 | 0.41 |
| 11:H:46:LYS:CE | 11:H:50:ARG:NH1 | 20.75 | 0.41 |
| 13:J:25:ILE:HG12 | 13:J:28:ARG:HH21 | 1.85 | 0.41 |
| 14:K:29:LYS:HG3 | 14:K:101:LEU:CD2 | 2.45 | 0.41 |
| 17:N:13:HIS:HB2 | 17:N:68:HIS:CE1 | 2.56 | 0.41 |
| 18:O:70:LYS:O | 18:O:73:MET:HB2 | 2.20 | 0.41 |
| 6:A:523:A:H61 | 19:P:53:ARG:HH12 | 1.69 | 0.41 |
| 19:P:37:CYS:SG | 19:P:81:SER:HB2 | 2.61 | 0.41 |
| 19:P:69:TYR:O | 19:P:99:HIS:HB2 | 2.20 | 0.41 |
| 6:A:1359:C:H3' | 21:R:35:ARG:HH22 | 1.85 | 0.41 |
| 25:V:41:LYS:HA | 25:V:44:LEU:HD21 | 2.02 | 0.41 |
| 26:W:70:LYS:HB2 | 26:W:73:GLU:OE1 | 2.13 | 0.41 |
| 3:3:98:ARG:CG | 3:3:100:THR:H | 2.34 | 0.41 |
| 3:3:78:ILE:HG22 | 3:3:127:ILE:HG12 | 2.01 | 0.41 |
| 3:3:29:GLN:HB2 | 56:B:440:TYR:CZ | 2.56 | 0.41 |
| 5:5:27:G:O6 | 5:5:43:C:N4 | 2.20 | 0.41 |
| 5:5:52:G:H3' | 5:5:53:G:C8 | 2.53 | 0.41 |
| 6:A:1072:G:C2 | 6:A:1073:U:C2 | 3.08 | 0.41 |
| 6:A:1164:G:C5 | 6:A:1165:C:N3 | 2.77 | 0.41 |
| 6:A:1213:A:C8 | 6:A:1215:G:C5 | 3.09 | 0.41 |
| 6:A:1245:A:C5 | 6:A:1246:C:C4 | 3.07 | 0.41 |
| 6:A:1423:G:C5 | 6:A:1424:C:C5 | 3.09 | 0.41 |
| 6:A:354:G:C2 | 6:A:355:C:C5 | 3.09 | 0.41 |
| 6:A:357:G:C5 | 6:A:358:U:C5 | 3.09 | 0.41 |
| 6:A:475:G:N1 | 6:A:476:G:C6 | 2.89 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 6:A:373:A:C2 | 6:A:482:A:C6 | 3.08 | 0.41 |
| 6:A:629:G:H2' | 6:A:630:G:C8 | 2.55 | 0.41 |
| 6:A:642:A:C6 | 6:A:643:C:C4 | 3.08 | 0.41 |
| 6:A:597:G:C4 | 6:A:644:G:C2 | 3.09 | 0.41 |
| 6:A:750:G:H1' | 22:S:22:THR:O | 2.20 | 0.41 |
| 6:A:87:A:H2' | 6:A:88:C:N1 | 2.35 | 0.41 |
| 6:A:979:C:H42 | 21:R:18:VAL:CG2 | 2.33 | 0.41 |
| 6:A:992:U:HO2' | 6:A:993:G:P | 2.34 | 0.41 |
| 56:B:200:ILE:HG13 | 56:B:279:THR:CB | 2.50 | 0.41 |
| 56:B:230:ILE:HG12 | 56:B:279:THR:CA | 2.50 | 0.41 |
| 56:B:279:THR:C | 56:B:280:ILE:HG22 | 2.41 | 0.41 |
| 56:B:532:LEU:CA | 56:B:553:ALA:HB1 | 2.50 | 0.41 |
| 56:B:555:ARG:HA | 56:B:581:LYS:NZ | 2.34 | 0.41 |
| 7:D:585:G:C5 | 7:D:1251:C:C2 | 3.08 | 0.41 |
| 7:D:1448:G:H2' | 7:D:1449:A:N7 | 2.35 | 0.41 |
| 7:D:1465:G:C5 | 7:D:1466:G:N7 | 2.89 | 0.41 |
| 7:D:1523:U:C4 | 7:D:1524:G:N7 | 2.89 | 0.41 |
| 7:D:1534:G:N2 | 7:D:1538:G:C5 | 2.89 | 0.41 |
| 7:D:1497:U:C4 | 7:D:1576:U:O3' | 2.73 | 0.41 |
| 7:D:1728:G:H22 | 7:D:1730:U:H1' | 1.85 | 0.41 |
| 7:D:174:C:H5'' | 7:D:174:C:H6 | 1.84 | 0.41 |
| 7:D:1793:C:C2 | 7:D:1794:U:C5 | 3.08 | 0.41 |
| 7:D:1880:C:H6 | 7:D:1880:C:H5'' | 1.85 | 0.41 |
| 7:D:1972:A:C2 | 7:D:1973:G:C8 | 3.08 | 0.41 |
| 7:D:197:A:C2 | 7:D:2430:A:C6 | 3.07 | 0.41 |
| 7:D:1995:U:C5 | 7:D:1996:C:C5 | 3.08 | 0.41 |
| 7:D:202:U:C4 | 7:D:203:C:N4 | 2.89 | 0.41 |
| 7:D:2123:G:N1 | 7:D:2124:G:C2 | 2.88 | 0.41 |
| 7:D:2155:G:C5 | 7:D:2156:G:H4' | 2.56 | 0.41 |
| 7:D:2431:U:OP1 | 7:D:2432:A:OP2 | 2.37 | 0.41 |
| 7:D:2527:C:H2' | 7:D:2528:U:H6 | 1.85 | 0.41 |
| 7:D:2531:A:C4 | 7:D:2532:G:C8 | 3.09 | 0.41 |
| 7:D:2659:G:N2 | 7:D:2661:G:H3' | 2.35 | 0.41 |
| 7:D:329:G:H5'' | 7:D:329:G:H8 | 1.85 | 0.41 |
| 7:D:44:A:H2' | 7:D:45:G:C8 | 2.56 | 0.41 |
| 7:D:489:G:HO2' | 7:D:491:G:P | 2.35 | 0.41 |
| 7:D:497:A:C5 | 7:D:498:G:C8 | 3.08 | 0.41 |
| 7:D:739:G:O3' | 7:D:1784:A:C6 | 2.74 | 0.41 |
| 7:D:766:C:N3 | 7:D:767:U:C4 | 2.88 | 0.41 |
| 7:D:684:G:C6 | 7:D:775:G:C5 | 3.09 | 0.41 |
| 7:D:843:G:C2 | 7:D:844:C:C2 | 3.09 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 7:D:931:G:C3' | 7:D:932:G:H4' | 2.44 | 0.41 |
| 7:D:946:G:C6 | 7:D:947:G:N7 | 2.89 | 0.41 |
| 9:F:72:GLY:O | 9:F:78:GLN:HA | 2.20 | 0.41 |
| 11:H:63:LYS:NZ | 11:H:198:VAL:HG12 | 2.35 | 0.41 |
| 15:L:71:GLY:H | 15:L:72:PRO:HD2 | 1.86 | 0.41 |
| 15:L:81:HIS:HD2 | 15:L:138:TRP:HZ3 | 1.67 | 0.41 |
| 16:M:71:SER:HA | 16:M:74:ILE:HD12 | 2.03 | 0.41 |
| 22:S:13:GLN:HE22 | 22:S:19:PRO:HA | 1.85 | 0.41 |
| 26:W:16:LEU:N | 26:W:16:LEU:HD12 | 2.34 | 0.41 |
| 27:X:57:ARG:NH2 | 27:X:102:GLY:HA2 | 2.36 | 0.41 |
| 29:Z:38:ASP:CG | 29:Z:178:ALA:CB | 2.81 | 0.41 |
| 3:3:10:LEU:HG | 3:3:57:ILE:HG12 | 1.96 | 0.41 |
| 5:5:8:U:C4 | 5:5:13:C:C2 | 3.08 | 0.41 |
| 5:5:60:U:H6 | 5:5:60:U:O5' | 2.04 | 0.41 |
| 6:A:1065:U:O2' | 6:A:1066:C:P | 2.78 | 0.41 |
| 6:A:1125:U:H4' | 6:A:1126:U:H5 | 1.84 | 0.41 |
| 6:A:1155:G:C6 | 6:A:1156:G:C5 | 3.08 | 0.41 |
| 6:A:1160:G:N7 | 6:A:1181:G:C6 | 2.89 | 0.41 |
| 6:A:1319:A:C8 | 6:A:1323:G:C6 | 3.08 | 0.41 |
| 6:A:186:C:H2' | 6:A:186(A):C:C6 | 2.55 | 0.41 |
| 6:A:518:C:C2' | 6:A:519:C:OP2 | 2.67 | 0.41 |
| 6:A:686:U:H3 | 6:A:703:G:C2' | 2.32 | 0.41 |
| 6:A:694:A:N3 | 6:A:695:A:H1' | 2.35 | 0.41 |
| 6:A:701:C:C2 | 6:A:703:G:N1 | 2.88 | 0.41 |
| 6:A:836:G:C2' | 6:A:837:G:C8 | 3.01 | 0.41 |
| 6:A:850:U:O5' | 6:A:850:U:C6 | 2.71 | 0.41 |
| 6:A:954:G:C6 | 6:A:955:U:C4 | 3.09 | 0.41 |
| 6:A:961:U:H2' | 6:A:962:C:O4' | 2.20 | 0.41 |
| 56:B:162:GLU:C | 56:B:164:ILE:N | 2.73 | 0.41 |
| 56:B:164:ILE:O | 56:B:166:ALA:N | 2.53 | 0.41 |
| 6:A:55:A:O4' | 56:B:208:TYR:OH | 2.38 | 0.41 |
| 56:B:267:ALA:C | 56:B:268:ILE:HG22 | 2.41 | 0.41 |
| 56:B:272:HIS:O | 56:B:272:HIS:CG | 2.74 | 0.41 |
| 56:B:338:THR:CB | 56:B:502:ASP:OD2 | 2.66 | 0.41 |
| 56:B:555:ARG:CA | 56:B:581:LYS:HZ1 | 2.33 | 0.41 |
| 56:B:46:LEU:HD11 | 56:B:82:ASP:CB | 2.04 | 0.41 |
| 7:D:1182:A:C6 | 7:D:1183:G:N7 | 2.89 | 0.41 |
| 7:D:1253:A:H2' | 7:D:1253:A:H8 | 1.72 | 0.41 |
| 7:D:1447:G:H2' | 7:D:1448:G:H5' | 2.00 | 0.41 |
| 7:D:135:G:C2 | 7:D:145:G:C5 | 3.08 | 0.41 |
| 7:D:1471:A:N3 | 7:D:1521:G:N2 | 2.69 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 7:D:1741:C:C3' | 7:D:1741:C:C6 | 3.04 | 0.41 |
| 7:D:1779:U:C3' | 7:D:1779:U:H6 | 2.34 | 0.41 |
| 7:D:1793:C:H2' | 7:D:1794:U:H6 | 1.84 | 0.41 |
| 7:D:1842:G:N2 | 7:D:1901:A:C5 | 2.88 | 0.41 |
| 7:D:1845:G:C6 | 7:D:1846:G:N7 | 2.89 | 0.41 |
| 7:D:1862:G:N1 | 7:D:1863:G:C6 | 2.88 | 0.41 |
| 7:D:1900:A:C2 | 7:D:1970:A:C5 | 3.08 | 0.41 |
| 7:D:1666:G:N2 | 7:D:1995:U:C4 | 2.88 | 0.41 |
| 7:D:579:G:O2' | 7:D:2019:A:OP1 | 2.38 | 0.41 |
| 7:D:2060:A:O2' | 7:D:2061:G:P | 2.78 | 0.41 |
| 7:D:2118:U:H2' | 7:D:2147:G:O6 | 2.20 | 0.41 |
| 7:D:212:G:C2 | 7:D:213:A:C5 | 3.09 | 0.41 |
| 7:D:2195:C:H2' | 7:D:2196:C:H6 | 1.83 | 0.41 |
| 7:D:2353:G:C6 | 7:D:2365:G:N2 | 2.89 | 0.41 |
| 7:D:247:G:H1' | 7:D:386:G:O6 | 2.19 | 0.41 |
| 7:D:2632:A:C4 | 7:D:2633:G:N7 | 2.88 | 0.41 |
| 7:D:2766:G:C6 | 7:D:2767:C:C4 | 3.09 | 0.41 |
| 7:D:2838:G:C2 | 7:D:2839:G:C4 | 3.09 | 0.41 |
| 7:D:323:G:H4' | 7:D:324:A:C5' | 2.50 | 0.41 |
| 7:D:494:G:H8 | 7:D:494:G:O5' | 2.04 | 0.41 |
| 7:D:56:A:C6 | 7:D:57:C:C4 | 3.09 | 0.41 |
| 7:D:604:G:H1 | 7:D:624:C:N4 | 2.18 | 0.41 |
| 7:D:60:G:N2 | 7:D:68:G:C2 | 2.89 | 0.41 |
| 7:D:763:G:C4 | 7:D:765:G:C8 | 3.08 | 0.41 |
| 7:D:800:A:O2' | 7:D:801:G:P | 2.76 | 0.41 |
| 8:E:95:U:C2 | 8:E:96:G:C8 | 3.09 | 0.41 |
| 9:F:115:LEU:HD11 | 9:F:146:GLN:OE1 | 2.20 | 0.41 |
| 9:F:25:ASN:HA | 9:F:26:PRO:HD3 | 1.89 | 0.41 |
| 9:F:48:MET:HA | 9:F:51:LEU:HD12 | 2.02 | 0.41 |
| 14:K:87:VAL:HA | 14:K:88:PRO:HD2 | 1.88 | 0.41 |
| 15:L:4:ASP:N | 15:L:4:ASP:OD1 | 2.53 | 0.41 |
| 16:M:33:PHE:HD2 | 16:M:34:ASN:HD21 | 1.69 | 0.41 |
| 6:A:972:C:O5' | 17:N:57:LYS:HD3 | 2.20 | 0.41 |
| 20:Q:71:ARG:HA | 20:Q:75:ALA:N | 2.34 | 0.41 |
| 6:A:1216:G:P | 21:R:3:ARG:HH12 | 2.42 | 0.41 |
| 27:X:62:LEU:HA | 27:X:62:LEU:HD23 | 1.87 | 0.41 |
| 28:Y:6:ARG:NH1 | 28:Y:15:ARG:CD | 2.84 | 0.41 |
| 29:Z:8:ARG:HH11 | 29:Z:11:LEU:CD2 | 2.22 | 0.41 |
| 6:A:1016:A:H3' | 6:A:1017:G:H8 | 1.84 | 0.41 |
| 6:A:1017:G:C6 | 6:A:1018:C:N3 | 2.89 | 0.41 |
| 6:A:1045:C:H2' | 6:A:1046:A:C8 | 2.55 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 6:A:1219:U:C2' | 6:A:1220:G:H5' | 2.51 | 0.41 |
| 6:A:299:G:H2' | 6:A:300:A:C8 | 2.56 | 0.41 |
| 6:A:500:G:N2 | 6:A:545:C:O2 | 2.48 | 0.41 |
| 6:A:604:G:C6 | 6:A:605:U:C2 | 3.08 | 0.41 |
| 56:B:109:ALA:HB2 | 56:B:135:ILE:CB | 2.50 | 0.41 |
| 56:B:152:VAL:HA | 56:B:156:LEU:N | 2.35 | 0.41 |
| 56:B:223:ARG:O | 56:B:239:VAL:HG21 | 2.20 | 0.41 |
| 56:B:555:ARG:CG | 56:B:556:LYS:N | 2.83 | 0.41 |
| 56:B:556:LYS:C | 56:B:558:VAL:N | 2.73 | 0.41 |
| 7:D:1083:U:O2' | 7:D:1084:A:H8 | 2.03 | 0.41 |
| 7:D:1165:U:H2' | 7:D:1166:C:C6 | 2.56 | 0.41 |
| 7:D:974:G:O4' | 7:D:1187:G:H1' | 2.20 | 0.41 |
| 7:D:1223:C:H42 | 7:D:1227:A:N6 | 2.18 | 0.41 |
| 7:D:1268:A:C6 | 7:D:1269:A:C4 | 3.09 | 0.41 |
| 7:D:1483:G:C5 | 7:D:1507:A:C4 | 3.09 | 0.41 |
| 7:D:1551:C:H5'' | 7:D:1552:G:OP2 | 2.20 | 0.41 |
| 7:D:1884:A:O4' | 7:D:1884:A:P | 2.78 | 0.41 |
| 7:D:1840:G:N2 | 7:D:1902:C:N3 | 2.55 | 0.41 |
| 7:D:1993:U:H2' | 7:D:1994:C:O4' | 2.21 | 0.41 |
| 7:D:2152:G:H2' | 7:D:2153:G:H5' | 2.03 | 0.41 |
| 7:D:2348:U:C4 | 7:D:2370:G:C2 | 3.09 | 0.41 |
| 7:D:2444:G:C5 | 7:D:2445:G:C8 | 3.08 | 0.41 |
| 7:D:2521:C:C2 | 7:D:2545:G:N2 | 2.89 | 0.41 |
| 7:D:2585:U:O2' | 7:D:2586:C:P | 2.78 | 0.41 |
| 7:D:2624:G:N1 | 7:D:2625:G:C4 | 2.88 | 0.41 |
| 7:D:2627:G:C5 | 7:D:2628:C:C4 | 3.08 | 0.41 |
| 7:D:270(J):G:H5'' | 7:D:270(K):C:OP2 | 2.21 | 0.41 |
| 1:I:20:HIS:CE1 | 7:D:2757:A:OP2 | 2.73 | 0.41 |
| 7:D:2765:A:H5' | 7:D:2766:G:OP2 | 2.21 | 0.41 |
| 7:D:2794:C:N4 | 7:D:2799:A:C2 | 2.74 | 0.41 |
| 7:D:2807:G:O6 | 7:D:2892:A:C4 | 2.74 | 0.41 |
| 7:D:288:C:H3' | 7:D:289:A:C5' | 2.51 | 0.41 |
| 7:D:342:G:N2 | 7:D:343:C:O2 | 2.53 | 0.41 |
| 7:D:464:U:O4 | 7:D:465:G:C2 | 2.73 | 0.41 |
| 7:D:475:U:O5' | 7:D:475:U:H6 | 2.03 | 0.41 |
| 7:D:14:A:C2 | 7:D:526:A:C6 | 3.09 | 0.41 |
| 7:D:783:A:C8 | 7:D:785:G:C8 | 3.09 | 0.41 |
| 7:D:852:G:C6 | 7:D:853:G:C5 | 3.08 | 0.41 |
| 7:D:89:G:C5 | 7:D:90:U:C5 | 3.08 | 0.41 |
| 7:D:990:A:P | 7:D:991:C:OP2 | 2.78 | 0.41 |
| 9:F:114:ARG:HA | 9:F:117:GLU:OE2 | 2.20 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 9:F:43:ASP:O | 9:F:47:THR:OG1 | 2.25 | 0.41 |
| 11:H:162:LEU:C | 11:H:165:MET:H | 2.24 | 0.41 |
| 11:H:165:MET:O | 11:H:166:LYS:HB2 | 2.20 | 0.41 |
| 11:H:187:ARG:HA | 11:H:187:ARG:HD2 | 1.74 | 0.41 |
| 12:I:50:GLU:HB2 | 12:I:53:LEU:HD12 | 2.03 | 0.41 |
| 13:J:30:LEU:HB3 | 13:J:35:ALA:HB3 | 2.02 | 0.41 |
| 14:K:78:ARG:HD3 | 14:K:156:TRP:CH2 | 2.56 | 0.41 |
| 15:L:79:VAL:O | 15:L:81:HIS:N | 2.53 | 0.41 |
| 16:M:54:ASP:CG | 16:M:55:ALA:H | 2.24 | 0.41 |
| 22:S:31:LEU:O | 22:S:34:LEU:HG | 2.21 | 0.41 |
| 24:U:75:ARG:NH1 | 24:U:77:VAL:HG22 | 2.35 | 0.41 |
| 24:U:83:ASP:HA | 24:U:86:GLU:HG2 | 2.03 | 0.41 |
| 25:V:26:LEU:HD12 | 25:V:27:GLY:H | 1.85 | 0.41 |
| 25:V:56:THR:OG1 | 25:V:57:GLY:N | 2.53 | 0.41 |
| 26:W:2:PRO:C | 26:W:4:SER:H | 2.24 | 0.41 |
| 26:W:61:TYR:HD1 | 26:W:62:ILE:CG1 | 2.20 | 0.41 |
| 26:W:64:GLU:C | 26:W:66:MET:N | 2.73 | 0.41 |
| 29:Z:64:LEU:HB3 | 29:Z:66:HIS:NE2 | 2.35 | 0.41 |
| 29:Z:73:ARG:HB2 | 29:Z:111:ASP:H | 1.85 | 0.41 |
| 3:3:112:MET:N | 3:3:113:PRO:CD | 2.84 | 0.41 |
| 3:3:29:GLN:HB2 | 56:B:440:TYR:OH | 2.21 | 0.41 |
| 3:3:99:ILE:O | 3:3:100:THR:OG1 | 2.25 | 0.41 |
| 6:A:1459:C:O2' | 6:A:1460:A:H5' | 2.21 | 0.41 |
| 6:A:161:A:C4 | 6:A:162:A:C8 | 3.09 | 0.41 |
| 6:A:198:G:H8 | 6:A:198:G:OP2 | 2.04 | 0.41 |
| 6:A:325:A:C6 | 6:A:326:G:C6 | 3.09 | 0.41 |
| 6:A:456:C:N3 | 6:A:477:G:C6 | 2.88 | 0.41 |
| 6:A:448:A:N6 | 6:A:486:U:O4 | 2.45 | 0.41 |
| 6:A:445:G:C6 | 6:A:490:G:N1 | 2.89 | 0.41 |
| 6:A:503:C:C2' | 6:A:504:C:H5' | 2.51 | 0.41 |
| 6:A:55:A:H61 | 6:A:368:U:H3 | 1.67 | 0.41 |
| 6:A:588:G:C6 | 6:A:753:A:C5 | 3.08 | 0.41 |
| 6:A:838:G:O2' | 6:A:841:U:P | 2.79 | 0.41 |
| 6:A:848:C:P | 6:A:848:C:O4' | 2.79 | 0.41 |
| 6:A:872:A:H4' | 6:A:873:A:OP1 | 2.21 | 0.41 |
| 56:B:174:VAL:CG1 | 56:B:177:ILE:CG1 | 2.97 | 0.41 |
| 56:B:317:ARG:HA | 56:B:320:LEU:HD13 | 2.03 | 0.41 |
| 7:D:1040:C:H3' | 7:D:1041:C:H5 | 1.86 | 0.41 |
| 7:D:1061:U:OP2 | 7:D:1061:U:C6 | 2.74 | 0.41 |
| 7:D:1087:G:H2' | 7:D:1089:G:H1' | 2.02 | 0.41 |
| 7:D:1092:C:H5'' | 7:D:1093:G:OP2 | 2.20 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 7:D:1202:C:C4 | 7:D:1203:G:H1' | 2.56 | 0.41 |
| 7:D:1243:G:C6 | 7:D:1244:G:C5 | 3.09 | 0.41 |
| 7:D:1346:G:C6 | 7:D:1601:G:N1 | 2.89 | 0.41 |
| 7:D:145:G:C6 | 7:D:146:G:C5 | 3.09 | 0.41 |
| 7:D:1492:G:N2 | 7:D:1498:C:N3 | 2.68 | 0.41 |
| 7:D:1615:C:C5 | 7:D:1617:C:C5 | 3.09 | 0.41 |
| 7:D:1619:G:C8 | 7:D:1619:G:OP2 | 2.74 | 0.41 |
| 7:D:1642:G:N1 | 7:D:1643:G:C5 | 2.89 | 0.41 |
| 7:D:1668:A:O2' | 7:D:1669:A:O5' | 2.38 | 0.41 |
| 7:D:1779:U:C2 | 7:D:1783:A:C8 | 3.09 | 0.41 |
| 7:D:781:A:H1' | 7:D:1789:A:O2' | 2.21 | 0.41 |
| 7:D:2050:C:H2' | 7:D:2051:A:C8 | 2.55 | 0.41 |
| 7:D:2057:A:C6 | 7:D:2058:A:C6 | 3.09 | 0.41 |
| 7:D:2164:C:H3' | 7:D:2165:G:O4' | 2.21 | 0.41 |
| 7:D:2195:C:H2' | 7:D:2196:C:O4' | 2.21 | 0.41 |
| 7:D:2259:G:C6 | 7:D:2260:C:N3 | 2.89 | 0.41 |
| 7:D:197:A:C6 | 7:D:2430:A:C4 | 3.09 | 0.41 |
| 7:D:827:U:C4 | 7:D:2430:A:C6 | 3.09 | 0.41 |
| 7:D:2459:A:N1 | 7:D:2460:U:H1' | 2.34 | 0.41 |
| 7:D:2519:U:N3 | 7:D:2542:A:C6 | 2.89 | 0.41 |
| 7:D:2592:G:C6 | 7:D:2593:U:N3 | 2.88 | 0.41 |
| 7:D:2618:G:C5 | 7:D:2619:C:C5 | 3.09 | 0.41 |
| 7:D:2646:C:C4 | 7:D:2647:U:N3 | 2.89 | 0.41 |
| 7:D:2678:C:C2 | 7:D:2679:A:C8 | 3.09 | 0.41 |
| 7:D:2819:G:C4 | 7:D:2821:A:C6 | 3.09 | 0.41 |
| 7:D:289:A:C6 | 7:D:351:G:N7 | 2.88 | 0.41 |
| 7:D:467:G:H2' | 7:D:468:G:O4' | 2.21 | 0.41 |
| 7:D:447:A:C6 | 7:D:473:G:C4 | 3.08 | 0.41 |
| 7:D:677:A:C6 | 7:D:678:C:C4 | 3.09 | 0.41 |
| 7:D:718:A:OP2 | 7:D:719:C:C4 | 2.74 | 0.41 |
| 7:D:757:U:C5 | 7:D:758:C:C5 | 3.08 | 0.41 |
| 7:D:79:G:C2 | 7:D:80:G:C8 | 3.09 | 0.41 |
| 7:D:79:G:C4 | 7:D:80:G:C8 | 3.09 | 0.41 |
| 7:D:922:U:C2 | 7:D:923:C:C4 | 3.08 | 0.41 |
| 9:F:132:LYS:O | 9:F:136:VAL:HG23 | 2.20 | 0.41 |
| 9:F:92:TYR:HE2 | 9:F:94:ASN:ND2 | 2.19 | 0.41 |
| 11:H:30:LYS:HZ3 | 11:H:35:ARG:HH11 | 1.68 | 0.41 |
| 12:I:89:ILE:HD13 | 12:I:122:GLU:HG3 | 2.03 | 0.41 |
| 6:A:1297:C:H1' | 14:K:114:ARG:CZ | 2.51 | 0.41 |
| 14:K:155:ARG:HG3 | 14:K:156:TRP:N | 2.22 | 0.41 |
| 20:Q:43:THR:O | 20:Q:45:VAL:HG23 | 2.20 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 23:T:22:THR:HA | 23:T:33:ILE:HG13 | 2.03 | 0.41 |
| 23:T:55:ARG:HD2 | 23:T:59:TRP:NE1 | 2.35 | 0.41 |
| 24:U:43:LEU:CD1 | 24:U:69:LYS:HB2 | 2.51 | 0.41 |
| 25:V:21:LYS:N | 25:V:55:ARG:HH12 | 2.18 | 0.41 |
| 6:A:1319:A:P | 26:W:37:ARG:O | 2.77 | 0.41 |
| 6:A:194:C:C2' | 27:X:68:LYS:HZ1 | 2.33 | 0.41 |
| 27:X:92:LEU:HA | 27:X:92:LEU:HD23 | 1.80 | 0.41 |
| 29:Z:66:HIS:O | 29:Z:158:ALA:C | 2.59 | 0.41 |
| 3:3:35:MET:CA | 3:3:63:ARG:NH1 | 2.84 | 0.41 |
| 3:3:80:LYS:HB3 | 3:3:111:LYS:CE | 2.51 | 0.41 |
| 4:4:50:U:O4 | 4:4:51:C:N4 | 2.53 | 0.41 |
| 6:A:1104:G:H4' | 9:F:111:ARG:NH2 | 2.35 | 0.41 |
| 6:A:1119:C:C2 | 6:A:1155:G:C2 | 3.09 | 0.41 |
| 6:A:1179:A:C6 | 6:A:1180:A:N1 | 2.89 | 0.41 |
| 6:A:1305:G:O2' | 6:A:1306:A:C8 | 2.74 | 0.41 |
| 6:A:1323:G:C2 | 6:A:1324:A:C5 | 3.09 | 0.41 |
| 6:A:13:U:H6 | 6:A:13:U:H3' | 1.86 | 0.41 |
| 6:A:1419:G:C6 | 6:A:1482:G:C2 | 3.09 | 0.41 |
| 6:A:1447:G:C6 | 6:A:1448:C:C4 | 3.08 | 0.41 |
| 6:A:1410:G:N3 | 6:A:1491:G:C2 | 2.89 | 0.41 |
| 6:A:254:G:H2' | 6:A:255:G:H8 | 1.85 | 0.41 |
| 6:A:326:G:O5' | 6:A:326:G:H8 | 2.03 | 0.41 |
| 6:A:388:G:O2' | 6:A:389:A:P | 2.79 | 0.41 |
| 6:A:451:A:C2 | 6:A:480:U:N3 | 2.89 | 0.41 |
| 6:A:670:G:H2' | 6:A:671:G:O4' | 2.20 | 0.41 |
| 6:A:671:G:O6 | 6:A:672:U:N3 | 2.54 | 0.41 |
| 6:A:764:C:H2' | 6:A:765:G:H8 | 1.86 | 0.41 |
| 6:A:842:C:H4' | 6:A:848:C:O2 | 2.21 | 0.41 |
| 6:A:903:G:N2 | 6:A:904:C:C2 | 2.89 | 0.41 |
| 56:B:297:ALA:CB | 56:B:328:ALA:CB | 2.73 | 0.41 |
| 56:B:322:LYS:CE | 56:B:323:LEU:HD12 | 2.50 | 0.41 |
| 56:B:379:LYS:O | 56:B:406:LEU:HB3 | 2.15 | 0.41 |
| 56:B:492:VAL:CG2 | 56:B:541:ILE:CG1 | 2.67 | 0.41 |
| 56:B:517:ALA:C | 56:B:519:ALA:N | 2.74 | 0.41 |
| 56:B:598:LEU:HA | 56:B:598:LEU:HD12 | 1.78 | 0.41 |
| 56:B:7:SER:C | 56:B:8:ARG:CG | 2.87 | 0.41 |
| 7:D:1023:U:C4 | 7:D:1024:G:N2 | 2.88 | 0.41 |
| 7:D:110:G:C2 | 7:D:111:A:C4 | 3.08 | 0.41 |
| 7:D:1171:G:N7 | 7:D:1173:G:O2' | 2.45 | 0.41 |
| 7:D:1471:A:C6 | 7:D:1473:G:N7 | 2.89 | 0.41 |
| 7:D:1480:G:H22 | 7:D:1482:U:C1' | 2.33 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:1668:A:H2' | 7:D:1669:A:OP2 | 2.21 | 0.41 |
| 7:D:1710:C:C2' | 7:D:1711:C:H5' | 2.51 | 0.41 |
| 7:D:1728:G:N2 | 7:D:1730:U:O2 | 2.53 | 0.41 |
| 7:D:1785:A:C2' | 7:D:1786:A:C8 | 3.03 | 0.41 |
| 7:D:1809:A:H5'' | 7:D:1810:A:C2 | 2.56 | 0.41 |
| 7:D:181:A:N6 | 7:D:182:A:N1 | 2.69 | 0.41 |
| 7:D:1980:G:C2 | 7:D:1982:C:N3 | 2.89 | 0.41 |
| 7:D:227:A:O2' | 7:D:228:A:O5' | 2.33 | 0.41 |
| 7:D:2290:G:C6 | 7:D:2291:U:C4 | 3.09 | 0.41 |
| 7:D:2585:U:HO2' | 7:D:2586:C:C5' | 2.34 | 0.41 |
| 7:D:2645:G:OP2 | 7:D:2645:G:O4' | 2.38 | 0.41 |
| 7:D:2650:U:H2' | 7:D:2651:C:O4' | 2.20 | 0.41 |
| 7:D:2665:A:C2 | 7:D:2666:C:C2 | 3.09 | 0.41 |
| 7:D:2674:G:H2' | 7:D:2675:A:C8 | 2.35 | 0.41 |
| 7:D:2686:G:N2 | 7:D:2687:U:C2 | 2.89 | 0.41 |
| 7:D:1050:A:C6 | 7:D:2751:G:C6 | 3.09 | 0.41 |
| 7:D:2896:C:C6 | 7:D:2896:C:C3' | 3.04 | 0.41 |
| 7:D:361:G:N2 | 7:D:362:U:C2 | 2.89 | 0.41 |
| 7:D:47:C:H3' | 7:D:47:C:H6 | 1.86 | 0.41 |
| 7:D:537:C:O2' | 7:D:539:G:P | 2.79 | 0.41 |
| 7:D:5:A:C4 | 7:D:6:A:C8 | 3.08 | 0.41 |
| 7:D:875:G:H2' | 7:D:876:C:O4' | 2.21 | 0.41 |
| 8:E:110:G:N3 | 8:E:111:U:H1' | 2.35 | 0.41 |
| 8:E:58:A:C8 | 8:E:59:A:N7 | 2.88 | 0.41 |
| 9:F:111:ARG:HA | 9:F:111:ARG:HD3 | 1.88 | 0.41 |
| 11:H:114:ARG:HA | 11:H:114:ARG:HD3 | 1.89 | 0.41 |
| 12:I:100:VAL:HG22 | 12:I:118:ILE:H | 1.86 | 0.41 |
| 15:L:82:HIS:CE1 | 15:L:84:ARG:HB2 | 2.56 | 0.41 |
| 6:A:523:A:N6 | 19:P:53:ARG:HH12 | 2.19 | 0.41 |
| 19:P:59:ARG:HH11 | 19:P:59:ARG:HG3 | 1.85 | 0.41 |
| 23:T:40:ASP:HA | 23:T:41:PRO:HD3 | 1.96 | 0.41 |
| 24:U:11:VAL:HG23 | 24:U:22:LEU:HB2 | 2.01 | 0.41 |
| 13:J:97:PHE:CE2 | 25:V:31:LEU:HB2 | 2.56 | 0.41 |
| 27:X:74:LYS:HB3 | 27:X:75:ASN:H | 1.37 | 0.41 |
| 29:Z:100:ILE:O | 29:Z:104:LEU:HG | 2.21 | 0.41 |
| 5:5:17:C:H5'' | 5:5:18:G:OP1 | 2.21 | 0.41 |
| 5:5:48:C:OP1 | 5:5:48:C:H6 | 2.04 | 0.41 |
| 6:A:1028(A):C:H2' | 6:A:1028(B):C:O4' | 2.20 | 0.41 |
| 6:A:109:A:C8 | 6:A:327:A:C4 | 3.09 | 0.41 |
| 6:A:1190:G:C2' | 6:A:1191:A:OP2 | 2.69 | 0.41 |
| 6:A:1225:A:OP2 | 6:A:1226:C:C5 | 2.69 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 6:A:1265:G:H1 | 6:A:1270:C:H42 | 1.69 | 0.41 |
| 6:A:1299:A:C5 | 6:A:1301:U:C2 | 3.09 | 0.41 |
| 6:A:216:G:C4 | 6:A:217:C:C4 | 3.09 | 0.41 |
| 6:A:371:G:H2' | 6:A:372:C:H5'' | 2.03 | 0.41 |
| 6:A:550:G:C2 | 6:A:551:U:C2 | 3.09 | 0.41 |
| 6:A:574:A:H8 | 6:A:574:A:O5' | 2.04 | 0.41 |
| 6:A:746:A:C6 | 6:A:747:C:C4 | 3.08 | 0.41 |
| 6:A:841:U:C6 | 6:A:841:U:C3' | 3.04 | 0.41 |
| 6:A:925:G:H5'' | 6:A:926:G:OP1 | 2.21 | 0.41 |
| 6:A:933:G:H5'' | 6:A:934:C:OP1 | 2.21 | 0.41 |
| 56:B:194:ALA:CB | 56:B:195:PRO:CD | 2.95 | 0.41 |
| 56:B:222:VAL:CG1 | 56:B:264:LEU:HD13 | 2.42 | 0.41 |
| 56:B:379:LYS:CD | 56:B:407:GLU:H | 2.32 | 0.41 |
| 56:B:53:ARG:HH11 | 56:B:53:ARG:HA | 1.86 | 0.41 |
| 7:D:1065:U:O4' | 7:D:1074:G:N2 | 2.53 | 0.41 |
| 7:D:1108:U:C6 | 7:D:1108:U:C3' | 3.03 | 0.41 |
| 7:D:1177:A:C6 | 7:D:1178:C:C4 | 3.09 | 0.41 |
| 7:D:1218:C:O2' | 7:D:1219:G:H5' | 2.21 | 0.41 |
| 7:D:1231:G:H2' | 7:D:1232:G:C8 | 2.56 | 0.41 |
| 7:D:1361:G:N1 | 7:D:1362:C:N3 | 2.69 | 0.41 |
| 7:D:1363:C:O3' | 7:D:1809:A:C6 | 2.74 | 0.41 |
| 7:D:1386:C:OP2 | 7:D:1396:U:O2 | 2.39 | 0.41 |
| 7:D:1486:A:H2' | 7:D:1487:G:O4' | 2.20 | 0.41 |
| 7:D:1912:A:H5' | 7:D:1913:A:OP1 | 2.21 | 0.41 |
| 7:D:1919:A:H1' | 7:D:1920:C:OP1 | 2.21 | 0.41 |
| 7:D:1941:C:C5 | 7:D:1942:C:C5 | 3.09 | 0.41 |
| 7:D:2024:G:N2 | 7:D:2025:C:C2 | 2.89 | 0.41 |
| 7:D:2043:C:C2 | 7:D:2777:G:N2 | 2.89 | 0.41 |
| 7:D:2120:G:H2' | 7:D:2121:G:O4' | 2.21 | 0.41 |
| 7:D:2199:A:C2 | 7:D:2205:C:O4' | 2.74 | 0.41 |
| 7:D:2270:G:O6 | 7:D:2271:G:C2 | 2.74 | 0.41 |
| 7:D:265:A:C8 | 7:D:428:A:N6 | 2.89 | 0.41 |
| 7:D:270(M):U:O3' | 7:D:270(N):G:H4' | 2.21 | 0.41 |
| 7:D:2693:A:C4 | 7:D:2717:G:N2 | 2.89 | 0.41 |
| 7:D:2741:A:H5'' | 7:D:2742:C:OP2 | 2.21 | 0.41 |
| 7:D:334:C:HO2' | 7:D:335:C:P | 2.44 | 0.41 |
| 7:D:43:G:H2' | 7:D:44:A:C8 | 2.55 | 0.41 |
| 7:D:508:G:C2 | 7:D:508:G:OP2 | 2.74 | 0.41 |
| 7:D:551:G:C4 | 7:D:552:G:N7 | 2.89 | 0.41 |
| 7:D:562:U:O2' | 7:D:563:G:OP2 | 2.38 | 0.41 |
| 7:D:607:U:C5 | 7:D:608:A:C5 | 3.09 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:464:U:O2' | 7:D:686:G:C6 | 2.74 | 0.41 |
| 7:D:818:G:OP2 | 7:D:1187:G:O6 | 2.38 | 0.41 |
| 7:D:870:A:C2 | 7:D:908:C:N3 | 2.88 | 0.41 |
| 8:E:46:A:N7 | 8:E:47:C:C4 | 2.88 | 0.41 |
| 8:E:52:A:N1 | 8:E:53:A:H1' | 2.36 | 0.41 |
| 8:E:53:A:C4 | 8:E:54:G:C8 | 3.08 | 0.41 |
| 8:E:84:C:H2' | 8:E:85:G:O4' | 2.21 | 0.41 |
| 9:F:218:ALA:O | 9:F:221:LEU:HB3 | 2.21 | 0.41 |
| 6:A:1256:A:P | 10:G:27:LYS:HZ3 | 2.39 | 0.41 |
| 11:H:109:GLY:O | 11:H:161:ASN:HB3 | 2.21 | 0.41 |
| 12:I:100:VAL:HG13 | 12:I:118:ILE:O | 2.21 | 0.41 |
| 13:J:4:TYR:O | 13:J:65:VAL:HG22 | 2.21 | 0.41 |
| 13:J:2:ARG:HH11 | 13:J:69:GLU:CB | 2.34 | 0.41 |
| 14:K:42:ILE:HG22 | 14:K:120:ILE:HD12 | 2.02 | 0.41 |
| 15:L:36:LEU:HD21 | 15:L:59:LEU:HD13 | 2.03 | 0.41 |
| 6:A:1148:U:C6 | 16:M:16:ARG:NH1 | 2.89 | 0.41 |
| 16:M:65:VAL:HG21 | 16:M:73:GLN:CB | 2.48 | 0.41 |
| 6:A:564:C:P | 19:P:15:ARG:HH12 | 2.43 | 0.41 |
| 19:P:54:LYS:N | 19:P:54:LYS:HD2 | 2.35 | 0.41 |
| 24:U:25:ARG:HD2 | 24:U:27:PHE:CE2 | 2.56 | 0.41 |
| 25:V:44:LEU:HD23 | 25:V:79:LEU:HD22 | 2.01 | 0.41 |
| 26:W:59:PRO:HB2 | 26:W:60:VAL:H | 1.66 | 0.41 |
| 6:A:1438:G:P | 27:X:34:LYS:NZ | 2.94 | 0.41 |
| 1:1:19:ARG:HH12 | 1:1:26:ILE:HD11 | 1.86 | 0.41 |
| 3:3:12:LEU:CB | 3:3:13:PRO:CD | 2.99 | 0.41 |
| 6:A:1038:C:C4 | 6:A:1039:C:N4 | 2.89 | 0.41 |
| 6:A:1127:G:N2 | 6:A:1148:U:O4 | 2.54 | 0.41 |
| 6:A:1162:C:H2' | 6:A:1163:C:H6 | 1.86 | 0.41 |
| 6:A:1198:G:H2' | 6:A:1199:U:O4' | 2.20 | 0.41 |
| 6:A:1231:G:N2 | 6:A:1232:U:C2 | 2.89 | 0.41 |
| 6:A:1234:C:H2' | 6:A:1235:U:H6 | 1.86 | 0.41 |
| 6:A:1302:U:C2 | 20:Q:27:LYS:NZ | 2.89 | 0.41 |
| 6:A:1393:U:H4' | 6:A:1501:C:O2' | 2.21 | 0.41 |
| 6:A:1408:A:N1 | 6:A:1494:G:O4' | 2.54 | 0.41 |
| 6:A:1419:G:C5 | 6:A:1482:G:N2 | 2.89 | 0.41 |
| 6:A:115:G:C2 | 6:A:289:G:C8 | 3.09 | 0.41 |
| 6:A:327:A:C4 | 6:A:329:A:N7 | 2.89 | 0.41 |
| 6:A:55:A:C5 | 6:A:56:U:C5 | 3.09 | 0.41 |
| 6:A:594:G:N7 | 6:A:595:G:C5 | 2.89 | 0.41 |
| 6:A:767:A:C5 | 6:A:768:A:N7 | 2.89 | 0.41 |
| 6:A:85:U:O2' | 6:A:86:U:H5' | 2.20 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-----------------|--------------------------|-------------------|
| 6:A:926:G:C6 | 6:A:1505:G:C6 | 3.08 | 0.41 |
| 56:B:196:LEU:HD23 | 56:B:282:LEU:HG | 2.03 | 0.41 |
| 56:B:410:VAL:HG11 | 56:B:481:GLN:N | 2.16 | 0.41 |
| 56:B:441:LEU:HD23 | 56:B:441:LEU:HA | 1.84 | 0.41 |
| 56:B:81:ILE:HG22 | 56:B:83:THR:CG2 | 2.51 | 0.41 |
| 7:D:1044:G:C5 | 7:D:1044:G:OP1 | 2.74 | 0.41 |
| 3:3:74:ALA:N | 7:D:1059:G:O2' | 2.54 | 0.41 |
| 7:D:1056:G:C2 | 7:D:1102:C:H5 | 2.39 | 0.41 |
| 7:D:1178:C:N3 | 7:D:1179:C:N4 | 2.69 | 0.41 |
| 7:D:117:G:C6 | 7:D:119:A:N6 | 2.88 | 0.41 |
| 7:D:1344:G:H2' | 7:D:1344:G:N3 | 2.36 | 0.41 |
| 7:D:1378:A:O2' | 7:D:1380:G:O6 | 2.30 | 0.41 |
| 7:D:1447:G:N2 | 7:D:1448:G:C4 | 2.89 | 0.41 |
| 7:D:1455:G:N2 | 7:D:1456:G:C5 | 2.88 | 0.41 |
| 7:D:1488:G:C5 | 7:D:1489:U:C5 | 3.09 | 0.41 |
| 7:D:1491:G:H8 | 7:D:1491:G:O5' | 2.03 | 0.41 |
| 7:D:1506:C:H2' | 7:D:1507:A:O3' | 2.21 | 0.41 |
| 7:D:1606:G:H4' | 7:D:1608:A:C2 | 2.56 | 0.41 |
| 7:D:1766:U:H2' | 7:D:1767:C:H6 | 1.86 | 0.41 |
| 7:D:49:A:C4 | 7:D:177:G:C6 | 3.09 | 0.41 |
| 7:D:1782:C:N3 | 7:D:2587:A:N1 | 2.69 | 0.41 |
| 7:D:1862:G:N2 | 7:D:1863:G:C5 | 2.88 | 0.41 |
| 7:D:1998:G:C6 | 7:D:1999:C:C4 | 3.08 | 0.41 |
| 7:D:2047:U:HO2' | 7:D:2048:G:P | 2.44 | 0.41 |
| 7:D:2056:G:O5' | 7:D:2057:A:OP2 | 2.39 | 0.41 |
| 7:D:2101:G:N2 | 7:D:2189:U:H1' | 2.36 | 0.41 |
| 7:D:2115:G:C4' | 7:D:2116:G:OP2 | 2.69 | 0.41 |
| 7:D:2136:C:H3' | 7:D:2137:C:C6 | 2.55 | 0.41 |
| 7:D:2195:C:H3' | 7:D:2196:C:H6 | 1.86 | 0.41 |
| 7:D:2338:G:N1 | 7:D:2339:G:C5 | 2.89 | 0.41 |
| 7:D:2519:U:O2' | 7:D:2520:C:P | 2.79 | 0.41 |
| 7:D:2542:A:OP2 | 7:D:2542:A:O4' | 2.39 | 0.41 |
| 7:D:2545:G:C2 | 7:D:2546:U:O2 | 2.74 | 0.41 |
| 7:D:2681:C:O2 | 7:D:2681:C:OP2 | 2.39 | 0.41 |
| 7:D:270(B):A:H1' | 7:D:270(C):C:C5 | 2.56 | 0.41 |
| 7:D:2836:U:N3 | 7:D:2883:A:N6 | 2.69 | 0.41 |
| 7:D:2854:G:C2 | 7:D:2855:C:C2 | 3.09 | 0.41 |
| 7:D:2895:U:H3' | 7:D:2895:U:C6 | 2.55 | 0.41 |
| 7:D:293:U:H6 | 7:D:293:U:OP2 | 2.04 | 0.41 |
| 7:D:181:A:C5 | 7:D:435:C:C2 | 3.09 | 0.41 |
| 7:D:535:C:C4 | 7:D:536:A:N6 | 2.81 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:548:A:N6 | 7:D:549:G:N3 | 2.69 | 0.41 |
| 7:D:543:C:C2 | 7:D:551:G:N1 | 2.89 | 0.41 |
| 7:D:559:G:O2' | 7:D:560:C:P | 2.79 | 0.41 |
| 7:D:625:G:C5 | 7:D:626:U:C6 | 3.09 | 0.41 |
| 7:D:776:G:O2' | 7:D:777:A:P | 2.79 | 0.41 |
| 7:D:780:G:C6 | 7:D:782:A:N1 | 2.89 | 0.41 |
| 7:D:79:G:H2' | 7:D:80:G:H8 | 1.85 | 0.41 |
| 7:D:945:A:N1 | 7:D:2448:A:N7 | 2.69 | 0.41 |
| 8:E:30:C:H1' | 8:E:58:A:C2 | 2.56 | 0.41 |
| 9:F:50:GLU:OE2 | 9:F:201:ILE:HA | 2.21 | 0.41 |
| 9:F:49:GLU:HA | 9:F:52:GLU:OE2 | 2.20 | 0.41 |
| 9:F:61:LEU:HD22 | 9:F:68:ILE:CG1 | 2.50 | 0.41 |
| 10:G:177:THR:HG23 | 10:G:180:ALA:HB2 | 2.02 | 0.41 |
| 11:H:60:GLU:HG3 | 11:H:198:VAL:HG12 | 2.03 | 0.41 |
| 16:M:83:ARG:HA | 16:M:86:VAL:HG23 | 2.03 | 0.41 |
| 19:P:123:LYS:HB3 | 19:P:123:LYS:HE3 | 1.91 | 0.41 |
| 19:P:28:LYS:HD2 | 19:P:33:ARG:NH2 | 2.32 | 0.41 |
| 19:P:66:VAL:HG21 | 19:P:98:TYR:CE2 | 2.56 | 0.41 |
| 20:Q:71:ARG:O | 20:Q:76:ALA:N | 2.54 | 0.41 |
| 20:Q:81:LEU:HA | 20:Q:81:LEU:HD13 | 1.83 | 0.41 |
| 20:Q:96:LEU:HD23 | 20:Q:96:LEU:HA | 1.84 | 0.41 |
| 6:A:1320:C:H5' | 26:W:37:ARG:HH11 | 1.86 | 0.41 |
| 29:Z:70:LYS:N | 29:Z:157:LYS:HA | 2.35 | 0.41 |
| 29:Z:20:TYR:CE2 | 29:Z:28:LEU:HD22 | 2.48 | 0.41 |
| 29:Z:53:ARG:NH2 | 29:Z:55:ASP:OD2 | 2.54 | 0.41 |
| 3:3:39:LYS:HA | 3:3:42:ASN:HD22 | 1.86 | 0.40 |
| 6:A:1118:C:H1' | 6:A:1179:A:H1' | 2.03 | 0.40 |
| 6:A:1155:G:C5 | 6:A:1156:G:C5 | 3.09 | 0.40 |
| 6:A:1179:A:C6 | 6:A:1180:A:C6 | 3.09 | 0.40 |
| 6:A:1198:G:C6 | 6:A:1199:U:C4 | 3.08 | 0.40 |
| 6:A:1202:G:N2 | 6:A:1203:C:H1' | 2.36 | 0.40 |
| 6:A:1330:U:H6 | 6:A:1330:U:O5' | 2.04 | 0.40 |
| 6:A:1371:G:C6 | 6:A:1372:U:N3 | 2.89 | 0.40 |
| 6:A:137:C:N4 | 6:A:226:G:H1 | 2.19 | 0.40 |
| 6:A:405:U:O4 | 6:A:498:A:N7 | 2.54 | 0.40 |
| 6:A:518:C:C4 | 6:A:529:G:N7 | 2.89 | 0.40 |
| 6:A:546:G:OP1 | 11:H:73:ARG:N | 2.46 | 0.40 |
| 6:A:61:G:C5 | 6:A:107:G:C2 | 3.09 | 0.40 |
| 6:A:782:A:C8 | 6:A:783:C:C5 | 3.09 | 0.40 |
| 6:A:791:G:H22 | 6:A:1498:U:P | 2.44 | 0.40 |
| 56:B:25:LEU:CA | 56:B:168:GLY:HA3 | 2.51 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-----------------|------------------|--------------------------|-------------------|
| 56:B:197:LYS:HA | 56:B:281:THR:CA | 2.50 | 0.40 |
| 56:B:337:SER:CA | 56:B:393:PRO:HB2 | 2.51 | 0.40 |
| 56:B:45:PHE:O | 56:B:46:LEU:HB2 | 2.22 | 0.40 |
| 56:B:489:LEU:O | 56:B:508:ALA:HB3 | 2.21 | 0.40 |
| 2:2:33:PRO:HA | 7:D:1055:G:O3' | 2.21 | 0.40 |
| 7:D:1074:G:N3 | 7:D:1075:C:N4 | 2.69 | 0.40 |
| 7:D:1153:C:C4 | 7:D:1154:G:N7 | 2.89 | 0.40 |
| 7:D:1212:G:H2' | 7:D:1236:G:N2 | 2.37 | 0.40 |
| 7:D:1296:G:C4 | 7:D:1645:G:N2 | 2.89 | 0.40 |
| 7:D:1356:G:C5 | 7:D:1357:U:C5 | 3.09 | 0.40 |
| 7:D:1370:C:N4 | 7:D:1371:G:C6 | 2.89 | 0.40 |
| 7:D:1442:G:C2 | 7:D:1443:G:C4 | 3.09 | 0.40 |
| 7:D:1300:U:H3 | 7:D:1626:G:HO2' | 1.54 | 0.40 |
| 7:D:1665:A:H2 | 7:D:1666:G:N3 | 2.19 | 0.40 |
| 7:D:1703:G:N2 | 7:D:1704:G:C4 | 2.89 | 0.40 |
| 7:D:49:A:N6 | 7:D:177:G:C4 | 2.89 | 0.40 |
| 7:D:1807:G:O2' | 7:D:1810:A:N6 | 2.54 | 0.40 |
| 7:D:2046:G:C2 | 7:D:2623:G:N3 | 2.89 | 0.40 |
| 7:D:2047:U:C2 | 7:D:2048:G:C8 | 3.09 | 0.40 |
| 7:D:2117:A:C6 | 7:D:2172:U:O4 | 2.74 | 0.40 |
| 7:D:2137:C:C4 | 7:D:2138:C:C4 | 3.09 | 0.40 |
| 7:D:2182:G:C6 | 7:D:2183:C:N4 | 2.89 | 0.40 |
| 7:D:2215:G:O2' | 7:D:2216:G:P | 2.79 | 0.40 |
| 7:D:2291:U:H2' | 7:D:2292:C:H6 | 1.83 | 0.40 |
| 7:D:2356:C:C5 | 7:D:2357:U:N3 | 2.90 | 0.40 |
| 7:D:2417:C:H5'' | 7:D:2418:A:OP2 | 2.20 | 0.40 |
| 5:5:76:A:C6 | 7:D:2422:A:C4 | 3.09 | 0.40 |
| 7:D:2643:G:C2 | 7:D:2772:C:O2 | 2.73 | 0.40 |
| 7:D:271:G:C2 | 7:D:272:G:C8 | 3.09 | 0.40 |
| 7:D:1050:A:C6 | 7:D:2751:G:C5 | 3.09 | 0.40 |
| 7:D:2805:G:C4 | 7:D:2807:G:O4' | 2.75 | 0.40 |
| 7:D:2843:G:H2' | 7:D:2844:G:H8 | 1.86 | 0.40 |
| 7:D:2889:C:H2' | 7:D:2891:G:C5' | 2.51 | 0.40 |
| 7:D:398:G:N2 | 7:D:399:G:H1' | 2.36 | 0.40 |
| 7:D:563:G:N3 | 7:D:2018:G:N2 | 2.69 | 0.40 |
| 7:D:579:G:C2 | 7:D:1262:A:C4 | 3.09 | 0.40 |
| 7:D:798:G:C5 | 7:D:799:G:N7 | 2.90 | 0.40 |
| 7:D:852:G:C2 | 7:D:853:G:C4 | 3.09 | 0.40 |
| 7:D:915:C:C4 | 7:D:916:G:C5 | 3.09 | 0.40 |
| 7:D:957:A:N6 | 7:D:959:A:C2 | 2.89 | 0.40 |
| 7:D:978:G:C6 | 7:D:979:G:C4 | 3.08 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 8:E:6:C:H2' | 8:E:7:G:O4' | 2.21 | 0.40 |
| 9:F:186:ALA:O | 9:F:201:ILE:N | 2.54 | 0.40 |
| 6:A:1188:A:H4' | 17:N:61:GLU:OE2 | 2.21 | 0.40 |
| 20:Q:12:ASN:OD1 | 20:Q:44:ARG:HB3 | 2.21 | 0.40 |
| 20:Q:34:LEU:HD22 | 20:Q:41:PRO:HG3 | 2.03 | 0.40 |
| 22:S:24:SER:O | 22:S:28:GLN:HG2 | 2.22 | 0.40 |
| 6:A:277:C:H5' | 24:U:68:ARG:HH12 | 1.84 | 0.40 |
| 26:W:5:LEU:CD1 | 26:W:6:LYS:HB3 | 2.50 | 0.40 |
| 29:Z:127:LEU:O | 29:Z:131:LEU:HG | 2.21 | 0.40 |
| 3:3:130:SER:HA | 3:3:133:SER:CB | 2.51 | 0.40 |
| 5:5:52:G:C8 | 5:5:52:G:OP2 | 2.70 | 0.40 |
| 6:A:1081:G:N2 | 6:A:1082:G:C4 | 2.89 | 0.40 |
| 6:A:10:A:C2 | 6:A:11:G:C5 | 3.10 | 0.40 |
| 6:A:1129:C:N4 | 6:A:1139:G:N1 | 2.69 | 0.40 |
| 6:A:1183:A:O2' | 6:A:1184:G:OP2 | 2.39 | 0.40 |
| 6:A:1285:A:C1' | 6:A:1286:A:OP2 | 2.69 | 0.40 |
| 6:A:1299:A:C5 | 6:A:1301:U:N3 | 2.90 | 0.40 |
| 6:A:1436:U:H5'' | 6:A:1437:C:OP2 | 2.21 | 0.40 |
| 6:A:1451:A:O5' | 6:A:1451:A:C8 | 2.74 | 0.40 |
| 6:A:1483:A:H2' | 6:A:1484:C:O4' | 2.22 | 0.40 |
| 6:A:1413:A:C2 | 6:A:1488:G:C2 | 3.08 | 0.40 |
| 6:A:147:G:N3 | 6:A:148:G:C8 | 2.89 | 0.40 |
| 6:A:208:U:C3' | 6:A:208:U:C6 | 3.04 | 0.40 |
| 6:A:247:G:N7 | 6:A:278:G:N2 | 2.68 | 0.40 |
| 6:A:564:C:H2' | 6:A:565:U:C6 | 2.56 | 0.40 |
| 6:A:778:G:C5 | 6:A:779:C:C4 | 3.09 | 0.40 |
| 6:A:81:G:H2' | 6:A:81:G:N3 | 2.36 | 0.40 |
| 6:A:952:U:H4' | 6:A:964:A:H61 | 1.86 | 0.40 |
| 6:A:987:G:C6 | 6:A:988:G:N7 | 2.90 | 0.40 |
| 6:A:99:C:O2' | 6:A:101:A:P | 2.79 | 0.40 |
| 56:B:15:ILE:HA | 56:B:22:LYS:CE | 2.49 | 0.40 |
| 56:B:171:GLY:C | 56:B:173:GLY:H | 2.25 | 0.40 |
| 56:B:228:ILE:HG13 | 56:B:282:LEU:HD21 | 2.03 | 0.40 |
| 56:B:33:THR:HG23 | 56:B:34:HIS:N | 2.36 | 0.40 |
| 56:B:379:LYS:HD3 | 56:B:407:GLU:N | 2.35 | 0.40 |
| 56:B:479:TYR:N | 56:B:479:TYR:CD1 | 2.86 | 0.40 |
| 56:B:69:ARG:NH2 | 56:B:178:LEU:HD12 | 2.32 | 0.40 |
| 7:D:1000:A:C2 | 7:D:1155:A:C6 | 3.09 | 0.40 |
| 7:D:1024:G:N7 | 7:D:1025:G:C4 | 2.89 | 0.40 |
| 7:D:1039:G:N7 | 7:D:1117:G:C6 | 2.90 | 0.40 |
| 7:D:85:G:H1' | 7:D:103:A:C2 | 2.56 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 7:D:1059:G:P | 7:D:1060:U:OP2 | 2.79 | 0.40 |
| 7:D:1063:G:OP2 | 7:D:1064:C:P | 2.79 | 0.40 |
| 7:D:1092:C:P | 7:D:1092:C:H6 | 2.44 | 0.40 |
| 7:D:1145:C:C4 | 7:D:1146:C:C5 | 3.09 | 0.40 |
| 7:D:993:G:N1 | 7:D:1162:G:C5 | 2.89 | 0.40 |
| 7:D:1179:C:H2' | 7:D:1179:C:H6 | 1.64 | 0.40 |
| 7:D:1182:A:N7 | 7:D:1183:G:C8 | 2.90 | 0.40 |
| 7:D:1247:A:N1 | 7:D:1249:U:C2 | 2.89 | 0.40 |
| 7:D:1320:C:H4' | 7:D:1321:A:OP1 | 2.20 | 0.40 |
| 7:D:1447:G:C4 | 7:D:1465:G:N2 | 2.89 | 0.40 |
| 7:D:145:G:C6 | 7:D:146:G:C6 | 3.09 | 0.40 |
| 7:D:1543:A:C8 | 7:D:1544:C:O2' | 2.70 | 0.40 |
| 7:D:1608:A:O2' | 7:D:1610:A:OP1 | 2.19 | 0.40 |
| 7:D:1307:A:C4 | 7:D:1622:G:N1 | 2.90 | 0.40 |
| 7:D:1707:G:O2' | 7:D:1758:G:N2 | 2.52 | 0.40 |
| 7:D:1829:A:C4 | 7:D:1830:C:C6 | 3.09 | 0.40 |
| 7:D:1864:U:H5'' | 7:D:2410:G:O2' | 2.21 | 0.40 |
| 7:D:1891:G:C6 | 7:D:1892:C:N3 | 2.89 | 0.40 |
| 7:D:1919:A:O2' | 7:D:1920:C:P | 2.78 | 0.40 |
| 7:D:1942:C:C4 | 7:D:1943:U:N3 | 2.89 | 0.40 |
| 7:D:2283:C:C5 | 7:D:2389:G:C4 | 3.09 | 0.40 |
| 7:D:2491:U:N3 | 7:D:2492:U:C5 | 2.90 | 0.40 |
| 7:D:2546:U:HO2' | 7:D:2566:A:HO2' | 1.64 | 0.40 |
| 7:D:2671:A:H2' | 7:D:2672:G:C8 | 2.56 | 0.40 |
| 7:D:270(O):U:H5'' | 7:D:270(P):C:H41 | 1.86 | 0.40 |
| 7:D:2732:G:H8 | 7:D:2732:G:OP2 | 2.04 | 0.40 |
| 7:D:2744:G:C6 | 7:D:2761:G:C6 | 3.10 | 0.40 |
| 7:D:2758:A:N6 | 7:D:2759:G:C6 | 2.89 | 0.40 |
| 7:D:277:C:H4' | 7:D:278:A:C5 | 2.56 | 0.40 |
| 7:D:2807:G:H2' | 7:D:2808:U:H5' | 2.04 | 0.40 |
| 7:D:310:A:N6 | 7:D:312:G:C2 | 2.90 | 0.40 |
| 7:D:315:G:C6 | 7:D:316:C:N3 | 2.89 | 0.40 |
| 7:D:335:C:H2' | 7:D:336:C:O4' | 2.21 | 0.40 |
| 7:D:337:C:O3' | 7:D:339:U:P | 2.79 | 0.40 |
| 7:D:899:A:H4' | 7:D:900:A:OP2 | 2.12 | 0.40 |
| 7:D:968:G:C5' | 7:D:969:U:OP2 | 2.69 | 0.40 |
| 9:F:178:ARG:NH1 | 15:L:71:GLY:HA2 | 2.36 | 0.40 |
| 9:F:44:LEU:O | 9:F:48:MET:HG2 | 2.20 | 0.40 |
| 10:G:123:GLN:NE2 | 10:G:128:PHE:HZ | 2.18 | 0.40 |
| 13:J:45:LEU:HD23 | 13:J:45:LEU:HA | 1.86 | 0.40 |
| 14:K:27:ILE:HG22 | 14:K:36:LYS:HZ1 | 1.86 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 14:K:61:VAL:HG12 | 14:K:128:ALA:CB | 2.52 | 0.40 |
| 15:L:132:GLU:HG2 | 15:L:133:LEU:O | 2.21 | 0.40 |
| 6:A:643:C:H5' | 15:L:31:PHE:CE1 | 2.57 | 0.40 |
| 16:M:24:GLY:CA | 16:M:57:GLY:HA2 | 2.51 | 0.40 |
| 27:X:30:LYS:HA | 27:X:33:ILE:HD12 | 2.02 | 0.40 |
| 27:X:87:LYS:HA | 27:X:90:GLN:OE1 | 2.22 | 0.40 |
| 29:Z:209:LEU:HD11 | 29:Z:226:PRO:HB2 | 2.02 | 0.40 |
| 1:1:2:LYS:HG2 | 1:1:35:ARG:HB2 | 2.02 | 0.40 |
| 3:3:53:VAL:O | 3:3:53:VAL:HG12 | 2.21 | 0.40 |
| 4:4:2:G:N2 | 4:4:3:C:C2 | 2.90 | 0.40 |
| 6:A:113:G:C2 | 6:A:315:A:H2 | 2.39 | 0.40 |
| 6:A:1221:G:C2 | 6:A:1222:G:C4 | 3.10 | 0.40 |
| 6:A:1323:G:C2 | 6:A:1324:A:C4 | 3.09 | 0.40 |
| 6:A:1438:G:N2 | 6:A:1463:C:O2 | 2.52 | 0.40 |
| 6:A:1433:A:C5 | 6:A:1468:A:C2 | 3.09 | 0.40 |
| 6:A:257:G:C2 | 6:A:258:G:C8 | 3.09 | 0.40 |
| 6:A:293:G:C6 | 6:A:294:U:N3 | 2.90 | 0.40 |
| 6:A:493:G:N3 | 6:A:493:G:H2' | 2.35 | 0.40 |
| 6:A:662:G:H2' | 6:A:663:A:C8 | 2.40 | 0.40 |
| 6:A:674:G:H5' | 13:J:50:TYR:CE1 | 2.56 | 0.40 |
| 6:A:687:A:C8 | 6:A:704:A:N6 | 2.90 | 0.40 |
| 6:A:660:G:C2 | 6:A:746:A:C4 | 3.09 | 0.40 |
| 6:A:758:G:O2' | 6:A:759:A:H5' | 2.22 | 0.40 |
| 6:A:90:C:O2 | 6:A:91:C:C4 | 2.74 | 0.40 |
| 6:A:960:U:H4' | 6:A:961:U:C5' | 2.50 | 0.40 |
| 56:B:106:VAL:HG12 | 56:B:136:ASN:HB2 | 2.04 | 0.40 |
| 56:B:138:ILE:HD11 | 56:B:165:PHE:C | 2.41 | 0.40 |
| 56:B:280:ILE:O | 56:B:281:THR:HG23 | 2.22 | 0.40 |
| 56:B:383:LYS:H | 56:B:402:ILE:CG1 | 2.10 | 0.40 |
| 56:B:459:ILE:CD1 | 56:B:459:ILE:C | 2.87 | 0.40 |
| 56:B:65:ARG:HE | 56:B:245:PHE:HB2 | 1.86 | 0.40 |
| 56:B:137:LYS:CA | 57:B:701:GCP:C6 | 2.97 | 0.40 |
| 7:D:991:C:OP2 | 7:D:1186:G:OP2 | 2.40 | 0.40 |
| 7:D:1191:G:H2' | 7:D:1192:G:O4' | 2.22 | 0.40 |
| 7:D:1208:C:C2 | 7:D:1239:G:C2 | 3.10 | 0.40 |
| 7:D:1319:G:C2 | 7:D:1320:C:N3 | 2.90 | 0.40 |
| 7:D:1378:A:N3 | 7:D:1380:G:C8 | 2.89 | 0.40 |
| 7:D:1484:G:C6 | 7:D:1485:G:N7 | 2.89 | 0.40 |
| 7:D:1557:C:O5' | 7:D:1558:A:OP2 | 2.39 | 0.40 |
| 7:D:1651:G:N2 | 7:D:1652:A:C4 | 2.89 | 0.40 |
| 7:D:1671:U:C2 | 7:D:1673:U:H5' | 2.57 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-----------------|------------------|--------------------------|-------------------|
| 7:D:1789:A:C5 | 7:D:1790:C:N3 | 2.89 | 0.40 |
| 7:D:1800:C:H5 | 7:D:1817:G:O6 | 2.04 | 0.40 |
| 7:D:1797:C:N3 | 7:D:1823:G:C6 | 2.90 | 0.40 |
| 7:D:2001:A:H2' | 7:D:2002:G:C8 | 2.56 | 0.40 |
| 7:D:2093:G:C4 | 7:D:2225:A:C5 | 3.09 | 0.40 |
| 7:D:2134:A:H5'' | 7:D:2135:A:OP2 | 2.22 | 0.40 |
| 7:D:2137:C:N3 | 7:D:2154:G:N2 | 2.67 | 0.40 |
| 7:D:2175:C:O2' | 29:Z:221:SER:N | 2.54 | 0.40 |
| 7:D:2209:C:H2' | 7:D:2211:G:OP1 | 2.21 | 0.40 |
| 7:D:2274:A:O3' | 7:D:2275:C:H3' | 2.21 | 0.40 |
| 7:D:2481:G:H4' | 7:D:2482:G:H5' | 2.04 | 0.40 |
| 7:D:2491:U:C2 | 7:D:2492:U:C5 | 3.10 | 0.40 |
| 7:D:2499:C:N4 | 7:D:2500:U:C4 | 2.90 | 0.40 |
| 7:D:252:G:N2 | 7:D:253:C:C2 | 2.89 | 0.40 |
| 7:D:2634:G:H1 | 7:D:2784:C:H42 | 1.69 | 0.40 |
| 7:D:269:U:N3 | 7:D:424:G:C6 | 2.89 | 0.40 |
| 7:D:270(E):G:H1 | 7:D:270(T):G:N2 | 2.20 | 0.40 |
| 7:D:270(E):G:C6 | 7:D:270(F):U:N3 | 2.89 | 0.40 |
| 7:D:557:U:O2' | 7:D:558:G:H5' | 2.22 | 0.40 |
| 7:D:565:C:O2 | 7:D:577:G:C2 | 2.74 | 0.40 |
| 7:D:609(A):G:N2 | 7:D:618(A):C:C2 | 2.79 | 0.40 |
| 7:D:60:G:O2' | 7:D:63:U:H5 | 2.04 | 0.40 |
| 7:D:612:G:N2 | 7:D:617:G:C6 | 2.89 | 0.40 |
| 7:D:71:A:HO2' | 7:D:72:U:P | 2.29 | 0.40 |
| 7:D:743:G:N1 | 7:D:744:G:C5 | 2.90 | 0.40 |
| 7:D:744:G:C4 | 7:D:745:G:H1' | 2.57 | 0.40 |
| 7:D:913:U:O2' | 7:D:914:C:O5' | 2.35 | 0.40 |
| 7:D:919:G:C6 | 7:D:920:G:C4 | 3.09 | 0.40 |
| 7:D:97:C:H6 | 7:D:97:C:O5' | 2.04 | 0.40 |
| 8:E:61:G:H2' | 8:E:62:C:C6 | 2.57 | 0.40 |
| 8:E:75:G:C2 | 8:E:102:G:N2 | 2.90 | 0.40 |
| 9:F:10:LEU:O | 9:F:11:LEU:HB2 | 2.21 | 0.40 |
| 9:F:224:GLN:HG2 | 9:F:229:VAL:HG21 | 2.03 | 0.40 |
| 12:I:53:LEU:CD2 | 12:I:56:GLN:HE22 | 2.34 | 0.40 |
| 15:L:6:ILE:O | 15:L:10:LEU:HG | 2.21 | 0.40 |
| 16:M:58:HIS:NE2 | 16:M:59:PHE:CD2 | 2.90 | 0.40 |
| 18:O:22:HIS:HB3 | 18:O:29:ILE:HG13 | 2.03 | 0.40 |
| 23:T:39:TYR:CZ | 23:T:41:PRO:HA | 2.57 | 0.40 |
| 25:V:84:LYS:H | 25:V:84:LYS:HD2 | 1.86 | 0.40 |
| 26:W:16:LEU:C | 26:W:20:LEU:CD1 | 2.89 | 0.40 |
| 26:W:51:VAL:CG1 | 26:W:52:TYR:N | 2.83 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 5:5:15:G:H8 | 5:5:15:G:OP2 | 2.03 | 0.40 |
| 6:A:1002:G:C2 | 6:A:1003:G:C6 | 3.10 | 0.40 |
| 6:A:1133:G:C4 | 6:A:1134:G:C8 | 3.10 | 0.40 |
| 6:A:1164:G:C2 | 6:A:1173:G:C4 | 3.10 | 0.40 |
| 6:A:1227:A:O5' | 20:Q:111:LYS:NZ | 2.48 | 0.40 |
| 6:A:1228:C:H41 | 20:Q:104:ARG:HG2 | 1.87 | 0.40 |
| 6:A:1235:U:N3 | 6:A:1236:A:N7 | 2.69 | 0.40 |
| 6:A:124:G:C6 | 6:A:125:U:C4 | 3.09 | 0.40 |
| 6:A:1298:C:O2' | 6:A:1299:A:O5' | 2.36 | 0.40 |
| 6:A:1314:C:H2' | 6:A:1315:U:C6 | 2.56 | 0.40 |
| 6:A:1355:G:C4 | 6:A:1368:G:C2 | 3.10 | 0.40 |
| 6:A:1449:C:HO2' | 6:A:1450:U:P | 2.45 | 0.40 |
| 6:A:1459:C:C5 | 6:A:1460:A:N7 | 2.89 | 0.40 |
| 6:A:243:A:C5 | 6:A:245:C:C4 | 3.09 | 0.40 |
| 6:A:598:U:H2' | 6:A:599:C:H6 | 1.86 | 0.40 |
| 6:A:632:A:C8 | 6:A:633:G:C8 | 3.10 | 0.40 |
| 6:A:721:G:H5' | 6:A:722:A:C8 | 2.57 | 0.40 |
| 6:A:722:A:N1 | 6:A:724:G:C6 | 2.89 | 0.40 |
| 6:A:819:A:N6 | 6:A:1529:G:C5 | 2.89 | 0.40 |
| 6:A:92:G:C5 | 6:A:93:U:C5 | 3.08 | 0.40 |
| 56:B:455:PRO:O | 56:B:458:GLU:N | 2.42 | 0.40 |
| 56:B:412:LEU:CD1 | 56:B:479:TYR:HB3 | 2.30 | 0.40 |
| 56:B:6:LEU:CD1 | 56:B:6:LEU:H | 2.30 | 0.40 |
| 56:B:64:VAL:CG2 | 56:B:80:LEU:O | 2.68 | 0.40 |
| 7:D:1083:U:H2' | 7:D:1085:A:OP2 | 2.21 | 0.40 |
| 7:D:1048:A:C2 | 7:D:1111:A:N3 | 2.89 | 0.40 |
| 7:D:1338:G:C2 | 7:D:1339:G:C8 | 3.09 | 0.40 |
| 7:D:1353:A:OP2 | 7:D:1377:G:N2 | 2.50 | 0.40 |
| 7:D:1389:G:C6 | 7:D:1390:U:C4 | 3.08 | 0.40 |
| 7:D:1448:G:N2 | 7:D:1463:C:C2 | 2.87 | 0.40 |
| 7:D:1488:G:C6 | 7:D:1489:U:C4 | 3.09 | 0.40 |
| 7:D:1536:A:H2' | 7:D:1537:C:C6 | 2.56 | 0.40 |
| 7:D:1562:A:C6 | 7:D:1563:G:C5 | 3.10 | 0.40 |
| 7:D:1966:A:H1' | 7:D:2593:U:H4' | 2.02 | 0.40 |
| 7:D:2000:G:C2 | 7:D:2001:A:N7 | 2.90 | 0.40 |
| 7:D:2165:G:H3' | 7:D:2166:G:O4' | 2.21 | 0.40 |
| 7:D:231:C:C4 | 7:D:232:G:N2 | 2.89 | 0.40 |
| 7:D:2588:G:C5 | 7:D:2607:G:C2 | 3.10 | 0.40 |
| 7:D:2663:G:C6 | 7:D:2664:G:C5 | 3.10 | 0.40 |
| 7:D:295:G:N2 | 7:D:296:C:C2 | 2.89 | 0.40 |
| 7:D:439:G:O5' | 7:D:439:G:C8 | 2.75 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 7:D:765:G:N3 | 7:D:766:C:C6 | 2.90 | 0.40 |
| 7:D:774:A:C8 | 7:D:775:G:N7 | 2.89 | 0.40 |
| 7:D:80:G:C2 | 7:D:81:G:C5 | 3.10 | 0.40 |
| 7:D:882:G:OP2 | 7:D:883:G:O5' | 2.40 | 0.40 |
| 8:E:12:C:H2' | 8:E:13:A:H5'' | 2.03 | 0.40 |
| 8:E:34:U:C4 | 8:E:44:G:C8 | 3.09 | 0.40 |
| 9:F:107:THR:O | 9:F:110:GLN:N | 2.55 | 0.40 |
| 6:A:829:G:H4' | 9:F:26:PRO:HG3 | 2.03 | 0.40 |
| 11:H:68:TYR:HE2 | 11:H:97:LEU:HD13 | 1.86 | 0.40 |
| 12:I:84:PHE:HD1 | 12:I:130:ASN:OD1 | 2.04 | 0.40 |
| 16:M:118:LYS:O | 16:M:119:ALA:HB3 | 2.22 | 0.40 |
| 17:N:45:ARG:HB2 | 17:N:65:LEU:HB3 | 2.03 | 0.40 |
| 18:O:12:ARG:NH1 | 18:O:34:ASP:CG | 2.69 | 0.40 |
| 26:W:16:LEU:HG | 26:W:44:MET:CE | 2.52 | 0.40 |
| 29:Z:65:PRO:CG | 29:Z:154:ARG:HH11 | 2.34 | 0.40 |
| 29:Z:65:PRO:CG | 29:Z:154:ARG:NH1 | 2.80 | 0.40 |
| 29:Z:193:ILE:HD11 | 29:Z:212:VAL:HG11 | 2.03 | 0.40 |
| 5:5:40:C:H2' | 5:5:41:C:O4' | 2.22 | 0.40 |
| 6:A:1198:G:C5 | 6:A:1199:U:C4 | 3.10 | 0.40 |
| 6:A:1245:A:H2' | 6:A:1246:C:C6 | 2.56 | 0.40 |
| 6:A:1248:A:H1' | 16:M:70:LYS:NZ | 2.35 | 0.40 |
| 6:A:1349:A:H3' | 6:A:1350:A:H8 | 1.85 | 0.40 |
| 6:A:1365:G:H2' | 6:A:1366:C:O4' | 2.21 | 0.40 |
| 6:A:1381:U:O2 | 14:K:79:ARG:HB2 | 2.22 | 0.40 |
| 6:A:922:G:H1 | 6:A:1395:C:H42 | 1.68 | 0.40 |
| 6:A:1447:G:N7 | 6:A:1448:C:N4 | 2.70 | 0.40 |
| 6:A:181:G:O2' | 6:A:182:U:O5' | 2.39 | 0.40 |
| 6:A:185:A:C5 | 6:A:186:C:C5 | 3.09 | 0.40 |
| 6:A:186(E):C:C2 | 6:A:191(C):G:C2 | 3.09 | 0.40 |
| 6:A:20:U:O2 | 6:A:21:G:C4 | 2.74 | 0.40 |
| 6:A:241:C:H2' | 6:A:242:C:H6 | 1.86 | 0.40 |
| 6:A:442:C:O2 | 6:A:493:G:C2' | 2.70 | 0.40 |
| 6:A:477:G:C2 | 6:A:478:A:N9 | 2.89 | 0.40 |
| 6:A:521:G:N2 | 6:A:522:C:C2 | 2.89 | 0.40 |
| 6:A:498:A:N6 | 6:A:547:A:C8 | 2.90 | 0.40 |
| 6:A:566:G:HO2' | 6:A:567:G:P | 2.45 | 0.40 |
| 6:A:623:C:N3 | 6:A:624:C:C4 | 2.89 | 0.40 |
| 6:A:849:C:C3' | 6:A:849:C:C6 | 3.04 | 0.40 |
| 6:A:872:A:N1 | 6:A:874:G:C5 | 2.89 | 0.40 |
| 6:A:811:C:HO2' | 6:A:900:A:N6 | 2.17 | 0.40 |
| 6:A:960:U:H2' | 6:A:1223:C:H5' | 2.03 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 56:B:231:TYR:HD1 | 56:B:280:ILE:HG12 | 1.44 | 0.40 |
| 56:B:282:LEU:CG | 56:B:283:ALA:N | 2.70 | 0.40 |
| 56:B:335:GLU:O | 56:B:340:LEU:HA | 2.20 | 0.40 |
| 56:B:377:VAL:C | 56:B:378:TYR:HD1 | 2.23 | 0.40 |
| 56:B:51:LEU:C | 56:B:51:LEU:CD2 | 2.86 | 0.40 |
| 7:D:1053:C:H2' | 7:D:1054:A:C8 | 2.56 | 0.40 |
| 7:D:1086:A:OP2 | 7:D:1086:A:O4' | 2.39 | 0.40 |
| 7:D:118:A:C6 | 7:D:177:G:N1 | 2.89 | 0.40 |
| 7:D:1203:G:C6 | 7:D:1241:A:C8 | 3.10 | 0.40 |
| 7:D:1264:G:C6 | 7:D:1265:A:N6 | 2.89 | 0.40 |
| 7:D:1319:G:H1 | 7:D:1333:C:N4 | 2.20 | 0.40 |
| 7:D:1483:G:H1 | 7:D:1507:A:HO2' | 1.65 | 0.40 |
| 7:D:1520:U:O5' | 7:D:1520:U:H6 | 2.04 | 0.40 |
| 7:D:1424:G:N2 | 7:D:1574:C:H1' | 2.35 | 0.40 |
| 7:D:1603:A:O2' | 7:D:1604:C:O5' | 2.39 | 0.40 |
| 7:D:1703:G:C2 | 7:D:1704:G:C4 | 3.10 | 0.40 |
| 7:D:1712:C:C6 | 7:D:1712:C:C3' | 3.04 | 0.40 |
| 7:D:1819:A:HO2' | 7:D:1820:U:P | 2.42 | 0.40 |
| 7:D:1904:G:N2 | 7:D:1905:C:H1' | 2.37 | 0.40 |
| 7:D:1933:G:O6 | 7:D:1968:G:N2 | 2.54 | 0.40 |
| 7:D:2008:C:H2' | 7:D:2009:G:C8 | 2.52 | 0.40 |
| 7:D:2024:G:N3 | 7:D:2025:C:C6 | 2.90 | 0.40 |
| 7:D:2134:A:H2' | 7:D:2136:C:C5 | 2.55 | 0.40 |
| 7:D:2148:G:C6 | 7:D:2149:G:C6 | 3.10 | 0.40 |
| 7:D:2154:G:N3 | 7:D:2155:G:C8 | 2.89 | 0.40 |
| 7:D:2182:G:H2' | 7:D:2183:C:O4' | 2.22 | 0.40 |
| 7:D:2184:G:C2 | 7:D:2185:C:C2 | 3.09 | 0.40 |
| 7:D:2344:U:HO2' | 7:D:2345:G:P | 2.44 | 0.40 |
| 7:D:270(W):G:O6 | 7:D:270(X):G:N1 | 2.54 | 0.40 |
| 7:D:2679:A:N3 | 7:D:2729:G:N2 | 2.70 | 0.40 |
| 7:D:2789:C:OP1 | 7:D:2789:C:H4' | 2.21 | 0.40 |
| 7:D:2834:G:C4 | 7:D:2879:C:N3 | 2.90 | 0.40 |
| 7:D:291:C:N4 | 7:D:292:C:H41 | 2.19 | 0.40 |
| 7:D:350:U:N3 | 7:D:351:G:O6 | 2.33 | 0.40 |
| 7:D:354:G:N1 | 7:D:355:G:C6 | 2.89 | 0.40 |
| 7:D:397:G:C2 | 7:D:398:G:C8 | 3.10 | 0.40 |
| 7:D:434:U:O2 | 7:D:435:C:N4 | 2.51 | 0.40 |
| 7:D:464:U:O2 | 7:D:788:A:C6 | 2.73 | 0.40 |
| 7:D:535:C:N3 | 7:D:536:A:N7 | 2.70 | 0.40 |
| 7:D:582:G:C2 | 7:D:1259:G:C2 | 3.09 | 0.40 |
| 7:D:640:C:N4 | 7:D:641:C:H41 | 2.19 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-----------------|------------------|--------------------------|-------------------|
| 7:D:686:G:O2' | 7:D:687:C:OP1 | 2.33 | 0.40 |
| 7:D:827:U:C4 | 7:D:2430:A:N6 | 2.90 | 0.40 |
| 7:D:866:A:C6 | 7:D:914:C:C5 | 3.08 | 0.40 |
| 7:D:879:G:C8 | 7:D:898:C:N4 | 2.90 | 0.40 |
| 7:D:930:U:O4' | 7:D:932:G:C4 | 2.74 | 0.40 |
| 7:D:948:G:C2 | 7:D:970:C:O2 | 2.75 | 0.40 |
| 9:F:113:HIS:HA | 9:F:116:GLU:CD | 2.42 | 0.40 |
| 9:F:174:VAL:CG1 | 9:F:196:LEU:HD13 | 2.48 | 0.40 |
| 10:G:56:ASP:OD1 | 10:G:56:ASP:N | 3.17 | 0.40 |
| 7:D:2296:U:H5 | 14:K:8:GLU:CD | 106.90 | 0.40 |
| 15:L:80:ILE:H | 15:L:80:ILE:HD12 | 1.87 | 0.40 |
| 16:M:55:ALA:HB1 | 16:M:58:HIS:CG | 2.56 | 0.40 |
| 6:A:1177:G:P | 16:M:93:ARG:HH21 | 2.45 | 0.40 |
| 18:O:50:TYR:HD1 | 18:O:54:ARG:NH1 | 2.20 | 0.40 |
| 19:P:37:CYS:HA | 19:P:58:VAL:HG22 | 2.04 | 0.40 |
| 24:U:67:LYS:HA | 24:U:70:ARG:HH22 | 1.87 | 0.40 |

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles | |
|-----|-------|---------------|-----------|----------|----------|-------------|----|
| 1 | 1 | 35/37 (95%) | 23 (66%) | 6 (17%) | 6 (17%) | 0 | 4 |
| 2 | 2 | 128/173 (74%) | 96 (75%) | 23 (18%) | 9 (7%) | 1 | 23 |
| 3 | 3 | 132/147 (90%) | 68 (52%) | 37 (28%) | 27 (20%) | 0 | 2 |
| 9 | F | 232/256 (91%) | 179 (77%) | 32 (14%) | 21 (9%) | 1 | 16 |
| 10 | G | 204/239 (85%) | 170 (83%) | 21 (10%) | 13 (6%) | 2 | 26 |
| 11 | H | 206/209 (99%) | 172 (84%) | 17 (8%) | 17 (8%) | 1 | 18 |
| 12 | I | 148/162 (91%) | 125 (84%) | 15 (10%) | 8 (5%) | 2 | 30 |

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| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles | |
|-----|-------|---------------|-----------|----------|----------|-------------|-----|
| 13 | J | 99/101 (98%) | 85 (86%) | 8 (8%) | 6 (6%) | 2 | 27 |
| 14 | K | 153/156 (98%) | 138 (90%) | 11 (7%) | 4 (3%) | 7 | 48 |
| 15 | L | 136/138 (99%) | 112 (82%) | 17 (12%) | 7 (5%) | 2 | 31 |
| 16 | M | 125/128 (98%) | 90 (72%) | 27 (22%) | 8 (6%) | 2 | 26 |
| 17 | N | 96/105 (91%) | 80 (83%) | 12 (12%) | 4 (4%) | 3 | 36 |
| 18 | O | 117/129 (91%) | 104 (89%) | 8 (7%) | 5 (4%) | 3 | 35 |
| 19 | P | 122/132 (92%) | 91 (75%) | 24 (20%) | 7 (6%) | 2 | 28 |
| 20 | Q | 112/126 (89%) | 77 (69%) | 23 (20%) | 12 (11%) | 0 | 11 |
| 21 | R | 58/61 (95%) | 43 (74%) | 9 (16%) | 6 (10%) | 1 | 12 |
| 22 | S | 86/89 (97%) | 74 (86%) | 10 (12%) | 2 (2%) | 8 | 51 |
| 23 | T | 81/88 (92%) | 69 (85%) | 8 (10%) | 4 (5%) | 3 | 32 |
| 24 | U | 102/105 (97%) | 80 (78%) | 16 (16%) | 6 (6%) | 2 | 27 |
| 25 | V | 71/88 (81%) | 57 (80%) | 10 (14%) | 4 (6%) | 2 | 29 |
| 26 | W | 78/93 (84%) | 30 (38%) | 25 (32%) | 23 (30%) | 0 | 0 |
| 27 | X | 97/106 (92%) | 85 (88%) | 8 (8%) | 4 (4%) | 3 | 37 |
| 28 | Y | 22/27 (82%) | 19 (86%) | 3 (14%) | 0 | 100 | 100 |
| 29 | Z | 226/229 (99%) | 187 (83%) | 28 (12%) | 11 (5%) | 3 | 32 |
| 30 | a | 270/276 (98%) | 201 (74%) | 38 (14%) | 31 (12%) | 0 | 9 |
| 31 | b | 204/206 (99%) | 150 (74%) | 31 (15%) | 23 (11%) | 0 | 10 |
| 32 | c | 206/210 (98%) | 165 (80%) | 25 (12%) | 16 (8%) | 1 | 20 |
| 33 | d | 180/182 (99%) | 115 (64%) | 42 (23%) | 23 (13%) | 0 | 7 |
| 34 | e | 172/180 (96%) | 125 (73%) | 24 (14%) | 23 (13%) | 0 | 6 |
| 35 | f | 137/140 (98%) | 107 (78%) | 19 (14%) | 11 (8%) | 1 | 19 |
| 36 | g | 120/122 (98%) | 81 (68%) | 24 (20%) | 15 (12%) | 0 | 8 |
| 37 | h | 143/150 (95%) | 93 (65%) | 28 (20%) | 22 (15%) | 0 | 5 |
| 38 | i | 134/141 (95%) | 92 (69%) | 25 (19%) | 17 (13%) | 0 | 7 |
| 39 | j | 115/118 (98%) | 104 (90%) | 6 (5%) | 5 (4%) | 3 | 35 |
| 40 | k | 108/112 (96%) | 77 (71%) | 22 (20%) | 9 (8%) | 1 | 18 |
| 41 | l | 115/146 (79%) | 80 (70%) | 19 (16%) | 16 (14%) | 0 | 6 |
| 42 | m | 115/118 (98%) | 100 (87%) | 11 (10%) | 4 (4%) | 4 | 42 |
| 43 | n | 99/101 (98%) | 66 (67%) | 20 (20%) | 13 (13%) | 0 | 7 |

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| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles | |
|-----|-------|-----------------|------------|------------|-----------|-------------|----|
| 44 | o | 108/113 (96%) | 86 (80%) | 14 (13%) | 8 (7%) | 1 | 21 |
| 45 | p | 92/96 (96%) | 71 (77%) | 14 (15%) | 7 (8%) | 1 | 20 |
| 46 | q | 108/110 (98%) | 63 (58%) | 21 (19%) | 24 (22%) | 0 | 1 |
| 47 | r | 178/206 (86%) | 130 (73%) | 28 (16%) | 20 (11%) | 0 | 10 |
| 48 | s | 77/85 (91%) | 65 (84%) | 10 (13%) | 2 (3%) | 7 | 48 |
| 49 | t | 65/67 (97%) | 54 (83%) | 7 (11%) | 4 (6%) | 2 | 26 |
| 50 | u | 57/60 (95%) | 44 (77%) | 8 (14%) | 5 (9%) | 1 | 16 |
| 51 | v | 69/71 (97%) | 35 (51%) | 21 (30%) | 13 (19%) | 0 | 3 |
| 52 | w | 55/60 (92%) | 37 (67%) | 11 (20%) | 7 (13%) | 0 | 7 |
| 53 | x | 47/54 (87%) | 16 (34%) | 16 (34%) | 15 (32%) | 0 | 0 |
| 54 | y | 47/49 (96%) | 33 (70%) | 9 (19%) | 5 (11%) | 0 | 11 |
| 55 | z | 62/65 (95%) | 45 (73%) | 8 (13%) | 9 (14%) | 0 | 6 |
| 56 | B | 587/610 (96%) | 267 (46%) | 188 (32%) | 132 (22%) | 0 | 1 |
| All | All | 6536/6972 (94%) | 4756 (73%) | 1087 (17%) | 693 (11%) | 1 | 11 |

All (693) Ramachandran outliers are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | 1 | 4 | ARG |
| 1 | 1 | 33 | LYS |
| 2 | 2 | 77 | PRO |
| 2 | 2 | 93 | LEU |
| 2 | 2 | 107 | VAL |
| 3 | 3 | 23 | VAL |
| 3 | 3 | 57 | ILE |
| 3 | 3 | 69 | THR |
| 3 | 3 | 73 | PRO |
| 3 | 3 | 90 | LYS |
| 3 | 3 | 96 | VAL |
| 3 | 3 | 117 | THR |
| 9 | F | 16 | HIS |
| 9 | F | 20 | GLU |
| 9 | F | 104 | ASN |
| 9 | F | 127 | ILE |
| 9 | F | 158 | LEU |
| 10 | G | 16 | ARG |
| 11 | H | 20 | TYR |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 11 | H | 30 | LYS |
| 11 | H | 142 | PRO |
| 11 | H | 198 | VAL |
| 12 | I | 73 | ASN |
| 12 | I | 98 | THR |
| 13 | J | 49 | ALA |
| 14 | K | 113 | GLU |
| 15 | L | 97 | VAL |
| 16 | M | 98 | PRO |
| 17 | N | 90 | LEU |
| 19 | P | 77 | LEU |
| 19 | P | 91 | LYS |
| 20 | Q | 36 | LYS |
| 20 | Q | 60 | VAL |
| 20 | Q | 65 | LYS |
| 20 | Q | 81 | LEU |
| 21 | R | 34 | TYR |
| 23 | T | 44 | THR |
| 24 | U | 99 | SER |
| 25 | V | 78 | LEU |
| 25 | V | 81 | PHE |
| 26 | W | 5 | LEU |
| 26 | W | 53 | ASN |
| 26 | W | 55 | LYS |
| 26 | W | 60 | VAL |
| 26 | W | 61 | TYR |
| 26 | W | 62 | ILE |
| 26 | W | 71 | LEU |
| 27 | X | 71 | THR |
| 29 | Z | 37 | PHE |
| 30 | a | 52 | ARG |
| 30 | a | 58 | HIS |
| 30 | a | 59 | LYS |
| 30 | a | 89 | SER |
| 30 | a | 91 | ARG |
| 30 | a | 211 | ARG |
| 30 | a | 226 | MET |
| 30 | a | 243 | GLY |
| 30 | a | 245 | PRO |
| 30 | a | 249 | PRO |
| 31 | b | 16 | ARG |
| 31 | b | 38 | THR |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 31 | b | 74 | PRO |
| 31 | b | 100 | GLU |
| 31 | b | 119 | ARG |
| 31 | b | 123 | ALA |
| 31 | b | 147 | PRO |
| 31 | b | 178 | GLU |
| 31 | b | 185 | LYS |
| 31 | b | 191 | PRO |
| 32 | c | 45 | ARG |
| 32 | c | 126 | VAL |
| 32 | c | 169 | ASN |
| 33 | d | 27 | ASN |
| 33 | d | 51 | ARG |
| 33 | d | 114 | ILE |
| 33 | d | 123 | ASN |
| 33 | d | 145 | THR |
| 35 | f | 35 | ARG |
| 35 | f | 51 | PHE |
| 35 | f | 65 | LYS |
| 35 | f | 67 | LEU |
| 35 | f | 79 | PRO |
| 36 | g | 22 | ILE |
| 36 | g | 63 | VAL |
| 36 | g | 89 | ASN |
| 36 | g | 101 | PRO |
| 36 | g | 102 | VAL |
| 37 | h | 18 | ARG |
| 37 | h | 42 | SER |
| 37 | h | 47 | ASP |
| 37 | h | 92 | GLU |
| 37 | h | 111 | ARG |
| 37 | h | 122 | PRO |
| 38 | i | 8 | LYS |
| 38 | i | 31 | ASP |
| 38 | i | 66 | ILE |
| 38 | i | 67 | ARG |
| 38 | i | 77 | LYS |
| 38 | i | 78 | PRO |
| 38 | i | 87 | LYS |
| 39 | j | 6 | SER |
| 39 | j | 12 | ARG |
| 40 | k | 31 | SER |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 40 | k | 32 | LEU |
| 40 | k | 95 | HIS |
| 41 | l | 24 | PRO |
| 41 | l | 28 | VAL |
| 41 | l | 58 | ASN |
| 42 | m | 22 | LYS |
| 42 | m | 89 | GLU |
| 43 | n | 18 | LEU |
| 43 | n | 22 | VAL |
| 43 | n | 69 | LYS |
| 43 | n | 90 | PRO |
| 44 | o | 12 | ILE |
| 44 | o | 65 | LEU |
| 44 | o | 74 | ALA |
| 45 | p | 36 | LYS |
| 45 | p | 89 | ILE |
| 46 | q | 47 | LYS |
| 46 | q | 72 | VAL |
| 46 | q | 77 | PRO |
| 46 | q | 82 | PRO |
| 46 | q | 94 | LYS |
| 46 | q | 107 | ASP |
| 47 | r | 41 | LEU |
| 47 | r | 63 | ASP |
| 47 | r | 146 | ILE |
| 48 | s | 12 | ASN |
| 49 | t | 13 | PRO |
| 49 | t | 38 | GLN |
| 49 | t | 39 | LEU |
| 50 | u | 12 | PRO |
| 50 | u | 17 | LYS |
| 50 | u | 51 | ALA |
| 51 | v | 11 | PRO |
| 51 | v | 27 | THR |
| 51 | v | 41 | PRO |
| 51 | v | 44 | THR |
| 51 | v | 51 | ASP |
| 51 | v | 56 | VAL |
| 52 | w | 23 | HIS |
| 52 | w | 36 | CYS |
| 53 | x | 19 | ARG |
| 53 | x | 25 | LYS |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 53 | x | 29 | ASN |
| 53 | x | 52 | VAL |
| 54 | y | 5 | TRP |
| 54 | y | 18 | PHE |
| 54 | y | 23 | ARG |
| 55 | z | 32 | LEU |
| 56 | B | 39 | ARG |
| 56 | B | 68 | TYR |
| 56 | B | 146 | LEU |
| 56 | B | 203 | SER |
| 56 | B | 223 | ARG |
| 56 | B | 233 | THR |
| 56 | B | 280 | ILE |
| 56 | B | 296 | PRO |
| 56 | B | 298 | LYS |
| 56 | B | 320 | LEU |
| 56 | B | 328 | ALA |
| 56 | B | 339 | ALA |
| 56 | B | 340 | LEU |
| 56 | B | 386 | GLU |
| 56 | B | 394 | ALA |
| 56 | B | 444 | ALA |
| 56 | B | 475 | ALA |
| 56 | B | 486 | PRO |
| 56 | B | 490 | VAL |
| 56 | B | 497 | HIS |
| 56 | B | 504 | LEU |
| 56 | B | 531 | GLN |
| 56 | B | 557 | ASP |
| 56 | B | 563 | TYR |
| 56 | B | 585 | LYS |
| 56 | B | 587 | ILE |
| 1 | 1 | 5 | ALA |
| 1 | 1 | 9 | ARG |
| 2 | 2 | 30 | GLN |
| 2 | 2 | 80 | VAL |
| 2 | 2 | 116 | ILE |
| 3 | 3 | 24 | GLY |
| 3 | 3 | 32 | ALA |
| 3 | 3 | 34 | ILE |
| 3 | 3 | 49 | GLY |
| 3 | 3 | 56 | GLU |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 3 | 3 | 58 | THR |
| 3 | 3 | 82 | ALA |
| 3 | 3 | 93 | ARG |
| 9 | F | 24 | TRP |
| 9 | F | 155 | LEU |
| 9 | F | 191 | ASP |
| 10 | G | 66 | VAL |
| 10 | G | 179 | ARG |
| 11 | H | 4 | TYR |
| 11 | H | 154 | ASN |
| 11 | H | 196 | LEU |
| 11 | H | 200 | GLU |
| 12 | I | 12 | LEU |
| 12 | I | 95 | ALA |
| 13 | J | 53 | ALA |
| 14 | K | 112 | PRO |
| 15 | L | 74 | PRO |
| 15 | L | 121 | ASP |
| 16 | M | 47 | LEU |
| 16 | M | 110 | GLU |
| 16 | M | 116 | LYS |
| 17 | N | 39 | PRO |
| 19 | P | 6 | THR |
| 20 | Q | 45 | VAL |
| 20 | Q | 46 | LYS |
| 20 | Q | 69 | GLU |
| 20 | Q | 98 | VAL |
| 20 | Q | 104 | ARG |
| 21 | R | 16 | PHE |
| 21 | R | 29 | ARG |
| 21 | R | 31 | ARG |
| 23 | T | 43 | LYS |
| 23 | T | 80 | PHE |
| 24 | U | 104 | LYS |
| 25 | V | 20 | ALA |
| 26 | W | 4 | SER |
| 26 | W | 9 | VAL |
| 26 | W | 13 | ASP |
| 26 | W | 59 | PRO |
| 29 | Z | 20 | TYR |
| 29 | Z | 32 | LEU |
| 29 | Z | 166 | ASP |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 30 | a | 6 | PHE |
| 30 | a | 18 | VAL |
| 30 | a | 55 | GLY |
| 30 | a | 158 | ALA |
| 30 | a | 160 | GLY |
| 30 | a | 163 | ALA |
| 30 | a | 201 | HIS |
| 30 | a | 217 | ARG |
| 30 | a | 219 | PRO |
| 30 | a | 233 | HIS |
| 31 | b | 44 | TYR |
| 31 | b | 53 | PRO |
| 31 | b | 54 | GLN |
| 31 | b | 202 | LYS |
| 32 | c | 14 | PRO |
| 32 | c | 89 | VAL |
| 32 | c | 168 | ARG |
| 33 | d | 24 | GLY |
| 33 | d | 28 | VAL |
| 33 | d | 36 | LYS |
| 33 | d | 64 | THR |
| 33 | d | 71 | THR |
| 33 | d | 124 | SER |
| 34 | e | 12 | PRO |
| 34 | e | 21 | PRO |
| 34 | e | 93 | GLY |
| 34 | e | 107 | VAL |
| 34 | e | 118 | PRO |
| 34 | e | 131 | VAL |
| 34 | e | 164 | TYR |
| 35 | f | 7 | LYS |
| 35 | f | 38 | HIS |
| 36 | g | 13 | ASN |
| 36 | g | 64 | ARG |
| 36 | g | 67 | LYS |
| 36 | g | 119 | PRO |
| 37 | h | 11 | GLY |
| 37 | h | 16 | ARG |
| 37 | h | 24 | GLY |
| 37 | h | 29 | LYS |
| 37 | h | 31 | ALA |
| 37 | h | 107 | LYS |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 37 | h | 124 | LYS |
| 37 | h | 127 | ALA |
| 38 | i | 20 | ALA |
| 38 | i | 85 | LYS |
| 38 | i | 107 | ALA |
| 39 | j | 14 | SER |
| 39 | j | 89 | ASP |
| 40 | k | 54 | LEU |
| 40 | k | 79 | ALA |
| 40 | k | 82 | ILE |
| 40 | k | 97 | ARG |
| 41 | l | 38 | ASN |
| 41 | l | 98 | LYS |
| 41 | l | 99 | LEU |
| 41 | l | 101 | PHE |
| 42 | m | 72 | HIS |
| 43 | n | 56 | SER |
| 43 | n | 66 | ARG |
| 44 | o | 2 | GLU |
| 44 | o | 63 | ASP |
| 45 | p | 53 | LYS |
| 45 | p | 67 | GLY |
| 46 | q | 8 | LYS |
| 46 | q | 87 | LYS |
| 46 | q | 90 | LEU |
| 47 | r | 12 | GLY |
| 47 | r | 42 | VAL |
| 47 | r | 109 | ALA |
| 47 | r | 123 | ASP |
| 47 | r | 159 | PRO |
| 47 | r | 179 | ASP |
| 49 | t | 66 | ASN |
| 51 | v | 5 | ILE |
| 51 | v | 6 | HIS |
| 52 | w | 11 | THR |
| 52 | w | 12 | SER |
| 53 | x | 16 | CYS |
| 53 | x | 28 | ARG |
| 53 | x | 38 | LYS |
| 53 | x | 41 | PRO |
| 53 | x | 50 | ARG |
| 55 | z | 27 | THR |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 55 | z | 31 | HIS |
| 56 | B | 9 | ILE |
| 56 | B | 40 | GLU |
| 56 | B | 47 | ASP |
| 56 | B | 71 | LYS |
| 56 | B | 77 | VAL |
| 56 | B | 79 | HIS |
| 56 | B | 82 | ASP |
| 56 | B | 87 | VAL |
| 56 | B | 88 | ASP |
| 56 | B | 158 | LEU |
| 56 | B | 163 | ALA |
| 56 | B | 165 | PHE |
| 56 | B | 190 | GLY |
| 56 | B | 204 | VAL |
| 56 | B | 227 | ARG |
| 56 | B | 231 | TYR |
| 56 | B | 234 | GLY |
| 56 | B | 239 | VAL |
| 56 | B | 240 | ASP |
| 56 | B | 268 | ILE |
| 56 | B | 273 | ASP |
| 56 | B | 300 | VAL |
| 56 | B | 301 | VAL |
| 56 | B | 338 | THR |
| 56 | B | 371 | ALA |
| 56 | B | 398 | ASP |
| 56 | B | 502 | ASP |
| 56 | B | 522 | ASP |
| 56 | B | 526 | GLU |
| 56 | B | 548 | ARG |
| 56 | B | 593 | PRO |
| 56 | B | 594 | GLN |
| 2 | 2 | 115 | GLN |
| 3 | 3 | 22 | PRO |
| 9 | F | 131 | PRO |
| 9 | F | 204 | ASN |
| 10 | G | 12 | LEU |
| 10 | G | 64 | VAL |
| 10 | G | 160 | ALA |
| 10 | G | 206 | GLU |
| 11 | H | 35 | ARG |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 11 | H | 130 | GLY |
| 11 | H | 131 | ARG |
| 12 | I | 143 | ARG |
| 12 | I | 146 | ALA |
| 13 | J | 41 | GLU |
| 13 | J | 56 | PRO |
| 14 | K | 7 | ALA |
| 14 | K | 155 | ARG |
| 15 | L | 87 | SER |
| 16 | M | 58 | HIS |
| 16 | M | 103 | THR |
| 17 | N | 34 | VAL |
| 18 | O | 104 | GLN |
| 18 | O | 111 | ASP |
| 19 | P | 22 | SER |
| 22 | S | 76 | GLU |
| 24 | U | 14 | LYS |
| 27 | X | 99 | LEU |
| 29 | Z | 161 | ILE |
| 29 | Z | 177 | LYS |
| 30 | a | 17 | THR |
| 30 | a | 247 | ALA |
| 30 | a | 271 | ILE |
| 31 | b | 68 | ALA |
| 31 | b | 72 | VAL |
| 31 | b | 118 | LYS |
| 31 | b | 168 | MET |
| 31 | b | 188 | VAL |
| 32 | c | 46 | ARG |
| 32 | c | 130 | ALA |
| 32 | c | 178 | PRO |
| 33 | d | 29 | TRP |
| 33 | d | 32 | PRO |
| 33 | d | 132 | ASN |
| 33 | d | 135 | LEU |
| 33 | d | 164 | GLU |
| 33 | d | 177 | GLY |
| 34 | e | 47 | GLU |
| 34 | e | 156 | ALA |
| 34 | e | 157 | TYR |
| 34 | e | 160 | LYS |
| 34 | e | 169 | VAL |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 35 | f | 40 | PRO |
| 35 | f | 135 | PRO |
| 36 | g | 4 | PRO |
| 36 | g | 53 | LYS |
| 36 | g | 73 | ASP |
| 36 | g | 93 | PRO |
| 37 | h | 64 | LYS |
| 38 | i | 21 | THR |
| 38 | i | 135 | ASP |
| 40 | k | 5 | THR |
| 41 | l | 19 | LEU |
| 41 | l | 36 | GLU |
| 41 | l | 41 | ARG |
| 41 | l | 110 | ILE |
| 43 | n | 6 | LYS |
| 43 | n | 26 | ASP |
| 45 | p | 48 | LYS |
| 45 | p | 63 | LYS |
| 46 | q | 2 | ARG |
| 46 | q | 35 | TYR |
| 46 | q | 45 | VAL |
| 46 | q | 86 | ARG |
| 47 | r | 51 | ALA |
| 47 | r | 81 | ARG |
| 47 | r | 135 | GLU |
| 51 | v | 21 | VAL |
| 51 | v | 48 | ARG |
| 51 | v | 50 | VAL |
| 51 | v | 55 | ARG |
| 52 | w | 37 | LYS |
| 53 | x | 47 | THR |
| 53 | x | 51 | GLU |
| 56 | B | 8 | ARG |
| 56 | B | 34 | HIS |
| 56 | B | 36 | VAL |
| 56 | B | 42 | ARG |
| 56 | B | 64 | VAL |
| 56 | B | 81 | ILE |
| 56 | B | 86 | HIS |
| 56 | B | 141 | PRO |
| 56 | B | 159 | PRO |
| 56 | B | 170 | THR |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 56 | B | 189 | LYS |
| 56 | B | 192 | PRO |
| 56 | B | 253 | THR |
| 56 | B | 299 | PRO |
| 56 | B | 305 | LEU |
| 56 | B | 321 | GLU |
| 56 | B | 332 | PHE |
| 56 | B | 368 | SER |
| 56 | B | 373 | ALA |
| 56 | B | 388 | VAL |
| 56 | B | 393 | PRO |
| 56 | B | 402 | ILE |
| 56 | B | 418 | GLU |
| 56 | B | 442 | PRO |
| 56 | B | 500 | VAL |
| 56 | B | 529 | PRO |
| 56 | B | 530 | ARG |
| 56 | B | 544 | LYS |
| 3 | 3 | 6 | ALA |
| 3 | 3 | 7 | VAL |
| 3 | 3 | 63 | ARG |
| 3 | 3 | 81 | ALA |
| 3 | 3 | 126 | MET |
| 9 | F | 13 | ALA |
| 9 | F | 21 | ARG |
| 9 | F | 77 | ALA |
| 9 | F | 202 | PRO |
| 10 | G | 4 | LYS |
| 10 | G | 28 | GLN |
| 11 | H | 32 | ALA |
| 11 | H | 125 | HIS |
| 11 | H | 134 | ASP |
| 13 | J | 95 | GLU |
| 13 | J | 100 | ASN |
| 17 | N | 40 | LEU |
| 18 | O | 90 | GLY |
| 18 | O | 112 | THR |
| 19 | P | 17 | LYS |
| 19 | P | 78 | GLN |
| 19 | P | 92 | ASP |
| 20 | Q | 92 | HIS |
| 21 | R | 33 | VAL |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 24 | U | 53 | LEU |
| 24 | U | 81 | ARG |
| 26 | W | 29 | ARG |
| 26 | W | 34 | TRP |
| 26 | W | 35 | SER |
| 26 | W | 41 | VAL |
| 26 | W | 72 | GLY |
| 29 | Z | 160 | ARG |
| 29 | Z | 164 | ARG |
| 30 | a | 148 | GLU |
| 30 | a | 272 | ALA |
| 31 | b | 70 | ALA |
| 33 | d | 49 | ASP |
| 33 | d | 78 | SER |
| 33 | d | 96 | ARG |
| 33 | d | 178 | PHE |
| 34 | e | 7 | LEU |
| 34 | e | 14 | GLY |
| 34 | e | 104 | GLU |
| 34 | e | 127 | GLU |
| 34 | e | 136 | ILE |
| 36 | g | 28 | SER |
| 37 | h | 66 | GLY |
| 37 | h | 89 | ALA |
| 37 | h | 119 | GLU |
| 38 | i | 17 | LEU |
| 38 | i | 30 | GLY |
| 38 | i | 61 | GLY |
| 40 | k | 9 | ARG |
| 41 | l | 59 | THR |
| 42 | m | 73 | GLY |
| 43 | n | 13 | ARG |
| 43 | n | 72 | VAL |
| 44 | o | 41 | LYS |
| 44 | o | 62 | HIS |
| 45 | p | 57 | LEU |
| 46 | q | 6 | HIS |
| 46 | q | 42 | VAL |
| 46 | q | 57 | GLN |
| 46 | q | 92 | ASN |
| 46 | q | 99 | CYS |
| 47 | r | 11 | GLU |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 47 | r | 23 | LYS |
| 47 | r | 82 | ARG |
| 47 | r | 168 | GLU |
| 47 | r | 170 | THR |
| 48 | s | 84 | LEU |
| 50 | u | 11 | SER |
| 50 | u | 31 | LEU |
| 51 | v | 53 | GLU |
| 53 | x | 24 | GLU |
| 53 | x | 46 | HIS |
| 54 | y | 37 | LYS |
| 54 | y | 39 | ARG |
| 55 | z | 4 | MET |
| 56 | B | 6 | LEU |
| 56 | B | 37 | SER |
| 56 | B | 44 | GLN |
| 56 | B | 63 | ALA |
| 56 | B | 134 | VAL |
| 56 | B | 186 | PRO |
| 56 | B | 232 | SER |
| 56 | B | 245 | PHE |
| 56 | B | 279 | THR |
| 56 | B | 317 | ARG |
| 56 | B | 326 | ASN |
| 56 | B | 360 | ARG |
| 56 | B | 372 | THR |
| 56 | B | 387 | GLU |
| 56 | B | 390 | VAL |
| 56 | B | 432 | ARG |
| 56 | B | 498 | GLY |
| 56 | B | 598 | LEU |
| 1 | 1 | 6 | SER |
| 1 | 1 | 7 | VAL |
| 2 | 2 | 6 | ASN |
| 3 | 3 | 8 | VAL |
| 3 | 3 | 113 | PRO |
| 9 | F | 78 | GLN |
| 9 | F | 122 | PHE |
| 9 | F | 125 | PRO |
| 9 | F | 218 | ALA |
| 10 | G | 127 | ARG |
| 11 | H | 18 | LYS |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 11 | H | 112 | VAL |
| 12 | I | 141 | GLN |
| 12 | I | 142 | LEU |
| 15 | L | 75 | ARG |
| 15 | L | 105 | ARG |
| 20 | Q | 63 | THR |
| 22 | S | 88 | ARG |
| 24 | U | 34 | LYS |
| 26 | W | 12 | ASP |
| 26 | W | 31 | ILE |
| 29 | Z | 72 | VAL |
| 29 | Z | 175 | VAL |
| 30 | a | 48 | ARG |
| 30 | a | 63 | ARG |
| 31 | b | 133 | LYS |
| 31 | b | 180 | ASN |
| 32 | c | 62 | ARG |
| 32 | c | 69 | HIS |
| 32 | c | 70 | THR |
| 32 | c | 99 | TYR |
| 32 | c | 162 | LEU |
| 33 | d | 25 | TYR |
| 33 | d | 128 | ARG |
| 34 | e | 42 | ARG |
| 34 | e | 105 | LEU |
| 36 | g | 12 | ASP |
| 37 | h | 26 | GLY |
| 37 | h | 72 | PRO |
| 39 | j | 72 | ASP |
| 41 | l | 18 | ASP |
| 41 | l | 96 | ARG |
| 44 | o | 64 | MET |
| 46 | q | 5 | MET |
| 46 | q | 44 | ILE |
| 46 | q | 74 | PRO |
| 46 | q | 85 | VAL |
| 47 | r | 50 | GLN |
| 52 | w | 59 | GLU |
| 53 | x | 35 | GLU |
| 53 | x | 40 | CYS |
| 55 | z | 6 | THR |
| 55 | z | 62 | LEU |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 55 | z | 63 | PRO |
| 56 | B | 5 | ASP |
| 56 | B | 35 | ALA |
| 56 | B | 72 | ASP |
| 56 | B | 76 | TYR |
| 56 | B | 137 | LYS |
| 56 | B | 155 | VAL |
| 56 | B | 161 | ASP |
| 56 | B | 286 | PRO |
| 56 | B | 324 | LYS |
| 56 | B | 327 | ASP |
| 56 | B | 345 | ARG |
| 56 | B | 403 | GLU |
| 56 | B | 417 | PRO |
| 56 | B | 446 | LYS |
| 56 | B | 505 | THR |
| 56 | B | 553 | ALA |
| 56 | B | 573 | LEU |
| 9 | F | 153 | ARG |
| 9 | F | 230 | VAL |
| 10 | G | 97 | LYS |
| 20 | Q | 66 | LEU |
| 21 | R | 40 | CYS |
| 23 | T | 13 | HIS |
| 27 | X | 97 | ALA |
| 30 | a | 36 | PRO |
| 30 | a | 62 | TYR |
| 32 | c | 4 | VAL |
| 34 | e | 125 | VAL |
| 35 | f | 109 | LYS |
| 38 | i | 110 | THR |
| 43 | n | 9 | GLY |
| 46 | q | 40 | GLU |
| 52 | w | 38 | ALA |
| 55 | z | 3 | LYS |
| 56 | B | 224 | PRO |
| 56 | B | 408 | PRO |
| 56 | B | 518 | ARG |
| 3 | 3 | 19 | PRO |
| 3 | 3 | 91 | PRO |
| 10 | G | 41 | GLY |
| 11 | H | 40 | PRO |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 18 | O | 40 | ILE |
| 25 | V | 80 | PRO |
| 26 | W | 42 | PRO |
| 26 | W | 68 | GLY |
| 27 | X | 98 | PRO |
| 30 | a | 28 | GLU |
| 34 | e | 126 | PRO |
| 35 | f | 46 | VAL |
| 47 | r | 22 | GLY |
| 47 | r | 110 | GLY |
| 55 | z | 45 | GLY |
| 56 | B | 174 | VAL |
| 56 | B | 507 | ILE |
| 2 | 2 | 31 | GLY |
| 3 | 3 | 97 | GLY |
| 16 | M | 57 | GLY |
| 26 | W | 58 | VAL |
| 31 | b | 91 | VAL |
| 34 | e | 5 | GLY |
| 37 | h | 34 | GLY |
| 37 | h | 43 | GLY |
| 43 | n | 30 | GLY |
| 56 | B | 276 | VAL |
| 56 | B | 370 | ILE |
| 9 | F | 130 | ARG |
| 10 | G | 174 | PRO |
| 15 | L | 90 | GLY |
| 26 | W | 26 | GLY |
| 26 | W | 45 | VAL |
| 30 | a | 270 | ILE |
| 34 | e | 115 | VAL |
| 38 | i | 106 | VAL |
| 41 | l | 71 | GLY |
| 46 | q | 37 | VAL |
| 56 | B | 191 | ASP |
| 56 | B | 448 | VAL |
| 3 | 3 | 52 | ILE |
| 16 | M | 22 | GLY |
| 29 | Z | 159 | GLY |
| 32 | c | 132 | VAL |
| 41 | l | 20 | PRO |
| 43 | n | 67 | GLY |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 56 | B | 210 | GLY |
| 56 | B | 292 | PRO |

5.3.2 Protein sidechains ⓘ

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

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

| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles | |
|-----|-------|----------------|------------|----------|-------------|-----|
| 1 | 1 | 34/34 (100%) | 34 (100%) | 0 | 100 | 100 |
| 3 | 3 | 101/111 (91%) | 93 (92%) | 8 (8%) | 15 | 55 |
| 9 | F | 202/220 (92%) | 201 (100%) | 1 (0%) | 92 | 97 |
| 10 | G | 160/188 (85%) | 159 (99%) | 1 (1%) | 90 | 96 |
| 11 | H | 180/181 (99%) | 179 (99%) | 1 (1%) | 90 | 96 |
| 12 | I | 115/123 (94%) | 114 (99%) | 1 (1%) | 84 | 93 |
| 13 | J | 90/90 (100%) | 90 (100%) | 0 | 100 | 100 |
| 14 | K | 126/127 (99%) | 126 (100%) | 0 | 100 | 100 |
| 15 | L | 119/119 (100%) | 119 (100%) | 0 | 100 | 100 |
| 16 | M | 98/99 (99%) | 98 (100%) | 0 | 100 | 100 |
| 17 | N | 88/92 (96%) | 88 (100%) | 0 | 100 | 100 |
| 18 | O | 90/99 (91%) | 90 (100%) | 0 | 100 | 100 |
| 19 | P | 104/109 (95%) | 103 (99%) | 1 (1%) | 82 | 92 |
| 20 | Q | 92/101 (91%) | 78 (85%) | 14 (15%) | 3 | 25 |
| 21 | R | 49/50 (98%) | 49 (100%) | 0 | 100 | 100 |
| 22 | S | 79/80 (99%) | 78 (99%) | 1 (1%) | 76 | 91 |
| 23 | T | 72/74 (97%) | 72 (100%) | 0 | 100 | 100 |
| 24 | U | 96/97 (99%) | 96 (100%) | 0 | 100 | 100 |
| 25 | V | 64/77 (83%) | 64 (100%) | 0 | 100 | 100 |
| 26 | W | 71/80 (89%) | 47 (66%) | 24 (34%) | 0 | 2 |
| 27 | X | 76/82 (93%) | 76 (100%) | 0 | 100 | 100 |
| 28 | Y | 19/22 (86%) | 19 (100%) | 0 | 100 | 100 |

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| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles | |
|-----|-------|-----------------|------------|-----------|-------------|-----|
| 29 | Z | 180/181 (99%) | 177 (98%) | 3 (2%) | 68 | 89 |
| 30 | a | 215/218 (99%) | 212 (99%) | 3 (1%) | 74 | 90 |
| 31 | b | 166/166 (100%) | 165 (99%) | 1 (1%) | 90 | 96 |
| 32 | c | 164/166 (99%) | 161 (98%) | 3 (2%) | 66 | 88 |
| 33 | d | 156/156 (100%) | 152 (97%) | 4 (3%) | 54 | 82 |
| 34 | e | 143/148 (97%) | 142 (99%) | 1 (1%) | 88 | 95 |
| 35 | f | 118/119 (99%) | 117 (99%) | 1 (1%) | 86 | 94 |
| 36 | g | 100/100 (100%) | 99 (99%) | 1 (1%) | 82 | 92 |
| 37 | h | 111/116 (96%) | 109 (98%) | 2 (2%) | 66 | 88 |
| 38 | i | 106/111 (96%) | 105 (99%) | 1 (1%) | 84 | 93 |
| 39 | j | 100/101 (99%) | 98 (98%) | 2 (2%) | 63 | 87 |
| 40 | k | 87/88 (99%) | 87 (100%) | 0 | 100 | 100 |
| 41 | l | 105/127 (83%) | 104 (99%) | 1 (1%) | 82 | 92 |
| 42 | m | 93/94 (99%) | 93 (100%) | 0 | 100 | 100 |
| 43 | n | 82/82 (100%) | 82 (100%) | 0 | 100 | 100 |
| 44 | o | 90/92 (98%) | 89 (99%) | 1 (1%) | 80 | 92 |
| 45 | p | 76/78 (97%) | 76 (100%) | 0 | 100 | 100 |
| 46 | q | 91/91 (100%) | 91 (100%) | 0 | 100 | 100 |
| 47 | r | 159/179 (89%) | 159 (100%) | 0 | 100 | 100 |
| 48 | s | 63/67 (94%) | 63 (100%) | 0 | 100 | 100 |
| 49 | t | 62/62 (100%) | 62 (100%) | 0 | 100 | 100 |
| 50 | u | 51/52 (98%) | 50 (98%) | 1 (2%) | 63 | 87 |
| 51 | v | 63/63 (100%) | 62 (98%) | 1 (2%) | 70 | 89 |
| 52 | w | 50/52 (96%) | 50 (100%) | 0 | 100 | 100 |
| 53 | x | 48/52 (92%) | 48 (100%) | 0 | 100 | 100 |
| 54 | y | 42/42 (100%) | 42 (100%) | 0 | 100 | 100 |
| 55 | z | 54/55 (98%) | 52 (96%) | 2 (4%) | 41 | 76 |
| 56 | B | 490/505 (97%) | 347 (71%) | 143 (29%) | 0 | 4 |
| All | All | 5390/5618 (96%) | 5167 (96%) | 223 (4%) | 42 | 74 |

All (223) residues with a non-rotameric sidechain are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 3 | 3 | 58 | THR |
| 3 | 3 | 63 | ARG |
| 3 | 3 | 64 | SER |
| 3 | 3 | 65 | PHE |
| 3 | 3 | 68 | VAL |
| 3 | 3 | 93 | ARG |
| 3 | 3 | 94 | GLU |
| 3 | 3 | 120 | LEU |
| 9 | F | 196 | LEU |
| 10 | G | 186 | PHE |
| 11 | H | 125 | HIS |
| 12 | I | 45 | PHE |
| 19 | P | 80 | HIS |
| 20 | Q | 64 | TRP |
| 20 | Q | 66 | LEU |
| 20 | Q | 73 | GLU |
| 20 | Q | 79 | LYS |
| 20 | Q | 80 | ARG |
| 20 | Q | 81 | LEU |
| 20 | Q | 87 | TYR |
| 20 | Q | 88 | ARG |
| 20 | Q | 90 | LEU |
| 20 | Q | 91 | ARG |
| 20 | Q | 93 | ARG |
| 20 | Q | 94 | ARG |
| 20 | Q | 102 | ARG |
| 20 | Q | 104 | ARG |
| 22 | S | 42 | HIS |
| 26 | W | 3 | ARG |
| 26 | W | 4 | SER |
| 26 | W | 14 | HIS |
| 26 | W | 16 | LEU |
| 26 | W | 18 | LYS |
| 26 | W | 20 | LEU |
| 26 | W | 21 | GLU |
| 26 | W | 25 | LYS |
| 26 | W | 28 | LYS |
| 26 | W | 29 | ARG |
| 26 | W | 30 | LEU |
| 26 | W | 32 | LYS |
| 26 | W | 33 | THR |
| 26 | W | 36 | ARG |
| 26 | W | 49 | ILE |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 26 | W | 55 | LYS |
| 26 | W | 56 | GLN |
| 26 | W | 57 | HIS |
| 26 | W | 58 | VAL |
| 26 | W | 61 | TYR |
| 26 | W | 63 | THR |
| 26 | W | 66 | MET |
| 26 | W | 77 | THR |
| 26 | W | 81 | ARG |
| 29 | Z | 161 | ILE |
| 29 | Z | 177 | LYS |
| 29 | Z | 180 | PHE |
| 30 | a | 61 | LEU |
| 30 | a | 206 | LEU |
| 30 | a | 242 | ARG |
| 31 | b | 52 | LEU |
| 32 | c | 65 | TRP |
| 32 | c | 99 | TYR |
| 32 | c | 197 | ASP |
| 33 | d | 31 | VAL |
| 33 | d | 34 | LEU |
| 33 | d | 77 | ILE |
| 33 | d | 100 | TRP |
| 34 | e | 129 | THR |
| 35 | f | 12 | ARG |
| 36 | g | 77 | ILE |
| 37 | h | 19 | VAL |
| 37 | h | 126 | VAL |
| 38 | i | 74 | TYR |
| 39 | j | 4 | LEU |
| 39 | j | 13 | HIS |
| 41 | l | 101 | PHE |
| 44 | o | 45 | TYR |
| 50 | u | 15 | TYR |
| 51 | v | 52 | THR |
| 55 | z | 6 | THR |
| 55 | z | 60 | LEU |
| 56 | B | 4 | MET |
| 56 | B | 5 | ASP |
| 56 | B | 6 | LEU |
| 56 | B | 8 | ARG |
| 56 | B | 10 | ARG |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 56 | B | 13 | SER |
| 56 | B | 19 | ASP |
| 56 | B | 20 | HIS |
| 56 | B | 23 | SER |
| 56 | B | 27 | ASP |
| 56 | B | 28 | ARG |
| 56 | B | 31 | GLU |
| 56 | B | 44 | GLN |
| 56 | B | 45 | PHE |
| 56 | B | 49 | LEU |
| 56 | B | 53 | ARG |
| 56 | B | 62 | SER |
| 56 | B | 65 | ARG |
| 56 | B | 69 | ARG |
| 56 | B | 72 | ASP |
| 56 | B | 80 | LEU |
| 56 | B | 89 | PHE |
| 56 | B | 90 | THR |
| 56 | B | 91 | TYR |
| 56 | B | 95 | ARG |
| 56 | B | 108 | ASP |
| 56 | B | 110 | SER |
| 56 | B | 111 | GLN |
| 56 | B | 123 | MET |
| 56 | B | 135 | ILE |
| 56 | B | 140 | LEU |
| 56 | B | 144 | ARG |
| 56 | B | 150 | LEU |
| 56 | B | 153 | GLU |
| 56 | B | 161 | ASP |
| 56 | B | 164 | ILE |
| 56 | B | 165 | PHE |
| 56 | B | 175 | GLU |
| 56 | B | 178 | LEU |
| 56 | B | 184 | ARG |
| 56 | B | 189 | LYS |
| 56 | B | 193 | GLU |
| 56 | B | 196 | LEU |
| 56 | B | 199 | LEU |
| 56 | B | 201 | PHE |
| 56 | B | 206 | ASP |
| 56 | B | 215 | LEU |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 56 | B | 217 | LEU |
| 56 | B | 229 | ARG |
| 56 | B | 235 | LYS |
| 56 | B | 240 | ASP |
| 56 | B | 246 | THR |
| 56 | B | 256 | LEU |
| 56 | B | 257 | GLU |
| 56 | B | 263 | TRP |
| 56 | B | 269 | ARG |
| 56 | B | 270 | ASP |
| 56 | B | 278 | ASP |
| 56 | B | 279 | THR |
| 56 | B | 281 | THR |
| 56 | B | 284 | ASP |
| 56 | B | 285 | ARG |
| 56 | B | 291 | TYR |
| 56 | B | 294 | PHE |
| 56 | B | 295 | ARG |
| 56 | B | 305 | LEU |
| 56 | B | 306 | TYR |
| 56 | B | 315 | LYS |
| 56 | B | 316 | LEU |
| 56 | B | 317 | ARG |
| 56 | B | 320 | LEU |
| 56 | B | 322 | LYS |
| 56 | B | 326 | ASN |
| 56 | B | 327 | ASP |
| 56 | B | 330 | LEU |
| 56 | B | 336 | SER |
| 56 | B | 337 | SER |
| 56 | B | 340 | LEU |
| 56 | B | 345 | ARG |
| 56 | B | 348 | PHE |
| 56 | B | 351 | LEU |
| 56 | B | 352 | LEU |
| 56 | B | 361 | LEU |
| 56 | B | 365 | PHE |
| 56 | B | 367 | LEU |
| 56 | B | 368 | SER |
| 56 | B | 379 | LYS |
| 56 | B | 381 | ARG |
| 56 | B | 383 | LYS |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 56 | B | 387 | GLU |
| 56 | B | 391 | HIS |
| 56 | B | 395 | ASP |
| 56 | B | 398 | ASP |
| 56 | B | 400 | THR |
| 56 | B | 401 | ARG |
| 56 | B | 402 | ILE |
| 56 | B | 412 | LEU |
| 56 | B | 418 | GLU |
| 56 | B | 424 | LEU |
| 56 | B | 425 | MET |
| 56 | B | 429 | GLN |
| 56 | B | 430 | GLU |
| 56 | B | 431 | LYS |
| 56 | B | 432 | ARG |
| 56 | B | 434 | ARG |
| 56 | B | 440 | TYR |
| 56 | B | 445 | GLN |
| 56 | B | 450 | LEU |
| 56 | B | 462 | ASP |
| 56 | B | 464 | HIS |
| 56 | B | 465 | ASP |
| 56 | B | 466 | ARG |
| 56 | B | 467 | LEU |
| 56 | B | 472 | ARG |
| 56 | B | 476 | SER |
| 56 | B | 479 | TYR |
| 56 | B | 481 | GLN |
| 56 | B | 485 | ARG |
| 56 | B | 491 | LYS |
| 56 | B | 495 | LEU |
| 56 | B | 502 | ASP |
| 56 | B | 509 | HIS |
| 56 | B | 518 | ARG |
| 56 | B | 520 | ILE |
| 56 | B | 523 | LYS |
| 56 | B | 530 | ARG |
| 56 | B | 532 | LEU |
| 56 | B | 533 | PHE |
| 56 | B | 534 | GLU |
| 56 | B | 538 | GLN |
| 56 | B | 544 | LYS |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 56 | B | 548 | ARG |
| 56 | B | 552 | LYS |
| 56 | B | 554 | LEU |
| 56 | B | 556 | LYS |
| 56 | B | 559 | LEU |
| 56 | B | 570 | LYS |
| 56 | B | 574 | LEU |
| 56 | B | 578 | LYS |
| 56 | B | 582 | LYS |
| 56 | B | 589 | LYS |
| 56 | B | 591 | GLU |
| 56 | B | 598 | LEU |

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (92) such sidechains are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | 1 | 32 | HIS |
| 1 | 1 | 36 | GLN |
| 3 | 3 | 29 | GLN |
| 9 | F | 212 | GLN |
| 10 | G | 6 | HIS |
| 10 | G | 37 | GLN |
| 10 | G | 63 | ASN |
| 10 | G | 69 | HIS |
| 10 | G | 102 | ASN |
| 10 | G | 104 | GLN |
| 11 | H | 62 | GLN |
| 11 | H | 77 | ASN |
| 11 | H | 119 | GLN |
| 11 | H | 125 | HIS |
| 11 | H | 129 | ASN |
| 12 | I | 141 | GLN |
| 13 | J | 73 | ASN |
| 14 | K | 84 | ASN |
| 14 | K | 96 | GLN |
| 14 | K | 97 | GLN |
| 14 | K | 148 | ASN |
| 15 | L | 81 | HIS |
| 16 | M | 34 | ASN |
| 17 | N | 33 | GLN |
| 17 | N | 56 | HIS |
| 18 | O | 117 | ASN |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 19 | P | 80 | HIS |
| 19 | P | 99 | HIS |
| 20 | Q | 101 | GLN |
| 22 | S | 13 | GLN |
| 22 | S | 37 | ASN |
| 22 | S | 46 | HIS |
| 24 | U | 26 | GLN |
| 24 | U | 45 | HIS |
| 24 | U | 96 | GLN |
| 26 | W | 14 | HIS |
| 26 | W | 69 | HIS |
| 27 | X | 45 | GLN |
| 27 | X | 73 | HIS |
| 29 | Z | 71 | GLN |
| 29 | Z | 165 | ASN |
| 30 | a | 115 | GLN |
| 30 | a | 116 | GLN |
| 30 | a | 201 | HIS |
| 30 | a | 233 | HIS |
| 31 | b | 85 | ASN |
| 31 | b | 129 | HIS |
| 31 | b | 135 | HIS |
| 31 | b | 180 | ASN |
| 33 | d | 130 | ASN |
| 34 | e | 143 | GLN |
| 34 | e | 158 | HIS |
| 35 | f | 94 | HIS |
| 36 | g | 88 | ASN |
| 37 | h | 27 | HIS |
| 37 | h | 84 | ASN |
| 37 | h | 128 | HIS |
| 39 | j | 13 | HIS |
| 39 | j | 50 | HIS |
| 40 | k | 38 | GLN |
| 41 | l | 84 | GLN |
| 42 | m | 94 | ASN |
| 42 | m | 117 | GLN |
| 43 | n | 80 | GLN |
| 43 | n | 87 | HIS |
| 44 | o | 34 | ASN |
| 44 | o | 57 | ASN |
| 44 | o | 61 | ASN |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 45 | p | 31 | HIS |
| 47 | r | 54 | HIS |
| 47 | r | 73 | GLN |
| 49 | t | 4 | GLN |
| 49 | t | 51 | GLN |
| 50 | u | 19 | GLN |
| 51 | v | 20 | ASN |
| 51 | v | 47 | GLN |
| 52 | w | 23 | HIS |
| 53 | x | 49 | HIS |
| 54 | y | 16 | HIS |
| 56 | B | 17 | HIS |
| 56 | B | 20 | HIS |
| 56 | B | 79 | HIS |
| 56 | B | 127 | HIS |
| 56 | B | 142 | ASN |
| 56 | B | 209 | GLN |
| 56 | B | 248 | GLN |
| 56 | B | 275 | GLN |
| 56 | B | 353 | HIS |
| 56 | B | 358 | GLN |
| 56 | B | 481 | GLN |
| 56 | B | 509 | HIS |
| 56 | B | 577 | GLN |

5.3.3 RNA ⓘ

| Mol | Chain | Analysed | Backbone Outliers | Pucker Outliers |
|-----|-------|-----------------|-------------------|-----------------|
| 4 | 4 | 76/77 (98%) | 29 (38%) | 0 |
| 5 | 5 | 75/76 (98%) | 32 (42%) | 3 (4%) |
| 6 | A | 1515/1522 (99%) | 529 (34%) | 102 (6%) |
| 7 | D | 2888/2893 (99%) | 1316 (45%) | 205 (7%) |
| 8 | E | 122/123 (99%) | 48 (39%) | 4 (3%) |
| All | All | 4676/4691 (99%) | 1954 (41%) | 314 (6%) |

All (1954) RNA backbone outliers are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 4 | 4 | 5 | G |
| 4 | 4 | 8 | U |
| 4 | 4 | 9 | G |

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| Mol | Chain | Res | Type |
|-----|-------|-------|------|
| 4 | 4 | 13 | C |
| 4 | 4 | 17 | C |
| 4 | 4 | 17(A) | U |
| 4 | 4 | 18 | G |
| 4 | 4 | 19 | G |
| 4 | 4 | 20 | U |
| 4 | 4 | 21 | A |
| 4 | 4 | 31 | G |
| 4 | 4 | 33 | U |
| 4 | 4 | 36 | U |
| 4 | 4 | 37 | A |
| 4 | 4 | 38 | A |
| 4 | 4 | 39 | C |
| 4 | 4 | 47 | U |
| 4 | 4 | 48 | C |
| 4 | 4 | 49 | G |
| 4 | 4 | 52 | G |
| 4 | 4 | 53 | G |
| 4 | 4 | 57 | A |
| 4 | 4 | 58 | A |
| 4 | 4 | 64 | G |
| 4 | 4 | 66 | C |
| 4 | 4 | 73 | A |
| 4 | 4 | 74 | C |
| 4 | 4 | 75 | C |
| 4 | 4 | 76 | A |
| 5 | 5 | 8 | U |
| 5 | 5 | 9 | A |
| 5 | 5 | 10 | G |
| 5 | 5 | 14 | A |
| 5 | 5 | 15 | G |
| 5 | 5 | 16 | U |
| 5 | 5 | 17 | C |
| 5 | 5 | 19 | G |
| 5 | 5 | 21 | A |
| 5 | 5 | 22 | G |
| 5 | 5 | 23 | A |
| 5 | 5 | 24 | G |
| 5 | 5 | 26 | A |
| 5 | 5 | 27 | G |
| 5 | 5 | 39 | U |
| 5 | 5 | 41 | C |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 5 | 5 | 42 | C |
| 5 | 5 | 43 | C |
| 5 | 5 | 45 | U |
| 5 | 5 | 47 | U |
| 5 | 5 | 48 | C |
| 5 | 5 | 49 | C |
| 5 | 5 | 52 | G |
| 5 | 5 | 54 | U |
| 5 | 5 | 59 | U |
| 5 | 5 | 61 | C |
| 5 | 5 | 62 | C |
| 5 | 5 | 70 | G |
| 5 | 5 | 71 | G |
| 5 | 5 | 74 | C |
| 5 | 5 | 75 | C |
| 5 | 5 | 76 | A |
| 6 | A | 6 | G |
| 6 | A | 8 | A |
| 6 | A | 9 | G |
| 6 | A | 13 | U |
| 6 | A | 14 | U |
| 6 | A | 30 | U |
| 6 | A | 31 | G |
| 6 | A | 32 | A |
| 6 | A | 37 | U |
| 6 | A | 39 | G |
| 6 | A | 40 | C |
| 6 | A | 42 | G |
| 6 | A | 46 | G |
| 6 | A | 47 | C |
| 6 | A | 48 | C |
| 6 | A | 49 | U |
| 6 | A | 50 | A |
| 6 | A | 51 | A |
| 6 | A | 52 | G |
| 6 | A | 54 | C |
| 6 | A | 61 | G |
| 6 | A | 62 | U |
| 6 | A | 65 | U |
| 6 | A | 66 | G |
| 6 | A | 67 | C |
| 6 | A | 74 | C |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 6 | A | 75 | C |
| 6 | A | 76 | G |
| 6 | A | 77 | C |
| 6 | A | 80 | G |
| 6 | A | 82 | U |
| 6 | A | 84 | U |
| 6 | A | 85 | U |
| 6 | A | 87 | A |
| 6 | A | 88 | C |
| 6 | A | 90 | C |
| 6 | A | 91 | C |
| 6 | A | 99 | C |
| 6 | A | 101 | A |
| 6 | A | 102 | G |
| 6 | A | 103 | C |
| 6 | A | 110 | C |
| 6 | A | 116 | A |
| 6 | A | 120 | A |
| 6 | A | 121 | C |
| 6 | A | 122 | G |
| 6 | A | 130 | A |
| 6 | A | 131 | C |
| 6 | A | 132 | C |
| 6 | A | 134 | A |
| 6 | A | 155 | C |
| 6 | A | 162 | A |
| 6 | A | 163 | C |
| 6 | A | 165 | C |
| 6 | A | 170 | U |
| 6 | A | 172 | A |
| 6 | A | 173 | U |
| 6 | A | 182 | U |
| 6 | A | 188 | U |
| 6 | A | 189 | U |
| 6 | A | 190 | G |
| 6 | A | 194 | C |
| 6 | A | 195 | A |
| 6 | A | 196 | A |
| 6 | A | 197 | A |
| 6 | A | 200 | G |
| 6 | A | 201 | C |
| 6 | A | 208 | U |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 6 | A | 209 | U |
| 6 | A | 210 | U |
| 6 | A | 216 | G |
| 6 | A | 224 | C |
| 6 | A | 226 | G |
| 6 | A | 244 | U |
| 6 | A | 245 | C |
| 6 | A | 247 | G |
| 6 | A | 250 | A |
| 6 | A | 251 | G |
| 6 | A | 252 | U |
| 6 | A | 261 | U |
| 6 | A | 262 | A |
| 6 | A | 264 | U |
| 6 | A | 266 | G |
| 6 | A | 267 | C |
| 6 | A | 279 | A |
| 6 | A | 280 | C |
| 6 | A | 282 | A |
| 6 | A | 283 | C |
| 6 | A | 289 | G |
| 6 | A | 299 | G |
| 6 | A | 301 | G |
| 6 | A | 302 | G |
| 6 | A | 304 | U |
| 6 | A | 306 | G |
| 6 | A | 308 | C |
| 6 | A | 309 | G |
| 6 | A | 314 | C |
| 6 | A | 317 | G |
| 6 | A | 319 | G |
| 6 | A | 328 | C |
| 6 | A | 329 | A |
| 6 | A | 330 | C |
| 6 | A | 332 | G |
| 6 | A | 341 | C |
| 6 | A | 342 | C |
| 6 | A | 343 | U |
| 6 | A | 344 | A |
| 6 | A | 345 | C |
| 6 | A | 346 | G |
| 6 | A | 347 | G |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 6 | A | 351 | G |
| 6 | A | 352 | C |
| 6 | A | 353 | A |
| 6 | A | 354 | G |
| 6 | A | 361 | G |
| 6 | A | 362 | G |
| 6 | A | 365 | U |
| 6 | A | 367 | U |
| 6 | A | 368 | U |
| 6 | A | 371 | G |
| 6 | A | 373 | A |
| 6 | A | 382 | A |
| 6 | A | 384 | G |
| 6 | A | 386 | C |
| 6 | A | 388 | G |
| 6 | A | 389 | A |
| 6 | A | 390 | C |
| 6 | A | 397 | A |
| 6 | A | 398 | C |
| 6 | A | 406 | G |
| 6 | A | 408 | A |
| 6 | A | 410 | G |
| 6 | A | 412 | A |
| 6 | A | 413 | G |
| 6 | A | 414 | A |
| 6 | A | 417 | C |
| 6 | A | 421 | U |
| 6 | A | 422 | C |
| 6 | A | 423 | G |
| 6 | A | 424 | G |
| 6 | A | 429 | U |
| 6 | A | 430 | A |
| 6 | A | 438 | G |
| 6 | A | 439 | A |
| 6 | A | 440 | A |
| 6 | A | 442 | C |
| 6 | A | 443 | C |
| 6 | A | 449 | C |
| 6 | A | 452 | A |
| 6 | A | 455 | C |
| 6 | A | 457 | C |
| 6 | A | 458 | C |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 6 | A | 464 | G |
| 6 | A | 465 | A |
| 6 | A | 466 | C |
| 6 | A | 467 | G |
| 6 | A | 468 | A |
| 6 | A | 476 | G |
| 6 | A | 477 | G |
| 6 | A | 481 | G |
| 6 | A | 482 | A |
| 6 | A | 485 | G |
| 6 | A | 486 | U |
| 6 | A | 491 | G |
| 6 | A | 494 | U |
| 6 | A | 496 | A |
| 6 | A | 497 | U |
| 6 | A | 500 | G |
| 6 | A | 503 | C |
| 6 | A | 504 | C |
| 6 | A | 511 | C |
| 6 | A | 518 | C |
| 6 | A | 519 | C |
| 6 | A | 521 | G |
| 6 | A | 527 | G |
| 6 | A | 529 | G |
| 6 | A | 530 | G |
| 6 | A | 531 | U |
| 6 | A | 532 | A |
| 6 | A | 533 | A |
| 6 | A | 535 | A |
| 6 | A | 548 | G |
| 6 | A | 555 | C |
| 6 | A | 559 | A |
| 6 | A | 560 | U |
| 6 | A | 561 | U |
| 6 | A | 562 | C |
| 6 | A | 563 | A |
| 6 | A | 564 | C |
| 6 | A | 566 | G |
| 6 | A | 567 | G |
| 6 | A | 571 | U |
| 6 | A | 572 | A |
| 6 | A | 573 | A |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 6 | A | 575 | G |
| 6 | A | 576 | G |
| 6 | A | 577 | G |
| 6 | A | 579 | G |
| 6 | A | 586 | C |
| 6 | A | 588 | G |
| 6 | A | 592 | G |
| 6 | A | 596 | C |
| 6 | A | 606 | G |
| 6 | A | 607 | A |
| 6 | A | 611 | A |
| 6 | A | 619 | U |
| 6 | A | 624 | C |
| 6 | A | 631 | G |
| 6 | A | 632 | A |
| 6 | A | 636 | U |
| 6 | A | 639 | G |
| 6 | A | 641 | U |
| 6 | A | 642 | A |
| 6 | A | 653 | A |
| 6 | A | 661 | G |
| 6 | A | 665 | A |
| 6 | A | 671 | G |
| 6 | A | 672 | U |
| 6 | A | 679 | C |
| 6 | A | 685 | G |
| 6 | A | 687 | A |
| 6 | A | 688 | G |
| 6 | A | 690 | G |
| 6 | A | 691 | G |
| 6 | A | 695 | A |
| 6 | A | 697 | U |
| 6 | A | 701 | C |
| 6 | A | 702 | A |
| 6 | A | 703 | G |
| 6 | A | 704 | A |
| 6 | A | 718 | G |
| 6 | A | 719 | C |
| 6 | A | 723 | U |
| 6 | A | 730 | G |
| 6 | A | 731 | G |
| 6 | A | 733 | A |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 6 | A | 738 | C |
| 6 | A | 749 | C |
| 6 | A | 752 | G |
| 6 | A | 755 | G |
| 6 | A | 772 | U |
| 6 | A | 777 | A |
| 6 | A | 778 | G |
| 6 | A | 781 | A |
| 6 | A | 782 | A |
| 6 | A | 784 | C |
| 6 | A | 785 | G |
| 6 | A | 787 | A |
| 6 | A | 793 | U |
| 6 | A | 794 | A |
| 6 | A | 799 | G |
| 6 | A | 811 | C |
| 6 | A | 812 | C |
| 6 | A | 813 | U |
| 6 | A | 815 | A |
| 6 | A | 816 | A |
| 6 | A | 817 | C |
| 6 | A | 818 | G |
| 6 | A | 819 | A |
| 6 | A | 820 | U |
| 6 | A | 821 | G |
| 6 | A | 826 | C |
| 6 | A | 827 | U |
| 6 | A | 828 | A |
| 6 | A | 838 | G |
| 6 | A | 841 | U |
| 6 | A | 842 | C |
| 6 | A | 843 | U |
| 6 | A | 848 | C |
| 6 | A | 850 | U |
| 6 | A | 851 | G |
| 6 | A | 853 | G |
| 6 | A | 866 | C |
| 6 | A | 869 | G |
| 6 | A | 871 | U |
| 6 | A | 873 | A |
| 6 | A | 874 | G |
| 6 | A | 876 | G |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 6 | A | 884 | U |
| 6 | A | 885 | G |
| 6 | A | 888 | G |
| 6 | A | 889 | A |
| 6 | A | 890 | G |
| 6 | A | 900 | A |
| 6 | A | 902 | G |
| 6 | A | 910 | C |
| 6 | A | 913 | A |
| 6 | A | 914 | A |
| 6 | A | 919 | A |
| 6 | A | 921 | U |
| 6 | A | 927 | G |
| 6 | A | 931 | C |
| 6 | A | 933 | G |
| 6 | A | 934 | C |
| 6 | A | 935 | A |
| 6 | A | 942 | G |
| 6 | A | 950 | U |
| 6 | A | 952 | U |
| 6 | A | 953 | G |
| 6 | A | 954 | G |
| 6 | A | 956 | U |
| 6 | A | 958 | A |
| 6 | A | 960 | U |
| 6 | A | 961 | U |
| 6 | A | 965 | A |
| 6 | A | 966 | G |
| 6 | A | 968 | A |
| 6 | A | 969 | A |
| 6 | A | 971 | G |
| 6 | A | 972 | C |
| 6 | A | 974 | A |
| 6 | A | 975 | A |
| 6 | A | 976 | G |
| 6 | A | 977 | A |
| 6 | A | 978 | A |
| 6 | A | 980 | C |
| 6 | A | 982 | U |
| 6 | A | 983 | A |
| 6 | A | 984 | C |
| 6 | A | 987 | G |

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| Mol | Chain | Res | Type |
|-----|-------|---------|------|
| 6 | A | 991 | U |
| 6 | A | 993 | G |
| 6 | A | 994 | A |
| 6 | A | 998 | G |
| 6 | A | 1002 | G |
| 6 | A | 1003 | G |
| 6 | A | 1004 | A |
| 6 | A | 1005 | A |
| 6 | A | 1006 | C |
| 6 | A | 1009 | G |
| 6 | A | 1010 | G |
| 6 | A | 1014 | A |
| 6 | A | 1016 | A |
| 6 | A | 1021 | G |
| 6 | A | 1023 | G |
| 6 | A | 1024 | G |
| 6 | A | 1025 | U |
| 6 | A | 1026 | G |
| 6 | A | 1027 | C |
| 6 | A | 1028(A) | C |
| 6 | A | 1029 | G |
| 6 | A | 1031 | G |
| 6 | A | 1032(A) | G |
| 6 | A | 1045 | C |
| 6 | A | 1046 | A |
| 6 | A | 1050 | G |
| 6 | A | 1052 | U |
| 6 | A | 1053 | G |
| 6 | A | 1054 | C |
| 6 | A | 1055 | A |
| 6 | A | 1056 | U |
| 6 | A | 1060 | C |
| 6 | A | 1062 | U |
| 6 | A | 1064 | G |
| 6 | A | 1065 | U |
| 6 | A | 1066 | C |
| 6 | A | 1084 | G |
| 6 | A | 1085 | U |
| 6 | A | 1094 | G |
| 6 | A | 1095 | U |
| 6 | A | 1096 | C |
| 6 | A | 1101 | A |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 6 | A | 1102 | A |
| 6 | A | 1108 | G |
| 6 | A | 1115 | C |
| 6 | A | 1117 | G |
| 6 | A | 1118 | C |
| 6 | A | 1121 | U |
| 6 | A | 1124 | G |
| 6 | A | 1125 | U |
| 6 | A | 1126 | U |
| 6 | A | 1127 | G |
| 6 | A | 1129 | C |
| 6 | A | 1130 | A |
| 6 | A | 1131 | G |
| 6 | A | 1132 | C |
| 6 | A | 1136 | U |
| 6 | A | 1137 | C |
| 6 | A | 1138 | G |
| 6 | A | 1139 | G |
| 6 | A | 1140 | C |
| 6 | A | 1146 | A |
| 6 | A | 1148 | U |
| 6 | A | 1151 | A |
| 6 | A | 1157 | A |
| 6 | A | 1158 | C |
| 6 | A | 1159 | U |
| 6 | A | 1164 | G |
| 6 | A | 1165 | C |
| 6 | A | 1170 | A |
| 6 | A | 1173 | G |
| 6 | A | 1181 | G |
| 6 | A | 1183 | A |
| 6 | A | 1184 | G |
| 6 | A | 1188 | A |
| 6 | A | 1189 | C |
| 6 | A | 1191 | A |
| 6 | A | 1192 | C |
| 6 | A | 1195 | C |
| 6 | A | 1196 | U |
| 6 | A | 1197 | G |
| 6 | A | 1200 | C |
| 6 | A | 1201 | A |
| 6 | A | 1202 | G |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 6 | A | 1203 | C |
| 6 | A | 1211 | U |
| 6 | A | 1212 | U |
| 6 | A | 1215 | G |
| 6 | A | 1220 | G |
| 6 | A | 1224 | G |
| 6 | A | 1225 | A |
| 6 | A | 1227 | A |
| 6 | A | 1237 | C |
| 6 | A | 1238 | A |
| 6 | A | 1239 | A |
| 6 | A | 1240 | U |
| 6 | A | 1241 | G |
| 6 | A | 1242 | C |
| 6 | A | 1249 | C |
| 6 | A | 1250 | A |
| 6 | A | 1251 | A |
| 6 | A | 1256 | A |
| 6 | A | 1257 | U |
| 6 | A | 1258 | G |
| 6 | A | 1259 | C |
| 6 | A | 1265 | G |
| 6 | A | 1268 | A |
| 6 | A | 1269 | A |
| 6 | A | 1277 | C |
| 6 | A | 1278 | U |
| 6 | A | 1279 | A |
| 6 | A | 1280 | A |
| 6 | A | 1281 | U |
| 6 | A | 1282 | C |
| 6 | A | 1286 | A |
| 6 | A | 1287 | A |
| 6 | A | 1297 | C |
| 6 | A | 1298 | C |
| 6 | A | 1299 | A |
| 6 | A | 1300 | G |
| 6 | A | 1301 | U |
| 6 | A | 1302 | U |
| 6 | A | 1303 | C |
| 6 | A | 1305 | G |
| 6 | A | 1307 | U |
| 6 | A | 1310 | G |

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| Mol | Chain | Res | Type |
|-----|-------|---------|------|
| 6 | A | 1312 | G |
| 6 | A | 1316 | G |
| 6 | A | 1317 | C |
| 6 | A | 1320 | C |
| 6 | A | 1321 | C |
| 6 | A | 1322 | C |
| 6 | A | 1327 | C |
| 6 | A | 1329 | A |
| 6 | A | 1331 | G |
| 6 | A | 1332 | A |
| 6 | A | 1336 | C |
| 6 | A | 1338 | G |
| 6 | A | 1340 | A |
| 6 | A | 1345 | U |
| 6 | A | 1346 | A |
| 6 | A | 1347 | G |
| 6 | A | 1348 | U |
| 6 | A | 1349 | A |
| 6 | A | 1353 | G |
| 6 | A | 1358 | U |
| 6 | A | 1360 | A |
| 6 | A | 1361 | G |
| 6 | A | 1362(A) | C |
| 6 | A | 1363 | A |
| 6 | A | 1364 | U |
| 6 | A | 1365 | G |
| 6 | A | 1366 | C |
| 6 | A | 1370 | G |
| 6 | A | 1378 | C |
| 6 | A | 1379 | G |
| 6 | A | 1380 | U |
| 6 | A | 1381 | U |
| 6 | A | 1389 | C |
| 6 | A | 1395 | C |
| 6 | A | 1397 | C |
| 6 | A | 1398 | A |
| 6 | A | 1400 | C |
| 6 | A | 1401 | G |
| 6 | A | 1408 | A |
| 6 | A | 1418 | A |
| 6 | A | 1419 | G |
| 6 | A | 1433 | A |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 6 | A | 1436 | U |
| 6 | A | 1439 | C |
| 6 | A | 1441 | G |
| 6 | A | 1442 | G |
| 6 | A | 1443 | G |
| 6 | A | 1446 | A |
| 6 | A | 1447 | G |
| 6 | A | 1450 | U |
| 6 | A | 1452 | C |
| 6 | A | 1453 | G |
| 6 | A | 1454 | G |
| 6 | A | 1455 | G |
| 6 | A | 1459 | C |
| 6 | A | 1460 | A |
| 6 | A | 1463 | C |
| 6 | A | 1467 | G |
| 6 | A | 1469 | G |
| 6 | A | 1478 | C |
| 6 | A | 1481 | U |
| 6 | A | 1483 | A |
| 6 | A | 1487 | G |
| 6 | A | 1492 | A |
| 6 | A | 1494 | G |
| 6 | A | 1495 | U |
| 6 | A | 1497 | G |
| 6 | A | 1499 | A |
| 6 | A | 1504 | G |
| 6 | A | 1505 | G |
| 6 | A | 1506 | U |
| 6 | A | 1507 | A |
| 6 | A | 1515 | C |
| 6 | A | 1517 | G |
| 6 | A | 1518 | A |
| 6 | A | 1519 | A |
| 6 | A | 1520 | G |
| 6 | A | 1525 | G |
| 6 | A | 1528 | U |
| 6 | A | 1529 | G |
| 6 | A | 1530 | G |
| 6 | A | 1531 | A |
| 6 | A | 1532 | U |
| 7 | D | 13 | A |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 7 | D | 14 | A |
| 7 | D | 15 | G |
| 7 | D | 33 | U |
| 7 | D | 34 | C |
| 7 | D | 35 | G |
| 7 | D | 39 | C |
| 7 | D | 41 | C |
| 7 | D | 46 | C |
| 7 | D | 49 | A |
| 7 | D | 50 | U |
| 7 | D | 51 | G |
| 7 | D | 60 | G |
| 7 | D | 61 | G |
| 7 | D | 63 | U |
| 7 | D | 64 | A |
| 7 | D | 68 | G |
| 7 | D | 71 | A |
| 7 | D | 72 | U |
| 7 | D | 73 | A |
| 7 | D | 74 | A |
| 7 | D | 75 | G |
| 7 | D | 76 | C |
| 7 | D | 84 | A |
| 7 | D | 88 | G |
| 7 | D | 90 | U |
| 7 | D | 91 | A |
| 7 | D | 92 | G |
| 7 | D | 94 | G |
| 7 | D | 95 | G |
| 7 | D | 99 | U |
| 7 | D | 101 | G |
| 7 | D | 102 | G |
| 7 | D | 108 | U |
| 7 | D | 109 | G |
| 7 | D | 112 | U |
| 7 | D | 113 | G |
| 7 | D | 118 | A |
| 7 | D | 119 | A |
| 7 | D | 120 | U |
| 7 | D | 121 | G |
| 7 | D | 125 | G |
| 7 | D | 128 | C |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 7 | D | 131 | G |
| 7 | D | 132 | G |
| 7 | D | 134 | C |
| 7 | D | 137 | C |
| 7 | D | 138 | G |
| 7 | D | 140 | A |
| 7 | D | 141 | A |
| 7 | D | 143 | C |
| 7 | D | 147 | U |
| 7 | D | 149 | A |
| 7 | D | 152 | G |
| 7 | D | 153 | C |
| 7 | D | 154 | G |
| 7 | D | 155 | C |
| 7 | D | 161 | U |
| 7 | D | 162 | U |
| 7 | D | 163 | U |
| 7 | D | 164 | U |
| 7 | D | 172 | C |
| 7 | D | 178 | G |
| 7 | D | 181 | A |
| 7 | D | 188 | G |
| 7 | D | 190 | A |
| 7 | D | 191 | A |
| 7 | D | 193 | U |
| 7 | D | 195 | A |
| 7 | D | 196 | A |
| 7 | D | 197 | A |
| 7 | D | 200 | U |
| 7 | D | 201 | C |
| 7 | D | 204 | A |
| 7 | D | 205 | G |
| 7 | D | 206 | U |
| 7 | D | 207 | A |
| 7 | D | 210 | C |
| 7 | D | 216 | A |
| 7 | D | 217 | G |
| 7 | D | 221 | A |
| 7 | D | 222 | A |
| 7 | D | 223 | A |
| 7 | D | 224 | G |
| 7 | D | 227 | A |

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| Mol | Chain | Res | Type |
|-----|-------|--------|------|
| 7 | D | 228 | A |
| 7 | D | 229 | A |
| 7 | D | 230 | U |
| 7 | D | 232 | G |
| 7 | D | 233 | A |
| 7 | D | 241 | A |
| 7 | D | 242 | G |
| 7 | D | 243 | U |
| 7 | D | 245 | G |
| 7 | D | 248 | G |
| 7 | D | 249 | C |
| 7 | D | 250 | G |
| 7 | D | 252 | G |
| 7 | D | 257 | A |
| 7 | D | 264 | C |
| 7 | D | 265 | A |
| 7 | D | 266 | G |
| 7 | D | 270(A) | A |
| 7 | D | 270(B) | A |
| 7 | D | 270(C) | C |
| 7 | D | 270(F) | U |
| 7 | D | 270(H) | C |
| 7 | D | 270(J) | G |
| 7 | D | 270(K) | C |
| 7 | D | 270(M) | U |
| 7 | D | 270(N) | G |
| 7 | D | 270(O) | U |
| 7 | D | 270(V) | G |
| 7 | D | 270(X) | G |
| 7 | D | 270(Y) | G |
| 7 | D | 270(Z) | U |
| 7 | D | 271(A) | C |
| 7 | D | 271(C) | U |
| 7 | D | 271 | G |
| 7 | D | 273(F) | C |
| 7 | D | 275 | G |
| 7 | D | 276 | A |
| 7 | D | 278 | A |
| 7 | D | 279 | C |
| 7 | D | 280 | C |
| 7 | D | 281 | G |
| 7 | D | 282 | A |

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| Mol | Chain | Res | Type |
|-----|-------|--------|------|
| 7 | D | 283 | A |
| 7 | D | 284 | U |
| 7 | D | 287 | C |
| 7 | D | 289 | A |
| 7 | D | 290 | G |
| 7 | D | 293 | U |
| 7 | D | 294 | A |
| 7 | D | 295 | G |
| 7 | D | 296 | C |
| 7 | D | 299 | A |
| 7 | D | 301 | G |
| 7 | D | 303 | U |
| 7 | D | 304 | G |
| 7 | D | 309 | G |
| 7 | D | 310 | A |
| 7 | D | 311 | A |
| 7 | D | 312 | G |
| 7 | D | 316 | C |
| 7 | D | 321 | G |
| 7 | D | 322 | A |
| 7 | D | 323 | G |
| 7 | D | 324 | A |
| 7 | D | 329 | G |
| 7 | D | 330 | A |
| 7 | D | 331 | A |
| 7 | D | 332 | A |
| 7 | D | 335 | C |
| 7 | D | 338 | G |
| 7 | D | 339 | U |
| 7 | D | 340 | A |
| 7 | D | 347 | A |
| 7 | D | 348 | G |
| 7 | D | 349 | G |
| 7 | D | 350 | U |
| 7 | D | 351 | G |
| 7 | D | 356 | G |
| 7 | D | 359 | A |
| 7 | D | 360 | G |
| 7 | D | 363(A) | A |
| 7 | D | 363(C) | G |
| 7 | D | 363(F) | A |
| 7 | D | 370 | G |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 7 | D | 371 | A |
| 7 | D | 372 | G |
| 7 | D | 373 | U |
| 7 | D | 374 | A |
| 7 | D | 382 | G |
| 7 | D | 385 | C |
| 7 | D | 386 | G |
| 7 | D | 388 | G |
| 7 | D | 390 | A |
| 7 | D | 391 | G |
| 7 | D | 395 | U |
| 7 | D | 397 | G |
| 7 | D | 400 | G |
| 7 | D | 401 | A |
| 7 | D | 405 | U |
| 7 | D | 406 | G |
| 7 | D | 407 | G |
| 7 | D | 411 | G |
| 7 | D | 412 | A |
| 7 | D | 418 | G |
| 7 | D | 420 | C |
| 7 | D | 421 | U |
| 7 | D | 422 | A |
| 7 | D | 423 | A |
| 7 | D | 427 | U |
| 7 | D | 428 | A |
| 7 | D | 431 | U |
| 7 | D | 434 | U |
| 7 | D | 435 | C |
| 7 | D | 440 | G |
| 7 | D | 441 | U |
| 7 | D | 442 | G |
| 7 | D | 443 | A |
| 7 | D | 444 | C |
| 7 | D | 445 | C |
| 7 | D | 446 | G |
| 7 | D | 447 | A |
| 7 | D | 448 | U |
| 7 | D | 449 | A |
| 7 | D | 450 | G |
| 7 | D | 451 | C |
| 7 | D | 452 | G |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 7 | D | 453 | C |
| 7 | D | 454 | A |
| 7 | D | 455 | C |
| 7 | D | 456 | C |
| 7 | D | 457 | A |
| 7 | D | 458 | G |
| 7 | D | 459 | U |
| 7 | D | 465 | G |
| 7 | D | 471 | A |
| 7 | D | 473 | G |
| 7 | D | 475 | U |
| 7 | D | 478 | A |
| 7 | D | 479 | A |
| 7 | D | 480 | A |
| 7 | D | 481 | G |
| 7 | D | 482 | A |
| 7 | D | 483 | A |
| 7 | D | 486 | C |
| 7 | D | 491 | G |
| 7 | D | 493 | G |
| 7 | D | 494 | G |
| 7 | D | 498 | G |
| 7 | D | 499 | U |
| 7 | D | 501 | A |
| 7 | D | 503 | A |
| 7 | D | 504 | U |
| 7 | D | 505 | A |
| 7 | D | 507 | A |
| 7 | D | 508 | G |
| 7 | D | 510 | C |
| 7 | D | 513 | A |
| 7 | D | 518 | G |
| 7 | D | 526 | A |
| 7 | D | 527 | C |
| 7 | D | 528 | A |
| 7 | D | 529 | A |
| 7 | D | 530 | G |
| 7 | D | 531 | C |
| 7 | D | 532 | A |
| 7 | D | 533 | G |
| 7 | D | 536 | A |
| 7 | D | 539 | G |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 7 | D | 540 | G |
| 7 | D | 549 | G |
| 7 | D | 550 | G |
| 7 | D | 552 | G |
| 7 | D | 553 | U |
| 7 | D | 554 | U |
| 7 | D | 556 | G |
| 7 | D | 559 | G |
| 7 | D | 560 | C |
| 7 | D | 561 | G |
| 7 | D | 563 | G |
| 7 | D | 568 | U |
| 7 | D | 569 | U |
| 7 | D | 571 | A |
| 7 | D | 572 | A |
| 7 | D | 573 | G |
| 7 | D | 575 | A |
| 7 | D | 583 | G |
| 7 | D | 586 | A |
| 7 | D | 588 | U |
| 7 | D | 599 | G |
| 7 | D | 600 | G |
| 7 | D | 601 | C |
| 7 | D | 603 | A |
| 7 | D | 606 | U |
| 7 | D | 612 | G |
| 7 | D | 613 | U |
| 7 | D | 614 | U |
| 7 | D | 615 | G |
| 7 | D | 616 | A |
| 7 | D | 617 | G |
| 7 | D | 618 | G |
| 7 | D | 619 | G |
| 7 | D | 621 | A |
| 7 | D | 622 | G |
| 7 | D | 625 | G |
| 7 | D | 626 | U |
| 7 | D | 627 | A |
| 7 | D | 631 | A |
| 7 | D | 632 | A |
| 7 | D | 633 | A |
| 7 | D | 634 | C |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 7 | D | 637 | A |
| 7 | D | 640 | C |
| 7 | D | 642 | G |
| 7 | D | 643 | A |
| 7 | D | 644 | A |
| 7 | D | 645 | C |
| 7 | D | 646 | A |
| 7 | D | 647 | G |
| 7 | D | 648 | G |
| 7 | D | 649 | G |
| 7 | D | 650 | C |
| 7 | D | 651 | G |
| 7 | D | 653 | A |
| 7 | D | 654 | A |
| 7 | D | 655 | A |
| 7 | D | 656 | G |
| 7 | D | 660 | G |
| 7 | D | 668 | G |
| 7 | D | 670 | A |
| 7 | D | 677 | A |
| 7 | D | 687 | C |
| 7 | D | 690 | G |
| 7 | D | 697 | C |
| 7 | D | 698 | C |
| 7 | D | 699 | A |
| 7 | D | 704 | G |
| 7 | D | 705 | A |
| 7 | D | 709 | U |
| 7 | D | 714 | U |
| 7 | D | 715 | G |
| 7 | D | 716 | A |
| 7 | D | 717 | G |
| 7 | D | 724 | U |
| 7 | D | 725 | G |
| 7 | D | 726 | G |
| 7 | D | 727 | A |
| 7 | D | 728 | G |
| 7 | D | 729 | G |
| 7 | D | 730 | C |
| 7 | D | 731 | C |
| 7 | D | 736 | C |
| 7 | D | 739 | G |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 7 | D | 740 | U |
| 7 | D | 741 | G |
| 7 | D | 745 | G |
| 7 | D | 746 | A |
| 7 | D | 747 | U |
| 7 | D | 748 | G |
| 7 | D | 752 | A |
| 7 | D | 753 | C |
| 7 | D | 760 | G |
| 7 | D | 762 | U |
| 7 | D | 764 | A |
| 7 | D | 771 | G |
| 7 | D | 774 | A |
| 7 | D | 775 | G |
| 7 | D | 776 | G |
| 7 | D | 777 | A |
| 7 | D | 778 | G |
| 7 | D | 779 | U |
| 7 | D | 781 | A |
| 7 | D | 782 | A |
| 7 | D | 783 | A |
| 7 | D | 784 | A |
| 7 | D | 785 | G |
| 7 | D | 789 | A |
| 7 | D | 790 | C |
| 7 | D | 791 | C |
| 7 | D | 792 | G |
| 7 | D | 793 | A |
| 7 | D | 794 | G |
| 7 | D | 800 | A |
| 7 | D | 801 | G |
| 7 | D | 802 | A |
| 7 | D | 803 | U |
| 7 | D | 804 | A |
| 7 | D | 805 | G |
| 7 | D | 806 | C |
| 7 | D | 811 | U |
| 7 | D | 814 | C |
| 7 | D | 819 | A |
| 7 | D | 825 | C |
| 7 | D | 827 | U |
| 7 | D | 828 | U |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 7 | D | 832 | G |
| 7 | D | 844 | C |
| 7 | D | 846 | C |
| 7 | D | 847 | U |
| 7 | D | 848 | G |
| 7 | D | 857 | C |
| 7 | D | 858 | U |
| 7 | D | 859 | G |
| 7 | D | 860 | U |
| 7 | D | 861 | A |
| 7 | D | 865 | C |
| 7 | D | 866 | A |
| 7 | D | 867 | C |
| 7 | D | 871 | U |
| 7 | D | 876 | C |
| 7 | D | 877 | U |
| 7 | D | 878 | A |
| 7 | D | 880 | G |
| 7 | D | 881 | G |
| 7 | D | 882 | G |
| 7 | D | 883 | G |
| 7 | D | 884 | C |
| 7 | D | 885 | C |
| 7 | D | 886 | C |
| 7 | D | 887 | A |
| 7 | D | 888 | C |
| 7 | D | 889 | C |
| 7 | D | 890 | A |
| 7 | D | 892 | G |
| 7 | D | 894 | C |
| 7 | D | 895 | U |
| 7 | D | 896 | A |
| 7 | D | 898 | C |
| 7 | D | 899 | A |
| 7 | D | 900 | A |
| 7 | D | 901 | A |
| 7 | D | 903 | C |
| 7 | D | 906 | G |
| 7 | D | 907 | U |
| 7 | D | 908 | C |
| 7 | D | 910 | A |
| 7 | D | 918 | A |

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| Mol | Chain | Res | Type |
|-----|-------|--------|------|
| 7 | D | 919 | G |
| 7 | D | 921 | G |
| 7 | D | 923 | C |
| 7 | D | 925 | C |
| 7 | D | 926 | A |
| 7 | D | 928 | G |
| 7 | D | 929 | G |
| 7 | D | 930 | U |
| 7 | D | 931 | G |
| 7 | D | 932 | G |
| 7 | D | 933 | A |
| 7 | D | 941 | A |
| 7 | D | 943 | U |
| 7 | D | 944 | G |
| 7 | D | 945 | A |
| 7 | D | 946 | G |
| 7 | D | 951 | C |
| 7 | D | 952 | G |
| 7 | D | 953 | A |
| 7 | D | 958 | U |
| 7 | D | 959 | A |
| 7 | D | 961 | C |
| 7 | D | 966 | G |
| 7 | D | 968 | G |
| 7 | D | 969 | U |
| 7 | D | 972 | G |
| 7 | D | 973 | A |
| 7 | D | 974 | G |
| 7 | D | 974(A) | C |
| 7 | D | 980 | A |
| 7 | D | 983 | A |
| 7 | D | 990 | A |
| 7 | D | 991 | C |
| 7 | D | 994 | C |
| 7 | D | 995 | C |
| 7 | D | 996 | A |
| 7 | D | 997 | G |
| 7 | D | 1001 | A |
| 7 | D | 1005 | C |
| 7 | D | 1008 | C |
| 7 | D | 1009 | A |
| 7 | D | 1010 | A |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 7 | D | 1011 | G |
| 7 | D | 1012 | U |
| 7 | D | 1013 | C |
| 7 | D | 1015 | G |
| 7 | D | 1020 | A |
| 7 | D | 1021 | A |
| 7 | D | 1022 | G |
| 7 | D | 1023 | U |
| 7 | D | 1024 | G |
| 7 | D | 1025 | G |
| 7 | D | 1026 | U |
| 7 | D | 1027 | A |
| 7 | D | 1030 | G |
| 7 | D | 1031 | G |
| 7 | D | 1032 | A |
| 7 | D | 1033 | U |
| 7 | D | 1034 | G |
| 7 | D | 1041 | C |
| 7 | D | 1042 | G |
| 7 | D | 1044 | G |
| 7 | D | 1045 | A |
| 7 | D | 1046 | A |
| 7 | D | 1047 | G |
| 7 | D | 1048 | A |
| 7 | D | 1052 | C |
| 7 | D | 1053 | C |
| 7 | D | 1058 | G |
| 7 | D | 1059 | G |
| 7 | D | 1060 | U |
| 7 | D | 1061 | U |
| 7 | D | 1062 | G |
| 7 | D | 1063 | G |
| 7 | D | 1064 | C |
| 7 | D | 1065 | U |
| 7 | D | 1066 | U |
| 7 | D | 1068 | G |
| 7 | D | 1069 | A |
| 7 | D | 1070 | A |
| 7 | D | 1071 | G |
| 7 | D | 1072 | C |
| 7 | D | 1073 | A |
| 7 | D | 1074 | G |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 7 | D | 1075 | C |
| 7 | D | 1076 | C |
| 7 | D | 1077 | A |
| 7 | D | 1078 | U |
| 7 | D | 1079 | C |
| 7 | D | 1080 | C |
| 7 | D | 1081 | U |
| 7 | D | 1082 | U |
| 7 | D | 1083 | U |
| 7 | D | 1084 | A |
| 7 | D | 1085 | A |
| 7 | D | 1086 | A |
| 7 | D | 1087 | G |
| 7 | D | 1088 | A |
| 7 | D | 1089 | G |
| 7 | D | 1090 | U |
| 7 | D | 1093 | G |
| 7 | D | 1094 | U |
| 7 | D | 1095 | A |
| 7 | D | 1096 | A |
| 7 | D | 1100 | C |
| 7 | D | 1101 | U |
| 7 | D | 1102 | C |
| 7 | D | 1104 | C |
| 7 | D | 1105 | U |
| 7 | D | 1106 | G |
| 7 | D | 1107 | G |
| 7 | D | 1108 | U |
| 7 | D | 1109 | C |
| 7 | D | 1110 | G |
| 7 | D | 1111 | A |
| 7 | D | 1112 | G |
| 7 | D | 1115 | G |
| 7 | D | 1126 | A |
| 7 | D | 1128 | A |
| 7 | D | 1129 | A |
| 7 | D | 1130 | U |
| 7 | D | 1132 | A |
| 7 | D | 1134 | G |
| 7 | D | 1135 | C |
| 7 | D | 1136 | G |
| 7 | D | 1138 | G |

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| Mol | Chain | Res | Type |
|-----|-------|---------|------|
| 7 | D | 1140 | C |
| 7 | D | 1141 | U |
| 7 | D | 1142(A) | A |
| 7 | D | 1143 | A |
| 7 | D | 1155 | A |
| 7 | D | 1156 | A |
| 7 | D | 1157 | G |
| 7 | D | 1168 | G |
| 7 | D | 1169 | G |
| 7 | D | 1170 | G |
| 7 | D | 1171 | G |
| 7 | D | 1173 | G |
| 7 | D | 1174 | A |
| 7 | D | 1175 | U |
| 7 | D | 1177 | A |
| 7 | D | 1180 | C |
| 7 | D | 1182 | A |
| 7 | D | 1184 | G |
| 7 | D | 1186 | G |
| 7 | D | 1187 | G |
| 7 | D | 1188 | U |
| 7 | D | 1190 | G |
| 7 | D | 1194 | A |
| 7 | D | 1200 | C |
| 7 | D | 1203 | G |
| 7 | D | 1204 | A |
| 7 | D | 1205 | U |
| 7 | D | 1206 | G |
| 7 | D | 1211 | U |
| 7 | D | 1212 | G |
| 7 | D | 1214 | A |
| 7 | D | 1220 | A |
| 7 | D | 1221 | C |
| 7 | D | 1222 | C |
| 7 | D | 1229 | G |
| 7 | D | 1234 | U |
| 7 | D | 1237 | A |
| 7 | D | 1238 | G |
| 7 | D | 1240 | U |
| 7 | D | 1241 | A |
| 7 | D | 1242 | A |
| 7 | D | 1243 | G |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 7 | D | 1244 | G |
| 7 | D | 1247 | A |
| 7 | D | 1248 | G |
| 7 | D | 1251 | C |
| 7 | D | 1252 | G |
| 7 | D | 1253 | A |
| 7 | D | 1254 | A |
| 7 | D | 1255 | U |
| 7 | D | 1256 | G |
| 7 | D | 1264 | G |
| 7 | D | 1265 | A |
| 7 | D | 1266 | G |
| 7 | D | 1267 | U |
| 7 | D | 1268 | A |
| 7 | D | 1271 | G |
| 7 | D | 1272 | A |
| 7 | D | 1273 | U |
| 7 | D | 1274 | A |
| 7 | D | 1275 | A |
| 7 | D | 1284 | A |
| 7 | D | 1285 | G |
| 7 | D | 1286 | A |
| 7 | D | 1288 | U |
| 7 | D | 1289 | C |
| 7 | D | 1291 | C |
| 7 | D | 1295 | C |
| 7 | D | 1300 | U |
| 7 | D | 1301 | A |
| 7 | D | 1302 | A |
| 7 | D | 1311 | G |
| 7 | D | 1312 | U |
| 7 | D | 1319 | G |
| 7 | D | 1320 | C |
| 7 | D | 1321 | A |
| 7 | D | 1324 | G |
| 7 | D | 1325 | G |
| 7 | D | 1326 | U |
| 7 | D | 1329 | U |
| 7 | D | 1330 | C |
| 7 | D | 1332 | G |
| 7 | D | 1333 | C |
| 7 | D | 1340 | U |

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| Mol | Chain | Res | Type |
|-----|-------|---------|------|
| 7 | D | 1341 | U |
| 7 | D | 1342 | A |
| 7 | D | 1343 | G |
| 7 | D | 1344 | G |
| 7 | D | 1345 | C |
| 7 | D | 1352 | U |
| 7 | D | 1353 | A |
| 7 | D | 1355 | G |
| 7 | D | 1363 | C |
| 7 | D | 1364 | G |
| 7 | D | 1365 | A |
| 7 | D | 1366 | A |
| 7 | D | 1380 | G |
| 7 | D | 1384 | A |
| 7 | D | 1394 | U |
| 7 | D | 1395 | A |
| 7 | D | 1397 | U |
| 7 | D | 1398 | C |
| 7 | D | 1402 | C |
| 7 | D | 1404 | C |
| 7 | D | 1412 | A |
| 7 | D | 1415 | U |
| 7 | D | 1416 | G |
| 7 | D | 1417 | C |
| 7 | D | 1418 | G |
| 7 | D | 1419 | A |
| 7 | D | 1420 | U |
| 7 | D | 1421 | G |
| 7 | D | 1422 | G |
| 7 | D | 1426 | G |
| 7 | D | 1427 | A |
| 7 | D | 1428 | C |
| 7 | D | 1429 | G |
| 7 | D | 1431 | U |
| 7 | D | 1436 | G |
| 7 | D | 1438 | U |
| 7 | D | 1441 | G |
| 7 | D | 1444(A) | A |
| 7 | D | 1445 | C |
| 7 | D | 1449(A) | G |
| 7 | D | 1451 | C |
| 7 | D | 1453 | A |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 7 | D | 1454 | U |
| 7 | D | 1455 | G |
| 7 | D | 1456 | G |
| 7 | D | 1457 | A |
| 7 | D | 1458 | C |
| 7 | D | 1459 | G |
| 7 | D | 1460 | A |
| 7 | D | 1461 | G |
| 7 | D | 1462 | C |
| 7 | D | 1467 | C |
| 7 | D | 1471 | A |
| 7 | D | 1472 | A |
| 7 | D | 1473 | G |
| 7 | D | 1476 | C |
| 7 | D | 1477 | A |
| 7 | D | 1478 | G |
| 7 | D | 1479 | G |
| 7 | D | 1480 | G |
| 7 | D | 1482 | U |
| 7 | D | 1484 | G |
| 7 | D | 1485 | G |
| 7 | D | 1486 | A |
| 7 | D | 1490 | A |
| 7 | D | 1491 | G |
| 7 | D | 1492 | G |
| 7 | D | 1493 | C |
| 7 | D | 1494 | A |
| 7 | D | 1495 | A |
| 7 | D | 1496 | A |
| 7 | D | 1497 | U |
| 7 | D | 1498 | C |
| 7 | D | 1499 | C |
| 7 | D | 1504 | C |
| 7 | D | 1505 | C |
| 7 | D | 1507 | A |
| 7 | D | 1508 | A |
| 7 | D | 1510 | A |
| 7 | D | 1511 | A |
| 7 | D | 1512 | G |
| 7 | D | 1513 | C |
| 7 | D | 1514 | U |
| 7 | D | 1515 | C |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 7 | D | 1516 | U |
| 7 | D | 1517 | G |
| 7 | D | 1519 | G |
| 7 | D | 1521 | G |
| 7 | D | 1522 | G |
| 7 | D | 1523 | U |
| 7 | D | 1527 | G |
| 7 | D | 1529 | A |
| 7 | D | 1536 | A |
| 7 | D | 1538 | G |
| 7 | D | 1542 | G |
| 7 | D | 1544 | C |
| 7 | D | 1552 | G |
| 7 | D | 1554 | A |
| 7 | D | 1555 | G |
| 7 | D | 1558 | A |
| 7 | D | 1559 | G |
| 7 | D | 1560 | G |
| 7 | D | 1564 | C |
| 7 | D | 1565 | C |
| 7 | D | 1566 | A |
| 7 | D | 1568 | G |
| 7 | D | 1569 | A |
| 7 | D | 1570 | A |
| 7 | D | 1571 | A |
| 7 | D | 1572 | A |
| 7 | D | 1573 | G |
| 7 | D | 1577 | C |
| 7 | D | 1579 | A |
| 7 | D | 1580 | A |
| 7 | D | 1581 | G |
| 7 | D | 1583 | A |
| 7 | D | 1585 | C |
| 7 | D | 1586 | A |
| 7 | D | 1587 | A |
| 7 | D | 1588 | C |
| 7 | D | 1589 | C |
| 7 | D | 1590 | U |
| 7 | D | 1592 | C |
| 7 | D | 1594 | G |
| 7 | D | 1597 | A |
| 7 | D | 1602 | U |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 7 | D | 1603 | A |
| 7 | D | 1604 | C |
| 7 | D | 1607 | C |
| 7 | D | 1608 | A |
| 7 | D | 1609 | A |
| 7 | D | 1610 | A |
| 7 | D | 1614 | A |
| 7 | D | 1615 | C |
| 7 | D | 1616 | A |
| 7 | D | 1617 | C |
| 7 | D | 1618 | A |
| 7 | D | 1619 | G |
| 7 | D | 1622 | G |
| 7 | D | 1626 | G |
| 7 | D | 1627 | G |
| 7 | D | 1628 | G |
| 7 | D | 1635 | G |
| 7 | D | 1641 | A |
| 7 | D | 1647 | G |
| 7 | D | 1648 | C |
| 7 | D | 1649 | G |
| 7 | D | 1652 | A |
| 7 | D | 1653 | G |
| 7 | D | 1654 | A |
| 7 | D | 1664 | A |
| 7 | D | 1667 | G |
| 7 | D | 1668 | A |
| 7 | D | 1669 | A |
| 7 | D | 1672 | C |
| 7 | D | 1673 | U |
| 7 | D | 1674 | G |
| 7 | D | 1675 | C |
| 7 | D | 1677 | A |
| 7 | D | 1678 | G |
| 7 | D | 1680 | U |
| 7 | D | 1682 | G |
| 7 | D | 1683 | C |
| 7 | D | 1689 | A |
| 7 | D | 1691 | C |
| 7 | D | 1694 | C |
| 7 | D | 1695 | G |
| 7 | D | 1696 | G |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 7 | D | 1698 | A |
| 7 | D | 1699 | G |
| 7 | D | 1700 | A |
| 7 | D | 1702 | G |
| 7 | D | 1703 | G |
| 7 | D | 1705 | G |
| 7 | D | 1706 | U |
| 7 | D | 1707 | G |
| 7 | D | 1708 | C |
| 7 | D | 1709 | U |
| 7 | D | 1716 | U |
| 7 | D | 1718 | G |
| 7 | D | 1727 | U |
| 7 | D | 1728 | G |
| 7 | D | 1730 | U |
| 7 | D | 1731 | G |
| 7 | D | 1732 | A |
| 7 | D | 1733 | G |
| 7 | D | 1734 | C |
| 7 | D | 1741 | C |
| 7 | D | 1742 | C |
| 7 | D | 1743 | G |
| 7 | D | 1748 | G |
| 7 | D | 1749 | A |
| 7 | D | 1750 | G |
| 7 | D | 1751 | C |
| 7 | D | 1752 | C |
| 7 | D | 1753 | G |
| 7 | D | 1758 | G |
| 7 | D | 1761 | C |
| 7 | D | 1762 | A |
| 7 | D | 1763 | G |
| 7 | D | 1764 | G |
| 7 | D | 1773 | A |
| 7 | D | 1776 | G |
| 7 | D | 1779 | U |
| 7 | D | 1780 | A |
| 7 | D | 1781 | C |
| 7 | D | 1782 | C |
| 7 | D | 1784 | A |
| 7 | D | 1785 | A |
| 7 | D | 1787 | A |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 7 | D | 1789 | A |
| 7 | D | 1790 | C |
| 7 | D | 1791 | A |
| 7 | D | 1799 | G |
| 7 | D | 1800 | C |
| 7 | D | 1802 | A |
| 7 | D | 1804 | C |
| 7 | D | 1809 | A |
| 7 | D | 1810 | A |
| 7 | D | 1811 | G |
| 7 | D | 1814 | G |
| 7 | D | 1815 | A |
| 7 | D | 1816 | G |
| 7 | D | 1817 | G |
| 7 | D | 1820 | U |
| 7 | D | 1821 | A |
| 7 | D | 1827 | C |
| 7 | D | 1828 | G |
| 7 | D | 1831 | G |
| 7 | D | 1833 | U |
| 7 | D | 1834 | U |
| 7 | D | 1838 | C |
| 7 | D | 1839 | G |
| 7 | D | 1847 | A |
| 7 | D | 1848 | A |
| 7 | D | 1858 | G |
| 7 | D | 1860 | G |
| 7 | D | 1861 | G |
| 7 | D | 1862 | G |
| 7 | D | 1871 | A |
| 7 | D | 1872 | A |
| 7 | D | 1878 | G |
| 7 | D | 1879 | C |
| 7 | D | 1880 | C |
| 7 | D | 1881 | C |
| 7 | D | 1882 | C |
| 7 | D | 1883 | G |
| 7 | D | 1884 | A |
| 7 | D | 1885 | A |
| 7 | D | 1889 | A |
| 7 | D | 1899 | G |
| 7 | D | 1900 | A |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 7 | D | 1901 | A |
| 7 | D | 1906 | G |
| 7 | D | 1909 | C |
| 7 | D | 1912 | A |
| 7 | D | 1913 | A |
| 7 | D | 1914 | C |
| 7 | D | 1915 | U |
| 7 | D | 1917 | U |
| 7 | D | 1918 | A |
| 7 | D | 1919 | A |
| 7 | D | 1920 | C |
| 7 | D | 1921 | G |
| 7 | D | 1922 | G |
| 7 | D | 1923 | U |
| 7 | D | 1928 | A |
| 7 | D | 1929 | G |
| 7 | D | 1930 | G |
| 7 | D | 1931 | U |
| 7 | D | 1934 | C |
| 7 | D | 1937 | A |
| 7 | D | 1938 | A |
| 7 | D | 1939 | U |
| 7 | D | 1940 | U |
| 7 | D | 1944 | U |
| 7 | D | 1945 | G |
| 7 | D | 1946 | U |
| 7 | D | 1947 | C |
| 7 | D | 1955 | U |
| 7 | D | 1956 | U |
| 7 | D | 1964 | G |
| 7 | D | 1966 | A |
| 7 | D | 1967 | C |
| 7 | D | 1968 | G |
| 7 | D | 1970 | A |
| 7 | D | 1971 | A |
| 7 | D | 1972 | A |
| 7 | D | 1975 | G |
| 7 | D | 1982 | C |
| 7 | D | 1986 | A |
| 7 | D | 1988 | C |
| 7 | D | 1990 | C |
| 7 | D | 1991 | U |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 7 | D | 1992 | G |
| 7 | D | 1993 | U |
| 7 | D | 1996 | C |
| 7 | D | 1997 | G |
| 7 | D | 1998 | G |
| 7 | D | 2011 | U |
| 7 | D | 2012 | G |
| 7 | D | 2013 | A |
| 7 | D | 2015 | A |
| 7 | D | 2018 | G |
| 7 | D | 2020 | A |
| 7 | D | 2021 | C |
| 7 | D | 2023 | G |
| 7 | D | 2026 | C |
| 7 | D | 2027 | G |
| 7 | D | 2030 | A |
| 7 | D | 2031 | A |
| 7 | D | 2032 | G |
| 7 | D | 2033 | A |
| 7 | D | 2034 | U |
| 7 | D | 2035 | G |
| 7 | D | 2036 | C |
| 7 | D | 2039 | C |
| 7 | D | 2043 | C |
| 7 | D | 2048 | G |
| 7 | D | 2049 | G |
| 7 | D | 2050 | C |
| 7 | D | 2055 | C |
| 7 | D | 2056 | G |
| 7 | D | 2060 | A |
| 7 | D | 2061 | G |
| 7 | D | 2062 | A |
| 7 | D | 2063 | C |
| 7 | D | 2064 | C |
| 7 | D | 2065 | C |
| 7 | D | 2067 | G |
| 7 | D | 2068 | U |
| 7 | D | 2069 | G |
| 7 | D | 2075 | U |
| 7 | D | 2076 | U |
| 7 | D | 2077 | A |
| 7 | D | 2080 | G |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 7 | D | 2085 | C |
| 7 | D | 2087 | G |
| 7 | D | 2092 | U |
| 7 | D | 2093 | G |
| 7 | D | 2098 | U |
| 7 | D | 2101 | G |
| 7 | D | 2104 | G |
| 7 | D | 2105 | C |
| 7 | D | 2107 | C |
| 7 | D | 2108 | C |
| 7 | D | 2109 | U |
| 7 | D | 2110 | G |
| 7 | D | 2111 | C |
| 7 | D | 2112 | G |
| 7 | D | 2114 | A |
| 7 | D | 2116 | G |
| 7 | D | 2117 | A |
| 7 | D | 2119 | A |
| 7 | D | 2120 | G |
| 7 | D | 2121 | G |
| 7 | D | 2123 | G |
| 7 | D | 2125 | G |
| 7 | D | 2126 | A |
| 7 | D | 2127 | G |
| 7 | D | 2130 | U |
| 7 | D | 2131 | G |
| 7 | D | 2132 | U |
| 7 | D | 2133 | G |
| 7 | D | 2134 | A |
| 7 | D | 2135 | A |
| 7 | D | 2136 | C |
| 7 | D | 2139 | C |
| 7 | D | 2144 | U |
| 7 | D | 2145 | C |
| 7 | D | 2148 | G |
| 7 | D | 2154 | G |
| 7 | D | 2156 | G |
| 7 | D | 2159 | G |
| 7 | D | 2165 | G |
| 7 | D | 2166 | G |
| 7 | D | 2170 | A |
| 7 | D | 2172 | U |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 7 | D | 2173 | A |
| 7 | D | 2174 | C |
| 7 | D | 2175 | C |
| 7 | D | 2177 | C |
| 7 | D | 2181 | G |
| 7 | D | 2183 | C |
| 7 | D | 2186 | G |
| 7 | D | 2187 | G |
| 7 | D | 2188 | C |
| 7 | D | 2190 | G |
| 7 | D | 2195 | C |
| 7 | D | 2196 | C |
| 7 | D | 2197 | U |
| 7 | D | 2198 | A |
| 7 | D | 2205 | C |
| 7 | D | 2208 | U |
| 7 | D | 2209 | C |
| 7 | D | 2210 | G |
| 7 | D | 2212 | A |
| 7 | D | 2213 | U |
| 7 | D | 2215 | G |
| 7 | D | 2216 | G |
| 7 | D | 2217 | G |
| 7 | D | 2224 | G |
| 7 | D | 2225 | A |
| 7 | D | 2234 | G |
| 7 | D | 2235 | G |
| 7 | D | 2236 | C |
| 7 | D | 2238 | G |
| 7 | D | 2239 | G |
| 7 | D | 2240 | C |
| 7 | D | 2241 | A |
| 7 | D | 2248 | C |
| 7 | D | 2249 | U |
| 7 | D | 2250 | G |
| 7 | D | 2251 | G |
| 7 | D | 2252 | G |
| 7 | D | 2259 | G |
| 7 | D | 2262 | U |
| 7 | D | 2266 | A |
| 7 | D | 2267 | A |
| 7 | D | 2268 | A |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 7 | D | 2269 | A |
| 7 | D | 2276 | G |
| 7 | D | 2280 | G |
| 7 | D | 2283 | C |
| 7 | D | 2284 | C |
| 7 | D | 2286 | A |
| 7 | D | 2287 | A |
| 7 | D | 2288 | A |
| 7 | D | 2296 | U |
| 7 | D | 2297 | C |
| 7 | D | 2304 | G |
| 7 | D | 2306 | C |
| 7 | D | 2307 | G |
| 7 | D | 2308 | G |
| 7 | D | 2309 | A |
| 7 | D | 2310 | A |
| 7 | D | 2311 | A |
| 7 | D | 2316 | C |
| 7 | D | 2317 | C |
| 7 | D | 2319 | G |
| 7 | D | 2320 | A |
| 7 | D | 2321 | G |
| 7 | D | 2322 | A |
| 7 | D | 2327 | A |
| 7 | D | 2329 | G |
| 7 | D | 2331 | G |
| 7 | D | 2333 | A |
| 7 | D | 2334 | G |
| 7 | D | 2335 | A |
| 7 | D | 2336 | A |
| 7 | D | 2337 | G |
| 7 | D | 2342 | C |
| 7 | D | 2345 | G |
| 7 | D | 2346 | A |
| 7 | D | 2347 | C |
| 7 | D | 2350 | C |
| 7 | D | 2351 | G |
| 7 | D | 2355 | C |
| 7 | D | 2356 | C |
| 7 | D | 2361 | A |
| 7 | D | 2366 | A |
| 7 | D | 2378 | A |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 7 | D | 2381 | C |
| 7 | D | 2382 | G |
| 7 | D | 2383 | G |
| 7 | D | 2385 | C |
| 7 | D | 2389 | G |
| 7 | D | 2392 | A |
| 7 | D | 2393 | A |
| 7 | D | 2396 | G |
| 7 | D | 2401 | U |
| 7 | D | 2403 | C |
| 7 | D | 2406 | U |
| 7 | D | 2407 | G |
| 7 | D | 2410 | G |
| 7 | D | 2417 | C |
| 7 | D | 2418 | A |
| 7 | D | 2420 | C |
| 7 | D | 2423 | U |
| 7 | D | 2424 | C |
| 7 | D | 2425 | A |
| 7 | D | 2426 | A |
| 7 | D | 2427 | C |
| 7 | D | 2428 | G |
| 7 | D | 2429 | G |
| 7 | D | 2430 | A |
| 7 | D | 2432 | A |
| 7 | D | 2434 | A |
| 7 | D | 2436 | G |
| 7 | D | 2437 | U |
| 7 | D | 2441 | C |
| 7 | D | 2445 | G |
| 7 | D | 2447 | G |
| 7 | D | 2448 | A |
| 7 | D | 2449 | U |
| 7 | D | 2450 | A |
| 7 | D | 2459 | A |
| 7 | D | 2470 | G |
| 7 | D | 2476 | A |
| 7 | D | 2478 | A |
| 7 | D | 2480 | C |
| 7 | D | 2481 | G |
| 7 | D | 2482 | G |
| 7 | D | 2483 | C |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 7 | D | 2489 | G |
| 7 | D | 2490 | G |
| 7 | D | 2491 | U |
| 7 | D | 2492 | U |
| 7 | D | 2494 | G |
| 7 | D | 2498 | C |
| 7 | D | 2501 | C |
| 7 | D | 2502 | G |
| 7 | D | 2503 | A |
| 7 | D | 2504 | U |
| 7 | D | 2505 | G |
| 7 | D | 2506 | U |
| 7 | D | 2510 | C |
| 7 | D | 2512 | C |
| 7 | D | 2513 | G |
| 7 | D | 2518 | A |
| 7 | D | 2519 | U |
| 7 | D | 2520 | C |
| 7 | D | 2523 | G |
| 7 | D | 2529 | G |
| 7 | D | 2535 | G |
| 7 | D | 2538 | C |
| 7 | D | 2541 | A |
| 7 | D | 2542 | A |
| 7 | D | 2543 | G |
| 7 | D | 2546 | U |
| 7 | D | 2547 | U |
| 7 | D | 2553 | G |
| 7 | D | 2554 | U |
| 7 | D | 2555 | U |
| 7 | D | 2558 | C |
| 7 | D | 2560 | C |
| 7 | D | 2564 | A |
| 7 | D | 2566 | A |
| 7 | D | 2567 | G |
| 7 | D | 2569 | G |
| 7 | D | 2570 | G |
| 7 | D | 2572 | A |
| 7 | D | 2573 | C |
| 7 | D | 2574 | G |
| 7 | D | 2576 | G |
| 7 | D | 2577 | A |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 7 | D | 2578 | G |
| 7 | D | 2580 | U |
| 7 | D | 2581 | G |
| 7 | D | 2582 | G |
| 7 | D | 2586 | C |
| 7 | D | 2599 | G |
| 7 | D | 2602 | A |
| 7 | D | 2603 | G |
| 7 | D | 2604 | U |
| 7 | D | 2608 | G |
| 7 | D | 2609 | U |
| 7 | D | 2610 | C |
| 7 | D | 2611 | U |
| 7 | D | 2612 | C |
| 7 | D | 2613 | U |
| 7 | D | 2614 | A |
| 7 | D | 2615 | U |
| 7 | D | 2621 | A |
| 7 | D | 2629 | A |
| 7 | D | 2630 | G |
| 7 | D | 2631 | G |
| 7 | D | 2634 | G |
| 7 | D | 2638 | G |
| 7 | D | 2645 | G |
| 7 | D | 2646 | C |
| 7 | D | 2652 | C |
| 7 | D | 2653 | U |
| 7 | D | 2655 | G |
| 7 | D | 2656 | U |
| 7 | D | 2660 | A |
| 7 | D | 2661 | G |
| 7 | D | 2663 | G |
| 7 | D | 2664 | G |
| 7 | D | 2665 | A |
| 7 | D | 2670 | A |
| 7 | D | 2671 | A |
| 7 | D | 2673 | G |
| 7 | D | 2680 | C |
| 7 | D | 2681 | C |
| 7 | D | 2682 | U |
| 7 | D | 2684 | U |
| 7 | D | 2689 | U |

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| Mol | Chain | Res | Type |
|-----|-------|---------|------|
| 7 | D | 2690 | C |
| 7 | D | 2691 | C |
| 7 | D | 2701 | C |
| 7 | D | 2702 | U |
| 7 | D | 2704 | C |
| 7 | D | 2706 | G |
| 7 | D | 2711 | A |
| 7 | D | 2712 | U |
| 7 | D | 2712(A) | A |
| 7 | D | 2713 | A |
| 7 | D | 2714 | G |
| 7 | D | 2718 | G |
| 7 | D | 2724 | C |
| 7 | D | 2725 | A |
| 7 | D | 2730 | C |
| 7 | D | 2731 | G |
| 7 | D | 2732 | G |
| 7 | D | 2733 | A |
| 7 | D | 2739 | U |
| 7 | D | 2741 | A |
| 7 | D | 2744 | G |
| 7 | D | 2748 | A |
| 7 | D | 2749 | A |
| 7 | D | 2750 | A |
| 7 | D | 2751 | G |
| 7 | D | 2752 | C |
| 7 | D | 2756 | U |
| 7 | D | 2757 | A |
| 7 | D | 2758 | A |
| 7 | D | 2764 | A |
| 7 | D | 2765 | A |
| 7 | D | 2766 | G |
| 7 | D | 2771 | C |
| 7 | D | 2772 | C |
| 7 | D | 2773 | C |
| 7 | D | 2774 | C |
| 7 | D | 2776 | A |
| 7 | D | 2777 | G |
| 7 | D | 2778 | A |
| 7 | D | 2779 | U |
| 7 | D | 2780 | G |
| 7 | D | 2781 | A |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 7 | D | 2782 | G |
| 7 | D | 2783 | G |
| 7 | D | 2787 | C |
| 7 | D | 2789 | C |
| 7 | D | 2790 | A |
| 7 | D | 2791 | C |
| 7 | D | 2792 | G |
| 7 | D | 2794 | C |
| 7 | D | 2797 | U |
| 7 | D | 2798 | C |
| 7 | D | 2799 | A |
| 7 | D | 2801 | A |
| 7 | D | 2802 | G |
| 7 | D | 2804 | C |
| 7 | D | 2805 | G |
| 7 | D | 2807 | G |
| 7 | D | 2808 | U |
| 7 | D | 2809 | A |
| 7 | D | 2810 | A |
| 7 | D | 2811 | G |
| 7 | D | 2818 | G |
| 7 | D | 2820 | A |
| 7 | D | 2823 | A |
| 7 | D | 2824 | C |
| 7 | D | 2826 | A |
| 7 | D | 2832 | U |
| 7 | D | 2833 | G |
| 7 | D | 2834 | G |
| 7 | D | 2836 | U |
| 7 | D | 2837 | G |
| 7 | D | 2845 | G |
| 7 | D | 2847 | U |
| 7 | D | 2849 | U |
| 7 | D | 2850 | A |
| 7 | D | 2851 | A |
| 7 | D | 2858 | C |
| 7 | D | 2866 | U |
| 7 | D | 2867 | G |
| 7 | D | 2868 | A |
| 7 | D | 2872 | G |
| 7 | D | 2874 | C |
| 7 | D | 2879 | C |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 7 | D | 2882 | A |
| 7 | D | 2884 | U |
| 7 | D | 2885 | C |
| 7 | D | 2887 | U |
| 7 | D | 2888 | C |
| 7 | D | 2889 | C |
| 7 | D | 2891 | G |
| 7 | D | 2893 | G |
| 7 | D | 2894 | G |
| 7 | D | 2895 | U |
| 7 | D | 2896 | C |
| 7 | D | 2897 | U |
| 7 | D | 2899 | G |
| 8 | E | 0 | A |
| 8 | E | 1 | U |
| 8 | E | 4 | C |
| 8 | E | 5 | C |
| 8 | E | 7 | G |
| 8 | E | 8 | U |
| 8 | E | 10 | C |
| 8 | E | 12 | C |
| 8 | E | 13 | A |
| 8 | E | 14 | U |
| 8 | E | 15 | A |
| 8 | E | 16 | G |
| 8 | E | 23 | G |
| 8 | E | 24 | G |
| 8 | E | 25 | A |
| 8 | E | 30 | C |
| 8 | E | 31 | C |
| 8 | E | 32 | C |
| 8 | E | 35 | U |
| 8 | E | 41 | U |
| 8 | E | 42 | C |
| 8 | E | 44 | G |
| 8 | E | 45 | A |
| 8 | E | 48 | A |
| 8 | E | 51 | G |
| 8 | E | 52 | A |
| 8 | E | 57 | A |
| 8 | E | 59 | A |
| 8 | E | 62 | C |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 8 | E | 64 | C |
| 8 | E | 65 | C |
| 8 | E | 67 | G |
| 8 | E | 69 | G |
| 8 | E | 73 | A |
| 8 | E | 75 | G |
| 8 | E | 76 | G |
| 8 | E | 85 | G |
| 8 | E | 88 | C |
| 8 | E | 99 | A |
| 8 | E | 103 | U |
| 8 | E | 105 | G |
| 8 | E | 109 | G |
| 8 | E | 111 | U |
| 8 | E | 115 | G |
| 8 | E | 117 | G |
| 8 | E | 118 | G |
| 8 | E | 119 | A |
| 8 | E | 120 | U |

All (314) RNA pucker outliers are listed below:

| Mol | Chain | Res | Type |
|-----|-------|--------|------|
| 5 | 5 | 15 | G |
| 5 | 5 | 58 | A |
| 5 | 5 | 74 | C |
| 6 | A | 5 | U |
| 6 | A | 13 | U |
| 6 | A | 30 | U |
| 6 | A | 48 | C |
| 6 | A | 50 | A |
| 6 | A | 51 | A |
| 6 | A | 60 | A |
| 6 | A | 99 | C |
| 6 | A | 115 | G |
| 6 | A | 119 | A |
| 6 | A | 129(A) | G |
| 6 | A | 130 | A |
| 6 | A | 181 | G |
| 6 | A | 196 | A |
| 6 | A | 208 | U |
| 6 | A | 209 | U |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 6 | A | 210 | U |
| 6 | A | 243 | A |
| 6 | A | 244 | U |
| 6 | A | 250 | A |
| 6 | A | 251 | G |
| 6 | A | 266 | G |
| 6 | A | 279 | A |
| 6 | A | 281 | G |
| 6 | A | 305 | G |
| 6 | A | 308 | C |
| 6 | A | 328 | C |
| 6 | A | 345 | C |
| 6 | A | 366 | C |
| 6 | A | 367 | U |
| 6 | A | 372 | C |
| 6 | A | 388 | G |
| 6 | A | 413 | G |
| 6 | A | 421 | U |
| 6 | A | 428 | G |
| 6 | A | 429 | U |
| 6 | A | 465 | A |
| 6 | A | 481 | G |
| 6 | A | 484 | G |
| 6 | A | 495 | A |
| 6 | A | 498 | A |
| 6 | A | 518 | C |
| 6 | A | 526 | C |
| 6 | A | 547 | A |
| 6 | A | 559 | A |
| 6 | A | 560 | U |
| 6 | A | 566 | G |
| 6 | A | 575 | G |
| 6 | A | 595 | G |
| 6 | A | 653 | A |
| 6 | A | 686 | U |
| 6 | A | 687 | A |
| 6 | A | 701 | C |
| 6 | A | 703 | G |
| 6 | A | 717 | C |
| 6 | A | 748 | C |
| 6 | A | 781 | A |
| 6 | A | 812 | C |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 6 | A | 838 | G |
| 6 | A | 872 | A |
| 6 | A | 934 | C |
| 6 | A | 960 | U |
| 6 | A | 975 | A |
| 6 | A | 979 | C |
| 6 | A | 982 | U |
| 6 | A | 992 | U |
| 6 | A | 993 | G |
| 6 | A | 1004 | A |
| 6 | A | 1049 | U |
| 6 | A | 1053 | G |
| 6 | A | 1054 | C |
| 6 | A | 1064 | G |
| 6 | A | 1065 | U |
| 6 | A | 1101 | A |
| 6 | A | 1125 | U |
| 6 | A | 1129 | C |
| 6 | A | 1145 | C |
| 6 | A | 1182 | G |
| 6 | A | 1183 | A |
| 6 | A | 1190 | G |
| 6 | A | 1196 | U |
| 6 | A | 1201 | A |
| 6 | A | 1214 | C |
| 6 | A | 1239 | A |
| 6 | A | 1285 | A |
| 6 | A | 1300 | G |
| 6 | A | 1319 | A |
| 6 | A | 1320 | C |
| 6 | A | 1346 | A |
| 6 | A | 1347 | G |
| 6 | A | 1363 | A |
| 6 | A | 1394 | A |
| 6 | A | 1396 | A |
| 6 | A | 1399 | C |
| 6 | A | 1400 | C |
| 6 | A | 1443 | G |
| 6 | A | 1446 | A |
| 6 | A | 1449 | C |
| 6 | A | 1452 | C |
| 6 | A | 1498 | U |

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| Mol | Chain | Res | Type |
|-----|-------|--------|------|
| 6 | A | 1504 | G |
| 6 | A | 1531 | A |
| 7 | D | 13 | A |
| 7 | D | 67 | U |
| 7 | D | 71 | A |
| 7 | D | 72 | U |
| 7 | D | 83 | G |
| 7 | D | 90 | U |
| 7 | D | 119 | A |
| 7 | D | 120 | U |
| 7 | D | 155 | C |
| 7 | D | 190 | A |
| 7 | D | 205 | G |
| 7 | D | 215 | G |
| 7 | D | 221 | A |
| 7 | D | 227 | A |
| 7 | D | 241 | A |
| 7 | D | 247 | G |
| 7 | D | 270(A) | A |
| 7 | D | 279 | C |
| 7 | D | 280 | C |
| 7 | D | 311 | A |
| 7 | D | 322 | A |
| 7 | D | 323 | G |
| 7 | D | 334 | C |
| 7 | D | 337 | C |
| 7 | D | 339 | U |
| 7 | D | 350 | U |
| 7 | D | 366 | C |
| 7 | D | 373 | U |
| 7 | D | 390 | A |
| 7 | D | 421 | U |
| 7 | D | 446 | G |
| 7 | D | 447 | A |
| 7 | D | 448 | U |
| 7 | D | 455 | C |
| 7 | D | 458 | G |
| 7 | D | 470 | A |
| 7 | D | 474 | G |
| 7 | D | 481 | G |
| 7 | D | 489 | G |
| 7 | D | 503 | A |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 7 | D | 506 | G |
| 7 | D | 507 | A |
| 7 | D | 512 | G |
| 7 | D | 526 | A |
| 7 | D | 529 | A |
| 7 | D | 537 | C |
| 7 | D | 559 | G |
| 7 | D | 567 | A |
| 7 | D | 587 | C |
| 7 | D | 602 | G |
| 7 | D | 616 | A |
| 7 | D | 626 | U |
| 7 | D | 643 | A |
| 7 | D | 686 | G |
| 7 | D | 726 | G |
| 7 | D | 728 | G |
| 7 | D | 730 | C |
| 7 | D | 740 | U |
| 7 | D | 747 | U |
| 7 | D | 752 | A |
| 7 | D | 776 | G |
| 7 | D | 784 | A |
| 7 | D | 788 | A |
| 7 | D | 800 | A |
| 7 | D | 805 | G |
| 7 | D | 846 | C |
| 7 | D | 858 | U |
| 7 | D | 860 | U |
| 7 | D | 865 | C |
| 7 | D | 884 | C |
| 7 | D | 899 | A |
| 7 | D | 926 | A |
| 7 | D | 930 | U |
| 7 | D | 944 | G |
| 7 | D | 958 | U |
| 7 | D | 973 | A |
| 7 | D | 989 | G |
| 7 | D | 1060 | U |
| 7 | D | 1062 | G |
| 7 | D | 1105 | U |
| 7 | D | 1134 | G |
| 7 | D | 1183 | G |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 7 | D | 1204 | A |
| 7 | D | 1205 | U |
| 7 | D | 1210 | A |
| 7 | D | 1221 | C |
| 7 | D | 1236 | G |
| 7 | D | 1265 | A |
| 7 | D | 1266 | G |
| 7 | D | 1267 | U |
| 7 | D | 1300 | U |
| 7 | D | 1310 | G |
| 7 | D | 1320 | C |
| 7 | D | 1323 | U |
| 7 | D | 1324 | G |
| 7 | D | 1329 | U |
| 7 | D | 1340 | U |
| 7 | D | 1341 | U |
| 7 | D | 1342 | A |
| 7 | D | 1379 | A |
| 7 | D | 1397 | U |
| 7 | D | 1416 | G |
| 7 | D | 1427 | A |
| 7 | D | 1428 | C |
| 7 | D | 1444 | G |
| 7 | D | 1459 | G |
| 7 | D | 1515 | C |
| 7 | D | 1521 | G |
| 7 | D | 1554 | A |
| 7 | D | 1568 | G |
| 7 | D | 1571 | A |
| 7 | D | 1616 | A |
| 7 | D | 1618 | A |
| 7 | D | 1626 | G |
| 7 | D | 1634 | A |
| 7 | D | 1651 | G |
| 7 | D | 1653 | G |
| 7 | D | 1668 | A |
| 7 | D | 1672 | C |
| 7 | D | 1681 | G |
| 7 | D | 1688 | U |
| 7 | D | 1698 | A |
| 7 | D | 1735 | C |
| 7 | D | 1757 | U |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 7 | D | 1778 | U |
| 7 | D | 1780 | A |
| 7 | D | 1784 | A |
| 7 | D | 1790 | C |
| 7 | D | 1815 | A |
| 7 | D | 1819 | A |
| 7 | D | 1820 | U |
| 7 | D | 1838 | C |
| 7 | D | 1900 | A |
| 7 | D | 1913 | A |
| 7 | D | 1919 | A |
| 7 | D | 1920 | C |
| 7 | D | 1930 | G |
| 7 | D | 1938 | A |
| 7 | D | 1939 | U |
| 7 | D | 1943 | U |
| 7 | D | 1944 | U |
| 7 | D | 1955 | U |
| 7 | D | 1967 | C |
| 7 | D | 1996 | C |
| 7 | D | 2012 | G |
| 7 | D | 2017 | U |
| 7 | D | 2020 | A |
| 7 | D | 2030 | A |
| 7 | D | 2033 | A |
| 7 | D | 2047 | U |
| 7 | D | 2049 | G |
| 7 | D | 2067 | G |
| 7 | D | 2076 | U |
| 7 | D | 2092 | U |
| 7 | D | 2107 | C |
| 7 | D | 2115 | G |
| 7 | D | 2125 | G |
| 7 | D | 2126 | A |
| 7 | D | 2158 | A |
| 7 | D | 2199 | A |
| 7 | D | 2215 | G |
| 7 | D | 2238 | G |
| 7 | D | 2249 | U |
| 7 | D | 2266 | A |
| 7 | D | 2267 | A |
| 7 | D | 2275 | C |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 7 | D | 2287 | A |
| 7 | D | 2288 | A |
| 7 | D | 2308 | G |
| 7 | D | 2319 | G |
| 7 | D | 2334 | G |
| 7 | D | 2336 | A |
| 7 | D | 2344 | U |
| 7 | D | 2377 | A |
| 7 | D | 2391 | G |
| 7 | D | 2402 | C |
| 7 | D | 2425 | A |
| 7 | D | 2426 | A |
| 7 | D | 2427 | C |
| 7 | D | 2436 | G |
| 7 | D | 2447 | G |
| 7 | D | 2449 | U |
| 7 | D | 2458 | G |
| 7 | D | 2481 | G |
| 7 | D | 2497 | A |
| 7 | D | 2500 | U |
| 7 | D | 2519 | U |
| 7 | D | 2572 | A |
| 7 | D | 2585 | U |
| 7 | D | 2610 | C |
| 7 | D | 2614 | A |
| 7 | D | 2664 | G |
| 7 | D | 2689 | U |
| 7 | D | 2690 | C |
| 7 | D | 2705 | A |
| 7 | D | 2732 | G |
| 7 | D | 2749 | A |
| 7 | D | 2756 | U |
| 7 | D | 2777 | G |
| 7 | D | 2779 | U |
| 7 | D | 2848 | G |
| 7 | D | 2849 | U |
| 7 | D | 2867 | G |
| 7 | D | 2873 | A |
| 7 | D | 2893 | G |
| 8 | E | 7 | G |
| 8 | E | 14 | U |
| 8 | E | 34 | U |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 8 | E | 56 | G |

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](#)

1 ligand is modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the chemical component dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

| Mol | Type | Chain | Res | Link | Bond lengths | | | Bond angles | | |
|-----|------|-------|-----|------|--------------|------|-------------|-------------|------|-------------|
| | | | | | Counts | RMSZ | # $ Z > 2$ | Counts | RMSZ | # $ Z > 2$ |
| 57 | GCP | B | 701 | - | 29,34,34 | 2.51 | 9 (31%) | 31,54,54 | 1.21 | 3 (9%) |

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the chemical component dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

| Mol | Type | Chain | Res | Link | Chirals | Torsions | Rings |
|-----|------|-------|-----|------|---------|------------|---------|
| 57 | GCP | B | 701 | - | - | 0/18/38/38 | 0/3/3/3 |

All (9) bond length outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|-------|--------|-------------|----------|
| 57 | B | 701 | GCP | C4-N9 | -10.27 | 1.34 | 1.47 |
| 57 | B | 701 | GCP | C8-N9 | -3.77 | 1.35 | 1.47 |
| 57 | B | 701 | GCP | C5-C6 | -2.44 | 1.48 | 1.53 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|--------|-------|-------------|----------|
| 57 | B | 701 | GCP | C2-N1 | -2.13 | 1.35 | 1.44 |
| 57 | B | 701 | GCP | PB-O2B | 2.09 | 1.61 | 1.56 |
| 57 | B | 701 | GCP | PG-O2G | 2.66 | 1.61 | 1.54 |
| 57 | B | 701 | GCP | PG-O3G | 2.67 | 1.61 | 1.54 |
| 57 | B | 701 | GCP | PB-O3A | 2.75 | 1.61 | 1.58 |
| 57 | B | 701 | GCP | C1'-N9 | 3.57 | 1.48 | 1.42 |

All (3) bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|------|-------------|----------|
| 57 | B | 701 | GCP | C3'-C2'-C1' | 2.41 | 106.27 | 101.44 |
| 57 | B | 701 | GCP | C4-C5-N7 | 2.50 | 106.57 | 102.67 |
| 57 | B | 701 | GCP | C8-N9-C4 | 3.21 | 108.44 | 104.78 |

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

1 monomer is involved in 51 short contacts:

| Mol | Chain | Res | Type | Clashes | Symm-Clashes |
|-----|-------|-----|------|---------|--------------|
| 57 | B | 701 | GCP | 51 | 0 |

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.