# Full wwPDB EM Validation Report ⓘ

Mar 5, 2026 – 02:13 PM UTC

| | | |
|---|---|---|
| PDB ID | : | 4V92 / pdb_00004v92 |
| EMDB ID | : | EMD-2604 |
| Title | : | Kluyveromyces lactis 80S ribosome in complex with CrPV-IRES |
| Authors | : | Fernandez, I.S.; Bai, X.; Scheres, S.H.W.; Ramakrishnan, V. |
| Deposited on | : | 2014-03-21 |
| Resolution | : | 3.70 Å(reported) |
| Based on initial model | : | 3B31 |

This is a Full wwPDB EM Validation Report for a publicly released PDB entry.

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

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

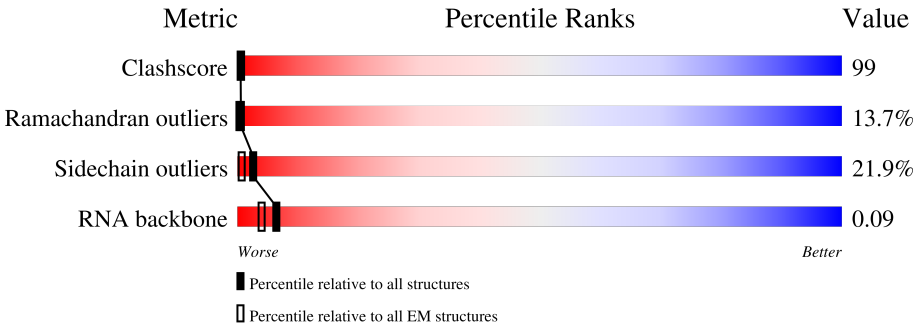
| | | |
|---|---|---|
| EMDB validation analysis | : | 0.0.1.dev132 |
| MolProbity | : | 4-5-2 with Phenix2.0 |
| Percentile statistics | : | 20250101.v01 (using entries in the PDB archive January 1st 2025) |
| EM percentile statistics | : | 202505.v01 (Using data in the EMDB archive up until May 2025) |
| MapQ | : | 1.9.13 |
| Ideal geometry (proteins) | : | Engh & Huber (2001) |
| Ideal geometry (DNA, RNA) | : | Parkinson et al. (1996) |
| Validation Pipeline (wwPDB-VP) | : | 2.49 |

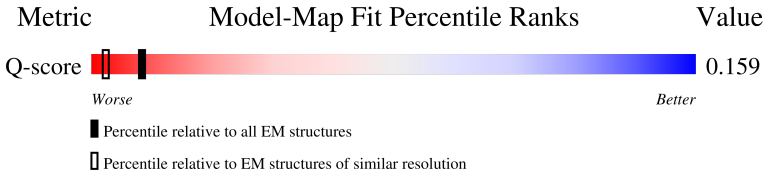
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:
*ELECTRON MICROSCOPY*

The reported resolution of this entry is 3.70 Å.

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




| Metric | Whole archive (#Entries) | EM structures (#Entries) | Similar EM resolution (#Entries, resolution range(Å)) |
|---|---|---|---|
| Clashscore | 229148 | 23984 | - |
| Ramachandran outliers | 224038 | 23583 | - |
| Sidechain outliers | 223484 | 23102 | - |
| RNA backbone | 8273 | 3508 | - |
| Q-score | - | 25397 | 10198 ( 3.30 - 4.30 ) |

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion < 40%). The numeric value is given above the bar.

| Mol | Chain | Length | Quality of chain |
|---|---|---|---|
| 1 | A2 | 1767 | 6% 6% 32% 41% 21% |
| 2 | AZ | 190 | 14% 7% 29% 44% 19% |
| 3 | BA | 206 | 83% 26% 45% 20% 9% |

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| Mol | Chain | Length | Quality of chain |
|---|---|---|---|
| 4 | BB | 213 | 63% 27% 45% 23% 5% |
| 5 | BC | 216 | 68% 26% 58% 12% 5% |
| 6 | BD | 222 | 76% 36% 44% 15% 5% |
| 7 | BE | 260 | 68% 19% 58% 20% |
| 8 | BF | 206 | 60% 35% 45% 15% 5% |
| 9 | BG | 226 | 70% 17% 57% 19% 7% |
| 10 | BH | 184 | 89% 32% 52% 14% |
| 11 | BI | 187 | 73% 24% 42% 28% 6% |
| 12 | BJ | 179 | 73% 24% 55% 17% |
| 13 | BK | 93 | 61% 28% 53% 15% |
| 14 | BL | 142 | 87% 33% 50% 12% 5% |
| 15 | BM | 120 | 88% 43% 43% 10% |
| 16 | BN | 150 | 82% 23% 51% 24% |
| 17 | BO | 127 | 68% 33% 48% 15% |
| 18 | BP | 115 | 60% 25% 57% 13% |
| 19 | BQ | 140 | 39% 29% 44% 22% 6% |
| 20 | BR | 121 | 80% 21% 57% 19% |
| 21 | BS | 140 | 54% 27% 45% 21% 7% |
| 22 | BT | 142 | 53% 25% 53% 18% |
| 23 | BU | 104 | 68% 26% 51% 19% |
| 24 | BV | 87 | 69% 38% 48% 7% 7% |
| 25 | BW | 129 | 54% 18% 63% 17% |
| 26 | BX | 142 | 58% 14% 68% 15% |
| 27 | BY | 134 | 60% 13% 66% 18% |
| 28 | BZ | 64 | 64% 30% 42% 23% 5% |

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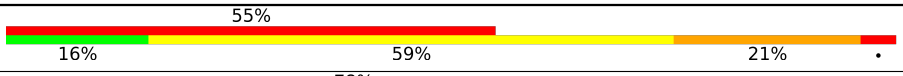
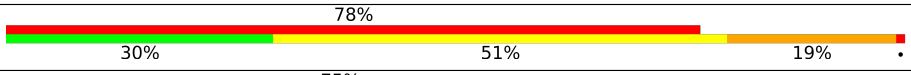
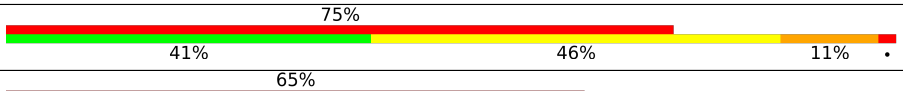
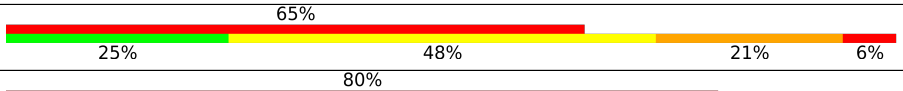
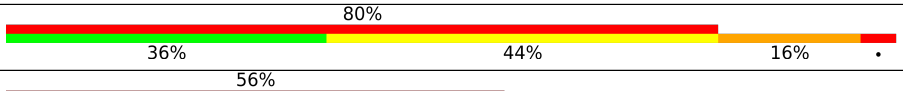
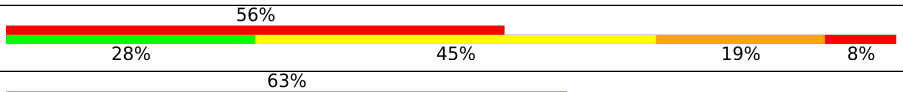
| Mol | Chain | Length | Quality of chain |
|---|---|---|---|
| 29 | Ba | 97 |   |
| 30 | Bb | 81 |   |
| 31 | Bc | 63 |   |
| 32 | Bd | 52 |   |
| 33 | Be | 55 |   |
| 34 | Bf | 64 |   |
| 35 | Bg | 315 | |

# 2 Entry composition

There are 35 unique types of molecules in this entry. The entry contains 79002 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 RNA chain called 18S RRNA.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | P | | |
| 1 | A2 | 1764 | 37579 | 16801 | 6644 | 12370 | 1764 | 0 | 0 |

- Molecule 2 is a RNA chain called RNA OF CRICKET-PARALYSIS-VIRUS-IRES.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | P | | |
| 2 | AZ | 190 | 4018 | 1801 | 685 | 1342 | 190 | 0 | 0 |

- Molecule 3 is a protein called US2.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | S | | |
| 3 | BA | 206 | 1577 | 1014 | 278 | 283 | 2 | 0 | 0 |

- Molecule 4 is a protein called ES1.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | S | | |
| 4 | BB | 213 | 1686 | 1070 | 302 | 310 | 4 | 0 | 0 |

- Molecule 5 is a protein called US5.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | S | | |
| 5 | BC | 216 | 1626 | 1042 | 287 | 295 | 2 | 0 | 0 |

- Molecule 6 is a protein called US3.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | S | | |
| 6 | BD | 222 | 1729 | 1098 | 312 | 313 | 6 | 0 | 0 |

- Molecule 7 is a protein called ES4.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 7 | BE | 260 | Total | C | N | O | S | 0 | 0 |
| | | | 2068 | 1316 | 389 | 360 | 3 | | |

- Molecule 8 is a protein called US7.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 8 | BF | 206 | Total | C | N | O | S | 0 | 0 |
| | | | 1603 | 1004 | 297 | 299 | 3 | | |

- Molecule 9 is a protein called ES6.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 9 | BG | 226 | Total | C | N | O | S | 0 | 0 |
| | | | 1790 | 1123 | 343 | 321 | 3 | | |

- Molecule 10 is a protein called ES7.

| Mol | Chain | Residues | Atoms | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|
| 10 | BH | 184 | Total | C | N | O | 0 | 0 |
| | | | 1481 | 951 | 265 | 265 | | |

- Molecule 11 is a protein called ES8.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 11 | BI | 187 | Total | C | N | O | S | 0 | 0 |
| | | | 1480 | 919 | 296 | 263 | 2 | | |

- Molecule 12 is a protein called US4.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 12 | BJ | 179 | Total | C | N | O | S | 0 | 0 |
| | | | 1452 | 919 | 282 | 250 | 1 | | |

- Molecule 13 is a protein called ES10.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 13 | BK | 93 | Total | C | N | O | S | 0 | 0 |
| | | | 765 | 496 | 123 | 144 | 2 | | |

- Molecule 14 is a protein called US17.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 14 | BL | 142 | Total | C | N | O | S | 0 | 0 |
| | | | 1146 | 735 | 217 | 191 | 3 | | |

- Molecule 15 is a protein called ES12.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 15 | BM | 120 | Total | C | N | O | S | 0 | 0 |
| | | | 870 | 548 | 152 | 168 | 2 | | |

- Molecule 16 is a protein called US15.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 16 | BN | 150 | Total | C | N | O | S | 0 | 0 |
| | | | 1192 | 759 | 224 | 207 | 2 | | |

- Molecule 17 is a protein called US11.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 17 | BO | 127 | Total | C | N | O | S | 0 | 0 |
| | | | 905 | 555 | 183 | 165 | 2 | | |

- Molecule 18 is a protein called US19.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 18 | BP | 115 | Total | C | N | O | S | 0 | 0 |
| | | | 914 | 585 | 165 | 157 | 7 | | |

- Molecule 19 is a protein called US9.

| Mol | Chain | Residues | Atoms | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|
| 19 | BQ | 140 | Total | C | N | O | 0 | 0 |
| | | | 1082 | 696 | 193 | 193 | | |

- Molecule 20 is a protein called ES17.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 20 | BR | 121 | Total | C | N | O | S | 0 | 0 |
| | | | 934 | 583 | 179 | 170 | 2 | | |

- Molecule 21 is a protein called US13.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 21 | BS | 140 | Total | C | N | O | S | 0 | 0 |
| | | | 1150 | 720 | 223 | 205 | 2 | | |

- Molecule 22 is a protein called ES19.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 22 | BT | 142 | Total | C | N | O | S | 0 | 0 |
| | | | 1105 | 689 | 207 | 207 | 2 | | |

- Molecule 23 is a protein called US10.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 23 | BU | 104 | Total | C | N | O | S | 0 | 0 |
| | | | 829 | 525 | 150 | 153 | 1 | | |

- Molecule 24 is a protein called ES21.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 24 | BV | 87 | Total | C | N | O | S | 0 | 0 |
| | | | 684 | 420 | 125 | 137 | 2 | | |

- Molecule 25 is a protein called US8.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 25 | BW | 129 | Total | C | N | O | S | 0 | 0 |
| | | | 1021 | 650 | 188 | 180 | 3 | | |

- Molecule 26 is a protein called US12.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 26 | BX | 142 | Total | C | N | O | S | 0 | 0 |
| | | | 1101 | 698 | 215 | 186 | 2 | | |

- Molecule 27 is a protein called ES24.

| Mol | Chain | Residues | Atoms | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|
| 27 | BY | 134 | Total | C | N | O | 0 | 0 |
| | | | 1073 | 676 | 208 | 189 | | |

- Molecule 28 is a protein called ES25.

| Mol | Chain | Residues | Atoms | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|
| 28 | BZ | 64 | Total<br>518 | C<br>331 | N<br>95 | O<br>92 | 0 | 0 |

- Molecule 29 is a protein called ES26.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 29 | Ba | 97 | Total<br>769 | C<br>475 | N<br>160 | O<br>129 | S<br>5 | 0 | 0 |

- Molecule 30 is a protein called ES27.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 30 | Bb | 81 | Total<br>610 | C<br>382 | N<br>110 | O<br>113 | S<br>5 | 0 | 0 |

- Molecule 31 is a protein called ES28.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 31 | Bc | 63 | Total<br>497 | C<br>306 | N<br>99 | O<br>91 | S<br>1 | 0 | 0 |

- Molecule 32 is a protein called US14.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 32 | Bd | 52 | Total<br>433 | C<br>269 | N<br>91 | O<br>69 | S<br>4 | 0 | 0 |

- Molecule 33 is a protein called ES30.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 33 | Be | 55 | Total<br>440 | C<br>277 | N<br>90 | O<br>72 | S<br>1 | 0 | 0 |

- Molecule 34 is a protein called ES31.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 34 | Bf | 64 | Total<br>458 | C<br>289 | N<br>83 | O<br>82 | S<br>4 | 0 | 0 |

- Molecule 35 is a protein called RACK1.

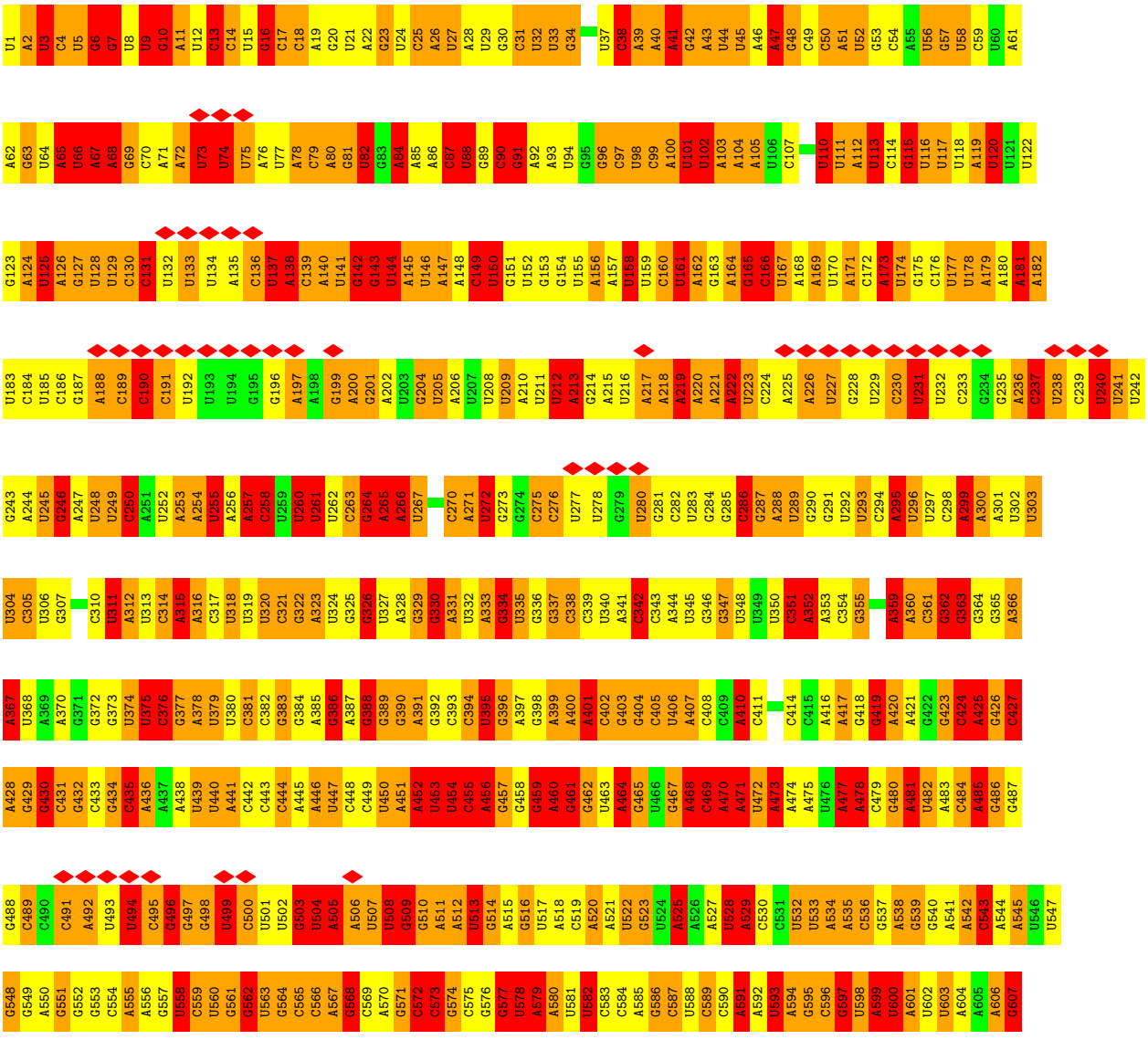
| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 35 | Bg | 315 | Total | C | N | O | S | 0 | 0 |
| | | | 2417 | 1531 | 414 | 464 | 8 | | |

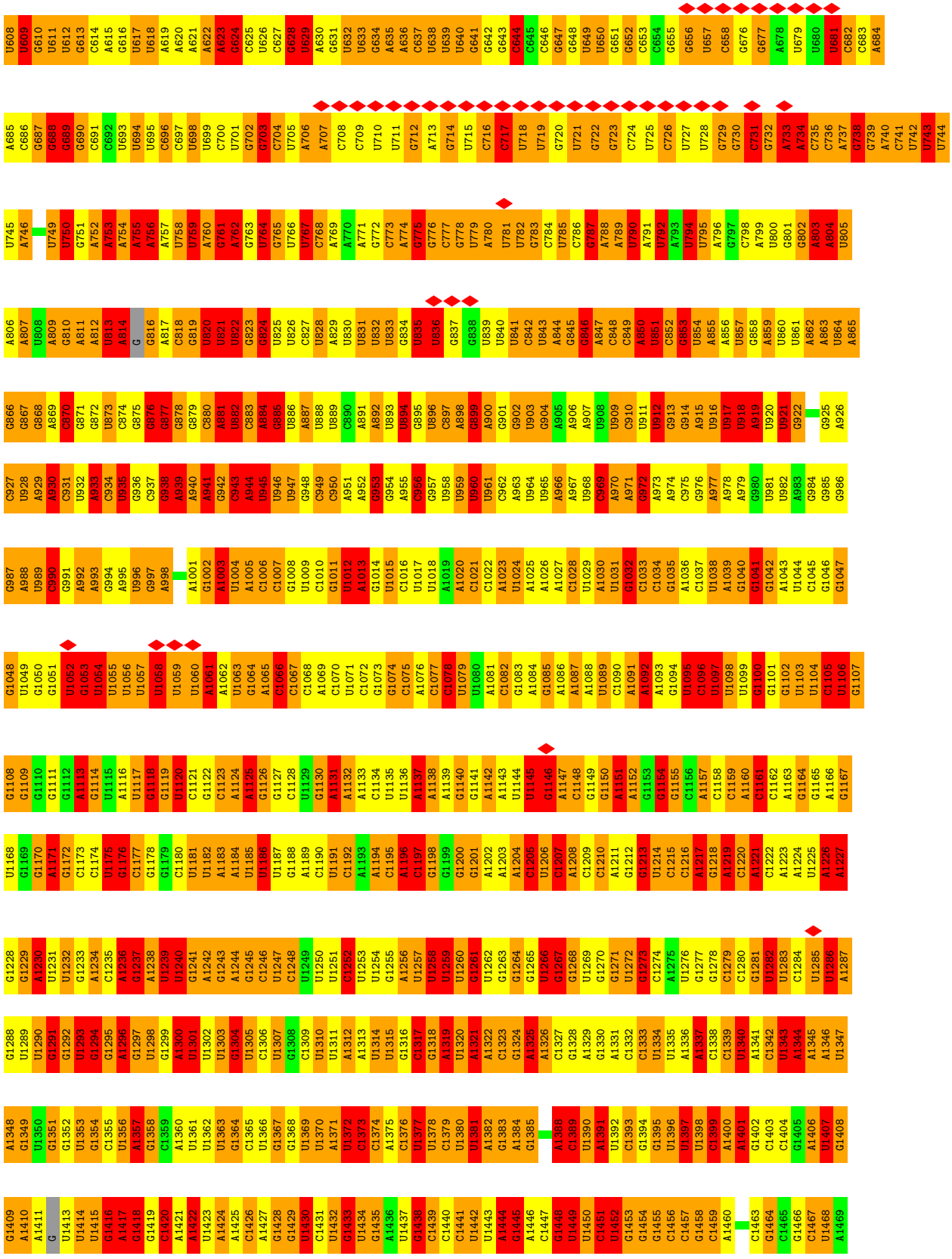
# 3 Residue-property plots (i)

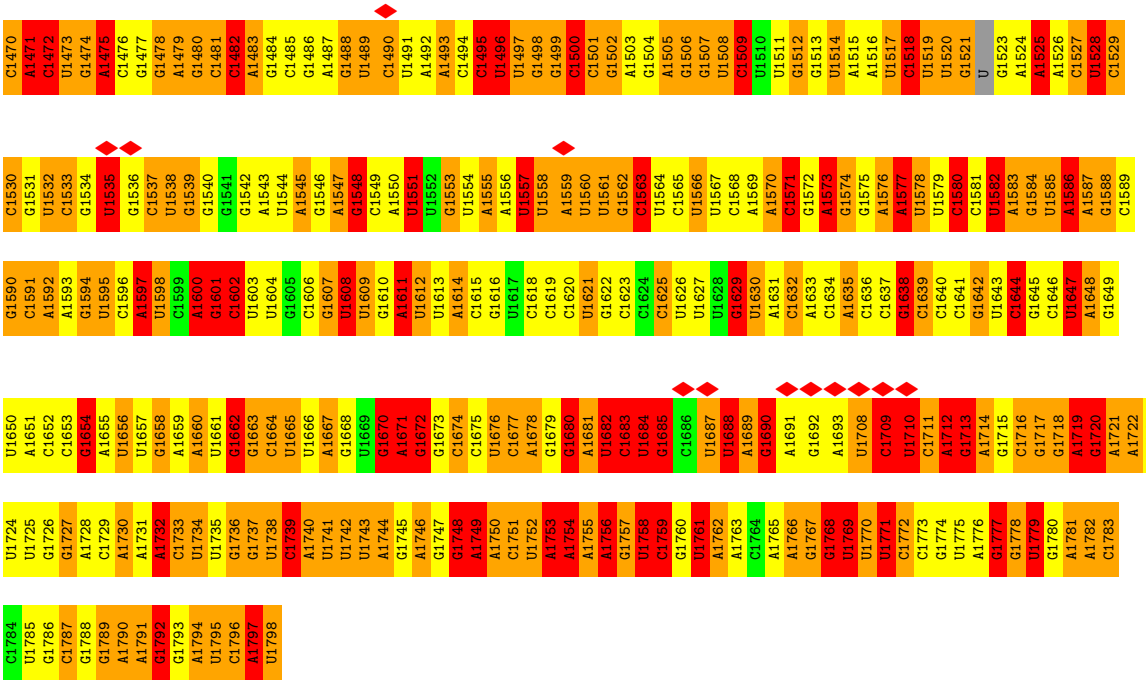
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion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

- Molecule 1: 18S RRNA

Chain A2:

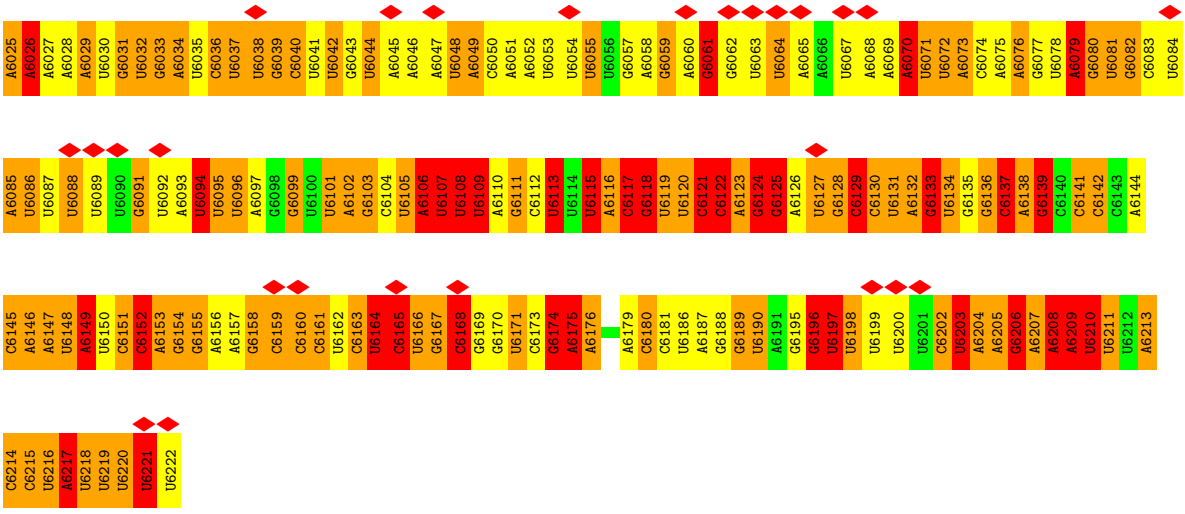






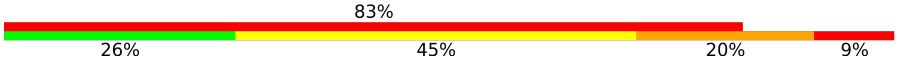
• Molecule 2: RNA OF CRICKET-PARALYSIS-VIRUS-IRES

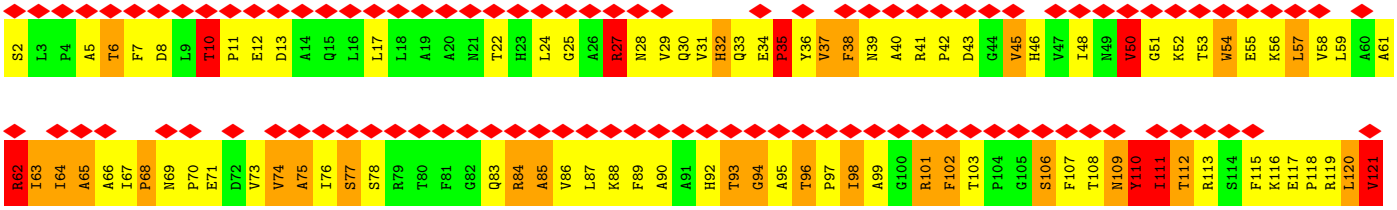
Chain AZ:

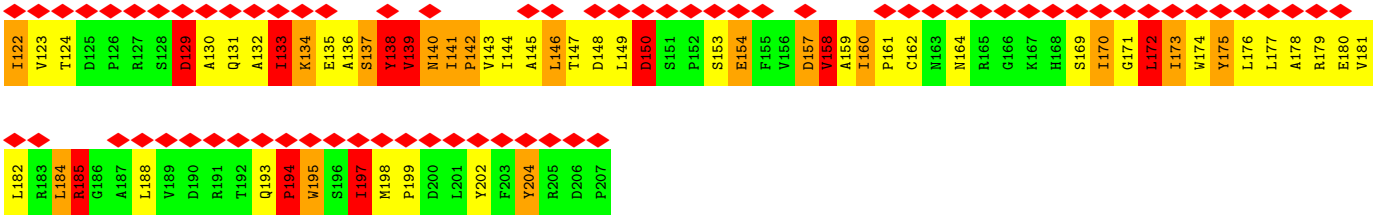


• Molecule 3: US2

Chain BA:

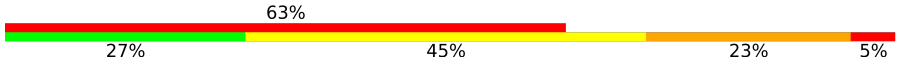


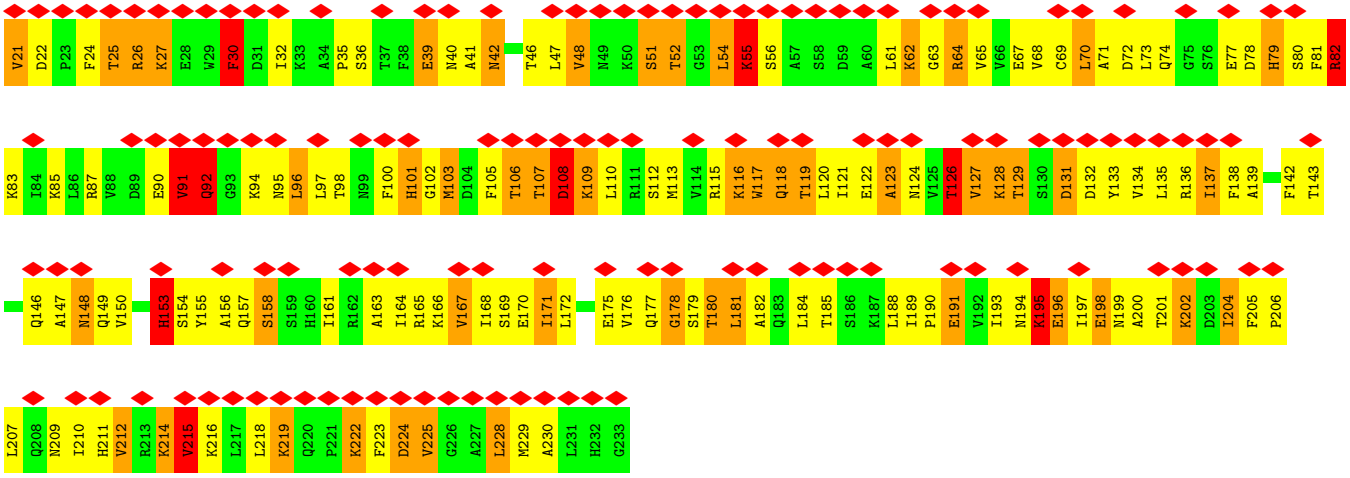






• Molecule 4: ES1

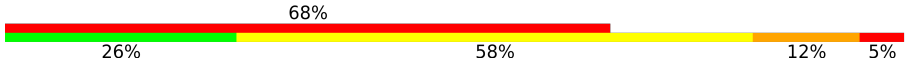
Chain BB:

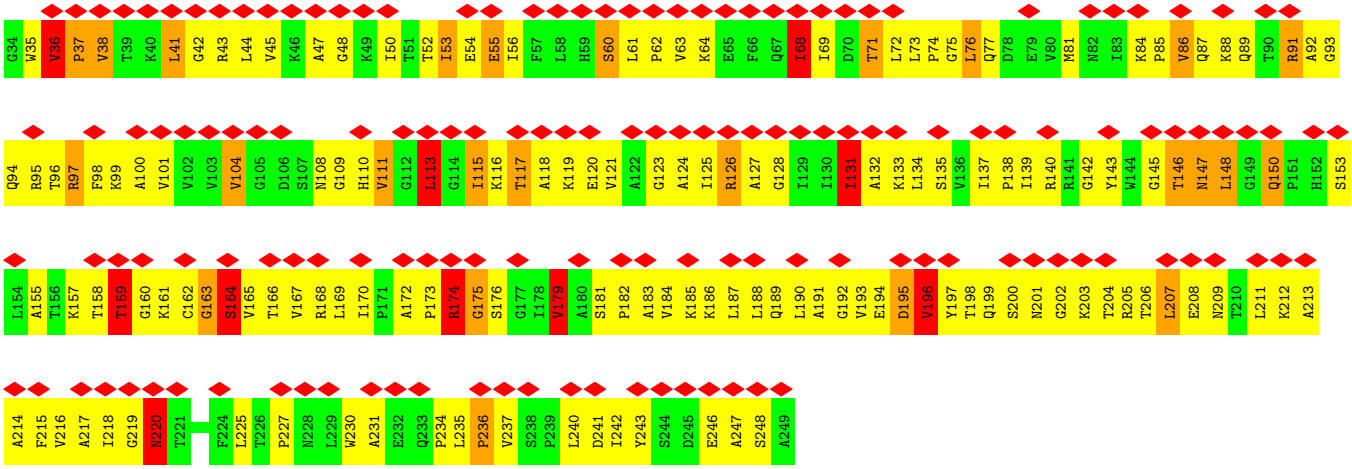



• Molecule 5: US5

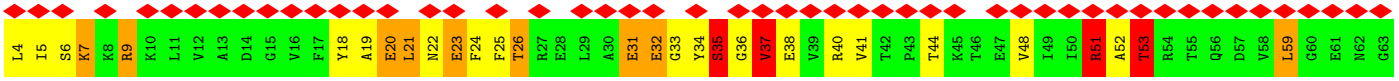
Chain BC:

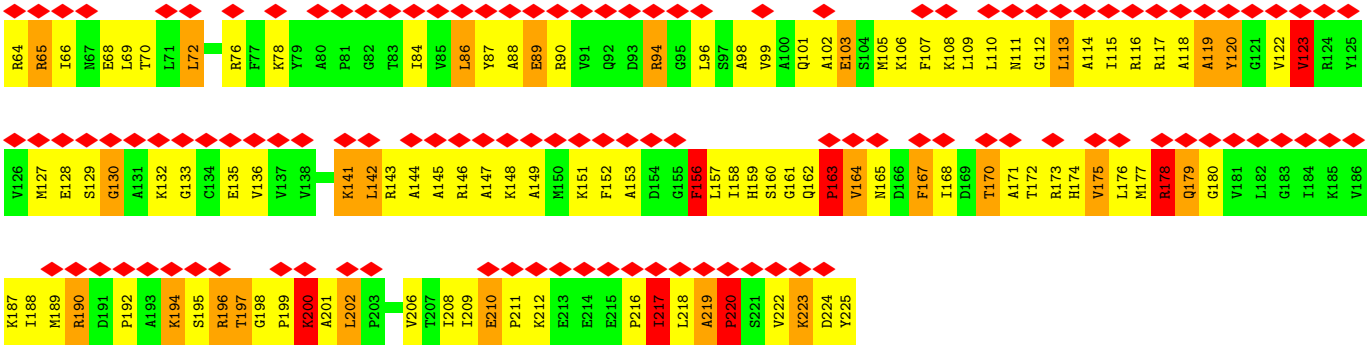



• Molecule 6: US3

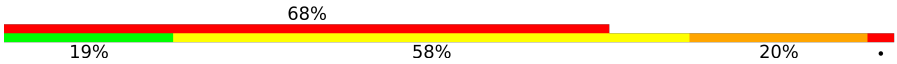
Chain BD:

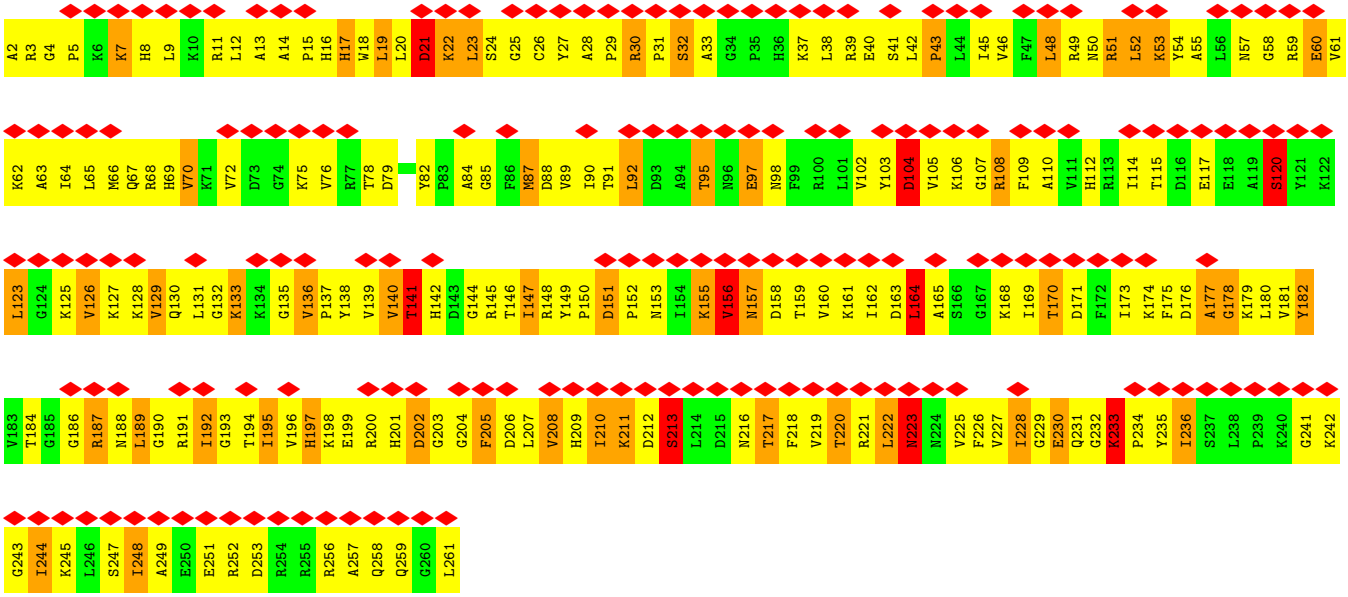





• Molecule 7: ES4

Chain BE:



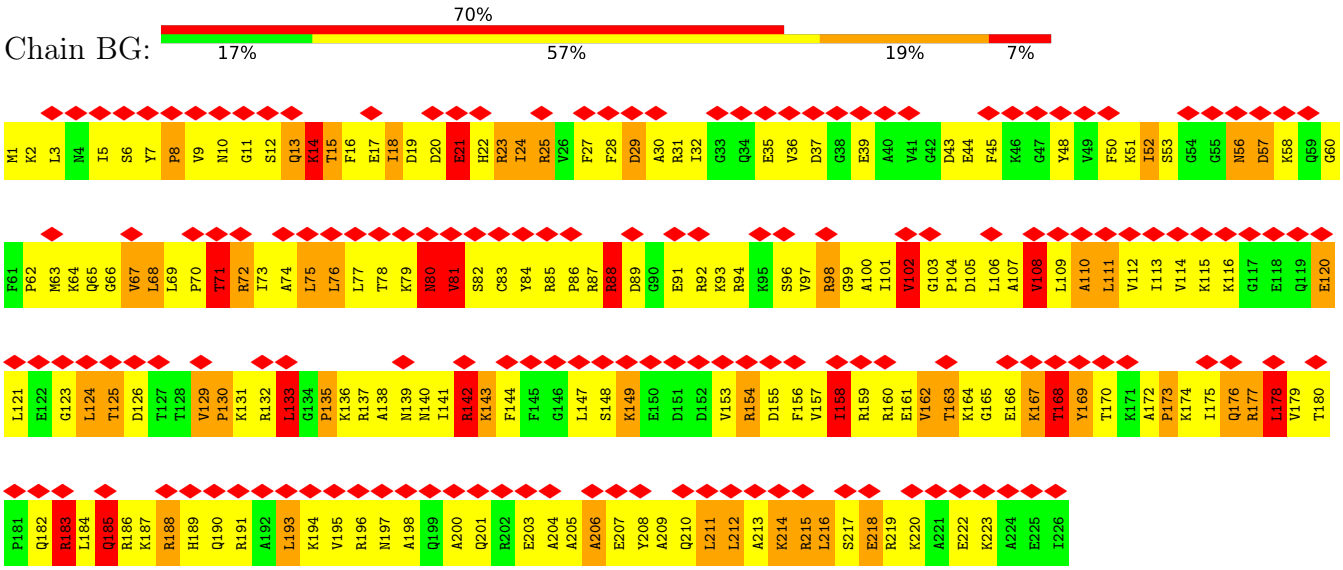




• Molecule 8: US7

Chain BF:

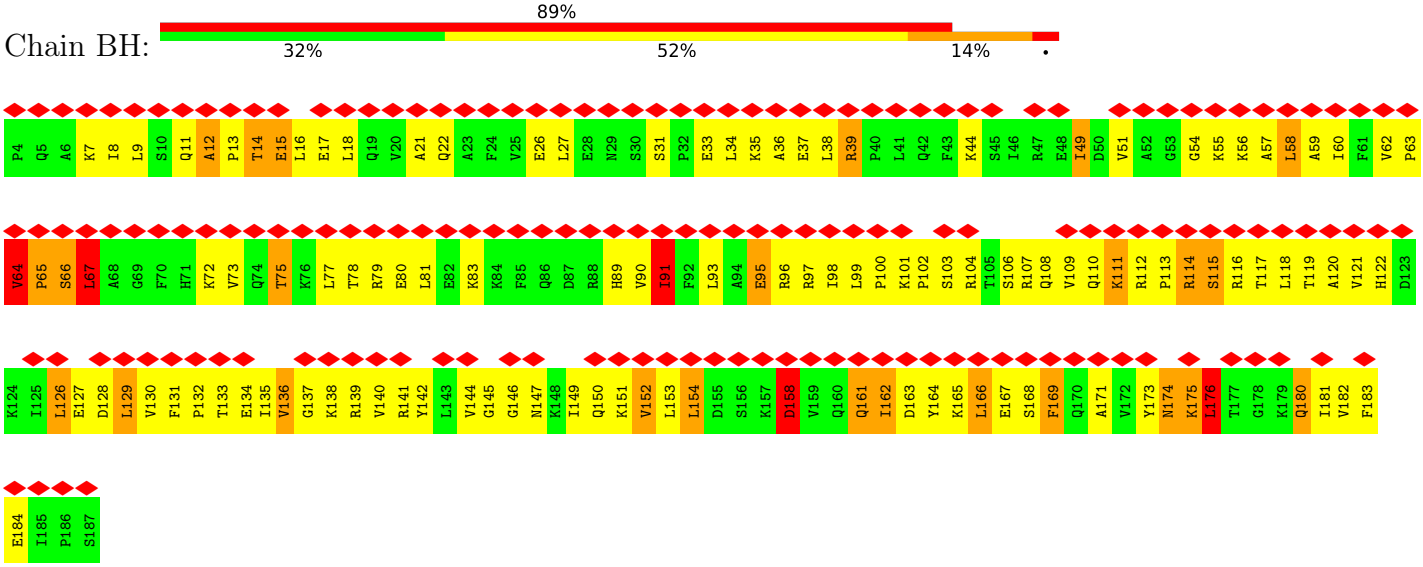
• Molecule 9: ES6

Chain BG:



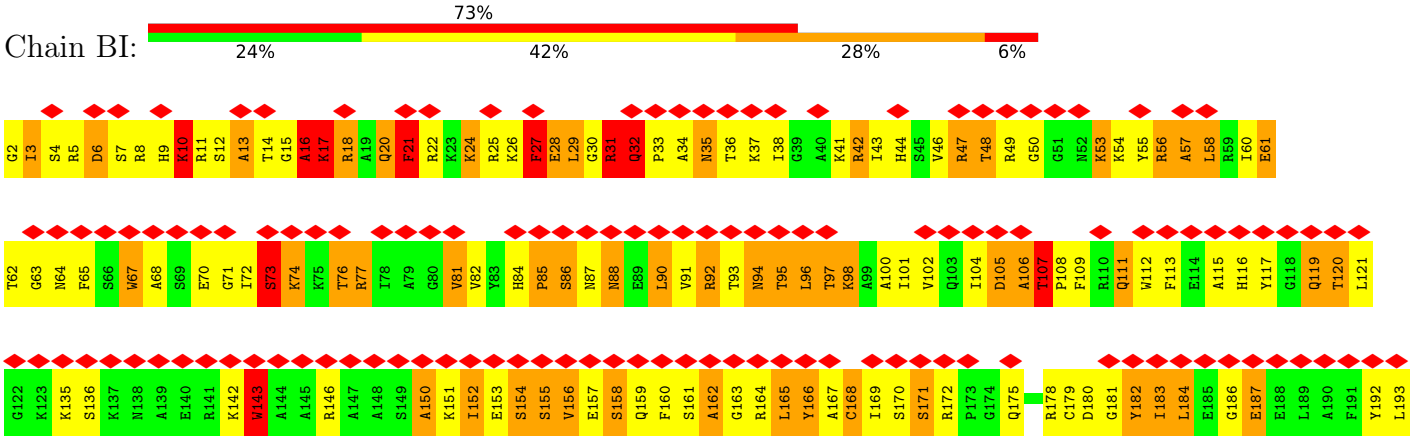

• Molecule 10: ES7

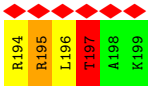
Chain BH:




• Molecule 11: ES8

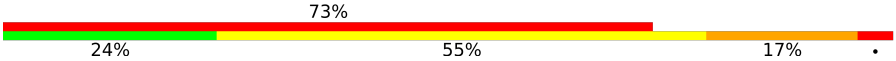
Chain BI:

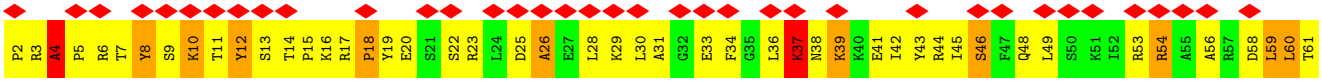


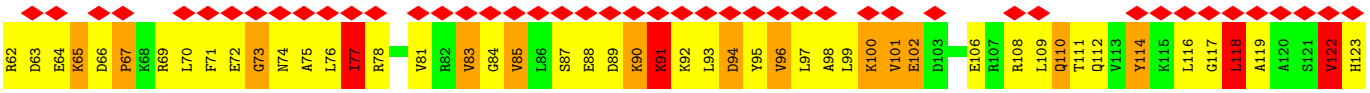


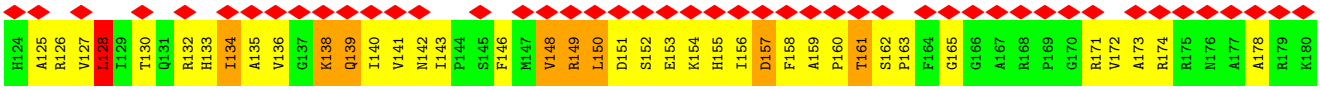

• Molecule 12: US4

Chain BJ:



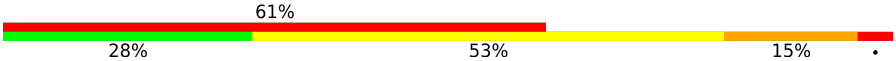



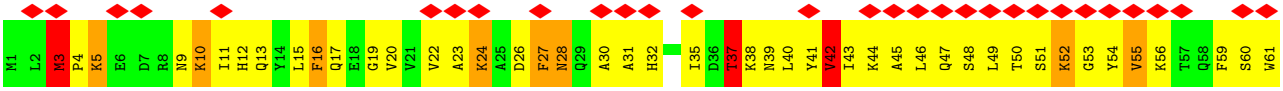



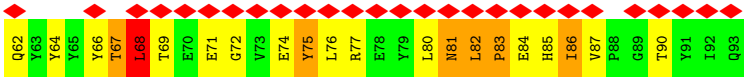




• Molecule 13: ES10

Chain BK:

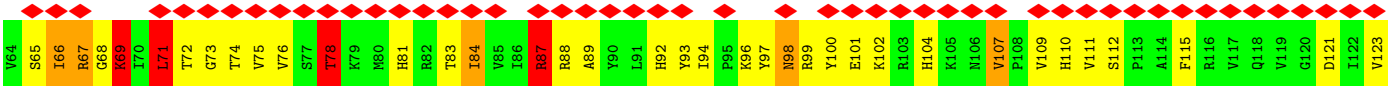


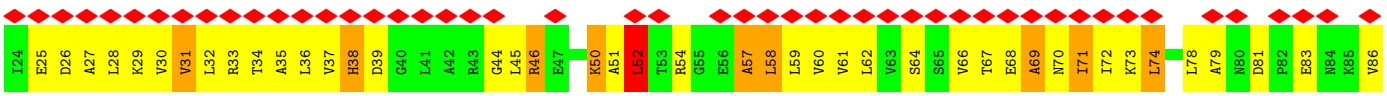

• Molecule 14: US17

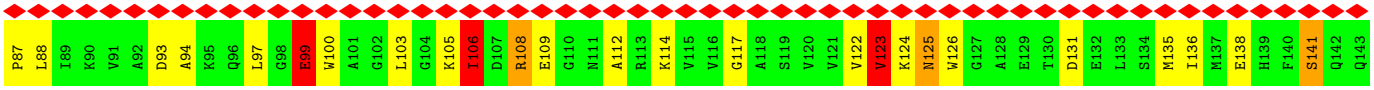
Chain BL:



• Molecule 15: ES12

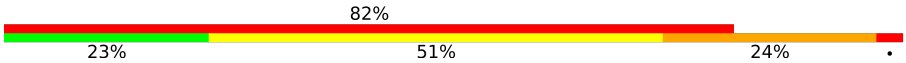
Chain BM:

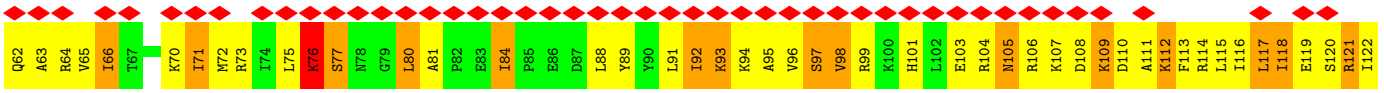


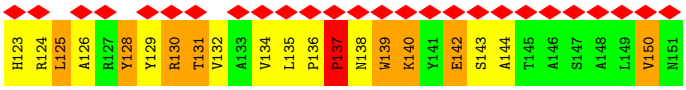



• Molecule 16: US15

Chain BN:

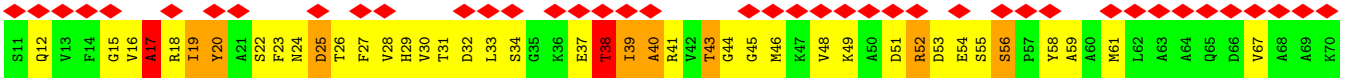


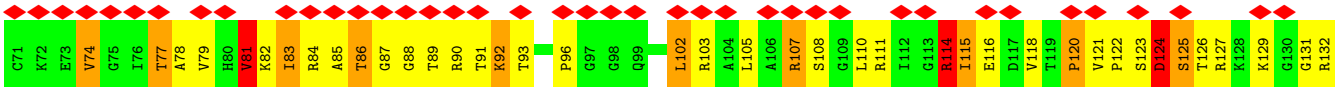


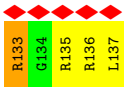




• Molecule 17: US11

Chain BO:

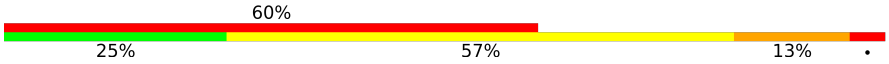


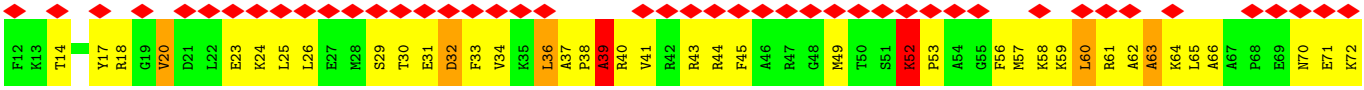




• Molecule 18: US19

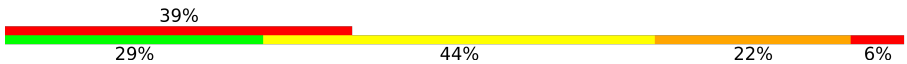
Chain BP:

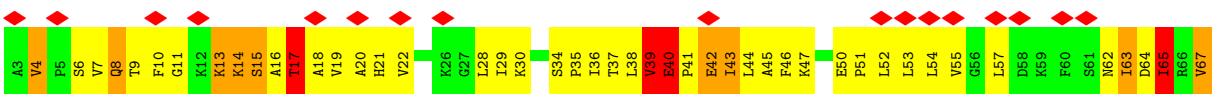


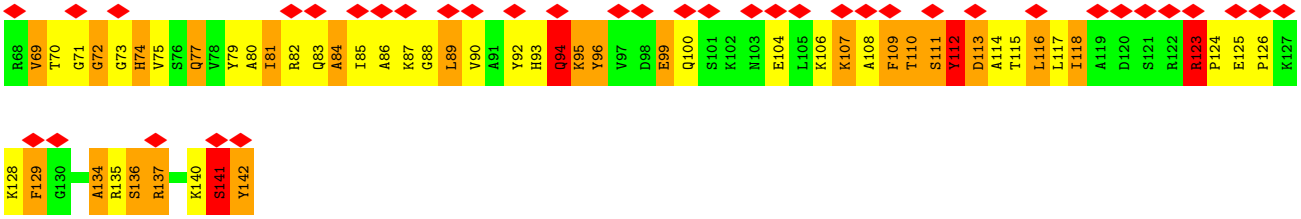



• Molecule 19: US9

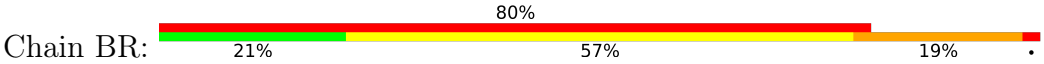
Chain BQ:

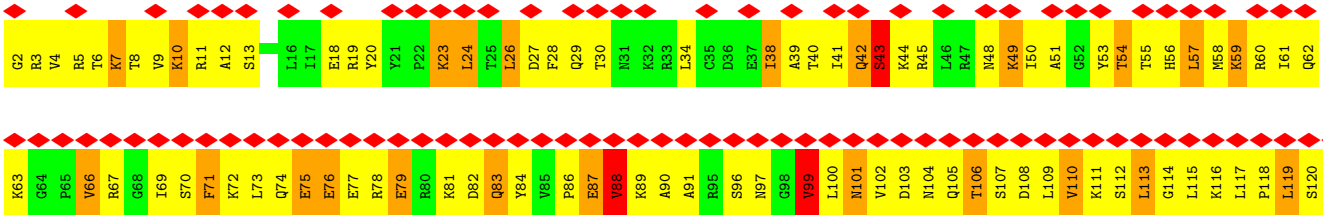


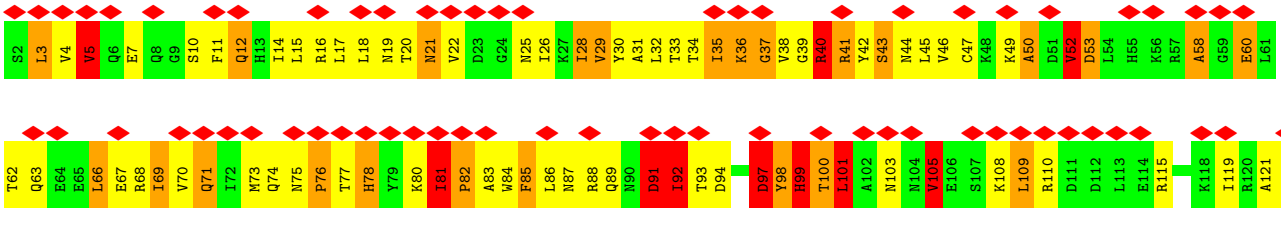



• Molecule 20: ES17

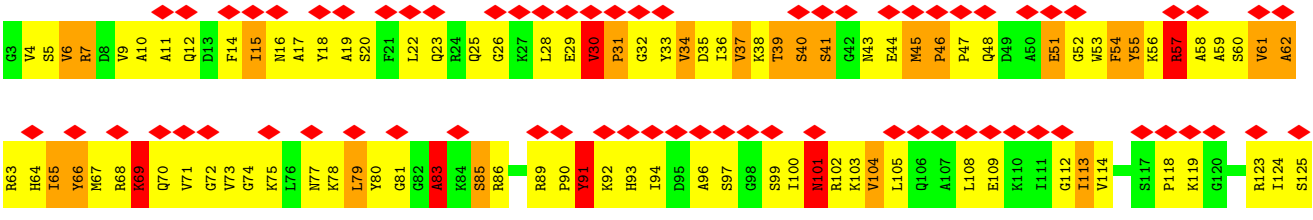


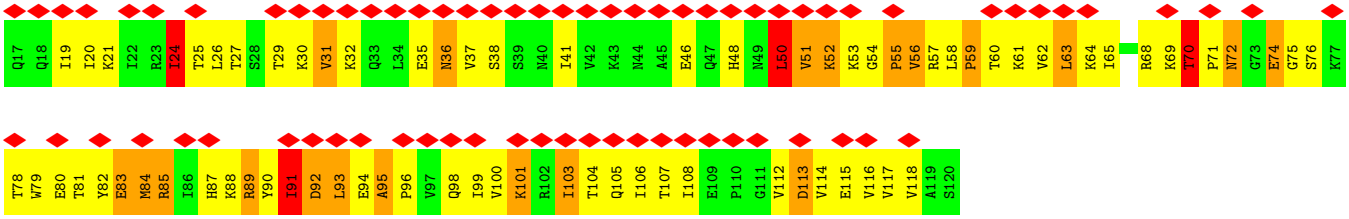

• Molecule 21: US13




• Molecule 22: ES19

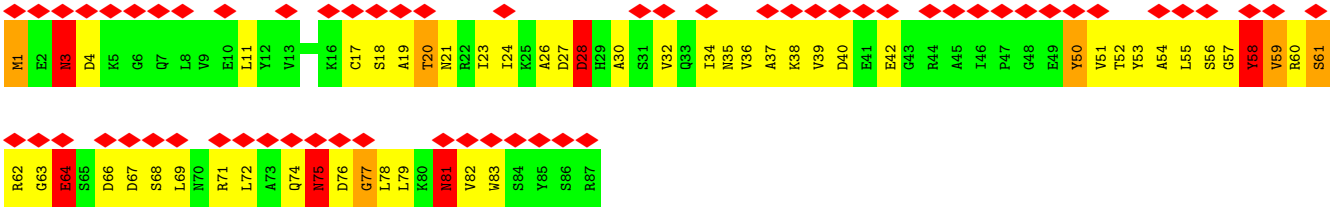



• Molecule 23: US10



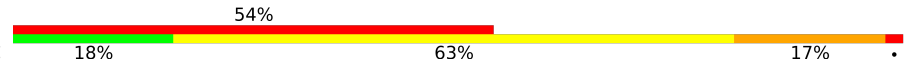

• Molecule 24: ES21

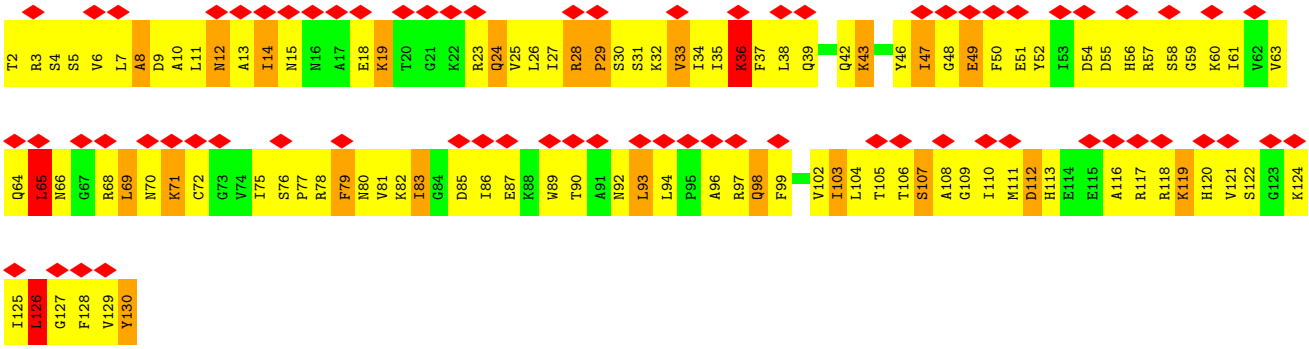
Chain BV:




• Molecule 25: US8

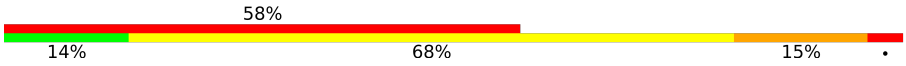
Chain BW:

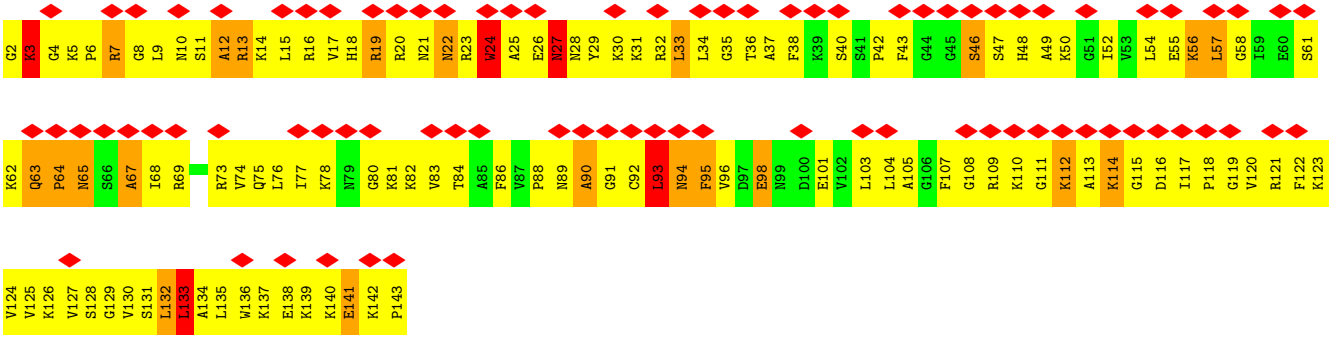



• Molecule 26: US12

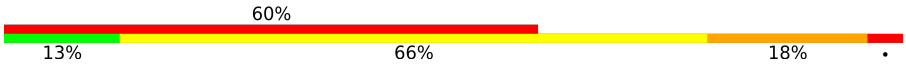
Chain BX:

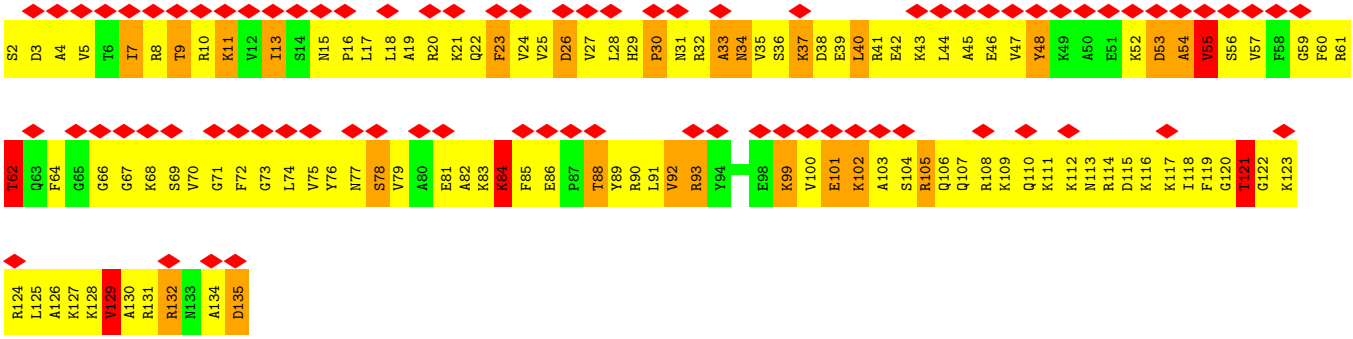



• Molecule 27: ES24

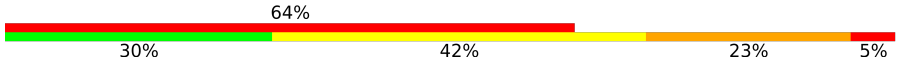
Chain BY:

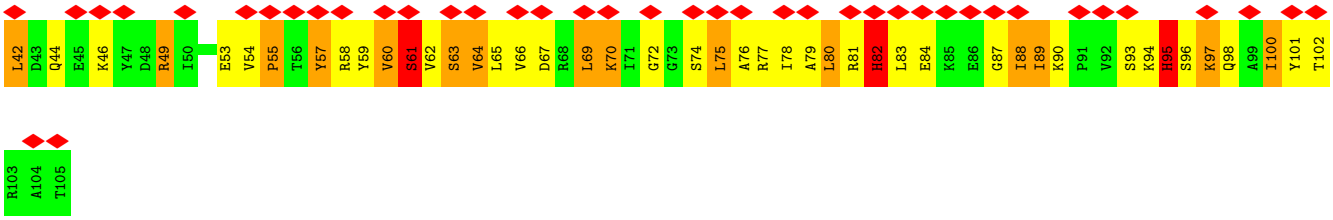





- Molecule 28: ES25

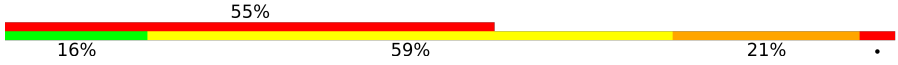
Chain BZ:

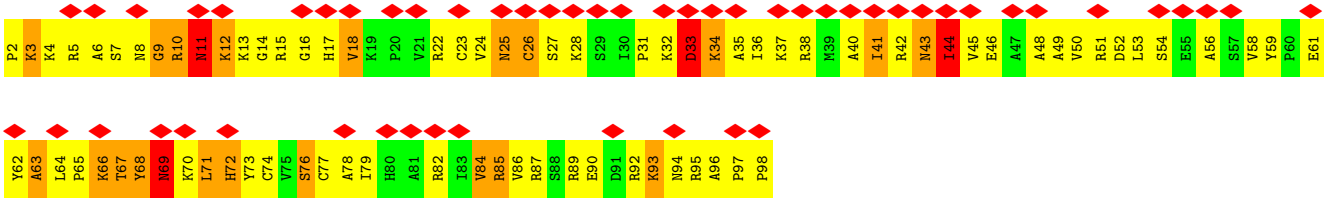



- Molecule 29: ES26

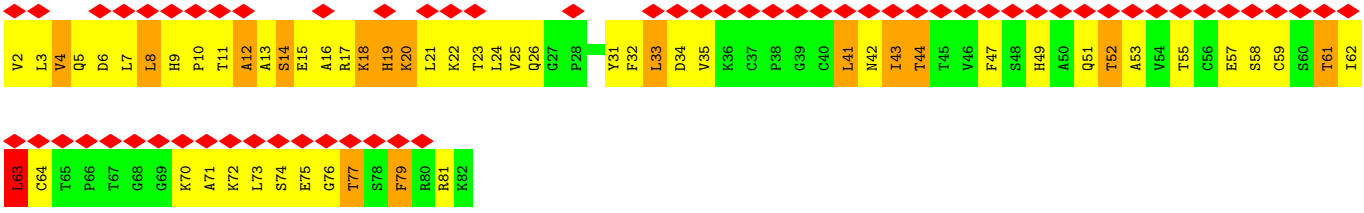
Chain Ba:



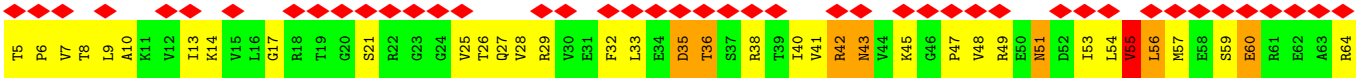

- Molecule 30: ES27

Chain Bb:



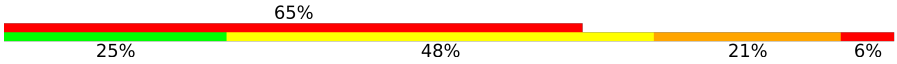

- Molecule 31: ES28

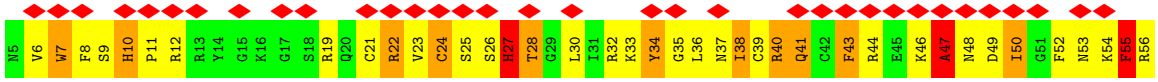
Chain Bc:



• Molecule 32: US14

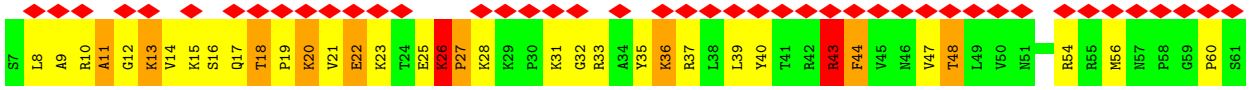
Chain Bd:



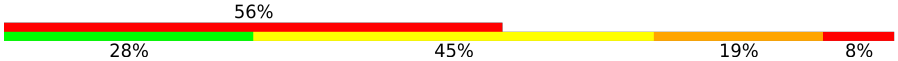

• Molecule 33: ES30

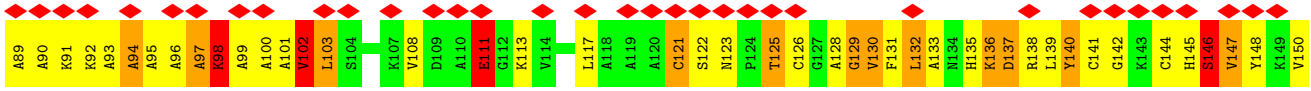
Chain Be:




• Molecule 34: ES31

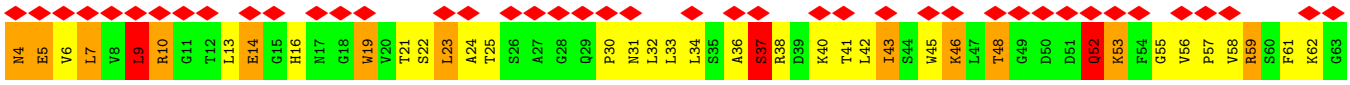
Chain Bf:

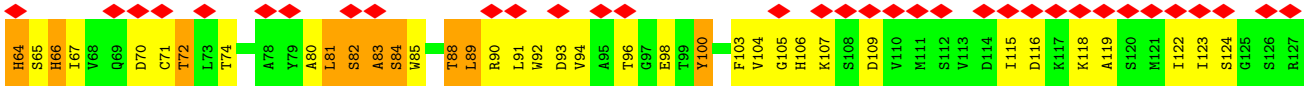


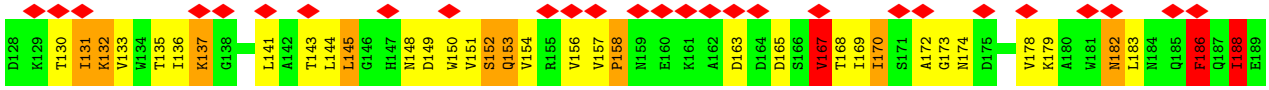



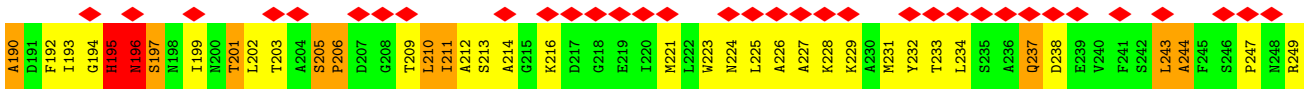
• Molecule 35: RACK1

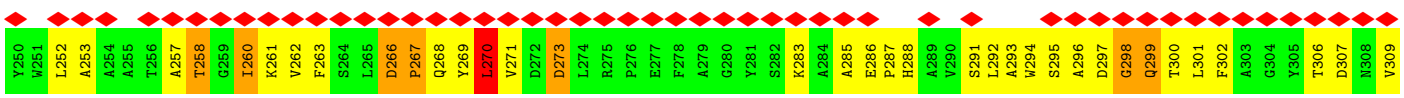
Chain Bg:



I310
R311
V312
W313
Q314
V315
M316
T317
A318

# 4 Experimental information (i)

| Property | Value | Source |
|---|---|---|
| EM reconstruction method | SINGLE PARTICLE | Depositor |
| Imposed symmetry | POINT, C1 | Depositor |
| Number of particles used | 18132 | Depositor |
| Resolution determination method | Not provided | |
| CTF correction method | EACH PARTICLE | Depositor |
| Microscope | FEI TITAN KRIOS | Depositor |
| Voltage (kV) | 300 | Depositor |
| Electron dose ($e^-/Å^2$) | 40 | Depositor |
| Minimum defocus (nm) | 1.8 | Depositor |
| Maximum defocus (nm) | 3 | Depositor |
| Magnification | 47000 | Depositor |
| Image detector | FEI FALCON II (4k x 4k) | Depositor |
| Maximum map value | 0.990 | Depositor |
| Minimum map value | -0.618 | Depositor |
| Average map value | 0.001 | Depositor |
| Map value standard deviation | 0.023 | Depositor |
| Recommended contour level | 0.07 | Depositor |
| Map size (Å) | 428.80002, 428.80002, 428.80002 | wwPDB |
| Map dimensions | 320, 320, 320 | wwPDB |
| Map angles (°) | 90.0, 90.0, 90.0 | wwPDB |
| Pixel spacing (Å) | 1.34, 1.34, 1.34 | Depositor |

# 5 Model quality (i)

## 5.1 Standard geometry (i)

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

| Mol | Chain | Bond lengths | | Bond angles | |
|---|---|---|---|---|---|
| | | RMSZ | #$\|Z\|$ >5 | RMSZ | #$\|Z\|$ >5 |
| 1 | A2 | 0.88 | 25/41655 (0.1%) | 1.57 | 1236/63991 (1.9%) |
| 2 | AZ | 0.85 | 4/4449 (0.1%) | 1.55 | 130/6827 (1.9%) |
| 3 | BA | 1.29 | 8/1574 (0.5%) | 1.54 | 38/2086 (1.8%) |
| 4 | BB | 0.63 | 1/1661 (0.1%) | 1.30 | 32/2154 (1.5%) |
| 5 | BC | 0.53 | 0/1610 | 1.25 | 25/2113 (1.2%) |
| 6 | BD | 0.60 | 0/1692 | 1.27 | 32/2175 (1.5%) |
| 7 | BE | 0.52 | 0/2045 | 1.15 | 25/2647 (0.9%) |
| 8 | BF | 0.72 | 0/1571 | 1.21 | 21/2039 (1.0%) |
| 9 | BG | 0.63 | 0/1767 | 1.32 | 33/2288 (1.4%) |
| 10 | BH | 0.53 | 0/1455 | 1.16 | 21/1875 (1.1%) |
| 11 | BI | 0.63 | 0/1448 | 1.38 | 35/1839 (1.9%) |
| 12 | BJ | 0.52 | 1/1435 (0.1%) | 1.23 | 24/1854 (1.3%) |
| 13 | BK | 0.73 | 0/759 | 1.25 | 13/988 (1.3%) |
| 14 | BL | 0.65 | 1/1140 (0.1%) | 1.31 | 18/1484 (1.2%) |
| 15 | BM | 0.98 | 0/845 | 1.22 | 10/1093 (0.9%) |
| 16 | BN | 0.59 | 1/1186 (0.1%) | 1.23 | 18/1551 (1.2%) |
| 17 | BO | 0.56 | 0/893 | 1.14 | 10/1167 (0.9%) |
| 18 | BP | 0.85 | 1/903 (0.1%) | 1.32 | 15/1162 (1.3%) |
| 19 | BQ | 0.76 | 1/1072 (0.1%) | 1.38 | 27/1392 (1.9%) |
| 20 | BR | 0.59 | 0/908 | 1.19 | 11/1159 (0.9%) |
| 21 | BS | 0.98 | 0/1140 | 1.51 | 29/1487 (2.0%) |
| 22 | BT | 1.05 | 3/1083 (0.3%) | 1.29 | 20/1389 (1.4%) |
| 23 | BU | 0.83 | 0/812 | 1.34 | 16/1053 (1.5%) |
| 24 | BV | 0.62 | 0/675 | 1.11 | 7/881 (0.8%) |
| 25 | BW | 0.50 | 0/999 | 1.12 | 10/1278 (0.8%) |
| 26 | BX | 0.48 | 0/1079 | 1.19 | 11/1372 (0.8%) |
| 27 | BY | 0.64 | 0/1056 | 1.44 | 22/1356 (1.6%) |
| 28 | BZ | 1.02 | 0/511 | 1.27 | 9/663 (1.4%) |
| 29 | Ba | 0.59 | 0/758 | 1.40 | 16/975 (1.6%) |
| 30 | Bb | 0.48 | 0/596 | 1.26 | 10/766 (1.3%) |
| 31 | Bc | 0.63 | 0/485 | 1.24 | 4/628 (0.6%) |
| 32 | Bd | 0.54 | 0/427 | 1.28 | 8/540 (1.5%) |
| 33 | Be | 0.60 | 0/436 | 1.59 | 9/562 (1.6%) |
| 34 | Bf | 1.06 | 0/456 | 1.29 | 7/599 (1.2%) |

| Mol | Chain | Bond lengths | | Bond angles | |
|---|---|---|---|---|---|
| | | RMSZ | $\#\|Z\| > 5$ | RMSZ | $\#\|Z\| > 5$ |
| 35 | Bg | 0.74 | 0/2390 | 1.26 | 37/3123 (1.2%) |
| All | All | 0.81 | 46/82971 (0.1%) | 1.46 | 1989/118556 (1.7%) |

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

| Mol | Chain | #Chirality outliers | #Planarity outliers |
|---|---|---|---|
| 1 | A2 | 98 | 0 |
| 2 | AZ | 8 | 0 |
| 3 | BA | 8 | 3 |
| 4 | BB | 11 | 2 |
| 5 | BC | 8 | 1 |
| 6 | BD | 6 | 1 |
| 7 | BE | 8 | 0 |
| 8 | BF | 6 | 1 |
| 9 | BG | 10 | 3 |
| 10 | BH | 7 | 2 |
| 11 | BI | 12 | 2 |
| 12 | BJ | 5 | 1 |
| 13 | BK | 2 | 0 |
| 14 | BL | 8 | 0 |
| 15 | BM | 2 | 0 |
| 16 | BN | 6 | 0 |
| 17 | BO | 4 | 1 |
| 18 | BP | 4 | 0 |
| 19 | BQ | 8 | 2 |
| 20 | BR | 5 | 0 |
| 21 | BS | 6 | 4 |
| 22 | BT | 6 | 0 |
| 23 | BU | 1 | 1 |
| 24 | BV | 2 | 1 |
| 25 | BW | 3 | 0 |
| 26 | BX | 5 | 2 |
| 27 | BY | 6 | 0 |
| 28 | BZ | 1 | 0 |
| 29 | Ba | 4 | 1 |
| 30 | Bb | 5 | 0 |
| 31 | Bc | 2 | 0 |
| 32 | Bd | 3 | 1 |
| 33 | Be | 3 | 0 |

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| Mol | Chain | #Chirality outliers | #Planarity outliers |
|---|---|---|---|
| 34 | Bf | 2 | 1 |
| 35 | Bg | 9 | 1 |
| All | All | 284 | 31 |

All (46) bond length outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|---|---|---|---|---|---|---|---|
| 1 | A2 | 897 | C | O3'-P | 39.17 | 2.19 | 1.61 |
| 1 | A2 | 633 | U | O3'-P | 38.96 | 2.19 | 1.61 |
| 1 | A2 | 1797 | A | O3'-P | 38.17 | 2.18 | 1.61 |
| 1 | A2 | 1388 | A | O3'-P | 36.95 | 2.16 | 1.61 |
| 1 | A2 | 388 | G | O3'-P | 36.79 | 2.16 | 1.61 |
| 1 | A2 | 56 | U | O3'-P | 36.29 | 2.15 | 1.61 |
| 1 | A2 | 935 | U | O3'-P | 36.13 | 2.15 | 1.61 |
| 1 | A2 | 419 | G | O3'-P | 35.81 | 2.14 | 1.61 |
| 1 | A2 | 1377 | U | O3'-P | 35.80 | 2.14 | 1.61 |
| 2 | AZ | 6106 | A | O3'-P | 35.22 | 2.13 | 1.61 |
| 1 | A2 | 47 | A | O3'-P | 33.94 | 2.12 | 1.61 |
| 1 | A2 | 1732 | A | O3'-P | 31.90 | 2.08 | 1.61 |
| 1 | A2 | 862 | A | O3'-P | 31.84 | 2.08 | 1.61 |
| 1 | A2 | 464 | A | O3'-P | 30.80 | 2.07 | 1.61 |
| 1 | A2 | 997 | G | O3'-P | 30.17 | 2.06 | 1.61 |
| 1 | A2 | 399 | A | O3'-P | 30.03 | 2.06 | 1.61 |
| 1 | A2 | 352 | A | O3'-P | 28.27 | 2.03 | 1.61 |
| 1 | A2 | 1030 | A | O3'-P | 25.12 | 1.98 | 1.61 |
| 1 | A2 | 960 | U | O3'-P | 23.91 | 1.97 | 1.61 |
| 1 | A2 | 1417 | A | O3'-P | 19.66 | 1.90 | 1.61 |
| 1 | A2 | 104 | A | O3'-P | 18.92 | 1.89 | 1.61 |
| 22 | BT | 54 | PHE | C-O | 13.98 | 1.51 | 1.23 |
| 14 | BL | 78 | THR | CB-OG1 | 11.36 | 1.61 | 1.43 |
| 22 | BT | 62 | ALA | C-O | 10.58 | 1.44 | 1.23 |
| 1 | A2 | 1298 | U | P-O5' | 9.59 | 1.74 | 1.59 |
| 19 | BQ | 72 | GLY | C-O | 8.80 | 1.41 | 1.23 |
| 3 | BA | 110 | TYR | CA-CB | 7.42 | 1.62 | 1.52 |
| 22 | BT | 60 | SER | C-O | 7.23 | 1.38 | 1.23 |
| 2 | AZ | 6026 | A | O3'-P | 6.58 | 1.71 | 1.61 |
| 3 | BA | 157 | ASP | CA-C | 6.55 | 1.61 | 1.52 |
| 3 | BA | 158 | VAL | N-CA | 6.44 | 1.53 | 1.46 |
| 12 | BJ | 178 | ALA | C-O | 6.20 | 1.32 | 1.24 |
| 1 | A2 | 1497 | U | O5'-C5' | 6.02 | 1.51 | 1.42 |
| 3 | BA | 157 | ASP | CA-CB | 6.01 | 1.63 | 1.53 |
| 4 | BB | 55 | LYS | N-CA | 6.00 | 1.53 | 1.46 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|---|---|---|---|---|---|---|---|
| 1 | A2 | 250 | C | O5'-C5' | 5.92 | 1.51 | 1.42 |
| 2 | AZ | 6028 | A | P-OP2 | 5.79 | 1.60 | 1.49 |
| 3 | BA | 112 | THR | CA-C | 5.72 | 1.55 | 1.52 |
| 3 | BA | 110 | TYR | CA-C | 5.61 | 1.59 | 1.53 |
| 1 | A2 | 221 | A | O3'-P | 5.55 | 1.69 | 1.61 |
| 2 | AZ | 6052 | A | O5'-C5' | 5.43 | 1.50 | 1.42 |
| 3 | BA | 138 | TYR | CB-CG | 5.28 | 1.63 | 1.51 |
| 16 | BN | 150 | VAL | CA-C | 5.21 | 1.59 | 1.52 |
| 3 | BA | 109 | ASN | CA-C | 5.17 | 1.59 | 1.52 |
| 1 | A2 | 723 | G | O5'-C5' | 5.13 | 1.50 | 1.42 |
| 18 | BP | 77 | ARG | C-O | 5.05 | 1.33 | 1.23 |

All (1989) bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 1 | A2 | 1797 | A | O3'-P-O5' | 37.83 | 160.74 | 104.00 |
| 1 | A2 | 104 | A | P-O3'-C3' | 33.24 | 170.06 | 120.20 |
| 1 | A2 | 56 | U | P-O3'-C3' | 28.75 | 163.33 | 120.20 |
| 1 | A2 | 104 | A | O3'-P-O5' | -23.14 | 69.29 | 104.00 |
| 1 | A2 | 862 | A | P-O3'-C3' | 21.13 | 151.90 | 120.20 |
| 1 | A2 | 960 | U | P-O3'-C3' | -20.39 | 89.62 | 120.20 |
| 33 | Be | 26 | LYS | N-CA-C | 17.67 | 123.80 | 108.07 |
| 1 | A2 | 960 | U | O3'-P-O5' | -17.58 | 77.63 | 104.00 |
| 1 | A2 | 47 | A | O3'-P-O5' | 16.52 | 128.79 | 104.00 |
| 1 | A2 | 607 | G | C2'-C3'-O3' | 15.50 | 132.75 | 109.50 |
| 1 | A2 | 842 | C | C3'-C2'-O2' | 15.44 | 133.86 | 110.70 |
| 1 | A2 | 897 | C | P-O3'-C3' | -15.20 | 97.40 | 120.20 |
| 3 | BA | 112 | THR | N-CA-C | 15.20 | 132.01 | 108.30 |
| 1 | A2 | 609 | U | C4'-C3'-O3' | 14.92 | 131.78 | 109.40 |
| 1 | A2 | 1582 | U | C2'-C3'-O3' | 14.77 | 131.65 | 109.50 |
| 1 | A2 | 1216 | C | C4'-C3'-O3' | 14.73 | 131.49 | 109.40 |
| 26 | BX | 12 | ALA | N-CA-C | 14.66 | 126.76 | 111.07 |
| 2 | AZ | 6025 | A | C1'-C2'-O2' | 14.64 | 130.35 | 108.40 |
| 33 | Be | 31 | LYS | N-CA-C | 14.42 | 132.28 | 108.49 |
| 1 | A2 | 804 | A | C1'-C2'-O2' | 14.40 | 130.00 | 108.40 |
| 1 | A2 | 501 | U | C3'-C2'-O2' | 14.29 | 132.14 | 110.70 |
| 1 | A2 | 997 | G | P-O3'-C3' | 14.12 | 141.38 | 120.20 |
| 1 | A2 | 289 | U | C1'-C2'-O2' | 14.07 | 129.51 | 108.40 |
| 1 | A2 | 454 | U | C2'-C3'-O3' | 14.06 | 130.59 | 109.50 |
| 1 | A2 | 1447 | C | C2'-C3'-O3' | 13.92 | 130.39 | 109.50 |
| 1 | A2 | 1298 | U | C4'-C3'-O3' | 13.86 | 130.19 | 109.40 |
| 1 | A2 | 67 | A | C3'-C2'-O2' | 13.85 | 131.47 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 1 | A2 | 514 | G | C4'-C3'-O3' | 13.81 | 130.11 | 109.40 |
| 1 | A2 | 1297 | G | C1'-C2'-O2' | 13.80 | 129.10 | 108.40 |
| 1 | A2 | 1568 | C | C2'-C3'-O3' | 13.78 | 130.17 | 109.50 |
| 1 | A2 | 173 | A | C1'-C2'-O2' | 13.70 | 128.95 | 108.40 |
| 1 | A2 | 352 | A | P-O3'-C3' | 13.70 | 140.74 | 120.20 |
| 1 | A2 | 1501 | C | C3'-C2'-O2' | 13.70 | 131.24 | 110.70 |
| 1 | A2 | 1286 | U | C3'-C2'-O2' | 13.69 | 131.23 | 110.70 |
| 1 | A2 | 222 | A | C3'-C2'-O2' | 13.65 | 131.18 | 110.70 |
| 1 | A2 | 352 | A | O3'-P-O5' | -13.65 | 83.53 | 104.00 |
| 2 | AZ | 6079 | A | C1'-C2'-O2' | 13.62 | 128.82 | 108.40 |
| 1 | A2 | 1797 | A | OP1-P-O3' | -13.58 | 67.27 | 108.00 |
| 1 | A2 | 254 | A | C2'-C3'-O3' | 13.55 | 134.03 | 113.70 |
| 2 | AZ | 6115 | U | C3'-C2'-O2' | 13.54 | 131.02 | 110.70 |
| 1 | A2 | 166 | C | C1'-C2'-O2' | 13.48 | 128.62 | 108.40 |
| 1 | A2 | 1213 | G | C3'-C2'-O2' | 13.45 | 130.88 | 110.70 |
| 16 | BN | 56 | ASP | N-CA-C | 13.43 | 129.80 | 112.34 |
| 1 | A2 | 464 | A | P-O3'-C3' | -13.39 | 100.11 | 120.20 |
| 1 | A2 | 1472 | C | C4'-C3'-O3' | 13.36 | 129.44 | 109.40 |
| 2 | AZ | 6208 | A | C4'-C3'-O3' | 13.34 | 133.01 | 113.00 |
| 27 | BY | 129 | VAL | N-CA-C | 13.32 | 123.05 | 110.53 |
| 1 | A2 | 213 | A | C3'-C2'-O2' | 13.31 | 130.66 | 110.70 |
| 2 | AZ | 6113 | U | C1'-C2'-O2' | 13.30 | 128.35 | 108.40 |
| 12 | BJ | 26 | ALA | N-CA-C | 13.30 | 127.60 | 112.57 |
| 1 | A2 | 917 | U | C3'-C2'-O2' | 13.29 | 130.63 | 110.70 |
| 1 | A2 | 633 | U | P-O3'-C3' | -13.28 | 100.28 | 120.20 |
| 2 | AZ | 6034 | A | C3'-C2'-O2' | 13.26 | 130.58 | 110.70 |
| 1 | A2 | 1268 | G | C1'-C2'-O2' | 13.25 | 128.27 | 108.40 |
| 1 | A2 | 539 | G | C2'-C3'-O3' | 13.21 | 129.32 | 109.50 |
| 1 | A2 | 794 | U | C2'-C3'-O3' | 13.21 | 129.31 | 109.50 |
| 1 | A2 | 10 | G | C1'-C2'-O2' | 13.18 | 128.17 | 108.40 |
| 1 | A2 | 423 | G | C2'-C3'-O3' | 13.15 | 129.23 | 109.50 |
| 1 | A2 | 1677 | C | C1'-C2'-O2' | 13.12 | 128.08 | 108.40 |
| 1 | A2 | 1064 | G | C3'-C2'-O2' | 13.12 | 130.37 | 110.70 |
| 1 | A2 | 1282 | U | C1'-C2'-O2' | 13.05 | 127.97 | 108.40 |
| 1 | A2 | 822 | U | C1'-C2'-O2' | 13.02 | 127.92 | 108.40 |
| 1 | A2 | 1573 | A | C2'-C3'-O3' | 13.01 | 129.02 | 109.50 |
| 1 | A2 | 419 | G | O3'-P-O5' | -12.98 | 84.53 | 104.00 |
| 2 | AZ | 6127 | U | C3'-C2'-O2' | 12.98 | 130.18 | 110.70 |
| 1 | A2 | 752 | A | C3'-C2'-O2' | 12.97 | 130.16 | 110.70 |
| 1 | A2 | 391 | A | C3'-C2'-O2' | 12.94 | 130.12 | 110.70 |
| 2 | AZ | 6052 | A | C3'-C2'-O2' | 12.94 | 130.11 | 110.70 |
| 1 | A2 | 717 | C | C3'-C2'-O2' | 12.93 | 130.09 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 21 | BS | 119 | ILE | N-CA-C | 12.93 | 122.84 | 110.30 |
| 1 | A2 | 1674 | C | C3'-C2'-O2' | 12.91 | 130.07 | 110.70 |
| 1 | A2 | 846 | G | C1'-C2'-O2' | 12.90 | 127.76 | 108.40 |
| 1 | A2 | 201 | G | C2'-C3'-O3' | 12.87 | 133.00 | 113.70 |
| 7 | BE | 147 | ILE | N-CA-C | 12.86 | 126.45 | 107.80 |
| 1 | A2 | 1053 | G | C3'-C2'-O2' | 12.85 | 129.97 | 110.70 |
| 1 | A2 | 1032 | G | C3'-C2'-O2' | 12.84 | 129.97 | 110.70 |
| 1 | A2 | 1219 | A | C1'-C2'-O2' | 12.82 | 127.64 | 108.40 |
| 1 | A2 | 74 | U | C2'-C3'-O3' | 12.82 | 128.73 | 109.50 |
| 1 | A2 | 1611 | A | C1'-C2'-O2' | 12.81 | 127.62 | 108.40 |
| 1 | A2 | 1448 | G | C1'-C2'-O2' | 12.80 | 127.60 | 108.40 |
| 1 | A2 | 902 | G | C1'-C2'-O2' | 12.79 | 127.59 | 108.40 |
| 1 | A2 | 1367 | G | C3'-C2'-O2' | 12.79 | 129.88 | 110.70 |
| 1 | A2 | 144 | U | C1'-C2'-O2' | 12.79 | 127.58 | 108.40 |
| 1 | A2 | 137 | U | C2'-C3'-O3' | 12.78 | 128.66 | 109.50 |
| 1 | A2 | 124 | A | C1'-C2'-O2' | 12.77 | 127.56 | 108.40 |
| 1 | A2 | 900 | A | C3'-C2'-O2' | 12.77 | 129.86 | 110.70 |
| 1 | A2 | 523 | G | C3'-C2'-O2' | 12.76 | 129.84 | 110.70 |
| 1 | A2 | 220 | A | C3'-C2'-O2' | 12.75 | 129.82 | 110.70 |
| 1 | A2 | 1676 | U | C1'-C2'-O2' | 12.74 | 127.51 | 108.40 |
| 1 | A2 | 1586 | A | C3'-C2'-O2' | 12.74 | 129.81 | 110.70 |
| 1 | A2 | 1641 | C | C1'-C2'-O2' | 12.73 | 127.50 | 108.40 |
| 1 | A2 | 1004 | U | C4'-C3'-O3' | 12.72 | 128.49 | 109.40 |
| 2 | AZ | 6175 | A | C3'-C2'-O2' | 12.72 | 129.78 | 110.70 |
| 1 | A2 | 1242 | A | C3'-C2'-O2' | 12.71 | 129.77 | 110.70 |
| 1 | A2 | 578 | U | C4'-C3'-O3' | 12.70 | 128.46 | 109.40 |
| 1 | A2 | 379 | U | C1'-C2'-O2' | 12.70 | 127.45 | 108.40 |
| 1 | A2 | 1500 | C | C3'-C2'-O2' | 12.70 | 129.75 | 110.70 |
| 1 | A2 | 1118 | G | C3'-C2'-O2' | 12.68 | 129.72 | 110.70 |
| 1 | A2 | 1687 | U | C3'-C2'-O2' | 12.67 | 129.71 | 110.70 |
| 1 | A2 | 1343 | U | C3'-C2'-O2' | 12.67 | 129.70 | 110.70 |
| 1 | A2 | 1548 | G | C1'-C2'-O2' | 12.64 | 127.36 | 108.40 |
| 1 | A2 | 220 | A | C1'-C2'-O2' | 12.64 | 127.36 | 108.40 |
| 29 | Ba | 10 | ARG | N-CA-C | 12.64 | 130.52 | 110.17 |
| 1 | A2 | 1152 | A | C1'-C2'-O2' | 12.64 | 127.36 | 108.40 |
| 1 | A2 | 733 | A | C2'-C3'-O3' | 12.63 | 128.44 | 109.50 |
| 15 | BM | 52 | LEU | N-CA-C | 12.61 | 124.57 | 111.07 |
| 1 | A2 | 1732 | A | O3'-P-O5' | -12.61 | 85.08 | 104.00 |
| 1 | A2 | 1619 | C | C1'-C2'-O2' | 12.60 | 127.30 | 108.40 |
| 1 | A2 | 1611 | A | C3'-C2'-O2' | 12.60 | 129.59 | 110.70 |
| 2 | AZ | 6139 | G | C2'-C3'-O3' | 12.58 | 128.38 | 109.50 |
| 1 | A2 | 919 | A | C3'-C2'-O2' | 12.58 | 129.57 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 1 | A2 | 972 | G | C1'-C2'-O2' | 12.57 | 127.25 | 108.40 |
| 1 | A2 | 878 | G | C1'-C2'-O2' | 12.56 | 127.24 | 108.40 |
| 1 | A2 | 1756 | A | C2'-C3'-O3' | 12.56 | 128.34 | 109.50 |
| 1 | A2 | 1401 | A | C3'-C2'-O2' | 12.56 | 129.54 | 110.70 |
| 1 | A2 | 844 | A | C3'-C2'-O2' | 12.55 | 129.53 | 110.70 |
| 1 | A2 | 131 | C | C2'-C3'-O3' | 12.54 | 128.31 | 109.50 |
| 1 | A2 | 1619 | C | C3'-C2'-O2' | 12.51 | 129.47 | 110.70 |
| 1 | A2 | 1496 | U | C2'-C3'-O3' | 12.50 | 128.25 | 109.50 |
| 2 | AZ | 6180 | C | C3'-C2'-O2' | 12.49 | 129.44 | 110.70 |
| 1 | A2 | 1120 | U | C1'-C2'-O2' | 12.48 | 127.12 | 108.40 |
| 1 | A2 | 1321 | A | C2'-C3'-O3' | 12.47 | 128.21 | 109.50 |
| 1 | A2 | 34 | G | C1'-C2'-O2' | 12.46 | 127.09 | 108.40 |
| 1 | A2 | 1509 | C | C2'-C3'-O3' | 12.46 | 128.19 | 109.50 |
| 1 | A2 | 342 | C | C1'-C2'-O2' | 12.46 | 127.09 | 108.40 |
| 1 | A2 | 7 | G | C2'-C3'-O3' | 12.44 | 132.37 | 113.70 |
| 1 | A2 | 882 | U | C2'-C3'-O3' | 12.44 | 128.16 | 109.50 |
| 1 | A2 | 1053 | G | C1'-C2'-O2' | 12.44 | 127.06 | 108.40 |
| 1 | A2 | 183 | U | C1'-C2'-O2' | 12.44 | 127.06 | 108.40 |
| 21 | BS | 43 | SER | N-CA-C | 12.43 | 126.24 | 111.82 |
| 1 | A2 | 881 | A | C1'-C2'-O2' | 12.43 | 127.04 | 108.40 |
| 1 | A2 | 1635 | A | C1'-C2'-O2' | 12.41 | 127.02 | 108.40 |
| 1 | A2 | 632 | U | C1'-C2'-O2' | 12.41 | 127.01 | 108.40 |
| 3 | BA | 130 | ALA | N-CA-C | 12.40 | 126.82 | 112.93 |
| 1 | A2 | 1410 | A | C3'-C2'-O2' | 12.40 | 129.30 | 110.70 |
| 1 | A2 | 1719 | A | C3'-C2'-O2' | 12.40 | 129.29 | 110.70 |
| 1 | A2 | 600 | U | C1'-C2'-O2' | 12.38 | 126.97 | 108.40 |
| 35 | Bg | 80 | ALA | N-CA-C | 12.38 | 127.86 | 108.67 |
| 1 | A2 | 1719 | A | C1'-C2'-O2' | 12.38 | 126.97 | 108.40 |
| 1 | A2 | 213 | A | C1'-C2'-O2' | 12.36 | 126.94 | 108.40 |
| 1 | A2 | 1170 | G | C2'-C3'-O3' | 12.35 | 132.22 | 113.70 |
| 1 | A2 | 1236 | A | C3'-C2'-O2' | 12.34 | 129.20 | 110.70 |
| 1 | A2 | 34 | G | C3'-C2'-O2' | 12.32 | 129.19 | 110.70 |
| 1 | A2 | 1342 | C | C3'-C2'-O2' | 12.32 | 129.17 | 110.70 |
| 18 | BP | 26 | LEU | N-CA-C | 12.31 | 124.25 | 111.07 |
| 1 | A2 | 870 | C | C3'-C2'-O2' | 12.31 | 129.17 | 110.70 |
| 1 | A2 | 1468 | U | C1'-C2'-O2' | 12.31 | 126.86 | 108.40 |
| 1 | A2 | 1342 | C | C1'-C2'-O2' | 12.31 | 126.86 | 108.40 |
| 27 | BY | 86 | GLU | N-CA-C | 12.31 | 124.71 | 109.57 |
| 1 | A2 | 824 | G | C3'-C2'-O2' | 12.30 | 129.16 | 110.70 |
| 1 | A2 | 756 | A | C3'-C2'-O2' | 12.30 | 129.15 | 110.70 |
| 1 | A2 | 150 | U | C3'-C2'-O2' | 12.29 | 129.14 | 110.70 |
| 1 | A2 | 1712 | A | C4'-C3'-O3' | 12.29 | 131.44 | 113.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 1 | A2 | 150 | U | C1'-C2'-O2' | 12.29 | 126.83 | 108.40 |
| 1 | A2 | 764 | U | C3'-C2'-O2' | 12.26 | 129.08 | 110.70 |
| 1 | A2 | 125 | U | C3'-C2'-O2' | 12.25 | 129.08 | 110.70 |
| 1 | A2 | 1635 | A | C3'-C2'-O2' | 12.24 | 129.05 | 110.70 |
| 1 | A2 | 1138 | A | C1'-C2'-O2' | 12.23 | 126.75 | 108.40 |
| 1 | A2 | 803 | A | C2'-C3'-O3' | 12.21 | 132.02 | 113.70 |
| 1 | A2 | 1433 | G | C1'-C2'-O2' | 12.21 | 126.72 | 108.40 |
| 1 | A2 | 1713 | G | C2'-C3'-O3' | 12.21 | 127.81 | 109.50 |
| 1 | A2 | 1066 | C | C3'-C2'-O2' | 12.21 | 129.01 | 110.70 |
| 35 | Bg | 196 | ASN | N-CA-C | 12.21 | 126.64 | 112.72 |
| 1 | A2 | 122 | U | C1'-C2'-O2' | 12.20 | 126.70 | 108.40 |
| 1 | A2 | 1239 | U | C3'-C2'-O2' | 12.19 | 128.98 | 110.70 |
| 1 | A2 | 1396 | U | C3'-C2'-O2' | 12.19 | 128.98 | 110.70 |
| 1 | A2 | 287 | G | C3'-C2'-O2' | 12.18 | 128.97 | 110.70 |
| 1 | A2 | 593 | U | C1'-C2'-O2' | 12.18 | 126.67 | 108.40 |
| 1 | A2 | 1066 | C | C1'-C2'-O2' | 12.17 | 126.66 | 108.40 |
| 1 | A2 | 1677 | C | C3'-C2'-O2' | 12.16 | 128.94 | 110.70 |
| 1 | A2 | 473 | A | C2'-C3'-O3' | 12.14 | 127.72 | 109.50 |
| 1 | A2 | 122 | U | C3'-C2'-O2' | 12.14 | 128.91 | 110.70 |
| 1 | A2 | 711 | U | C4'-C3'-O3' | 12.12 | 127.58 | 109.40 |
| 1 | A2 | 1678 | A | C4'-C3'-O3' | 12.12 | 131.18 | 113.00 |
| 9 | BG | 120 | GLU | N-CA-C | 12.12 | 126.61 | 109.15 |
| 1 | A2 | 471 | A | C1'-C2'-O2' | 12.12 | 126.58 | 108.40 |
| 1 | A2 | 1013 | A | C1'-C2'-O2' | 12.12 | 126.58 | 108.40 |
| 1 | A2 | 1258 | U | C1'-C2'-O2' | 12.11 | 126.56 | 108.40 |
| 1 | A2 | 181 | A | C3'-C2'-O2' | 12.10 | 128.85 | 110.70 |
| 1 | A2 | 870 | C | C1'-C2'-O2' | 12.09 | 126.53 | 108.40 |
| 1 | A2 | 1119 | G | C1'-C2'-O2' | 12.08 | 126.53 | 108.40 |
| 1 | A2 | 287 | G | C1'-C2'-O2' | 12.08 | 126.52 | 108.40 |
| 1 | A2 | 1690 | G | C3'-C2'-O2' | 12.08 | 128.82 | 110.70 |
| 1 | A2 | 1119 | G | C3'-C2'-O2' | 12.08 | 128.81 | 110.70 |
| 1 | A2 | 1032 | G | C1'-C2'-O2' | 12.07 | 126.50 | 108.40 |
| 1 | A2 | 82 | U | C2'-C3'-O3' | 12.06 | 127.60 | 109.50 |
| 1 | A2 | 1343 | U | C1'-C2'-O2' | 12.06 | 126.50 | 108.40 |
| 1 | A2 | 173 | A | C3'-C2'-O2' | 12.06 | 128.79 | 110.70 |
| 1 | A2 | 1708 | U | C2'-C3'-O3' | 12.05 | 127.58 | 109.50 |
| 2 | AZ | 6133 | G | C3'-C2'-O2' | 12.04 | 128.75 | 110.70 |
| 31 | Bc | 55 | VAL | N-CA-C | 12.03 | 125.43 | 107.51 |
| 1 | A2 | 523 | G | C1'-C2'-O2' | 12.02 | 126.44 | 108.40 |
| 1 | A2 | 465 | G | C1'-C2'-O2' | 12.01 | 126.41 | 108.40 |
| 18 | BP | 82 | ASN | N-CA-C | 12.01 | 127.02 | 113.21 |
| 32 | Bd | 22 | ARG | N-CA-C | 11.99 | 124.43 | 111.36 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 1 | A2 | 977 | A | C3'-C2'-O2' | 11.98 | 128.68 | 110.70 |
| 1 | A2 | 391 | A | C1'-C2'-O2' | 11.98 | 126.37 | 108.40 |
| 2 | AZ | 6083 | C | C3'-C2'-O2' | 11.97 | 128.66 | 110.70 |
| 1 | A2 | 1287 | A | C2'-C3'-O3' | 11.96 | 127.43 | 109.50 |
| 1 | A2 | 465 | G | C3'-C2'-O2' | 11.93 | 128.60 | 110.70 |
| 1 | A2 | 1401 | A | C1'-C2'-O2' | 11.92 | 126.27 | 108.40 |
| 1 | A2 | 231 | U | C1'-C2'-O2' | 11.91 | 129.67 | 111.80 |
| 2 | AZ | 6211 | U | C1'-C2'-O2' | 11.90 | 126.26 | 108.40 |
| 1 | A2 | 930 | A | C4'-C3'-O3' | 11.89 | 127.24 | 109.40 |
| 1 | A2 | 1680 | G | C1'-C2'-O2' | 11.88 | 129.62 | 111.80 |
| 1 | A2 | 1710 | U | C2'-C3'-O3' | 11.88 | 131.52 | 113.70 |
| 2 | AZ | 6034 | A | C1'-C2'-O2' | 11.87 | 126.21 | 108.40 |
| 1 | A2 | 84 | A | C1'-C2'-O2' | 11.87 | 126.21 | 108.40 |
| 2 | AZ | 6203 | U | C3'-C2'-O2' | 11.86 | 128.49 | 110.70 |
| 1 | A2 | 658 | C | C1'-C2'-O2' | 11.86 | 126.18 | 108.40 |
| 1 | A2 | 1416 | G | C1'-C2'-O2' | 11.86 | 126.18 | 108.40 |
| 1 | A2 | 470 | A | C3'-C2'-O2' | 11.85 | 128.48 | 110.70 |
| 1 | A2 | 644 | C | C2'-C3'-O3' | 11.85 | 127.28 | 109.50 |
| 2 | AZ | 6175 | A | C1'-C2'-O2' | 11.81 | 126.12 | 108.40 |
| 1 | A2 | 1451 | C | C2'-C3'-O3' | 11.80 | 127.20 | 109.50 |
| 1 | A2 | 477 | A | C3'-C2'-O2' | 11.79 | 128.39 | 110.70 |
| 1 | A2 | 1724 | U | C1'-C2'-O2' | 11.79 | 126.08 | 108.40 |
| 1 | A2 | 1360 | A | C3'-C2'-O2' | 11.78 | 128.37 | 110.70 |
| 8 | BF | 201 | ALA | N-CA-C | 11.78 | 128.27 | 112.25 |
| 1 | A2 | 514 | G | C2'-C3'-O3' | 11.77 | 127.15 | 109.50 |
| 1 | A2 | 376 | C | C2'-C3'-O3' | 11.77 | 131.35 | 113.70 |
| 2 | AZ | 6061 | G | C2'-C3'-O3' | 11.77 | 127.15 | 109.50 |
| 1 | A2 | 1219 | A | C3'-C2'-O2' | 11.76 | 128.35 | 110.70 |
| 1 | A2 | 1367 | G | C1'-C2'-O2' | 11.76 | 126.04 | 108.40 |
| 2 | AZ | 6083 | C | C1'-C2'-O2' | 11.76 | 126.04 | 108.40 |
| 2 | AZ | 6122 | C | C1'-C2'-O2' | 11.75 | 126.03 | 108.40 |
| 1 | A2 | 600 | U | C3'-C2'-O2' | 11.74 | 128.32 | 110.70 |
| 1 | A2 | 1239 | U | C1'-C2'-O2' | 11.74 | 126.01 | 108.40 |
| 1 | A2 | 1152 | A | C3'-C2'-O2' | 11.74 | 128.31 | 110.70 |
| 1 | A2 | 424 | C | C2'-C3'-O3' | 11.73 | 131.30 | 113.70 |
| 1 | A2 | 1178 | G | C4'-C3'-O3' | 11.73 | 126.99 | 109.40 |
| 1 | A2 | 1690 | G | C1'-C2'-O2' | 11.73 | 125.99 | 108.40 |
| 9 | BG | 206 | ALA | N-CA-C | 11.73 | 124.06 | 111.28 |
| 1 | A2 | 1213 | G | C1'-C2'-O2' | 11.72 | 125.98 | 108.40 |
| 1 | A2 | 1414 | U | C3'-C2'-O2' | 11.71 | 132.16 | 114.60 |
| 1 | A2 | 112 | A | C2'-C3'-O3' | 11.71 | 131.26 | 113.70 |
| 1 | A2 | 1344 | A | C2'-C3'-O3' | 11.70 | 131.26 | 113.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 1 | A2 | 183 | U | C3'-C2'-O2' | 11.68 | 128.22 | 110.70 |
| 1 | A2 | 1597 | A | C3'-C2'-O2' | 11.68 | 128.22 | 110.70 |
| 1 | A2 | 257 | A | C4'-C3'-O3' | 11.68 | 126.92 | 109.40 |
| 1 | A2 | 124 | A | C3'-C2'-O2' | 11.67 | 128.21 | 110.70 |
| 1 | A2 | 972 | G | C3'-C2'-O2' | 11.67 | 128.21 | 110.70 |
| 27 | BY | 47 | VAL | N-CA-C | 11.67 | 123.72 | 111.00 |
| 1 | A2 | 881 | A | C3'-C2'-O2' | 11.66 | 128.19 | 110.70 |
| 1 | A2 | 969 | C | C1'-C2'-O2' | 11.64 | 125.86 | 108.40 |
| 1 | A2 | 805 | U | C1'-C2'-O2' | 11.63 | 125.84 | 108.40 |
| 22 | BT | 101 | ASN | N-CA-C | 11.61 | 126.66 | 110.06 |
| 1 | A2 | 805 | U | C3'-C2'-O2' | 11.60 | 128.09 | 110.70 |
| 1 | A2 | 997 | G | O3'-P-O5' | -11.59 | 86.62 | 104.00 |
| 1 | A2 | 1724 | U | C3'-C2'-O2' | 11.58 | 128.06 | 110.70 |
| 1 | A2 | 690 | G | C3'-C2'-O2' | 11.57 | 128.05 | 110.70 |
| 1 | A2 | 714 | G | C1'-C2'-O2' | 11.56 | 125.74 | 108.40 |
| 1 | A2 | 334 | G | C2'-C3'-O3' | 11.54 | 126.82 | 109.50 |
| 1 | A2 | 1373 | C | C1'-C2'-O2' | 11.54 | 125.71 | 108.40 |
| 1 | A2 | 470 | A | C1'-C2'-O2' | 11.53 | 125.69 | 108.40 |
| 1 | A2 | 824 | G | C1'-C2'-O2' | 11.52 | 125.69 | 108.40 |
| 1 | A2 | 1574 | G | C1'-C2'-O2' | 11.52 | 125.69 | 108.40 |
| 1 | A2 | 1378 | U | C3'-C2'-O2' | 11.52 | 127.98 | 110.70 |
| 1 | A2 | 1500 | C | C1'-C2'-O2' | 11.52 | 125.68 | 108.40 |
| 1 | A2 | 257 | A | C2'-C3'-O3' | 11.51 | 126.77 | 109.50 |
| 1 | A2 | 846 | G | C3'-C2'-O2' | 11.50 | 127.95 | 110.70 |
| 1 | A2 | 885 | G | C2'-C3'-O3' | 11.49 | 126.74 | 109.50 |
| 1 | A2 | 764 | U | C1'-C2'-O2' | 11.49 | 125.63 | 108.40 |
| 1 | A2 | 1548 | G | C3'-C2'-O2' | 11.48 | 127.91 | 110.70 |
| 14 | BL | 69 | LYS | N-CA-C | 11.46 | 126.03 | 110.55 |
| 1 | A2 | 1181 | U | C1'-C2'-O2' | 11.46 | 125.59 | 108.40 |
| 7 | BE | 156 | VAL | N-CA-C | 11.46 | 125.41 | 111.09 |
| 1 | A2 | 1154 | G | C2'-C3'-O3' | 11.45 | 130.87 | 113.70 |
| 1 | A2 | 264 | G | C1'-C2'-O2' | 11.45 | 125.57 | 108.40 |
| 1 | A2 | 878 | G | C3'-C2'-O2' | 11.44 | 127.86 | 110.70 |
| 4 | BB | 102 | GLY | CA-C-N | 11.44 | 141.28 | 122.87 |
| 4 | BB | 102 | GLY | C-N-CA | 11.44 | 141.28 | 122.87 |
| 1 | A2 | 1267 | G | C2'-C3'-O3' | 11.44 | 126.65 | 109.50 |
| 27 | BY | 84 | LYS | N-CA-C | 11.43 | 125.75 | 111.69 |
| 1 | A2 | 1264 | G | C1'-C2'-O2' | 11.43 | 125.55 | 108.40 |
| 1 | A2 | 1360 | A | C1'-C2'-O2' | 11.43 | 125.54 | 108.40 |
| 1 | A2 | 221 | A | C3'-C2'-O2' | 11.42 | 127.83 | 110.70 |
| 1 | A2 | 1013 | A | C3'-C2'-O2' | 11.42 | 127.83 | 110.70 |
| 1 | A2 | 166 | C | C3'-C2'-O2' | 11.42 | 127.83 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 1 | A2 | 1300 | A | C3'-C2'-O2' | 11.41 | 127.81 | 110.70 |
| 1 | A2 | 1514 | U | C1'-C2'-O2' | 11.38 | 128.87 | 111.80 |
| 22 | BT | 51 | GLU | N-CA-C | 11.38 | 126.10 | 109.14 |
| 1 | A2 | 1297 | G | C3'-C2'-O2' | 11.38 | 127.77 | 110.70 |
| 1 | A2 | 1448 | G | C3'-C2'-O2' | 11.38 | 127.76 | 110.70 |
| 1 | A2 | 1377 | U | O3'-P-O5' | -11.37 | 86.94 | 104.00 |
| 1 | A2 | 423 | G | C4'-C3'-O3' | 11.37 | 126.45 | 109.40 |
| 1 | A2 | 1720 | G | C2'-C3'-O3' | 11.36 | 130.74 | 113.70 |
| 1 | A2 | 690 | G | C1'-C2'-O2' | 11.36 | 125.44 | 108.40 |
| 1 | A2 | 477 | A | C1'-C2'-O2' | 11.35 | 125.43 | 108.40 |
| 2 | AZ | 6122 | C | C3'-C2'-O2' | 11.35 | 127.72 | 110.70 |
| 1 | A2 | 658 | C | C3'-C2'-O2' | 11.34 | 127.71 | 110.70 |
| 1 | A2 | 1416 | G | C3'-C2'-O2' | 11.33 | 127.69 | 110.70 |
| 2 | AZ | 6211 | U | C3'-C2'-O2' | 11.33 | 127.69 | 110.70 |
| 3 | BA | 193 | GLN | CA-C-N | 11.33 | 134.00 | 119.84 |
| 3 | BA | 193 | GLN | C-N-CA | 11.33 | 134.00 | 119.84 |
| 1 | A2 | 632 | U | C3'-C2'-O2' | 11.33 | 127.69 | 110.70 |
| 1 | A2 | 1339 | C | C3'-C2'-O2' | 11.32 | 127.67 | 110.70 |
| 12 | BJ | 125 | ALA | N-CA-C | 11.31 | 126.34 | 112.54 |
| 1 | A2 | 990 | C | C4'-C3'-O3' | 11.30 | 129.96 | 113.00 |
| 1 | A2 | 264 | G | C3'-C2'-O2' | 11.29 | 127.63 | 110.70 |
| 1 | A2 | 723 | G | C3'-C2'-O2' | 11.29 | 127.63 | 110.70 |
| 1 | A2 | 1597 | A | C1'-C2'-O2' | 11.29 | 125.33 | 108.40 |
| 1 | A2 | 67 | A | C1'-C2'-O2' | 11.26 | 125.30 | 108.40 |
| 1 | A2 | 471 | A | C3'-C2'-O2' | 11.26 | 127.60 | 110.70 |
| 1 | A2 | 1508 | U | C3'-C2'-O2' | 11.26 | 127.59 | 110.70 |
| 1 | A2 | 1687 | U | C1'-C2'-O2' | 11.26 | 125.28 | 108.40 |
| 1 | A2 | 473 | A | C4'-C3'-O3' | 11.25 | 126.28 | 109.40 |
| 1 | A2 | 1106 | U | C2'-C3'-O3' | 11.25 | 130.58 | 113.70 |
| 1 | A2 | 84 | A | C3'-C2'-O2' | 11.24 | 127.56 | 110.70 |
| 1 | A2 | 1258 | U | C3'-C2'-O2' | 11.24 | 127.56 | 110.70 |
| 1 | A2 | 572 | C | C2'-C3'-O3' | 11.23 | 130.55 | 113.70 |
| 1 | A2 | 1739 | C | C1'-C2'-O2' | 11.23 | 125.25 | 108.40 |
| 1 | A2 | 1501 | C | C1'-C2'-O2' | 11.23 | 125.25 | 108.40 |
| 4 | BB | 26 | ARG | N-CA-C | 11.23 | 126.48 | 113.01 |
| 1 | A2 | 1508 | U | C1'-C2'-O2' | 11.21 | 125.22 | 108.40 |
| 1 | A2 | 272 | U | C1'-C2'-O2' | 11.21 | 125.22 | 108.40 |
| 1 | A2 | 1396 | U | C1'-C2'-O2' | 11.21 | 125.21 | 108.40 |
| 1 | A2 | 781 | U | C1'-C2'-O2' | 11.20 | 128.60 | 111.80 |
| 35 | Bg | 10 | ARG | N-CA-C | 11.20 | 127.52 | 109.94 |
| 1 | A2 | 1781 | A | C2'-C3'-O3' | 11.19 | 130.48 | 113.70 |
| 1 | A2 | 1339 | C | C1'-C2'-O2' | 11.19 | 125.18 | 108.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 1 | A2 | 1236 | A | C1'-C2'-O2' | 11.18 | 125.18 | 108.40 |
| 2 | AZ | 6180 | C | C1'-C2'-O2' | 11.18 | 125.17 | 108.40 |
| 1 | A2 | 1092 | A | C2'-C3'-O3' | 11.18 | 126.27 | 109.50 |
| 1 | A2 | 260 | U | C1'-C2'-O2' | 11.17 | 128.56 | 111.80 |
| 1 | A2 | 1293 | U | C2'-C3'-O3' | 11.17 | 130.46 | 113.70 |
| 1 | A2 | 767 | U | C2'-C3'-O3' | 11.17 | 126.25 | 109.50 |
| 1 | A2 | 977 | A | C1'-C2'-O2' | 11.16 | 125.14 | 108.40 |
| 1 | A2 | 711 | U | C2'-C3'-O3' | 11.13 | 126.20 | 109.50 |
| 1 | A2 | 125 | U | C1'-C2'-O2' | 11.13 | 125.09 | 108.40 |
| 12 | BJ | 102 | GLU | N-CA-C | 11.12 | 126.79 | 112.34 |
| 1 | A2 | 1391 | A | C1'-C2'-O2' | 11.11 | 125.07 | 108.40 |
| 1 | A2 | 756 | A | C1'-C2'-O2' | 11.10 | 125.05 | 108.40 |
| 1 | A2 | 1739 | C | C3'-C2'-O2' | 11.10 | 127.35 | 110.70 |
| 1 | A2 | 1138 | A | C3'-C2'-O2' | 11.10 | 127.34 | 110.70 |
| 1 | A2 | 1433 | G | C3'-C2'-O2' | 11.08 | 127.32 | 110.70 |
| 1 | A2 | 1748 | G | C1'-C2'-O2' | 11.07 | 128.41 | 111.80 |
| 1 | A2 | 1171 | A | C2'-C3'-O3' | 11.07 | 130.31 | 113.70 |
| 1 | A2 | 1676 | U | C3'-C2'-O2' | 11.07 | 127.31 | 110.70 |
| 1 | A2 | 190 | C | C2'-C3'-O3' | 11.06 | 126.09 | 109.50 |
| 1 | A2 | 593 | U | C3'-C2'-O2' | 11.05 | 127.28 | 110.70 |
| 1 | A2 | 1181 | U | C3'-C2'-O2' | 11.05 | 127.28 | 110.70 |
| 1 | A2 | 1298 | U | C2'-C3'-O3' | 11.04 | 126.06 | 109.50 |
| 9 | BG | 110 | ALA | N-CA-C | 11.04 | 126.84 | 109.07 |
| 1 | A2 | 1468 | U | C3'-C2'-O2' | 11.01 | 127.21 | 110.70 |
| 1 | A2 | 1268 | G | C3'-C2'-O2' | 11.00 | 127.20 | 110.70 |
| 1 | A2 | 1100 | G | C1'-C2'-O2' | 10.99 | 128.29 | 111.80 |
| 1 | A2 | 1378 | U | C1'-C2'-O2' | 10.98 | 124.87 | 108.40 |
| 1 | A2 | 359 | A | C4'-C3'-O3' | 10.96 | 129.44 | 113.00 |
| 1 | A2 | 1377 | U | P-O3'-C3' | 10.96 | 136.65 | 120.20 |
| 1 | A2 | 1568 | C | C4'-C3'-O3' | 10.96 | 125.85 | 109.40 |
| 1 | A2 | 67 | A | C4'-C3'-O3' | 10.96 | 129.44 | 113.00 |
| 1 | A2 | 1300 | A | C1'-C2'-O2' | 10.96 | 124.84 | 108.40 |
| 1 | A2 | 723 | G | C1'-C2'-O2' | 10.96 | 124.83 | 108.40 |
| 1 | A2 | 181 | A | C1'-C2'-O2' | 10.93 | 124.80 | 108.40 |
| 1 | A2 | 430 | G | C2'-C3'-O3' | 10.93 | 130.09 | 113.70 |
| 12 | BJ | 12 | TYR | N-CA-C | 10.93 | 125.65 | 110.24 |
| 2 | AZ | 6146 | A | C2'-C3'-O3' | 10.92 | 130.08 | 113.70 |
| 1 | A2 | 222 | A | C1'-C2'-O2' | 10.92 | 124.78 | 108.40 |
| 1 | A2 | 714 | G | C3'-C2'-O2' | 10.91 | 127.07 | 110.70 |
| 1 | A2 | 902 | G | C3'-C2'-O2' | 10.91 | 127.06 | 110.70 |
| 1 | A2 | 1713 | G | C4'-C3'-O3' | 10.89 | 125.74 | 109.40 |
| 2 | AZ | 6091 | G | C2'-C3'-O3' | 10.88 | 130.01 | 113.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 1 | A2 | 1264 | G | C3'-C2'-O2' | 10.87 | 127.00 | 110.70 |
| 8 | BF | 67 | PRO | N-CA-C | 10.86 | 134.84 | 112.47 |
| 1 | A2 | 1672 | G | C1'-C2'-O2' | 10.86 | 124.69 | 108.40 |
| 13 | BK | 10 | LYS | N-CA-C | 10.85 | 125.61 | 112.38 |
| 1 | A2 | 1542 | G | C1'-C2'-O2' | 10.83 | 128.04 | 111.80 |
| 5 | BC | 131 | ILE | N-CA-C | 10.83 | 131.86 | 109.34 |
| 1 | A2 | 816 | G | C2'-C3'-O3' | 10.82 | 129.93 | 113.70 |
| 11 | BI | 31 | ARG | N-CA-C | 10.82 | 125.00 | 111.69 |
| 1 | A2 | 1674 | C | C1'-C2'-O2' | 10.81 | 124.61 | 108.40 |
| 1 | A2 | 115 | G | C2'-C3'-O3' | 10.80 | 125.70 | 109.50 |
| 1 | A2 | 1574 | G | C3'-C2'-O2' | 10.79 | 126.89 | 110.70 |
| 1 | A2 | 1642 | G | C2'-C3'-O3' | 10.78 | 129.88 | 113.70 |
| 1 | A2 | 1672 | G | C3'-C2'-O2' | 10.78 | 126.87 | 110.70 |
| 1 | A2 | 597 | G | C2'-C3'-O3' | 10.77 | 125.66 | 109.50 |
| 1 | A2 | 1608 | U | C2'-C3'-O3' | 10.76 | 129.85 | 113.70 |
| 1 | A2 | 1493 | A | C1'-C2'-O2' | 10.75 | 127.92 | 111.80 |
| 1 | A2 | 1758 | U | C2'-C3'-O3' | 10.74 | 125.61 | 109.50 |
| 2 | AZ | 6127 | U | C1'-C2'-O2' | 10.74 | 124.51 | 108.40 |
| 1 | A2 | 501 | U | C1'-C2'-O2' | 10.74 | 124.50 | 108.40 |
| 1 | A2 | 131 | C | C4'-C3'-O3' | 10.73 | 125.49 | 109.40 |
| 1 | A2 | 158 | U | C2'-C3'-O3' | 10.72 | 129.78 | 113.70 |
| 1 | A2 | 456 | A | C2'-C3'-O3' | 10.71 | 125.57 | 109.50 |
| 2 | AZ | 6052 | A | C1'-C2'-O2' | 10.71 | 124.47 | 108.40 |
| 1 | A2 | 578 | U | C2'-C3'-O3' | 10.71 | 125.56 | 109.50 |
| 1 | A2 | 499 | U | C3'-C2'-O2' | 10.70 | 130.65 | 114.60 |
| 1 | A2 | 1629 | G | C2'-C3'-O3' | 10.70 | 129.75 | 113.70 |
| 1 | A2 | 900 | A | C1'-C2'-O2' | 10.69 | 124.43 | 108.40 |
| 1 | A2 | 885 | G | C4'-C3'-O3' | 10.67 | 125.41 | 109.40 |
| 1 | A2 | 1364 | G | C2'-C3'-O3' | 10.67 | 129.70 | 113.70 |
| 1 | A2 | 65 | A | C1'-C2'-O2' | 10.66 | 127.79 | 111.80 |
| 1 | A2 | 1267 | G | C4'-C3'-O3' | 10.66 | 125.39 | 109.40 |
| 1 | A2 | 1442 | U | C2'-C3'-O3' | 10.66 | 129.69 | 113.70 |
| 1 | A2 | 969 | C | C3'-C2'-O2' | 10.66 | 126.69 | 110.70 |
| 2 | AZ | 6124 | G | C4'-C3'-O3' | 10.66 | 128.98 | 113.00 |
| 1 | A2 | 1118 | G | C1'-C2'-O2' | 10.64 | 124.37 | 108.40 |
| 1 | A2 | 1557 | U | C1'-C2'-O2' | 10.64 | 127.77 | 111.80 |
| 1 | A2 | 1752 | U | C2'-C3'-O3' | 10.63 | 129.65 | 113.70 |
| 2 | AZ | 6133 | G | C1'-C2'-O2' | 10.63 | 124.35 | 108.40 |
| 1 | A2 | 1391 | A | C3'-C2'-O2' | 10.62 | 126.62 | 110.70 |
| 1 | A2 | 1373 | C | C3'-C2'-O2' | 10.61 | 126.62 | 110.70 |
| 1 | A2 | 379 | U | C3'-C2'-O2' | 10.60 | 126.60 | 110.70 |
| 22 | BT | 17 | ALA | N-CA-C | 10.60 | 128.81 | 113.02 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 1 | A2 | 1415 | U | C2'-C3'-O3' | 10.59 | 129.59 | 113.70 |
| 1 | A2 | 752 | A | C1'-C2'-O2' | 10.59 | 124.29 | 108.40 |
| 1 | A2 | 1120 | U | C3'-C2'-O2' | 10.59 | 126.59 | 110.70 |
| 2 | AZ | 6073 | A | C2'-C3'-O3' | 10.59 | 129.59 | 113.70 |
| 1 | A2 | 1474 | G | C2'-C3'-O3' | 10.58 | 129.58 | 113.70 |
| 1 | A2 | 1777 | G | C2'-C3'-O3' | 10.58 | 129.57 | 113.70 |
| 2 | AZ | 6115 | U | C1'-C2'-O2' | 10.58 | 124.27 | 108.40 |
| 1 | A2 | 16 | G | N9-C1'-C2' | 10.54 | 127.81 | 112.00 |
| 35 | Bg | 244 | ALA | N-CA-C | 10.53 | 129.18 | 107.37 |
| 25 | BW | 36 | LYS | N-CA-C | 10.52 | 122.74 | 111.28 |
| 1 | A2 | 1178 | G | C2'-C3'-O3' | 10.50 | 125.25 | 109.50 |
| 1 | A2 | 545 | A | C1'-C2'-O2' | 10.49 | 127.53 | 111.80 |
| 1 | A2 | 835 | U | N1-C1'-C2' | 10.48 | 129.72 | 114.00 |
| 1 | A2 | 914 | G | C1'-C2'-O2' | 10.48 | 127.52 | 111.80 |
| 1 | A2 | 1295 | G | C2'-C3'-O3' | 10.47 | 129.40 | 113.70 |
| 1 | A2 | 1535 | U | C3'-C2'-O2' | 10.47 | 130.30 | 114.60 |
| 1 | A2 | 997 | G | OP1-P-O3' | 10.46 | 139.38 | 108.00 |
| 27 | BY | 55 | VAL | N-CA-C | 10.45 | 123.91 | 108.45 |
| 1 | A2 | 813 | U | C3'-C2'-O2' | 10.45 | 130.27 | 114.60 |
| 1 | A2 | 1346 | A | C1'-C2'-O2' | 10.44 | 127.47 | 111.80 |
| 27 | BY | 101 | GLU | N-CA-C | 10.44 | 126.23 | 111.30 |
| 1 | A2 | 1242 | A | C1'-C2'-O2' | 10.44 | 124.06 | 108.40 |
| 1 | A2 | 417 | A | C4'-C3'-O3' | 10.44 | 125.06 | 109.40 |
| 14 | BL | 20 | PHE | N-CA-C | 10.43 | 125.74 | 108.73 |
| 1 | A2 | 1410 | A | C1'-C2'-O2' | 10.42 | 124.03 | 108.40 |
| 1 | A2 | 286 | C | C2'-C3'-O3' | 10.40 | 129.31 | 113.70 |
| 19 | BQ | 64 | ASP | N-CA-C | 10.40 | 125.16 | 108.41 |
| 1 | A2 | 427 | C | C4'-C3'-O3' | 10.39 | 128.59 | 113.00 |
| 11 | BI | 20 | GLN | N-CA-C | 10.39 | 124.89 | 110.24 |
| 1 | A2 | 220 | A | C4'-C3'-O3' | 10.38 | 128.57 | 113.00 |
| 1 | A2 | 417 | A | C2'-C3'-O3' | 10.38 | 125.07 | 109.50 |
| 1 | A2 | 1295 | G | C4'-C3'-O3' | 10.38 | 128.57 | 113.00 |
| 14 | BL | 63 | LEU | N-CA-C | 10.38 | 123.73 | 110.65 |
| 1 | A2 | 1789 | G | C2'-C3'-O3' | 10.37 | 129.26 | 113.70 |
| 2 | AZ | 6079 | A | C3'-C2'-O2' | 10.36 | 126.24 | 110.70 |
| 1 | A2 | 577 | G | C2'-C3'-O3' | 10.36 | 129.24 | 113.70 |
| 23 | BU | 24 | ILE | N-CA-C | 10.36 | 123.62 | 107.98 |
| 1 | A2 | 342 | C | C3'-C2'-O2' | 10.35 | 126.23 | 110.70 |
| 1 | A2 | 351 | C | C1'-C2'-O2' | 10.35 | 127.32 | 111.80 |
| 1 | A2 | 564 | G | C1'-C2'-O2' | 10.34 | 127.30 | 111.80 |
| 1 | A2 | 315 | A | C1'-C2'-O2' | 10.33 | 127.30 | 111.80 |
| 1 | A2 | 917 | U | C1'-C2'-O2' | 10.33 | 123.90 | 108.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 1 | A2 | 1449 | U | N1-C1'-C2' | 10.33 | 129.49 | 114.00 |
| 35 | Bg | 273 | ASP | N-CA-C | 10.32 | 124.67 | 108.67 |
| 1 | A2 | 724 | C | N1-C1'-C2' | 10.30 | 129.45 | 114.00 |
| 1 | A2 | 10 | G | C3'-C2'-O2' | 10.29 | 126.14 | 110.70 |
| 1 | A2 | 930 | A | C2'-C3'-O3' | 10.28 | 124.92 | 109.50 |
| 2 | AZ | 6113 | U | C3'-C2'-O2' | 10.26 | 126.09 | 110.70 |
| 2 | AZ | 6203 | U | C1'-C2'-O2' | 10.26 | 123.79 | 108.40 |
| 1 | A2 | 131 | C | C3'-C2'-O2' | 10.24 | 129.96 | 114.60 |
| 1 | A2 | 882 | U | C4'-C3'-O3' | 10.24 | 124.76 | 109.40 |
| 18 | BP | 102 | PHE | N-CA-C | 10.22 | 124.89 | 110.68 |
| 16 | BN | 20 | ARG | N-CA-C | 10.22 | 122.01 | 111.07 |
| 10 | BH | 72 | LYS | N-CA-C | 10.22 | 124.83 | 111.75 |
| 1 | A2 | 1647 | U | C2'-C3'-O3' | 10.18 | 128.97 | 113.70 |
| 1 | A2 | 1237 | G | C2'-C3'-O3' | 10.18 | 128.97 | 113.70 |
| 1 | A2 | 1471 | A | C2'-C3'-O3' | 10.14 | 128.92 | 113.70 |
| 1 | A2 | 733 | A | C4'-C3'-O3' | 10.13 | 124.59 | 109.40 |
| 1 | A2 | 919 | A | C1'-C2'-O2' | 10.12 | 123.59 | 108.40 |
| 1 | A2 | 1092 | A | C4'-C3'-O3' | 10.12 | 124.59 | 109.40 |
| 1 | A2 | 478 | A | C1'-C2'-O2' | 10.11 | 126.97 | 111.80 |
| 20 | BR | 18 | GLU | N-CA-C | 10.11 | 123.24 | 111.11 |
| 29 | Ba | 84 | VAL | N-CA-C | 10.10 | 125.65 | 113.22 |
| 1 | A2 | 1064 | G | C1'-C2'-O2' | 10.09 | 123.53 | 108.40 |
| 1 | A2 | 644 | C | C4'-C3'-O3' | 10.08 | 124.52 | 109.40 |
| 1 | A2 | 884 | A | C2'-C3'-O3' | 10.07 | 128.81 | 113.70 |
| 1 | A2 | 859 | A | C1'-C2'-O2' | 10.06 | 126.89 | 111.80 |
| 1 | A2 | 894 | U | C1'-C2'-O2' | 10.05 | 126.88 | 111.80 |
| 1 | A2 | 1509 | C | C4'-C3'-O3' | 10.04 | 124.47 | 109.40 |
| 35 | Bg | 72 | THR | N-CA-C | 10.04 | 125.36 | 110.30 |
| 1 | A2 | 822 | U | C3'-C2'-O2' | 10.04 | 125.75 | 110.70 |
| 1 | A2 | 188 | A | C2'-C3'-O3' | 10.03 | 128.74 | 113.70 |
| 1 | A2 | 389 | G | C1'-C2'-O2' | 10.03 | 126.84 | 111.80 |
| 1 | A2 | 1282 | U | C3'-C2'-O2' | 10.02 | 125.73 | 110.70 |
| 1 | A2 | 265 | A | C1'-C2'-O2' | 10.02 | 126.83 | 111.80 |
| 1 | A2 | 1363 | U | N1-C1'-C2' | 10.01 | 127.01 | 112.00 |
| 2 | AZ | 6091 | G | C4'-C3'-O3' | 10.01 | 128.01 | 113.00 |
| 1 | A2 | 1586 | A | C1'-C2'-O2' | 10.00 | 123.41 | 108.40 |
| 2 | AZ | 6061 | G | C4'-C3'-O3' | 10.00 | 124.40 | 109.40 |
| 1 | A2 | 272 | U | C3'-C2'-O2' | 10.00 | 125.69 | 110.70 |
| 1 | A2 | 144 | U | C3'-C2'-O2' | 9.99 | 125.69 | 110.70 |
| 30 | Bb | 8 | LEU | N-CA-C | 9.99 | 124.80 | 108.52 |
| 21 | BS | 58 | ALA | N-CA-C | 9.99 | 125.27 | 113.18 |
| 1 | A2 | 504 | U | C2'-C3'-O3' | 9.97 | 128.66 | 113.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 35 | Bg | 9 | LEU | N-CA-C | 9.97 | 125.38 | 108.23 |
| 1 | A2 | 1065 | A | C2'-C3'-O3' | 9.95 | 128.63 | 113.70 |
| 9 | BG | 111 | LEU | N-CA-C | 9.95 | 125.49 | 113.16 |
| 1 | A2 | 1020 | A | C2'-C3'-O3' | 9.93 | 128.60 | 113.70 |
| 1 | A2 | 115 | G | C4'-C3'-O3' | 9.93 | 124.29 | 109.40 |
| 1 | A2 | 721 | U | C2'-C3'-O3' | 9.93 | 124.39 | 109.50 |
| 1 | A2 | 1641 | C | C3'-C2'-O2' | 9.92 | 125.59 | 110.70 |
| 1 | A2 | 1371 | A | C1'-C2'-O2' | 9.92 | 126.68 | 111.80 |
| 1 | A2 | 220 | A | C2'-C3'-O3' | -9.92 | 98.82 | 113.70 |
| 1 | A2 | 1285 | U | C1'-C2'-O2' | 9.90 | 126.66 | 111.80 |
| 2 | AZ | 6155 | G | C2'-C3'-O3' | 9.90 | 128.56 | 113.70 |
| 35 | Bg | 299 | GLN | N-CA-C | 9.90 | 125.85 | 112.68 |
| 1 | A2 | 1388 | A | OP1-P-O3' | -9.89 | 78.32 | 108.00 |
| 11 | BI | 183 | ILE | N-CA-C | 9.89 | 122.34 | 109.58 |
| 1 | A2 | 142 | G | C2'-C3'-O3' | 9.89 | 128.54 | 113.70 |
| 1 | A2 | 1137 | A | C1'-C2'-O2' | 9.89 | 126.64 | 111.80 |
| 1 | A2 | 101 | U | C1'-C2'-O2' | 9.89 | 126.63 | 111.80 |
| 1 | A2 | 223 | U | C4'-C3'-O3' | 9.89 | 127.83 | 113.00 |
| 10 | BH | 26 | GLU | N-CA-C | 9.88 | 125.15 | 112.89 |
| 19 | BQ | 63 | ILE | N-CA-C | 9.87 | 122.21 | 106.32 |
| 2 | AZ | 6070 | A | C2'-C3'-O3' | 9.87 | 124.30 | 109.50 |
| 1 | A2 | 1230 | A | C3'-C2'-O2' | 9.86 | 129.39 | 114.60 |
| 1 | A2 | 1240 | U | C4'-C3'-O3' | 9.85 | 127.77 | 113.00 |
| 1 | A2 | 146 | U | C2'-C3'-O3' | 9.84 | 128.46 | 113.70 |
| 1 | A2 | 921 | U | C2'-C3'-O3' | 9.84 | 128.46 | 113.70 |
| 1 | A2 | 918 | U | C4'-C3'-O3' | 9.82 | 127.74 | 113.00 |
| 1 | A2 | 90 | C | C2'-C3'-O3' | 9.81 | 128.42 | 113.70 |
| 12 | BJ | 163 | PRO | N-CA-C | 9.81 | 128.04 | 113.81 |
| 1 | A2 | 74 | U | N1-C1'-C2' | 9.81 | 128.71 | 114.00 |
| 1 | A2 | 842 | C | C1'-C2'-O2' | 9.79 | 123.09 | 108.40 |
| 1 | A2 | 82 | U | C4'-C3'-O3' | 9.79 | 124.09 | 109.40 |
| 33 | Be | 56 | MET | N-CA-C | 9.79 | 124.32 | 112.38 |
| 21 | BS | 47 | CYS | N-CA-C | 9.79 | 125.36 | 113.23 |
| 9 | BG | 14 | LYS | N-CA-C | 9.78 | 122.65 | 108.86 |
| 1 | A2 | 1753 | A | C4'-C3'-O3' | 9.76 | 127.64 | 113.00 |
| 1 | A2 | 9 | U | C4'-C3'-O3' | 9.76 | 127.64 | 113.00 |
| 5 | BC | 164 | SER | N-CA-C | 9.76 | 125.31 | 113.41 |
| 1 | A2 | 1495 | C | C4'-C3'-O3' | 9.76 | 127.63 | 113.00 |
| 1 | A2 | 223 | U | C2'-C3'-O3' | 9.75 | 128.32 | 113.70 |
| 1 | A2 | 1137 | A | C3'-C2'-O2' | 9.75 | 129.22 | 114.60 |
| 1 | A2 | 110 | U | C1'-C2'-O2' | 9.74 | 126.42 | 111.80 |
| 1 | A2 | 844 | A | C1'-C2'-O2' | 9.74 | 123.00 | 108.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 1 | A2 | 1471 | A | C4'-C3'-O3' | 9.74 | 127.60 | 113.00 |
| 1 | A2 | 1483 | A | C2'-C3'-O3' | 9.73 | 128.30 | 113.70 |
| 2 | AZ | 6059 | G | C1'-C2'-O2' | 9.73 | 126.40 | 111.80 |
| 1 | A2 | 1629 | G | C4'-C3'-O3' | 9.73 | 127.59 | 113.00 |
| 1 | A2 | 939 | A | C4'-C3'-O3' | 9.72 | 127.58 | 113.00 |
| 2 | AZ | 6139 | G | C4'-C3'-O3' | 9.72 | 123.98 | 109.40 |
| 1 | A2 | 137 | U | C4'-C3'-O3' | 9.71 | 123.97 | 109.40 |
| 1 | A2 | 750 | U | C1'-C2'-O2' | 9.71 | 126.36 | 111.80 |
| 1 | A2 | 859 | A | C3'-C2'-O2' | 9.69 | 129.13 | 114.60 |
| 8 | BF | 30 | PRO | N-CA-C | 9.69 | 132.43 | 112.47 |
| 29 | Ba | 72 | HIS | N-CA-C | 9.68 | 125.16 | 109.76 |
| 1 | A2 | 1317 | C | C4'-C3'-O3' | 9.68 | 127.52 | 113.00 |
| 11 | BI | 74 | LYS | N-CA-C | 9.65 | 126.18 | 109.96 |
| 21 | BS | 50 | ALA | N-CA-C | 9.65 | 125.67 | 110.32 |
| 1 | A2 | 161 | U | C4'-C3'-O3' | 9.65 | 127.47 | 113.00 |
| 1 | A2 | 744 | U | C2'-C3'-O3' | 9.64 | 128.16 | 113.70 |
| 1 | A2 | 1125 | A | C2'-C3'-O3' | 9.64 | 128.16 | 113.70 |
| 1 | A2 | 1573 | A | C4'-C3'-O3' | 9.64 | 123.86 | 109.40 |
| 1 | A2 | 352 | A | OP2-P-O3' | 9.63 | 136.89 | 108.00 |
| 1 | A2 | 1012 | U | C4'-C3'-O3' | 9.63 | 127.44 | 113.00 |
| 1 | A2 | 545 | A | N9-C1'-C2' | 9.62 | 128.42 | 114.00 |
| 1 | A2 | 1638 | G | C2'-C3'-O3' | 9.61 | 128.12 | 113.70 |
| 1 | A2 | 102 | U | C2'-C3'-O3' | 9.60 | 128.10 | 113.70 |
| 1 | A2 | 939 | A | C2'-C3'-O3' | 9.60 | 128.10 | 113.70 |
| 1 | A2 | 1447 | C | C4'-C3'-O3' | 9.60 | 123.80 | 109.40 |
| 6 | BD | 94 | ARG | N-CA-C | 9.59 | 124.03 | 111.75 |
| 3 | BA | 204 | TYR | N-CA-C | 9.58 | 122.89 | 110.53 |
| 29 | Ba | 68 | TYR | N-CA-C | 9.58 | 124.12 | 110.23 |
| 7 | BE | 39 | ARG | N-CA-C | 9.58 | 124.77 | 113.18 |
| 1 | A2 | 478 | A | C3'-C2'-O2' | 9.57 | 128.96 | 114.60 |
| 1 | A2 | 597 | G | C4'-C3'-O3' | 9.57 | 123.76 | 109.40 |
| 1 | A2 | 1176 | G | C2'-C3'-O3' | 9.55 | 128.03 | 113.70 |
| 1 | A2 | 1451 | C | C4'-C3'-O3' | 9.55 | 123.72 | 109.40 |
| 12 | BJ | 48 | GLN | N-CA-C | 9.54 | 124.74 | 112.34 |
| 1 | A2 | 334 | G | C4'-C3'-O3' | 9.53 | 123.70 | 109.40 |
| 1 | A2 | 410 | A | C1'-C2'-O2' | 9.53 | 126.09 | 111.80 |
| 1 | A2 | 1325 | A | C2'-C3'-O3' | 9.52 | 127.99 | 113.70 |
| 1 | A2 | 1580 | C | N1-C1'-C2' | 9.52 | 128.28 | 114.00 |
| 1 | A2 | 1420 | C | C2'-C3'-O3' | 9.51 | 127.96 | 113.70 |
| 1 | A2 | 67 | A | C2'-C3'-O3' | 9.50 | 127.96 | 113.70 |
| 3 | BA | 75 | ALA | N-CA-C | 9.50 | 124.03 | 108.26 |
| 1 | A2 | 1294 | G | N9-C1'-C2' | 9.47 | 126.21 | 112.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 2 | AZ | 6129 | C | C2'-C3'-O3' | 9.47 | 127.90 | 113.70 |
| 1 | A2 | 131 | C | C1'-C2'-O2' | 9.46 | 125.99 | 111.80 |
| 1 | A2 | 1406 | A | C3'-C2'-O2' | 9.45 | 128.78 | 114.60 |
| 4 | BB | 163 | ALA | N-CA-C | 9.45 | 123.84 | 111.75 |
| 1 | A2 | 1683 | C | C4'-C3'-O3' | 9.44 | 127.16 | 113.00 |
| 1 | A2 | 894 | U | C3'-C2'-O2' | 9.38 | 128.68 | 114.60 |
| 1 | A2 | 761 | G | C2'-C3'-O3' | 9.38 | 127.78 | 113.70 |
| 4 | BB | 135 | LEU | N-CA-C | 9.38 | 124.19 | 108.90 |
| 1 | A2 | 1259 | U | C2'-C3'-O3' | 9.38 | 127.76 | 113.70 |
| 1 | A2 | 1406 | A | C1'-C2'-O2' | 9.37 | 125.85 | 111.80 |
| 1 | A2 | 944 | A | C1'-C2'-O2' | 9.36 | 125.84 | 111.80 |
| 1 | A2 | 452 | A | N9-C1'-C2' | 9.36 | 128.04 | 114.00 |
| 1 | A2 | 717 | C | C1'-C2'-O2' | 9.35 | 122.43 | 108.40 |
| 1 | A2 | 1286 | U | C1'-C2'-O2' | 9.35 | 122.43 | 108.40 |
| 1 | A2 | 1685 | G | N9-C1'-C2' | 9.35 | 128.02 | 114.00 |
| 26 | BX | 33 | LEU | N-CA-C | 9.34 | 125.86 | 113.72 |
| 1 | A2 | 1743 | U | C2'-C3'-O3' | 9.33 | 127.70 | 113.70 |
| 1 | A2 | 1175 | U | C2'-C3'-O3' | 9.32 | 127.68 | 113.70 |
| 1 | A2 | 1577 | A | C2'-C3'-O3' | 9.32 | 127.67 | 113.70 |
| 2 | AZ | 6145 | C | N1-C1'-C2' | 9.32 | 125.97 | 112.00 |
| 1 | A2 | 1055 | U | C2'-C3'-O3' | 9.31 | 127.67 | 113.70 |
| 7 | BE | 213 | SER | N-CA-C | 9.31 | 124.45 | 112.34 |
| 35 | Bg | 92 | TRP | N-CA-C | 9.31 | 124.26 | 110.48 |
| 1 | A2 | 852 | C | C2'-C3'-O3' | 9.31 | 127.67 | 113.70 |
| 1 | A2 | 149 | C | C2'-C3'-O3' | 9.31 | 127.66 | 113.70 |
| 1 | A2 | 759 | U | C2'-C3'-O3' | 9.31 | 127.66 | 113.70 |
| 1 | A2 | 603 | U | C2'-C3'-O3' | 9.30 | 127.65 | 113.70 |
| 16 | BN | 45 | LEU | N-CA-C | 9.30 | 124.78 | 110.36 |
| 11 | BI | 73 | SER | N-CA-C | 9.30 | 127.11 | 107.67 |
| 1 | A2 | 1603 | U | C2'-C3'-O3' | 9.30 | 127.65 | 113.70 |
| 5 | BC | 179 | VAL | N-CA-C | 9.29 | 128.67 | 109.34 |
| 1 | A2 | 1525 | A | C4'-C3'-O3' | 9.29 | 126.93 | 113.00 |
| 11 | BI | 57 | ALA | N-CA-C | 9.28 | 124.57 | 109.72 |
| 1 | A2 | 10 | G | N9-C1'-C2' | 9.28 | 125.92 | 112.00 |
| 1 | A2 | 1052 | U | C1'-C2'-O2' | 9.27 | 125.71 | 111.80 |
| 2 | AZ | 6121 | C | C2'-C3'-O3' | 9.26 | 127.59 | 113.70 |
| 1 | A2 | 1041 | G | C4'-C3'-O3' | 9.26 | 126.88 | 113.00 |
| 1 | A2 | 794 | U | C4'-C3'-O3' | 9.25 | 123.28 | 109.40 |
| 2 | AZ | 6025 | A | C3'-C2'-O2' | 9.24 | 124.56 | 110.70 |
| 6 | BD | 200 | LYS | N-CA-C | 9.24 | 124.55 | 113.28 |
| 1 | A2 | 502 | U | C2'-C3'-O3' | 9.24 | 127.56 | 113.70 |
| 8 | BF | 118 | LEU | N-CA-C | 9.22 | 123.94 | 112.87 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 14 | BL | 31 | THR | N-CA-C | 9.22 | 123.50 | 110.50 |
| 1 | A2 | 1012 | U | C2'-C3'-O3' | 9.22 | 127.53 | 113.70 |
| 1 | A2 | 456 | A | C4'-C3'-O3' | 9.22 | 123.23 | 109.40 |
| 1 | A2 | 820 | U | C2'-C3'-O3' | 9.22 | 127.53 | 113.70 |
| 1 | A2 | 1578 | U | C3'-C2'-O2' | 9.22 | 128.43 | 114.60 |
| 31 | Bc | 51 | ASN | CB-CA-C | 9.21 | 118.95 | 109.83 |
| 1 | A2 | 1294 | G | C4'-C3'-O3' | 9.21 | 126.82 | 113.00 |
| 2 | AZ | 6197 | U | C2'-C3'-O3' | 9.19 | 127.48 | 113.70 |
| 8 | BF | 186 | ASN | N-CA-C | 9.19 | 124.22 | 109.24 |
| 1 | A2 | 481 | A | C4'-C3'-O3' | 9.18 | 126.77 | 113.00 |
| 1 | A2 | 65 | A | C3'-C2'-O2' | 9.17 | 128.36 | 114.60 |
| 1 | A2 | 624 | G | C3'-C2'-O2' | 9.17 | 128.36 | 114.60 |
| 1 | A2 | 1561 | U | C2'-C3'-O3' | 9.17 | 127.46 | 113.70 |
| 2 | AZ | 6109 | U | N1-C1'-C2' | 9.17 | 125.76 | 112.00 |
| 1 | A2 | 88 | U | C4'-C3'-O3' | 9.16 | 126.74 | 113.00 |
| 1 | A2 | 528 | U | C2'-C3'-O3' | 9.15 | 127.43 | 113.70 |
| 4 | BB | 98 | THR | N-CA-C | 9.15 | 124.32 | 109.40 |
| 19 | BQ | 62 | ASN | N-CA-C | 9.13 | 122.37 | 111.33 |
| 1 | A2 | 1287 | A | C4'-C3'-O3' | 9.12 | 123.08 | 109.40 |
| 4 | BB | 164 | ILE | N-CA-C | 9.12 | 122.45 | 111.05 |
| 1 | A2 | 1369 | U | N1-C1'-C2' | 9.12 | 125.67 | 112.00 |
| 1 | A2 | 566 | C | C1'-C2'-O2' | 9.10 | 125.46 | 111.80 |
| 1 | A2 | 289 | U | C3'-C2'-O2' | 9.10 | 124.35 | 110.70 |
| 1 | A2 | 545 | A | C3'-C2'-O2' | 9.10 | 128.25 | 114.60 |
| 1 | A2 | 362 | G | C2'-C3'-O3' | 9.10 | 127.34 | 113.70 |
| 17 | BO | 67 | VAL | N-CA-C | 9.09 | 124.31 | 112.76 |
| 1 | A2 | 1388 | A | O3'-P-O5' | 9.09 | 117.63 | 104.00 |
| 35 | Bg | 188 | ILE | N-CA-C | 9.09 | 121.25 | 107.99 |
| 1 | A2 | 1371 | A | C3'-C2'-O2' | 9.08 | 128.22 | 114.60 |
| 13 | BK | 59 | PHE | N-CA-C | 9.07 | 130.12 | 110.80 |
| 1 | A2 | 820 | U | C4'-C3'-O3' | 9.07 | 126.60 | 113.00 |
| 1 | A2 | 1570 | A | C2'-C3'-O3' | 9.07 | 127.30 | 113.70 |
| 1 | A2 | 1450 | U | C4'-C3'-O3' | 9.06 | 126.60 | 113.00 |
| 5 | BC | 126 | ARG | N-CA-C | 9.05 | 130.09 | 110.80 |
| 1 | A2 | 473 | A | C5'-C4'-C3' | 9.05 | 128.78 | 115.20 |
| 1 | A2 | 1372 | U | C2'-C3'-O3' | 9.04 | 127.26 | 113.70 |
| 1 | A2 | 504 | U | C4'-C3'-O3' | 9.04 | 126.56 | 113.00 |
| 1 | A2 | 1321 | A | C4'-C3'-O3' | 9.04 | 122.95 | 109.40 |
| 4 | BB | 224 | ASP | N-CA-C | 9.04 | 123.86 | 111.39 |
| 27 | BY | 93 | ARG | N-CA-C | 9.04 | 121.13 | 111.28 |
| 21 | BS | 52 | VAL | N-CA-C | 9.03 | 123.08 | 109.17 |
| 2 | AZ | 6163 | C | N1-C1'-C2' | 9.03 | 127.55 | 114.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 1 | A2 | 1293 | U | C4'-C3'-O3' | 9.03 | 126.54 | 113.00 |
| 1 | A2 | 41 | A | C2'-C3'-O3' | 9.02 | 127.23 | 113.70 |
| 3 | BA | 111 | ILE | N-CA-C | 9.02 | 128.10 | 109.34 |
| 1 | A2 | 143 | G | C2'-C3'-O3' | 9.02 | 127.23 | 113.70 |
| 1 | A2 | 738 | G | C2'-C3'-O3' | 9.02 | 127.23 | 113.70 |
| 1 | A2 | 1317 | C | C2'-C3'-O3' | 9.02 | 127.22 | 113.70 |
| 2 | AZ | 6217 | A | C2'-C3'-O3' | 9.01 | 127.22 | 113.70 |
| 1 | A2 | 1438 | G | C2'-C3'-O3' | 9.00 | 127.20 | 113.70 |
| 1 | A2 | 573 | C | C2'-C3'-O3' | 8.99 | 127.19 | 113.70 |
| 1 | A2 | 599 | A | C2'-C3'-O3' | 8.98 | 127.18 | 113.70 |
| 1 | A2 | 1092 | A | N9-C1'-C2' | 8.98 | 127.47 | 114.00 |
| 1 | A2 | 1449 | U | C5'-C4'-C3' | 8.98 | 128.67 | 115.20 |
| 6 | BD | 141 | LYS | N-CA-C | 8.97 | 126.46 | 107.70 |
| 1 | A2 | 750 | U | C3'-C2'-O2' | 8.97 | 128.06 | 114.60 |
| 1 | A2 | 1578 | U | C1'-C2'-O2' | 8.96 | 125.25 | 111.80 |
| 23 | BU | 84 | MET | N-CA-C | 8.96 | 122.05 | 109.15 |
| 1 | A2 | 539 | G | C4'-C3'-O3' | 8.95 | 122.82 | 109.40 |
| 1 | A2 | 1058 | U | N1-C1'-C2' | 8.94 | 127.41 | 114.00 |
| 1 | A2 | 494 | U | C3'-C2'-O2' | 8.94 | 128.00 | 114.60 |
| 1 | A2 | 753 | A | C2'-C3'-O3' | 8.94 | 127.11 | 113.70 |
| 1 | A2 | 1291 | G | C4'-C3'-O3' | 8.94 | 126.41 | 113.00 |
| 1 | A2 | 1777 | G | C4'-C3'-O3' | 8.93 | 126.39 | 113.00 |
| 1 | A2 | 295 | A | C2'-C3'-O3' | 8.93 | 127.09 | 113.70 |
| 1 | A2 | 941 | A | C2'-C3'-O3' | 8.92 | 127.09 | 113.70 |
| 1 | A2 | 944 | A | C3'-C2'-O2' | 8.92 | 127.97 | 114.60 |
| 1 | A2 | 376 | C | C4'-C3'-O3' | 8.91 | 126.36 | 113.00 |
| 2 | AZ | 6055 | U | C2'-C3'-O3' | 8.91 | 127.06 | 113.70 |
| 1 | A2 | 740 | A | C2'-C3'-O3' | 8.89 | 127.04 | 113.70 |
| 1 | A2 | 1761 | U | C2'-C3'-O3' | 8.88 | 122.83 | 109.50 |
| 1 | A2 | 295 | A | C4'-C3'-O3' | 8.88 | 126.32 | 113.00 |
| 1 | A2 | 899 | G | N9-C1'-C2' | 8.87 | 125.31 | 112.00 |
| 1 | A2 | 132 | U | C3'-C2'-O2' | 8.87 | 127.90 | 114.60 |
| 1 | A2 | 1496 | U | C4'-C3'-O3' | 8.87 | 122.70 | 109.40 |
| 1 | A2 | 1759 | C | C2'-C3'-O3' | 8.87 | 127.00 | 113.70 |
| 1 | A2 | 38 | C | C2'-C3'-O3' | 8.85 | 126.98 | 113.70 |
| 1 | A2 | 1756 | A | C4'-C3'-O3' | 8.85 | 122.68 | 109.40 |
| 1 | A2 | 58 | U | N1-C1'-C2' | 8.84 | 125.27 | 112.00 |
| 1 | A2 | 190 | C | C4'-C3'-O3' | 8.84 | 122.66 | 109.40 |
| 19 | BQ | 123 | ARG | N-CA-C | 8.84 | 122.20 | 110.36 |
| 1 | A2 | 1542 | G | C3'-C2'-O2' | 8.84 | 127.85 | 114.60 |
| 1 | A2 | 821 | U | C4'-C3'-O3' | 8.82 | 126.23 | 113.00 |
| 1 | A2 | 566 | C | C3'-C2'-O2' | 8.82 | 127.83 | 114.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 25 | BW | 126 | LEU | N-CA-C | 8.81 | 124.39 | 112.68 |
| 1 | A2 | 1720 | G | C4'-C3'-O3' | 8.80 | 126.19 | 113.00 |
| 1 | A2 | 138 | A | C2'-C3'-O3' | 8.79 | 126.89 | 113.70 |
| 1 | A2 | 1514 | U | C3'-C2'-O2' | 8.79 | 127.79 | 114.60 |
| 1 | A2 | 1113 | A | C1'-C2'-O2' | 8.79 | 124.99 | 111.80 |
| 2 | AZ | 6113 | U | N1-C1'-C2' | 8.78 | 125.17 | 112.00 |
| 6 | BD | 163 | PRO | N-CA-C | 8.78 | 130.56 | 112.47 |
| 1 | A2 | 410 | A | C3'-C2'-O2' | 8.78 | 127.76 | 114.60 |
| 1 | A2 | 562 | G | C2'-C3'-O3' | 8.78 | 126.86 | 113.70 |
| 1 | A2 | 389 | G | C3'-C2'-O2' | 8.77 | 127.75 | 114.60 |
| 7 | BE | 120 | SER | N-CA-C | 8.77 | 129.48 | 110.80 |
| 5 | BC | 36 | VAL | CA-C-N | -8.77 | 108.88 | 119.84 |
| 5 | BC | 36 | VAL | C-N-CA | -8.77 | 108.88 | 119.84 |
| 1 | A2 | 787 | G | C4'-C3'-O3' | 8.76 | 126.15 | 113.00 |
| 6 | BD | 41 | VAL | N-CA-C | 8.76 | 121.77 | 108.71 |
| 1 | A2 | 813 | U | C1'-C2'-O2' | 8.75 | 124.93 | 111.80 |
| 1 | A2 | 454 | U | C4'-C3'-O3' | 8.75 | 122.52 | 109.40 |
| 1 | A2 | 529 | A | C2'-C3'-O3' | 8.75 | 126.82 | 113.70 |
| 1 | A2 | 1418 | G | C4'-C3'-O3' | 8.75 | 126.12 | 113.00 |
| 30 | Bb | 19 | HIS | N-CA-C | 8.75 | 123.67 | 109.76 |
| 1 | A2 | 231 | U | C3'-C2'-O2' | 8.74 | 127.72 | 114.60 |
| 1 | A2 | 1467 | C | C4'-C3'-O3' | 8.74 | 126.12 | 113.00 |
| 1 | A2 | 743 | U | C2'-C3'-O3' | 8.74 | 126.81 | 113.70 |
| 33 | Be | 18 | THR | N-CA-C | 8.73 | 124.10 | 108.47 |
| 1 | A2 | 1418 | G | C2'-C3'-O3' | 8.73 | 126.79 | 113.70 |
| 11 | BI | 193 | LEU | N-CA-C | 8.73 | 123.68 | 112.34 |
| 1 | A2 | 87 | C | C2'-C3'-O3' | 8.72 | 126.79 | 113.70 |
| 1 | A2 | 481 | A | C2'-C3'-O3' | 8.72 | 126.79 | 113.70 |
| 1 | A2 | 1236 | A | N9-C1'-C2' | 8.72 | 125.09 | 112.00 |
| 1 | A2 | 132 | U | C1'-C2'-O2' | 8.72 | 124.88 | 111.80 |
| 1 | A2 | 1493 | A | N9-C1'-C2' | 8.72 | 127.08 | 114.00 |
| 26 | BX | 90 | ALA | N-CA-C | 8.72 | 129.37 | 110.80 |
| 1 | A2 | 330 | G | C4'-C3'-O3' | 8.71 | 126.07 | 113.00 |
| 29 | Ba | 71 | LEU | N-CA-C | 8.71 | 122.87 | 107.80 |
| 6 | BD | 123 | VAL | N-CA-C | 8.71 | 127.45 | 109.34 |
| 1 | A2 | 1662 | G | C2'-C3'-O3' | 8.70 | 126.75 | 113.70 |
| 1 | A2 | 933 | A | N9-C1'-C2' | 8.69 | 127.03 | 114.00 |
| 1 | A2 | 1671 | A | C2'-C3'-O3' | 8.69 | 126.73 | 113.70 |
| 1 | A2 | 1709 | C | C2'-C3'-O3' | 8.69 | 126.73 | 113.70 |
| 1 | A2 | 1736 | G | C2'-C3'-O3' | 8.68 | 126.72 | 113.70 |
| 27 | BY | 11 | LYS | N-CA-C | 8.68 | 121.87 | 111.02 |
| 1 | A2 | 603 | U | N1-C1'-C2' | 8.67 | 125.01 | 112.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 1 | A2 | 260 | U | C3'-C2'-O2' | 8.67 | 127.61 | 114.60 |
| 1 | A2 | 315 | A | C3'-C2'-O2' | 8.67 | 127.61 | 114.60 |
| 1 | A2 | 1472 | C | C2'-C3'-O3' | 8.66 | 122.50 | 109.50 |
| 1 | A2 | 237 | C | N1-C1'-C2' | 8.66 | 124.99 | 112.00 |
| 1 | A2 | 767 | U | C4'-C3'-O3' | 8.64 | 122.37 | 109.40 |
| 1 | A2 | 250 | C | N1-C1'-C2' | 8.64 | 124.97 | 112.00 |
| 1 | A2 | 596 | C | C2'-C3'-O3' | 8.64 | 126.66 | 113.70 |
| 1 | A2 | 188 | A | C4'-C3'-O3' | 8.63 | 125.94 | 113.00 |
| 1 | A2 | 894 | U | N1-C1'-C2' | 8.62 | 126.93 | 114.00 |
| 1 | A2 | 1414 | U | C1'-C2'-O2' | 8.62 | 124.73 | 111.80 |
| 1 | A2 | 1482 | C | C2'-C3'-O3' | 8.61 | 126.62 | 113.70 |
| 2 | AZ | 6081 | U | C4'-C3'-O3' | 8.61 | 125.91 | 113.00 |
| 19 | BQ | 136 | SER | N-CA-C | 8.61 | 123.27 | 109.24 |
| 1 | A2 | 1467 | C | C2'-C3'-O3' | 8.61 | 126.61 | 113.70 |
| 1 | A2 | 1752 | U | C4'-C3'-O3' | 8.61 | 125.91 | 113.00 |
| 1 | A2 | 1708 | U | C4'-C3'-O3' | 8.60 | 122.30 | 109.40 |
| 1 | A2 | 702 | G | C2'-C3'-O3' | 8.60 | 126.59 | 113.70 |
| 1 | A2 | 351 | C | C3'-C2'-O2' | 8.59 | 127.48 | 114.60 |
| 1 | A2 | 1771 | U | C2'-C3'-O3' | 8.59 | 126.58 | 113.70 |
| 26 | BX | 98 | GLU | N-CA-C | 8.59 | 129.09 | 110.80 |
| 19 | BQ | 94 | GLN | N-CA-C | 8.57 | 124.07 | 112.68 |
| 1 | A2 | 1432 | U | N1-C1'-C2' | 8.56 | 126.84 | 114.00 |
| 1 | A2 | 1749 | A | C4'-C3'-O3' | 8.55 | 125.82 | 113.00 |
| 1 | A2 | 91 | G | C2'-C3'-O3' | 8.54 | 126.50 | 113.70 |
| 5 | BC | 111 | VAL | N-CA-C | 8.53 | 122.19 | 108.97 |
| 5 | BC | 113 | LEU | N-CA-C | 8.53 | 123.83 | 108.48 |
| 1 | A2 | 1528 | U | C4'-C3'-O3' | 8.52 | 125.78 | 113.00 |
| 1 | A2 | 1146 | G | C4'-C3'-O3' | 8.52 | 125.78 | 113.00 |
| 1 | A2 | 517 | U | C2'-C3'-O3' | 8.51 | 126.47 | 113.70 |
| 1 | A2 | 1290 | U | C4'-C3'-O3' | 8.51 | 125.77 | 113.00 |
| 24 | BV | 28 | ASP | N-CA-C | 8.51 | 128.92 | 110.80 |
| 16 | BN | 76 | LYS | N-CA-C | 8.50 | 122.23 | 108.63 |
| 1 | A2 | 1285 | U | C3'-C2'-O2' | 8.50 | 127.34 | 114.60 |
| 1 | A2 | 804 | A | C3'-C2'-O2' | 8.49 | 123.43 | 110.70 |
| 1 | A2 | 517 | U | C4'-C3'-O3' | 8.49 | 125.73 | 113.00 |
| 2 | AZ | 6034 | A | N9-C1'-C2' | 8.48 | 124.73 | 112.00 |
| 1 | A2 | 956 | C | N1-C1'-C2' | 8.48 | 124.72 | 112.00 |
| 9 | BG | 67 | VAL | N-CA-C | 8.48 | 126.98 | 109.34 |
| 1 | A2 | 591 | A | N9-C1'-C2' | 8.48 | 124.71 | 112.00 |
| 1 | A2 | 41 | A | C4'-C3'-O3' | 8.47 | 125.71 | 113.00 |
| 1 | A2 | 949 | C | C2'-C3'-O3' | 8.47 | 126.41 | 113.70 |
| 5 | BC | 143 | TYR | N-CA-C | 8.47 | 124.19 | 109.96 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 23 | BU | 113 | ASP | N-CA-C | 8.46 | 122.69 | 109.07 |
| 2 | AZ | 6195 | G | C2'-C3'-O3' | 8.44 | 126.37 | 113.70 |
| 1 | A2 | 1002 | G | C2'-C3'-O3' | 8.43 | 126.35 | 113.70 |
| 9 | BG | 170 | THR | N-CA-C | 8.43 | 122.39 | 110.68 |
| 1 | A2 | 469 | C | C4'-C3'-O3' | 8.42 | 125.63 | 113.00 |
| 1 | A2 | 1052 | U | C3'-C2'-O2' | 8.42 | 127.22 | 114.60 |
| 1 | A2 | 1758 | U | C4'-C3'-O3' | 8.42 | 122.03 | 109.40 |
| 1 | A2 | 47 | A | P-O3'-C3' | 8.41 | 132.81 | 120.20 |
| 1 | A2 | 1289 | U | C4'-C3'-O3' | 8.39 | 125.59 | 113.00 |
| 1 | A2 | 564 | G | C3'-C2'-O2' | 8.39 | 127.19 | 114.60 |
| 3 | BA | 185 | ARG | N-CA-C | 8.39 | 128.66 | 110.80 |
| 1 | A2 | 1151 | A | C2'-C3'-O3' | 8.39 | 126.28 | 113.70 |
| 5 | BC | 77 | GLN | N-CA-C | 8.38 | 123.24 | 109.24 |
| 1 | A2 | 499 | U | C1'-C2'-O2' | 8.38 | 124.36 | 111.80 |
| 35 | Bg | 5 | GLU | N-CA-C | 8.38 | 128.64 | 110.80 |
| 1 | A2 | 1397 | U | C2'-C3'-O3' | 8.36 | 126.24 | 113.70 |
| 7 | BE | 89 | VAL | CB-CA-C | 8.36 | 122.77 | 110.98 |
| 12 | BJ | 122 | VAL | N-CA-C | 8.36 | 126.73 | 109.34 |
| 2 | AZ | 6174 | G | C2'-C3'-O3' | 8.35 | 126.23 | 113.70 |
| 7 | BE | 92 | LEU | N-CA-C | 8.35 | 122.68 | 107.99 |
| 25 | BW | 65 | LEU | N-CA-C | 8.35 | 121.81 | 110.55 |
| 13 | BK | 32 | HIS | N-CA-C | 8.34 | 122.00 | 110.24 |
| 1 | A2 | 1347 | U | C4'-C3'-O3' | 8.34 | 125.50 | 113.00 |
| 1 | A2 | 161 | U | C2'-C3'-O3' | 8.34 | 126.20 | 113.70 |
| 1 | A2 | 1535 | U | C1'-C2'-O2' | 8.34 | 124.30 | 111.80 |
| 11 | BI | 13 | ALA | N-CA-C | 8.33 | 128.55 | 110.80 |
| 1 | A2 | 461 | G | C2'-C3'-O3' | 8.33 | 126.20 | 113.70 |
| 2 | AZ | 6168 | C | N1-C1'-C2' | 8.32 | 126.48 | 114.00 |
| 1 | A2 | 1415 | U | C4'-C3'-O3' | 8.32 | 125.48 | 113.00 |
| 1 | A2 | 51 | A | C4'-C3'-O3' | 8.32 | 125.48 | 113.00 |
| 1 | A2 | 1442 | U | C4'-C3'-O3' | 8.32 | 125.48 | 113.00 |
| 1 | A2 | 430 | G | N9-C1'-C2' | 8.32 | 124.47 | 112.00 |
| 1 | A2 | 1388 | A | P-O3'-C3' | 8.32 | 132.67 | 120.20 |
| 1 | A2 | 1670 | G | N9-C1'-C2' | 8.32 | 124.47 | 112.00 |
| 1 | A2 | 246 | G | N9-C1'-C2' | 8.31 | 124.46 | 112.00 |
| 11 | BI | 187 | GLU | N-CA-C | 8.31 | 123.51 | 113.12 |
| 1 | A2 | 1261 | G | C2'-C3'-O3' | 8.31 | 126.16 | 113.70 |
| 1 | A2 | 461 | G | C4'-C3'-O3' | 8.30 | 125.45 | 113.00 |
| 1 | A2 | 1495 | C | C2'-C3'-O3' | 8.30 | 126.14 | 113.70 |
| 1 | A2 | 1687 | U | N1-C1'-C2' | 8.29 | 124.44 | 112.00 |
| 1 | A2 | 435 | C | C2'-C3'-O3' | 8.29 | 126.14 | 113.70 |
| 2 | AZ | 6121 | C | C4'-C3'-O3' | 8.29 | 125.44 | 113.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 1 | A2 | 738 | G | C4'-C3'-O3' | 8.29 | 125.43 | 113.00 |
| 1 | A2 | 320 | U | C4'-C3'-O3' | 8.29 | 125.43 | 113.00 |
| 1 | A2 | 928 | U | N1-C1'-C2' | 8.28 | 126.43 | 114.00 |
| 1 | A2 | 330 | G | C2'-C3'-O3' | 8.28 | 126.11 | 113.70 |
| 15 | BM | 38 | HIS | N-CA-C | 8.28 | 123.15 | 112.89 |
| 1 | A2 | 1230 | A | C1'-C2'-O2' | 8.27 | 124.21 | 111.80 |
| 35 | Bg | 270 | LEU | N-CA-C | 8.27 | 122.03 | 109.62 |
| 1 | A2 | 1688 | U | C2'-C3'-O3' | 8.27 | 126.10 | 113.70 |
| 1 | A2 | 1638 | G | C5'-C4'-C3' | 8.26 | 128.40 | 116.00 |
| 6 | BD | 220 | PRO | N-CA-C | 8.25 | 129.47 | 112.47 |
| 1 | A2 | 1216 | C | C2'-C3'-O3' | 8.25 | 121.87 | 109.50 |
| 1 | A2 | 753 | A | C4'-C3'-O3' | 8.24 | 125.36 | 113.00 |
| 21 | BS | 101 | LEU | N-CA-C | 8.24 | 128.35 | 110.80 |
| 1 | A2 | 1004 | U | C2'-C3'-O3' | 8.23 | 121.85 | 109.50 |
| 6 | BD | 89 | GLU | N-CA-C | 8.23 | 123.56 | 111.96 |
| 1 | A2 | 1528 | U | C2'-C3'-O3' | 8.23 | 126.04 | 113.70 |
| 29 | Ba | 11 | ASN | N-CA-C | 8.23 | 128.32 | 110.80 |
| 1 | A2 | 299 | A | C4'-C3'-O3' | 8.22 | 125.33 | 113.00 |
| 1 | A2 | 1769 | U | N1-C1'-C2' | 8.20 | 126.29 | 114.00 |
| 1 | A2 | 558 | U | C5'-C4'-C3' | 8.19 | 128.28 | 116.00 |
| 1 | A2 | 1582 | U | C4'-C3'-O3' | 8.19 | 121.68 | 109.40 |
| 10 | BH | 59 | ALA | N-CA-C | 8.18 | 128.23 | 110.80 |
| 1 | A2 | 265 | A | C3'-C2'-O2' | 8.18 | 126.87 | 114.60 |
| 1 | A2 | 629 | U | C2'-C3'-O3' | 8.18 | 125.97 | 113.70 |
| 1 | A2 | 935 | U | P-O3'-C3' | -8.18 | 107.93 | 120.20 |
| 1 | A2 | 1570 | A | C4'-C3'-O3' | 8.18 | 125.26 | 113.00 |
| 1 | A2 | 491 | C | C2'-C3'-O3' | 8.17 | 125.96 | 113.70 |
| 32 | Bd | 47 | ALA | N-CA-C | 8.17 | 128.21 | 110.80 |
| 1 | A2 | 101 | U | C3'-C2'-O2' | 8.15 | 126.83 | 114.60 |
| 11 | BI | 18 | ARG | N-CA-C | 8.14 | 121.66 | 108.63 |
| 1 | A2 | 621 | A | C2'-C3'-O3' | 8.14 | 125.92 | 113.70 |
| 1 | A2 | 516 | G | N9-C1'-C2' | 8.13 | 126.19 | 114.00 |
| 1 | A2 | 713 | A | C4'-C3'-O3' | 8.12 | 125.18 | 113.00 |
| 1 | A2 | 453 | U | C2'-C3'-O3' | 8.11 | 125.86 | 113.70 |
| 1 | A2 | 1688 | U | C4'-C3'-O3' | 8.11 | 125.16 | 113.00 |
| 2 | AZ | 6055 | U | C4'-C3'-O3' | 8.09 | 125.13 | 113.00 |
| 19 | BQ | 67 | VAL | N-CA-C | 8.08 | 126.14 | 109.34 |
| 2 | AZ | 6072 | U | C2'-C3'-O3' | 8.08 | 125.81 | 113.70 |
| 1 | A2 | 1561 | U | C4'-C3'-O3' | 8.07 | 125.11 | 113.00 |
| 22 | BT | 57 | ARG | N-CA-CB | 8.07 | 122.79 | 110.44 |
| 1 | A2 | 9 | U | C2'-C3'-O3' | 8.07 | 125.80 | 113.70 |
| 1 | A2 | 511 | A | C2'-C3'-O3' | 8.06 | 125.80 | 113.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 1 | A2 | 1680 | G | C3'-C2'-O2' | 8.06 | 126.69 | 114.60 |
| 1 | A2 | 836 | U | C2'-C3'-O3' | 8.04 | 125.77 | 113.70 |
| 1 | A2 | 577 | G | C4'-C3'-O3' | 8.04 | 125.06 | 113.00 |
| 2 | AZ | 6059 | G | C3'-C2'-O2' | 8.04 | 126.66 | 114.60 |
| 1 | A2 | 362 | G | C4'-C3'-O3' | 8.04 | 125.06 | 113.00 |
| 1 | A2 | 1290 | U | C2'-C3'-O3' | 8.03 | 125.74 | 113.70 |
| 27 | BY | 22 | GLN | N-CA-C | 8.03 | 122.92 | 109.76 |
| 1 | A2 | 1381 | U | N1-C1'-C2' | 8.02 | 124.03 | 112.00 |
| 1 | A2 | 1797 | A | P-O3'-C3' | 8.02 | 132.23 | 120.20 |
| 1 | A2 | 212 | U | N1-C1'-C2' | 8.01 | 124.02 | 112.00 |
| 1 | A2 | 494 | U | C1'-C2'-O2' | 8.01 | 123.82 | 111.80 |
| 3 | BA | 110 | TYR | CA-CB-CG | 8.01 | 128.32 | 113.90 |
| 1 | A2 | 1176 | G | C4'-C3'-O3' | 8.01 | 125.01 | 113.00 |
| 2 | AZ | 6195 | G | C4'-C3'-O3' | 8.01 | 125.01 | 113.00 |
| 2 | AZ | 6179 | A | C2'-C3'-O3' | 8.01 | 125.71 | 113.70 |
| 1 | A2 | 787 | G | C2'-C3'-O3' | 8.00 | 125.70 | 113.70 |
| 1 | A2 | 624 | G | C1'-C2'-O2' | 7.98 | 123.77 | 111.80 |
| 1 | A2 | 918 | U | C2'-C3'-O3' | 7.98 | 125.67 | 113.70 |
| 34 | Bf | 151 | ASN | N-CA-C | 7.97 | 127.78 | 110.80 |
| 1 | A2 | 1151 | A | C4'-C3'-O3' | 7.97 | 124.95 | 113.00 |
| 1 | A2 | 1771 | U | C4'-C3'-O3' | 7.97 | 124.95 | 113.00 |
| 24 | BV | 32 | VAL | N-CA-C | 7.97 | 121.55 | 109.20 |
| 1 | A2 | 143 | G | C4'-C3'-O3' | 7.96 | 124.93 | 113.00 |
| 1 | A2 | 1430 | U | C2'-C3'-O3' | 7.96 | 125.63 | 113.70 |
| 1 | A2 | 563 | U | N1-C1'-C2' | 7.95 | 123.93 | 112.00 |
| 1 | A2 | 1186 | U | C2'-C3'-O3' | 7.95 | 125.63 | 113.70 |
| 1 | A2 | 1170 | G | C4'-C3'-O3' | 7.95 | 124.93 | 113.00 |
| 1 | A2 | 351 | C | N1-C1'-C2' | 7.95 | 125.92 | 114.00 |
| 1 | A2 | 419 | G | OP1-P-O3' | 7.94 | 131.81 | 108.00 |
| 1 | A2 | 1113 | A | C3'-C2'-O2' | 7.94 | 126.50 | 114.60 |
| 1 | A2 | 836 | U | C4'-C3'-O3' | 7.93 | 124.90 | 113.00 |
| 1 | A2 | 74 | U | C4'-C3'-O3' | 7.93 | 121.29 | 109.40 |
| 1 | A2 | 493 | U | C2'-C3'-O3' | 7.93 | 125.59 | 113.70 |
| 1 | A2 | 120 | U | N1-C1'-C2' | 7.92 | 123.89 | 112.00 |
| 1 | A2 | 1346 | A | C3'-C2'-O2' | 7.92 | 126.49 | 114.60 |
| 1 | A2 | 1452 | U | N1-C1'-C2' | 7.92 | 123.89 | 112.00 |
| 11 | BI | 143 | TRP | N-CA-C | 7.92 | 124.11 | 113.97 |
| 7 | BE | 129 | VAL | N-CA-C | 7.92 | 125.81 | 109.34 |
| 6 | BD | 212 | LYS | N-CA-C | 7.92 | 122.41 | 110.14 |
| 21 | BS | 5 | VAL | N-CA-C | 7.92 | 125.81 | 109.34 |
| 1 | A2 | 146 | U | C4'-C3'-O3' | 7.92 | 124.87 | 113.00 |
| 1 | A2 | 320 | U | C2'-C3'-O3' | 7.90 | 125.54 | 113.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 1 | A2 | 1389 | C | N1-C1'-C2' | 7.89 | 123.84 | 112.00 |
| 17 | BO | 17 | ALA | N-CA-C | 7.89 | 127.61 | 110.80 |
| 1 | A2 | 496 | G | C2'-C3'-O3' | 7.89 | 125.53 | 113.70 |
| 1 | A2 | 366 | A | N9-C1'-C2' | 7.89 | 123.83 | 112.00 |
| 1 | A2 | 6 | G | N9-C1'-C2' | 7.88 | 123.83 | 112.00 |
| 2 | AZ | 6039 | G | C2'-C3'-O3' | 7.88 | 125.52 | 113.70 |
| 8 | BF | 66 | GLN | CA-C-N | 7.88 | 129.69 | 119.84 |
| 8 | BF | 66 | GLN | C-N-CA | 7.88 | 129.69 | 119.84 |
| 1 | A2 | 1690 | G | N9-C1'-C2' | 7.88 | 123.81 | 112.00 |
| 1 | A2 | 1450 | U | C2'-C3'-O3' | 7.87 | 125.50 | 113.70 |
| 1 | A2 | 1417 | A | P-O3'-C3' | 7.86 | 131.99 | 120.20 |
| 1 | A2 | 921 | U | C4'-C3'-O3' | 7.86 | 124.78 | 113.00 |
| 20 | BR | 99 | VAL | N-CA-C | 7.85 | 125.68 | 109.34 |
| 1 | A2 | 740 | A | C4'-C3'-O3' | 7.85 | 124.78 | 113.00 |
| 1 | A2 | 1430 | U | C4'-C3'-O3' | 7.85 | 124.78 | 113.00 |
| 1 | A2 | 941 | A | C4'-C3'-O3' | 7.83 | 124.74 | 113.00 |
| 1 | A2 | 1289 | U | C2'-C3'-O3' | 7.83 | 125.44 | 113.70 |
| 1 | A2 | 311 | U | N1-C1'-C2' | 7.83 | 123.74 | 112.00 |
| 14 | BL | 138 | ASN | N-CA-C | 7.83 | 127.47 | 110.80 |
| 1 | A2 | 430 | G | C4'-C3'-O3' | 7.82 | 124.73 | 113.00 |
| 1 | A2 | 1247 | U | C4'-C3'-O3' | 7.82 | 124.73 | 113.00 |
| 1 | A2 | 383 | G | N9-C1'-C2' | 7.82 | 123.73 | 112.00 |
| 1 | A2 | 188 | A | N9-C1'-C2' | 7.82 | 123.73 | 112.00 |
| 1 | A2 | 1078 | C | N1-C1'-C2' | 7.82 | 123.73 | 112.00 |
| 21 | BS | 77 | THR | N-CA-C | 7.82 | 121.14 | 108.63 |
| 24 | BV | 75 | ASN | N-CA-C | 7.82 | 121.92 | 112.38 |
| 6 | BD | 210 | GLU | CA-C-N | 7.81 | 129.61 | 119.84 |
| 6 | BD | 210 | GLU | C-N-CA | 7.81 | 129.61 | 119.84 |
| 35 | Bg | 188 | ILE | CB-CA-C | 7.81 | 121.68 | 110.98 |
| 6 | BD | 190 | ARG | N-CA-C | 7.81 | 122.42 | 109.46 |
| 20 | BR | 57 | LEU | N-CA-C | 7.81 | 123.13 | 112.90 |
| 2 | AZ | 6160 | C | N1-C1'-C2' | 7.81 | 123.71 | 112.00 |
| 1 | A2 | 1514 | U | N1-C1'-C2' | 7.80 | 125.70 | 114.00 |
| 4 | BB | 103 | MET | N-CA-C | 7.80 | 122.35 | 109.95 |
| 1 | A2 | 150 | U | N1-C1'-C2' | 7.80 | 123.69 | 112.00 |
| 3 | BA | 54 | TRP | N-CA-C | -7.78 | 100.89 | 111.55 |
| 1 | A2 | 1100 | G | C3'-C2'-O2' | 7.78 | 126.27 | 114.60 |
| 1 | A2 | 427 | C | C2'-C3'-O3' | 7.78 | 125.36 | 113.70 |
| 1 | A2 | 1235 | C | N1-C1'-C2' | 7.78 | 125.66 | 114.00 |
| 1 | A2 | 1493 | A | C3'-C2'-O2' | 7.76 | 126.24 | 114.60 |
| 1 | A2 | 1759 | C | C4'-C3'-O3' | 7.76 | 124.64 | 113.00 |
| 2 | AZ | 6198 | U | C4'-C3'-O3' | 7.75 | 124.63 | 113.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 21 | BS | 128 | PHE | N-CA-C | 7.75 | 123.31 | 113.55 |
| 1 | A2 | 990 | C | C2'-C3'-O3' | 7.74 | 125.32 | 113.70 |
| 2 | AZ | 6217 | A | C4'-C3'-O3' | 7.74 | 124.61 | 113.00 |
| 19 | BQ | 134 | ALA | N-CA-C | 7.73 | 127.27 | 110.80 |
| 1 | A2 | 1259 | U | C4'-C3'-O3' | 7.73 | 124.59 | 113.00 |
| 25 | BW | 119 | LYS | N-CA-C | 7.73 | 122.84 | 113.41 |
| 1 | A2 | 149 | C | C4'-C3'-O3' | 7.72 | 124.58 | 113.00 |
| 18 | BP | 36 | LEU | N-CA-C | 7.72 | 127.24 | 110.80 |
| 1 | A2 | 330 | G | N9-C1'-C2' | 7.71 | 123.57 | 112.00 |
| 1 | A2 | 1748 | G | C3'-C2'-O2' | 7.71 | 126.17 | 114.60 |
| 1 | A2 | 1787 | C | N1-C1'-C2' | 7.71 | 125.56 | 114.00 |
| 1 | A2 | 528 | U | C4'-C3'-O3' | 7.70 | 124.55 | 113.00 |
| 1 | A2 | 489 | C | N1-C1'-C2' | 7.69 | 125.54 | 114.00 |
| 1 | A2 | 914 | G | C3'-C2'-O2' | 7.69 | 126.14 | 114.60 |
| 1 | A2 | 1743 | U | C4'-C3'-O3' | 7.68 | 124.53 | 113.00 |
| 1 | A2 | 51 | A | C2'-C3'-O3' | 7.67 | 125.21 | 113.70 |
| 1 | A2 | 263 | C | N1-C1'-C2' | 7.67 | 123.50 | 112.00 |
| 1 | A2 | 460 | A | N9-C1'-C2' | 7.67 | 123.50 | 112.00 |
| 1 | A2 | 945 | U | N1-C1'-C2' | 7.67 | 123.50 | 112.00 |
| 1 | A2 | 1247 | U | C2'-C3'-O3' | 7.67 | 125.20 | 113.70 |
| 7 | BE | 233 | LYS | N-CA-C | 7.66 | 126.73 | 109.81 |
| 21 | BS | 119 | ILE | CB-CA-C | 7.66 | 121.38 | 111.81 |
| 1 | A2 | 213 | A | N9-C1'-C2' | 7.65 | 123.48 | 112.00 |
| 2 | AZ | 6125 | G | C5'-C4'-C3' | 7.65 | 127.47 | 116.00 |
| 1 | A2 | 716 | C | C4'-C3'-O3' | 7.65 | 124.47 | 113.00 |
| 1 | A2 | 629 | U | C4'-C3'-O3' | 7.64 | 124.47 | 113.00 |
| 20 | BR | 61 | ILE | N-CA-C | 7.63 | 125.21 | 109.34 |
| 1 | A2 | 602 | U | C2'-C3'-O3' | 7.63 | 125.14 | 113.70 |
| 21 | BS | 99 | HIS | N-CA-C | 7.62 | 121.14 | 108.73 |
| 1 | A2 | 713 | A | C2'-C3'-O3' | 7.61 | 125.12 | 113.70 |
| 1 | A2 | 775 | G | C2'-C3'-O3' | 7.61 | 125.11 | 113.70 |
| 1 | A2 | 1557 | U | N1-C1'-C2' | 7.60 | 125.41 | 114.00 |
| 2 | AZ | 6210 | U | C4'-C3'-O3' | 7.60 | 120.80 | 109.40 |
| 1 | A2 | 581 | U | C2'-C3'-O3' | 7.59 | 125.08 | 113.70 |
| 1 | A2 | 1749 | A | C2'-C3'-O3' | 7.58 | 125.08 | 113.70 |
| 2 | AZ | 6215 | C | C5'-C4'-C3' | 7.58 | 127.37 | 116.00 |
| 1 | A2 | 240 | U | C5'-C4'-C3' | 7.58 | 126.57 | 115.20 |
| 1 | A2 | 110 | U | C3'-C2'-O2' | 7.57 | 125.96 | 114.60 |
| 8 | BF | 119 | ASP | N-CA-C | 7.57 | 122.64 | 113.41 |
| 1 | A2 | 1683 | C | C2'-C3'-O3' | 7.56 | 125.04 | 113.70 |
| 1 | A2 | 1106 | U | C4'-C3'-O3' | 7.54 | 124.31 | 113.00 |
| 1 | A2 | 1734 | U | N1-C1'-C2' | 7.54 | 123.31 | 112.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 1 | A2 | 1474 | G | C4'-C3'-O3' | 7.54 | 124.31 | 113.00 |
| 1 | A2 | 781 | U | N1-C1'-C2' | 7.54 | 125.31 | 114.00 |
| 10 | BH | 65 | PRO | N-CA-C | 7.54 | 127.99 | 112.47 |
| 1 | A2 | 509 | G | N9-C1'-C2' | 7.53 | 123.29 | 112.00 |
| 1 | A2 | 1677 | C | N1-C1'-C2' | 7.53 | 123.29 | 112.00 |
| 2 | AZ | 6197 | U | C4'-C3'-O3' | 7.53 | 124.29 | 113.00 |
| 18 | BP | 39 | ALA | N-CA-C | 7.53 | 126.83 | 110.80 |
| 1 | A2 | 1204 | A | N9-C1'-C2' | 7.52 | 123.28 | 112.00 |
| 21 | BS | 97 | ASP | N-CA-C | 7.52 | 126.81 | 110.80 |
| 1 | A2 | 511 | A | C4'-C3'-O3' | 7.51 | 124.27 | 113.00 |
| 2 | AZ | 6198 | U | C2'-C3'-O3' | 7.51 | 124.97 | 113.70 |
| 1 | A2 | 87 | C | C4'-C3'-O3' | 7.50 | 124.25 | 113.00 |
| 1 | A2 | 716 | C | C2'-C3'-O3' | 7.50 | 124.95 | 113.70 |
| 1 | A2 | 543 | C | N1-C1'-C2' | 7.49 | 125.24 | 114.00 |
| 1 | A2 | 102 | U | C4'-C3'-O3' | 7.49 | 124.23 | 113.00 |
| 3 | BA | 129 | ASP | N-CA-C | 7.48 | 126.74 | 110.80 |
| 1 | A2 | 821 | U | C2'-C3'-O3' | 7.48 | 124.92 | 113.70 |
| 1 | A2 | 1642 | G | C4'-C3'-O3' | 7.48 | 124.22 | 113.00 |
| 1 | A2 | 1422 | A | C2'-C3'-O3' | 7.47 | 124.91 | 113.70 |
| 2 | AZ | 6176 | A | N9-C1'-C2' | 7.47 | 123.21 | 112.00 |
| 2 | AZ | 6174 | G | C4'-C3'-O3' | 7.47 | 124.20 | 113.00 |
| 6 | BD | 175 | VAL | CB-CA-C | 7.47 | 123.53 | 111.29 |
| 1 | A2 | 1647 | U | C4'-C3'-O3' | 7.46 | 124.19 | 113.00 |
| 1 | A2 | 562 | G | C4'-C3'-O3' | 7.46 | 124.19 | 113.00 |
| 1 | A2 | 947 | U | N1-C1'-C2' | 7.46 | 123.19 | 112.00 |
| 1 | A2 | 503 | G | C4'-C3'-O3' | 7.46 | 124.19 | 113.00 |
| 1 | A2 | 755 | A | N9-C1'-C2' | 7.45 | 123.18 | 112.00 |
| 1 | A2 | 469 | C | C2'-C3'-O3' | 7.45 | 124.87 | 113.70 |
| 1 | A2 | 792 | U | N1-C1'-C2' | 7.45 | 125.17 | 114.00 |
| 29 | Ba | 33 | ASP | CA-C-N | 7.45 | 135.76 | 121.54 |
| 29 | Ba | 33 | ASP | C-N-CA | 7.45 | 135.76 | 121.54 |
| 1 | A2 | 743 | U | C4'-C3'-O3' | 7.44 | 124.17 | 113.00 |
| 1 | A2 | 1240 | U | C2'-C3'-O3' | 7.43 | 124.85 | 113.70 |
| 1 | A2 | 1058 | U | C4'-C3'-O3' | 7.43 | 120.55 | 109.40 |
| 1 | A2 | 582 | U | N1-C1'-C2' | 7.43 | 125.14 | 114.00 |
| 2 | AZ | 6026 | A | C3'-C2'-O2' | 7.43 | 121.84 | 110.70 |
| 14 | BL | 78 | THR | OG1-CB-CG2 | 7.42 | 124.15 | 109.30 |
| 1 | A2 | 165 | G | N9-C1'-C2' | 7.42 | 123.13 | 112.00 |
| 1 | A2 | 775 | G | C4'-C3'-O3' | 7.42 | 124.12 | 113.00 |
| 1 | A2 | 934 | C | N1-C1'-C2' | 7.42 | 123.12 | 112.00 |
| 2 | AZ | 6165 | C | C5'-C4'-C3' | 7.42 | 127.12 | 116.00 |
| 1 | A2 | 756 | A | N9-C1'-C2' | 7.41 | 123.11 | 112.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 1 | A2 | 1578 | U | N1-C1'-C2' | 7.40 | 125.10 | 114.00 |
| 1 | A2 | 930 | A | N9-C1'-C2' | 7.39 | 125.09 | 114.00 |
| 1 | A2 | 1291 | G | C2'-C3'-O3' | 7.39 | 124.79 | 113.70 |
| 1 | A2 | 1506 | G | C5'-C4'-C3' | 7.39 | 127.08 | 116.00 |
| 1 | A2 | 467 | G | N9-C1'-C2' | 7.38 | 123.08 | 112.00 |
| 28 | BZ | 60 | VAL | N-CA-C | 7.38 | 121.12 | 108.95 |
| 1 | A2 | 1671 | A | C4'-C3'-O3' | 7.37 | 124.06 | 113.00 |
| 1 | A2 | 1779 | U | N1-C1'-C2' | 7.37 | 123.05 | 112.00 |
| 1 | A2 | 1089 | U | N1-C1'-C2' | 7.36 | 123.05 | 112.00 |
| 1 | A2 | 597 | G | N9-C1'-C2' | 7.36 | 125.04 | 114.00 |
| 23 | BU | 20 | ILE | N-CA-C | 7.36 | 124.64 | 109.34 |
| 14 | BL | 135 | VAL | N-CA-C | 7.35 | 124.64 | 109.34 |
| 15 | BM | 123 | VAL | N-CA-C | 7.35 | 124.64 | 109.34 |
| 1 | A2 | 1738 | U | N1-C1'-C2' | 7.35 | 123.02 | 112.00 |
| 2 | AZ | 6129 | C | C4'-C3'-O3' | 7.35 | 124.02 | 113.00 |
| 1 | A2 | 425 | A | N9-C1'-C2' | 7.34 | 125.01 | 114.00 |
| 1 | A2 | 491 | C | C4'-C3'-O3' | 7.34 | 124.00 | 113.00 |
| 5 | BC | 159 | THR | OG1-CB-CG2 | 7.34 | 123.97 | 109.30 |
| 1 | A2 | 744 | U | C4'-C3'-O3' | 7.33 | 124.00 | 113.00 |
| 1 | A2 | 852 | C | C4'-C3'-O3' | 7.33 | 123.99 | 113.00 |
| 1 | A2 | 781 | U | C3'-C2'-O2' | 7.32 | 125.58 | 114.60 |
| 1 | A2 | 1020 | A | C4'-C3'-O3' | 7.32 | 123.98 | 113.00 |
| 1 | A2 | 649 | U | N1-C1'-C2' | 7.32 | 124.97 | 114.00 |
| 11 | BI | 17 | LYS | N-CA-C | 7.31 | 120.93 | 107.99 |
| 1 | A2 | 603 | U | C4'-C3'-O3' | 7.31 | 123.96 | 113.00 |
| 9 | BG | 133 | LEU | N-CA-C | 7.30 | 126.36 | 110.80 |
| 2 | AZ | 6125 | G | C5'-C4'-O4' | 7.29 | 120.74 | 109.80 |
| 1 | A2 | 261 | U | N1-C1'-C2' | 7.29 | 124.93 | 114.00 |
| 1 | A2 | 473 | A | N9-C1'-C2' | 7.29 | 124.93 | 114.00 |
| 1 | A2 | 299 | A | C2'-C3'-O3' | 7.29 | 124.63 | 113.70 |
| 1 | A2 | 1061 | A | N9-C1'-C2' | 7.28 | 124.92 | 114.00 |
| 1 | A2 | 1627 | U | N1-C1'-C2' | 7.28 | 122.92 | 112.00 |
| 1 | A2 | 607 | G | N9-C1'-C2' | 7.28 | 124.92 | 114.00 |
| 1 | A2 | 38 | C | C4'-C3'-O3' | 7.26 | 123.89 | 113.00 |
| 1 | A2 | 1445 | G | C5'-C4'-C3' | 7.25 | 126.08 | 115.20 |
| 1 | A2 | 42 | G | C5'-C4'-C3' | 7.25 | 126.07 | 115.20 |
| 1 | A2 | 762 | A | N9-C1'-C2' | 7.24 | 124.87 | 114.00 |
| 1 | A2 | 1344 | A | C4'-C3'-O3' | 7.23 | 123.85 | 113.00 |
| 16 | BN | 112 | LYS | N-CA-C | 7.23 | 126.21 | 110.80 |
| 17 | BO | 120 | PRO | N-CA-C | 7.23 | 127.37 | 112.47 |
| 1 | A2 | 1603 | U | C4'-C3'-O3' | 7.22 | 123.84 | 113.00 |
| 3 | BA | 50 | VAL | N-CA-C | 7.22 | 124.36 | 109.34 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 1 | A2 | 1217 | A | C2'-C3'-O3' | 7.22 | 120.33 | 109.50 |
| 2 | AZ | 6107 | U | N1-C1'-C2' | 7.22 | 124.83 | 114.00 |
| 1 | A2 | 1638 | G | O4'-C4'-C3' | 7.21 | 111.21 | 104.00 |
| 5 | BC | 38 | VAL | N-CA-C | 7.21 | 118.73 | 108.42 |
| 1 | A2 | 1222 | C | N1-C1'-C2' | 7.20 | 122.80 | 112.00 |
| 1 | A2 | 9 | U | C5'-C4'-C3' | 7.20 | 126.80 | 116.00 |
| 1 | A2 | 767 | U | N1-C1'-C2' | 7.20 | 124.79 | 114.00 |
| 1 | A2 | 921 | U | N1-C1'-C2' | 7.19 | 122.79 | 112.00 |
| 1 | A2 | 1261 | G | C4'-C3'-O3' | 7.19 | 123.79 | 113.00 |
| 14 | BL | 87 | ARG | N-CA-C | 7.19 | 121.16 | 110.52 |
| 22 | BT | 85 | SER | N-CA-C | 7.19 | 122.50 | 112.72 |
| 1 | A2 | 142 | G | C4'-C3'-O3' | 7.19 | 123.78 | 113.00 |
| 2 | AZ | 6124 | G | C5'-C4'-C3' | 7.18 | 126.77 | 116.00 |
| 3 | BA | 160 | ILE | CA-C-N | 7.18 | 127.17 | 119.78 |
| 3 | BA | 160 | ILE | C-N-CA | 7.18 | 127.17 | 119.78 |
| 9 | BG | 81 | VAL | CB-CA-C | 7.17 | 123.04 | 111.71 |
| 1 | A2 | 953 | G | N9-C1'-C2' | 7.17 | 122.75 | 112.00 |
| 9 | BG | 72 | ARG | N-CA-C | 7.17 | 121.08 | 107.75 |
| 1 | A2 | 1038 | U | N1-C1'-C2' | 7.17 | 122.75 | 112.00 |
| 1 | A2 | 573 | C | C4'-C3'-O3' | 7.16 | 123.75 | 113.00 |
| 24 | BV | 58 | TYR | N-CA-C | 7.16 | 126.06 | 110.80 |
| 20 | BR | 42 | GLN | N-CA-C | 7.16 | 126.05 | 110.80 |
| 1 | A2 | 1196 | A | N9-C1'-C2' | 7.15 | 124.73 | 114.00 |
| 1 | A2 | 1354 | G | N9-C1'-C2' | 7.14 | 122.72 | 112.00 |
| 1 | A2 | 761 | G | C4'-C3'-O3' | 7.14 | 123.71 | 113.00 |
| 34 | Bf | 111 | GLU | N-CA-C | 7.14 | 126.00 | 110.80 |
| 1 | A2 | 1100 | G | N9-C1'-C2' | 7.13 | 124.70 | 114.00 |
| 32 | Bd | 27 | HIS | N-CA-C | 7.13 | 121.73 | 112.89 |
| 12 | BJ | 128 | LEU | N-CA-C | 7.12 | 125.97 | 110.80 |
| 1 | A2 | 424 | C | C4'-C3'-O3' | 7.12 | 123.67 | 113.00 |
| 8 | BF | 162 | VAL | N-CA-C | 7.12 | 124.14 | 109.34 |
| 12 | BJ | 4 | ALA | N-CA-C | 7.12 | 125.54 | 109.81 |
| 1 | A2 | 607 | G | C4'-C3'-O3' | 7.11 | 120.07 | 109.40 |
| 1 | A2 | 612 | U | N1-C1'-C2' | 7.11 | 122.67 | 112.00 |
| 1 | A2 | 1325 | A | C4'-C3'-O3' | 7.11 | 123.66 | 113.00 |
| 1 | A2 | 1002 | G | C4'-C3'-O3' | 7.09 | 123.63 | 113.00 |
| 2 | AZ | 6120 | U | N1-C1'-C2' | 7.09 | 122.63 | 112.00 |
| 6 | BD | 119 | ALA | N-CA-C | 7.09 | 130.84 | 111.00 |
| 1 | A2 | 1095 | U | N1-C1'-C2' | 7.08 | 122.62 | 112.00 |
| 1 | A2 | 505 | A | N9-C1'-C2' | 7.07 | 124.60 | 114.00 |
| 9 | BG | 169 | TYR | N-CA-C | 7.07 | 121.04 | 109.24 |
| 1 | A2 | 1638 | G | C5'-C4'-O4' | 7.06 | 120.39 | 109.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 1 | A2 | 1769 | U | C4'-C3'-O3' | 7.06 | 119.99 | 109.40 |
| 2 | AZ | 6146 | A | C4'-C3'-O3' | 7.05 | 123.58 | 113.00 |
| 6 | BD | 167 | PHE | N-CA-C | 7.05 | 125.82 | 110.80 |
| 1 | A2 | 610 | G | N9-C1'-C2' | 7.05 | 124.58 | 114.00 |
| 1 | A2 | 621 | A | C4'-C3'-O3' | 7.05 | 123.58 | 113.00 |
| 1 | A2 | 110 | U | N1-C1'-C2' | 7.05 | 124.58 | 114.00 |
| 1 | A2 | 435 | C | C4'-C3'-O3' | 7.05 | 123.57 | 113.00 |
| 1 | A2 | 1186 | U | C4'-C3'-O3' | 7.05 | 123.58 | 113.00 |
| 2 | AZ | 6124 | G | C2'-C3'-O3' | 7.04 | 124.27 | 113.70 |
| 1 | A2 | 596 | C | C4'-C3'-O3' | 7.04 | 123.56 | 113.00 |
| 9 | BG | 163 | THR | N-CA-C | 7.04 | 120.96 | 109.76 |
| 1 | A2 | 1438 | G | C4'-C3'-O3' | 7.02 | 123.53 | 113.00 |
| 26 | BX | 133 | LEU | N-CA-C | 7.02 | 125.76 | 110.80 |
| 1 | A2 | 1710 | U | C4'-C3'-O3' | 7.02 | 123.52 | 113.00 |
| 3 | BA | 27 | ARG | N-CA-C | 7.01 | 125.74 | 110.80 |
| 21 | BS | 60 | GLU | N-CA-C | 7.01 | 125.74 | 110.80 |
| 2 | AZ | 6085 | A | C5'-C4'-C3' | 7.01 | 126.51 | 116.00 |
| 1 | A2 | 1205 | C | N1-C1'-C2' | 7.00 | 122.50 | 112.00 |
| 7 | BE | 88 | ASP | N-CA-C | 7.00 | 125.71 | 110.80 |
| 2 | AZ | 6206 | G | C2'-C3'-O3' | -6.99 | 103.21 | 113.70 |
| 16 | BN | 117 | LEU | N-CA-C | 6.99 | 125.69 | 110.80 |
| 1 | A2 | 1397 | U | C4'-C3'-O3' | 6.97 | 123.46 | 113.00 |
| 6 | BD | 78 | LYS | N-CA-C | 6.97 | 125.66 | 110.80 |
| 1 | A2 | 1502 | G | N9-C1'-C2' | 6.97 | 122.46 | 112.00 |
| 12 | BJ | 67 | PRO | N-CA-C | 6.97 | 126.83 | 112.47 |
| 3 | BA | 77 | SER | N-CA-C | 6.97 | 118.73 | 108.14 |
| 1 | A2 | 1266 | U | N1-C1'-C2' | 6.96 | 124.44 | 114.00 |
| 3 | BA | 157 | ASP | N-CA-C | 6.96 | 125.63 | 110.80 |
| 7 | BE | 21 | ASP | N-CA-C | 6.96 | 125.63 | 110.80 |
| 1 | A2 | 1340 | U | N1-C1'-C2' | 6.96 | 124.44 | 114.00 |
| 1 | A2 | 1096 | C | C5'-C4'-C3' | 6.95 | 125.63 | 115.20 |
| 2 | AZ | 6209 | A | C4'-C3'-O3' | 6.95 | 119.82 | 109.40 |
| 1 | A2 | 1557 | U | C3'-C2'-O2' | 6.95 | 125.02 | 114.60 |
| 1 | A2 | 581 | U | C4'-C3'-O3' | 6.94 | 123.42 | 113.00 |
| 1 | A2 | 587 | C | N1-C1'-C2' | 6.94 | 122.41 | 112.00 |
| 1 | A2 | 529 | A | C4'-C3'-O3' | 6.94 | 123.41 | 113.00 |
| 1 | A2 | 1097 | U | C5'-C4'-C3' | 6.94 | 125.61 | 115.20 |
| 10 | BH | 58 | LEU | N-CA-C | 6.94 | 125.58 | 110.80 |
| 1 | A2 | 1003 | A | N9-C1'-C2' | 6.94 | 124.41 | 114.00 |
| 1 | A2 | 1399 | C | C2'-C3'-O3' | 6.94 | 119.91 | 109.50 |
| 1 | A2 | 564 | G | N9-C1'-C2' | 6.93 | 124.40 | 114.00 |
| 1 | A2 | 88 | U | C2'-C3'-O3' | 6.93 | 124.10 | 113.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 1 | A2 | 359 | A | N9-C1'-C2' | 6.92 | 122.38 | 112.00 |
| 21 | BS | 53 | ASP | N-CA-C | 6.92 | 121.58 | 109.96 |
| 1 | A2 | 1347 | U | C2'-C3'-O3' | 6.91 | 124.07 | 113.70 |
| 22 | BT | 83 | ALA | N-CA-C | 6.91 | 125.52 | 110.80 |
| 1 | A2 | 265 | A | N9-C1'-C2' | 6.90 | 124.35 | 114.00 |
| 1 | A2 | 1175 | U | C4'-C3'-O3' | 6.90 | 123.35 | 113.00 |
| 1 | A2 | 1420 | C | C4'-C3'-O3' | 6.89 | 123.33 | 113.00 |
| 1 | A2 | 1736 | G | C4'-C3'-O3' | 6.88 | 123.33 | 113.00 |
| 2 | AZ | 6149 | A | N9-C1'-C2' | 6.88 | 124.32 | 114.00 |
| 3 | BA | 138 | TYR | CA-CB-CG | 6.87 | 126.27 | 113.90 |
| 4 | BB | 64 | ARG | N-CA-C | 6.87 | 125.44 | 110.80 |
| 1 | A2 | 1414 | U | N1-C1'-C2' | 6.87 | 124.31 | 114.00 |
| 1 | A2 | 602 | U | C4'-C3'-O3' | 6.87 | 123.30 | 113.00 |
| 6 | BD | 9 | ARG | N-CA-C | 6.86 | 125.42 | 110.80 |
| 1 | A2 | 73 | U | C4'-C3'-O3' | 6.85 | 119.68 | 109.40 |
| 19 | BQ | 123 | ARG | CB-CA-C | 6.85 | 120.26 | 109.37 |
| 11 | BI | 76 | THR | N-CA-C | 6.85 | 119.16 | 108.96 |
| 9 | BG | 102 | VAL | N-CA-C | 6.84 | 123.57 | 109.34 |
| 32 | Bd | 11 | PRO | N-CA-C | 6.84 | 129.19 | 112.10 |
| 6 | BD | 41 | VAL | CB-CA-C | 6.83 | 120.61 | 110.98 |
| 1 | A2 | 468 | A | C5'-C4'-C3' | 6.83 | 125.44 | 115.20 |
| 1 | A2 | 525 | A | C5'-C4'-C3' | 6.83 | 125.44 | 115.20 |
| 28 | BZ | 64 | VAL | N-CA-C | 6.83 | 121.59 | 112.04 |
| 1 | A2 | 1252 | C | C5'-C4'-C3' | 6.82 | 126.22 | 116.00 |
| 16 | BN | 139 | TRP | N-CA-C | 6.82 | 125.32 | 110.80 |
| 22 | BT | 30 | VAL | N-CA-C | 6.81 | 123.59 | 108.88 |
| 3 | BA | 141 | ILE | N-CA-C | 6.80 | 123.57 | 108.88 |
| 1 | A2 | 315 | A | C5'-C4'-C3' | 6.80 | 125.39 | 115.20 |
| 1 | A2 | 451 | A | C5'-C4'-C3' | 6.80 | 126.19 | 116.00 |
| 3 | BA | 85 | ALA | N-CA-C | 6.80 | 125.28 | 110.80 |
| 16 | BN | 137 | PRO | CB-CA-C | 6.80 | 122.78 | 111.56 |
| 1 | A2 | 272 | U | C5'-C4'-C3' | 6.79 | 126.19 | 116.00 |
| 9 | BG | 81 | VAL | N-CA-CB | 6.79 | 119.01 | 110.05 |
| 1 | A2 | 143 | G | N9-C1'-C2' | 6.78 | 122.17 | 112.00 |
| 1 | A2 | 499 | U | C2'-C3'-O3' | 6.77 | 119.66 | 109.50 |
| 1 | A2 | 1422 | A | C4'-C3'-O3' | 6.77 | 123.15 | 113.00 |
| 1 | A2 | 1525 | A | C2'-C3'-O3' | 6.76 | 123.85 | 113.70 |
| 1 | A2 | 960 | U | N1-C1'-C2' | 6.76 | 122.14 | 112.00 |
| 34 | Bf | 136 | LYS | N-CA-C | 6.75 | 125.19 | 110.80 |
| 1 | A2 | 303 | U | N1-C1'-C2' | 6.75 | 122.13 | 112.00 |
| 23 | BU | 19 | ILE | N-CA-C | 6.75 | 123.38 | 109.34 |
| 5 | BC | 36 | VAL | CB-CA-C | 6.75 | 123.64 | 111.36 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 1 | A2 | 558 | U | C5'-C4'-O4' | 6.75 | 119.92 | 109.80 |
| 1 | A2 | 1563 | C | C5'-C4'-C3' | 6.74 | 125.31 | 115.20 |
| 32 | Bd | 43 | PHE | N-CA-C | 6.74 | 125.15 | 110.80 |
| 2 | AZ | 6117 | C | C2'-C3'-O3' | -6.74 | 103.60 | 113.70 |
| 8 | BF | 115 | LYS | CB-CA-C | 6.73 | 123.90 | 110.17 |
| 1 | A2 | 1337 | A | N9-C1'-C2' | 6.73 | 122.10 | 112.00 |
| 14 | BL | 84 | ILE | CG1-CB-CG2 | 6.72 | 130.88 | 110.70 |
| 24 | BV | 81 | ASN | N-CA-C | 6.72 | 125.12 | 110.80 |
| 1 | A2 | 1372 | U | C4'-C3'-O3' | 6.72 | 123.08 | 113.00 |
| 10 | BH | 66 | SER | N-CA-C | 6.72 | 125.11 | 110.80 |
| 1 | A2 | 1455 | G | C5'-C4'-C3' | 6.71 | 126.07 | 116.00 |
| 1 | A2 | 759 | U | C4'-C3'-O3' | 6.71 | 123.07 | 113.00 |
| 7 | BE | 104 | ASP | N-CA-C | 6.71 | 125.09 | 110.80 |
| 1 | A2 | 1028 | C | N1-C1'-C2' | 6.71 | 124.06 | 114.00 |
| 1 | A2 | 1171 | A | C4'-C3'-O3' | 6.71 | 123.06 | 113.00 |
| 1 | A2 | 1475 | A | N9-C1'-C2' | 6.71 | 122.06 | 112.00 |
| 1 | A2 | 91 | G | C4'-C3'-O3' | 6.71 | 123.06 | 113.00 |
| 30 | Bb | 41 | LEU | N-CA-C | 6.71 | 120.92 | 113.21 |
| 1 | A2 | 1571 | C | N1-C1'-C2' | 6.70 | 124.05 | 114.00 |
| 5 | BC | 186 | LYS | N-CA-C | 6.70 | 125.07 | 110.80 |
| 22 | BT | 30 | VAL | CA-C-N | 6.70 | 128.22 | 119.84 |
| 22 | BT | 30 | VAL | C-N-CA | 6.70 | 128.22 | 119.84 |
| 1 | A2 | 248 | U | N1-C1'-C2' | 6.70 | 122.05 | 112.00 |
| 1 | A2 | 1357 | A | C5'-C4'-C3' | 6.70 | 126.05 | 116.00 |
| 1 | A2 | 1449 | U | C5'-C4'-O4' | 6.70 | 119.15 | 109.10 |
| 31 | Bc | 51 | ASN | N-CA-C | 6.69 | 123.67 | 113.51 |
| 5 | BC | 150 | GLN | N-CA-C | 6.68 | 124.58 | 109.81 |
| 1 | A2 | 1441 | C | N1-C1'-C2' | 6.68 | 122.02 | 112.00 |
| 29 | Ba | 70 | LYS | N-CA-C | 6.68 | 119.57 | 110.55 |
| 15 | BM | 108 | ARG | N-CA-C | 6.68 | 125.02 | 110.80 |
| 2 | AZ | 6137 | C | C5'-C4'-C3' | 6.67 | 125.21 | 115.20 |
| 1 | A2 | 113 | U | N1-C1'-C2' | 6.67 | 124.01 | 114.00 |
| 1 | A2 | 1732 | A | OP1-P-O3' | 6.67 | 128.02 | 108.00 |
| 24 | BV | 3 | ASN | N-CA-C | 6.67 | 125.01 | 110.80 |
| 2 | AZ | 6070 | A | C5'-C4'-C3' | 6.67 | 125.20 | 115.20 |
| 1 | A2 | 949 | C | C4'-C3'-O3' | 6.66 | 122.99 | 113.00 |
| 1 | A2 | 401 | A | C2'-C3'-O3' | 6.66 | 119.49 | 109.50 |
| 1 | A2 | 944 | A | C5'-C4'-C3' | 6.66 | 125.19 | 115.20 |
| 13 | BK | 82 | LEU | N-CA-C | 6.66 | 114.21 | 108.22 |
| 1 | A2 | 120 | U | C5'-C4'-C3' | 6.65 | 125.98 | 116.00 |
| 1 | A2 | 1797 | A | OP2-P-O3' | -6.65 | 88.06 | 108.00 |
| 2 | AZ | 6106 | A | P-O3'-C3' | -6.65 | 110.23 | 120.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 2 | AZ | 6215 | C | C5'-C4'-O4' | 6.65 | 119.77 | 109.80 |
| 11 | BI | 86 | SER | N-CA-C | 6.64 | 124.95 | 110.80 |
| 1 | A2 | 502 | U | C4'-C3'-O3' | 6.63 | 122.94 | 113.00 |
| 1 | A2 | 1118 | G | C5'-C4'-C3' | 6.63 | 125.94 | 116.00 |
| 1 | A2 | 13 | C | N1-C1'-C2' | 6.62 | 121.93 | 112.00 |
| 2 | AZ | 6164 | U | N1-C1'-C2' | 6.61 | 121.91 | 112.00 |
| 1 | A2 | 1482 | C | C4'-C3'-O3' | 6.61 | 122.91 | 113.00 |
| 1 | A2 | 720 | G | C4'-C3'-O3' | 6.60 | 119.30 | 109.40 |
| 1 | A2 | 1197 | C | C5'-C4'-C3' | 6.60 | 125.90 | 116.00 |
| 1 | A2 | 1085 | G | N9-C1'-C2' | 6.60 | 121.90 | 112.00 |
| 14 | BL | 63 | LEU | N-CA-CB | 6.60 | 117.94 | 110.35 |
| 1 | A2 | 72 | A | C4'-C3'-O3' | -6.59 | 99.51 | 109.40 |
| 1 | A2 | 499 | U | N1-C1'-C2' | 6.59 | 123.89 | 114.00 |
| 1 | A2 | 189 | C | N1-C1'-C2' | 6.59 | 121.88 | 112.00 |
| 13 | BK | 55 | VAL | CB-CA-C | 6.59 | 122.09 | 111.29 |
| 1 | A2 | 876 | G | N9-C1'-C2' | 6.58 | 123.87 | 114.00 |
| 1 | A2 | 1580 | C | C5'-C4'-C3' | 6.58 | 125.07 | 115.20 |
| 12 | BJ | 148 | VAL | N-CA-C | 6.58 | 123.02 | 109.34 |
| 2 | AZ | 6106 | A | O4'-C1'-C2' | 6.58 | 112.38 | 105.80 |
| 35 | Bg | 46 | LYS | CB-CA-C | 6.58 | 123.16 | 109.68 |
| 14 | BL | 107 | VAL | N-CA-C | 6.57 | 123.07 | 108.88 |
| 1 | A2 | 367 | A | C5'-C4'-C3' | 6.56 | 125.84 | 116.00 |
| 12 | BJ | 150 | LEU | N-CA-C | 6.56 | 124.78 | 110.80 |
| 10 | BH | 39 | ARG | N-CA-C | 6.56 | 124.31 | 109.81 |
| 35 | Bg | 190 | ALA | N-CA-C | 6.56 | 118.79 | 110.33 |
| 1 | A2 | 600 | U | N1-C1'-C2' | 6.55 | 121.83 | 112.00 |
| 2 | AZ | 6164 | U | C5'-C4'-C3' | 6.55 | 125.83 | 116.00 |
| 1 | A2 | 1577 | A | C4'-C3'-O3' | 6.54 | 122.81 | 113.00 |
| 27 | BY | 62 | THR | CA-CB-OG1 | 6.54 | 119.41 | 109.60 |
| 10 | BH | 67 | LEU | N-CA-C | 6.54 | 124.72 | 110.80 |
| 1 | A2 | 636 | A | N9-C1'-C2' | 6.53 | 123.80 | 114.00 |
| 1 | A2 | 1600 | A | C5'-C4'-C3' | 6.53 | 124.99 | 115.20 |
| 1 | A2 | 850 | A | C5'-C4'-O4' | 6.53 | 118.89 | 109.10 |
| 1 | A2 | 1130 | G | N9-C1'-C2' | 6.53 | 121.79 | 112.00 |
| 1 | A2 | 1551 | U | N1-C1'-C2' | 6.53 | 121.79 | 112.00 |
| 1 | A2 | 1188 | G | C5'-C4'-C3' | 6.52 | 125.78 | 116.00 |
| 7 | BE | 108 | ARG | N-CA-C | 6.52 | 124.68 | 110.80 |
| 15 | BM | 106 | ILE | N-CA-C | 6.51 | 122.88 | 109.34 |
| 1 | A2 | 644 | C | C5'-C4'-C3' | 6.51 | 124.96 | 115.20 |
| 1 | A2 | 1463 | C | C3'-C2'-O2' | 6.51 | 120.46 | 110.70 |
| 2 | AZ | 6106 | A | N9-C1'-C2' | 6.51 | 123.77 | 114.00 |
| 1 | A2 | 702 | G | C4'-C3'-O3' | 6.50 | 122.76 | 113.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 1 | A2 | 1081 | A | C4'-C3'-O3' | 6.50 | 119.16 | 109.40 |
| 1 | A2 | 473 | A | C5'-C4'-O4' | 6.50 | 118.85 | 109.10 |
| 23 | BU | 36 | ASN | N-CA-C | 6.50 | 124.63 | 110.80 |
| 8 | BF | 196 | GLU | N-CA-C | 6.49 | 124.63 | 110.80 |
| 23 | BU | 91 | ILE | N-CA-C | 6.49 | 122.84 | 109.34 |
| 1 | A2 | 1751 | C | C5'-C4'-C3' | 6.49 | 125.74 | 116.00 |
| 7 | BE | 87 | MET | N-CA-C | 6.49 | 124.63 | 110.80 |
| 16 | BN | 130 | ARG | N-CA-C | 6.49 | 124.62 | 110.80 |
| 2 | AZ | 6039 | G | C4'-C3'-O3' | 6.48 | 122.72 | 113.00 |
| 1 | A2 | 395 | U | N1-C1'-C2' | 6.48 | 121.72 | 112.00 |
| 1 | A2 | 459 | G | C5'-C4'-C3' | 6.47 | 124.91 | 115.20 |
| 27 | BY | 129 | VAL | N-CA-CB | 6.45 | 118.83 | 110.57 |
| 1 | A2 | 161 | U | C5'-C4'-C3' | 6.45 | 125.67 | 116.00 |
| 7 | BE | 205 | PHE | N-CA-C | 6.45 | 124.53 | 110.80 |
| 16 | BN | 34 | ILE | N-CA-C | 6.45 | 122.75 | 109.34 |
| 1 | A2 | 1032 | G | N9-C1'-C2' | 6.44 | 121.67 | 112.00 |
| 2 | AZ | 6073 | A | C4'-C3'-O3' | 6.44 | 122.67 | 113.00 |
| 1 | A2 | 386 | G | C5'-C4'-C3' | 6.44 | 124.86 | 115.20 |
| 1 | A2 | 472 | U | C5'-C4'-C3' | 6.43 | 125.65 | 116.00 |
| 8 | BF | 119 | ASP | CB-CA-C | 6.43 | 120.49 | 109.24 |
| 1 | A2 | 1753 | A | C2'-C3'-O3' | 6.43 | 123.34 | 113.70 |
| 1 | A2 | 735 | C | C5'-C4'-C3' | 6.43 | 124.84 | 115.20 |
| 1 | A2 | 1161 | C | C5'-C4'-C3' | 6.42 | 125.63 | 116.00 |
| 1 | A2 | 1226 | A | C5'-C4'-C3' | 6.42 | 124.83 | 115.20 |
| 18 | BP | 80 | MET | N-CA-C | 6.42 | 124.47 | 110.80 |
| 19 | BQ | 123 | ARG | N-CA-CB | 6.42 | 117.19 | 109.74 |
| 18 | BP | 74 | ALA | CA-C-N | 6.42 | 127.86 | 119.84 |
| 18 | BP | 74 | ALA | C-N-CA | 6.42 | 127.86 | 119.84 |
| 1 | A2 | 88 | U | C5'-C4'-C3' | 6.42 | 125.62 | 116.00 |
| 29 | Ba | 41 | ILE | CG1-CB-CG2 | 6.41 | 129.93 | 110.70 |
| 1 | A2 | 1448 | G | C5'-C4'-C3' | 6.40 | 125.60 | 116.00 |
| 3 | BA | 133 | ILE | N-CA-C | 6.40 | 122.66 | 109.34 |
| 1 | A2 | 1506 | G | C4'-C3'-O3' | 6.40 | 122.60 | 113.00 |
| 27 | BY | 121 | THR | N-CA-CB | 6.40 | 119.63 | 110.16 |
| 1 | A2 | 219 | A | N9-C1'-C2' | 6.39 | 121.59 | 112.00 |
| 28 | BZ | 82 | HIS | CB-CA-C | 6.39 | 122.24 | 110.10 |
| 30 | Bb | 12 | ALA | N-CA-C | 6.39 | 128.88 | 111.00 |
| 1 | A2 | 1248 | C | N1-C1'-C2' | 6.38 | 121.58 | 112.00 |
| 1 | A2 | 455 | C | N1-C1'-C2' | 6.38 | 123.58 | 114.00 |
| 25 | BW | 96 | ALA | N-CA-C | 6.38 | 124.38 | 110.80 |
| 2 | AZ | 6129 | C | C5'-C4'-C3' | 6.37 | 125.55 | 116.00 |
| 1 | A2 | 853 | G | N9-C1'-C2' | 6.37 | 123.55 | 114.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 20 | BR | 54 | THR | N-CA-C | 6.37 | 128.82 | 111.00 |
| 22 | BT | 65 | ILE | N-CA-C | 6.36 | 122.56 | 109.34 |
| 1 | A2 | 1509 | C | C5'-C4'-C3' | 6.35 | 124.73 | 115.20 |
| 1 | A2 | 461 | G | C5'-C4'-C3' | 6.35 | 125.52 | 116.00 |
| 1 | A2 | 1792 | G | C5'-C4'-C3' | 6.35 | 124.72 | 115.20 |
| 1 | A2 | 877 | G | C5'-C4'-C3' | 6.34 | 125.52 | 116.00 |
| 13 | BK | 32 | HIS | CB-CA-C | 6.34 | 119.92 | 109.70 |
| 1 | A2 | 31 | C | N1-C1'-C2' | 6.34 | 121.51 | 112.00 |
| 1 | A2 | 453 | U | C4'-C3'-O3' | 6.34 | 122.51 | 113.00 |
| 1 | A2 | 1406 | A | N9-C1'-C2' | 6.34 | 123.51 | 114.00 |
| 32 | Bd | 32 | ARG | N-CA-C | 6.34 | 120.11 | 112.38 |
| 4 | BB | 153 | HIS | N-CA-C | 6.33 | 128.74 | 111.00 |
| 1 | A2 | 1407 | U | C5'-C4'-C3' | 6.33 | 125.49 | 116.00 |
| 1 | A2 | 884 | A | C4'-C3'-O3' | 6.32 | 122.48 | 113.00 |
| 1 | A2 | 767 | U | O4'-C1'-C2' | 6.31 | 112.11 | 105.80 |
| 1 | A2 | 1125 | A | C4'-C3'-O3' | 6.31 | 122.47 | 113.00 |
| 3 | BA | 111 | ILE | CG1-CB-CG2 | 6.31 | 129.62 | 110.70 |
| 9 | BG | 198 | ALA | N-CA-C | 6.31 | 128.66 | 111.00 |
| 1 | A2 | 363 | G | N9-C1'-C2' | 6.31 | 121.46 | 112.00 |
| 35 | Bg | 82 | SER | N-CA-C | 6.31 | 124.23 | 110.80 |
| 2 | AZ | 6197 | U | C5'-C4'-C3' | 6.30 | 125.46 | 116.00 |
| 2 | AZ | 6039 | G | C5'-C4'-C3' | 6.30 | 125.45 | 116.00 |
| 15 | BM | 57 | ALA | N-CA-C | 6.30 | 128.64 | 111.00 |
| 1 | A2 | 1576 | A | N9-C1'-C2' | 6.29 | 123.44 | 114.00 |
| 1 | A2 | 90 | C | C4'-C3'-O3' | 6.29 | 122.44 | 113.00 |
| 23 | BU | 70 | THR | OG1-CB-CG2 | 6.29 | 121.88 | 109.30 |
| 1 | A2 | 286 | C | C4'-C3'-O3' | 6.29 | 122.43 | 113.00 |
| 1 | A2 | 1273 | G | C2'-C3'-O3' | -6.29 | 100.07 | 109.50 |
| 1 | A2 | 1450 | U | C5'-C4'-C3' | 6.28 | 125.42 | 116.00 |
| 1 | A2 | 33 | U | C5'-C4'-C3' | 6.28 | 125.41 | 116.00 |
| 1 | A2 | 1131 | A | O4'-C4'-C3' | 6.28 | 110.28 | 104.00 |
| 1 | A2 | 1429 | G | C5'-C4'-C3' | 6.27 | 125.40 | 116.00 |
| 1 | A2 | 1516 | A | C5'-C4'-C3' | 6.27 | 124.60 | 115.20 |
| 4 | BB | 91 | VAL | N-CA-C | 6.27 | 122.37 | 109.34 |
| 2 | AZ | 6155 | G | C4'-C3'-O3' | 6.26 | 122.39 | 113.00 |
| 1 | A2 | 1198 | G | C5'-C4'-C3' | 6.26 | 124.59 | 115.20 |
| 1 | A2 | 1204 | A | O4'-C4'-C3' | 6.26 | 110.26 | 104.00 |
| 1 | A2 | 138 | A | C5'-C4'-C3' | 6.26 | 125.39 | 116.00 |
| 1 | A2 | 1079 | U | C4'-C3'-O3' | -6.25 | 103.62 | 113.00 |
| 1 | A2 | 539 | G | C5'-C4'-C3' | 6.24 | 124.56 | 115.20 |
| 16 | BN | 32 | SER | N-CA-C | 6.24 | 124.08 | 110.80 |
| 1 | A2 | 681 | U | C5'-C4'-C3' | 6.23 | 125.35 | 116.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 1 | A2 | 1237 | G | C4'-C3'-O3' | 6.23 | 122.34 | 113.00 |
| 6 | BD | 217 | ILE | N-CA-C | 6.23 | 122.29 | 109.34 |
| 1 | A2 | 166 | C | N1-C1'-C2' | 6.23 | 121.34 | 112.00 |
| 1 | A2 | 1608 | U | C4'-C3'-O3' | 6.23 | 122.34 | 113.00 |
| 1 | A2 | 1001 | A | N9-C1'-C2' | 6.22 | 123.34 | 114.00 |
| 29 | Ba | 43 | ASN | N-CA-C | 6.22 | 124.05 | 110.80 |
| 1 | A2 | 482 | U | C5'-C4'-C3' | 6.22 | 125.33 | 116.00 |
| 7 | BE | 244 | ILE | N-CA-C | 6.21 | 122.27 | 109.34 |
| 1 | A2 | 1102 | G | C5'-C4'-C3' | 6.21 | 125.32 | 116.00 |
| 1 | A2 | 738 | G | C5'-C4'-C3' | 6.21 | 125.31 | 116.00 |
| 1 | A2 | 790 | U | C4'-C3'-O3' | -6.21 | 103.69 | 113.00 |
| 3 | BA | 160 | ILE | N-CA-C | 6.20 | 122.28 | 108.88 |
| 1 | A2 | 158 | U | C4'-C3'-O3' | 6.20 | 122.30 | 113.00 |
| 1 | A2 | 599 | A | C4'-C3'-O3' | 6.20 | 122.30 | 113.00 |
| 1 | A2 | 266 | A | C2'-C3'-O3' | 6.20 | 118.79 | 109.50 |
| 21 | BS | 77 | THR | CB-CA-C | 6.19 | 120.79 | 110.88 |
| 1 | A2 | 1768 | G | C2'-C3'-O3' | -6.19 | 104.41 | 113.70 |
| 1 | A2 | 1226 | A | N9-C1'-C2' | 6.19 | 123.29 | 114.00 |
| 1 | A2 | 1748 | G | N9-C1'-C2' | 6.19 | 123.28 | 114.00 |
| 1 | A2 | 1125 | A | C5'-C4'-C3' | 6.18 | 125.27 | 116.00 |
| 5 | BC | 236 | PRO | CB-CA-C | 6.18 | 121.76 | 111.56 |
| 25 | BW | 116 | ALA | N-CA-C | 6.18 | 123.96 | 110.80 |
| 1 | A2 | 997 | G | OP2-P-O3' | -6.17 | 89.50 | 108.00 |
| 5 | BC | 68 | ILE | N-CA-C | 6.17 | 122.17 | 109.34 |
| 1 | A2 | 851 | U | C3'-C2'-O2' | 6.16 | 119.95 | 110.70 |
| 1 | A2 | 138 | A | C4'-C3'-O3' | 6.16 | 122.24 | 113.00 |
| 19 | BQ | 141 | SER | N-CA-C | 6.16 | 123.92 | 110.80 |
| 1 | A2 | 1601 | G | C2'-C3'-O3' | 6.16 | 118.73 | 109.50 |
| 1 | A2 | 1364 | G | C4'-C3'-O3' | 6.15 | 122.23 | 113.00 |
| 10 | BH | 152 | VAL | N-CA-C | 6.15 | 122.14 | 109.34 |
| 1 | A2 | 1234 | A | O4'-C1'-C2' | 6.15 | 111.95 | 105.80 |
| 19 | BQ | 85 | ILE | N-CA-C | 6.14 | 122.12 | 109.34 |
| 35 | Bg | 48 | THR | N-CA-C | 6.14 | 128.21 | 111.00 |
| 19 | BQ | 84 | ALA | N-CA-C | 6.14 | 128.20 | 111.00 |
| 1 | A2 | 1518 | C | O4'-C1'-C2' | -6.14 | 101.46 | 107.60 |
| 1 | A2 | 1041 | G | C5'-C4'-C3' | 6.14 | 125.20 | 116.00 |
| 1 | A2 | 478 | A | N9-C1'-C2' | 6.13 | 123.20 | 114.00 |
| 1 | A2 | 852 | C | C5'-C4'-C3' | 6.13 | 125.20 | 116.00 |
| 2 | AZ | 6179 | A | C5'-C4'-C3' | 6.13 | 125.19 | 116.00 |
| 1 | A2 | 753 | A | C5'-C4'-C3' | 6.13 | 125.19 | 116.00 |
| 12 | BJ | 92 | LYS | N-CA-C | -6.13 | 104.53 | 112.68 |
| 1 | A2 | 456 | A | N9-C1'-C2' | 6.12 | 123.18 | 114.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 2 | AZ | 6221 | U | C5'-C4'-C3' | 6.12 | 124.38 | 115.20 |
| 1 | A2 | 1714 | A | N9-C1'-C2' | 6.12 | 121.18 | 112.00 |
| 1 | A2 | 1757 | G | N9-C1'-C2' | 6.12 | 121.18 | 112.00 |
| 12 | BJ | 39 | LYS | N-CA-C | 6.12 | 120.35 | 113.01 |
| 1 | A2 | 240 | U | C5'-C4'-O4' | 6.11 | 118.27 | 109.10 |
| 1 | A2 | 600 | U | C5'-C4'-C3' | 6.11 | 125.16 | 116.00 |
| 1 | A2 | 1125 | A | O4'-C4'-C3' | 6.11 | 110.11 | 104.00 |
| 1 | A2 | 1769 | U | O4'-C1'-C2' | 6.11 | 111.91 | 105.80 |
| 1 | A2 | 1374 | C | C5'-C4'-C3' | 6.10 | 125.16 | 116.00 |
| 13 | BK | 82 | LEU | CA-C-N | 6.10 | 127.47 | 119.84 |
| 13 | BK | 82 | LEU | C-N-CA | 6.10 | 127.47 | 119.84 |
| 1 | A2 | 572 | C | C4'-C3'-O3' | 6.10 | 122.15 | 113.00 |
| 9 | BG | 25 | ARG | N-CA-C | 6.10 | 128.08 | 111.00 |
| 5 | BC | 236 | PRO | N-CA-C | 6.10 | 125.03 | 112.47 |
| 9 | BG | 81 | VAL | N-CA-C | 6.10 | 117.29 | 109.30 |
| 19 | BQ | 9 | THR | N-CA-C | 6.09 | 116.12 | 108.45 |
| 1 | A2 | 504 | U | C5'-C4'-C3' | 6.08 | 125.13 | 116.00 |
| 1 | A2 | 419 | G | OP2-P-O3' | -6.07 | 89.80 | 108.00 |
| 1 | A2 | 347 | G | N9-C1'-C2' | 6.06 | 121.09 | 112.00 |
| 34 | Bf | 125 | THR | OG1-CB-CG2 | 6.06 | 121.42 | 109.30 |
| 1 | A2 | 261 | U | O4'-C1'-C2' | 6.06 | 111.86 | 105.80 |
| 4 | BB | 56 | SER | N-CA-C | 6.06 | 118.91 | 109.52 |
| 1 | A2 | 814 | A | C2'-C3'-O3' | 6.05 | 118.58 | 109.50 |
| 2 | AZ | 6190 | U | N1-C1'-C2' | 6.05 | 121.08 | 112.00 |
| 30 | Bb | 44 | THR | OG1-CB-CG2 | 6.05 | 121.40 | 109.30 |
| 1 | A2 | 221 | A | C5'-C4'-C3' | 6.05 | 125.07 | 116.00 |
| 2 | AZ | 6070 | A | C5'-C4'-O4' | 6.05 | 118.17 | 109.10 |
| 1 | A2 | 1709 | C | C4'-C3'-O3' | 6.05 | 122.07 | 113.00 |
| 6 | BD | 51 | ARG | N-CA-C | 6.05 | 127.93 | 111.00 |
| 1 | A2 | 938 | G | C5'-C4'-C3' | 6.05 | 125.07 | 116.00 |
| 27 | BY | 37 | LYS | N-CA-C | 6.04 | 123.67 | 110.80 |
| 26 | BX | 93 | LEU | N-CA-C | -6.04 | 100.66 | 110.20 |
| 11 | BI | 197 | THR | N-CA-C | 6.03 | 123.64 | 110.80 |
| 27 | BY | 62 | THR | OG1-CB-CG2 | 6.03 | 121.36 | 109.30 |
| 35 | Bg | 252 | LEU | CB-CA-C | 6.03 | 120.55 | 109.46 |
| 1 | A2 | 578 | U | C5'-C4'-C3' | 6.03 | 124.24 | 115.20 |
| 4 | BB | 126 | THR | OG1-CB-CG2 | 6.03 | 121.35 | 109.30 |
| 10 | BH | 75 | THR | OG1-CB-CG2 | 6.03 | 121.35 | 109.30 |
| 1 | A2 | 943 | C | C5'-C4'-C3' | 6.02 | 125.03 | 116.00 |
| 34 | Bf | 103 | LEU | N-CA-C | 6.02 | 123.62 | 110.80 |
| 1 | A2 | 1535 | U | N1-C1'-C2' | 6.01 | 123.02 | 114.00 |
| 18 | BP | 63 | ALA | N-CA-C | 6.01 | 127.84 | 111.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 2 | AZ | 6072 | U | C4'-C3'-O3' | 6.01 | 122.02 | 113.00 |
| 1 | A2 | 1145 | U | C4'-C3'-O3' | 6.00 | 118.41 | 109.40 |
| 1 | A2 | 326 | G | C5'-C4'-C3' | 6.00 | 125.00 | 116.00 |
| 13 | BK | 3 | MET | N-CA-C | 6.00 | 123.06 | 109.81 |
| 1 | A2 | 66 | U | C5'-C4'-C3' | 5.99 | 124.99 | 116.00 |
| 1 | A2 | 862 | A | C5'-C4'-C3' | 5.99 | 124.19 | 115.20 |
| 22 | BT | 7 | ARG | N-CA-C | 5.99 | 127.77 | 111.00 |
| 30 | Bb | 61 | THR | OG1-CB-CG2 | 5.99 | 121.27 | 109.30 |
| 1 | A2 | 579 | A | C5'-C4'-C3' | 5.98 | 124.97 | 116.00 |
| 1 | A2 | 1272 | U | N1-C1'-C2' | 5.98 | 120.97 | 112.00 |
| 21 | BS | 53 | ASP | CB-CA-C | 5.98 | 119.39 | 109.53 |
| 1 | A2 | 1319 | A | C5'-C4'-C3' | 5.98 | 124.96 | 116.00 |
| 19 | BQ | 89 | LEU | N-CA-C | 5.97 | 127.73 | 111.00 |
| 9 | BG | 129 | VAL | CA-C-N | 5.97 | 127.30 | 119.84 |
| 9 | BG | 129 | VAL | C-N-CA | 5.97 | 127.30 | 119.84 |
| 1 | A2 | 33 | U | C5'-C4'-O4' | 5.97 | 118.75 | 109.80 |
| 11 | BI | 162 | ALA | N-CA-C | 5.97 | 127.71 | 111.00 |
| 23 | BU | 19 | ILE | CG1-CB-CG2 | 5.96 | 128.59 | 110.70 |
| 1 | A2 | 1055 | U | C4'-C3'-O3' | 5.96 | 121.94 | 113.00 |
| 16 | BN | 121 | ARG | N-CA-C | 5.95 | 127.66 | 111.00 |
| 17 | BO | 61 | MET | N-CA-C | 5.95 | 127.65 | 111.00 |
| 35 | Bg | 206 | PRO | N-CA-C | 5.94 | 126.95 | 112.10 |
| 1 | A2 | 1638 | G | C4'-C3'-O3' | 5.93 | 121.90 | 113.00 |
| 11 | BI | 107 | THR | OG1-CB-CG2 | 5.93 | 121.16 | 109.30 |
| 1 | A2 | 388 | G | P-O3'-C3' | -5.93 | 111.31 | 120.20 |
| 28 | BZ | 42 | LEU | N-CA-C | 5.93 | 127.59 | 111.00 |
| 4 | BB | 92 | GLN | N-CA-C | 5.92 | 123.41 | 110.80 |
| 1 | A2 | 810 | G | C5'-C4'-C3' | 5.92 | 124.87 | 116.00 |
| 1 | A2 | 1304 | G | C5'-C4'-C3' | 5.91 | 124.87 | 116.00 |
| 35 | Bg | 37 | SER | N-CA-C | 5.91 | 116.89 | 108.74 |
| 35 | Bg | 52 | GLN | N-CA-C | 5.91 | 123.39 | 110.80 |
| 19 | BQ | 19 | VAL | N-CA-C | 5.91 | 121.63 | 109.34 |
| 2 | AZ | 6174 | G | O4'-C4'-C3' | 5.91 | 109.91 | 104.00 |
| 26 | BX | 22 | ASN | N-CA-C | 5.90 | 127.52 | 111.00 |
| 35 | Bg | 227 | ALA | N-CA-C | 5.90 | 127.51 | 111.00 |
| 1 | A2 | 1234 | A | N9-C1'-C2' | 5.89 | 122.84 | 114.00 |
| 10 | BH | 126 | LEU | N-CA-C | 5.89 | 123.34 | 110.80 |
| 2 | AZ | 6165 | C | C4'-C3'-O3' | 5.88 | 121.83 | 113.00 |
| 9 | BG | 125 | THR | OG1-CB-CG2 | 5.88 | 121.06 | 109.30 |
| 1 | A2 | 636 | A | O4'-C1'-C2' | 5.88 | 111.68 | 105.80 |
| 1 | A2 | 910 | C | C5'-C4'-C3' | 5.88 | 124.81 | 116.00 |
| 1 | A2 | 1221 | A | C5'-C4'-C3' | 5.88 | 124.81 | 116.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 15 | BM | 114 | LYS | N-CA-C | 5.88 | 123.31 | 110.80 |
| 1 | A2 | 245 | U | C5'-C4'-C3' | 5.87 | 124.81 | 116.00 |
| 8 | BF | 165 | LEU | CB-CA-C | 5.87 | 122.10 | 110.42 |
| 1 | A2 | 120 | U | C5'-C4'-O4' | 5.87 | 118.60 | 109.80 |
| 9 | BG | 170 | THR | CB-CA-C | 5.86 | 120.15 | 111.88 |
| 2 | AZ | 6165 | C | C5'-C4'-O4' | 5.86 | 118.59 | 109.80 |
| 3 | BA | 6 | THR | OG1-CB-CG2 | 5.86 | 121.02 | 109.30 |
| 1 | A2 | 1389 | C | C5'-C4'-C3' | 5.86 | 124.78 | 116.00 |
| 14 | BL | 54 | ILE | CG1-CB-CG2 | 5.86 | 128.27 | 110.70 |
| 35 | Bg | 153 | GLN | N-CA-C | 5.85 | 123.25 | 110.80 |
| 35 | Bg | 257 | ALA | N-CA-C | 5.85 | 127.37 | 111.00 |
| 22 | BT | 69 | LYS | N-CA-CB | 5.85 | 120.37 | 110.49 |
| 1 | A2 | 787 | G | C5'-C4'-C3' | 5.84 | 124.76 | 116.00 |
| 1 | A2 | 1343 | U | N1-C1'-C2' | 5.84 | 120.76 | 112.00 |
| 9 | BG | 142 | ARG | N-CA-C | 5.84 | 127.34 | 111.00 |
| 1 | A2 | 1678 | A | C2'-C3'-O3' | 5.83 | 122.45 | 113.70 |
| 11 | BI | 10 | LYS | N-CA-C | 5.83 | 123.22 | 110.80 |
| 35 | Bg | 88 | THR | OG1-CB-CG2 | 5.82 | 120.94 | 109.30 |
| 1 | A2 | 1644 | C | C1'-C2'-O2' | 5.81 | 117.12 | 108.40 |
| 1 | A2 | 525 | A | C5'-C4'-O4' | 5.81 | 117.82 | 109.10 |
| 8 | BF | 144 | GLU | N-CA-C | 5.81 | 123.18 | 110.80 |
| 1 | A2 | 504 | U | O4'-C4'-C3' | 5.81 | 109.81 | 104.00 |
| 1 | A2 | 1684 | U | C4'-C3'-O3' | 5.80 | 121.70 | 113.00 |
| 1 | A2 | 568 | G | C5'-C4'-C3' | 5.80 | 124.70 | 116.00 |
| 28 | BZ | 46 | LYS | CB-CA-C | 5.80 | 118.81 | 109.07 |
| 14 | BL | 145 | ALA | N-CA-C | 5.80 | 127.23 | 111.00 |
| 1 | A2 | 1377 | U | OP1-P-O3' | 5.79 | 125.39 | 108.00 |
| 1 | A2 | 1154 | G | C4'-C3'-O3' | 5.79 | 121.69 | 113.00 |
| 4 | BB | 178 | GLY | N-CA-C | -5.79 | 99.45 | 113.18 |
| 1 | A2 | 816 | G | C5'-C4'-O4' | 5.79 | 118.48 | 109.80 |
| 1 | A2 | 367 | A | C5'-C4'-O4' | 5.79 | 118.48 | 109.80 |
| 1 | A2 | 1580 | C | C5'-C4'-O4' | 5.78 | 117.77 | 109.10 |
| 1 | A2 | 876 | G | O4'-C1'-C2' | 5.78 | 111.58 | 105.80 |
| 21 | BS | 128 | PHE | CB-CA-C | 5.78 | 118.30 | 109.34 |
| 4 | BB | 21 | VAL | N-CA-C | 5.78 | 127.18 | 111.00 |
| 1 | A2 | 395 | U | C5'-C4'-C3' | 5.77 | 124.66 | 116.00 |
| 1 | A2 | 816 | G | O4'-C4'-C3' | 5.77 | 109.77 | 104.00 |
| 4 | BB | 91 | VAL | CB-CA-C | 5.77 | 120.76 | 111.29 |
| 7 | BE | 141 | THR | OG1-CB-CG2 | 5.77 | 120.84 | 109.30 |
| 1 | A2 | 689 | G | C5'-C4'-C3' | 5.76 | 124.65 | 116.00 |
| 1 | A2 | 744 | U | C5'-C4'-C3' | 5.76 | 124.65 | 116.00 |
| 4 | BB | 108 | ASP | N-CA-C | 5.76 | 123.08 | 110.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 16 | BN | 84 | ILE | N-CA-C | 5.76 | 121.33 | 108.88 |
| 1 | A2 | 703 | G | C5'-C4'-C3' | 5.76 | 124.64 | 116.00 |
| 6 | BD | 197 | THR | OG1-CB-CG2 | 5.76 | 120.82 | 109.30 |
| 1 | A2 | 1247 | U | C5'-C4'-C3' | 5.76 | 124.64 | 116.00 |
| 18 | BP | 20 | VAL | N-CA-C | 5.76 | 127.12 | 111.00 |
| 1 | A2 | 1429 | G | C5'-C4'-O4' | 5.75 | 118.43 | 109.80 |
| 15 | BM | 141 | SER | N-CA-C | 5.75 | 127.10 | 111.00 |
| 26 | BX | 65 | ASN | N-CA-C | 5.75 | 127.10 | 111.00 |
| 33 | Be | 43 | ARG | N-CA-C | 5.75 | 127.09 | 111.00 |
| 28 | BZ | 84 | GLU | N-CA-C | 5.75 | 127.08 | 111.00 |
| 22 | BT | 85 | SER | CB-CA-C | 5.74 | 118.28 | 111.22 |
| 2 | AZ | 6198 | U | C5'-C4'-C3' | 5.74 | 124.61 | 116.00 |
| 2 | AZ | 6055 | U | C5'-C4'-O4' | 5.73 | 118.40 | 109.80 |
| 2 | AZ | 6198 | U | O4'-C4'-C3' | 5.73 | 109.73 | 104.00 |
| 1 | A2 | 1751 | C | C5'-C4'-O4' | 5.73 | 118.39 | 109.80 |
| 26 | BX | 56 | LYS | N-CA-C | 5.73 | 123.00 | 110.80 |
| 4 | BB | 79 | HIS | N-CA-C | -5.73 | 106.90 | 112.97 |
| 1 | A2 | 562 | G | C5'-C4'-C3' | 5.72 | 124.58 | 116.00 |
| 1 | A2 | 1420 | C | C5'-C4'-C3' | 5.72 | 124.58 | 116.00 |
| 1 | A2 | 1232 | U | C5'-C4'-C3' | 5.72 | 124.58 | 116.00 |
| 4 | BB | 25 | THR | OG1-CB-CG2 | 5.71 | 120.73 | 109.30 |
| 16 | BN | 137 | PRO | N-CA-C | 5.71 | 124.24 | 112.47 |
| 1 | A2 | 102 | U | O4'-C4'-C3' | 5.71 | 109.71 | 104.00 |
| 1 | A2 | 473 | A | O4'-C1'-C2' | 5.71 | 111.51 | 105.80 |
| 18 | BP | 122 | THR | N-CA-C | 5.71 | 126.98 | 111.00 |
| 1 | A2 | 1467 | C | C5'-C4'-C3' | 5.71 | 124.56 | 116.00 |
| 1 | A2 | 762 | A | O4'-C1'-C2' | 5.71 | 111.50 | 105.80 |
| 11 | BI | 97 | THR | OG1-CB-CG2 | 5.70 | 120.70 | 109.30 |
| 18 | BP | 14 | THR | OG1-CB-CG2 | 5.70 | 120.70 | 109.30 |
| 1 | A2 | 221 | A | C2'-C3'-O3' | 5.70 | 122.25 | 113.70 |
| 1 | A2 | 609 | U | C2'-C3'-O3' | 5.70 | 118.04 | 109.50 |
| 11 | BI | 17 | LYS | CB-CA-C | 5.69 | 120.07 | 110.79 |
| 1 | A2 | 847 | A | N9-C1'-C2' | 5.69 | 120.54 | 112.00 |
| 1 | A2 | 1603 | U | O4'-C4'-C3' | 5.69 | 109.69 | 104.00 |
| 1 | A2 | 912 | U | C2'-C3'-O3' | 5.69 | 118.03 | 109.50 |
| 1 | A2 | 461 | G | O4'-C4'-C3' | 5.68 | 109.68 | 104.00 |
| 30 | Bb | 57 | GLU | N-CA-C | 5.68 | 126.91 | 111.00 |
| 11 | BI | 197 | THR | OG1-CB-CG2 | 5.68 | 120.66 | 109.30 |
| 1 | A2 | 1054 | U | N1-C1'-C2' | 5.67 | 122.51 | 114.00 |
| 10 | BH | 166 | LEU | N-CA-C | 5.67 | 122.88 | 110.80 |
| 3 | BA | 161 | PRO | N-CA-C | 5.67 | 120.22 | 111.21 |
| 1 | A2 | 386 | G | C5'-C4'-O4' | 5.66 | 117.58 | 109.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 1 | A2 | 1749 | A | C5'-C4'-C3' | 5.66 | 124.48 | 116.00 |
| 35 | Bg | 258 | THR | OG1-CB-CG2 | 5.66 | 120.61 | 109.30 |
| 1 | A2 | 103 | A | C2'-C3'-O3' | 5.65 | 117.98 | 109.50 |
| 23 | BU | 24 | ILE | CB-CA-C | 5.65 | 117.33 | 111.23 |
| 9 | BG | 168 | THR | OG1-CB-CG2 | 5.65 | 120.60 | 109.30 |
| 23 | BU | 72 | ASN | N-CA-C | 5.65 | 126.81 | 111.00 |
| 21 | BS | 49 | LYS | N-CA-C | 5.65 | 119.27 | 112.38 |
| 1 | A2 | 1041 | G | C2'-C3'-O3' | 5.64 | 122.16 | 113.70 |
| 4 | BB | 103 | MET | CB-CA-C | 5.64 | 119.69 | 109.37 |
| 1 | A2 | 265 | A | O4'-C1'-C2' | 5.64 | 111.44 | 105.80 |
| 1 | A2 | 734 | A | N9-C1'-C2' | 5.64 | 122.46 | 114.00 |
| 1 | A2 | 914 | G | N9-C1'-C2' | 5.64 | 122.46 | 114.00 |
| 1 | A2 | 688 | G | N9-C1'-C2' | 5.64 | 120.45 | 112.00 |
| 2 | AZ | 6188 | G | C5'-C4'-C3' | 5.63 | 124.45 | 116.00 |
| 1 | A2 | 1654 | G | C2'-C3'-O3' | -5.63 | 105.26 | 113.70 |
| 1 | A2 | 138 | A | O4'-C4'-C3' | 5.63 | 109.63 | 104.00 |
| 1 | A2 | 1286 | U | O4'-C4'-C3' | 5.62 | 109.62 | 104.00 |
| 1 | A2 | 1718 | G | C2'-C3'-O3' | 5.62 | 122.14 | 113.70 |
| 19 | BQ | 96 | TYR | CD1-CE1-CZ | 5.62 | 129.72 | 119.60 |
| 19 | BQ | 17 | THR | OG1-CB-CG2 | 5.62 | 120.54 | 109.30 |
| 1 | A2 | 1351 | G | C3'-C2'-O2' | 5.62 | 119.13 | 110.70 |
| 14 | BL | 71 | LEU | N-CA-C | 5.62 | 116.80 | 108.60 |
| 13 | BK | 86 | ILE | N-CA-C | 5.62 | 117.26 | 109.45 |
| 23 | BU | 83 | GLU | N-CA-C | 5.61 | 117.64 | 108.55 |
| 1 | A2 | 352 | A | OP1-P-O3' | -5.60 | 91.19 | 108.00 |
| 1 | A2 | 769 | A | C5'-C4'-C3' | 5.60 | 124.40 | 116.00 |
| 11 | BI | 16 | ALA | N-CA-C | 5.60 | 126.69 | 111.00 |
| 18 | BP | 32 | ASP | N-CA-C | 5.60 | 122.73 | 110.80 |
| 1 | A2 | 1672 | G | O4'-C4'-C3' | 5.60 | 109.60 | 104.00 |
| 1 | A2 | 852 | C | C3'-C2'-O2' | 5.60 | 119.10 | 110.70 |
| 1 | A2 | 104 | A | OP2-P-O3' | 5.59 | 124.78 | 108.00 |
| 22 | BT | 66 | TYR | N-CA-C | 5.59 | 126.66 | 111.00 |
| 1 | A2 | 1301 | U | O4'-C1'-C2' | -5.59 | 102.01 | 107.60 |
| 1 | A2 | 1576 | A | O4'-C1'-C2' | 5.59 | 111.39 | 105.80 |
| 1 | A2 | 1002 | G | C5'-C4'-C3' | 5.59 | 124.38 | 116.00 |
| 1 | A2 | 258 | C | O4'-C4'-C3' | 5.58 | 109.58 | 104.00 |
| 1 | A2 | 1320 | U | C5'-C4'-C3' | 5.58 | 124.38 | 116.00 |
| 1 | A2 | 511 | A | C5'-C4'-C3' | 5.58 | 124.37 | 116.00 |
| 1 | A2 | 1197 | C | C5'-C4'-O4' | 5.58 | 118.17 | 109.80 |
| 9 | BG | 71 | THR | N-CA-C | 5.58 | 122.68 | 110.80 |
| 13 | BK | 37 | THR | OG1-CB-CG2 | 5.58 | 120.46 | 109.30 |
| 18 | BP | 78 | THR | OG1-CB-CG2 | 5.58 | 120.45 | 109.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 6 | BD | 53 | THR | OG1-CB-CG2 | 5.57 | 120.45 | 109.30 |
| 11 | BI | 74 | LYS | CB-CA-C | 5.57 | 118.73 | 109.53 |
| 5 | BC | 68 | ILE | CG1-CB-CG2 | 5.57 | 127.42 | 110.70 |
| 35 | Bg | 206 | PRO | CB-CA-C | 5.57 | 120.69 | 110.10 |
| 1 | A2 | 1442 | U | C5'-C4'-C3' | 5.57 | 124.35 | 116.00 |
| 14 | BL | 27 | THR | N-CA-C | 5.57 | 126.59 | 111.00 |
| 1 | A2 | 430 | G | C5'-C4'-C3' | 5.56 | 124.34 | 116.00 |
| 1 | A2 | 832 | U | C1'-C2'-O2' | 5.56 | 116.74 | 108.40 |
| 35 | Bg | 211 | ILE | CA-CB-CG2 | 5.56 | 119.95 | 110.50 |
| 1 | A2 | 326 | G | C5'-C4'-O4' | 5.56 | 118.13 | 109.80 |
| 1 | A2 | 488 | G | C5'-C4'-C3' | 5.56 | 124.33 | 116.00 |
| 19 | BQ | 110 | THR | OG1-CB-CG2 | 5.55 | 120.41 | 109.30 |
| 1 | A2 | 254 | A | C3'-C2'-O2' | 5.55 | 119.02 | 110.70 |
| 1 | A2 | 1247 | U | O4'-C4'-C3' | 5.55 | 109.55 | 104.00 |
| 10 | BH | 65 | PRO | CB-CA-C | 5.55 | 120.72 | 111.56 |
| 1 | A2 | 810 | G | O4'-C4'-C3' | 5.55 | 109.55 | 104.00 |
| 12 | BJ | 163 | PRO | CB-CA-C | 5.54 | 121.52 | 112.26 |
| 1 | A2 | 513 | U | C1'-C2'-O2' | 5.54 | 116.71 | 108.40 |
| 11 | BI | 92 | ARG | N-CA-C | 5.54 | 126.50 | 111.00 |
| 17 | BO | 38 | THR | OG1-CB-CG2 | 5.54 | 120.37 | 109.30 |
| 2 | AZ | 6196 | G | C5'-C4'-C3' | 5.53 | 124.30 | 116.00 |
| 28 | BZ | 46 | LYS | N-CA-C | 5.53 | 121.05 | 113.97 |
| 8 | BF | 94 | THR | OG1-CB-CG2 | 5.53 | 120.36 | 109.30 |
| 1 | A2 | 258 | C | C5'-C4'-C3' | 5.53 | 124.29 | 116.00 |
| 12 | BJ | 8 | TYR | N-CA-C | 5.53 | 117.05 | 107.93 |
| 15 | BM | 99 | GLU | N-CA-C | 5.53 | 122.57 | 110.80 |
| 1 | A2 | 750 | U | C5'-C4'-C3' | 5.53 | 123.49 | 115.20 |
| 1 | A2 | 1445 | G | C5'-C4'-O4' | 5.52 | 117.39 | 109.10 |
| 32 | Bd | 55 | PHE | N-CA-C | 5.52 | 126.46 | 111.00 |
| 1 | A2 | 930 | A | O4'-C1'-C2' | 5.52 | 111.32 | 105.80 |
| 27 | BY | 121 | THR | N-CA-C | 5.52 | 117.38 | 111.36 |
| 1 | A2 | 816 | G | C5'-C4'-C3' | 5.52 | 124.28 | 116.00 |
| 1 | A2 | 1444 | A | C5'-C4'-C3' | 5.52 | 123.48 | 115.20 |
| 10 | BH | 91 | ILE | CG1-CB-CG2 | 5.52 | 127.25 | 110.70 |
| 33 | Be | 18 | THR | N-CA-CB | 5.52 | 117.18 | 110.17 |
| 1 | A2 | 489 | C | O4'-C1'-C2' | 5.51 | 111.31 | 105.80 |
| 1 | A2 | 1296 | A | C4'-C3'-O3' | -5.51 | 104.73 | 113.00 |
| 1 | A2 | 499 | U | O4'-C1'-C2' | 5.51 | 111.31 | 105.80 |
| 5 | BC | 220 | ASN | N-CA-C | 5.51 | 122.53 | 110.80 |
| 1 | A2 | 1647 | U | C5'-C4'-C3' | 5.51 | 124.26 | 116.00 |
| 35 | Bg | 46 | LYS | N-CA-C | 5.51 | 117.80 | 110.53 |
| 1 | A2 | 280 | U | C5'-C4'-C3' | 5.50 | 123.46 | 115.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 1 | A2 | 949 | C | C5'-C4'-C3' | 5.50 | 124.25 | 116.00 |
| 6 | BD | 31 | GLU | N-CA-C | 5.50 | 126.40 | 111.00 |
| 1 | A2 | 722 | G | C2'-C3'-O3' | -5.50 | 105.45 | 113.70 |
| 1 | A2 | 558 | U | O4'-C4'-C3' | 5.50 | 109.50 | 104.00 |
| 1 | A2 | 375 | U | O4'-C4'-C3' | 5.50 | 109.50 | 104.00 |
| 1 | A2 | 990 | C | C5'-C4'-C3' | 5.50 | 124.24 | 116.00 |
| 2 | AZ | 6152 | C | C3'-C2'-O2' | 5.49 | 118.94 | 110.70 |
| 9 | BG | 178 | LEU | N-CA-C | 5.49 | 122.49 | 110.80 |
| 1 | A2 | 735 | C | C5'-C4'-O4' | 5.49 | 117.33 | 109.10 |
| 8 | BF | 94 | THR | CA-CB-CG2 | 5.49 | 119.83 | 110.50 |
| 1 | A2 | 1067 | C | C5'-C4'-O4' | 5.48 | 118.02 | 109.80 |
| 3 | BA | 112 | THR | O-C-N | 5.48 | 124.89 | 120.83 |
| 28 | BZ | 60 | VAL | CB-CA-C | 5.48 | 118.88 | 110.55 |
| 3 | BA | 64 | ILE | CG1-CB-CG2 | 5.48 | 127.13 | 110.70 |
| 1 | A2 | 164 | A | C4'-C3'-O3' | -5.48 | 104.79 | 113.00 |
| 1 | A2 | 451 | A | O4'-C4'-C3' | 5.47 | 109.47 | 104.00 |
| 1 | A2 | 1252 | C | C5'-C4'-O4' | 5.47 | 118.01 | 109.80 |
| 1 | A2 | 1557 | U | O4'-C1'-C2' | 5.47 | 111.27 | 105.80 |
| 33 | Be | 18 | THR | CB-CA-C | 5.47 | 116.37 | 110.08 |
| 18 | BP | 102 | PHE | N-CA-CB | 5.47 | 117.34 | 110.45 |
| 1 | A2 | 1357 | A | C5'-C4'-O4' | 5.47 | 118.00 | 109.80 |
| 11 | BI | 94 | ASN | N-CA-C | 5.47 | 126.31 | 111.00 |
| 26 | BX | 24 | TRP | N-CA-C | 5.46 | 122.44 | 110.80 |
| 14 | BL | 29 | LYS | N-CA-C | 5.46 | 122.44 | 110.80 |
| 35 | Bg | 67 | ILE | N-CA-C | 5.46 | 116.10 | 108.89 |
| 6 | BD | 190 | ARG | CB-CA-C | 5.46 | 118.75 | 109.80 |
| 1 | A2 | 1602 | C | C5'-C4'-O4' | 5.46 | 117.98 | 109.80 |
| 15 | BM | 50 | LYS | N-CA-C | 5.46 | 126.28 | 111.00 |
| 1 | A2 | 1771 | U | C5'-C4'-C3' | 5.45 | 124.18 | 116.00 |
| 4 | BB | 198 | GLU | N-CA-C | 5.45 | 126.27 | 111.00 |
| 1 | A2 | 1113 | A | C5'-C4'-C3' | 5.45 | 123.38 | 115.20 |
| 26 | BX | 61 | SER | N-CA-C | 5.45 | 126.26 | 111.00 |
| 3 | BA | 2 | SER | N-CA-C | 5.45 | 126.25 | 111.00 |
| 34 | Bf | 131 | PHE | CE1-CZ-CE2 | 5.45 | 129.81 | 120.00 |
| 1 | A2 | 1058 | U | C5'-C4'-C3' | 5.45 | 123.37 | 115.20 |
| 11 | BI | 18 | ARG | CB-CA-C | 5.45 | 119.59 | 110.88 |
| 4 | BB | 123 | ALA | N-CA-C | 5.44 | 126.24 | 111.00 |
| 10 | BH | 81 | LEU | N-CA-C | 5.44 | 118.13 | 111.82 |
| 1 | A2 | 375 | U | C5'-C4'-C3' | 5.44 | 124.16 | 116.00 |
| 1 | A2 | 949 | C | O4'-C4'-C3' | 5.44 | 109.44 | 104.00 |
| 11 | BI | 150 | ALA | N-CA-C | 5.44 | 126.23 | 111.00 |
| 11 | BI | 154 | SER | N-CA-C | 5.44 | 126.22 | 111.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 1 | A2 | 862 | A | C5'-C4'-O4' | 5.43 | 117.25 | 109.10 |
| 1 | A2 | 1067 | C | C5'-C4'-C3' | 5.43 | 124.14 | 116.00 |
| 2 | AZ | 6094 | U | C5'-C4'-C3' | 5.43 | 124.14 | 116.00 |
| 7 | BE | 157 | ASN | N-CA-C | 5.42 | 117.39 | 110.61 |
| 19 | BQ | 136 | SER | CB-CA-C | 5.42 | 118.70 | 109.75 |
| 29 | Ba | 66 | LYS | CB-CA-C | 5.42 | 121.21 | 110.42 |
| 1 | A2 | 681 | U | C5'-C4'-O4' | 5.42 | 117.93 | 109.80 |
| 1 | A2 | 1682 | U | C1'-C2'-O2' | -5.42 | 103.67 | 111.80 |
| 1 | A2 | 597 | G | O4'-C1'-C2' | 5.42 | 111.22 | 105.80 |
| 1 | A2 | 756 | A | O4'-C4'-C3' | 5.42 | 109.42 | 104.00 |
| 1 | A2 | 221 | A | C5'-C4'-O4' | 5.42 | 117.92 | 109.80 |
| 7 | BE | 182 | TYR | CZ-CE2-CD2 | 5.42 | 129.35 | 119.60 |
| 11 | BI | 107 | THR | CA-C-N | -5.41 | 114.19 | 120.04 |
| 11 | BI | 107 | THR | C-N-CA | -5.41 | 114.19 | 120.04 |
| 1 | A2 | 1683 | C | C3'-C2'-O2' | 5.41 | 118.82 | 110.70 |
| 1 | A2 | 1483 | A | C4'-C3'-O3' | 5.41 | 121.11 | 113.00 |
| 2 | AZ | 6174 | G | C5'-C4'-C3' | 5.40 | 124.11 | 116.00 |
| 1 | A2 | 1389 | C | O4'-C4'-C3' | 5.40 | 109.40 | 104.00 |
| 27 | BY | 48 | TYR | CD1-CE1-CZ | 5.40 | 129.32 | 119.60 |
| 1 | A2 | 1566 | U | C3'-C2'-O2' | 5.40 | 118.80 | 110.70 |
| 2 | AZ | 6108 | U | C4'-C3'-O3' | 5.40 | 117.50 | 109.40 |
| 1 | A2 | 862 | A | OP1-P-O3' | 5.40 | 124.19 | 108.00 |
| 1 | A2 | 1105 | C | C5'-C4'-C3' | 5.40 | 124.09 | 116.00 |
| 2 | AZ | 6055 | U | C5'-C4'-C3' | 5.39 | 124.09 | 116.00 |
| 16 | BN | 98 | VAL | CB-CA-C | -5.39 | 104.82 | 111.94 |
| 12 | BJ | 138 | LYS | N-CA-C | -5.39 | 106.01 | 112.59 |
| 33 | Be | 36 | LYS | N-CA-C | 5.39 | 126.09 | 111.00 |
| 27 | BY | 92 | VAL | CG1-CB-CG2 | 5.39 | 122.65 | 110.80 |
| 29 | Ba | 70 | LYS | N-CA-CB | 5.39 | 118.64 | 110.45 |
| 1 | A2 | 684 | A | C2'-C3'-O3' | 5.38 | 121.77 | 113.70 |
| 9 | BG | 88 | ARG | N-CA-C | 5.38 | 122.26 | 110.80 |
| 16 | BN | 76 | LYS | CB-CA-C | 5.38 | 119.49 | 110.88 |
| 1 | A2 | 1455 | G | C5'-C4'-O4' | 5.38 | 117.87 | 109.80 |
| 1 | A2 | 684 | A | N9-C1'-C2' | 5.38 | 120.06 | 112.00 |
| 1 | A2 | 600 | U | C5'-C4'-O4' | 5.38 | 117.86 | 109.80 |
| 35 | Bg | 182 | ASN | N-CA-C | 5.37 | 126.05 | 111.00 |
| 1 | A2 | 1777 | G | C5'-C4'-C3' | 5.37 | 124.06 | 116.00 |
| 1 | A2 | 1342 | C | N1-C1'-C2' | 5.37 | 120.05 | 112.00 |
| 10 | BH | 55 | LYS | N-CA-C | 5.37 | 126.03 | 111.00 |
| 1 | A2 | 850 | A | C5'-C4'-C3' | 5.37 | 123.25 | 115.20 |
| 1 | A2 | 1344 | A | C5'-C4'-C3' | 5.36 | 124.05 | 116.00 |
| 16 | BN | 128 | TYR | CD1-CE1-CZ | 5.36 | 129.25 | 119.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 1 | A2 | 1002 | G | O4'-C4'-C3' | 5.36 | 109.36 | 104.00 |
| 1 | A2 | 1196 | A | O4'-C1'-C2' | 5.36 | 111.16 | 105.80 |
| 35 | Bg | 258 | THR | N-CA-C | 5.35 | 125.99 | 111.00 |
| 3 | BA | 35 | PRO | CB-CA-C | 5.35 | 120.39 | 111.56 |
| 10 | BH | 72 | LYS | N-CA-CB | 5.35 | 118.59 | 110.14 |
| 1 | A2 | 1227 | A | C2'-C3'-O3' | 5.35 | 117.52 | 109.50 |
| 1 | A2 | 1286 | U | C5'-C4'-C3' | 5.35 | 124.02 | 116.00 |
| 1 | A2 | 1424 | A | C5'-C4'-C3' | 5.35 | 124.02 | 116.00 |
| 4 | BB | 42 | ASN | N-CA-C | 5.34 | 116.95 | 108.67 |
| 2 | AZ | 6085 | A | C5'-C4'-O4' | 5.34 | 117.81 | 109.80 |
| 5 | BC | 243 | TYR | CD1-CE1-CZ | 5.34 | 129.22 | 119.60 |
| 21 | BS | 21 | ASN | N-CA-C | 5.34 | 125.96 | 111.00 |
| 1 | A2 | 315 | A | C5'-C4'-O4' | 5.34 | 117.11 | 109.10 |
| 1 | A2 | 852 | C | O4'-C4'-C3' | 5.34 | 109.34 | 104.00 |
| 20 | BR | 43 | SER | N-CA-C | 5.34 | 125.94 | 111.00 |
| 1 | A2 | 255 | U | N1-C1'-C2' | 5.33 | 120.00 | 112.00 |
| 17 | BO | 81 | VAL | CG1-CB-CG2 | 5.33 | 122.53 | 110.80 |
| 22 | BT | 55 | TYR | CD1-CE1-CZ | 5.33 | 129.20 | 119.60 |
| 27 | BY | 22 | GLN | CB-CA-C | 5.33 | 118.44 | 109.48 |
| 1 | A2 | 1176 | G | C3'-C2'-O2' | 5.33 | 118.69 | 110.70 |
| 19 | BQ | 65 | ILE | N-CA-C | 5.33 | 114.42 | 106.85 |
| 30 | Bb | 63 | LEU | N-CA-C | 5.33 | 122.15 | 110.80 |
| 2 | AZ | 6118 | G | O4'-C1'-C2' | -5.33 | 102.27 | 107.60 |
| 17 | BO | 120 | PRO | CB-CA-C | 5.33 | 120.35 | 111.56 |
| 1 | A2 | 756 | A | C5'-C4'-C3' | 5.32 | 123.99 | 116.00 |
| 17 | BO | 38 | THR | CA-CB-CG2 | 5.32 | 119.54 | 110.50 |
| 30 | Bb | 19 | HIS | CB-CA-C | 5.32 | 118.51 | 109.84 |
| 9 | BG | 169 | TYR | CZ-CE2-CD2 | 5.32 | 129.17 | 119.60 |
| 19 | BQ | 142 | TYR | N-CA-C | 5.32 | 125.89 | 111.00 |
| 20 | BR | 24 | LEU | N-CA-C | 5.32 | 125.89 | 111.00 |
| 28 | BZ | 61 | SER | CB-CA-C | 5.32 | 121.00 | 110.42 |
| 16 | BN | 20 | ARG | N-CA-CB | 5.31 | 117.72 | 110.01 |
| 1 | A2 | 465 | G | C5'-C4'-C3' | 5.31 | 123.97 | 116.00 |
| 1 | A2 | 1603 | U | C5'-C4'-C3' | 5.31 | 123.97 | 116.00 |
| 1 | A2 | 743 | U | O4'-C4'-C3' | 5.31 | 109.31 | 104.00 |
| 1 | A2 | 1656 | U | C3'-C2'-O2' | 5.31 | 118.66 | 110.70 |
| 5 | BC | 174 | ARG | N-CA-C | 5.31 | 122.10 | 110.80 |
| 1 | A2 | 455 | C | O4'-C1'-C2' | 5.29 | 111.09 | 105.80 |
| 4 | BB | 30 | PHE | CZ-CE2-CD2 | 5.29 | 129.53 | 120.00 |
| 10 | BH | 173 | TYR | CZ-CE2-CD2 | 5.29 | 129.13 | 119.60 |
| 6 | BD | 212 | LYS | CB-CA-C | 5.29 | 119.23 | 109.71 |
| 19 | BQ | 17 | THR | CA-CB-CG2 | 5.29 | 119.49 | 110.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 23 | BU | 112 | VAL | N-CA-C | 5.29 | 116.28 | 108.45 |
| 8 | BF | 49 | GLU | N-CA-C | 5.29 | 125.80 | 111.00 |
| 2 | AZ | 6106 | A | C5'-C4'-C3' | 5.28 | 123.12 | 115.20 |
| 9 | BG | 80 | ASN | N-CA-C | 5.28 | 122.06 | 110.80 |
| 2 | AZ | 6153 | A | C3'-C2'-O2' | 5.28 | 118.62 | 110.70 |
| 6 | BD | 32 | GLU | N-CA-C | 5.28 | 125.79 | 111.00 |
| 6 | BD | 178 | ARG | N-CA-C | 5.28 | 122.05 | 110.80 |
| 1 | A2 | 38 | C | C5'-C4'-C3' | 5.28 | 123.92 | 116.00 |
| 1 | A2 | 9 | U | C5'-C4'-O4' | 5.28 | 117.71 | 109.80 |
| 7 | BE | 141 | THR | CA-CB-CG2 | 5.28 | 119.47 | 110.50 |
| 1 | A2 | 1296 | A | C2'-C3'-O3' | 5.27 | 121.61 | 113.70 |
| 1 | A2 | 1188 | G | C5'-C4'-O4' | 5.27 | 117.70 | 109.80 |
| 22 | BT | 55 | TYR | CG-CD2-CE2 | 5.27 | 129.10 | 121.20 |
| 21 | BS | 105 | VAL | CB-CA-C | 5.27 | 119.93 | 111.29 |
| 2 | AZ | 6144 | A | C3'-C2'-O2' | 5.27 | 118.60 | 110.70 |
| 1 | A2 | 427 | C | C5'-C4'-C3' | 5.26 | 123.90 | 116.00 |
| 1 | A2 | 841 | U | C2'-C3'-O3' | 5.26 | 117.40 | 109.50 |
| 4 | BB | 126 | THR | CA-CB-CG2 | 5.26 | 119.45 | 110.50 |
| 35 | Bg | 302 | PHE | CE1-CZ-CE2 | 5.26 | 129.48 | 120.00 |
| 22 | BT | 54 | PHE | N-CA-C | 5.26 | 125.73 | 111.00 |
| 27 | BY | 93 | ARG | N-CA-CB | 5.26 | 117.85 | 110.12 |
| 30 | Bb | 41 | LEU | CB-CA-C | 5.26 | 120.03 | 110.72 |
| 1 | A2 | 734 | A | O4'-C1'-C2' | 5.26 | 111.06 | 105.80 |
| 17 | BO | 52 | ARG | N-CA-C | 5.26 | 122.00 | 110.80 |
| 21 | BS | 128 | PHE | CD1-CE1-CZ | 5.26 | 129.47 | 120.00 |
| 9 | BG | 44 | GLU | N-CA-C | -5.26 | 106.87 | 113.28 |
| 14 | BL | 78 | THR | CA-CB-OG1 | 5.26 | 117.49 | 109.60 |
| 21 | BS | 36 | LYS | N-CA-C | 5.26 | 122.00 | 110.80 |
| 11 | BI | 183 | ILE | CB-CA-C | 5.25 | 119.25 | 111.26 |
| 1 | A2 | 496 | G | C4'-C3'-O3' | 5.25 | 120.88 | 113.00 |
| 5 | BC | 143 | TYR | CB-CA-C | 5.25 | 118.20 | 109.53 |
| 1 | A2 | 1232 | U | C5'-C4'-O4' | 5.25 | 117.67 | 109.80 |
| 2 | AZ | 6125 | G | C4'-C3'-O3' | 5.25 | 120.87 | 113.00 |
| 10 | BH | 176 | LEU | N-CA-C | 5.25 | 125.69 | 111.00 |
| 22 | BT | 65 | ILE | CB-CA-C | 5.25 | 119.90 | 111.29 |
| 1 | A2 | 3 | U | C5'-C4'-C3' | 5.24 | 123.07 | 115.20 |
| 1 | A2 | 1054 | U | O4'-C1'-C2' | 5.24 | 111.04 | 105.80 |
| 1 | A2 | 1301 | U | C2'-C3'-O3' | 5.24 | 121.57 | 113.70 |
| 8 | BF | 66 | GLN | CB-CA-C | 5.24 | 120.50 | 110.17 |
| 13 | BK | 16 | PHE | CD1-CE1-CZ | 5.24 | 129.44 | 120.00 |
| 7 | BE | 95 | THR | N-CA-C | 5.24 | 125.68 | 111.00 |
| 1 | A2 | 1516 | A | C5'-C4'-O4' | 5.24 | 116.96 | 109.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 20 | BR | 61 | ILE | CG1-CB-CG2 | 5.24 | 126.42 | 110.70 |
| 35 | Bg | 316 | MET | N-CA-C | 5.24 | 116.73 | 107.61 |
| 1 | A2 | 944 | A | C5'-C4'-O4' | 5.24 | 116.96 | 109.10 |
| 20 | BR | 88 | VAL | CB-CA-C | 5.24 | 119.88 | 111.29 |
| 1 | A2 | 88 | U | O4'-C4'-C3' | 5.24 | 109.23 | 104.00 |
| 3 | BA | 10 | THR | OG1-CB-CG2 | 5.24 | 119.77 | 109.30 |
| 2 | AZ | 6134 | U | C5'-C4'-C3' | 5.23 | 123.85 | 116.00 |
| 21 | BS | 99 | HIS | CB-CA-C | 5.23 | 118.67 | 110.19 |
| 1 | A2 | 1602 | C | C5'-C4'-C3' | 5.23 | 123.85 | 116.00 |
| 34 | Bf | 98 | LYS | N-CA-C | 5.23 | 117.88 | 110.50 |
| 1 | A2 | 1771 | U | O4'-C4'-C3' | 5.23 | 109.23 | 104.00 |
| 1 | A2 | 523 | G | C2'-C3'-O3' | 5.23 | 121.54 | 113.70 |
| 1 | A2 | 1145 | U | C5'-C4'-C3' | 5.23 | 123.04 | 115.20 |
| 1 | A2 | 37 | U | C5'-C4'-C3' | 5.23 | 123.84 | 116.00 |
| 1 | A2 | 1041 | G | O4'-C4'-C3' | 5.23 | 109.23 | 104.00 |
| 7 | BE | 70 | VAL | CG1-CB-CG2 | 5.23 | 122.30 | 110.80 |
| 35 | Bg | 201 | THR | N-CA-C | 5.22 | 115.25 | 107.88 |
| 1 | A2 | 821 | U | C5'-C4'-C3' | 5.22 | 123.83 | 116.00 |
| 1 | A2 | 1344 | A | C5'-C4'-O4' | 5.22 | 117.63 | 109.80 |
| 25 | BW | 14 | ILE | CG1-CB-CG2 | 5.22 | 126.36 | 110.70 |
| 2 | AZ | 6179 | A | C5'-C4'-O4' | 5.22 | 117.63 | 109.80 |
| 29 | Ba | 66 | LYS | N-CA-C | 5.22 | 121.91 | 110.80 |
| 2 | AZ | 6215 | C | O4'-C4'-C3' | 5.21 | 109.22 | 104.00 |
| 1 | A2 | 395 | U | C5'-C4'-O4' | 5.21 | 117.61 | 109.80 |
| 19 | BQ | 110 | THR | CA-CB-CG2 | 5.21 | 119.36 | 110.50 |
| 3 | BA | 150 | ASP | N-CA-CB | 5.21 | 119.29 | 110.49 |
| 1 | A2 | 629 | U | C5'-C4'-C3' | 5.21 | 123.81 | 116.00 |
| 6 | BD | 37 | VAL | CG1-CB-CG2 | 5.20 | 122.24 | 110.80 |
| 1 | A2 | 573 | C | C5'-C4'-C3' | 5.20 | 123.80 | 116.00 |
| 11 | BI | 90 | LEU | CB-CA-C | 5.20 | 119.98 | 110.10 |
| 1 | A2 | 1226 | A | C5'-C4'-O4' | 5.20 | 116.90 | 109.10 |
| 1 | A2 | 1450 | U | C5'-C4'-O4' | 5.20 | 117.60 | 109.80 |
| 1 | A2 | 787 | G | C5'-C4'-O4' | 5.20 | 117.60 | 109.80 |
| 27 | BY | 23 | PHE | CE1-CZ-CE2 | 5.20 | 129.35 | 120.00 |
| 2 | AZ | 6168 | C | O4'-C1'-C2' | 5.19 | 110.99 | 105.80 |
| 1 | A2 | 623 | A | C2'-C3'-O3' | -5.19 | 101.71 | 109.50 |
| 21 | BS | 81 | ILE | N-CA-C | 5.19 | 120.10 | 108.88 |
| 27 | BY | 121 | THR | CB-CA-C | 5.19 | 119.68 | 110.85 |
| 23 | BU | 50 | LEU | N-CA-C | 5.19 | 125.53 | 111.00 |
| 3 | BA | 197 | ILE | CG1-CB-CG2 | 5.19 | 126.26 | 110.70 |
| 12 | BJ | 77 | ILE | CG1-CB-CG2 | 5.19 | 126.26 | 110.70 |
| 13 | BK | 37 | THR | CA-CB-CG2 | 5.19 | 119.32 | 110.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 1 | A2 | 628 | G | C3'-C2'-O2' | 5.18 | 118.47 | 110.70 |
| 1 | A2 | 750 | U | C5'-C4'-O4' | 5.18 | 116.87 | 109.10 |
| 10 | BH | 129 | LEU | N-CA-C | -5.18 | 106.08 | 112.72 |
| 10 | BH | 183 | PHE | CD1-CE1-CZ | 5.18 | 129.32 | 120.00 |
| 19 | BQ | 116 | LEU | N-CA-C | 5.18 | 125.50 | 111.00 |
| 33 | Be | 26 | LYS | N-CA-CB | 5.18 | 116.62 | 111.29 |
| 1 | A2 | 1123 | C | C3'-C2'-O2' | 5.18 | 118.47 | 110.70 |
| 1 | A2 | 1252 | C | O4'-C4'-C3' | 5.17 | 109.17 | 104.00 |
| 24 | BV | 32 | VAL | CB-CA-C | 5.17 | 118.59 | 111.19 |
| 4 | BB | 164 | ILE | CG1-CB-CG2 | 5.17 | 126.21 | 110.70 |
| 5 | BC | 150 | GLN | CA-C-N | 5.17 | 125.17 | 119.90 |
| 5 | BC | 150 | GLN | C-N-CA | 5.17 | 125.17 | 119.90 |
| 14 | BL | 115 | PHE | CE1-CZ-CE2 | 5.17 | 129.31 | 120.00 |
| 8 | BF | 82 | PHE | CE1-CZ-CE2 | 5.17 | 129.31 | 120.00 |
| 1 | A2 | 146 | U | C5'-C4'-C3' | 5.17 | 123.75 | 116.00 |
| 7 | BE | 140 | VAL | CG1-CB-CG2 | 5.16 | 122.14 | 110.80 |
| 6 | BD | 35 | SER | N-CA-C | 5.16 | 125.44 | 111.00 |
| 1 | A2 | 66 | U | C5'-C4'-O4' | 5.15 | 117.53 | 109.80 |
| 1 | A2 | 1429 | G | O4'-C4'-C3' | 5.15 | 109.15 | 104.00 |
| 1 | A2 | 1792 | G | C5'-C4'-O4' | 5.15 | 116.83 | 109.10 |
| 6 | BD | 156 | PHE | CG-CD2-CE2 | 5.15 | 129.46 | 120.70 |
| 20 | BR | 76 | GLU | N-CA-C | 5.15 | 125.42 | 111.00 |
| 31 | Bc | 60 | GLU | N-CA-C | 5.15 | 125.41 | 111.00 |
| 25 | BW | 71 | LYS | N-CA-C | 5.14 | 121.76 | 110.80 |
| 11 | BI | 27 | PHE | CG-CD1-CE1 | 5.14 | 129.44 | 120.70 |
| 3 | BA | 38 | PHE | CE1-CZ-CE2 | 5.14 | 129.25 | 120.00 |
| 1 | A2 | 459 | G | C5'-C4'-O4' | 5.13 | 116.80 | 109.10 |
| 1 | A2 | 1097 | U | C4'-C3'-O3' | 5.13 | 117.10 | 109.40 |
| 6 | BD | 220 | PRO | CB-CA-C | 5.13 | 120.03 | 111.56 |
| 9 | BG | 108 | VAL | N-CA-C | 5.13 | 115.76 | 108.42 |
| 27 | BY | 62 | THR | CA-CB-CG2 | 5.13 | 119.22 | 110.50 |
| 9 | BG | 149 | LYS | CB-CA-C | 5.13 | 119.84 | 110.10 |
| 12 | BJ | 39 | LYS | CB-CA-C | 5.13 | 120.63 | 110.17 |
| 2 | AZ | 6196 | G | O4'-C4'-C3' | 5.12 | 109.12 | 104.00 |
| 21 | BS | 81 | ILE | CG1-CB-CG2 | 5.12 | 126.07 | 110.70 |
| 21 | BS | 81 | ILE | N-CA-CB | 5.12 | 118.38 | 111.21 |
| 1 | A2 | 478 | A | O4'-C1'-C2' | 5.12 | 110.92 | 105.80 |
| 4 | BB | 90 | GLU | N-CA-C | 5.12 | 116.62 | 108.79 |
| 1 | A2 | 485 | A | C3'-C2'-O2' | 5.12 | 118.38 | 110.70 |
| 1 | A2 | 1207 | C | C4'-C3'-O3' | 5.12 | 117.08 | 109.40 |
| 1 | A2 | 1161 | C | C5'-C4'-O4' | 5.12 | 117.48 | 109.80 |
| 12 | BJ | 114 | TYR | N-CA-C | 5.12 | 125.33 | 111.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 1 | A2 | 629 | U | O4'-C4'-C3' | 5.12 | 109.12 | 104.00 |
| 1 | A2 | 750 | U | N1-C1'-C2' | 5.12 | 121.67 | 114.00 |
| 1 | A2 | 1324 | G | N9-C1'-C2' | 5.12 | 119.67 | 112.00 |
| 1 | A2 | 273 | G | N9-C1'-C2' | 5.11 | 119.67 | 112.00 |
| 1 | A2 | 805 | U | C5'-C4'-C3' | 5.11 | 123.67 | 116.00 |
| 17 | BO | 85 | ALA | CB-CA-C | 5.11 | 118.17 | 110.50 |
| 22 | BT | 39 | THR | N-CA-C | 5.11 | 125.32 | 111.00 |
| 7 | BE | 192 | ILE | CG1-CB-CG2 | 5.11 | 126.03 | 110.70 |
| 25 | BW | 79 | PHE | CE1-CZ-CE2 | 5.11 | 129.20 | 120.00 |
| 1 | A2 | 753 | A | C5'-C4'-O4' | 5.11 | 117.46 | 109.80 |
| 1 | A2 | 484 | C | C5'-C4'-C3' | 5.11 | 123.66 | 116.00 |
| 7 | BE | 89 | VAL | N-CA-C | 5.11 | 116.32 | 108.71 |
| 4 | BB | 215 | VAL | N-CA-C | 5.10 | 125.29 | 111.00 |
| 1 | A2 | 1077 | C | C2'-C3'-O3' | 5.10 | 121.35 | 113.70 |
| 3 | BA | 173 | ILE | CG1-CB-CG2 | 5.10 | 126.00 | 110.70 |
| 1 | A2 | 1106 | U | O4'-C4'-C3' | 5.10 | 109.10 | 104.00 |
| 1 | A2 | 142 | G | C3'-C2'-O2' | 5.10 | 118.34 | 110.70 |
| 1 | A2 | 1118 | G | C5'-C4'-O4' | 5.09 | 117.44 | 109.80 |
| 8 | BF | 66 | GLN | N-CA-CB | 5.09 | 119.44 | 110.37 |
| 1 | A2 | 1235 | C | O4'-C1'-C2' | 5.09 | 110.89 | 105.80 |
| 1 | A2 | 1685 | G | O4'-C1'-C2' | 5.09 | 110.89 | 105.80 |
| 12 | BJ | 77 | ILE | N-CA-C | 5.09 | 125.24 | 111.00 |
| 1 | A2 | 731 | C | C4'-C3'-O3' | 5.08 | 117.03 | 109.40 |
| 21 | BS | 78 | HIS | N-CA-CB | 5.08 | 119.08 | 110.49 |
| 1 | A2 | 1091 | A | C4'-C3'-O3' | 5.08 | 117.03 | 109.40 |
| 1 | A2 | 68 | A | C4'-C3'-O3' | 5.08 | 120.62 | 113.00 |
| 8 | BF | 211 | ILE | CG1-CB-CG2 | 5.08 | 125.94 | 110.70 |
| 1 | A2 | 502 | U | O4'-C4'-C3' | 5.08 | 109.08 | 104.00 |
| 23 | BU | 84 | MET | CB-CA-C | 5.08 | 118.39 | 110.67 |
| 1 | A2 | 1749 | A | O4'-C4'-C3' | 5.08 | 109.08 | 104.00 |
| 25 | BW | 49 | GLU | N-CA-C | 5.08 | 125.21 | 111.00 |
| 1 | A2 | 502 | U | C5'-C4'-C3' | 5.07 | 123.61 | 116.00 |
| 3 | BA | 75 | ALA | CB-CA-C | 5.07 | 117.95 | 110.14 |
| 23 | BU | 101 | LYS | N-CA-C | 5.07 | 125.20 | 111.00 |
| 4 | BB | 195 | LYS | N-CA-C | 5.07 | 125.19 | 111.00 |
| 1 | A2 | 1498 | G | C5'-C4'-C3' | 5.07 | 123.60 | 116.00 |
| 4 | BB | 101 | HIS | N-CA-C | 5.07 | 125.19 | 111.00 |
| 9 | BG | 172 | ALA | N-CA-C | 5.07 | 114.13 | 108.25 |
| 1 | A2 | 508 | U | O4'-C1'-C2' | -5.07 | 102.53 | 107.60 |
| 3 | BA | 102 | PHE | N-CA-C | 5.06 | 125.17 | 111.00 |
| 29 | Ba | 64 | LEU | CA-C-N | 5.06 | 126.17 | 119.84 |
| 29 | Ba | 64 | LEU | C-N-CA | 5.06 | 126.17 | 119.84 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 19 | BQ | 129 | PHE | CG-CD1-CE1 | 5.06 | 129.30 | 120.70 |
| 1 | A2 | 1754 | A | C5'-C4'-C3' | 5.06 | 122.79 | 115.20 |
| 1 | A2 | 1672 | G | C5'-C4'-C3' | 5.06 | 123.58 | 116.00 |
| 12 | BJ | 37 | LYS | N-CA-C | 5.05 | 121.57 | 110.80 |
| 19 | BQ | 64 | ASP | CB-CA-C | 5.05 | 119.15 | 110.81 |
| 3 | BA | 65 | ALA | N-CA-C | 5.05 | 125.15 | 111.00 |
| 3 | BA | 194 | PRO | N-CA-C | 5.04 | 122.86 | 112.47 |
| 6 | BD | 53 | THR | CA-CB-CG2 | 5.04 | 119.08 | 110.50 |
| 12 | BJ | 67 | PRO | CB-CA-C | 5.04 | 119.88 | 111.56 |
| 1 | A2 | 1028 | C | O4'-C1'-C2' | 5.04 | 110.84 | 105.80 |
| 2 | AZ | 6163 | C | O4'-C1'-C2' | 5.04 | 110.84 | 105.80 |
| 1 | A2 | 245 | U | C5'-C4'-O4' | 5.04 | 117.36 | 109.80 |
| 1 | A2 | 1096 | C | C4'-C3'-O3' | 5.04 | 116.96 | 109.40 |
| 9 | BG | 130 | PRO | N-CA-C | 5.03 | 122.84 | 112.47 |
| 12 | BJ | 157 | ASP | CB-CA-C | 5.03 | 120.43 | 110.42 |
| 1 | A2 | 327 | U | N1-C1'-C2' | 5.03 | 119.54 | 112.00 |
| 35 | Bg | 186 | PHE | CG-CD2-CE2 | 5.03 | 129.25 | 120.70 |
| 1 | A2 | 1102 | G | C5'-C4'-O4' | 5.03 | 117.34 | 109.80 |
| 22 | BT | 91 | TYR | CG-CD2-CE2 | 5.02 | 128.73 | 121.20 |
| 32 | Bd | 32 | ARG | CB-CA-C | 5.02 | 120.92 | 110.32 |
| 21 | BS | 77 | THR | N-CA-CB | 5.02 | 117.81 | 109.88 |
| 1 | A2 | 573 | C | O4'-C4'-C3' | 5.02 | 109.02 | 104.00 |
| 1 | A2 | 939 | A | O4'-C4'-C3' | 5.02 | 109.02 | 104.00 |
| 11 | BI | 18 | ARG | N-CA-CB | 5.01 | 117.80 | 109.88 |
| 1 | A2 | 938 | G | C5'-C4'-O4' | 5.01 | 117.31 | 109.80 |
| 1 | A2 | 375 | U | C5'-C4'-O4' | 5.00 | 117.31 | 109.80 |
| 1 | A2 | 1058 | U | C5'-C4'-O4' | 5.00 | 116.60 | 109.10 |
| 1 | A2 | 1221 | A | C3'-C2'-O2' | 5.00 | 118.21 | 110.70 |
| 11 | BI | 21 | PHE | CG-CD1-CE1 | 5.00 | 129.21 | 120.70 |
| 35 | Bg | 88 | THR | CA-CB-CG2 | 5.00 | 119.00 | 110.50 |

All (284) chirality outliers are listed below:

| Mol | Chain | Res | Type | Atom |
|---|---|---|---|---|
| 1 | A2 | 7 | G | C3' |
| 1 | A2 | 41 | A | C3' |
| 1 | A2 | 67 | A | C3' |
| 1 | A2 | 102 | U | C3' |
| 1 | A2 | 124 | A | C2' |
| 1 | A2 | 131 | C | C3' |
| 1 | A2 | 146 | U | C3' |
| 1 | A2 | 158 | U | C3' |

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| Mol | Chain | Res | Type | Atom |
|---|---|---|---|---|
| 1 | A2 | 173 | A | C2' |
| 1 | A2 | 213 | A | C2' |
| 1 | A2 | 220 | A | C2' |
| 1 | A2 | 222 | A | C2' |
| 1 | A2 | 231 | U | C2' |
| 1 | A2 | 286 | C | C3' |
| 1 | A2 | 295 | A | C3' |
| 1 | A2 | 376 | C | C3' |
| 1 | A2 | 389 | G | C2' |
| 1 | A2 | 391 | A | C2' |
| 1 | A2 | 423 | G | C3' |
| 1 | A2 | 427 | C | C3' |
| 1 | A2 | 430 | G | C3' |
| 1 | A2 | 454 | U | C3' |
| 1 | A2 | 473 | A | C4' |
| 1 | A2 | 478 | A | C2' |
| 1 | A2 | 481 | A | C3' |
| 1 | A2 | 499 | U | C2' |
| 1 | A2 | 501 | U | C2' |
| 1 | A2 | 504 | U | C3' |
| 1 | A2 | 514 | G | C3' |
| 1 | A2 | 523 | G | C2' |
| 1 | A2 | 525 | A | C4' |
| 1 | A2 | 578 | U | C3' |
| 1 | A2 | 607 | G | C3' |
| 1 | A2 | 740 | A | C3' |
| 1 | A2 | 764 | U | C2' |
| 1 | A2 | 794 | U | C3' |
| 1 | A2 | 803 | A | C3' |
| 1 | A2 | 820 | U | C3' |
| 1 | A2 | 842 | C | C2' |
| 1 | A2 | 894 | U | C2' |
| 1 | A2 | 918 | U | C3' |
| 1 | A2 | 921 | U | C3' |
| 1 | A2 | 930 | A | C3' |
| 1 | A2 | 939 | A | C3' |
| 1 | A2 | 977 | A | C2' |
| 1 | A2 | 990 | C | C3' |
| 1 | A2 | 1012 | U | C3' |
| 1 | A2 | 1032 | G | C2' |
| 1 | A2 | 1053 | G | C2' |
| 1 | A2 | 1066 | C | C2' |

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| Mol | Chain | Res | Type | Atom |
|---|---|---|---|---|
| 1 | A2 | 1097 | U | C4’ |
| 1 | A2 | 1106 | U | C3’ |
| 1 | A2 | 1131 | A | C4’ |
| 1 | A2 | 1152 | A | C2’ |
| 1 | A2 | 1170 | G | C3’ |
| 1 | A2 | 1171 | A | C3’ |
| 1 | A2 | 1216 | C | C3’ |
| 1 | A2 | 1219 | A | C2’ |
| 1 | A2 | 1240 | U | C3’ |
| 1 | A2 | 1242 | A | C2’ |
| 1 | A2 | 1259 | U | C3’ |
| 1 | A2 | 1268 | G | C2’ |
| 1 | A2 | 1286 | U | C2’ |
| 1 | A2 | 1289 | U | C3’ |
| 1 | A2 | 1293 | U | C3’ |
| 1 | A2 | 1295 | G | C3’ |
| 1 | A2 | 1297 | G | C2’ |
| 1 | A2 | 1298 | U | C3’ |
| 1 | A2 | 1317 | C | C3’ |
| 1 | A2 | 1343 | U | C2’ |
| 1 | A2 | 1344 | A | C3’ |
| 1 | A2 | 1371 | A | C2’ |
| 1 | A2 | 1396 | U | C2’ |
| 1 | A2 | 1401 | A | C2’ |
| 1 | A2 | 1415 | U | C3’ |
| 1 | A2 | 1418 | G | C3’ |
| 1 | A2 | 1442 | U | C3’ |
| 1 | A2 | 1447 | C | C3’ |
| 1 | A2 | 1449 | U | C4’ |
| 1 | A2 | 1471 | A | C3’ |
| 1 | A2 | 1500 | C | C2’ |
| 1 | A2 | 1501 | C | C2’ |
| 1 | A2 | 1514 | U | C2’ |
| 1 | A2 | 1568 | C | C3’ |
| 1 | A2 | 1570 | A | C3’ |
| 1 | A2 | 1573 | A | C3’ |
| 1 | A2 | 1582 | U | C3’ |
| 1 | A2 | 1608 | U | C3’ |
| 1 | A2 | 1611 | A | C2’ |
| 1 | A2 | 1629 | G | C3’ |
| 1 | A2 | 1635 | A | C2’ |
| 1 | A2 | 1638 | G | C4’ |

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| Mol | Chain | Res | Type | Atom |
|---|---|---|---|---|
| 1 | A2 | 1678 | A | C3' |
| 1 | A2 | 1719 | A | C2' |
| 1 | A2 | 1720 | G | C3' |
| 1 | A2 | 1748 | G | C2' |
| 1 | A2 | 1752 | U | C3' |
| 1 | A2 | 1777 | G | C3' |
| 2 | AZ | 6025 | A | C2' |
| 2 | AZ | 6034 | A | C2' |
| 2 | AZ | 6079 | A | C2' |
| 2 | AZ | 6091 | G | C3' |
| 2 | AZ | 6115 | U | C2' |
| 2 | AZ | 6124 | G | C4' |
| 2 | AZ | 6175 | A | C2' |
| 2 | AZ | 6195 | G | C3' |
| 3 | BA | 50 | VAL | CA |
| 3 | BA | 102 | PHE | CA |
| 3 | BA | 111 | ILE | CB |
| 3 | BA | 112 | THR | CA |
| 3 | BA | 129 | ASP | CA |
| 3 | BA | 150 | ASP | CA |
| 3 | BA | 173 | ILE | CB |
| 3 | BA | 204 | TYR | CA |
| 4 | BB | 21 | VAL | CA |
| 4 | BB | 26 | ARG | CA |
| 4 | BB | 91 | VAL | CA |
| 4 | BB | 98 | THR | CA |
| 4 | BB | 101 | HIS | CA |
| 4 | BB | 108 | ASP | CA |
| 4 | BB | 123 | ALA | CA |
| 4 | BB | 153 | HIS | CA |
| 4 | BB | 211 | HIS | CA |
| 4 | BB | 215 | VAL | CA |
| 4 | BB | 224 | ASP | CA |
| 5 | BC | 77 | GLN | CA |
| 5 | BC | 86 | VAL | CA |
| 5 | BC | 126 | ARG | CA |
| 5 | BC | 131 | ILE | CA |
| 5 | BC | 150 | GLN | CA |
| 5 | BC | 174 | ARG | CA |
| 5 | BC | 186 | LYS | CA |
| 5 | BC | 220 | ASN | CA |
| 6 | BD | 9 | ARG | CA |

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| Mol | Chain | Res | Type | Atom |
|---|---|---|---|---|
| 6 | BD | 31 | GLU | CA |
| 6 | BD | 51 | ARG | CA |
| 6 | BD | 78 | LYS | CA |
| 6 | BD | 123 | VAL | CA |
| 6 | BD | 175 | VAL | CA |
| 7 | BE | 21 | ASP | CA |
| 7 | BE | 39 | ARG | CA |
| 7 | BE | 95 | THR | CA |
| 7 | BE | 104 | ASP | CA |
| 7 | BE | 108 | ARG | CA |
| 7 | BE | 147 | ILE | CA |
| 7 | BE | 156 | VAL | CA |
| 7 | BE | 194 | THR | CA |
| 8 | BF | 23 | VAL | CA |
| 8 | BF | 66 | GLN | CA |
| 8 | BF | 115 | LYS | CA |
| 8 | BF | 119 | ASP | CA |
| 8 | BF | 162 | VAL | CA |
| 8 | BF | 165 | LEU | CA |
| 9 | BG | 14 | LYS | CA |
| 9 | BG | 25 | ARG | CA |
| 9 | BG | 67 | VAL | CA |
| 9 | BG | 81 | VAL | CA |
| 9 | BG | 120 | GLU | CA |
| 9 | BG | 133 | LEU | CA |
| 9 | BG | 142 | ARG | CA |
| 9 | BG | 149 | LYS | CA |
| 9 | BG | 198 | ALA | CA |
| 9 | BG | 206 | ALA | CA |
| 10 | BH | 14 | THR | CA |
| 10 | BH | 39 | ARG | CA |
| 10 | BH | 59 | ALA | CA |
| 10 | BH | 72 | LYS | CA |
| 10 | BH | 147 | ASN | CA |
| 10 | BH | 151 | LYS | CA |
| 10 | BH | 152 | VAL | CA |
| 11 | BI | 13 | ALA | CA |
| 11 | BI | 17 | LYS | CA |
| 11 | BI | 18 | ARG | CA |
| 11 | BI | 74 | LYS | CA |
| 11 | BI | 90 | LEU | CA |
| 11 | BI | 92 | ARG | CA |

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| Mol | Chain | Res | Type | Atom |
|---|---|---|---|---|
| 11 | BI | 94 | ASN | CA |
| 11 | BI | 120 | THR | CA |
| 11 | BI | 150 | ALA | CA |
| 11 | BI | 154 | SER | CA |
| 11 | BI | 162 | ALA | CA |
| 11 | BI | 197 | THR | CA |
| 12 | BJ | 48 | GLN | CA |
| 12 | BJ | 71 | PHE | CA |
| 12 | BJ | 77 | ILE | CA |
| 12 | BJ | 102 | GLU | CA |
| 12 | BJ | 157 | ASP | CA |
| 13 | BK | 59 | PHE | CA |
| 13 | BK | 71 | GLU | CA |
| 14 | BL | 27 | THR | CA |
| 14 | BL | 29 | LYS | CA |
| 14 | BL | 31 | THR | CA |
| 14 | BL | 63 | LEU | CA |
| 14 | BL | 78 | THR | CB |
| 14 | BL | 107 | VAL | CA |
| 14 | BL | 138 | ASN | CA |
| 14 | BL | 145 | ALA | CA |
| 15 | BM | 50 | LYS | CA |
| 15 | BM | 141 | SER | CA |
| 16 | BN | 45 | LEU | CA |
| 16 | BN | 76 | LYS | CA |
| 16 | BN | 112 | LYS | CA |
| 16 | BN | 117 | LEU | CA |
| 16 | BN | 121 | ARG | CA |
| 16 | BN | 139 | TRP | CA |
| 17 | BO | 17 | ALA | CA |
| 17 | BO | 61 | MET | CA |
| 17 | BO | 85 | ALA | CA |
| 17 | BO | 86 | THR | CA |
| 18 | BP | 20 | VAL | CA |
| 18 | BP | 36 | LEU | CA |
| 18 | BP | 80 | MET | CA |
| 18 | BP | 122 | THR | CA |
| 19 | BQ | 64 | ASP | CA |
| 19 | BQ | 89 | LEU | CA |
| 19 | BQ | 94 | GLN | CA |
| 19 | BQ | 116 | LEU | CA |
| 19 | BQ | 123 | ARG | CA |

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| Mol | Chain | Res | Type | Atom |
|---|---|---|---|---|
| 19 | BQ | 136 | SER | CA |
| 19 | BQ | 141 | SER | CA |
| 19 | BQ | 142 | TYR | CA |
| 20 | BR | 18 | GLU | CA |
| 20 | BR | 24 | LEU | CA |
| 20 | BR | 42 | GLN | CA |
| 20 | BR | 54 | THR | CA |
| 20 | BR | 99 | VAL | CA |
| 21 | BS | 5 | VAL | CA |
| 21 | BS | 21 | ASN | CA |
| 21 | BS | 43 | SER | CA |
| 21 | BS | 47 | CYS | CA |
| 21 | BS | 77 | THR | CA |
| 21 | BS | 97 | ASP | CA |
| 22 | BT | 7 | ARG | CA |
| 22 | BT | 54 | PHE | CA |
| 22 | BT | 65 | ILE | CA |
| 22 | BT | 66 | TYR | CA |
| 22 | BT | 69 | LYS | CA |
| 22 | BT | 101 | ASN | CA |
| 23 | BU | 41 | ILE | CA |
| 24 | BV | 58 | TYR | CA |
| 24 | BV | 81 | ASN | CA |
| 25 | BW | 65 | LEU | CA |
| 25 | BW | 83 | ILE | CA |
| 25 | BW | 126 | LEU | CA |
| 26 | BX | 22 | ASN | CA |
| 26 | BX | 33 | LEU | CA |
| 26 | BX | 61 | SER | CA |
| 26 | BX | 75 | GLN | CA |
| 26 | BX | 90 | ALA | CA |
| 27 | BY | 11 | LYS | CA |
| 27 | BY | 41 | ARG | CA |
| 27 | BY | 47 | VAL | CA |
| 27 | BY | 62 | THR | CB |
| 27 | BY | 84 | LYS | CA |
| 27 | BY | 129 | VAL | CA |
| 28 | BZ | 82 | HIS | CA |
| 29 | Ba | 11 | ASN | CA |
| 29 | Ba | 45 | VAL | CA |
| 29 | Ba | 66 | LYS | CA |
| 29 | Ba | 84 | VAL | CA |

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| Mol | Chain | Res | Type | Atom |
|---|---|---|---|---|
| 30 | Bb | 8 | LEU | CA |
| 30 | Bb | 12 | ALA | CA |
| 30 | Bb | 19 | HIS | CA |
| 30 | Bb | 41 | LEU | CA |
| 30 | Bb | 57 | GLU | CA |
| 31 | Bc | 51 | ASN | CA |
| 31 | Bc | 55 | VAL | CA |
| 32 | Bd | 43 | PHE | CA |
| 32 | Bd | 47 | ALA | CA |
| 32 | Bd | 55 | PHE | CA |
| 33 | Be | 31 | LYS | CA |
| 33 | Be | 36 | LYS | CA |
| 33 | Be | 43 | ARG | CA |
| 34 | Bf | 111 | GLU | CA |
| 34 | Bf | 151 | ASN | CA |
| 35 | Bg | 5 | GLU | CA |
| 35 | Bg | 10 | ARG | CA |
| 35 | Bg | 131 | ILE | CA |
| 35 | Bg | 153 | GLN | CA |
| 35 | Bg | 182 | ASN | CA |
| 35 | Bg | 188 | ILE | CA |
| 35 | Bg | 211 | ILE | CB |
| 35 | Bg | 273 | ASP | CA |
| 35 | Bg | 299 | GLN | CA |

All (31) planarity outliers are listed below:

| Mol | Chain | Res | Type | Group |
|---|---|---|---|---|
| 3 | BA | 138 | TYR | Peptide |
| 3 | BA | 35 | PRO | Peptide |
| 3 | BA | 62 | ARG | Peptide |
| 4 | BB | 177 | GLN | Peptide |
| 4 | BB | 178 | GLY | Peptide |
| 5 | BC | 220 | ASN | Peptide |
| 6 | BD | 178 | ARG | Peptide |
| 8 | BF | 65 | ALA | Peptide |
| 9 | BG | 129 | VAL | Peptide |
| 9 | BG | 162 | VAL | Peptide |
| 9 | BG | 43 | ASP | Peptide |
| 10 | BH | 14 | THR | Peptide |
| 10 | BH | 161 | GLN | Peptide |
| 11 | BI | 16 | ALA | Peptide |

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| Mol | Chain | Res | Type | Group |
|---|---|---|---|---|
| 11 | BI | 31 | ARG | Peptide |
| 12 | BJ | 156 | ILE | Peptide |
| 17 | BO | 124 | ASP | Peptide |
| 19 | BQ | 112 | TYR | Peptide |
| 19 | BQ | 8 | GLN | Peptide |
| 21 | BS | 12 | GLN | Peptide |
| 21 | BS | 35 | ILE | Peptide |
| 21 | BS | 52 | VAL | Peptide |
| 21 | BS | 97 | ASP | Peptide |
| 23 | BU | 56 | VAL | Peptide |
| 24 | BV | 61 | SER | Peptide |
| 26 | BX | 63 | GLN | Peptide |
| 26 | BX | 93 | LEU | Peptide |
| 29 | Ba | 9 | GLY | Peptide |
| 32 | Bd | 47 | ALA | Peptide |
| 34 | Bf | 97 | ALA | Peptide |
| 35 | Bg | 266 | ASP | Peptide |

## 5.2 Too-close contacts (i)

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

| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|---|---|---|---|---|---|---|
| 1 | A2 | 37579 | 0 | 18988 | 10931 | 0 |
| 2 | AZ | 4018 | 0 | 2058 | 293 | 0 |
| 3 | BA | 1577 | 0 | 1518 | 360 | 0 |
| 4 | BB | 1686 | 0 | 1693 | 204 | 0 |
| 5 | BC | 1626 | 0 | 1633 | 614 | 0 |
| 6 | BD | 1729 | 0 | 1743 | 299 | 0 |
| 7 | BE | 2068 | 0 | 2055 | 1041 | 0 |
| 8 | BF | 1603 | 0 | 1601 | 331 | 0 |
| 9 | BG | 1790 | 0 | 1764 | 1216 | 0 |
| 10 | BH | 1481 | 0 | 1515 | 213 | 0 |
| 11 | BI | 1480 | 0 | 1432 | 509 | 0 |
| 12 | BJ | 1452 | 0 | 1479 | 322 | 0 |
| 13 | BK | 765 | 0 | 711 | 65 | 0 |
| 14 | BL | 1146 | 0 | 1175 | 171 | 0 |
| 15 | BM | 870 | 0 | 843 | 43 | 0 |
| 16 | BN | 1192 | 0 | 1210 | 289 | 0 |

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| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|---|---|---|---|---|---|---|
| 17 | BO | 905 | 0 | 852 | 374 | 0 |
| 18 | BP | 914 | 0 | 886 | 537 | 0 |
| 19 | BQ | 1082 | 0 | 1104 | 215 | 0 |
| 20 | BR | 934 | 0 | 889 | 352 | 0 |
| 21 | BS | 1150 | 0 | 1130 | 456 | 0 |
| 22 | BT | 1105 | 0 | 1056 | 498 | 0 |
| 23 | BU | 829 | 0 | 853 | 243 | 0 |
| 24 | BV | 684 | 0 | 652 | 76 | 0 |
| 25 | BW | 1021 | 0 | 996 | 598 | 0 |
| 26 | BX | 1101 | 0 | 1103 | 799 | 0 |
| 27 | BY | 1073 | 0 | 1061 | 949 | 0 |
| 28 | BZ | 518 | 0 | 534 | 170 | 0 |
| 29 | Ba | 769 | 0 | 770 | 198 | 0 |
| 30 | Bb | 610 | 0 | 599 | 190 | 0 |
| 31 | Bc | 497 | 0 | 521 | 28 | 0 |
| 32 | Bd | 433 | 0 | 404 | 99 | 0 |
| 33 | Be | 440 | 0 | 473 | 152 | 0 |
| 34 | Bf | 458 | 0 | 452 | 239 | 0 |
| 35 | Bg | 2417 | 0 | 2290 | 140 | 0 |
| All | All | 79002 | 0 | 58043 | 13570 | 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 99.

All (13570) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:782:U:P | 27:BY:39:GLU:HG3 | 1.23 | 1.72 |
| 1:A2:811:A:C2 | 10:BH:107:ARG:HA | 1.19 | 1.72 |
| 1:A2:1722:A:P | 9:BG:73:ILE:HG13 | 1.23 | 1.72 |
| 1:A2:59:C:P | 27:BY:111:LYS:HD3 | 1.28 | 1.69 |
| 1:A2:803:A:H4' | 25:BW:120:HIS:CE1 | 1.25 | 1.69 |
| 1:A2:436:A:C5 | 26:BX:50:LYS:HD2 | 1.28 | 1.68 |
| 1:A2:1144:U:C2 | 5:BC:89:GLN:CG | 1.77 | 1.68 |
| 1:A2:969:C:C2 | 26:BX:14:LYS:HG2 | 1.27 | 1.67 |
| 1:A2:245:U:C4 | 7:BE:128:LYS:HD2 | 1.16 | 1.66 |
| 1:A2:1710:U:C6 | 9:BG:115:LYS:HG3 | 1.31 | 1.66 |
| 1:A2:1317:C:C6 | 20:BR:7:LYS:HD2 | 1.24 | 1.65 |
| 1:A2:1256:A:C2 | 34:Bf:98:LYS:CG | 1.81 | 1.64 |
| 1:A2:1037:C:C4' | 25:BW:71:LYS:HD2 | 1.21 | 1.64 |
| 1:A2:1528:U:H5" | 19:BQ:43:ILE:CG1 | 1.19 | 1.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1175:U:C4 | 21:BS:140:THR:HG21 | 1.31 | 1.63 |
| 2:AZ:6220:U:C5 | 6:BD:142:LEU:HA | 1.31 | 1.63 |
| 1:A2:1389:C:H5' | 20:BR:45:ARG:CB | 1.20 | 1.63 |
| 1:A2:1505:A:C2 | 21:BS:84:TRP:CD2 | 1.81 | 1.63 |
| 1:A2:137:U:H3' | 9:BG:143:LYS:CG | 1.29 | 1.62 |
| 1:A2:703:G:C8 | 7:BE:230:GLU:HG2 | 1.28 | 1.62 |
| 1:A2:784:C:C5' | 27:BY:44:LEU:HD23 | 1.28 | 1.62 |
| 1:A2:1252:C:C6 | 34:Bf:136:LYS:HG2 | 1.16 | 1.62 |
| 1:A2:688:G:C5' | 12:BJ:67:PRO:HG3 | 1.24 | 1.62 |
| 1:A2:740:A:C2 | 7:BE:198:LYS:HG3 | 1.24 | 1.62 |
| 1:A2:1390:U:P | 20:BR:45:ARG:HG2 | 1.36 | 1.62 |
| 1:A2:1051:G:C8 | 30:Bb:13:ALA:HB1 | 1.14 | 1.62 |
| 1:A2:1230:A:C4' | 34:Bf:98:LYS:HE2 | 1.30 | 1.61 |
| 2:AZ:6220:U:H5 | 6:BD:142:LEU:CA | 1.08 | 1.61 |
| 1:A2:1548:G:H1' | 21:BS:99:HIS:CE1 | 1.31 | 1.61 |
| 1:A2:601:A:C8 | 26:BX:105:ALA:HB1 | 1.12 | 1.60 |
| 1:A2:1403:C:H5" | 20:BR:2:GLY:CA | 1.17 | 1.60 |
| 1:A2:897:C:C5 | 17:BO:38:THR:HG21 | 1.37 | 1.60 |
| 1:A2:85:A:C2' | 27:BY:126:ALA:HA | 1.16 | 1.60 |
| 1:A2:776:G:C2' | 27:BY:29:HIS:CE1 | 1.79 | 1.60 |
| 1:A2:866:G:H5" | 25:BW:3:ARG:C | 1.26 | 1.60 |
| 1:A2:1601:G:C8 | 22:BT:89:ARG:HG2 | 1.32 | 1.60 |
| 1:A2:1367:G:C3' | 22:BT:66:TYR:HE1 | 1.06 | 1.60 |
| 1:A2:78:A:C6 | 9:BG:162:VAL:HB | 1.32 | 1.59 |
| 1:A2:632:U:H1' | 26:BX:15:LEU:CD1 | 1.22 | 1.59 |
| 1:A2:957:G:C5' | 30:Bb:22:LYS:HG2 | 1.31 | 1.59 |
| 1:A2:1367:G:C2' | 22:BT:66:TYR:CE1 | 1.83 | 1.59 |
| 1:A2:778:G:P | 27:BY:32:ARG:HG2 | 1.39 | 1.59 |
| 1:A2:1723:U:C5 | 9:BG:73:ILE:HD13 | 1.27 | 1.59 |
| 1:A2:325:G:H1' | 14:BL:133:LYS:CB | 1.26 | 1.59 |
| 1:A2:1328:G:C8 | 6:BD:159:HIS:HB2 | 1.09 | 1.59 |
| 1:A2:1384:A:P | 23:BU:87:HIS:HB3 | 1.38 | 1.59 |
| 1:A2:632:U:H1' | 26:BX:15:LEU:CG | 1.30 | 1.58 |
| 1:A2:787:G:C2 | 27:BY:61:ARG:HD2 | 1.07 | 1.58 |
| 1:A2:57:G:C2 | 27:BY:115:ASP:N | 1.67 | 1.58 |
| 1:A2:814:A:C2 | 10:BH:109:VAL:HA | 1.10 | 1.58 |
| 1:A2:1326:A:H5" | 6:BD:189:MET:SD | 1.42 | 1.58 |
| 1:A2:1796:C:H5' | 29:Ba:92:ARG:CD | 1.16 | 1.58 |
| 1:A2:1454:G:P | 18:BP:118:GLU:HA | 1.41 | 1.58 |
| 1:A2:1328:G:H8 | 6:BD:159:HIS:CB | 1.03 | 1.57 |
| 1:A2:803:A:C4' | 25:BW:120:HIS:CE1 | 1.79 | 1.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1260:U:C2 | 34:Bf:93:ALA:CB | 1.87 | 1.57 |
| 1:A2:137:U:C2' | 9:BG:143:LYS:HD3 | 1.09 | 1.56 |
| 1:A2:688:G:H5' | 12:BJ:67:PRO:CG | 1.16 | 1.56 |
| 1:A2:746:A:C2 | 25:BW:82:LYS:HE3 | 1.08 | 1.56 |
| 1:A2:1721:A:C8 | 9:BG:67:VAL:CG2 | 1.83 | 1.56 |
| 1:A2:127:G:C8 | 9:BG:186:ARG:HB2 | 1.04 | 1.56 |
| 1:A2:1256:A:C2 | 34:Bf:98:LYS:HG2 | 1.33 | 1.56 |
| 1:A2:1317:C:H6 | 20:BR:7:LYS:CD | 1.12 | 1.56 |
| 1:A2:1056:U:C5' | 3:BA:46:HIS:NE2 | 1.67 | 1.56 |
| 1:A2:1564:U:C2' | 21:BS:41:ARG:HB3 | 1.31 | 1.56 |
| 1:A2:956:C:C2 | 16:BN:11:ILE:HD12 | 1.39 | 1.55 |
| 1:A2:1435:G:N2 | 13:BK:27:PHE:CE2 | 1.75 | 1.55 |
| 1:A2:1051:G:H8 | 30:Bb:13:ALA:CB | 1.13 | 1.54 |
| 1:A2:1317:C:C6 | 20:BR:7:LYS:CD | 1.85 | 1.54 |
| 1:A2:1682:U:C5' | 9:BG:102:VAL:HG13 | 1.14 | 1.54 |
| 1:A2:598:U:C2 | 26:BX:132:LEU:HB3 | 1.37 | 1.54 |
| 1:A2:776:G:H2' | 27:BY:29:HIS:CE1 | 1.31 | 1.54 |
| 1:A2:137:U:C2' | 9:BG:143:LYS:CD | 1.85 | 1.54 |
| 1:A2:865:A:H5" | 25:BW:6:VAL:C | 1.30 | 1.53 |
| 1:A2:741:C:N4 | 7:BE:206:ASP:CA | 1.71 | 1.53 |
| 1:A2:1389:C:C4' | 20:BR:45:ARG:HA | 1.09 | 1.53 |
| 1:A2:1452:U:H2' | 18:BP:117:GLY:CA | 1.32 | 1.53 |
| 1:A2:1683:C:P | 9:BG:52:ILE:HG23 | 1.47 | 1.53 |
| 1:A2:115:G:N2 | 11:BI:27:PHE:CD2 | 1.72 | 1.53 |
| 1:A2:740:A:C5 | 7:BE:198:LYS:HE2 | 1.38 | 1.53 |
| 1:A2:1048:G:H1' | 30:Bb:22:LYS:CD | 1.09 | 1.53 |
| 1:A2:915:A:N1 | 17:BO:27:PHE:CE2 | 1.72 | 1.52 |
| 1:A2:1048:G:C1' | 30:Bb:22:LYS:HD2 | 1.07 | 1.52 |
| 1:A2:1498:G:H8 | 22:BT:73:VAL:CG2 | 1.21 | 1.52 |
| 1:A2:127:G:N7 | 9:BG:186:ARG:CB | 1.71 | 1.52 |
| 1:A2:1086:A:H8 | 5:BC:203:LYS:CD | 1.19 | 1.52 |
| 1:A2:783:G:H1 | 27:BY:35:VAL:CG2 | 0.94 | 1.52 |
| 1:A2:787:G:C2 | 27:BY:61:ARG:CD | 1.91 | 1.52 |
| 1:A2:901:G:H22 | 17:BO:24:ASN:C | 1.00 | 1.52 |
| 1:A2:649:U:C4' | 7:BE:252:ARG:NH1 | 1.68 | 1.52 |
| 1:A2:812:A:C2 | 10:BH:111:LYS:HG3 | 1.38 | 1.52 |
| 1:A2:609:U:C2 | 26:BX:28:ASN:ND2 | 1.76 | 1.52 |
| 1:A2:456:A:N6 | 27:BY:108:ARG:CG | 1.67 | 1.51 |
| 1:A2:740:A:C4 | 7:BE:200:ARG:HA | 1.45 | 1.51 |
| 1:A2:1532:U:H2' | 28:BZ:77:ARG:CD | 1.15 | 1.51 |
| 1:A2:337:G:H1' | 11:BI:9:HIS:CE1 | 1.44 | 1.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1591:C:C5’ | 22:BT:93:HIS:N | 1.70 | 1.51 |
| 1:A2:216:U:H3 | 7:BE:150:PRO:CG | 1.18 | 1.51 |
| 1:A2:737:A:H4’ | 7:BE:158:ASP:C | 1.09 | 1.51 |
| 1:A2:756:A:P | 7:BE:23:LEU:HD12 | 1.48 | 1.51 |
| 1:A2:958:U:C5 | 25:BW:28:ARG:NH1 | 1.79 | 1.51 |
| 1:A2:1535:U:H5” | 28:BZ:67:ASP:CG | 1.20 | 1.51 |
| 1:A2:1558:U:H5 | 21:BS:123:ARG:C | 1.16 | 1.51 |
| 1:A2:1389:C:C5’ | 20:BR:45:ARG:CB | 1.86 | 1.51 |
| 1:A2:1564:U:H2’ | 21:BS:41:ARG:CB | 1.37 | 1.51 |
| 1:A2:735:C:C5 | 7:BE:195:ILE:N | 1.78 | 1.50 |
| 1:A2:1502:G:H2’ | 22:BT:37:VAL:CG2 | 1.07 | 1.50 |
| 1:A2:1344:A:H5’ | 23:BU:53:LYS:CD | 1.40 | 1.50 |
| 1:A2:1548:G:H2’ | 21:BS:86:LEU:CA | 1.39 | 1.50 |
| 1:A2:322:G:O2’ | 11:BI:9:HIS:CD2 | 1.64 | 1.50 |
| 1:A2:138:A:C8 | 9:BG:135:PRO:HB3 | 1.45 | 1.50 |
| 1:A2:702:G:H21 | 7:BE:173:ILE:CG2 | 1.25 | 1.50 |
| 1:A2:632:U:C1’ | 26:BX:15:LEU:HD12 | 1.38 | 1.50 |
| 1:A2:1299:G:C4 | 5:BC:86:VAL:HG12 | 1.46 | 1.50 |
| 1:A2:1709:C:H4’ | 9:BG:9:VAL:CG2 | 1.04 | 1.50 |
| 1:A2:955:A:H61 | 16:BN:11:ILE:CA | 1.00 | 1.49 |
| 1:A2:1184:A:C2 | 18:BP:123:TYR:CD2 | 1.97 | 1.49 |
| 1:A2:32:U:C2 | 26:BX:139:LYS:O | 1.64 | 1.49 |
| 1:A2:395:U:C6 | 9:BG:93:LYS:HE3 | 1.47 | 1.49 |
| 1:A2:58:U:C5’ | 27:BY:114:ARG:HE | 1.16 | 1.49 |
| 1:A2:740:A:C2 | 7:BE:200:ARG:N | 1.80 | 1.49 |
| 1:A2:778:G:C3’ | 27:BY:32:ARG:HH21 | 1.25 | 1.49 |
| 1:A2:1281:G:C8 | 23:BU:74:GLU:O | 1.65 | 1.49 |
| 1:A2:591:A:N7 | 33:Be:23:LYS:HE3 | 1.23 | 1.49 |
| 1:A2:1037:C:H5” | 25:BW:15:ASN:CB | 1.03 | 1.48 |
| 1:A2:1252:C:C6 | 34:Bf:136:LYS:CG | 1.96 | 1.48 |
| 1:A2:686:C:H3’ | 12:BJ:65:LYS:CE | 1.37 | 1.48 |
| 1:A2:1102:G:H1’ | 26:BX:7:ARG:NE | 1.26 | 1.48 |
| 1:A2:1502:G:N7 | 22:BT:33:TYR:CD2 | 1.80 | 1.48 |
| 1:A2:1535:U:C4’ | 8:BF:187:ILE:HD12 | 1.42 | 1.48 |
| 1:A2:243:G:C5’ | 7:BE:147:ILE:HG13 | 1.42 | 1.48 |
| 1:A2:957:G:H5’ | 30:Bb:22:LYS:CE | 1.39 | 1.48 |
| 1:A2:1236:A:H2’ | 18:BP:65:LEU:CD2 | 1.39 | 1.48 |
| 1:A2:30:G:C5’ | 26:BX:142:LYS:HB2 | 1.43 | 1.48 |
| 1:A2:165:G:N2 | 27:BY:131:ARG:HH22 | 1.08 | 1.48 |
| 1:A2:331:A:C8 | 11:BI:31:ARG:CG | 1.96 | 1.48 |
| 1:A2:340:U:N3 | 11:BI:3:ILE:HG21 | 1.19 | 1.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1252:C:H6 | 34:Bf:136:LYS:CG | 1.27 | 1.48 |
| 1:A2:1328:G:C8 | 6:BD:159:HIS:CB | 1.75 | 1.47 |
| 1:A2:331:A:C8 | 11:BI:31:ARG:HG2 | 1.48 | 1.47 |
| 1:A2:568:G:C2' | 33:Be:13:LYS:CB | 1.93 | 1.47 |
| 1:A2:957:G:N3 | 30:Bb:21:LEU:HD22 | 1.27 | 1.47 |
| 1:A2:1184:A:N1 | 18:BP:123:TYR:CD2 | 1.82 | 1.47 |
| 1:A2:1213:G:O6 | 18:BP:97:TYR:CE2 | 1.63 | 1.47 |
| 1:A2:346:G:N2 | 11:BI:11:ARG:C | 1.69 | 1.46 |
| 1:A2:1298:U:C2' | 5:BC:99:LYS:HD3 | 1.45 | 1.46 |
| 1:A2:814:A:C2 | 10:BH:109:VAL:CA | 1.95 | 1.46 |
| 1:A2:1236:A:O2' | 18:BP:65:LEU:CD2 | 1.63 | 1.46 |
| 1:A2:1390:U:OP2 | 20:BR:45:ARG:CG | 1.64 | 1.46 |
| 2:AZ:6220:U:C2 | 6:BD:143:ARG:HD2 | 0.94 | 1.46 |
| 1:A2:737:A:C4' | 7:BE:158:ASP:C | 1.87 | 1.46 |
| 1:A2:865:A:C5' | 25:BW:6:VAL:C | 1.89 | 1.46 |
| 1:A2:866:G:H5' | 25:BW:3:ARG:CA | 1.42 | 1.46 |
| 1:A2:960:U:C5' | 25:BW:57:ARG:HA | 1.41 | 1.46 |
| 1:A2:1213:G:O3' | 18:BP:77:ARG:CD | 1.63 | 1.46 |
| 1:A2:1553:G:O6 | 18:BP:39:ALA:CB | 1.64 | 1.46 |
| 1:A2:901:G:H22 | 17:BO:25:ASP:N | 1.12 | 1.45 |
| 1:A2:1530:C:C4 | 28:BZ:96:SER:N | 1.84 | 1.45 |
| 1:A2:338:C:O2' | 11:BI:24:LYS:CD | 1.64 | 1.45 |
| 1:A2:633:U:H5" | 14:BL:99:ARG:CG | 1.39 | 1.45 |
| 1:A2:1037:C:C5' | 25:BW:15:ASN:CB | 1.95 | 1.45 |
| 1:A2:1535:U:C4' | 8:BF:187:ILE:CD1 | 1.93 | 1.45 |
| 1:A2:149:C:C5' | 27:BY:130:ALA:HB3 | 1.41 | 1.45 |
| 1:A2:127:G:C8 | 9:BG:186:ARG:CB | 1.97 | 1.45 |
| 1:A2:127:G:N7 | 9:BG:186:ARG:HB2 | 1.24 | 1.45 |
| 1:A2:165:G:H22 | 27:BY:131:ARG:NH2 | 1.10 | 1.45 |
| 1:A2:245:U:C4 | 7:BE:128:LYS:CD | 1.99 | 1.45 |
| 1:A2:570:A:N1 | 26:BX:67:ALA:CB | 1.80 | 1.45 |
| 1:A2:1184:A:C2 | 18:BP:123:TYR:CG | 2.02 | 1.45 |
| 1:A2:776:G:C8 | 27:BY:34:ASN:HB2 | 1.32 | 1.44 |
| 1:A2:859:A:C3' | 10:BH:101:LYS:HE2 | 1.43 | 1.44 |
| 1:A2:1400:A:C5' | 20:BR:53:TYR:OH | 1.64 | 1.44 |
| 1:A2:1403:C:C5' | 20:BR:2:GLY:HA3 | 1.46 | 1.44 |
| 1:A2:1683:C:OP2 | 9:BG:52:ILE:CG1 | 1.66 | 1.44 |
| 1:A2:736:C:C2 | 7:BE:227:VAL:HG12 | 1.50 | 1.44 |
| 1:A2:956:C:O2 | 16:BN:11:ILE:CD1 | 1.64 | 1.44 |
| 1:A2:1390:U:C5 | 20:BR:3:ARG:HD2 | 1.53 | 1.44 |
| 1:A2:1428:G:N1 | 23:BU:74:GLU:HG3 | 1.21 | 1.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:784:C:C5’ | 27:BY:44:LEU:CD2 | 1.81 | 1.44 |
| 1:A2:812:A:N3 | 10:BH:111:LYS:CD | 1.79 | 1.44 |
| 1:A2:1564:U:C3’ | 21:BS:41:ARG:HH11 | 1.27 | 1.44 |
| 1:A2:241:U:C3’ | 7:BE:149:TYR:HD2 | 1.08 | 1.44 |
| 1:A2:150:U:C2 | 27:BY:131:ARG:NH1 | 1.87 | 1.43 |
| 1:A2:1682:U:C5’ | 9:BG:102:VAL:CG1 | 1.75 | 1.43 |
| 1:A2:89:G:N1 | 27:BY:115:ASP:HB3 | 1.25 | 1.43 |
| 1:A2:332:U:N3 | 11:BI:29:LEU:HD22 | 1.23 | 1.43 |
| 1:A2:632:U:C2’ | 26:BX:15:LEU:HD12 | 1.47 | 1.43 |
| 1:A2:1009:U:O5’ | 17:BO:129:LYS:CE | 1.65 | 1.43 |
| 1:A2:1086:A:C8 | 5:BC:203:LYS:CD | 2.01 | 1.43 |
| 1:A2:1721:A:C3’ | 9:BG:67:VAL:HG21 | 1.48 | 1.43 |
| 1:A2:266:A:C4’ | 9:BG:136:LYS:CD | 1.93 | 1.43 |
| 1:A2:449:C:H6 | 27:BY:105:ARG:CZ | 1.30 | 1.43 |
| 1:A2:746:A:C2 | 25:BW:82:LYS:CE | 1.99 | 1.43 |
| 1:A2:803:A:C5’ | 25:BW:120:HIS:CE1 | 1.98 | 1.43 |
| 1:A2:804:A:H5” | 25:BW:121:VAL:N | 1.32 | 1.43 |
| 1:A2:1681:A:C5’ | 9:BG:101:ILE:HG12 | 1.10 | 1.43 |
| 1:A2:1709:C:C4’ | 9:BG:9:VAL:CG2 | 1.94 | 1.43 |
| 1:A2:78:A:C2 | 9:BG:160:ARG:NE | 1.85 | 1.43 |
| 1:A2:324:U:C5’ | 11:BI:11:ARG:O | 1.65 | 1.43 |
| 1:A2:702:G:N2 | 7:BE:173:ILE:CG2 | 1.78 | 1.43 |
| 1:A2:1054:U:C2’ | 3:BA:30:GLN:CG | 1.93 | 1.43 |
| 1:A2:1230:A:H5” | 34:Bf:98:LYS:CE | 1.49 | 1.43 |
| 1:A2:1419:G:C2 | 32:Bd:54:LYS:HD3 | 1.54 | 1.42 |
| 1:A2:1556:A:OP2 | 18:BP:38:PRO:CB | 1.63 | 1.42 |
| 1:A2:1007:C:OP2 | 17:BO:136:ARG:CZ | 1.66 | 1.42 |
| 1:A2:1502:G:OP2 | 22:BT:33:TYR:CD1 | 1.72 | 1.42 |
| 1:A2:89:G:C8 | 27:BY:120:GLY:N | 1.78 | 1.42 |
| 1:A2:310:C:HO2’ | 26:BX:35:GLY:N | 1.01 | 1.42 |
| 1:A2:337:G:C1’ | 11:BI:9:HIS:CE1 | 2.00 | 1.42 |
| 1:A2:338:C:C2’ | 11:BI:24:LYS:HD3 | 1.33 | 1.42 |
| 1:A2:1241:G:C2 | 18:BP:95:GLY:C | 1.98 | 1.42 |
| 1:A2:1298:U:C2’ | 5:BC:99:LYS:CD | 1.98 | 1.42 |
| 1:A2:1399:C:H3’ | 20:BR:66:VAL:CG2 | 1.46 | 1.42 |
| 1:A2:1532:U:C6 | 28:BZ:77:ARG:CD | 2.02 | 1.42 |
| 1:A2:1567:U:OP1 | 21:BS:34:THR:CG2 | 1.66 | 1.42 |
| 1:A2:736:C:N4 | 7:BE:195:ILE:HG12 | 1.28 | 1.42 |
| 1:A2:786:C:C5’ | 27:BY:26:ASP:OD1 | 1.66 | 1.42 |
| 1:A2:952:A:H4’ | 16:BN:5:HIS:CG | 1.55 | 1.42 |
| 1:A2:3:U:C2’ | 12:BJ:18:PRO:HG2 | 1.27 | 1.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:336:G:H22 | 11:BI:24:LYS:C | 1.27 | 1.42 |
| 1:A2:734:A:C2 | 7:BE:180:LEU:CD2 | 2.02 | 1.42 |
| 1:A2:1280:C:N1 | 23:BU:72:ASN:N | 1.68 | 1.42 |
| 1:A2:1454:G:C2 | 18:BP:123:TYR:N | 1.88 | 1.42 |
| 1:A2:1613:U:P | 8:BF:84:LYS:HD3 | 1.60 | 1.42 |
| 1:A2:1709:C:C4' | 9:BG:9:VAL:HG22 | 1.46 | 1.42 |
| 1:A2:57:G:H1 | 27:BY:116:LYS:N | 1.05 | 1.41 |
| 1:A2:59:C:OP1 | 27:BY:111:LYS:CD | 1.66 | 1.41 |
| 1:A2:1241:G:C5 | 18:BP:78:THR:HG22 | 1.54 | 1.41 |
| 1:A2:1419:G:C8 | 32:Bd:56:ARG:CB | 1.83 | 1.41 |
| 1:A2:57:G:C3' | 27:BY:114:ARG:NH1 | 1.81 | 1.41 |
| 1:A2:91:G:C2' | 27:BY:116:LYS:HE2 | 1.24 | 1.41 |
| 1:A2:139:C:H2' | 9:BG:137:ARG:CA | 1.32 | 1.41 |
| 1:A2:601:A:C8 | 26:BX:105:ALA:CB | 2.01 | 1.41 |
| 1:A2:1498:G:C8 | 22:BT:73:VAL:CG2 | 2.01 | 1.41 |
| 1:A2:1563:C:H5' | 22:BT:38:LYS:NZ | 1.31 | 1.41 |
| 1:A2:322:G:O2' | 11:BI:9:HIS:CG | 1.70 | 1.41 |
| 1:A2:448:C:N4 | 27:BY:105:ARG:H | 1.07 | 1.41 |
| 1:A2:636:A:O2' | 25:BW:110:ILE:CG2 | 1.64 | 1.41 |
| 1:A2:776:G:N1 | 27:BY:35:VAL:HG12 | 1.25 | 1.41 |
| 1:A2:859:A:H3' | 10:BH:101:LYS:CE | 1.50 | 1.41 |
| 1:A2:968:U:O2' | 26:BX:5:LYS:CA | 1.67 | 1.41 |
| 1:A2:1260:U:H5" | 34:Bf:92:LYS:CA | 1.49 | 1.41 |
| 1:A2:1328:G:C8 | 6:BD:159:HIS:C | 1.98 | 1.41 |
| 1:A2:1721:A:O2' | 9:BG:98:ARG:CA | 1.64 | 1.41 |
| 1:A2:216:U:C6 | 7:BE:129:VAL:CG2 | 1.99 | 1.41 |
| 1:A2:803:A:C4' | 25:BW:120:HIS:HE1 | 1.15 | 1.41 |
| 1:A2:900:A:H4' | 17:BO:20:TYR:CE1 | 1.54 | 1.41 |
| 1:A2:1102:G:H1' | 26:BX:7:ARG:CD | 1.50 | 1.41 |
| 1:A2:1256:A:N1 | 34:Bf:98:LYS:CG | 1.78 | 1.41 |
| 1:A2:1367:G:C3' | 22:BT:66:TYR:CE1 | 1.97 | 1.41 |
| 1:A2:1563:C:O3' | 22:BT:38:LYS:CD | 1.67 | 1.41 |
| 1:A2:370:A:C5' | 12:BJ:14:THR:OG1 | 1.69 | 1.41 |
| 1:A2:703:G:N7 | 7:BE:230:GLU:HG2 | 1.31 | 1.41 |
| 1:A2:1068:C:C6 | 3:BA:33:GLN:OE1 | 1.74 | 1.41 |
| 1:A2:139:C:O2 | 9:BG:136:LYS:CG | 1.69 | 1.40 |
| 1:A2:216:U:N3 | 7:BE:150:PRO:HG2 | 1.09 | 1.40 |
| 1:A2:804:A:H5" | 25:BW:121:VAL:CA | 1.50 | 1.40 |
| 1:A2:866:G:C8 | 25:BW:3:ARG:O | 1.72 | 1.40 |
| 1:A2:1326:A:C2 | 6:BD:159:HIS:CE1 | 2.09 | 1.40 |
| 1:A2:1535:U:C1' | 8:BF:187:ILE:HD12 | 1.37 | 1.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:3:U:H2' | 12:BJ:18:PRO:CG | 1.02 | 1.40 |
| 1:A2:137:U:C3' | 9:BG:143:LYS:CD | 1.99 | 1.40 |
| 1:A2:214:G:C3' | 7:BE:132:GLY:HA3 | 1.23 | 1.40 |
| 1:A2:568:G:H1' | 33:Be:13:LYS:CD | 1.51 | 1.40 |
| 1:A2:633:U:O3' | 25:BW:79:PHE:CZ | 1.73 | 1.40 |
| 1:A2:811:A:H2 | 10:BH:107:ARG:CA | 1.34 | 1.40 |
| 1:A2:1241:G:N7 | 18:BP:78:THR:CG2 | 1.81 | 1.40 |
| 1:A2:1722:A:P | 9:BG:73:ILE:CG1 | 2.09 | 1.40 |
| 1:A2:736:C:H42 | 7:BE:195:ILE:CG1 | 1.33 | 1.40 |
| 1:A2:959:U:HO2' | 25:BW:56:HIS:N | 0.94 | 1.40 |
| 1:A2:1389:C:H4' | 20:BR:45:ARG:CA | 0.93 | 1.40 |
| 1:A2:1399:C:O2' | 20:BR:60:ARG:CD | 1.64 | 1.40 |
| 1:A2:1435:G:N2 | 13:BK:27:PHE:HE2 | 1.01 | 1.40 |
| 1:A2:1682:U:H5' | 9:BG:102:VAL:CG1 | 0.93 | 1.40 |
| 1:A2:216:U:C6 | 7:BE:129:VAL:HG23 | 1.56 | 1.40 |
| 1:A2:570:A:N1 | 26:BX:67:ALA:HB1 | 1.24 | 1.40 |
| 1:A2:1534:G:C2' | 28:BZ:63:SER:HA | 1.51 | 1.40 |
| 1:A2:332:U:N3 | 11:BI:29:LEU:CD2 | 1.84 | 1.40 |
| 1:A2:599:A:N3 | 26:BX:126:LYS:N | 1.68 | 1.40 |
| 1:A2:1601:G:N7 | 22:BT:89:ARG:HG2 | 1.27 | 1.40 |
| 1:A2:1722:A:H4' | 9:BG:71:THR:C | 1.43 | 1.40 |
| 2:AZ:6220:U:C5 | 6:BD:142:LEU:CB | 2.05 | 1.40 |
| 1:A2:1241:G:N7 | 18:BP:78:THR:HG22 | 1.28 | 1.39 |
| 1:A2:1326:A:C8 | 6:BD:157:LEU:O | 1.74 | 1.39 |
| 1:A2:139:C:C2' | 9:BG:137:ARG:HA | 1.27 | 1.39 |
| 1:A2:633:U:C5' | 14:BL:99:ARG:HG3 | 1.16 | 1.39 |
| 1:A2:800:U:C5' | 7:BE:187:ARG:N | 1.70 | 1.39 |
| 1:A2:1417:A:C2 | 32:Bd:56:ARG:NH1 | 1.73 | 1.39 |
| 2:AZ:6221:U:C2' | 6:BD:114:ALA:HB2 | 1.49 | 1.39 |
| 1:A2:57:G:H3' | 27:BY:114:ARG:NH1 | 1.20 | 1.39 |
| 1:A2:395:U:C3' | 9:BG:91:GLU:OE2 | 1.69 | 1.39 |
| 1:A2:872:G:N1 | 16:BN:11:ILE:CG1 | 1.76 | 1.39 |
| 1:A2:957:G:C5' | 30:Bb:22:LYS:CG | 1.98 | 1.39 |
| 1:A2:164:A:P | 9:BG:2:LYS:HG2 | 1.62 | 1.39 |
| 1:A2:633:U:C6 | 14:BL:99:ARG:CG | 2.04 | 1.39 |
| 1:A2:784:C:H5" | 27:BY:44:LEU:CD2 | 1.04 | 1.39 |
| 1:A2:1367:G:C2' | 22:BT:66:TYR:CZ | 2.06 | 1.39 |
| 1:A2:1504:G:C1' | 21:BS:41:ARG:HH22 | 1.31 | 1.39 |
| 1:A2:266:A:C4' | 9:BG:136:LYS:HD2 | 1.53 | 1.39 |
| 1:A2:597:G:H4' | 26:BX:137:LYS:CD | 1.53 | 1.39 |
| 1:A2:137:U:O5' | 9:BG:143:LYS:CE | 1.67 | 1.38 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:568:G:C2’ | 33:Be:13:LYS:HB2 | 1.50 | 1.38 |
| 1:A2:633:U:H6 | 14:BL:99:ARG:CG | 1.32 | 1.38 |
| 1:A2:686:C:C5’ | 12:BJ:64:GLU:OE2 | 1.69 | 1.38 |
| 1:A2:778:G:H3’ | 27:BY:32:ARG:NH2 | 1.34 | 1.38 |
| 1:A2:887:A:H3’ | 17:BO:122:PRO:C | 0.96 | 1.38 |
| 1:A2:1367:G:O2’ | 22:BT:66:TYR:CZ | 1.74 | 1.38 |
| 1:A2:1454:G:N2 | 18:BP:123:TYR:CA | 1.83 | 1.38 |
| 1:A2:1528:U:OP1 | 8:BF:112:ARG:CB | 1.68 | 1.38 |
| 1:A2:735:C:H5 | 7:BE:195:ILE:N | 0.94 | 1.38 |
| 1:A2:737:A:N6 | 7:BE:195:ILE:HD13 | 1.07 | 1.38 |
| 1:A2:1505:A:H2 | 21:BS:84:TRP:CG | 1.42 | 1.38 |
| 1:A2:1721:A:C8 | 9:BG:67:VAL:HG23 | 1.49 | 1.38 |
| 1:A2:640:U:C1’ | 25:BW:119:LYS:HE2 | 1.52 | 1.38 |
| 1:A2:1498:G:H8 | 22:BT:73:VAL:CB | 1.35 | 1.38 |
| 1:A2:139:C:C2’ | 9:BG:137:ARG:C | 1.93 | 1.38 |
| 1:A2:301:A:C5’ | 7:BE:3:ARG:HH21 | 1.28 | 1.38 |
| 1:A2:322:G:N2 | 11:BI:10:LYS:HD2 | 1.37 | 1.38 |
| 1:A2:450:U:C6 | 27:BY:109:LYS:HA | 1.28 | 1.38 |
| 1:A2:569:C:OP1 | 33:Be:11:ALA:CA | 1.67 | 1.38 |
| 1:A2:899:G:C3’ | 17:BO:25:ASP:OD1 | 1.70 | 1.38 |
| 1:A2:901:G:N2 | 17:BO:24:ASN:C | 1.81 | 1.38 |
| 1:A2:89:G:H1 | 27:BY:115:ASP:CB | 1.35 | 1.38 |
| 1:A2:91:G:C2’ | 27:BY:113:ASN:OD1 | 1.71 | 1.38 |
| 1:A2:215:A:C4’ | 7:BE:132:GLY:N | 1.87 | 1.38 |
| 1:A2:1503:A:N7 | 21:BS:41:ARG:NH1 | 1.72 | 1.38 |
| 1:A2:1535:U:C1’ | 8:BF:187:ILE:CD1 | 1.82 | 1.38 |
| 1:A2:753:A:C2’ | 7:BE:12:LEU:O | 1.71 | 1.37 |
| 1:A2:1565:C:H4’ | 21:BS:43:SER:CA | 1.05 | 1.37 |
| 1:A2:78:A:C6 | 9:BG:160:ARG:HG3 | 1.59 | 1.37 |
| 1:A2:214:G:H3’ | 7:BE:132:GLY:CA | 1.54 | 1.37 |
| 1:A2:266:A:H4’ | 9:BG:136:LYS:CE | 1.53 | 1.37 |
| 1:A2:340:U:C4 | 11:BI:3:ILE:CG2 | 2.07 | 1.37 |
| 1:A2:346:G:C2 | 11:BI:11:ARG:HB3 | 1.58 | 1.37 |
| 1:A2:735:C:C5 | 7:BE:194:THR:C | 1.99 | 1.37 |
| 1:A2:872:G:C2 | 16:BN:11:ILE:CG1 | 2.05 | 1.37 |
| 1:A2:879:G:HO2’ | 16:BN:111:ALA:N | 1.20 | 1.37 |
| 1:A2:1094:G:C4’ | 5:BC:161:LYS:HD2 | 1.09 | 1.37 |
| 1:A2:1558:U:C5 | 21:BS:123:ARG:C | 2.01 | 1.37 |
| 1:A2:456:A:N1 | 27:BY:108:ARG:HA | 1.32 | 1.37 |
| 1:A2:597:G:C4’ | 26:BX:137:LYS:HE2 | 1.55 | 1.37 |
| 1:A2:920:U:C3’ | 4:BB:214:LYS:HD3 | 1.50 | 1.37 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1192:C:H5” | 19:BQ:141:SER:CB | 1.52 | 1.37 |
| 1:A2:1316:G:C3’ | 20:BR:7:LYS:CG | 1.75 | 1.37 |
| 1:A2:1331:A:C4 | 6:BD:161:GLY:CA | 1.91 | 1.37 |
| 1:A2:31:C:H1’ | 26:BX:138:GLU:CA | 1.55 | 1.37 |
| 1:A2:702:G:N2 | 7:BE:173:ILE:HG22 | 1.08 | 1.37 |
| 1:A2:920:U:O2’ | 4:BB:216:LYS:CE | 1.69 | 1.37 |
| 1:A2:127:G:N7 | 9:BG:186:ARG:CA | 1.85 | 1.36 |
| 1:A2:458:G:C8 | 27:BY:107:GLN:NE2 | 1.92 | 1.36 |
| 1:A2:737:A:C1’ | 7:BE:157:ASN:O | 1.71 | 1.36 |
| 1:A2:753:A:H2’ | 7:BE:12:LEU:O | 1.22 | 1.36 |
| 1:A2:1086:A:C8 | 5:BC:203:LYS:HD3 | 1.57 | 1.36 |
| 1:A2:1403:C:H6 | 20:BR:3:ARG:C | 1.30 | 1.36 |
| 1:A2:570:A:C2 | 26:BX:67:ALA:CB | 2.08 | 1.36 |
| 1:A2:866:G:C5’ | 25:BW:3:ARG:CA | 2.01 | 1.36 |
| 1:A2:887:A:C3’ | 17:BO:122:PRO:C | 1.93 | 1.36 |
| 1:A2:1310:U:C4’ | 20:BR:4:VAL:HG11 | 1.53 | 1.36 |
| 1:A2:139:C:C2’ | 9:BG:138:ALA:N | 1.88 | 1.36 |
| 1:A2:1006:C:H5” | 17:BO:136:ARG:NH1 | 1.39 | 1.36 |
| 1:A2:1383:G:OP2 | 23:BU:59:PRO:C | 1.65 | 1.36 |
| 1:A2:814:A:C8 | 10:BH:108:GLN:HB2 | 1.46 | 1.36 |
| 1:A2:1053:G:H4’ | 3:BA:35:PRO:CG | 1.31 | 1.36 |
| 1:A2:1416:G:O2’ | 19:BQ:126:PRO:CD | 1.72 | 1.36 |
| 1:A2:1548:G:O2’ | 21:BS:86:LEU:CG | 1.69 | 1.36 |
| 1:A2:1722:A:C2 | 9:BG:70:PRO:HD2 | 1.59 | 1.36 |
| 1:A2:127:G:N7 | 9:BG:186:ARG:N | 1.69 | 1.36 |
| 1:A2:139:C:H2’ | 9:BG:137:ARG:C | 1.50 | 1.36 |
| 1:A2:686:C:C3’ | 12:BJ:65:LYS:HE2 | 1.51 | 1.36 |
| 1:A2:1007:C:OP2 | 17:BO:136:ARG:NH1 | 1.57 | 1.36 |
| 1:A2:1290:U:C4’ | 6:BD:151:LYS:HE3 | 0.88 | 1.36 |
| 1:A2:1504:G:H1’ | 21:BS:41:ARG:NH2 | 1.32 | 1.36 |
| 1:A2:30:G:H5” | 26:BX:142:LYS:CB | 1.56 | 1.35 |
| 1:A2:352:A:H62 | 26:BX:20:ARG:NH2 | 1.22 | 1.35 |
| 1:A2:863:A:H5’ | 25:BW:6:VAL:CB | 1.57 | 1.35 |
| 1:A2:899:G:H3’ | 17:BO:25:ASP:CG | 1.51 | 1.35 |
| 1:A2:969:C:O2 | 26:BX:14:LYS:HG2 | 1.25 | 1.35 |
| 1:A2:1390:U:OP2 | 20:BR:45:ARG:CD | 1.72 | 1.35 |
| 1:A2:1502:G:C2’ | 22:BT:37:VAL:CG2 | 2.03 | 1.35 |
| 1:A2:1710:U:C6 | 9:BG:115:LYS:CG | 2.05 | 1.35 |
| 2:AZ:6221:U:C3’ | 6:BD:114:ALA:CB | 2.04 | 1.35 |
| 1:A2:325:G:C2’ | 14:BL:133:LYS:HA | 1.55 | 1.35 |
| 1:A2:741:C:N4 | 7:BE:206:ASP:CB | 1.88 | 1.35 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:741:C:C6 | 7:BE:201:HIS:HB2 | 1.59 | 1.35 |
| 1:A2:1242:A:C5' | 18:BP:89:MET:HE2 | 1.56 | 1.35 |
| 1:A2:1445:G:O5' | 34:Bf:89:ALA:CB | 1.74 | 1.35 |
| 1:A2:1553:G:N3 | 18:BP:40:ARG:HD2 | 1.39 | 1.35 |
| 1:A2:329:G:C2 | 11:BI:30:GLY:C | 2.05 | 1.35 |
| 1:A2:449:C:N3 | 27:BY:105:ARG:O | 1.58 | 1.35 |
| 1:A2:591:A:N7 | 33:Be:23:LYS:CE | 1.88 | 1.35 |
| 1:A2:955:A:C2 | 16:BN:11:ILE:HD13 | 1.50 | 1.35 |
| 1:A2:970:A:C8 | 26:BX:17:VAL:HG11 | 1.61 | 1.35 |
| 1:A2:1419:G:C8 | 32:Bd:56:ARG:HB3 | 0.87 | 1.35 |
| 1:A2:1566:U:O2' | 21:BS:35:ILE:N | 1.60 | 1.35 |
| 1:A2:1673:G:O3' | 9:BG:94:ARG:CG | 1.73 | 1.35 |
| 1:A2:1674:C:H6 | 9:BG:94:ARG:NH2 | 1.23 | 1.35 |
| 1:A2:75:U:C6 | 9:BG:166:GLU:C | 2.05 | 1.35 |
| 1:A2:149:C:H5" | 27:BY:130:ALA:CB | 1.15 | 1.35 |
| 1:A2:778:G:C3' | 27:BY:32:ARG:NH2 | 1.88 | 1.35 |
| 1:A2:1367:G:C1' | 22:BT:66:TYR:OH | 1.75 | 1.35 |
| 1:A2:1601:G:P | 22:BT:86:ARG:HE | 1.49 | 1.35 |
| 1:A2:1673:G:H2' | 9:BG:94:ARG:NH2 | 1.36 | 1.35 |
| 1:A2:75:U:C6 | 9:BG:166:GLU:CA | 2.03 | 1.34 |
| 1:A2:325:G:N7 | 11:BI:10:LYS:NZ | 1.72 | 1.34 |
| 1:A2:1068:C:C5' | 3:BA:33:GLN:HB2 | 1.48 | 1.34 |
| 1:A2:636:A:C5' | 25:BW:126:LEU:N | 1.89 | 1.34 |
| 1:A2:1505:A:C2 | 21:BS:84:TRP:CE3 | 2.14 | 1.34 |
| 2:AZ:6069:A:N3 | 2:AZ:6152:C:O2' | 1.58 | 1.34 |
| 1:A2:18:C:O2' | 26:BX:115:GLY:CA | 1.74 | 1.34 |
| 1:A2:266:A:O4' | 9:BG:136:LYS:HD2 | 1.20 | 1.34 |
| 1:A2:588:U:C5 | 33:Be:21:VAL:HG23 | 1.47 | 1.34 |
| 1:A2:1053:G:C5' | 3:BA:35:PRO:HB3 | 1.56 | 1.34 |
| 1:A2:1301:U:O4 | 5:BC:118:ALA:HA | 1.23 | 1.34 |
| 1:A2:1400:A:H5' | 20:BR:53:TYR:CZ | 1.62 | 1.34 |
| 1:A2:138:A:H8 | 9:BG:135:PRO:CB | 1.39 | 1.34 |
| 1:A2:332:U:C4 | 11:BI:29:LEU:HD21 | 1.63 | 1.34 |
| 1:A2:631:G:H8 | 26:BX:13:ARG:CG | 1.09 | 1.34 |
| 1:A2:864:U:C5' | 25:BW:7:LEU:O | 1.76 | 1.34 |
| 1:A2:1037:C:H5" | 25:BW:15:ASN:CG | 1.50 | 1.34 |
| 1:A2:1053:G:C4' | 3:BA:35:PRO:HB3 | 1.35 | 1.34 |
| 1:A2:1105:C:OP1 | 26:BX:21:ASN:HB2 | 1.26 | 1.34 |
| 1:A2:1535:U:C2' | 8:BF:187:ILE:HD12 | 1.55 | 1.34 |
| 1:A2:91:G:C2' | 27:BY:116:LYS:CE | 1.89 | 1.34 |
| 1:A2:138:A:N3 | 9:BG:140:ASN:HA | 1.38 | 1.34 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:141:U:OP1 | 9:BG:141:ILE:CG2 | 1.76 | 1.34 |
| 1:A2:457:G:C2 | 27:BY:106:GLN:O | 1.81 | 1.34 |
| 1:A2:458:G:H8 | 27:BY:107:GLN:NE2 | 1.21 | 1.34 |
| 1:A2:1260:U:C2 | 34:Bf:93:ALA:HB3 | 1.49 | 1.34 |
| 1:A2:57:G:N1 | 27:BY:115:ASP:N | 1.63 | 1.33 |
| 1:A2:737:A:N6 | 7:BE:195:ILE:CD1 | 1.88 | 1.33 |
| 1:A2:872:G:N2 | 16:BN:11:ILE:HG12 | 1.42 | 1.33 |
| 1:A2:30:G:OP1 | 26:BX:142:LYS:HA | 1.15 | 1.33 |
| 1:A2:698:U:C6 | 7:BE:207:LEU:HB2 | 1.62 | 1.33 |
| 1:A2:777:C:OP2 | 27:BY:34:ASN:N | 1.60 | 1.33 |
| 1:A2:778:G:HO2' | 27:BY:5:VAL:N | 1.24 | 1.33 |
| 1:A2:782:U:P | 27:BY:39:GLU:CG | 2.16 | 1.33 |
| 1:A2:889:U:OP1 | 17:BO:89:THR:N | 1.58 | 1.33 |
| 1:A2:1037:C:C5' | 25:BW:15:ASN:HB2 | 1.51 | 1.33 |
| 2:AZ:6111:G:O2' | 8:BF:220:VAL:HG22 | 1.19 | 1.33 |
| 1:A2:168:A:C4' | 9:BG:132:ARG:NE | 1.90 | 1.33 |
| 1:A2:245:U:OP1 | 7:BE:142:HIS:C | 1.70 | 1.33 |
| 1:A2:1083:G:H21 | 5:BC:161:LYS:CD | 1.41 | 1.33 |
| 1:A2:59:C:P | 27:BY:111:LYS:CD | 2.17 | 1.33 |
| 1:A2:137:U:H2' | 9:BG:143:LYS:CE | 1.55 | 1.33 |
| 1:A2:168:A:H4' | 9:BG:132:ARG:NE | 1.00 | 1.33 |
| 1:A2:448:C:H42 | 27:BY:105:ARG:N | 1.20 | 1.33 |
| 1:A2:760:A:C4' | 12:BJ:9:SER:O | 1.77 | 1.33 |
| 1:A2:901:G:C5' | 17:BO:86:THR:HG23 | 1.58 | 1.33 |
| 1:A2:917:U:C6 | 17:BO:84:ARG:CZ | 2.08 | 1.33 |
| 1:A2:1034:C:H42 | 26:BX:3:LYS:NZ | 1.25 | 1.33 |
| 1:A2:1144:U:C1' | 5:BC:87:GLN:O | 1.77 | 1.33 |
| 1:A2:1298:U:C1' | 5:BC:99:LYS:HD3 | 1.59 | 1.33 |
| 1:A2:1473:U:C2 | 8:BF:113:ILE:CG2 | 2.11 | 1.33 |
| 1:A2:165:G:P | 9:BG:15:THR:CA | 2.17 | 1.33 |
| 1:A2:330:G:OP1 | 11:BI:56:ARG:HD2 | 1.26 | 1.33 |
| 1:A2:832:U:C5' | 9:BG:212:LEU:O | 1.77 | 1.33 |
| 1:A2:1085:G:C8 | 5:BC:162:CYS:O | 1.82 | 1.33 |
| 1:A2:1260:U:N1 | 34:Bf:93:ALA:CB | 1.83 | 1.33 |
| 1:A2:1535:U:O4' | 8:BF:187:ILE:CD1 | 1.73 | 1.33 |
| 1:A2:1722:A:H4' | 9:BG:72:ARG:CA | 1.56 | 1.33 |
| 1:A2:31:C:O2' | 26:BX:138:GLU:CB | 1.74 | 1.32 |
| 1:A2:91:G:O2' | 27:BY:113:ASN:CG | 1.72 | 1.32 |
| 1:A2:337:G:H3' | 11:BI:6:ASP:O | 1.17 | 1.32 |
| 1:A2:866:G:H5' | 25:BW:3:ARG:N | 1.40 | 1.32 |
| 1:A2:1230:A:C4' | 34:Bf:98:LYS:CE | 2.04 | 1.32 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1258:U:C5 | 34:Bf:95:ALA:C | 1.91 | 1.32 |
| 1:A2:1290:U:H4' | 6:BD:151:LYS:CE | 0.85 | 1.32 |
| 1:A2:1452:U:O2 | 18:BP:96:ILE:CG2 | 1.73 | 1.32 |
| 1:A2:141:U:OP1 | 9:BG:141:ILE:HG23 | 1.26 | 1.32 |
| 1:A2:240:U:OP2 | 9:BG:211:LEU:CB | 1.77 | 1.32 |
| 2:AZ:6219:U:O2' | 6:BD:144:ALA:CA | 1.76 | 1.32 |
| 1:A2:641:G:OP1 | 25:BW:118:ARG:NH1 | 1.62 | 1.32 |
| 1:A2:1473:U:O2 | 8:BF:113:ILE:CG2 | 1.77 | 1.32 |
| 1:A2:78:A:C6 | 9:BG:160:ARG:CG | 2.12 | 1.32 |
| 1:A2:168:A:H4' | 9:BG:132:ARG:CD | 1.58 | 1.32 |
| 1:A2:241:U:C4' | 7:BE:149:TYR:CD2 | 2.07 | 1.32 |
| 1:A2:329:G:H5' | 11:BI:56:ARG:NH2 | 1.41 | 1.32 |
| 1:A2:588:U:C5 | 33:Be:21:VAL:CG2 | 1.91 | 1.32 |
| 1:A2:631:G:O2' | 26:BX:16:ARG:N | 1.63 | 1.32 |
| 1:A2:633:U:O3' | 25:BW:79:PHE:CE1 | 1.74 | 1.32 |
| 1:A2:952:A:H4' | 16:BN:5:HIS:ND1 | 1.04 | 1.32 |
| 1:A2:1796:C:C5' | 29:Ba:92:ARG:HD2 | 1.56 | 1.32 |
| 1:A2:215:A:O3' | 7:BE:131:LEU:C | 1.73 | 1.32 |
| 1:A2:266:A:C5' | 9:BG:136:LYS:HD3 | 1.59 | 1.32 |
| 1:A2:346:G:N2 | 11:BI:11:ARG:CB | 1.93 | 1.32 |
| 1:A2:568:G:C1' | 33:Be:13:LYS:HD2 | 1.58 | 1.32 |
| 1:A2:569:C:OP1 | 33:Be:12:GLY:N | 1.59 | 1.32 |
| 1:A2:1241:G:P | 18:BP:105:VAL:H | 1.50 | 1.32 |
| 1:A2:1482:C:O4' | 19:BQ:74:HIS:CE1 | 1.83 | 1.32 |
| 1:A2:1565:C:H4' | 21:BS:43:SER:N | 1.41 | 1.32 |
| 1:A2:1723:U:C5 | 9:BG:73:ILE:CD1 | 2.12 | 1.32 |
| 1:A2:85:A:C1' | 27:BY:126:ALA:HA | 1.50 | 1.31 |
| 1:A2:633:U:OP2 | 14:BL:99:ARG:HB2 | 1.20 | 1.31 |
| 1:A2:1797:A:C2 | 29:Ba:90:GLU:C | 2.08 | 1.31 |
| 1:A2:812:A:N3 | 10:BH:111:LYS:HD2 | 1.36 | 1.31 |
| 1:A2:1230:A:C5' | 34:Bf:98:LYS:HE3 | 1.59 | 1.31 |
| 1:A2:337:G:C1' | 11:BI:9:HIS:HE1 | 1.35 | 1.31 |
| 1:A2:736:C:N3 | 7:BE:195:ILE:HD11 | 1.45 | 1.31 |
| 1:A2:756:A:H5' | 7:BE:23:LEU:CD1 | 1.58 | 1.31 |
| 1:A2:1053:G:H4' | 3:BA:35:PRO:CB | 1.19 | 1.31 |
| 1:A2:1096:C:O2' | 5:BC:200:SER:C | 1.72 | 1.31 |
| 1:A2:1281:G:H1' | 23:BU:74:GLU:CA | 1.59 | 1.31 |
| 1:A2:245:U:OP1 | 7:BE:142:HIS:CA | 1.76 | 1.31 |
| 1:A2:329:G:N1 | 11:BI:30:GLY:C | 1.87 | 1.31 |
| 1:A2:330:G:OP1 | 11:BI:56:ARG:CD | 1.76 | 1.31 |
| 1:A2:548:G:H5' | 26:BX:136:TRP:CD2 | 1.65 | 1.31 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:570:A:C2 | 26:BX:67:ALA:HB1 | 1.65 | 1.31 |
| 1:A2:14:C:C4' | 5:BC:203:LYS:HZ3 | 1.42 | 1.31 |
| 1:A2:29:U:O2' | 26:BX:127:VAL:CG2 | 1.77 | 1.31 |
| 1:A2:85:A:C2' | 27:BY:126:ALA:CA | 2.06 | 1.31 |
| 1:A2:91:G:H3' | 27:BY:116:LYS:NZ | 1.43 | 1.31 |
| 1:A2:163:G:C4 | 9:BG:2:LYS:HB2 | 1.65 | 1.31 |
| 1:A2:238:U:O3' | 9:BG:210:GLN:HB2 | 1.16 | 1.31 |
| 1:A2:240:U:OP2 | 9:BG:211:LEU:HB3 | 1.21 | 1.31 |
| 1:A2:859:A:N6 | 10:BH:111:LYS:CG | 1.93 | 1.31 |
| 1:A2:864:U:C5 | 25:BW:13:ALA:HB3 | 1.66 | 1.31 |
| 1:A2:1295:G:C5 | 5:BC:116:LYS:NZ | 1.99 | 1.31 |
| 1:A2:955:A:N6 | 16:BN:10:GLY:C | 1.90 | 1.30 |
| 1:A2:1009:U:C5' | 17:BO:129:LYS:NZ | 1.93 | 1.30 |
| 1:A2:1230:A:C5' | 34:Bf:98:LYS:CE | 2.06 | 1.30 |
| 1:A2:1420:C:H5' | 23:BU:82:TYR:OH | 1.23 | 1.30 |
| 1:A2:1452:U:O2 | 18:BP:96:ILE:HG22 | 1.19 | 1.30 |
| 1:A2:1498:G:C8 | 22:BT:73:VAL:HB | 1.66 | 1.30 |
| 1:A2:1532:U:H2' | 28:BZ:77:ARG:CG | 1.59 | 1.30 |
| 1:A2:1679:G:C4 | 9:BG:68:LEU:CB | 2.14 | 1.30 |
| 1:A2:30:G:OP1 | 26:BX:142:LYS:CA | 1.78 | 1.30 |
| 1:A2:92:A:C8 | 27:BY:116:LYS:NZ | 1.96 | 1.30 |
| 1:A2:137:U:H3' | 9:BG:143:LYS:CD | 1.54 | 1.30 |
| 1:A2:301:A:N7 | 7:BE:2:ALA:O | 1.62 | 1.30 |
| 1:A2:1281:G:C1' | 23:BU:74:GLU:HA | 1.60 | 1.30 |
| 1:A2:1497:U:C5' | 22:BT:77:ASN:HD22 | 1.44 | 1.30 |
| 1:A2:318:U:N3 | 11:BI:15:GLY:O | 1.62 | 1.30 |
| 1:A2:1034:C:O2 | 26:BX:7:ARG:NH1 | 1.65 | 1.30 |
| 1:A2:1445:G:O5' | 34:Bf:89:ALA:HB3 | 1.12 | 1.30 |
| 1:A2:1532:U:C6 | 28:BZ:77:ARG:HD3 | 1.65 | 1.30 |
| 1:A2:1681:A:H5' | 9:BG:101:ILE:CD1 | 1.59 | 1.30 |
| 1:A2:137:U:O2' | 9:BG:143:LYS:HD3 | 1.30 | 1.30 |
| 1:A2:1009:U:P | 17:BO:129:LYS:NZ | 2.03 | 1.30 |
| 1:A2:1094:G:H4' | 5:BC:161:LYS:CD | 0.96 | 1.30 |
| 1:A2:163:G:OP2 | 9:BG:108:VAL:HG23 | 1.21 | 1.30 |
| 1:A2:548:G:H4' | 26:BX:136:TRP:CZ3 | 1.35 | 1.30 |
| 1:A2:1083:G:C2 | 5:BC:161:LYS:HD3 | 1.66 | 1.30 |
| 1:A2:1237:G:N3 | 18:BP:66:ALA:HB2 | 1.47 | 1.30 |
| 1:A2:1452:U:C2' | 18:BP:117:GLY:HA3 | 1.61 | 1.30 |
| 1:A2:1535:U:C6 | 8:BF:187:ILE:N | 1.77 | 1.30 |
| 1:A2:1564:U:C4' | 21:BS:41:ARG:NH1 | 1.95 | 1.30 |
| 1:A2:346:G:H2' | 11:BI:13:ALA:N | 1.47 | 1.29 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:632:U:P | 26:BX:12:ALA:HB1 | 1.71 | 1.29 |
| 1:A2:831:U:OP1 | 7:BE:152:PRO:CB | 1.78 | 1.29 |
| 1:A2:1601:G:C8 | 22:BT:89:ARG:CG | 2.15 | 1.29 |
| 1:A2:179:A:C4 | 9:BG:184:LEU:O | 1.85 | 1.29 |
| 1:A2:243:G:OP2 | 7:BE:138:TYR:HB2 | 1.20 | 1.29 |
| 1:A2:325:G:O4' | 14:BL:133:LYS:HG3 | 1.15 | 1.29 |
| 1:A2:569:C:OP1 | 33:Be:11:ALA:HA | 1.21 | 1.29 |
| 1:A2:699:U:O4 | 7:BE:208:VAL:HG13 | 1.28 | 1.29 |
| 1:A2:858:G:H22 | 10:BH:108:GLN:CG | 1.46 | 1.29 |
| 1:A2:1390:U:OP2 | 20:BR:45:ARG:NE | 1.59 | 1.29 |
| 1:A2:1501:C:C5 | 22:BT:33:TYR:OH | 1.79 | 1.29 |
| 1:A2:1565:C:O2' | 21:BS:38:VAL:HG12 | 1.12 | 1.29 |
| 1:A2:1566:U:H5' | 21:BS:30:TYR:C | 1.57 | 1.29 |
| 1:A2:1681:A:H5' | 9:BG:101:ILE:CG1 | 1.09 | 1.29 |
| 1:A2:85:A:H2' | 27:BY:126:ALA:CA | 1.59 | 1.29 |
| 1:A2:568:G:O2' | 33:Be:13:LYS:CG | 1.80 | 1.29 |
| 1:A2:735:C:C5 | 7:BE:194:THR:N | 2.01 | 1.29 |
| 1:A2:740:A:C6 | 7:BE:198:LYS:HE2 | 1.66 | 1.29 |
| 1:A2:872:G:C2 | 16:BN:11:ILE:HG12 | 1.63 | 1.29 |
| 1:A2:1083:G:N2 | 5:BC:161:LYS:CE | 1.96 | 1.29 |
| 1:A2:1184:A:C6 | 18:BP:123:TYR:CD2 | 2.21 | 1.29 |
| 1:A2:1401:A:OP1 | 20:BR:10:LYS:HA | 1.32 | 1.29 |
| 1:A2:1502:G:C5 | 22:BT:33:TYR:CD2 | 2.21 | 1.29 |
| 1:A2:1532:U:C1' | 28:BZ:77:ARG:HD2 | 1.60 | 1.29 |
| 1:A2:1532:U:C2' | 28:BZ:77:ARG:HD2 | 1.54 | 1.29 |
| 1:A2:1722:A:C4' | 9:BG:71:THR:C | 1.89 | 1.29 |
| 1:A2:137:U:C3' | 9:BG:143:LYS:HD3 | 1.61 | 1.29 |
| 1:A2:597:G:O3' | 26:BX:136:TRP:CZ3 | 1.85 | 1.29 |
| 1:A2:741:C:C6 | 7:BE:201:HIS:CB | 2.16 | 1.29 |
| 1:A2:887:A:C2 | 17:BO:125:SER:N | 1.82 | 1.29 |
| 1:A2:1033:C:C2' | 26:BX:2:GLY:O | 1.80 | 1.29 |
| 2:AZ:6220:U:C5 | 6:BD:142:LEU:HB3 | 1.63 | 1.29 |
| 1:A2:165:G:H22 | 27:BY:131:ARG:CZ | 1.46 | 1.29 |
| 1:A2:243:G:H5" | 7:BE:147:ILE:CG1 | 1.24 | 1.29 |
| 1:A2:598:U:O3' | 26:BX:88:PRO:HG2 | 1.29 | 1.29 |
| 1:A2:641:G:OP1 | 25:BW:118:ARG:CZ | 1.78 | 1.29 |
| 1:A2:783:G:OP2 | 27:BY:39:GLU:C | 1.73 | 1.29 |
| 1:A2:1326:A:C5' | 6:BD:156:PHE:O | 1.79 | 1.29 |
| 1:A2:1367:G:O3' | 22:BT:66:TYR:CE1 | 1.86 | 1.29 |
| 1:A2:1428:G:C2 | 23:BU:74:GLU:CD | 2.10 | 1.29 |
| 1:A2:1721:A:O5' | 9:BG:64:LYS:CB | 1.64 | 1.29 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AZ:6107:U:H5” | 8:BF:223:SER:N | 1.45 | 1.29 |
| 1:A2:138:A:N3 | 9:BG:143:LYS:HB2 | 1.49 | 1.28 |
| 1:A2:325:G:C5’ | 11:BI:7:SER:OG | 1.80 | 1.28 |
| 1:A2:436:A:C5 | 26:BX:50:LYS:CD | 2.14 | 1.28 |
| 1:A2:888:U:O3’ | 17:BO:89:THR:HA | 1.20 | 1.28 |
| 1:A2:1499:G:OP2 | 22:BT:102:ARG:CA | 1.80 | 1.28 |
| 1:A2:1532:U:C6 | 28:BZ:77:ARG:HD2 | 1.63 | 1.28 |
| 1:A2:1533:C:O4’ | 28:BZ:77:ARG:CZ | 1.79 | 1.28 |
| 1:A2:1564:U:O3’ | 21:BS:41:ARG:NH1 | 1.65 | 1.28 |
| 1:A2:450:U:O4’ | 27:BY:109:LYS:HE2 | 1.29 | 1.28 |
| 1:A2:895:G:OP1 | 4:BB:65:VAL:N | 1.67 | 1.28 |
| 1:A2:967:A:C2 | 26:BX:7:ARG:C | 1.85 | 1.28 |
| 1:A2:1055:U:C5’ | 3:BA:46:HIS:HB3 | 1.63 | 1.28 |
| 1:A2:1144:U:O3’ | 5:BC:88:LYS:HA | 1.21 | 1.28 |
| 1:A2:1298:U:O4’ | 5:BC:208:GLU:HG3 | 1.17 | 1.28 |
| 1:A2:1327:C:C6 | 6:BD:158:ILE:C | 2.11 | 1.28 |
| 1:A2:1532:U:O5’ | 28:BZ:77:ARG:HB2 | 1.18 | 1.28 |
| 1:A2:1532:U:O5’ | 28:BZ:77:ARG:CB | 1.82 | 1.28 |
| 1:A2:325:G:C1’ | 14:BL:133:LYS:CB | 2.09 | 1.28 |
| 1:A2:1470:C:OP2 | 8:BF:102:ARG:NH1 | 1.64 | 1.28 |
| 1:A2:1499:G:OP2 | 22:BT:102:ARG:HA | 1.31 | 1.28 |
| 1:A2:1679:G:C4 | 9:BG:68:LEU:HB2 | 1.67 | 1.28 |
| 1:A2:458:G:N7 | 27:BY:107:GLN:OE1 | 1.67 | 1.28 |
| 1:A2:776:G:H2’ | 27:BY:29:HIS:NE2 | 0.95 | 1.28 |
| 1:A2:917:U:C6 | 17:BO:84:ARG:NE | 1.88 | 1.28 |
| 1:A2:931:C:H4’ | 4:BB:117:TRP:CZ3 | 1.67 | 1.28 |
| 1:A2:956:C:C4 | 16:BN:11:ILE:HG22 | 1.67 | 1.28 |
| 1:A2:1098:U:C1’ | 5:BC:170:ILE:N | 1.96 | 1.28 |
| 1:A2:1343:U:O2’ | 23:BU:56:VAL:HG23 | 1.23 | 1.28 |
| 1:A2:1370:U:H5’ | 22:BT:119:LYS:NZ | 1.46 | 1.28 |
| 1:A2:1528:U:OP1 | 8:BF:112:ARG:HB3 | 1.17 | 1.28 |
| 1:A2:1679:G:N3 | 9:BG:68:LEU:CB | 1.94 | 1.28 |
| 1:A2:1796:C:C5’ | 29:Ba:92:ARG:CD | 2.10 | 1.28 |
| 1:A2:31:C:O2’ | 26:BX:138:GLU:HB3 | 1.12 | 1.28 |
| 1:A2:631:G:C8 | 26:BX:13:ARG:CG | 1.99 | 1.28 |
| 1:A2:686:C:C6 | 12:BJ:65:LYS:NZ | 2.02 | 1.28 |
| 1:A2:1582:U:O5’ | 19:BQ:135:ARG:NH1 | 1.65 | 1.28 |
| 1:A2:1722:A:H4’ | 9:BG:72:ARG:N | 1.47 | 1.28 |
| 1:A2:90:C:C4 | 27:BY:115:ASP:O | 1.86 | 1.27 |
| 1:A2:180:A:C2 | 9:BG:188:ARG:O | 1.84 | 1.27 |
| 1:A2:241:U:H3’ | 7:BE:149:TYR:CD2 | 1.54 | 1.27 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:337:G:O2' | 11:BI:9:HIS:CE1 | 1.85 | 1.27 |
| 1:A2:455:C:OP2 | 27:BY:103:ALA:N | 1.64 | 1.27 |
| 1:A2:812:A:N3 | 10:BH:111:LYS:CG | 1.97 | 1.27 |
| 1:A2:814:A:N1 | 10:BH:109:VAL:N | 1.81 | 1.27 |
| 1:A2:859:A:H62 | 10:BH:112:ARG:N | 1.29 | 1.27 |
| 1:A2:1202:A:H61 | 21:BS:136:GLN:C | 1.40 | 1.27 |
| 1:A2:1328:G:C8 | 6:BD:159:HIS:CA | 2.17 | 1.27 |
| 1:A2:1500:C:OP2 | 22:BT:102:ARG:C | 1.75 | 1.27 |
| 1:A2:1565:C:C4' | 21:BS:43:SER:N | 1.97 | 1.27 |
| 1:A2:89:G:O6 | 27:BY:118:ILE:CB | 1.80 | 1.27 |
| 1:A2:337:G:C3' | 11:BI:6:ASP:O | 1.82 | 1.27 |
| 1:A2:448:C:N4 | 27:BY:105:ARG:N | 1.72 | 1.27 |
| 1:A2:583:C:OP1 | 33:Be:14:VAL:CG1 | 1.82 | 1.27 |
| 1:A2:638:U:OP1 | 25:BW:108:ALA:CB | 1.82 | 1.27 |
| 1:A2:952:A:C4' | 16:BN:5:HIS:ND1 | 1.95 | 1.27 |
| 1:A2:957:G:H4' | 30:Bb:22:LYS:CG | 1.63 | 1.27 |
| 1:A2:1260:U:C2 | 34:Bf:93:ALA:HB1 | 1.56 | 1.27 |
| 1:A2:1384:A:OP2 | 23:BU:87:HIS:HB3 | 1.28 | 1.27 |
| 1:A2:1791:A:O3' | 29:Ba:2:PRO:C | 1.76 | 1.27 |
| 1:A2:329:G:C5' | 11:BI:56:ARG:NH2 | 1.97 | 1.27 |
| 1:A2:1175:U:C5 | 21:BS:140:THR:HG21 | 1.70 | 1.27 |
| 1:A2:1454:G:P | 18:BP:118:GLU:CA | 2.22 | 1.27 |
| 1:A2:1473:U:C1' | 8:BF:113:ILE:HD13 | 1.62 | 1.27 |
| 1:A2:1499:G:H3' | 22:BT:102:ARG:O | 1.29 | 1.27 |
| 1:A2:1591:C:H5" | 22:BT:93:HIS:CA | 1.63 | 1.27 |
| 1:A2:163:G:OP1 | 9:BG:56:ASN:O | 1.52 | 1.27 |
| 1:A2:238:U:C3' | 9:BG:210:GLN:HB2 | 1.65 | 1.27 |
| 1:A2:458:G:N7 | 27:BY:107:GLN:CD | 1.91 | 1.27 |
| 1:A2:783:G:H5' | 27:BY:39:GLU:O | 1.27 | 1.27 |
| 1:A2:785:U:OP2 | 27:BY:44:LEU:HD11 | 1.35 | 1.27 |
| 1:A2:956:C:O2' | 30:Bb:22:LYS:NZ | 1.67 | 1.27 |
| 1:A2:1037:C:H2' | 25:BW:19:LYS:CE | 1.63 | 1.27 |
| 1:A2:1298:U:C3' | 5:BC:99:LYS:HB3 | 1.64 | 1.27 |
| 1:A2:1420:C:OP2 | 23:BU:69:LYS:HE2 | 1.31 | 1.27 |
| 1:A2:1428:G:N2 | 23:BU:74:GLU:CA | 1.98 | 1.27 |
| 2:AZ:6220:U:O2 | 6:BD:143:ARG:CG | 1.80 | 1.27 |
| 1:A2:31:C:C1' | 26:BX:138:GLU:HA | 1.64 | 1.27 |
| 1:A2:630:A:N6 | 26:BX:14:LYS:HD2 | 1.45 | 1.27 |
| 1:A2:915:A:N1 | 17:BO:27:PHE:CZ | 2.01 | 1.27 |
| 1:A2:915:A:C2 | 17:BO:27:PHE:CE2 | 2.23 | 1.27 |
| 1:A2:955:A:N6 | 16:BN:10:GLY:O | 1.65 | 1.27 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 17:BO:56:SER:HG | 17:BO:59:ALA:N | 1.31 | 1.27 |
| 1:A2:165:G:OP2 | 9:BG:15:THR:CA | 1.73 | 1.26 |
| 1:A2:181:A:H3' | 9:BG:191:ARG:CZ | 1.46 | 1.26 |
| 1:A2:282:C:OP1 | 9:BG:154:ARG:HG2 | 1.25 | 1.26 |
| 1:A2:866:G:C5' | 25:BW:3:ARG:C | 2.04 | 1.26 |
| 1:A2:1050:G:C2' | 30:Bb:11:THR:OG1 | 1.83 | 1.26 |
| 1:A2:1103:U:O3' | 26:BX:15:LEU:HD22 | 1.20 | 1.26 |
| 1:A2:1106:U:OP2 | 26:BX:22:ASN:C | 1.77 | 1.26 |
| 1:A2:1357:A:C1' | 22:BT:126:GLU:O | 1.83 | 1.26 |
| 1:A2:1683:C:N4 | 9:BG:32:ILE:O | 1.67 | 1.26 |
| 1:A2:1797:A:N3 | 29:Ba:90:GLU:C | 1.93 | 1.26 |
| 1:A2:631:G:O2' | 26:BX:16:ARG:CA | 1.83 | 1.26 |
| 1:A2:733:A:C5 | 7:BE:209:HIS:O | 1.86 | 1.26 |
| 1:A2:1230:A:H4' | 34:Bf:98:LYS:CE | 1.64 | 1.26 |
| 1:A2:1797:A:N6 | 29:Ba:87:ARG:C | 1.93 | 1.26 |
| 1:A2:325:G:H5' | 11:BI:7:SER:OG | 1.17 | 1.26 |
| 1:A2:740:A:C2 | 7:BE:198:LYS:CG | 2.19 | 1.26 |
| 1:A2:812:A:C2 | 10:BH:111:LYS:CG | 2.17 | 1.26 |
| 1:A2:1300:A:N3 | 5:BC:86:VAL:C | 1.92 | 1.26 |
| 2:AZ:6218:U:O2 | 6:BD:146:ARG:HA | 1.31 | 1.26 |
| 1:A2:139:C:C2' | 9:BG:137:ARG:CA | 1.79 | 1.26 |
| 1:A2:340:U:N3 | 11:BI:3:ILE:CG2 | 1.99 | 1.26 |
| 1:A2:583:C:OP1 | 33:Be:14:VAL:HG13 | 1.29 | 1.26 |
| 1:A2:634:G:O6 | 26:BX:9:LEU:HD12 | 1.29 | 1.26 |
| 1:A2:735:C:C6 | 7:BE:194:THR:N | 2.04 | 1.26 |
| 1:A2:1210:C:N3 | 18:BP:122:THR:HB | 1.49 | 1.26 |
| 1:A2:1326:A:O2' | 6:BD:157:LEU:CD2 | 1.83 | 1.26 |
| 1:A2:1368:G:H5" | 22:BT:66:TYR:C | 1.59 | 1.26 |
| 1:A2:1452:U:C2' | 18:BP:117:GLY:CA | 2.10 | 1.26 |
| 1:A2:1528:U:C5' | 19:BQ:43:ILE:CG1 | 2.14 | 1.26 |
| 1:A2:738:G:H8 | 7:BE:157:ASN:CG | 1.16 | 1.26 |
| 1:A2:862:A:H5' | 25:BW:32:LYS:CA | 1.65 | 1.26 |
| 1:A2:1083:G:C4 | 5:BC:161:LYS:O | 1.86 | 1.26 |
| 1:A2:1084:A:H2' | 5:BC:164:SER:N | 1.50 | 1.26 |
| 1:A2:1241:G:N2 | 18:BP:95:GLY:C | 1.91 | 1.26 |
| 1:A2:1244:A:C2' | 18:BP:59:LYS:HD2 | 1.66 | 1.26 |
| 2:AZ:6221:U:O3' | 6:BD:114:ALA:CB | 1.82 | 1.26 |
| 1:A2:242:U:C4 | 7:BE:137:PRO:HD2 | 1.69 | 1.25 |
| 1:A2:300:A:H61 | 7:BE:5:PRO:N | 1.34 | 1.25 |
| 1:A2:858:G:H22 | 10:BH:108:GLN:CD | 1.44 | 1.25 |
| 1:A2:1301:U:H5 | 5:BC:118:ALA:O | 1.18 | 1.25 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1301:U:C5 | 5:BC:118:ALA:C | 2.14 | 1.25 |
| 1:A2:1390:U:OP2 | 20:BR:45:ARG:CZ | 1.83 | 1.25 |
| 1:A2:1419:G:N3 | 32:Bd:54:LYS:CG | 1.97 | 1.25 |
| 1:A2:1796:C:H5' | 29:Ba:92:ARG:NE | 1.51 | 1.25 |
| 1:A2:181:A:C3' | 9:BG:191:ARG:CZ | 2.11 | 1.25 |
| 1:A2:241:U:C5' | 7:BE:149:TYR:CD2 | 2.20 | 1.25 |
| 1:A2:600:U:N1 | 26:BX:105:ALA:CB | 2.00 | 1.25 |
| 1:A2:631:G:O2' | 26:BX:16:ARG:CB | 1.83 | 1.25 |
| 1:A2:1213:G:N3 | 18:BP:78:THR:O | 1.69 | 1.25 |
| 1:A2:1237:G:C4 | 18:BP:66:ALA:HB2 | 1.69 | 1.25 |
| 1:A2:1390:U:OP2 | 20:BR:45:ARG:HG2 | 1.16 | 1.25 |
| 1:A2:1396:U:C4 | 20:BR:56:HIS:HE1 | 1.52 | 1.25 |
| 1:A2:1428:G:N3 | 23:BU:74:GLU:HG2 | 0.93 | 1.25 |
| 1:A2:1558:U:C6 | 21:BS:133:VAL:CG2 | 2.11 | 1.25 |
| 1:A2:1565:C:C4' | 21:BS:43:SER:CA | 2.00 | 1.25 |
| 1:A2:139:C:C1' | 9:BG:137:ARG:C | 2.08 | 1.25 |
| 1:A2:149:C:C5' | 27:BY:130:ALA:CB | 2.03 | 1.25 |
| 1:A2:138:A:C6 | 9:BG:140:ASN:OD1 | 1.90 | 1.25 |
| 1:A2:220:A:C4' | 9:BG:220:LYS:N | 1.98 | 1.25 |
| 1:A2:778:G:OP1 | 27:BY:30:PRO:HD2 | 1.29 | 1.25 |
| 1:A2:779:U:C4 | 27:BY:43:LYS:HE3 | 1.70 | 1.25 |
| 1:A2:1055:U:OP2 | 3:BA:46:HIS:C | 1.78 | 1.25 |
| 1:A2:1328:G:C8 | 6:BD:159:HIS:O | 1.89 | 1.25 |
| 2:AZ:6219:U:O2' | 6:BD:144:ALA:CB | 1.83 | 1.25 |
| 2:AZ:6221:U:C3' | 6:BD:114:ALA:HB1 | 1.64 | 1.25 |
| 1:A2:29:U:O2' | 26:BX:127:VAL:HG22 | 1.09 | 1.25 |
| 1:A2:139:C:C6 | 9:BG:137:ARG:O | 1.88 | 1.25 |
| 1:A2:152:U:O4 | 27:BY:135:ASP:HB2 | 1.29 | 1.25 |
| 1:A2:215:A:H4' | 7:BE:131:LEU:O | 1.26 | 1.25 |
| 1:A2:740:A:N1 | 7:BE:198:LYS:HB2 | 1.52 | 1.25 |
| 1:A2:1302:U:OP2 | 5:BC:95:ARG:CD | 1.85 | 1.25 |
| 1:A2:1601:G:C8 | 22:BT:89:ARG:N | 2.05 | 1.25 |
| 1:A2:1625:C:OP2 | 5:BC:91:ARG:CZ | 1.84 | 1.25 |
| 1:A2:1721:A:H62 | 9:BG:68:LEU:CA | 1.44 | 1.25 |
| 1:A2:1722:A:OP2 | 9:BG:73:ILE:HG13 | 1.33 | 1.25 |
| 1:A2:1798:U:H6 | 29:Ba:95:ARG:N | 1.34 | 1.25 |
| 1:A2:245:U:O4 | 7:BE:128:LYS:CD | 1.73 | 1.25 |
| 1:A2:597:G:H1 | 26:BX:132:LEU:N | 1.19 | 1.25 |
| 1:A2:776:G:C8 | 27:BY:34:ASN:CB | 2.10 | 1.25 |
| 1:A2:1054:U:O2' | 3:BA:30:GLN:CD | 1.79 | 1.25 |
| 1:A2:1472:C:OP1 | 8:BF:190:ILE:HD12 | 1.32 | 1.25 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:18:C:O2' | 26:BX:115:GLY:HA2 | 1.14 | 1.24 |
| 1:A2:18:C:O3' | 26:BX:115:GLY:N | 1.67 | 1.24 |
| 1:A2:265:A:C5' | 9:BG:176:GLN:HG2 | 1.64 | 1.24 |
| 1:A2:639:U:OP2 | 25:BW:108:ALA:CB | 1.86 | 1.24 |
| 1:A2:737:A:H62 | 7:BE:195:ILE:CD1 | 1.46 | 1.24 |
| 1:A2:1144:U:O2 | 5:BC:89:GLN:HG2 | 1.14 | 1.24 |
| 1:A2:1244:A:O2' | 18:BP:59:LYS:HD2 | 1.31 | 1.24 |
| 1:A2:1281:G:C4' | 23:BU:68:ARG:NH2 | 2.00 | 1.24 |
| 1:A2:1721:A:C8 | 9:BG:67:VAL:HG22 | 1.57 | 1.24 |
| 1:A2:127:G:O2' | 9:BG:183:ARG:NH2 | 1.68 | 1.24 |
| 1:A2:266:A:C5' | 9:BG:136:LYS:CD | 2.14 | 1.24 |
| 1:A2:586:G:O6 | 33:Be:19:PRO:HG3 | 1.36 | 1.24 |
| 1:A2:597:G:C4' | 26:BX:137:LYS:CE | 2.14 | 1.24 |
| 1:A2:1242:A:C5' | 18:BP:89:MET:CE | 2.14 | 1.24 |
| 1:A2:1260:U:N1 | 34:Bf:93:ALA:HB3 | 0.92 | 1.24 |
| 1:A2:1420:C:H5' | 23:BU:82:TYR:CZ | 1.71 | 1.24 |
| 1:A2:1454:G:H21 | 18:BP:123:TYR:CA | 1.42 | 1.24 |
| 1:A2:1684:U:OP2 | 9:BG:51:LYS:HB3 | 1.31 | 1.24 |
| 1:A2:89:G:N1 | 27:BY:115:ASP:O | 1.71 | 1.24 |
| 1:A2:1040:G:C5' | 24:BV:62:ARG:NE | 2.00 | 1.24 |
| 1:A2:1281:G:N9 | 23:BU:74:GLU:O | 1.70 | 1.24 |
| 1:A2:1383:G:C8 | 23:BU:57:ARG:O | 1.79 | 1.24 |
| 1:A2:1472:C:OP1 | 8:BF:190:ILE:CD1 | 1.84 | 1.24 |
| 1:A2:1548:G:H4' | 21:BS:98:TYR:O | 1.11 | 1.24 |
| 1:A2:1565:C:O4' | 21:BS:41:ARG:N | 1.70 | 1.24 |
| 1:A2:1721:A:H3' | 9:BG:67:VAL:CG2 | 1.67 | 1.24 |
| 1:A2:1796:C:P | 29:Ba:92:ARG:HE | 1.58 | 1.24 |
| 1:A2:165:G:OP2 | 9:BG:15:THR:HA | 1.15 | 1.24 |
| 1:A2:338:C:N4 | 11:BI:29:LEU:C | 1.93 | 1.24 |
| 1:A2:778:G:OP2 | 27:BY:32:ARG:CG | 1.83 | 1.24 |
| 1:A2:960:U:H6 | 25:BW:57:ARG:CD | 1.50 | 1.24 |
| 1:A2:1499:G:C3' | 22:BT:102:ARG:O | 1.84 | 1.24 |
| 1:A2:548:G:H4' | 26:BX:136:TRP:CE3 | 1.71 | 1.24 |
| 1:A2:598:U:O3' | 26:BX:88:PRO:CG | 1.86 | 1.24 |
| 1:A2:600:U:C2 | 26:BX:105:ALA:HB2 | 1.72 | 1.24 |
| 1:A2:969:C:C2 | 26:BX:14:LYS:CG | 2.21 | 1.24 |
| 1:A2:1213:G:O3' | 18:BP:77:ARG:HD3 | 1.21 | 1.24 |
| 1:A2:1301:U:O4 | 5:BC:118:ALA:CA | 1.84 | 1.24 |
| 1:A2:64:U:C4 | 27:BY:121:THR:OG1 | 1.83 | 1.23 |
| 1:A2:80:A:N1 | 9:BG:162:VAL:O | 1.68 | 1.23 |
| 1:A2:164:A:OP2 | 9:BG:2:LYS:HG2 | 1.31 | 1.23 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:638:U:OP2 | 25:BW:106:THR:OG1 | 1.54 | 1.23 |
| 1:A2:650:U:OP2 | 7:BE:256:ARG:NE | 1.71 | 1.23 |
| 1:A2:778:G:OP2 | 27:BY:32:ARG:HG2 | 1.32 | 1.23 |
| 1:A2:943:C:C5 | 29:Ba:16:GLY:CA | 2.21 | 1.23 |
| 1:A2:943:C:C5 | 29:Ba:16:GLY:HA2 | 1.72 | 1.23 |
| 1:A2:1301:U:C4 | 5:BC:97:ARG:CD | 2.20 | 1.23 |
| 1:A2:1328:G:OP1 | 6:BD:164:VAL:CG2 | 1.86 | 1.23 |
| 1:A2:1498:G:C4' | 22:BT:72:GLY:O | 1.84 | 1.23 |
| 1:A2:1520:U:C5' | 22:BT:75:LYS:O | 1.86 | 1.23 |
| 1:A2:1565:C:O2' | 21:BS:38:VAL:CG1 | 1.86 | 1.23 |
| 1:A2:1723:U:H5 | 9:BG:73:ILE:CD1 | 1.46 | 1.23 |
| 1:A2:569:C:OP1 | 33:Be:11:ALA:C | 1.81 | 1.23 |
| 1:A2:811:A:C2 | 10:BH:107:ARG:CA | 2.11 | 1.23 |
| 1:A2:1083:G:N3 | 5:BC:161:LYS:HD3 | 1.52 | 1.23 |
| 1:A2:1144:U:C4' | 5:BC:87:GLN:O | 1.86 | 1.23 |
| 1:A2:1245:G:OP1 | 18:BP:58:LYS:C | 1.80 | 1.23 |
| 1:A2:1504:G:C1' | 21:BS:41:ARG:NH2 | 1.93 | 1.23 |
| 1:A2:1558:U:C6 | 21:BS:133:VAL:HG21 | 1.70 | 1.23 |
| 2:AZ:6220:U:O2 | 6:BD:143:ARG:NE | 1.72 | 1.23 |
| 1:A2:370:A:H5' | 12:BJ:14:THR:OG1 | 1.05 | 1.23 |
| 1:A2:382:C:C4' | 12:BJ:2:PRO:HG3 | 1.67 | 1.23 |
| 1:A2:396:G:N7 | 9:BG:91:GLU:HB2 | 1.54 | 1.23 |
| 1:A2:641:G:OP1 | 25:BW:118:ARG:CD | 1.71 | 1.23 |
| 1:A2:734:A:C2 | 7:BE:180:LEU:HD21 | 1.63 | 1.23 |
| 1:A2:765:G:C2 | 12:BJ:142:ASN:ND2 | 2.06 | 1.23 |
| 1:A2:1037:C:O4' | 25:BW:71:LYS:HD2 | 1.39 | 1.23 |
| 1:A2:1095:U:O3' | 5:BC:159:THR:OG1 | 1.56 | 1.23 |
| 1:A2:1329:A:N6 | 6:BD:160:SER:O | 1.69 | 1.23 |
| 1:A2:1389:C:C5' | 20:BR:45:ARG:CG | 2.14 | 1.23 |
| 1:A2:1534:G:O2' | 28:BZ:63:SER:HA | 1.10 | 1.23 |
| 1:A2:1534:G:O6 | 28:BZ:61:SER:HB2 | 1.39 | 1.23 |
| 1:A2:1548:G:C2' | 21:BS:86:LEU:CB | 1.98 | 1.23 |
| 1:A2:340:U:C2 | 11:BI:3:ILE:HG21 | 1.72 | 1.23 |
| 1:A2:633:U:H6 | 14:BL:99:ARG:CB | 1.52 | 1.23 |
| 1:A2:735:C:C5 | 7:BE:194:THR:CA | 2.20 | 1.23 |
| 1:A2:738:G:C8 | 7:BE:157:ASN:CG | 2.04 | 1.23 |
| 1:A2:775:G:C4 | 27:BY:61:ARG:HA | 1.72 | 1.23 |
| 1:A2:967:A:C5 | 26:BX:8:GLY:N | 2.07 | 1.23 |
| 1:A2:1144:U:C2 | 5:BC:89:GLN:CD | 2.16 | 1.23 |
| 1:A2:1144:U:N3 | 5:BC:89:GLN:CD | 1.95 | 1.23 |
| 1:A2:1370:U:C3' | 22:BT:119:LYS:HE3 | 1.67 | 1.23 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1613:U:OP1 | 8:BF:84:LYS:CD | 1.85 | 1.23 |
| 1:A2:901:G:N2 | 17:BO:25:ASP:N | 1.79 | 1.23 |
| 1:A2:968:U:C4' | 26:BX:5:LYS:N | 2.01 | 1.23 |
| 1:A2:1050:G:C2' | 30:Bb:13:ALA:HB3 | 1.69 | 1.23 |
| 1:A2:1316:G:C3' | 20:BR:7:LYS:HG2 | 0.79 | 1.23 |
| 1:A2:1316:G:O3' | 20:BR:7:LYS:HG2 | 1.34 | 1.23 |
| 1:A2:1532:U:H3' | 28:BZ:77:ARG:N | 1.53 | 1.23 |
| 1:A2:1532:U:N1 | 28:BZ:77:ARG:HD2 | 1.52 | 1.23 |
| 1:A2:335:U:O4 | 11:BI:25:ARG:HB3 | 1.37 | 1.22 |
| 1:A2:787:G:N2 | 27:BY:61:ARG:CD | 2.02 | 1.22 |
| 1:A2:811:A:N6 | 10:BH:103:SER:HB2 | 1.50 | 1.22 |
| 1:A2:946:U:O3' | 4:BB:158:SER:CB | 1.85 | 1.22 |
| 1:A2:1299:G:O3' | 5:BC:84:LYS:O | 1.57 | 1.22 |
| 1:A2:1326:A:C3' | 6:BD:158:ILE:N | 2.01 | 1.22 |
| 1:A2:1600:A:C3' | 22:BT:86:ARG:NH2 | 2.03 | 1.22 |
| 1:A2:88:U:H5" | 27:BY:119:PHE:CD2 | 1.73 | 1.22 |
| 1:A2:242:U:O4 | 7:BE:136:VAL:CA | 1.72 | 1.22 |
| 1:A2:735:C:H42 | 7:BE:179:LYS:N | 1.34 | 1.22 |
| 1:A2:1038:U:O4' | 25:BW:19:LYS:NZ | 1.72 | 1.22 |
| 1:A2:14:C:C4' | 5:BC:203:LYS:NZ | 2.02 | 1.22 |
| 1:A2:597:G:O4' | 26:BX:137:LYS:HE2 | 1.11 | 1.22 |
| 1:A2:649:U:H4' | 7:BE:252:ARG:NH1 | 0.92 | 1.22 |
| 1:A2:1096:C:O5' | 5:BC:168:ARG:HB2 | 1.34 | 1.22 |
| 1:A2:1317:C:C5 | 20:BR:7:LYS:HD2 | 1.72 | 1.22 |
| 1:A2:1503:A:N3 | 22:BT:36:ILE:HB | 1.52 | 1.22 |
| 1:A2:1563:C:C5' | 22:BT:38:LYS:HZ1 | 1.52 | 1.22 |
| 1:A2:18:C:HO3' | 26:BX:114:LYS:CA | 1.50 | 1.22 |
| 1:A2:30:G:OP1 | 26:BX:143:PRO:HD2 | 1.32 | 1.22 |
| 1:A2:32:U:N3 | 26:BX:139:LYS:O | 1.70 | 1.22 |
| 1:A2:89:G:C6 | 27:BY:115:ASP:O | 1.93 | 1.22 |
| 1:A2:139:C:H6 | 9:BG:137:ARG:O | 1.20 | 1.22 |
| 1:A2:325:G:O2' | 14:BL:133:LYS:HA | 1.20 | 1.22 |
| 1:A2:335:U:C4 | 11:BI:25:ARG:HB3 | 1.74 | 1.22 |
| 1:A2:631:G:O3' | 26:BX:16:ARG:NH1 | 1.72 | 1.22 |
| 1:A2:632:U:O4' | 26:BX:15:LEU:HB2 | 1.06 | 1.22 |
| 1:A2:736:C:C5 | 7:BE:225:VAL:HG13 | 1.73 | 1.22 |
| 1:A2:858:G:H1' | 10:BH:106:SER:OG | 1.04 | 1.22 |
| 1:A2:1083:G:H21 | 5:BC:161:LYS:CE | 1.49 | 1.22 |
| 1:A2:1310:U:H4' | 20:BR:4:VAL:CG1 | 1.68 | 1.22 |
| 1:A2:1473:U:C2 | 8:BF:113:ILE:HG21 | 1.71 | 1.22 |
| 1:A2:1547:A:OP1 | 21:BS:108:LYS:O | 1.53 | 1.22 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AZ:6108:U:C5' | 8:BF:222:LYS:HB3 | 1.67 | 1.22 |
| 2:AZ:6219:U:N1 | 6:BD:144:ALA:HB1 | 1.55 | 1.22 |
| 1:A2:394:C:OP1 | 9:BG:92:ARG:HB2 | 1.39 | 1.22 |
| 1:A2:585:A:C8 | 33:Be:17:GLN:HB2 | 1.74 | 1.22 |
| 1:A2:734:A:N1 | 7:BE:180:LEU:HD21 | 1.55 | 1.22 |
| 1:A2:777:C:H3' | 27:BY:32:ARG:CG | 1.67 | 1.22 |
| 1:A2:783:G:C8 | 27:BY:39:GLU:C | 2.18 | 1.22 |
| 1:A2:864:U:H5' | 25:BW:6:VAL:O | 1.33 | 1.22 |
| 1:A2:1030:A:O3' | 1:A2:1031:U:P | 1.98 | 1.22 |
| 1:A2:1214:U:P | 18:BP:77:ARG:HD2 | 1.80 | 1.22 |
| 1:A2:1280:C:C5' | 23:BU:69:LYS:C | 2.13 | 1.22 |
| 1:A2:1532:U:OP1 | 28:BZ:77:ARG:C | 1.83 | 1.22 |
| 1:A2:1798:U:C6 | 29:Ba:95:ARG:N | 2.07 | 1.22 |
| 1:A2:783:G:N7 | 27:BY:39:GLU:HB3 | 1.54 | 1.21 |
| 1:A2:957:G:H1' | 30:Bb:21:LEU:CB | 1.70 | 1.21 |
| 1:A2:1083:G:N2 | 5:BC:161:LYS:HD3 | 1.54 | 1.21 |
| 1:A2:1682:U:O3' | 9:BG:109:LEU:HD11 | 1.32 | 1.21 |
| 2:AZ:6137:C:O2' | 8:BF:126:ASP:CB | 1.88 | 1.21 |
| 1:A2:698:U:C6 | 7:BE:207:LEU:CB | 2.23 | 1.21 |
| 1:A2:1084:A:O2' | 5:BC:164:SER:CA | 1.88 | 1.21 |
| 1:A2:1229:G:O6 | 34:Bf:133:ALA:HB1 | 1.39 | 1.21 |
| 1:A2:1280:C:C6 | 23:BU:72:ASN:N | 2.04 | 1.21 |
| 1:A2:1299:G:C4 | 5:BC:86:VAL:CG1 | 2.23 | 1.21 |
| 1:A2:1535:U:C4' | 28:BZ:67:ASP:OD1 | 1.88 | 1.21 |
| 1:A2:449:C:C6 | 27:BY:105:ARG:CZ | 2.23 | 1.21 |
| 1:A2:740:A:C4 | 7:BE:200:ARG:CA | 2.24 | 1.21 |
| 1:A2:960:U:O3' | 1:A2:961:U:P | 1.97 | 1.21 |
| 1:A2:1213:G:O6 | 18:BP:97:TYR:CZ | 1.91 | 1.21 |
| 1:A2:1316:G:HO3' | 20:BR:8:THR:N | 1.38 | 1.21 |
| 1:A2:1419:G:N3 | 32:Bd:54:LYS:CD | 2.04 | 1.21 |
| 1:A2:1452:U:C2' | 18:BP:117:GLY:N | 1.97 | 1.21 |
| 1:A2:1529:C:C5 | 28:BZ:95:HIS:CD2 | 2.28 | 1.21 |
| 1:A2:1681:A:C5' | 9:BG:101:ILE:CD1 | 2.15 | 1.21 |
| 1:A2:139:C:C3' | 9:BG:138:ALA:N | 1.81 | 1.21 |
| 1:A2:1050:G:O2' | 30:Bb:11:THR:CB | 1.86 | 1.21 |
| 1:A2:1055:U:C4' | 3:BA:46:HIS:HB3 | 1.59 | 1.21 |
| 1:A2:1238:A:P | 18:BP:63:ALA:C | 2.23 | 1.21 |
| 1:A2:1502:G:C8 | 22:BT:33:TYR:CG | 2.29 | 1.21 |
| 1:A2:1548:G:C2' | 21:BS:86:LEU:CA | 2.16 | 1.21 |
| 1:A2:1673:G:O3' | 9:BG:94:ARG:HG2 | 1.09 | 1.21 |
| 1:A2:703:G:C8 | 7:BE:230:GLU:CG | 2.20 | 1.21 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:734:A:H3' | 7:BE:192:ILE:O | 1.39 | 1.21 |
| 1:A2:740:A:N1 | 7:BE:198:LYS:HG3 | 1.55 | 1.21 |
| 1:A2:832:U:H5" | 9:BG:212:LEU:O | 1.06 | 1.21 |
| 1:A2:864:U:OP1 | 25:BW:7:LEU:HD23 | 1.36 | 1.21 |
| 1:A2:879:G:O2' | 16:BN:111:ALA:HA | 1.37 | 1.21 |
| 1:A2:1212:G:O6 | 18:BP:99:GLY:C | 1.82 | 1.21 |
| 1:A2:1298:U:H2' | 5:BC:99:LYS:CD | 1.62 | 1.21 |
| 1:A2:1402:G:C8 | 20:BR:5:ARG:HB2 | 1.73 | 1.21 |
| 1:A2:1470:C:H3' | 8:BF:184:PHE:CE1 | 1.76 | 1.21 |
| 1:A2:1558:U:O4 | 21:BS:122:HIS:C | 1.83 | 1.21 |
| 1:A2:91:G:H2' | 27:BY:116:LYS:CE | 1.57 | 1.20 |
| 1:A2:599:A:C2 | 26:BX:126:LYS:HG3 | 1.74 | 1.20 |
| 1:A2:599:A:C2 | 26:BX:126:LYS:N | 2.10 | 1.20 |
| 1:A2:1389:C:C3' | 20:BR:45:ARG:HA | 1.71 | 1.20 |
| 1:A2:1553:G:N2 | 18:BP:40:ARG:HB2 | 1.57 | 1.20 |
| 1:A2:137:U:O5' | 9:BG:143:LYS:HE2 | 1.27 | 1.20 |
| 1:A2:140:A:OP1 | 9:BG:138:ALA:HB2 | 1.40 | 1.20 |
| 1:A2:216:U:C5 | 7:BE:129:VAL:HG23 | 1.75 | 1.20 |
| 1:A2:631:G:P | 26:BX:13:ARG:HB2 | 1.80 | 1.20 |
| 1:A2:791:A:C6 | 12:BJ:7:THR:OG1 | 1.95 | 1.20 |
| 1:A2:804:A:H5' | 25:BW:120:HIS:C | 1.66 | 1.20 |
| 1:A2:1175:U:C4 | 21:BS:140:THR:CG2 | 2.22 | 1.20 |
| 1:A2:1300:A:P | 5:BC:85:PRO:HA | 1.80 | 1.20 |
| 1:A2:1301:U:O2' | 5:BC:86:VAL:HG21 | 1.40 | 1.20 |
| 1:A2:1502:G:N7 | 22:BT:33:TYR:CG | 2.10 | 1.20 |
| 1:A2:1555:A:C8 | 18:BP:40:ARG:HG2 | 1.77 | 1.20 |
| 1:A2:1600:A:O3' | 22:BT:86:ARG:NH2 | 1.71 | 1.20 |
| 1:A2:1679:G:N3 | 9:BG:68:LEU:HB3 | 1.54 | 1.20 |
| 1:A2:272:U:O4 | 9:BG:169:TYR:CD1 | 1.94 | 1.20 |
| 1:A2:331:A:N7 | 11:BI:31:ARG:HG3 | 1.55 | 1.20 |
| 1:A2:450:U:C6 | 27:BY:109:LYS:CA | 2.17 | 1.20 |
| 1:A2:598:U:C3' | 26:BX:88:PRO:HG2 | 1.70 | 1.20 |
| 1:A2:1037:C:H4' | 25:BW:71:LYS:CD | 1.72 | 1.20 |
| 1:A2:1396:U:O4 | 20:BR:56:HIS:CE1 | 1.93 | 1.20 |
| 1:A2:1536:G:C2 | 8:BF:187:ILE:CG1 | 2.24 | 1.20 |
| 1:A2:1683:C:OP2 | 9:BG:52:ILE:HG12 | 1.03 | 1.20 |
| 1:A2:1683:C:C4 | 9:BG:32:ILE:C | 2.19 | 1.20 |
| 2:AZ:6220:U:C2' | 6:BD:143:ARG:N | 1.87 | 1.20 |
| 1:A2:177:U:H5' | 9:BG:139:ASN:N | 1.54 | 1.20 |
| 1:A2:265:A:H5" | 9:BG:176:GLN:CG | 1.72 | 1.20 |
| 1:A2:592:A:N6 | 33:Be:23:LYS:NZ | 1.88 | 1.20 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:792:U:C6 | 12:BJ:7:THR:OG1 | 1.95 | 1.20 |
| 1:A2:872:G:C2 | 16:BN:11:ILE:HG13 | 1.71 | 1.20 |
| 1:A2:1096:C:O2' | 5:BC:200:SER:O | 1.54 | 1.20 |
| 1:A2:1244:A:O2' | 18:BP:59:LYS:CD | 1.88 | 1.20 |
| 1:A2:1420:C:OP2 | 23:BU:69:LYS:CE | 1.86 | 1.20 |
| 1:A2:80:A:C6 | 9:BG:162:VAL:O | 1.94 | 1.20 |
| 1:A2:858:G:N2 | 10:BH:108:GLN:HG3 | 1.56 | 1.20 |
| 1:A2:1037:C:C4' | 25:BW:71:LYS:CD | 2.18 | 1.20 |
| 1:A2:1503:A:C4 | 22:BT:37:VAL:N | 2.10 | 1.20 |
| 1:A2:1721:A:N9 | 9:BG:67:VAL:HG23 | 1.57 | 1.20 |
| 2:AZ:6219:U:O2' | 6:BD:144:ALA:HA | 1.34 | 1.20 |
| 1:A2:164:A:OP2 | 9:BG:2:LYS:CG | 1.88 | 1.19 |
| 1:A2:182:A:C8 | 9:BG:191:ARG:NH2 | 2.09 | 1.19 |
| 1:A2:756:A:P | 7:BE:23:LEU:CD1 | 2.28 | 1.19 |
| 1:A2:959:U:O2' | 25:BW:56:HIS:N | 1.72 | 1.19 |
| 1:A2:1053:G:C4' | 3:BA:35:PRO:HG3 | 1.57 | 1.19 |
| 1:A2:1054:U:C2' | 3:BA:30:GLN:HG2 | 1.59 | 1.19 |
| 1:A2:1301:U:C5 | 5:BC:118:ALA:O | 1.95 | 1.19 |
| 1:A2:1396:U:C4 | 20:BR:56:HIS:CE1 | 2.28 | 1.19 |
| 1:A2:1546:G:N2 | 21:BS:38:VAL:H | 1.39 | 1.19 |
| 1:A2:704:C:H5' | 7:BE:230:GLU:N | 1.47 | 1.19 |
| 1:A2:783:G:N1 | 27:BY:35:VAL:HG22 | 0.87 | 1.19 |
| 1:A2:858:G:C1' | 10:BH:106:SER:OG | 1.91 | 1.19 |
| 1:A2:900:A:C4' | 17:BO:20:TYR:HE1 | 1.53 | 1.19 |
| 1:A2:957:G:C4' | 30:Bb:22:LYS:HG3 | 1.73 | 1.19 |
| 1:A2:1050:G:OP1 | 30:Bb:15:GLU:CG | 1.91 | 1.19 |
| 1:A2:1082:C:C2' | 5:BC:216:VAL:CG1 | 2.19 | 1.19 |
| 1:A2:1239:U:OP1 | 18:BP:72:LYS:O | 1.58 | 1.19 |
| 1:A2:1254:U:C2 | 34:Bf:135:HIS:HD2 | 1.60 | 1.19 |
| 1:A2:1479:A:OP1 | 22:BT:56:LYS:HD2 | 1.37 | 1.19 |
| 1:A2:1796:C:H5" | 29:Ba:89:ARG:O | 1.41 | 1.19 |
| 1:A2:78:A:C2 | 9:BG:160:ARG:CZ | 2.24 | 1.19 |
| 1:A2:91:G:N7 | 27:BY:116:LYS:C | 1.70 | 1.19 |
| 1:A2:165:G:H4' | 9:BG:14:LYS:CE | 1.45 | 1.19 |
| 1:A2:381:C:O2' | 12:BJ:2:PRO:HD2 | 1.42 | 1.19 |
| 1:A2:449:C:C4 | 27:BY:105:ARG:O | 1.74 | 1.19 |
| 1:A2:598:U:O2 | 26:BX:132:LEU:HB3 | 1.41 | 1.19 |
| 1:A2:702:G:C2 | 7:BE:173:ILE:HG22 | 1.77 | 1.19 |
| 1:A2:783:G:N2 | 27:BY:35:VAL:HG21 | 1.56 | 1.19 |
| 1:A2:952:A:O3' | 16:BN:4:MET:HG3 | 1.42 | 1.19 |
| 1:A2:956:C:C2 | 16:BN:11:ILE:CD1 | 2.17 | 1.19 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1241:G:O2' | 18:BP:116:LEU:HD13 | 1.42 | 1.19 |
| 1:A2:1299:G:H5" | 5:BC:98:PHE:O | 1.40 | 1.19 |
| 1:A2:1331:A:C4 | 6:BD:161:GLY:HA3 | 1.21 | 1.19 |
| 1:A2:1403:C:O4' | 20:BR:3:ARG:O | 1.55 | 1.19 |
| 1:A2:1503:A:C2' | 22:BT:37:VAL:O | 1.89 | 1.19 |
| 1:A2:1601:G:OP1 | 22:BT:89:ARG:CB | 1.90 | 1.19 |
| 1:A2:1787:C:C5' | 17:BO:132:ARG:NH1 | 2.04 | 1.19 |
| 1:A2:1797:A:C2 | 29:Ba:90:GLU:N | 2.11 | 1.19 |
| 1:A2:105:A:OP1 | 11:BI:21:PHE:HB3 | 1.38 | 1.19 |
| 1:A2:325:G:O2' | 14:BL:133:LYS:CA | 1.66 | 1.19 |
| 1:A2:630:A:C8 | 26:BX:13:ARG:HG2 | 1.67 | 1.19 |
| 1:A2:632:U:C1' | 26:BX:15:LEU:CG | 2.19 | 1.19 |
| 1:A2:703:G:C8 | 7:BE:179:LYS:HE2 | 1.67 | 1.19 |
| 1:A2:739:G:O6 | 7:BE:198:LYS:CB | 1.74 | 1.19 |
| 1:A2:741:C:C4 | 7:BE:206:ASP:HA | 1.76 | 1.19 |
| 1:A2:1095:U:H4' | 5:BC:159:THR:CG2 | 1.71 | 1.19 |
| 1:A2:1367:G:H1' | 22:BT:66:TYR:OH | 1.35 | 1.19 |
| 1:A2:1389:C:C5' | 20:BR:45:ARG:HB2 | 1.51 | 1.19 |
| 1:A2:1455:G:OP1 | 21:BS:126:ARG:CD | 1.91 | 1.19 |
| 1:A2:1681:A:C5' | 9:BG:101:ILE:CG1 | 1.75 | 1.19 |
| 1:A2:170:U:P | 1:A2:267:U:O2' | 2.00 | 1.19 |
| 1:A2:332:U:C2 | 11:BI:29:LEU:HD22 | 1.76 | 1.19 |
| 1:A2:806:A:C8 | 25:BW:82:LYS:HD3 | 1.78 | 1.19 |
| 1:A2:955:A:N6 | 16:BN:11:ILE:N | 1.88 | 1.19 |
| 1:A2:1102:G:O2' | 26:BX:7:ARG:HD2 | 1.36 | 1.19 |
| 1:A2:1391:A:C5' | 20:BR:48:ASN:HB3 | 1.72 | 1.19 |
| 1:A2:1402:G:N7 | 20:BR:5:ARG:NE | 1.89 | 1.19 |
| 1:A2:1403:C:C6 | 20:BR:3:ARG:C | 2.20 | 1.19 |
| 1:A2:1498:G:C8 | 22:BT:73:VAL:CB | 2.17 | 1.19 |
| 1:A2:1563:C:O3' | 22:BT:38:LYS:HD3 | 1.05 | 1.19 |
| 1:A2:215:A:C4' | 7:BE:131:LEU:O | 1.91 | 1.18 |
| 1:A2:325:G:C5 | 11:BI:10:LYS:NZ | 2.10 | 1.18 |
| 1:A2:785:U:H2' | 27:BY:70:VAL:CA | 1.71 | 1.18 |
| 1:A2:901:G:H5" | 17:BO:86:THR:CG2 | 1.73 | 1.18 |
| 1:A2:959:U:HO2' | 25:BW:56:HIS:CA | 1.55 | 1.18 |
| 1:A2:1096:C:O2' | 5:BC:200:SER:CA | 1.90 | 1.18 |
| 1:A2:1316:G:H3' | 20:BR:7:LYS:CG | 1.50 | 1.18 |
| 1:A2:1520:U:P | 22:BT:75:LYS:O | 2.01 | 1.18 |
| 1:A2:1528:U:C5' | 19:BQ:43:ILE:HG12 | 1.71 | 1.18 |
| 1:A2:1549:C:C5' | 21:BS:86:LEU:HD13 | 1.73 | 1.18 |
| 1:A2:1558:U:C4 | 21:BS:122:HIS:C | 2.21 | 1.18 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:29:U:O5' | 26:BX:130:VAL:HG13 | 1.42 | 1.18 |
| 1:A2:137:U:H2' | 9:BG:143:LYS:CD | 1.59 | 1.18 |
| 1:A2:457:G:C2 | 27:BY:106:GLN:C | 2.20 | 1.18 |
| 1:A2:740:A:N1 | 7:BE:198:LYS:CB | 2.06 | 1.18 |
| 1:A2:740:A:N7 | 7:BE:206:ASP:OD2 | 1.77 | 1.18 |
| 1:A2:783:G:N3 | 27:BY:40:LEU:HD22 | 1.56 | 1.18 |
| 1:A2:897:C:C5 | 17:BO:38:THR:CG2 | 2.26 | 1.18 |
| 1:A2:968:U:H4' | 26:BX:5:LYS:N | 1.22 | 1.18 |
| 1:A2:1260:U:C5' | 34:Bf:92:LYS:HA | 1.73 | 1.18 |
| 1:A2:1503:A:N1 | 21:BS:82:PRO:HG2 | 1.55 | 1.18 |
| 1:A2:179:A:H1' | 9:BG:184:LEU:CA | 1.72 | 1.18 |
| 1:A2:456:A:C2 | 27:BY:111:LYS:HB2 | 1.78 | 1.18 |
| 1:A2:888:U:C6 | 17:BO:124:ASP:N | 2.11 | 1.18 |
| 1:A2:919:A:OP1 | 4:BB:107:THR:CG2 | 1.91 | 1.18 |
| 1:A2:1184:A:P | 18:BP:124:THR:OG1 | 2.02 | 1.18 |
| 1:A2:1403:C:C5' | 20:BR:2:GLY:CA | 2.10 | 1.18 |
| 1:A2:1503:A:C4 | 22:BT:36:ILE:HB | 1.55 | 1.18 |
| 1:A2:1550:A:O5' | 21:BS:84:TRP:CB | 1.91 | 1.18 |
| 1:A2:1709:C:C5' | 9:BG:9:VAL:HG22 | 1.73 | 1.18 |
| 2:AZ:6129:C:O2' | 2:AZ:6148:U:O4 | 1.61 | 1.18 |
| 2:AZ:6137:C:O2' | 8:BF:126:ASP:HB2 | 1.01 | 1.18 |
| 1:A2:338:C:O2' | 11:BI:24:LYS:HD3 | 1.09 | 1.18 |
| 1:A2:633:U:O2 | 26:BX:7:ARG:O | 1.59 | 1.18 |
| 1:A2:784:C:C1' | 27:BY:7:ILE:HG12 | 1.73 | 1.18 |
| 1:A2:901:G:H5' | 17:BO:86:THR:HG23 | 1.23 | 1.18 |
| 1:A2:1255:G:C8 | 34:Bf:140:TYR:HB3 | 1.77 | 1.18 |
| 1:A2:1256:A:C2 | 34:Bf:98:LYS:HG3 | 1.59 | 1.18 |
| 1:A2:1326:A:H5' | 6:BD:156:PHE:O | 1.05 | 1.18 |
| 1:A2:1503:A:N3 | 22:BT:36:ILE:HD13 | 1.54 | 1.18 |
| 1:A2:1503:A:C2 | 22:BT:36:ILE:HD13 | 1.77 | 1.18 |
| 1:A2:1566:U:C6 | 21:BS:33:THR:HG23 | 1.79 | 1.18 |
| 2:AZ:6220:U:C5 | 6:BD:142:LEU:CA | 1.94 | 1.18 |
| 1:A2:150:U:P | 27:BY:130:ALA:HB1 | 1.83 | 1.18 |
| 1:A2:242:U:P | 7:BE:148:ARG:O | 2.02 | 1.18 |
| 1:A2:346:G:N1 | 11:BI:11:ARG:HB3 | 1.56 | 1.18 |
| 1:A2:649:U:P | 7:BE:253:ASP:OD1 | 2.00 | 1.18 |
| 1:A2:704:C:C5' | 7:BE:230:GLU:H | 1.49 | 1.18 |
| 1:A2:738:G:H5' | 7:BE:126:VAL:O | 1.41 | 1.18 |
| 1:A2:1053:G:C4' | 3:BA:35:PRO:CG | 1.93 | 1.18 |
| 1:A2:1252:C:C3' | 34:Bf:136:LYS:HG3 | 1.54 | 1.18 |
| 1:A2:1328:G:OP1 | 6:BD:164:VAL:HG21 | 1.00 | 1.18 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1370:U:H3' | 22:BT:119:LYS:CE | 1.74 | 1.18 |
| 1:A2:1384:A:P | 23:BU:87:HIS:CB | 2.30 | 1.18 |
| 1:A2:1419:G:C2 | 32:Bd:54:LYS:CD | 2.25 | 1.18 |
| 1:A2:1721:A:C5' | 9:BG:64:LYS:CB | 2.21 | 1.18 |
| 1:A2:150:U:C5 | 27:BY:131:ARG:HD2 | 1.77 | 1.17 |
| 1:A2:332:U:C4 | 11:BI:29:LEU:CD2 | 2.24 | 1.17 |
| 1:A2:570:A:N1 | 26:BX:67:ALA:CA | 2.06 | 1.17 |
| 1:A2:741:C:H5" | 7:BE:201:HIS:C | 1.68 | 1.17 |
| 1:A2:1084:A:H1' | 5:BC:161:LYS:CE | 1.71 | 1.17 |
| 1:A2:1252:C:H3' | 34:Bf:136:LYS:C | 1.69 | 1.17 |
| 1:A2:1260:U:C1' | 34:Bf:93:ALA:HB3 | 1.73 | 1.17 |
| 1:A2:1281:G:C4' | 23:BU:68:ARG:HH22 | 1.55 | 1.17 |
| 1:A2:1344:A:C5' | 23:BU:53:LYS:HD2 | 1.74 | 1.17 |
| 1:A2:1520:U:OP2 | 22:BT:75:LYS:C | 1.86 | 1.17 |
| 1:A2:1549:C:H5' | 21:BS:86:LEU:CD1 | 1.73 | 1.17 |
| 2:AZ:6107:U:C5' | 8:BF:223:SER:N | 2.05 | 1.17 |
| 2:AZ:6111:G:O4' | 8:BF:219:ARG:HB3 | 1.44 | 1.17 |
| 1:A2:30:G:P | 26:BX:142:LYS:HA | 1.83 | 1.17 |
| 1:A2:180:A:N3 | 9:BG:188:ARG:HA | 1.59 | 1.17 |
| 1:A2:266:A:H5' | 9:BG:136:LYS:CD | 1.70 | 1.17 |
| 1:A2:444:C:O2 | 27:BY:104:SER:HB3 | 1.43 | 1.17 |
| 1:A2:584:C:H3' | 33:Be:17:GLN:N | 1.40 | 1.17 |
| 1:A2:776:G:C3' | 27:BY:29:HIS:CE1 | 2.27 | 1.17 |
| 1:A2:832:U:H5" | 9:BG:212:LEU:C | 1.70 | 1.17 |
| 1:A2:1108:G:H1 | 26:BX:26:GLU:HA | 1.08 | 1.17 |
| 1:A2:1237:G:OP2 | 18:BP:61:ARG:HG3 | 1.41 | 1.17 |
| 1:A2:1258:U:H5 | 34:Bf:95:ALA:C | 1.29 | 1.17 |
| 1:A2:1326:A:C3' | 6:BD:158:ILE:H | 1.55 | 1.17 |
| 1:A2:1403:C:C5' | 20:BR:2:GLY:O | 1.92 | 1.17 |
| 1:A2:1419:G:N3 | 32:Bd:54:LYS:HD3 | 1.56 | 1.17 |
| 1:A2:1458:G:C1' | 21:BS:126:ARG:NH2 | 2.07 | 1.17 |
| 1:A2:1477:G:H5' | 22:BT:48:GLN:NE2 | 1.59 | 1.17 |
| 14:BL:78:THR:HG22 | 14:BL:84:ILE:HG21 | 1.19 | 1.17 |
| 1:A2:139:C:O2 | 9:BG:136:LYS:CB | 1.69 | 1.17 |
| 1:A2:649:U:H4' | 7:BE:252:ARG:CZ | 1.65 | 1.17 |
| 1:A2:760:A:H4' | 12:BJ:9:SER:O | 1.42 | 1.17 |
| 1:A2:1102:G:C2' | 26:BX:7:ARG:HD2 | 1.74 | 1.17 |
| 1:A2:1167:G:OP1 | 8:BF:101:GLY:HA3 | 1.39 | 1.17 |
| 1:A2:1183:A:C8 | 18:BP:125:PRO:HD3 | 1.80 | 1.17 |
| 1:A2:1299:G:H8 | 5:BC:99:LYS:N | 1.41 | 1.17 |
| 1:A2:1301:U:C3' | 5:BC:97:ARG:HH11 | 1.50 | 1.17 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1316:G:O3' | 20:BR:7:LYS:CB | 1.92 | 1.17 |
| 1:A2:1316:G:O3' | 20:BR:7:LYS:CG | 1.89 | 1.17 |
| 1:A2:1722:A:C4' | 9:BG:71:THR:O | 1.87 | 1.17 |
| 1:A2:1796:C:N3 | 29:Ba:89:ARG:NH1 | 1.93 | 1.17 |
| 1:A2:346:G:N2 | 11:BI:11:ARG:O | 1.76 | 1.17 |
| 1:A2:633:U:C6 | 14:BL:99:ARG:HB3 | 1.79 | 1.17 |
| 1:A2:733:A:C4 | 7:BE:209:HIS:O | 1.96 | 1.17 |
| 1:A2:740:A:C5 | 7:BE:200:ARG:HA | 1.80 | 1.17 |
| 1:A2:957:G:C2 | 30:Bb:21:LEU:HD22 | 1.77 | 1.17 |
| 1:A2:1317:C:C6 | 20:BR:7:LYS:HD3 | 1.75 | 1.17 |
| 1:A2:1797:A:N6 | 29:Ba:87:ARG:O | 1.78 | 1.17 |
| 1:A2:352:A:O3' | 1:A2:353:A:P | 2.03 | 1.17 |
| 1:A2:702:G:C2 | 7:BE:174:LYS:O | 1.97 | 1.17 |
| 1:A2:1184:A:C6 | 18:BP:123:TYR:HD2 | 1.58 | 1.17 |
| 1:A2:1501:C:C5 | 22:BT:33:TYR:CZ | 2.32 | 1.17 |
| 1:A2:1501:C:OP2 | 22:BT:31:PRO:HB3 | 1.44 | 1.17 |
| 1:A2:1548:G:C1' | 21:BS:99:HIS:CE1 | 2.26 | 1.17 |
| 1:A2:214:G:C3' | 7:BE:132:GLY:CA | 2.12 | 1.16 |
| 1:A2:899:G:H3' | 17:BO:25:ASP:OD1 | 1.01 | 1.16 |
| 1:A2:1144:U:O4' | 5:BC:87:GLN:O | 1.60 | 1.16 |
| 1:A2:1520:U:OP2 | 22:BT:75:LYS:O | 1.63 | 1.16 |
| 1:A2:1532:U:C2' | 28:BZ:77:ARG:CD | 1.91 | 1.16 |
| 19:BQ:115:THR:HG1 | 19:BQ:116:LEU:N | 1.44 | 1.16 |
| 1:A2:180:A:C2 | 9:BG:191:ARG:HB2 | 1.80 | 1.16 |
| 1:A2:245:U:OP1 | 7:BE:142:HIS:HA | 1.34 | 1.16 |
| 1:A2:436:A:C4 | 26:BX:50:LYS:CD | 2.28 | 1.16 |
| 1:A2:458:G:C8 | 27:BY:107:GLN:CD | 2.23 | 1.16 |
| 1:A2:632:U:O2' | 14:BL:99:ARG:HD2 | 1.46 | 1.16 |
| 1:A2:778:G:OP1 | 27:BY:30:PRO:CD | 1.94 | 1.16 |
| 1:A2:954:G:OP2 | 16:BN:2:GLY:N | 1.76 | 1.16 |
| 1:A2:969:C:O2 | 26:BX:14:LYS:CG | 1.91 | 1.16 |
| 1:A2:1049:U:H5" | 30:Bb:23:THR:HG23 | 1.21 | 1.16 |
| 1:A2:1254:U:C6 | 34:Bf:140:TYR:CE2 | 2.32 | 1.16 |
| 1:A2:1683:C:OP2 | 9:BG:52:ILE:CB | 1.90 | 1.16 |
| 1:A2:78:A:C6 | 9:BG:162:VAL:CB | 2.27 | 1.16 |
| 1:A2:90:C:N4 | 27:BY:116:LYS:C | 2.02 | 1.16 |
| 1:A2:149:C:C4' | 27:BY:130:ALA:HB3 | 1.75 | 1.16 |
| 1:A2:220:A:H4' | 9:BG:220:LYS:N | 1.17 | 1.16 |
| 1:A2:631:G:C4' | 26:BX:13:ARG:HA | 1.69 | 1.16 |
| 1:A2:633:U:C6 | 14:BL:99:ARG:CB | 2.27 | 1.16 |
| 1:A2:641:G:OP1 | 25:BW:118:ARG:NE | 1.76 | 1.16 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:703:G:C5 | 7:BE:230:GLU:HA | 1.80 | 1.16 |
| 1:A2:740:A:N3 | 7:BE:200:ARG:CA | 2.08 | 1.16 |
| 1:A2:959:U:H1' | 25:BW:56:HIS:N | 1.59 | 1.16 |
| 1:A2:1095:U:H4' | 5:BC:159:THR:HG21 | 1.22 | 1.16 |
| 1:A2:1243:G:C5' | 18:BP:56:PHE:O | 1.79 | 1.16 |
| 1:A2:1357:A:O2' | 22:BT:126:GLU:O | 1.60 | 1.16 |
| 1:A2:1591:C:P | 22:BT:92:LYS:C | 2.29 | 1.16 |
| 1:A2:3:U:C2' | 12:BJ:18:PRO:CG | 1.88 | 1.16 |
| 1:A2:78:A:C5 | 9:BG:160:ARG:HG3 | 1.80 | 1.16 |
| 1:A2:89:G:O6 | 27:BY:118:ILE:HB | 0.99 | 1.16 |
| 1:A2:241:U:C3' | 7:BE:149:TYR:CD2 | 1.89 | 1.16 |
| 1:A2:336:G:H22 | 11:BI:24:LYS:CA | 1.58 | 1.16 |
| 1:A2:897:C:HO3' | 1:A2:898:A:P | 1.68 | 1.16 |
| 1:A2:956:C:C4 | 16:BN:11:ILE:CG2 | 2.29 | 1.16 |
| 1:A2:957:G:C4' | 30:Bb:22:LYS:CG | 2.23 | 1.16 |
| 1:A2:1054:U:H3' | 3:BA:149:LEU:HD22 | 1.21 | 1.16 |
| 1:A2:1239:U:H6 | 18:BP:74:ALA:N | 1.43 | 1.16 |
| 1:A2:1503:A:H2' | 22:BT:37:VAL:O | 1.00 | 1.16 |
| 1:A2:1535:U:H4' | 8:BF:187:ILE:CD1 | 1.69 | 1.16 |
| 1:A2:181:A:N3 | 9:BG:191:ARG:CG | 2.02 | 1.16 |
| 1:A2:338:C:H3' | 11:BI:4:SER:CB | 1.74 | 1.16 |
| 1:A2:548:G:C4' | 26:BX:136:TRP:CZ3 | 2.23 | 1.16 |
| 1:A2:633:U:C5' | 14:BL:98:ASN:O | 1.94 | 1.16 |
| 1:A2:686:C:OP1 | 12:BJ:64:GLU:OE2 | 1.63 | 1.16 |
| 1:A2:776:G:N1 | 27:BY:35:VAL:CG1 | 2.08 | 1.16 |
| 1:A2:887:A:H2' | 17:BO:124:ASP:N | 1.61 | 1.16 |
| 1:A2:887:A:H2 | 17:BO:125:SER:N | 1.25 | 1.16 |
| 1:A2:1236:A:C2' | 18:BP:65:LEU:CD2 | 2.22 | 1.16 |
| 1:A2:1281:G:H5' | 23:BU:78:THR:OG1 | 1.42 | 1.16 |
| 1:A2:1533:C:P | 28:BZ:77:ARG:HH12 | 1.69 | 1.16 |
| 1:A2:1535:U:C3' | 8:BF:187:ILE:HD12 | 1.74 | 1.16 |
| 1:A2:1566:U:H5' | 21:BS:30:TYR:CA | 1.74 | 1.16 |
| 1:A2:1591:C:H5" | 22:BT:93:HIS:N | 0.84 | 1.16 |
| 1:A2:1613:U:P | 8:BF:84:LYS:CD | 2.32 | 1.16 |
| 1:A2:1756:A:H3' | 1:A2:1757:G:OP1 | 1.44 | 1.16 |
| 1:A2:56:U:O2 | 27:BY:113:ASN:HB2 | 1.43 | 1.15 |
| 1:A2:163:G:O2' | 9:BG:1:MET:O | 1.60 | 1.15 |
| 1:A2:168:A:C5' | 9:BG:132:ARG:HD2 | 1.77 | 1.15 |
| 1:A2:323:A:H5" | 11:BI:10:LYS:H | 1.02 | 1.15 |
| 1:A2:598:U:OP2 | 26:BX:133:LEU:HD23 | 1.44 | 1.15 |
| 1:A2:630:A:H62 | 26:BX:14:LYS:CD | 1.59 | 1.15 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:785:U:H2' | 27:BY:70:VAL:C | 1.69 | 1.15 |
| 1:A2:831:U:OP1 | 7:BE:152:PRO:CA | 1.94 | 1.15 |
| 1:A2:1096:C:C1' | 5:BC:200:SER:O | 1.93 | 1.15 |
| 1:A2:1242:A:C2 | 18:BP:78:THR:OG1 | 1.78 | 1.15 |
| 1:A2:1281:G:C5' | 23:BU:68:ARG:HH21 | 1.59 | 1.15 |
| 1:A2:1383:G:O5' | 23:BU:88:LYS:O | 1.62 | 1.15 |
| 1:A2:1565:C:C4' | 21:BS:43:SER:H | 1.58 | 1.15 |
| 1:A2:1683:C:P | 9:BG:52:ILE:CG2 | 2.34 | 1.15 |
| 1:A2:266:A:N3 | 9:BG:136:LYS:HB2 | 1.61 | 1.15 |
| 1:A2:468:A:C8 | 26:BX:140:LYS:HE3 | 1.81 | 1.15 |
| 1:A2:859:A:O2' | 10:BH:101:LYS:HE3 | 1.47 | 1.15 |
| 1:A2:1037:C:H2' | 25:BW:19:LYS:NZ | 1.59 | 1.15 |
| 1:A2:1326:A:C5' | 6:BD:189:MET:SD | 2.33 | 1.15 |
| 1:A2:1327:C:H3' | 6:BD:159:HIS:CA | 1.76 | 1.15 |
| 1:A2:1416:G:O2' | 19:BQ:126:PRO:HD3 | 1.38 | 1.15 |
| 1:A2:1502:G:OP2 | 22:BT:33:TYR:HD1 | 1.11 | 1.15 |
| 1:A2:1600:A:H3' | 22:BT:86:ARG:CZ | 1.75 | 1.15 |
| 1:A2:138:A:C8 | 9:BG:135:PRO:CB | 2.22 | 1.15 |
| 1:A2:310:C:O2' | 26:BX:35:GLY:N | 1.76 | 1.15 |
| 1:A2:597:G:H4' | 26:BX:137:LYS:CG | 1.76 | 1.15 |
| 1:A2:632:U:O5' | 26:BX:12:ALA:HB1 | 1.01 | 1.15 |
| 1:A2:755:A:N3 | 12:BJ:3:ARG:HG2 | 1.61 | 1.15 |
| 1:A2:872:G:N2 | 16:BN:11:ILE:CG1 | 2.02 | 1.15 |
| 1:A2:1084:A:O2' | 5:BC:164:SER:HA | 0.97 | 1.15 |
| 1:A2:1681:A:H3' | 9:BG:31:ARG:HA | 1.26 | 1.15 |
| 1:A2:56:U:O2 | 27:BY:113:ASN:CB | 1.93 | 1.15 |
| 1:A2:129:U:N3 | 9:BG:177:ARG:CZ | 2.03 | 1.15 |
| 1:A2:599:A:N1 | 26:BX:126:LYS:HG3 | 1.60 | 1.15 |
| 1:A2:858:G:C2 | 10:BH:108:GLN:HG3 | 1.80 | 1.15 |
| 1:A2:1038:U:O5' | 25:BW:19:LYS:NZ | 1.69 | 1.15 |
| 1:A2:1242:A:H5' | 18:BP:89:MET:CE | 1.75 | 1.15 |
| 1:A2:1390:U:P | 20:BR:45:ARG:CG | 2.32 | 1.15 |
| 1:A2:1457:C:O2 | 21:BS:136:GLN:HG2 | 1.41 | 1.15 |
| 1:A2:1502:G:N7 | 22:BT:33:TYR:CE2 | 2.15 | 1.15 |
| 1:A2:14:C:H4' | 5:BC:203:LYS:NZ | 1.60 | 1.15 |
| 1:A2:57:G:N2 | 27:BY:115:ASP:N | 1.94 | 1.15 |
| 1:A2:165:G:P | 9:BG:15:THR:HA | 1.79 | 1.15 |
| 1:A2:346:G:N2 | 11:BI:11:ARG:HB3 | 1.52 | 1.15 |
| 1:A2:346:G:C2' | 11:BI:13:ALA:N | 2.10 | 1.15 |
| 1:A2:395:U:OP2 | 9:BG:91:GLU:HG2 | 1.46 | 1.15 |
| 1:A2:637:C:OP1 | 25:BW:111:MET:N | 1.80 | 1.15 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:779:U:C5 | 27:BY:43:LYS:HE3 | 1.81 | 1.15 |
| 1:A2:780:A:C2 | 27:BY:32:ARG:CD | 2.28 | 1.15 |
| 1:A2:879:G:O2' | 16:BN:111:ALA:CA | 1.94 | 1.15 |
| 1:A2:1213:G:O2' | 18:BP:78:THR:CA | 1.94 | 1.15 |
| 1:A2:1236:A:C2' | 18:BP:65:LEU:HD22 | 1.76 | 1.15 |
| 1:A2:1367:G:O3' | 22:BT:66:TYR:CD1 | 2.00 | 1.15 |
| 1:A2:1536:G:N2 | 8:BF:187:ILE:HG13 | 1.60 | 1.15 |
| 1:A2:1549:C:O5' | 21:BS:86:LEU:HB2 | 1.36 | 1.15 |
| 1:A2:139:C:C6 | 9:BG:140:ASN:HB2 | 1.35 | 1.14 |
| 1:A2:311:U:H4' | 26:BX:34:LEU:CA | 1.69 | 1.14 |
| 1:A2:703:G:H3' | 7:BE:230:GLU:HB2 | 1.21 | 1.14 |
| 1:A2:915:A:C2 | 17:BO:27:PHE:CZ | 2.35 | 1.14 |
| 1:A2:952:A:HO3' | 16:BN:4:MET:HG3 | 0.99 | 1.14 |
| 1:A2:958:U:O2' | 25:BW:57:ARG:NE | 1.80 | 1.14 |
| 1:A2:959:U:O2' | 25:BW:56:HIS:CB | 1.95 | 1.14 |
| 1:A2:967:A:H1' | 26:BX:7:ARG:CB | 1.75 | 1.14 |
| 1:A2:1083:G:N2 | 5:BC:161:LYS:CD | 2.05 | 1.14 |
| 1:A2:1418:G:C4 | 32:Bd:56:ARG:CZ | 2.30 | 1.14 |
| 1:A2:1548:G:P | 21:BS:100:THR:HG23 | 1.86 | 1.14 |
| 1:A2:1550:A:O5' | 21:BS:84:TRP:CD1 | 1.99 | 1.14 |
| 1:A2:1567:U:OP1 | 21:BS:34:THR:HG22 | 1.44 | 1.14 |
| 1:A2:137:U:C3' | 9:BG:143:LYS:CG | 2.22 | 1.14 |
| 1:A2:301:A:C8 | 7:BE:2:ALA:O | 1.98 | 1.14 |
| 1:A2:334:G:OP2 | 11:BI:26:LYS:NZ | 1.79 | 1.14 |
| 1:A2:632:U:P | 26:BX:12:ALA:CB | 2.35 | 1.14 |
| 1:A2:734:A:C2 | 7:BE:180:LEU:HD22 | 1.79 | 1.14 |
| 1:A2:804:A:C5' | 25:BW:121:VAL:N | 2.09 | 1.14 |
| 1:A2:1146:G:N3 | 5:BC:93:GLY:CA | 2.08 | 1.14 |
| 1:A2:90:C:N3 | 27:BY:115:ASP:O | 1.75 | 1.14 |
| 1:A2:139:C:C5' | 9:BG:141:ILE:HB | 1.73 | 1.14 |
| 1:A2:139:C:H3' | 9:BG:138:ALA:CB | 1.73 | 1.14 |
| 1:A2:164:A:P | 9:BG:2:LYS:CG | 2.34 | 1.14 |
| 1:A2:450:U:H6 | 27:BY:109:LYS:HE3 | 1.08 | 1.14 |
| 1:A2:609:U:N3 | 26:BX:28:ASN:CG | 2.05 | 1.14 |
| 1:A2:633:U:OP1 | 14:BL:98:ASN:N | 1.80 | 1.14 |
| 1:A2:740:A:N1 | 7:BE:198:LYS:CG | 2.09 | 1.14 |
| 1:A2:782:U:C5' | 27:BY:39:GLU:HA | 1.78 | 1.14 |
| 1:A2:859:A:N6 | 10:BH:111:LYS:HG2 | 1.59 | 1.14 |
| 1:A2:887:A:N1 | 17:BO:125:SER:OG | 1.76 | 1.14 |
| 1:A2:1301:U:C4 | 5:BC:118:ALA:C | 2.25 | 1.14 |
| 1:A2:1498:G:C5 | 22:BT:102:ARG:HD3 | 1.81 | 1.14 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1503:A:H3' | 22:BT:37:VAL:CB | 1.68 | 1.14 |
| 1:A2:1553:G:H5" | 18:BP:43:ARG:NE | 1.62 | 1.14 |
| 1:A2:1558:U:OP1 | 21:BS:127:HIS:NE2 | 1.79 | 1.14 |
| 1:A2:1722:A:N3 | 9:BG:70:PRO:HD2 | 1.62 | 1.14 |
| 1:A2:18:C:O3' | 26:BX:114:LYS:HA | 1.45 | 1.14 |
| 1:A2:85:A:H2' | 27:BY:126:ALA:N | 1.63 | 1.14 |
| 1:A2:300:A:N6 | 7:BE:5:PRO:N | 1.95 | 1.14 |
| 1:A2:632:U:C1' | 26:BX:15:LEU:HB2 | 1.77 | 1.14 |
| 1:A2:636:A:H5" | 25:BW:126:LEU:H | 0.98 | 1.14 |
| 1:A2:783:G:OP2 | 27:BY:38:ASP:O | 1.64 | 1.14 |
| 1:A2:957:G:C1' | 30:Bb:21:LEU:HB3 | 1.78 | 1.14 |
| 1:A2:997:G:O3' | 1:A2:998:A:P | 2.06 | 1.14 |
| 1:A2:1037:C:C3' | 25:BW:19:LYS:HE2 | 1.77 | 1.14 |
| 1:A2:1252:C:OP1 | 34:Bf:136:LYS:NZ | 1.56 | 1.14 |
| 1:A2:1390:U:OP1 | 20:BR:49:LYS:HD3 | 1.45 | 1.14 |
| 1:A2:1473:U:O2 | 8:BF:113:ILE:HG23 | 0.98 | 1.14 |
| 1:A2:1503:A:C3' | 22:BT:37:VAL:HB | 1.78 | 1.14 |
| 12:BJ:42:ILE:C | 12:BJ:43:TYR:HA | 1.72 | 1.14 |
| 1:A2:86:A:C5' | 27:BY:125:LEU:HD12 | 1.68 | 1.14 |
| 1:A2:162:A:O2' | 9:BG:58:LYS:HE2 | 1.47 | 1.14 |
| 1:A2:215:A:H4' | 7:BE:131:LEU:C | 1.73 | 1.14 |
| 1:A2:397:A:C5' | 9:BG:88:ARG:HG3 | 1.76 | 1.14 |
| 1:A2:397:A:H5' | 9:BG:88:ARG:HG3 | 1.15 | 1.14 |
| 1:A2:436:A:C6 | 26:BX:50:LYS:HD2 | 1.81 | 1.14 |
| 1:A2:649:U:C4' | 7:BE:252:ARG:CZ | 2.13 | 1.14 |
| 1:A2:1102:G:C1' | 26:BX:7:ARG:NE | 2.11 | 1.14 |
| 1:A2:1520:U:H5' | 22:BT:75:LYS:O | 1.42 | 1.14 |
| 1:A2:1533:C:O4' | 28:BZ:77:ARG:NH2 | 1.80 | 1.14 |
| 1:A2:1533:C:P | 28:BZ:77:ARG:NH1 | 2.16 | 1.14 |
| 1:A2:1536:G:N1 | 8:BF:187:ILE:HG12 | 1.61 | 1.14 |
| 1:A2:1546:G:N2 | 21:BS:38:VAL:N | 1.95 | 1.14 |
| 1:A2:80:A:N6 | 9:BG:168:THR:HA | 1.63 | 1.13 |
| 1:A2:163:G:C4 | 9:BG:2:LYS:CB | 2.31 | 1.13 |
| 1:A2:396:G:C3' | 9:BG:88:ARG:HB2 | 1.61 | 1.13 |
| 1:A2:632:U:O5' | 26:BX:12:ALA:CB | 1.96 | 1.13 |
| 1:A2:698:U:H3' | 7:BE:197:HIS:CE1 | 1.83 | 1.13 |
| 1:A2:806:A:C5' | 25:BW:81:VAL:CG2 | 2.19 | 1.13 |
| 1:A2:934:C:OP2 | 29:Ba:95:ARG:CZ | 1.94 | 1.13 |
| 1:A2:1098:U:O4' | 5:BC:170:ILE:N | 1.80 | 1.13 |
| 1:A2:1213:G:O2' | 18:BP:78:THR:HA | 1.46 | 1.13 |
| 1:A2:1300:A:O5' | 5:BC:85:PRO:CA | 1.91 | 1.13 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1327:C:C3’ | 6:BD:159:HIS:HA | 1.77 | 1.13 |
| 1:A2:1418:G:O5’ | 19:BQ:128:LYS:HD2 | 1.10 | 1.13 |
| 1:A2:1682:U:C4’ | 9:BG:102:VAL:CG1 | 2.25 | 1.13 |
| 1:A2:1797:A:N7 | 29:Ba:87:ARG:HB3 | 1.62 | 1.13 |
| 1:A2:57:G:N2 | 27:BY:112:LYS:O | 1.81 | 1.13 |
| 1:A2:59:C:OP1 | 27:BY:111:LYS:HD3 | 0.99 | 1.13 |
| 1:A2:91:G:C3’ | 27:BY:116:LYS:NZ | 2.09 | 1.13 |
| 1:A2:324:U:H5’ | 11:BI:11:ARG:C | 1.72 | 1.13 |
| 1:A2:382:C:H4’ | 12:BJ:2:PRO:HG3 | 1.18 | 1.13 |
| 1:A2:866:G:C5’ | 25:BW:3:ARG:HA | 1.76 | 1.13 |
| 1:A2:1103:U:H1’ | 26:BX:5:LYS:HB2 | 1.17 | 1.13 |
| 1:A2:1280:C:H5” | 23:BU:69:LYS:C | 1.54 | 1.13 |
| 1:A2:1344:A:H5’ | 23:BU:53:LYS:CG | 1.60 | 1.13 |
| 1:A2:1433:G:C2 | 32:Bd:28:THR:O | 1.99 | 1.13 |
| 1:A2:1502:G:C2’ | 22:BT:37:VAL:HG21 | 1.73 | 1.13 |
| 1:A2:1534:G:H2’ | 28:BZ:62:VAL:O | 1.46 | 1.13 |
| 1:A2:1798:U:P | 29:Ba:94:ASN:C | 2.31 | 1.13 |
| 2:AZ:6107:U:C5’ | 8:BF:223:SER:H | 1.62 | 1.13 |
| 2:AZ:6108:U:O2 | 8:BF:223:SER:HA | 1.44 | 1.13 |
| 1:A2:18:C:O3’ | 26:BX:114:LYS:CA | 1.94 | 1.13 |
| 1:A2:57:G:C2 | 27:BY:112:LYS:O | 2.01 | 1.13 |
| 1:A2:370:A:H4’ | 12:BJ:14:THR:N | 1.64 | 1.13 |
| 1:A2:399:A:O3’ | 1:A2:400:A:P | 2.06 | 1.13 |
| 1:A2:451:A:C2 | 27:BY:111:LYS:HB3 | 1.84 | 1.13 |
| 1:A2:597:G:O2’ | 26:BX:136:TRP:HE3 | 1.32 | 1.13 |
| 1:A2:755:A:N3 | 12:BJ:3:ARG:N | 1.90 | 1.13 |
| 1:A2:897:C:C4 | 17:BO:38:THR:HG21 | 1.84 | 1.13 |
| 1:A2:901:G:C5’ | 17:BO:86:THR:CG2 | 2.27 | 1.13 |
| 1:A2:1009:U:P | 17:BO:129:LYS:CE | 2.35 | 1.13 |
| 1:A2:1083:G:N2 | 5:BC:161:LYS:HE2 | 1.58 | 1.13 |
| 1:A2:1084:A:C2’ | 5:BC:164:SER:HA | 1.78 | 1.13 |
| 1:A2:1096:C:H2’ | 5:BC:166:THR:OG1 | 1.49 | 1.13 |
| 1:A2:1102:G:C1’ | 26:BX:7:ARG:HD2 | 1.79 | 1.13 |
| 1:A2:1326:A:H3’ | 6:BD:158:ILE:N | 1.06 | 1.13 |
| 1:A2:1403:C:H5’ | 20:BR:2:GLY:O | 1.46 | 1.13 |
| 1:A2:1503:A:N9 | 22:BT:37:VAL:N | 1.96 | 1.13 |
| 1:A2:1534:G:O2’ | 28:BZ:63:SER:CA | 1.96 | 1.13 |
| 1:A2:1791:A:O2’ | 29:Ba:2:PRO:C | 1.91 | 1.13 |
| 14:BL:78:THR:HG22 | 14:BL:84:ILE:CG2 | 1.78 | 1.13 |
| 1:A2:29:U:H3 | 26:BX:131:SER:CB | 1.56 | 1.13 |
| 1:A2:138:A:C3’ | 9:BG:143:LYS:N | 2.11 | 1.13 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:266:A:C2 | 9:BG:136:LYS:N | 2.16 | 1.13 |
| 1:A2:337:G:H3' | 11:BI:6:ASP:C | 1.74 | 1.13 |
| 1:A2:436:A:C8 | 26:BX:101:GLU:OE2 | 2.02 | 1.13 |
| 1:A2:609:U:C2 | 26:BX:28:ASN:CG | 2.26 | 1.13 |
| 1:A2:733:A:H1' | 7:BE:194:THR:OG1 | 1.48 | 1.13 |
| 1:A2:814:A:C8 | 10:BH:108:GLN:CB | 2.29 | 1.13 |
| 1:A2:957:G:H5' | 30:Bb:22:LYS:HE2 | 1.27 | 1.13 |
| 1:A2:1401:A:OP1 | 20:BR:10:LYS:CA | 1.95 | 1.13 |
| 1:A2:1403:C:C5' | 20:BR:2:GLY:C | 2.18 | 1.13 |
| 1:A2:1458:G:H1' | 21:BS:126:ARG:NH2 | 1.60 | 1.13 |
| 1:A2:3:U:N3 | 12:BJ:19:TYR:CD1 | 2.04 | 1.13 |
| 1:A2:137:U:P | 9:BG:143:LYS:HE3 | 1.89 | 1.13 |
| 1:A2:331:A:N7 | 11:BI:31:ARG:CG | 2.10 | 1.12 |
| 1:A2:464:A:O3' | 1:A2:465:G:P | 2.07 | 1.12 |
| 1:A2:756:A:H5' | 7:BE:23:LEU:HD11 | 1.26 | 1.12 |
| 1:A2:786:C:N4 | 27:BY:59:GLY:O | 1.82 | 1.12 |
| 1:A2:799:A:O3' | 7:BE:186:GLY:HA2 | 1.47 | 1.12 |
| 1:A2:859:A:C3' | 10:BH:101:LYS:CE | 2.15 | 1.12 |
| 1:A2:880:C:O2' | 16:BN:101:HIS:NE2 | 1.81 | 1.12 |
| 1:A2:943:C:C6 | 29:Ba:16:GLY:CA | 2.31 | 1.13 |
| 1:A2:1367:G:C2' | 22:BT:66:TYR:OH | 1.94 | 1.13 |
| 1:A2:1682:U:H3' | 9:BG:52:ILE:CD1 | 1.78 | 1.12 |
| 1:A2:1796:C:P | 29:Ba:92:ARG:NE | 2.19 | 1.12 |
| 20:BR:43:SER:HG | 20:BR:44:LYS:N | 1.46 | 1.13 |
| 1:A2:1535:U:C4' | 8:BF:187:ILE:HD13 | 1.76 | 1.12 |
| 1:A2:1601:G:O3' | 22:BT:90:PRO:HD3 | 1.50 | 1.12 |
| 2:AZ:6220:U:O2 | 6:BD:143:ARG:HD3 | 1.39 | 1.12 |
| 1:A2:242:U:O5' | 7:BE:148:ARG:C | 1.91 | 1.12 |
| 1:A2:583:C:P | 33:Be:14:VAL:HG13 | 1.86 | 1.12 |
| 1:A2:589:C:C5 | 33:Be:21:VAL:HG22 | 1.83 | 1.12 |
| 1:A2:704:C:OP2 | 7:BE:233:LYS:HE2 | 1.36 | 1.12 |
| 1:A2:738:G:O3' | 7:BE:156:VAL:HG13 | 1.49 | 1.12 |
| 1:A2:804:A:C4 | 25:BW:83:ILE:N | 2.06 | 1.12 |
| 1:A2:879:G:O2' | 16:BN:110:ASP:C | 1.89 | 1.12 |
| 1:A2:920:U:O2' | 4:BB:216:LYS:HE3 | 1.41 | 1.12 |
| 1:A2:1033:C:H2' | 26:BX:2:GLY:O | 0.96 | 1.12 |
| 1:A2:1102:G:C1' | 26:BX:7:ARG:CD | 2.26 | 1.12 |
| 1:A2:1213:G:C3' | 18:BP:77:ARG:HD3 | 1.80 | 1.12 |
| 1:A2:1504:G:H5" | 22:BT:39:THR:N | 1.55 | 1.12 |
| 1:A2:92:A:H8 | 27:BY:116:LYS:NZ | 1.38 | 1.12 |
| 1:A2:163:G:P | 9:BG:56:ASN:O | 2.06 | 1.12 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:168:A:O3' | 9:BG:132:ARG:HD3 | 1.48 | 1.12 |
| 1:A2:352:A:N6 | 26:BX:20:ARG:NH2 | 1.97 | 1.12 |
| 1:A2:734:A:C8 | 7:BE:212:ASP:C | 2.27 | 1.12 |
| 1:A2:736:C:C5 | 7:BE:225:VAL:CG1 | 2.33 | 1.12 |
| 1:A2:946:U:O3' | 4:BB:158:SER:HB3 | 1.41 | 1.12 |
| 1:A2:959:U:O2 | 25:BW:55:ASP:HB3 | 1.38 | 1.12 |
| 1:A2:1175:U:C5 | 21:BS:140:THR:CG2 | 2.32 | 1.12 |
| 1:A2:1240:U:H3' | 18:BP:104:GLN:HG2 | 1.31 | 1.12 |
| 1:A2:1256:A:N1 | 34:Bf:98:LYS:CD | 2.11 | 1.12 |
| 1:A2:1310:U:O2' | 20:BR:4:VAL:HG12 | 1.49 | 1.12 |
| 1:A2:1547:A:C3' | 21:BS:87:ASN:OD1 | 1.95 | 1.12 |
| 2:AZ:6221:U:O2' | 6:BD:114:ALA:HB2 | 1.46 | 1.12 |
| 1:A2:116:U:H3 | 7:BE:4:GLY:HA3 | 1.12 | 1.12 |
| 1:A2:137:U:H3' | 9:BG:143:LYS:HG3 | 1.14 | 1.12 |
| 1:A2:138:A:H8 | 9:BG:135:PRO:CG | 1.61 | 1.12 |
| 1:A2:141:U:H2' | 9:BG:158:ILE:CG2 | 1.78 | 1.12 |
| 1:A2:266:A:H2 | 9:BG:136:LYS:N | 1.47 | 1.12 |
| 1:A2:600:U:N1 | 26:BX:105:ALA:HB3 | 1.63 | 1.12 |
| 1:A2:600:U:C6 | 26:BX:105:ALA:HB3 | 1.84 | 1.12 |
| 1:A2:631:G:H8 | 26:BX:13:ARG:HG3 | 1.15 | 1.12 |
| 1:A2:703:G:N7 | 7:BE:230:GLU:CG | 2.12 | 1.12 |
| 1:A2:778:G:H21 | 27:BY:32:ARG:HB3 | 0.95 | 1.12 |
| 1:A2:783:G:C2 | 27:BY:40:LEU:HD22 | 1.83 | 1.12 |
| 1:A2:858:G:C4 | 10:BH:102:PRO:HB3 | 1.74 | 1.12 |
| 1:A2:863:A:H5' | 25:BW:6:VAL:HB | 1.18 | 1.12 |
| 1:A2:933:A:H5' | 29:Ba:95:ARG:HH22 | 1.11 | 1.12 |
| 1:A2:959:U:H5" | 25:BW:59:GLY:HA2 | 1.13 | 1.12 |
| 1:A2:1040:G:H5' | 24:BV:62:ARG:CD | 1.78 | 1.12 |
| 1:A2:1298:U:H2' | 5:BC:99:LYS:HD2 | 1.18 | 1.12 |
| 1:A2:1473:U:H2' | 8:BF:190:ILE:HG13 | 1.32 | 1.12 |
| 1:A2:1502:G:P | 22:BT:33:TYR:HD1 | 1.73 | 1.12 |
| 1:A2:1546:G:OP1 | 21:BS:109:LEU:HD13 | 1.49 | 1.12 |
| 2:AZ:6220:U:H2' | 6:BD:143:ARG:N | 1.29 | 1.12 |
| 4:BB:119:THR:HG1 | 4:BB:156:ALA:N | 1.47 | 1.12 |
| 1:A2:1:U:O3' | 12:BJ:14:THR:HB | 1.45 | 1.12 |
| 1:A2:57:G:O3' | 27:BY:114:ARG:NH1 | 1.79 | 1.12 |
| 1:A2:58:U:C6 | 27:BY:114:ARG:C | 2.27 | 1.12 |
| 1:A2:78:A:N1 | 9:BG:160:ARG:HG2 | 1.65 | 1.12 |
| 1:A2:88:U:H5" | 27:BY:119:PHE:CG | 1.80 | 1.12 |
| 1:A2:129:U:N3 | 9:BG:177:ARG:NE | 1.98 | 1.12 |
| 1:A2:137:U:O3' | 9:BG:143:LYS:HG2 | 1.43 | 1.12 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:338:C:H42 | 11:BI:29:LEU:C | 1.51 | 1.12 |
| 1:A2:597:G:C4' | 26:BX:137:LYS:CD | 2.27 | 1.12 |
| 1:A2:859:A:N6 | 10:BH:111:LYS:CB | 2.13 | 1.12 |
| 1:A2:859:A:C2' | 10:BH:101:LYS:HE3 | 1.80 | 1.12 |
| 1:A2:917:U:C5' | 17:BO:120:PRO:HD2 | 1.79 | 1.12 |
| 1:A2:955:A:C2 | 16:BN:11:ILE:CD1 | 2.28 | 1.12 |
| 1:A2:967:A:C4 | 26:BX:8:GLY:N | 2.18 | 1.12 |
| 1:A2:1067:C:C5' | 3:BA:31:VAL:HG13 | 1.79 | 1.12 |
| 1:A2:1535:U:C5 | 8:BF:186:ASN:C | 2.28 | 1.12 |
| 2:AZ:6219:U:C2' | 6:BD:144:ALA:HA | 1.61 | 1.12 |
| 1:A2:75:U:C6 | 9:BG:166:GLU:O | 1.99 | 1.11 |
| 1:A2:78:A:N1 | 9:BG:162:VAL:HB | 1.64 | 1.11 |
| 1:A2:139:C:H5' | 9:BG:141:ILE:HB | 1.19 | 1.11 |
| 1:A2:168:A:C4' | 9:BG:132:ARG:CD | 2.25 | 1.11 |
| 1:A2:346:G:C6 | 11:BI:15:GLY:HA2 | 1.84 | 1.11 |
| 1:A2:457:G:H1' | 27:BY:114:ARG:HH22 | 1.03 | 1.11 |
| 1:A2:862:A:O3' | 1:A2:863:A:P | 2.08 | 1.11 |
| 1:A2:1230:A:H4' | 34:Bf:98:LYS:NZ | 1.65 | 1.11 |
| 1:A2:1301:U:C3' | 5:BC:97:ARG:NH1 | 1.99 | 1.11 |
| 14:BL:58:CYS:HG | 14:BL:60:PHE:N | 1.48 | 1.11 |
| 1:A2:241:U:H5" | 7:BE:149:TYR:CD2 | 1.84 | 1.11 |
| 1:A2:325:G:C1' | 14:BL:133:LYS:HA | 1.79 | 1.11 |
| 1:A2:598:U:C2 | 26:BX:132:LEU:CB | 2.32 | 1.11 |
| 1:A2:804:A:C5' | 25:BW:120:HIS:C | 2.21 | 1.11 |
| 1:A2:811:A:N3 | 10:BH:107:ARG:HA | 1.64 | 1.11 |
| 1:A2:858:G:N1 | 10:BH:108:GLN:HG3 | 1.65 | 1.11 |
| 1:A2:887:A:H2' | 17:BO:124:ASP:H | 0.97 | 1.11 |
| 1:A2:1184:A:OP2 | 18:BP:124:THR:OG1 | 1.66 | 1.11 |
| 1:A2:1260:U:H5" | 34:Bf:92:LYS:HA | 1.18 | 1.11 |
| 1:A2:1300:A:H4' | 5:BC:85:PRO:HB2 | 1.30 | 1.11 |
| 1:A2:1553:G:O6 | 18:BP:39:ALA:HB3 | 1.49 | 1.11 |
| 1:A2:1591:C:OP2 | 22:BT:92:LYS:C | 1.93 | 1.11 |
| 1:A2:137:U:P | 9:BG:143:LYS:CE | 2.38 | 1.11 |
| 1:A2:149:C:H5" | 27:BY:130:ALA:HB2 | 1.29 | 1.11 |
| 1:A2:741:C:O4' | 7:BE:200:ARG:HB3 | 1.49 | 1.11 |
| 1:A2:864:U:H5' | 25:BW:6:VAL:C | 1.75 | 1.11 |
| 1:A2:1098:U:H1' | 5:BC:170:ILE:N | 1.63 | 1.11 |
| 1:A2:1240:U:C1' | 18:BP:76:VAL:H | 1.63 | 1.11 |
| 1:A2:1299:G:C3' | 5:BC:84:LYS:O | 1.97 | 1.11 |
| 1:A2:1300:A:C4 | 5:BC:86:VAL:C | 2.29 | 1.11 |
| 1:A2:1573:A:N6 | 8:BF:184:PHE:CE1 | 2.17 | 1.11 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1674:C:O3' | 9:BG:76:LEU:CD1 | 1.72 | 1.11 |
| 1:A2:56:U:H3 | 27:BY:113:ASN:ND2 | 1.47 | 1.11 |
| 1:A2:57:G:H1 | 27:BY:115:ASP:C | 1.56 | 1.11 |
| 1:A2:141:U:H2' | 9:BG:158:ILE:HG22 | 1.21 | 1.11 |
| 1:A2:215:A:H5" | 7:BE:130:GLN:HG2 | 1.31 | 1.11 |
| 1:A2:776:G:O5' | 27:BY:62:THR:HG23 | 1.49 | 1.11 |
| 1:A2:776:G:H1' | 27:BY:62:THR:N | 1.64 | 1.11 |
| 1:A2:782:U:O5' | 27:BY:39:GLU:HG3 | 1.45 | 1.11 |
| 1:A2:916:U:H3' | 17:BO:84:ARG:NH2 | 1.63 | 1.11 |
| 1:A2:917:U:H6 | 17:BO:84:ARG:NE | 1.15 | 1.11 |
| 1:A2:946:U:C5' | 4:BB:158:SER:OG | 1.98 | 1.11 |
| 1:A2:1557:U:O2' | 21:BS:123:ARG:HA | 1.47 | 1.11 |
| 1:A2:1564:U:O3' | 21:BS:85:PHE:CZ | 2.02 | 1.11 |
| 3:BA:50:VAL:HA | 20:BR:105:GLN:HB3 | 1.32 | 1.11 |
| 1:A2:91:G:C5 | 27:BY:116:LYS:C | 2.28 | 1.11 |
| 1:A2:152:U:O4 | 27:BY:135:ASP:CB | 1.99 | 1.11 |
| 1:A2:242:U:O4 | 7:BE:137:PRO:HD2 | 1.49 | 1.11 |
| 1:A2:340:U:C5 | 11:BI:3:ILE:HG23 | 1.84 | 1.11 |
| 1:A2:599:A:C2 | 26:BX:103:LEU:HD12 | 1.85 | 1.11 |
| 1:A2:688:G:OP2 | 12:BJ:66:ASP:HA | 1.48 | 1.11 |
| 1:A2:776:G:C2' | 27:BY:29:HIS:NE2 | 1.91 | 1.11 |
| 1:A2:778:G:P | 27:BY:30:PRO:HD2 | 1.91 | 1.11 |
| 1:A2:1242:A:O2' | 18:BP:56:PHE:CD1 | 1.67 | 1.11 |
| 1:A2:1243:G:H5" | 18:BP:56:PHE:O | 1.36 | 1.11 |
| 1:A2:1453:G:O2' | 18:BP:119:PHE:C | 1.93 | 1.11 |
| 1:A2:1547:A:H3' | 21:BS:87:ASN:OD1 | 1.30 | 1.11 |
| 1:A2:1548:G:H2' | 21:BS:86:LEU:CB | 1.59 | 1.11 |
| 1:A2:1555:A:H8 | 18:BP:40:ARG:CG | 1.64 | 1.11 |
| 1:A2:1609:U:OP1 | 19:BQ:75:VAL:N | 1.83 | 1.11 |
| 1:A2:137:U:O3' | 9:BG:143:LYS:CG | 1.92 | 1.10 |
| 1:A2:266:A:C5' | 9:BG:136:LYS:HE2 | 1.80 | 1.10 |
| 1:A2:310:C:C3' | 26:BX:33:LEU:HD23 | 1.76 | 1.10 |
| 1:A2:458:G:H22 | 27:BY:105:ARG:HG2 | 1.04 | 1.10 |
| 1:A2:632:U:H2' | 14:BL:99:ARG:CD | 1.80 | 1.10 |
| 1:A2:933:A:H4' | 29:Ba:95:ARG:HH12 | 1.12 | 1.10 |
| 1:A2:1068:C:H5' | 3:BA:33:GLN:HB2 | 1.31 | 1.10 |
| 1:A2:1096:C:OP2 | 5:BC:168:ARG:HG3 | 1.48 | 1.10 |
| 1:A2:1281:G:OP1 | 23:BU:78:THR:N | 1.83 | 1.10 |
| 1:A2:1334:U:H4' | 23:BU:83:GLU:CD | 1.74 | 1.10 |
| 1:A2:1389:C:H5" | 20:BR:45:ARG:CG | 1.75 | 1.10 |
| 1:A2:215:A:C5' | 7:BE:132:GLY:N | 2.14 | 1.10 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:395:U:C4' | 9:BG:91:GLU:OE2 | 1.99 | 1.10 |
| 1:A2:702:G:O6 | 7:BE:195:ILE:HD12 | 1.52 | 1.10 |
| 1:A2:1229:G:C6 | 34:Bf:133:ALA:HB1 | 1.87 | 1.10 |
| 1:A2:1358:G:P | 22:BT:130:ARG:HG3 | 1.90 | 1.10 |
| 1:A2:1390:U:C5 | 20:BR:3:ARG:CD | 2.34 | 1.10 |
| 1:A2:1458:G:OP1 | 21:BS:138:THR:HB | 1.51 | 1.10 |
| 1:A2:1503:A:N3 | 22:BT:36:ILE:CB | 2.15 | 1.10 |
| 1:A2:1505:A:N3 | 21:BS:84:TRP:CE3 | 2.19 | 1.10 |
| 1:A2:1535:U:C5 | 8:BF:187:ILE:N | 2.00 | 1.10 |
| 1:A2:1625:C:OP2 | 5:BC:91:ARG:NH2 | 1.84 | 1.10 |
| 1:A2:137:U:O5' | 9:BG:143:LYS:HE3 | 1.42 | 1.10 |
| 1:A2:397:A:O2' | 9:BG:88:ARG:NH2 | 1.83 | 1.10 |
| 1:A2:452:A:N6 | 27:BY:115:ASP:OD2 | 1.83 | 1.10 |
| 1:A2:601:A:OP1 | 26:BX:43:PHE:HE2 | 1.32 | 1.10 |
| 1:A2:776:G:H21 | 27:BY:27:VAL:HB | 0.99 | 1.10 |
| 1:A2:786:C:H3' | 27:BY:70:VAL:HG11 | 1.33 | 1.10 |
| 1:A2:864:U:H3' | 25:BW:8:ALA:O | 1.48 | 1.10 |
| 1:A2:887:A:H1' | 17:BO:124:ASP:OD1 | 1.43 | 1.10 |
| 1:A2:957:G:H5" | 30:Bb:22:LYS:CG | 1.64 | 1.10 |
| 1:A2:1040:G:H5" | 24:BV:62:ARG:NE | 1.66 | 1.10 |
| 1:A2:1056:U:H5' | 3:BA:46:HIS:NE2 | 0.91 | 1.10 |
| 1:A2:1096:C:C2' | 5:BC:200:SER:O | 1.98 | 1.10 |
| 1:A2:1108:G:N2 | 26:BX:27:ASN:H | 1.46 | 1.10 |
| 1:A2:1144:U:C2 | 5:BC:89:GLN:HG2 | 1.58 | 1.10 |
| 1:A2:1253:U:C5 | 34:Bf:136:LYS:HB3 | 1.85 | 1.10 |
| 1:A2:1553:G:O6 | 18:BP:39:ALA:HB1 | 1.27 | 1.10 |
| 1:A2:1563:C:C5' | 22:BT:38:LYS:NZ | 2.09 | 1.10 |
| 1:A2:1566:U:C5' | 21:BS:30:TYR:HA | 1.81 | 1.10 |
| 1:A2:58:U:H5' | 27:BY:114:ARG:NH2 | 1.67 | 1.10 |
| 1:A2:75:U:N1 | 9:BG:166:GLU:N | 1.97 | 1.10 |
| 1:A2:139:C:O5' | 9:BG:141:ILE:N | 1.82 | 1.10 |
| 1:A2:139:C:OP1 | 9:BG:142:ARG:HG3 | 1.51 | 1.10 |
| 1:A2:179:A:H3' | 9:BG:187:LYS:HD3 | 1.29 | 1.10 |
| 1:A2:208:U:O2' | 11:BI:55:TYR:CE1 | 2.05 | 1.10 |
| 1:A2:209:U:C5' | 11:BI:53:LYS:HB3 | 1.65 | 1.10 |
| 1:A2:633:U:C6 | 14:BL:99:ARG:HG2 | 1.83 | 1.10 |
| 1:A2:859:A:N6 | 10:BH:111:LYS:HB3 | 1.66 | 1.10 |
| 1:A2:873:U:H3 | 16:BN:10:GLY:CA | 1.65 | 1.10 |
| 1:A2:878:G:H2' | 16:BN:114:ARG:HH12 | 0.99 | 1.10 |
| 1:A2:960:U:H6 | 25:BW:57:ARG:HD2 | 1.09 | 1.10 |
| 1:A2:1298:U:O2 | 5:BC:208:GLU:CD | 1.94 | 1.10 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1457:C:N1 | 21:BS:136:GLN:N | 1.98 | 1.10 |
| 1:A2:1480:G:C5' | 22:BT:11:ALA:HB1 | 1.81 | 1.10 |
| 1:A2:1548:G:H1' | 21:BS:99:HIS:ND1 | 1.65 | 1.10 |
| 1:A2:1673:G:O3' | 9:BG:94:ARG:CD | 1.99 | 1.10 |
| 1:A2:28:A:N1 | 26:BX:131:SER:CA | 2.15 | 1.10 |
| 1:A2:139:C:C6 | 9:BG:140:ASN:CB | 2.25 | 1.10 |
| 1:A2:338:C:C4 | 11:BI:29:LEU:HA | 1.85 | 1.10 |
| 1:A2:585:A:H8 | 33:Be:17:GLN:CA | 1.63 | 1.10 |
| 1:A2:641:G:OP1 | 25:BW:118:ARG:HD2 | 1.37 | 1.10 |
| 1:A2:1007:C:H4' | 17:BO:137:LEU:HG | 1.13 | 1.10 |
| 1:A2:1144:U:N1 | 5:BC:89:GLN:HG3 | 1.66 | 1.10 |
| 1:A2:1260:U:C6 | 34:Bf:93:ALA:HB3 | 1.83 | 1.10 |
| 1:A2:1389:C:C5' | 20:BR:45:ARG:HG3 | 1.75 | 1.10 |
| 1:A2:1401:A:H5' | 20:BR:10:LYS:H | 1.06 | 1.10 |
| 1:A2:1498:G:C8 | 22:BT:73:VAL:HG21 | 1.78 | 1.10 |
| 1:A2:1548:G:C2' | 21:BS:86:LEU:HA | 1.80 | 1.10 |
| 1:A2:105:A:OP1 | 11:BI:21:PHE:CB | 2.00 | 1.09 |
| 1:A2:736:C:C5' | 7:BE:226:PHE:HB3 | 1.80 | 1.09 |
| 1:A2:1083:G:N9 | 5:BC:161:LYS:O | 1.85 | 1.09 |
| 1:A2:1084:A:C8 | 5:BC:161:LYS:O | 2.04 | 1.09 |
| 1:A2:1096:C:O2' | 5:BC:200:SER:HA | 1.47 | 1.09 |
| 1:A2:1137:A:C5' | 26:BX:64:PRO:HD3 | 1.83 | 1.09 |
| 1:A2:1301:U:C4 | 5:BC:118:ALA:CA | 2.35 | 1.09 |
| 1:A2:1368:G:H5" | 22:BT:66:TYR:O | 1.50 | 1.09 |
| 1:A2:1419:G:N2 | 32:Bd:54:LYS:CD | 2.14 | 1.09 |
| 1:A2:1535:U:H5 | 8:BF:186:ASN:HB3 | 1.13 | 1.09 |
| 1:A2:1732:A:O3' | 1:A2:1733:C:P | 2.09 | 1.09 |
| 1:A2:164:A:OP2 | 9:BG:2:LYS:CB | 1.95 | 1.09 |
| 1:A2:703:G:C2 | 7:BE:179:LYS:HB3 | 1.79 | 1.09 |
| 1:A2:740:A:C2 | 7:BE:200:ARG:CA | 2.35 | 1.09 |
| 1:A2:741:C:N4 | 7:BE:206:ASP:HA | 1.37 | 1.09 |
| 1:A2:780:A:C2 | 27:BY:32:ARG:HD2 | 1.85 | 1.09 |
| 1:A2:920:U:C5' | 4:BB:214:LYS:HD3 | 1.81 | 1.09 |
| 1:A2:921:U:H5" | 4:BB:138:PHE:HE2 | 1.16 | 1.09 |
| 1:A2:1008:G:OP2 | 17:BO:135:ARG:HA | 1.43 | 1.09 |
| 1:A2:1503:A:N3 | 22:BT:36:ILE:CD1 | 2.16 | 1.09 |
| 1:A2:1505:A:C5' | 22:BT:41:SER:HB3 | 1.81 | 1.09 |
| 1:A2:1530:C:H42 | 28:BZ:96:SER:HB2 | 1.00 | 1.09 |
| 1:A2:1680:G:C5' | 9:BG:31:ARG:HH22 | 1.58 | 1.09 |
| 1:A2:1721:A:N6 | 9:BG:68:LEU:CA | 1.97 | 1.09 |
| 1:A2:1722:A:O5' | 9:BG:73:ILE:HG12 | 1.49 | 1.09 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AZ:6220:U:O4 | 6:BD:141:LYS:O | 1.70 | 1.09 |
| 19:BQ:7:VAL:HB | 19:BQ:96:TYR:HE1 | 1.16 | 1.09 |
| 1:A2:2:A:N3 | 12:BJ:16:LYS:CB | 2.14 | 1.09 |
| 1:A2:58:U:C5 | 27:BY:114:ARG:C | 2.31 | 1.09 |
| 1:A2:140:A:H5' | 9:BG:153:VAL:HG12 | 1.35 | 1.09 |
| 1:A2:218:A:H5' | 7:BE:152:PRO:O | 1.51 | 1.09 |
| 1:A2:282:C:OP1 | 9:BG:154:ARG:CG | 2.01 | 1.09 |
| 1:A2:568:G:O2' | 33:Be:13:LYS:CA | 1.99 | 1.09 |
| 1:A2:1497:U:H5' | 22:BT:77:ASN:ND2 | 1.67 | 1.09 |
| 1:A2:1601:G:P | 22:BT:86:ARG:NE | 2.25 | 1.09 |
| 1:A2:215:A:C5' | 7:BE:130:GLN:HG2 | 1.80 | 1.09 |
| 1:A2:458:G:C5' | 27:BY:110:GLN:HE22 | 1.52 | 1.09 |
| 1:A2:778:G:C2' | 27:BY:32:ARG:NH2 | 2.15 | 1.09 |
| 1:A2:863:A:C4 | 25:BW:7:LEU:N | 2.17 | 1.09 |
| 1:A2:1084:A:H8 | 5:BC:161:LYS:O | 1.36 | 1.09 |
| 1:A2:1358:G:H5' | 22:BT:130:ARG:HG2 | 1.34 | 1.09 |
| 1:A2:1501:C:H5 | 22:BT:33:TYR:OH | 1.15 | 1.09 |
| 1:A2:1601:G:C3' | 22:BT:90:PRO:HD3 | 1.82 | 1.09 |
| 1:A2:76:A:H5" | 9:BG:165:GLY:O | 1.47 | 1.09 |
| 1:A2:456:A:N1 | 27:BY:108:ARG:CA | 2.14 | 1.09 |
| 1:A2:600:U:H5' | 26:BX:104:LEU:HD22 | 1.31 | 1.09 |
| 1:A2:862:A:H5' | 25:BW:32:LYS:HA | 1.12 | 1.09 |
| 1:A2:898:A:O4' | 17:BO:41:ARG:HG2 | 1.50 | 1.09 |
| 1:A2:920:U:O2' | 4:BB:216:LYS:HE2 | 1.34 | 1.09 |
| 1:A2:946:U:H5" | 4:BB:158:SER:OG | 1.53 | 1.09 |
| 1:A2:1144:U:C3' | 5:BC:88:LYS:HA | 1.80 | 1.09 |
| 1:A2:1192:C:C5' | 19:BQ:141:SER:HB2 | 1.82 | 1.09 |
| 1:A2:1281:G:O5' | 23:BU:68:ARG:NH2 | 1.86 | 1.09 |
| 1:A2:1479:A:H5' | 22:BT:16:ASN:HD21 | 1.11 | 1.09 |
| 1:A2:1498:G:H4' | 22:BT:72:GLY:O | 0.91 | 1.09 |
| 1:A2:1555:A:C8 | 18:BP:40:ARG:CG | 2.36 | 1.09 |
| 1:A2:1567:U:OP1 | 21:BS:34:THR:HG23 | 1.48 | 1.09 |
| 1:A2:1674:C:O3' | 9:BG:76:LEU:HD12 | 1.18 | 1.09 |
| 2:AZ:6221:U:H3' | 6:BD:114:ALA:HB1 | 1.20 | 1.09 |
| 1:A2:163:G:O3' | 9:BG:108:VAL:HA | 1.52 | 1.08 |
| 1:A2:336:G:N2 | 11:BI:24:LYS:C | 2.11 | 1.08 |
| 1:A2:395:U:H3' | 9:BG:91:GLU:OE2 | 1.37 | 1.08 |
| 1:A2:698:U:C3' | 7:BE:197:HIS:HE1 | 1.64 | 1.08 |
| 1:A2:889:U:P | 17:BO:89:THR:HA | 1.93 | 1.08 |
| 1:A2:1056:U:C6 | 3:BA:40:ALA:CB | 2.35 | 1.08 |
| 1:A2:1418:G:C2' | 32:Bd:56:ARG:HG2 | 1.82 | 1.08 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1520:U:H5' | 22:BT:75:LYS:C | 1.78 | 1.08 |
| 1:A2:1520:U:H5" | 22:BT:75:LYS:HD2 | 1.30 | 1.08 |
| 1:A2:1684:U:C5 | 9:BG:51:LYS:HE2 | 1.87 | 1.08 |
| 1:A2:1721:A:H62 | 9:BG:68:LEU:HA | 1.15 | 1.08 |
| 2:AZ:6219:U:C6 | 6:BD:144:ALA:HB1 | 1.88 | 1.08 |
| 1:A2:703:G:C8 | 7:BE:179:LYS:CE | 2.19 | 1.08 |
| 1:A2:737:A:H4' | 7:BE:158:ASP:O | 1.53 | 1.08 |
| 1:A2:740:A:C5 | 7:BE:198:LYS:CE | 2.35 | 1.08 |
| 1:A2:784:C:C4' | 27:BY:7:ILE:HG21 | 1.51 | 1.08 |
| 1:A2:957:G:N3 | 30:Bb:21:LEU:CD2 | 2.16 | 1.08 |
| 1:A2:1048:G:C2' | 30:Bb:22:LYS:HD2 | 1.78 | 1.08 |
| 1:A2:1049:U:H4' | 30:Bb:23:THR:HA | 1.29 | 1.08 |
| 1:A2:1240:U:O3' | 18:BP:104:GLN:HG2 | 1.53 | 1.08 |
| 1:A2:1242:A:C4' | 18:BP:89:MET:HE2 | 1.82 | 1.08 |
| 1:A2:1281:G:H4' | 23:BU:76:SER:O | 1.51 | 1.08 |
| 1:A2:1389:C:O3' | 20:BR:45:ARG:HG2 | 1.53 | 1.08 |
| 1:A2:1455:G:C8 | 18:BP:123:TYR:HE1 | 1.70 | 1.08 |
| 1:A2:1480:G:C4' | 22:BT:11:ALA:CB | 2.30 | 1.08 |
| 1:A2:1500:C:H6 | 22:BT:103:LYS:HG3 | 1.13 | 1.08 |
| 1:A2:1720:G:H4' | 9:BG:64:LYS:CA | 1.49 | 1.08 |
| 2:AZ:6221:U:O3' | 6:BD:114:ALA:HB1 | 1.45 | 1.08 |
| 33:Be:36:LYS:N | 33:Be:37:ARG:N | 2.00 | 1.08 |
| 1:A2:57:G:N1 | 27:BY:116:LYS:N | 1.70 | 1.08 |
| 1:A2:241:U:H5" | 7:BE:149:TYR:CG | 1.88 | 1.08 |
| 1:A2:241:U:OP1 | 9:BG:207:GLU:HB3 | 1.51 | 1.08 |
| 1:A2:267:U:OP1 | 9:BG:136:LYS:NZ | 1.87 | 1.08 |
| 1:A2:741:C:C5' | 7:BE:200:ARG:HD2 | 1.83 | 1.08 |
| 1:A2:783:G:C5 | 27:BY:39:GLU:HB3 | 1.87 | 1.08 |
| 1:A2:880:C:H3' | 1:A2:881:A:P | 1.93 | 1.08 |
| 1:A2:1049:U:O5' | 30:Bb:18:LYS:HB3 | 1.52 | 1.08 |
| 1:A2:1144:U:C2 | 5:BC:89:GLN:HG3 | 1.63 | 1.08 |
| 1:A2:1213:G:C6 | 18:BP:97:TYR:CE2 | 2.40 | 1.08 |
| 1:A2:1242:A:OP2 | 18:BP:94:VAL:HG23 | 1.54 | 1.08 |
| 1:A2:1383:G:OP2 | 23:BU:59:PRO:O | 1.71 | 1.08 |
| 1:A2:1453:G:C2' | 18:BP:120:SER:O | 2.01 | 1.08 |
| 1:A2:1548:G:C4' | 21:BS:98:TYR:O | 2.00 | 1.08 |
| 1:A2:1679:G:N3 | 9:BG:68:LEU:HB2 | 1.60 | 1.08 |
| 1:A2:1680:G:C5' | 9:BG:31:ARG:NH2 | 2.13 | 1.08 |
| 1:A2:179:A:H1' | 9:BG:184:LEU:CB | 1.83 | 1.08 |
| 1:A2:216:U:H3' | 7:BE:129:VAL:HG22 | 1.29 | 1.08 |
| 1:A2:242:U:O4 | 7:BE:137:PRO:CD | 2.01 | 1.08 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:336:G:N2 | 11:BI:24:LYS:HA | 1.67 | 1.08 |
| 1:A2:396:G:C4 | 9:BG:88:ARG:CD | 2.32 | 1.08 |
| 1:A2:597:G:O4' | 26:BX:137:LYS:CE | 2.01 | 1.08 |
| 1:A2:631:G:O5' | 26:BX:13:ARG:CA | 2.01 | 1.08 |
| 1:A2:779:U:C4 | 27:BY:43:LYS:CE | 2.36 | 1.08 |
| 1:A2:785:U:C2' | 27:BY:70:VAL:HA | 1.84 | 1.08 |
| 1:A2:920:U:C4' | 4:BB:214:LYS:HD3 | 1.82 | 1.08 |
| 1:A2:953:G:N2 | 16:BN:9:LYS:H | 1.36 | 1.08 |
| 1:A2:1252:C:C6 | 34:Bf:136:LYS:CB | 2.36 | 1.08 |
| 1:A2:1389:C:H5" | 20:BR:45:ARG:HG3 | 1.22 | 1.08 |
| 1:A2:1535:U:C5 | 8:BF:186:ASN:HB3 | 1.89 | 1.08 |
| 1:A2:1557:U:H6 | 21:BS:123:ARG:HD3 | 1.17 | 1.08 |
| 1:A2:1613:U:OP1 | 8:BF:84:LYS:HD3 | 0.90 | 1.08 |
| 1:A2:29:U:H3 | 26:BX:131:SER:HB2 | 0.94 | 1.08 |
| 1:A2:337:G:C2' | 11:BI:9:HIS:CE1 | 2.36 | 1.08 |
| 1:A2:584:C:OP1 | 33:Be:12:GLY:O | 1.72 | 1.08 |
| 1:A2:597:G:H4' | 26:BX:137:LYS:HD3 | 1.34 | 1.08 |
| 1:A2:599:A:H2 | 26:BX:103:LEU:HB3 | 1.19 | 1.08 |
| 1:A2:631:G:C8 | 26:BX:13:ARG:HG3 | 1.87 | 1.08 |
| 1:A2:960:U:C3' | 1:A2:961:U:P | 2.42 | 1.08 |
| 1:A2:1086:A:C8 | 5:BC:203:LYS:CE | 2.36 | 1.08 |
| 1:A2:1535:U:H5' | 28:BZ:67:ASP:OD1 | 1.27 | 1.08 |
| 1:A2:1555:A:H5" | 18:BP:40:ARG:HG2 | 1.26 | 1.08 |
| 1:A2:1563:C:H4' | 22:BT:38:LYS:HZ2 | 1.11 | 1.08 |
| 2:AZ:6106:A:H1' | 8:BF:223:SER:O | 1.54 | 1.08 |
| 7:BE:159:THR:HG1 | 7:BE:160:VAL:N | 1.51 | 1.08 |
| 1:A2:28:A:C6 | 26:BX:131:SER:HA | 1.89 | 1.07 |
| 1:A2:29:U:O4' | 26:BX:129:GLY:N | 1.86 | 1.07 |
| 1:A2:325:G:C1' | 14:BL:133:LYS:CA | 2.31 | 1.07 |
| 1:A2:458:G:H5' | 27:BY:110:GLN:HE22 | 0.97 | 1.07 |
| 1:A2:631:G:O5' | 26:BX:13:ARG:HB2 | 1.50 | 1.07 |
| 1:A2:754:A:OP2 | 7:BE:14:ALA:HB3 | 1.53 | 1.07 |
| 1:A2:864:U:H5" | 25:BW:7:LEU:O | 0.90 | 1.07 |
| 1:A2:919:A:OP1 | 4:BB:107:THR:HG21 | 1.48 | 1.07 |
| 1:A2:960:U:H5' | 25:BW:57:ARG:HA | 1.34 | 1.07 |
| 1:A2:1053:G:O2' | 3:BA:35:PRO:CD | 1.95 | 1.07 |
| 1:A2:1055:U:H5' | 3:BA:46:HIS:CA | 1.83 | 1.07 |
| 1:A2:1367:G:O2' | 22:BT:66:TYR:CE1 | 1.96 | 1.07 |
| 1:A2:1435:G:C2 | 13:BK:27:PHE:CE2 | 2.40 | 1.07 |
| 1:A2:1502:G:H2' | 22:BT:37:VAL:HG23 | 1.14 | 1.07 |
| 1:A2:1535:U:C5' | 28:BZ:67:ASP:OD1 | 0.78 | 1.07 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1721:A:C5’ | 9:BG:64:LYS:HB2 | 1.83 | 1.07 |
| 1:A2:1722:A:O4’ | 9:BG:71:THR:O | 1.71 | 1.07 |
| 1:A2:139:C:C6 | 9:BG:137:ARG:C | 2.31 | 1.07 |
| 1:A2:139:C:O2’ | 9:BG:137:ARG:HA | 1.54 | 1.07 |
| 1:A2:149:C:C3’ | 27:BY:130:ALA:HB3 | 1.83 | 1.07 |
| 1:A2:215:A:C8 | 7:BE:138:TYR:N | 2.20 | 1.07 |
| 1:A2:686:C:H5” | 12:BJ:64:GLU:OE2 | 1.47 | 1.07 |
| 1:A2:740:A:C6 | 7:BE:198:LYS:CE | 2.36 | 1.07 |
| 1:A2:863:A:C6 | 25:BW:5:SER:OG | 2.07 | 1.07 |
| 1:A2:896:U:H5’ | 17:BO:32:ASP:N | 1.68 | 1.07 |
| 1:A2:1298:U:H3’ | 5:BC:99:LYS:HB3 | 1.17 | 1.07 |
| 1:A2:1392:U:H5” | 20:BR:29:GLN:N | 1.66 | 1.07 |
| 1:A2:1455:G:C8 | 18:BP:123:TYR:CE1 | 2.36 | 1.07 |
| 1:A2:1498:G:H5” | 22:BT:72:GLY:CA | 1.84 | 1.07 |
| 1:A2:1721:A:C5’ | 9:BG:64:LYS:HB3 | 1.82 | 1.07 |
| 1:A2:18:C:C3’ | 26:BX:115:GLY:H | 1.67 | 1.07 |
| 1:A2:47:A:O3’ | 1:A2:48:G:P | 2.12 | 1.07 |
| 1:A2:58:U:O4’ | 27:BY:114:ARG:HB3 | 1.54 | 1.07 |
| 1:A2:88:U:O5’ | 27:BY:119:PHE:HB3 | 1.53 | 1.07 |
| 1:A2:127:G:C5 | 9:BG:186:ARG:N | 2.17 | 1.07 |
| 1:A2:325:G:C1’ | 14:BL:133:LYS:HB2 | 1.79 | 1.07 |
| 1:A2:548:G:O5’ | 26:BX:137:LYS:HA | 1.41 | 1.07 |
| 1:A2:702:G:H1’ | 7:BE:174:LYS:HB2 | 1.31 | 1.07 |
| 1:A2:734:A:O3’ | 7:BE:244:ILE:HD13 | 1.54 | 1.07 |
| 1:A2:760:A:O2’ | 12:BJ:9:SER:C | 1.97 | 1.07 |
| 1:A2:783:G:H22 | 27:BY:35:VAL:HG21 | 0.94 | 1.07 |
| 1:A2:888:U:O2’ | 17:BO:126:THR:O | 1.73 | 1.07 |
| 1:A2:957:G:H5’ | 30:Bb:22:LYS:HE3 | 1.28 | 1.07 |
| 1:A2:1040:G:H5’ | 24:BV:62:ARG:HD2 | 1.31 | 1.07 |
| 1:A2:1053:G:O5’ | 3:BA:35:PRO:HB3 | 1.52 | 1.07 |
| 1:A2:1290:U:C3’ | 6:BD:151:LYS:HE3 | 1.85 | 1.07 |
| 1:A2:1326:A:N3 | 6:BD:159:HIS:CE1 | 2.22 | 1.07 |
| 1:A2:1402:G:H8 | 20:BR:5:ARG:CB | 1.66 | 1.07 |
| 1:A2:1498:G:C5’ | 22:BT:72:GLY:CA | 2.33 | 1.07 |
| 1:A2:1532:U:N1 | 28:BZ:77:ARG:CD | 2.11 | 1.07 |
| 1:A2:1534:G:C2’ | 28:BZ:63:SER:CA | 2.30 | 1.07 |
| 1:A2:1566:U:C1’ | 21:BS:38:VAL:O | 2.03 | 1.07 |
| 1:A2:346:G:C2 | 11:BI:11:ARG:CB | 2.31 | 1.07 |
| 1:A2:396:G:N7 | 9:BG:91:GLU:CB | 2.16 | 1.07 |
| 1:A2:396:G:H3’ | 9:BG:88:ARG:HB2 | 1.35 | 1.07 |
| 1:A2:397:A:H3’ | 1:A2:398:G:P | 1.93 | 1.07 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:468:A:H8 | 26:BX:140:LYS:HE3 | 1.08 | 1.07 |
| 1:A2:633:U:OP2 | 14:BL:99:ARG:CB | 2.03 | 1.07 |
| 1:A2:699:U:O2 | 7:BE:198:LYS:HG2 | 1.39 | 1.07 |
| 1:A2:735:C:C4 | 7:BE:194:THR:HA | 1.87 | 1.07 |
| 1:A2:759:U:O2 | 12:BJ:8:TYR:N | 1.63 | 1.07 |
| 1:A2:799:A:O2' | 7:BE:186:GLY:CA | 2.03 | 1.07 |
| 1:A2:865:A:O5' | 25:BW:8:ALA:HB3 | 1.53 | 1.07 |
| 1:A2:879:G:HO2' | 16:BN:111:ALA:CA | 1.66 | 1.07 |
| 1:A2:1056:U:C5 | 3:BA:40:ALA:HB2 | 1.89 | 1.07 |
| 1:A2:1084:A:H1' | 5:BC:161:LYS:HE3 | 1.09 | 1.07 |
| 1:A2:1237:G:N3 | 18:BP:66:ALA:CB | 2.18 | 1.07 |
| 1:A2:1318:G:OP2 | 20:BR:11:ARG:HG3 | 1.53 | 1.07 |
| 1:A2:1327:C:H2' | 6:BD:159:HIS:HB3 | 1.36 | 1.07 |
| 1:A2:78:A:C6 | 9:BG:160:ARG:HG2 | 1.88 | 1.07 |
| 1:A2:219:A:OP2 | 7:BE:153:ASN:OD1 | 1.71 | 1.07 |
| 1:A2:456:A:N6 | 27:BY:108:ARG:HG2 | 0.75 | 1.07 |
| 1:A2:950:C:C3' | 16:BN:94:LYS:HE2 | 1.66 | 1.07 |
| 1:A2:959:U:O2' | 25:BW:56:HIS:CA | 2.03 | 1.07 |
| 1:A2:1048:G:H2' | 30:Bb:18:LYS:CG | 1.84 | 1.07 |
| 1:A2:1103:U:O2 | 26:BX:5:LYS:HB3 | 1.54 | 1.07 |
| 1:A2:1230:A:O4' | 34:Bf:98:LYS:HE2 | 1.54 | 1.07 |
| 1:A2:1300:A:N3 | 5:BC:86:VAL:O | 1.87 | 1.07 |
| 1:A2:1402:G:H2' | 20:BR:3:ARG:O | 1.54 | 1.07 |
| 1:A2:1428:G:N2 | 23:BU:74:GLU:CD | 2.06 | 1.07 |
| 1:A2:1428:G:N2 | 23:BU:74:GLU:HB2 | 1.58 | 1.07 |
| 1:A2:1528:U:O2' | 19:BQ:42:GLU:HB2 | 1.53 | 1.07 |
| 1:A2:1721:A:O2' | 9:BG:98:ARG:HA | 1.51 | 1.07 |
| 1:A2:75:U:C5 | 9:BG:166:GLU:C | 2.32 | 1.06 |
| 1:A2:89:G:N7 | 27:BY:120:GLY:N | 1.95 | 1.06 |
| 1:A2:140:A:OP2 | 9:BG:175:ILE:HD11 | 1.55 | 1.06 |
| 1:A2:245:U:O4 | 7:BE:128:LYS:HD2 | 0.90 | 1.06 |
| 1:A2:324:U:H5' | 11:BI:11:ARG:O | 1.28 | 1.06 |
| 1:A2:435:C:OP1 | 26:BX:77:ILE:HD11 | 1.52 | 1.06 |
| 1:A2:436:A:C4 | 26:BX:50:LYS:HD2 | 1.90 | 1.06 |
| 1:A2:787:G:N2 | 27:BY:61:ARG:HD2 | 1.63 | 1.06 |
| 1:A2:920:U:C3' | 4:BB:214:LYS:CD | 2.33 | 1.06 |
| 1:A2:1243:G:O2' | 18:BP:53:PRO:HB2 | 1.54 | 1.06 |
| 1:A2:138:A:C4 | 9:BG:140:ASN:CA | 2.38 | 1.06 |
| 1:A2:597:G:C5' | 26:BX:137:LYS:CE | 2.30 | 1.06 |
| 1:A2:631:G:O5' | 26:BX:13:ARG:HA | 1.55 | 1.06 |
| 1:A2:632:U:C1' | 26:BX:15:LEU:CB | 2.32 | 1.06 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:878:G:H2' | 16:BN:114:ARG:NH1 | 1.71 | 1.06 |
| 1:A2:889:U:P | 17:BO:89:THR:N | 2.27 | 1.06 |
| 1:A2:1176:G:OP1 | 21:BS:137:HIS:CE1 | 2.08 | 1.06 |
| 1:A2:1184:A:N1 | 18:BP:123:TYR:CE2 | 2.24 | 1.06 |
| 1:A2:1260:U:H5" | 34:Bf:92:LYS:C | 1.81 | 1.06 |
| 1:A2:1299:G:N9 | 5:BC:86:VAL:CG1 | 2.18 | 1.06 |
| 1:A2:1383:G:OP2 | 23:BU:60:THR:N | 1.87 | 1.06 |
| 1:A2:1500:C:OP2 | 22:BT:103:LYS:N | 1.64 | 1.06 |
| 1:A2:1534:G:C2' | 28:BZ:62:VAL:O | 1.81 | 1.06 |
| 1:A2:1558:U:O4 | 21:BS:122:HIS:CA | 2.01 | 1.06 |
| 1:A2:1566:U:H5' | 21:BS:30:TYR:O | 1.55 | 1.06 |
| 1:A2:1680:G:H1' | 9:BG:68:LEU:HA | 1.34 | 1.06 |
| 2:AZ:6106:A:O3' | 2:AZ:6107:U:P | 2.14 | 1.06 |
| 1:A2:138:A:C4 | 9:BG:140:ASN:CB | 2.37 | 1.06 |
| 1:A2:242:U:OP2 | 7:BE:148:ARG:O | 1.71 | 1.06 |
| 1:A2:244:A:N7 | 7:BE:140:VAL:HG21 | 1.39 | 1.06 |
| 1:A2:325:G:O4' | 14:BL:133:LYS:CG | 2.02 | 1.06 |
| 1:A2:325:G:C1' | 14:BL:133:LYS:CG | 2.34 | 1.06 |
| 1:A2:444:C:O2 | 27:BY:104:SER:CB | 2.03 | 1.06 |
| 1:A2:568:G:C1' | 33:Be:13:LYS:CD | 2.22 | 1.06 |
| 1:A2:632:U:C2' | 14:BL:99:ARG:HD2 | 1.86 | 1.06 |
| 1:A2:632:U:O4' | 26:BX:15:LEU:CB | 2.01 | 1.06 |
| 1:A2:634:G:H5" | 25:BW:79:PHE:H | 1.11 | 1.06 |
| 1:A2:736:C:H5' | 7:BE:226:PHE:CB | 1.72 | 1.06 |
| 1:A2:741:C:H5" | 7:BE:200:ARG:HD2 | 1.38 | 1.06 |
| 1:A2:776:G:C3' | 27:BY:29:HIS:HE1 | 1.65 | 1.06 |
| 1:A2:952:A:C4' | 16:BN:5:HIS:CG | 2.36 | 1.06 |
| 1:A2:1084:A:H2' | 5:BC:163:GLY:C | 1.79 | 1.06 |
| 1:A2:1252:C:N1 | 34:Bf:136:LYS:HG2 | 1.70 | 1.06 |
| 1:A2:1254:U:C2 | 34:Bf:135:HIS:CD2 | 2.42 | 1.06 |
| 1:A2:1454:G:H2' | 18:BP:123:TYR:CE1 | 1.91 | 1.06 |
| 1:A2:1536:G:C2 | 8:BF:187:ILE:HG13 | 1.85 | 1.06 |
| 1:A2:1548:G:O2' | 21:BS:86:LEU:CD1 | 2.03 | 1.06 |
| 1:A2:1720:G:H4' | 9:BG:64:LYS:HA | 1.35 | 1.06 |
| 1:A2:1796:C:O2 | 29:Ba:89:ARG:HD3 | 1.56 | 1.06 |
| 18:BP:105:VAL:C | 18:BP:106:GLU:N | 2.14 | 1.06 |
| 1:A2:86:A:H5" | 27:BY:125:LEU:HD12 | 1.36 | 1.06 |
| 1:A2:138:A:C8 | 9:BG:140:ASN:HB3 | 1.90 | 1.06 |
| 1:A2:601:A:OP1 | 26:BX:122:PHE:CD1 | 2.08 | 1.06 |
| 1:A2:734:A:O3' | 7:BE:244:ILE:CD1 | 2.03 | 1.06 |
| 1:A2:953:G:N7 | 16:BN:3:ARG:HD2 | 1.69 | 1.06 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1261:G:C8 | 34:Bf:93:ALA:HB2 | 1.91 | 1.06 |
| 1:A2:1281:G:H8 | 23:BU:70:THR:HG21 | 1.14 | 1.06 |
| 1:A2:1302:U:P | 5:BC:95:ARG:HD2 | 1.95 | 1.06 |
| 1:A2:1343:U:O2' | 23:BU:56:VAL:CG2 | 2.04 | 1.06 |
| 1:A2:1454:G:H1' | 18:BP:121:ILE:HA | 1.36 | 1.06 |
| 1:A2:1523:G:C8 | 22:BT:79:LEU:HD21 | 1.88 | 1.06 |
| 1:A2:1684:U:P | 9:BG:112:VAL:C | 2.36 | 1.06 |
| 2:AZ:6220:U:C2 | 6:BD:143:ARG:CD | 1.76 | 1.06 |
| 1:A2:89:G:H22 | 27:BY:115:ASP:HB2 | 0.97 | 1.06 |
| 1:A2:138:A:C4 | 9:BG:140:ASN:HB3 | 1.90 | 1.06 |
| 1:A2:239:C:H5' | 9:BG:210:GLN:HG3 | 1.33 | 1.06 |
| 1:A2:311:U:C4' | 26:BX:34:LEU:HA | 1.84 | 1.06 |
| 1:A2:805:U:O2' | 25:BW:81:VAL:HA | 1.55 | 1.06 |
| 1:A2:865:A:H5' | 25:BW:6:VAL:C | 1.77 | 1.06 |
| 1:A2:894:U:H3' | 4:BB:65:VAL:HG22 | 1.36 | 1.06 |
| 1:A2:1009:U:P | 17:BO:129:LYS:HD3 | 1.95 | 1.06 |
| 1:A2:1145:U:C5' | 5:BC:88:LYS:CE | 2.32 | 1.06 |
| 1:A2:1176:G:P | 21:BS:137:HIS:CE1 | 2.49 | 1.06 |
| 1:A2:1298:U:O2 | 5:BC:208:GLU:CG | 2.03 | 1.06 |
| 1:A2:1326:A:C4 | 6:BD:159:HIS:CE1 | 2.43 | 1.06 |
| 1:A2:1400:A:H5' | 20:BR:53:TYR:OH | 0.90 | 1.06 |
| 1:A2:1435:G:C2 | 13:BK:27:PHE:HE2 | 1.71 | 1.06 |
| 1:A2:1546:G:C1' | 21:BS:36:LYS:HB3 | 1.86 | 1.06 |
| 7:BE:60:GLU:C | 7:BE:61:VAL:N | 2.12 | 1.06 |
| 21:BS:42:TYR:HH | 21:BS:73:MET:N | 1.50 | 1.06 |
| 1:A2:139:C:H2' | 9:BG:138:ALA:N | 1.53 | 1.05 |
| 1:A2:179:A:N3 | 9:BG:184:LEU:O | 1.87 | 1.05 |
| 1:A2:266:A:C4' | 9:BG:136:LYS:CE | 2.23 | 1.05 |
| 1:A2:338:C:C4 | 11:BI:29:LEU:CA | 2.34 | 1.05 |
| 1:A2:787:G:N1 | 27:BY:61:ARG:HD2 | 1.69 | 1.05 |
| 1:A2:953:G:N2 | 16:BN:9:LYS:N | 1.81 | 1.05 |
| 1:A2:960:U:C6 | 25:BW:57:ARG:HD2 | 1.91 | 1.05 |
| 1:A2:1050:G:H2' | 30:Bb:13:ALA:CB | 1.86 | 1.05 |
| 1:A2:1298:U:C1' | 5:BC:99:LYS:CD | 2.27 | 1.05 |
| 1:A2:1389:C:C3' | 20:BR:45:ARG:CG | 2.35 | 1.05 |
| 1:A2:1401:A:H5' | 20:BR:10:LYS:N | 1.71 | 1.05 |
| 1:A2:1402:G:H8 | 20:BR:5:ARG:HB2 | 0.93 | 1.05 |
| 1:A2:1555:A:H5" | 18:BP:40:ARG:CG | 1.65 | 1.05 |
| 1:A2:1558:U:O4 | 21:BS:122:HIS:HA | 1.56 | 1.05 |
| 1:A2:1564:U:C3' | 21:BS:41:ARG:NH1 | 2.08 | 1.05 |
| 1:A2:1722:A:OP2 | 9:BG:73:ILE:CG1 | 2.01 | 1.05 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AZ:6221:U:C3’ | 6:BD:114:ALA:HB2 | 1.77 | 1.05 |
| 1:A2:115:G:N2 | 11:BI:27:PHE:CE2 | 2.23 | 1.05 |
| 1:A2:138:A:N9 | 9:BG:140:ASN:HB3 | 1.70 | 1.05 |
| 1:A2:167:U:OP2 | 9:BG:13:GLN:N | 1.88 | 1.05 |
| 1:A2:328:A:C5’ | 11:BI:172:ARG:HH12 | 1.69 | 1.05 |
| 1:A2:638:U:OP1 | 25:BW:108:ALA:HB3 | 0.89 | 1.05 |
| 1:A2:776:G:H21 | 27:BY:27:VAL:CB | 1.69 | 1.05 |
| 1:A2:863:A:O3’ | 25:BW:34:ILE:CG1 | 1.97 | 1.05 |
| 1:A2:1037:C:O4’ | 25:BW:71:LYS:CD | 2.03 | 1.05 |
| 1:A2:1344:A:H5’ | 23:BU:53:LYS:HD2 | 1.10 | 1.05 |
| 1:A2:1505:A:O5’ | 22:BT:38:LYS:HG3 | 1.55 | 1.05 |
| 1:A2:1534:G:C6 | 28:BZ:61:SER:HB2 | 1.90 | 1.05 |
| 1:A2:1584:G:OP1 | 19:BQ:123:ARG:CA | 2.02 | 1.05 |
| 1:A2:1:U:H2’ | 12:BJ:43:TYR:CD2 | 1.92 | 1.05 |
| 1:A2:150:U:N3 | 27:BY:131:ARG:NH1 | 1.96 | 1.05 |
| 1:A2:165:G:N2 | 27:BY:131:ARG:NH2 | 1.79 | 1.05 |
| 1:A2:241:U:C6 | 9:BG:205:ALA:HA | 1.89 | 1.05 |
| 1:A2:310:C:H3’ | 26:BX:33:LEU:CD2 | 1.85 | 1.05 |
| 1:A2:334:G:OP1 | 11:BI:47:ARG:HD3 | 1.56 | 1.05 |
| 1:A2:397:A:H2’ | 9:BG:88:ARG:CZ | 1.86 | 1.05 |
| 1:A2:630:A:H62 | 26:BX:14:LYS:HD2 | 0.89 | 1.05 |
| 1:A2:631:G:HO2’ | 26:BX:16:ARG:HB3 | 1.18 | 1.05 |
| 1:A2:636:A:H2’ | 25:BW:105:THR:CG2 | 1.86 | 1.05 |
| 1:A2:758:U:O4 | 12:BJ:6:ARG:O | 1.75 | 1.05 |
| 1:A2:776:G:O4’ | 27:BY:62:THR:HA | 1.53 | 1.05 |
| 1:A2:791:A:N6 | 12:BJ:7:THR:H | 1.52 | 1.05 |
| 1:A2:901:G:OP1 | 17:BO:86:THR:N | 1.90 | 1.05 |
| 1:A2:917:U:H5” | 17:BO:120:PRO:CD | 1.86 | 1.05 |
| 1:A2:935:U:O3’ | 1:A2:936:G:P | 2.15 | 1.05 |
| 1:A2:1033:C:H2’ | 26:BX:2:GLY:C | 1.81 | 1.05 |
| 1:A2:1049:U:H5” | 30:Bb:23:THR:CG2 | 1.85 | 1.05 |
| 1:A2:1299:G:C5’ | 5:BC:98:PHE:O | 2.04 | 1.05 |
| 1:A2:1302:U:OP2 | 5:BC:95:ARG:HD3 | 1.50 | 1.05 |
| 1:A2:1316:G:O3’ | 20:BR:7:LYS:HB2 | 1.53 | 1.05 |
| 1:A2:1344:A:C5’ | 23:BU:53:LYS:CD | 2.33 | 1.05 |
| 1:A2:1377:U:O3’ | 1:A2:1378:U:P | 2.14 | 1.05 |
| 7:BE:61:VAL:N | 7:BE:62:LYS:N | 2.05 | 1.05 |
| 7:BE:106:LYS:C | 7:BE:107:GLY:N | 2.14 | 1.05 |
| 1:A2:266:A:C5’ | 9:BG:136:LYS:CE | 2.34 | 1.05 |
| 1:A2:300:A:H61 | 7:BE:5:PRO:CD | 1.69 | 1.05 |
| 1:A2:597:G:C4’ | 26:BX:137:LYS:HG3 | 1.85 | 1.05 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:698:U:H3' | 7:BE:197:HIS:HE1 | 0.91 | 1.05 |
| 1:A2:756:A:C5' | 7:BE:23:LEU:CD1 | 2.33 | 1.05 |
| 1:A2:1054:U:O2' | 3:BA:30:GLN:CB | 2.04 | 1.05 |
| 1:A2:1175:U:O4 | 21:BS:140:THR:HG21 | 1.55 | 1.05 |
| 1:A2:1183:A:N6 | 18:BP:121:ILE:HD12 | 1.72 | 1.05 |
| 1:A2:1184:A:C5 | 18:BP:123:TYR:HD2 | 1.73 | 1.05 |
| 1:A2:1252:C:O4' | 34:Bf:136:LYS:CG | 1.90 | 1.05 |
| 1:A2:1357:A:H1' | 22:BT:126:GLU:O | 1.50 | 1.05 |
| 1:A2:1453:G:H2' | 18:BP:120:SER:O | 1.57 | 1.05 |
| 1:A2:1673:G:C2' | 9:BG:94:ARG:HE | 1.70 | 1.05 |
| 2:AZ:6106:A:C2 | 8:BF:225:ARG:O | 2.09 | 1.05 |
| 2:AZ:6108:U:H5' | 8:BF:222:LYS:HB3 | 1.06 | 1.05 |
| 1:A2:137:U:C5' | 9:BG:143:LYS:HE2 | 1.85 | 1.05 |
| 1:A2:235:G:H2' | 1:A2:236:A:O4' | 1.57 | 1.05 |
| 1:A2:266:A:H5' | 9:BG:136:LYS:HD3 | 1.10 | 1.05 |
| 1:A2:419:G:O3' | 1:A2:420:A:P | 2.14 | 1.05 |
| 1:A2:449:C:C6 | 27:BY:105:ARG:NH1 | 2.15 | 1.05 |
| 1:A2:457:G:N2 | 27:BY:106:GLN:O | 1.89 | 1.05 |
| 1:A2:572:C:OP1 | 26:BX:116:ASP:OD1 | 1.73 | 1.05 |
| 1:A2:601:A:OP1 | 26:BX:122:PHE:CE1 | 2.10 | 1.05 |
| 1:A2:639:U:OP2 | 25:BW:108:ALA:HB1 | 1.57 | 1.05 |
| 1:A2:776:G:O2' | 27:BY:29:HIS:CE1 | 2.08 | 1.05 |
| 1:A2:784:C:H4' | 27:BY:7:ILE:HG21 | 1.33 | 1.05 |
| 1:A2:787:G:OP2 | 27:BY:24:VAL:HG11 | 1.55 | 1.05 |
| 1:A2:889:U:OP1 | 17:BO:89:THR:HG23 | 1.54 | 1.05 |
| 1:A2:919:A:O2' | 4:BB:85:LYS:NZ | 1.90 | 1.05 |
| 1:A2:959:U:C5' | 25:BW:59:GLY:HA2 | 1.86 | 1.05 |
| 1:A2:1068:C:O4' | 3:BA:33:GLN:HB3 | 1.56 | 1.05 |
| 1:A2:1085:G:C4 | 5:BC:163:GLY:HA3 | 1.90 | 1.05 |
| 1:A2:1144:U:N3 | 5:BC:89:GLN:OE1 | 1.88 | 1.05 |
| 1:A2:1146:G:N3 | 5:BC:93:GLY:N | 2.03 | 1.05 |
| 1:A2:1281:G:H4' | 23:BU:68:ARG:NH2 | 1.68 | 1.05 |
| 1:A2:1300:A:O5' | 5:BC:85:PRO:HA | 1.19 | 1.05 |
| 1:A2:1301:U:O4 | 5:BC:118:ALA:C | 1.98 | 1.05 |
| 1:A2:1344:A:H4' | 23:BU:53:LYS:HG3 | 1.35 | 1.05 |
| 1:A2:1417:A:H4' | 19:BQ:128:LYS:NZ | 1.71 | 1.05 |
| 1:A2:1451:C:O3' | 18:BP:80:MET:HE2 | 1.57 | 1.05 |
| 1:A2:1584:G:OP1 | 19:BQ:123:ARG:C | 2.00 | 1.05 |
| 1:A2:1722:A:O5' | 9:BG:73:ILE:CG1 | 2.03 | 1.05 |
| 1:A2:140:A:N3 | 9:BG:157:VAL:HB | 1.42 | 1.04 |
| 1:A2:241:U:N3 | 7:BE:136:VAL:HG13 | 1.71 | 1.04 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:338:C:N3 | 11:BI:29:LEU:HA | 1.72 | 1.04 |
| 1:A2:633:U:H6 | 14:BL:99:ARG:CD | 1.58 | 1.04 |
| 1:A2:741:C:H5 | 7:BE:206:ASP:OD1 | 1.38 | 1.04 |
| 1:A2:755:A:C5 | 12:BJ:2:PRO:HB3 | 1.85 | 1.04 |
| 1:A2:756:A:P | 7:BE:23:LEU:HA | 1.97 | 1.04 |
| 1:A2:884:A:H4' | 4:BB:165:ARG:NH2 | 1.72 | 1.04 |
| 1:A2:917:U:H5" | 17:BO:120:PRO:HD2 | 1.07 | 1.04 |
| 1:A2:952:A:H5' | 16:BN:121:ARG:NE | 1.49 | 1.04 |
| 1:A2:1048:G:C1' | 30:Bb:22:LYS:CD | 1.85 | 1.04 |
| 1:A2:1239:U:C6 | 18:BP:74:ALA:N | 2.24 | 1.04 |
| 1:A2:1243:G:C6 | 18:BP:88:GLU:OE2 | 2.09 | 1.04 |
| 1:A2:1326:A:N7 | 6:BD:157:LEU:O | 1.88 | 1.04 |
| 1:A2:1418:G:C4 | 32:Bd:56:ARG:NH1 | 2.25 | 1.04 |
| 1:A2:1521:G:N7 | 22:BT:68:ARG:HD3 | 1.72 | 1.04 |
| 1:A2:1528:U:H5" | 19:BQ:43:ILE:CD1 | 1.86 | 1.04 |
| 1:A2:1536:G:C2 | 8:BF:187:ILE:HG12 | 1.91 | 1.04 |
| 1:A2:1548:G:OP2 | 21:BS:88:ARG:NE | 1.89 | 1.04 |
| 1:A2:1566:U:H1' | 21:BS:38:VAL:O | 1.55 | 1.04 |
| 1:A2:1584:G:H3' | 19:BQ:124:PRO:HA | 1.40 | 1.04 |
| 1:A2:14:C:H4' | 5:BC:203:LYS:HZ3 | 0.95 | 1.04 |
| 1:A2:57:G:C6 | 27:BY:116:LYS:N | 2.24 | 1.04 |
| 1:A2:110:U:H3' | 1:A2:111:U:P | 1.96 | 1.04 |
| 1:A2:163:G:P | 9:BG:108:VAL:HG23 | 1.96 | 1.04 |
| 1:A2:324:U:C4' | 11:BI:11:ARG:O | 2.04 | 1.04 |
| 1:A2:346:G:N2 | 11:BI:11:ARG:CA | 2.20 | 1.04 |
| 1:A2:347:G:N7 | 11:BI:13:ALA:C | 2.04 | 1.04 |
| 1:A2:395:U:H5" | 9:BG:86:PRO:HA | 1.37 | 1.04 |
| 1:A2:449:C:H6 | 27:BY:105:ARG:NH1 | 1.49 | 1.04 |
| 1:A2:598:U:O2 | 26:BX:132:LEU:CB | 2.05 | 1.04 |
| 1:A2:738:G:O5' | 7:BE:157:ASN:CG | 2.00 | 1.04 |
| 1:A2:752:A:H4' | 7:BE:16:HIS:O | 1.30 | 1.04 |
| 1:A2:931:C:C4' | 4:BB:117:TRP:HZ3 | 1.68 | 1.04 |
| 1:A2:957:G:C5' | 30:Bb:22:LYS:CE | 2.34 | 1.04 |
| 1:A2:1146:G:N3 | 5:BC:93:GLY:HA2 | 1.68 | 1.04 |
| 1:A2:1254:U:N3 | 34:Bf:135:HIS:CD2 | 2.09 | 1.04 |
| 1:A2:1558:U:O3' | 21:BS:134:ARG:N | 1.82 | 1.04 |
| 1:A2:180:A:N1 | 9:BG:191:ARG:HB2 | 1.72 | 1.04 |
| 1:A2:180:A:O5' | 9:BG:187:LYS:HE3 | 1.54 | 1.04 |
| 1:A2:215:A:O4' | 7:BE:136:VAL:O | 1.76 | 1.04 |
| 1:A2:242:U:O5' | 7:BE:148:ARG:O | 1.74 | 1.04 |
| 1:A2:328:A:O3' | 11:BI:172:ARG:NH2 | 1.91 | 1.04 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:735:C:H2' | 7:BE:193:GLY:N | 1.73 | 1.04 |
| 1:A2:778:G:P | 27:BY:32:ARG:CG | 2.34 | 1.04 |
| 1:A2:862:A:C5' | 25:BW:32:LYS:N | 2.20 | 1.04 |
| 1:A2:863:A:C5' | 25:BW:6:VAL:HB | 1.88 | 1.04 |
| 1:A2:934:C:OP2 | 29:Ba:95:ARG:NH1 | 1.89 | 1.04 |
| 1:A2:954:G:O5' | 16:BN:2:GLY:HA3 | 1.54 | 1.04 |
| 1:A2:967:A:H1' | 26:BX:7:ARG:HB2 | 1.04 | 1.04 |
| 1:A2:1260:U:C5 | 34:Bf:94:ALA:C | 2.35 | 1.04 |
| 1:A2:1457:C:C2 | 21:BS:136:GLN:HG2 | 1.91 | 1.04 |
| 1:A2:1479:A:H5' | 22:BT:16:ASN:ND2 | 1.72 | 1.04 |
| 1:A2:1528:U:HO2' | 19:BQ:42:GLU:HB2 | 1.21 | 1.04 |
| 1:A2:1535:U:C5 | 8:BF:186:ASN:CB | 2.34 | 1.04 |
| 2:AZ:6219:U:O2' | 6:BD:144:ALA:HB2 | 1.56 | 1.04 |
| 1:A2:32:U:C4 | 26:BX:140:LYS:HA | 1.91 | 1.04 |
| 1:A2:140:A:OP1 | 9:BG:153:VAL:C | 2.01 | 1.04 |
| 1:A2:165:G:H4' | 9:BG:14:LYS:HE3 | 1.39 | 1.04 |
| 1:A2:243:G:O6 | 7:BE:138:TYR:CE2 | 2.11 | 1.04 |
| 1:A2:388:G:O3' | 1:A2:389:G:P | 2.16 | 1.04 |
| 1:A2:456:A:C6 | 27:BY:108:ARG:HG2 | 1.92 | 1.04 |
| 1:A2:736:C:H5 | 7:BE:225:VAL:CG1 | 1.70 | 1.04 |
| 1:A2:776:G:N9 | 27:BY:34:ASN:HB2 | 1.73 | 1.04 |
| 1:A2:859:A:C6 | 10:BH:111:LYS:HG2 | 1.90 | 1.04 |
| 1:A2:1388:A:O3' | 1:A2:1389:C:P | 2.16 | 1.04 |
| 1:A2:1389:C:C4' | 20:BR:45:ARG:CA | 1.85 | 1.04 |
| 1:A2:1530:C:N4 | 28:BZ:96:SER:HB2 | 1.70 | 1.04 |
| 1:A2:28:A:N1 | 26:BX:131:SER:HA | 1.70 | 1.04 |
| 1:A2:56:U:O3' | 1:A2:57:G:P | 2.15 | 1.04 |
| 1:A2:322:G:N3 | 11:BI:9:HIS:NE2 | 2.06 | 1.04 |
| 1:A2:396:G:C5 | 9:BG:91:GLU:HB2 | 1.91 | 1.04 |
| 1:A2:513:U:H2' | 1:A2:514:G:C8 | 1.92 | 1.04 |
| 1:A2:570:A:C2 | 26:BX:67:ALA:HB2 | 1.89 | 1.04 |
| 1:A2:633:U:C5 | 14:BL:99:ARG:HB3 | 1.93 | 1.04 |
| 1:A2:637:C:P | 25:BW:109:GLY:O | 2.14 | 1.04 |
| 1:A2:640:U:H1' | 25:BW:119:LYS:HE2 | 1.08 | 1.04 |
| 1:A2:741:C:N4 | 7:BE:206:ASP:HB3 | 1.67 | 1.04 |
| 1:A2:756:A:OP2 | 12:BJ:4:ALA:HB3 | 1.58 | 1.04 |
| 1:A2:784:C:C5' | 27:BY:44:LEU:HD21 | 1.84 | 1.04 |
| 1:A2:784:C:OP1 | 27:BY:44:LEU:N | 1.91 | 1.04 |
| 1:A2:806:A:C5 | 25:BW:82:LYS:HD3 | 1.91 | 1.04 |
| 1:A2:866:G:C8 | 25:BW:4:SER:O | 1.99 | 1.04 |
| 1:A2:895:G:H2' | 17:BO:18:ARG:HH12 | 0.88 | 1.04 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:956:C:O2' | 30:Bb:22:LYS:CE | 2.06 | 1.04 |
| 1:A2:1241:G:P | 18:BP:105:VAL:N | 2.30 | 1.04 |
| 1:A2:1261:G:C8 | 34:Bf:93:ALA:CB | 2.40 | 1.04 |
| 1:A2:1358:G:C5' | 22:BT:130:ARG:HG2 | 1.87 | 1.04 |
| 1:A2:1459:C:P | 21:BS:131:LEU:HD23 | 1.95 | 1.04 |
| 1:A2:1564:U:C2' | 21:BS:41:ARG:CB | 2.10 | 1.04 |
| 1:A2:1673:G:O3' | 9:BG:94:ARG:NE | 1.91 | 1.04 |
| 1:A2:57:G:C3' | 27:BY:114:ARG:CZ | 2.34 | 1.03 |
| 1:A2:298:C:H5 | 7:BE:7:LYS:HD2 | 1.18 | 1.03 |
| 1:A2:382:C:O4' | 12:BJ:2:PRO:HD3 | 1.55 | 1.03 |
| 1:A2:451:A:O2' | 27:BY:112:LYS:HA | 1.56 | 1.03 |
| 1:A2:451:A:N3 | 27:BY:111:LYS:HB3 | 1.73 | 1.03 |
| 1:A2:597:G:N1 | 26:BX:132:LEU:N | 1.76 | 1.03 |
| 1:A2:738:G:H5' | 7:BE:126:VAL:C | 1.81 | 1.03 |
| 1:A2:741:C:C5' | 7:BE:201:HIS:C | 2.31 | 1.03 |
| 1:A2:754:A:P | 7:BE:14:ALA:HB3 | 1.98 | 1.03 |
| 1:A2:775:G:C6 | 27:BY:60:PHE:C | 2.31 | 1.03 |
| 1:A2:803:A:H5" | 25:BW:120:HIS:ND1 | 1.73 | 1.03 |
| 1:A2:858:G:C4 | 10:BH:107:ARG:C | 2.36 | 1.03 |
| 1:A2:863:A:O3' | 25:BW:34:ILE:HG12 | 1.56 | 1.03 |
| 1:A2:1298:U:O4' | 5:BC:208:GLU:CG | 2.06 | 1.03 |
| 1:A2:1564:U:O3' | 21:BS:85:PHE:CE2 | 2.06 | 1.03 |
| 1:A2:1683:C:C4 | 9:BG:32:ILE:O | 2.11 | 1.03 |
| 1:A2:90:C:N4 | 27:BY:115:ASP:O | 1.90 | 1.03 |
| 1:A2:137:U:C2' | 9:BG:143:LYS:CE | 2.21 | 1.03 |
| 1:A2:571:G:O2' | 26:BX:114:LYS:CE | 2.05 | 1.03 |
| 1:A2:631:G:C3' | 26:BX:13:ARG:HA | 1.87 | 1.03 |
| 1:A2:633:U:C6 | 14:BL:99:ARG:HD3 | 1.62 | 1.03 |
| 1:A2:638:U:P | 25:BW:108:ALA:HB3 | 1.98 | 1.03 |
| 1:A2:791:A:N1 | 12:BJ:7:THR:OG1 | 1.88 | 1.03 |
| 1:A2:863:A:H5' | 25:BW:6:VAL:CG2 | 1.87 | 1.03 |
| 1:A2:917:U:C6 | 17:BO:84:ARG:NH1 | 2.26 | 1.03 |
| 1:A2:921:U:H5" | 4:BB:138:PHE:CE2 | 1.94 | 1.03 |
| 1:A2:1037:C:P | 25:BW:15:ASN:HB2 | 1.99 | 1.03 |
| 1:A2:1382:A:H2 | 23:BU:56:VAL:HG13 | 1.23 | 1.03 |
| 1:A2:1399:C:C3' | 20:BR:66:VAL:CG2 | 2.37 | 1.03 |
| 1:A2:1428:G:N1 | 23:BU:74:GLU:CG | 1.87 | 1.03 |
| 1:A2:1550:A:O5' | 21:BS:84:TRP:CG | 2.10 | 1.03 |
| 1:A2:30:G:OP1 | 26:BX:143:PRO:CD | 2.06 | 1.03 |
| 1:A2:56:U:C2 | 27:BY:113:ASN:HB2 | 1.94 | 1.03 |
| 1:A2:78:A:C5 | 9:BG:162:VAL:HB | 1.91 | 1.03 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:138:A:N3 | 9:BG:140:ASN:CA | 2.22 | 1.03 |
| 1:A2:338:C:C2' | 11:BI:4:SER:HB2 | 1.88 | 1.03 |
| 1:A2:568:G:C2' | 33:Be:13:LYS:HB3 | 1.73 | 1.03 |
| 1:A2:592:A:N6 | 33:Be:23:LYS:HZ3 | 1.50 | 1.03 |
| 1:A2:631:G:O5' | 26:BX:13:ARG:CB | 2.04 | 1.03 |
| 1:A2:633:U:H5" | 14:BL:98:ASN:O | 1.56 | 1.03 |
| 1:A2:754:A:OP1 | 7:BE:12:LEU:N | 1.90 | 1.03 |
| 1:A2:783:G:C2 | 27:BY:35:VAL:CG2 | 2.39 | 1.03 |
| 1:A2:864:U:C5' | 25:BW:6:VAL:O | 2.07 | 1.03 |
| 1:A2:988:A:H2' | 17:BO:125:SER:O | 1.57 | 1.03 |
| 1:A2:1213:G:O3' | 18:BP:77:ARG:HD2 | 1.43 | 1.03 |
| 1:A2:1280:C:C1' | 23:BU:72:ASN:N | 2.20 | 1.03 |
| 1:A2:1416:G:O2' | 19:BQ:126:PRO:HD2 | 1.53 | 1.03 |
| 1:A2:1455:G:OP1 | 21:BS:126:ARG:HD3 | 1.56 | 1.03 |
| 1:A2:58:U:H5' | 27:BY:114:ARG:CZ | 1.88 | 1.03 |
| 1:A2:78:A:C2 | 9:BG:162:VAL:HG21 | 1.92 | 1.03 |
| 1:A2:140:A:OP2 | 9:BG:153:VAL:O | 1.75 | 1.03 |
| 1:A2:303:U:OP1 | 11:BI:22:ARG:NH1 | 1.90 | 1.03 |
| 1:A2:338:C:C1' | 11:BI:24:LYS:HD3 | 1.87 | 1.03 |
| 1:A2:395:U:C1' | 9:BG:91:GLU:OE2 | 2.05 | 1.03 |
| 1:A2:1084:A:O2' | 5:BC:164:SER:C | 2.00 | 1.03 |
| 1:A2:1103:U:C1' | 26:BX:5:LYS:HB2 | 1.88 | 1.03 |
| 1:A2:1301:U:C2 | 5:BC:117:THR:OG1 | 2.12 | 1.03 |
| 1:A2:1357:A:C2' | 22:BT:126:GLU:O | 2.07 | 1.03 |
| 1:A2:1564:U:H2' | 21:BS:41:ARG:CA | 1.88 | 1.03 |
| 1:A2:1796:C:C5' | 29:Ba:92:ARG:NE | 2.18 | 1.03 |
| 25:BW:65:LEU:C | 25:BW:66:ASN:N | 2.17 | 1.03 |
| 1:A2:80:A:H61 | 9:BG:168:THR:HA | 0.92 | 1.03 |
| 1:A2:181:A:N3 | 9:BG:191:ARG:HG3 | 1.12 | 1.03 |
| 1:A2:213:A:O3' | 7:BE:135:GLY:N | 1.92 | 1.03 |
| 1:A2:736:C:C2 | 7:BE:227:VAL:CG1 | 2.40 | 1.03 |
| 1:A2:887:A:N7 | 17:BO:123:SER:HB3 | 1.72 | 1.03 |
| 1:A2:943:C:C6 | 29:Ba:16:GLY:HA3 | 1.93 | 1.03 |
| 1:A2:1096:C:C2' | 5:BC:166:THR:O | 2.07 | 1.03 |
| 1:A2:1212:G:O6 | 18:BP:97:TYR:CE2 | 1.73 | 1.03 |
| 1:A2:1328:G:N7 | 6:BD:159:HIS:HB2 | 1.73 | 1.03 |
| 1:A2:1549:C:O2' | 21:BS:84:TRP:CG | 1.96 | 1.03 |
| 1:A2:1601:G:N7 | 22:BT:89:ARG:CG | 2.18 | 1.03 |
| 1:A2:18:C:O2' | 26:BX:115:GLY:N | 1.92 | 1.02 |
| 1:A2:139:C:H3' | 9:BG:138:ALA:N | 1.69 | 1.02 |
| 1:A2:335:U:O4 | 11:BI:25:ARG:HD3 | 1.58 | 1.02 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:351:C:C5 | 14:BL:101:GLU:OE2 | 2.11 | 1.02 |
| 1:A2:397:A:C2' | 9:BG:88:ARG:NH2 | 2.22 | 1.02 |
| 1:A2:457:G:H1' | 27:BY:114:ARG:NH2 | 1.74 | 1.02 |
| 1:A2:597:G:C3' | 26:BX:136:TRP:CE3 | 2.41 | 1.02 |
| 1:A2:1048:G:H2' | 30:Bb:18:LYS:HG2 | 1.03 | 1.02 |
| 1:A2:1103:U:H5' | 26:BX:15:LEU:HD13 | 1.41 | 1.02 |
| 1:A2:1254:U:N3 | 34:Bf:135:HIS:HD2 | 1.34 | 1.02 |
| 1:A2:1417:A:N1 | 32:Bd:56:ARG:NH1 | 2.03 | 1.02 |
| 1:A2:1498:G:C6 | 22:BT:102:ARG:HD3 | 1.94 | 1.02 |
| 1:A2:1722:A:H4' | 9:BG:72:ARG:HA | 1.06 | 1.02 |
| 1:A2:138:A:C1' | 9:BG:144:PHE:HB2 | 1.89 | 1.02 |
| 1:A2:301:A:H5' | 7:BE:3:ARG:NH2 | 1.08 | 1.02 |
| 1:A2:396:G:C4 | 9:BG:88:ARG:HD3 | 1.91 | 1.02 |
| 1:A2:572:C:P | 26:BX:116:ASP:OD1 | 2.17 | 1.02 |
| 1:A2:634:G:H5" | 25:BW:79:PHE:N | 1.72 | 1.02 |
| 1:A2:783:G:C2 | 27:BY:35:VAL:HG22 | 1.93 | 1.02 |
| 1:A2:863:A:H3' | 25:BW:6:VAL:CG1 | 1.89 | 1.02 |
| 1:A2:872:G:N1 | 16:BN:11:ILE:HG12 | 1.53 | 1.02 |
| 1:A2:889:U:OP1 | 17:BO:89:THR:CA | 2.05 | 1.02 |
| 1:A2:1051:G:H5' | 30:Bb:11:THR:HB | 1.37 | 1.02 |
| 1:A2:1317:C:O4' | 20:BR:7:LYS:HD3 | 1.60 | 1.02 |
| 1:A2:1331:A:N9 | 6:BD:161:GLY:HA3 | 1.72 | 1.02 |
| 1:A2:1344:A:C5' | 23:BU:53:LYS:CG | 2.36 | 1.02 |
| 1:A2:1370:U:H3' | 22:BT:119:LYS:HE3 | 1.30 | 1.02 |
| 1:A2:1428:G:N2 | 23:BU:74:GLU:HB3 | 1.37 | 1.02 |
| 1:A2:1457:C:C6 | 21:BS:136:GLN:N | 2.05 | 1.02 |
| 1:A2:1459:C:OP1 | 21:BS:131:LEU:HA | 1.59 | 1.02 |
| 1:A2:1503:A:H2' | 22:BT:37:VAL:C | 1.85 | 1.02 |
| 1:A2:1673:G:H2' | 9:BG:94:ARG:CZ | 1.89 | 1.02 |
| 1:A2:1681:A:N3 | 9:BG:101:ILE:HG13 | 1.72 | 1.02 |
| 1:A2:1682:U:H5' | 9:BG:102:VAL:HG11 | 1.41 | 1.02 |
| 2:AZ:6111:G:O2' | 8:BF:220:VAL:CG2 | 2.07 | 1.02 |
| 1:A2:139:C:H3' | 9:BG:138:ALA:HB2 | 1.38 | 1.02 |
| 1:A2:165:G:O5' | 9:BG:15:THR:N | 1.91 | 1.02 |
| 1:A2:168:A:H5' | 9:BG:132:ARG:HD2 | 1.38 | 1.02 |
| 1:A2:215:A:C1' | 7:BE:136:VAL:O | 2.02 | 1.02 |
| 1:A2:571:G:O2' | 26:BX:114:LYS:HE3 | 1.59 | 1.02 |
| 1:A2:752:A:C4' | 7:BE:16:HIS:O | 1.92 | 1.02 |
| 1:A2:960:U:H3' | 1:A2:961:U:P | 1.98 | 1.02 |
| 1:A2:1084:A:C2' | 5:BC:164:SER:CA | 2.32 | 1.02 |
| 1:A2:1084:A:H8 | 5:BC:161:LYS:C | 1.68 | 1.02 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1260:U:C5 | 34:Bf:94:ALA:O | 2.11 | 1.02 |
| 1:A2:1326:A:C6 | 6:BD:159:HIS:HE1 | 1.77 | 1.02 |
| 1:A2:1532:U:C5' | 28:BZ:77:ARG:HB2 | 1.88 | 1.02 |
| 1:A2:1557:U:C6 | 21:BS:123:ARG:HD3 | 1.92 | 1.02 |
| 4:BB:211:HIS:C | 4:BB:212:VAL:HA | 1.85 | 1.02 |
| 1:A2:27:U:N3 | 26:BX:126:LYS:HD2 | 1.74 | 1.02 |
| 1:A2:32:U:C5 | 26:BX:140:LYS:HA | 1.94 | 1.02 |
| 1:A2:179:A:C1' | 9:BG:184:LEU:CA | 2.37 | 1.02 |
| 1:A2:456:A:H2 | 27:BY:111:LYS:HB2 | 1.24 | 1.02 |
| 1:A2:584:C:C3' | 33:Be:17:GLN:N | 2.23 | 1.02 |
| 1:A2:784:C:N3 | 27:BY:35:VAL:HG13 | 1.75 | 1.02 |
| 1:A2:831:U:P | 7:BE:152:PRO:CB | 2.47 | 1.02 |
| 1:A2:960:U:C6 | 25:BW:57:ARG:CD | 2.42 | 1.02 |
| 1:A2:1082:C:C2' | 5:BC:216:VAL:HG13 | 1.90 | 1.02 |
| 1:A2:1084:A:C5' | 5:BC:166:THR:HA | 1.90 | 1.02 |
| 1:A2:1317:C:H5' | 20:BR:11:ARG:HB2 | 1.41 | 1.02 |
| 1:A2:1384:A:OP2 | 23:BU:87:HIS:CB | 2.05 | 1.02 |
| 1:A2:1546:G:H1' | 21:BS:36:LYS:HB3 | 1.04 | 1.02 |
| 1:A2:1608:U:OP1 | 19:BQ:72:GLY:HA2 | 1.58 | 1.02 |
| 1:A2:1709:C:H4' | 9:BG:9:VAL:HG21 | 1.04 | 1.02 |
| 4:BB:100:PHE:C | 4:BB:101:HIS:N | 2.17 | 1.02 |
| 1:A2:85:A:H2' | 27:BY:126:ALA:HA | 1.09 | 1.02 |
| 1:A2:244:A:P | 7:BE:140:VAL:HA | 2.00 | 1.02 |
| 1:A2:396:G:C4 | 9:BG:91:GLU:OE1 | 2.13 | 1.02 |
| 1:A2:584:C:H3' | 33:Be:17:GLN:CA | 1.89 | 1.02 |
| 1:A2:753:A:O3' | 7:BE:14:ALA:N | 1.92 | 1.02 |
| 1:A2:1048:G:O4' | 30:Bb:22:LYS:HD2 | 1.60 | 1.02 |
| 1:A2:1236:A:O2' | 18:BP:65:LEU:HD21 | 0.84 | 1.02 |
| 1:A2:1237:G:OP2 | 18:BP:61:ARG:CG | 2.08 | 1.02 |
| 1:A2:1299:G:O4' | 5:BC:99:LYS:HB2 | 1.17 | 1.02 |
| 1:A2:1419:G:N9 | 32:Bd:56:ARG:CB | 2.03 | 1.02 |
| 1:A2:1454:G:OP1 | 18:BP:118:GLU:CB | 2.07 | 1.02 |
| 1:A2:1682:U:H3' | 9:BG:52:ILE:HD13 | 1.03 | 1.02 |
| 1:A2:1722:A:H4' | 9:BG:71:THR:O | 1.54 | 1.02 |
| 1:A2:1797:A:O3' | 1:A2:1798:U:P | 2.18 | 1.02 |
| 1:A2:11:A:N3 | 5:BC:87:GLN:OE1 | 1.94 | 1.01 |
| 1:A2:75:U:C6 | 9:BG:166:GLU:N | 2.27 | 1.01 |
| 1:A2:638:U:O2 | 25:BW:107:SER:HB3 | 1.60 | 1.01 |
| 1:A2:702:G:N7 | 7:BE:176:ASP:N | 2.08 | 1.01 |
| 1:A2:776:G:C2 | 27:BY:35:VAL:HG12 | 1.94 | 1.01 |
| 1:A2:1006:C:C5' | 17:BO:136:ARG:NH1 | 2.22 | 1.01 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1006:C:C5’ | 17:BO:136:ARG:HH12 | 1.73 | 1.01 |
| 1:A2:1048:G:H1’ | 30:Bb:22:LYS:HD3 | 1.08 | 1.01 |
| 1:A2:1145:U:C5’ | 5:BC:88:LYS:HE2 | 1.87 | 1.01 |
| 1:A2:1145:U:H5’ | 5:BC:88:LYS:HE2 | 1.39 | 1.01 |
| 1:A2:1242:A:P | 18:BP:107:ILE:HG13 | 1.99 | 1.01 |
| 1:A2:1299:G:C8 | 5:BC:99:LYS:N | 2.28 | 1.01 |
| 1:A2:1368:G:C5’ | 22:BT:66:TYR:C | 2.33 | 1.01 |
| 1:A2:1370:U:C2’ | 22:BT:119:LYS:HE3 | 1.76 | 1.01 |
| 1:A2:1682:U:H4’ | 9:BG:102:VAL:CG1 | 1.88 | 1.01 |
| 1:A2:214:G:C8 | 7:BE:133:LYS:N | 2.21 | 1.01 |
| 1:A2:215:A:O4’ | 7:BE:132:GLY:N | 1.92 | 1.01 |
| 1:A2:457:G:H22 | 27:BY:109:LYS:H | 1.05 | 1.01 |
| 1:A2:570:A:H2 | 26:BX:67:ALA:HB2 | 1.23 | 1.01 |
| 1:A2:600:U:H5’ | 26:BX:104:LEU:CD2 | 1.90 | 1.01 |
| 1:A2:632:U:H1’ | 26:BX:15:LEU:CB | 1.90 | 1.01 |
| 1:A2:733:A:C1’ | 7:BE:194:THR:OG1 | 2.08 | 1.01 |
| 1:A2:746:A:N1 | 25:BW:82:LYS:HD2 | 1.75 | 1.01 |
| 1:A2:967:A:O2’ | 26:BX:5:LYS:O | 1.75 | 1.01 |
| 1:A2:1037:C:H5” | 25:BW:15:ASN:HB3 | 1.38 | 1.01 |
| 1:A2:1097:U:O3’ | 5:BC:199:GLN:N | 1.70 | 1.01 |
| 1:A2:1103:U:H4’ | 26:BX:15:LEU:CD1 | 1.91 | 1.01 |
| 1:A2:1202:A:H61 | 21:BS:137:HIS:N | 1.57 | 1.01 |
| 1:A2:1213:G:OP2 | 18:BP:101:ALA:HA | 1.49 | 1.01 |
| 1:A2:1310:U:O2’ | 20:BR:4:VAL:CG1 | 2.08 | 1.01 |
| 1:A2:1482:C:C1’ | 19:BQ:74:HIS:CE1 | 2.42 | 1.01 |
| 1:A2:1582:U:H5” | 19:BQ:135:ARG:HG3 | 1.39 | 1.01 |
| 1:A2:1682:U:C3’ | 9:BG:52:ILE:HD13 | 1.88 | 1.01 |
| 3:BA:63:ILE:O | 3:BA:66:ALA:HB1 | 1.61 | 1.01 |
| 17:BO:77:THR:HG1 | 17:BO:78:ALA:N | 1.57 | 1.01 |
| 1:A2:139:C:C3’ | 9:BG:138:ALA:HB2 | 1.89 | 1.01 |
| 1:A2:634:G:O6 | 26:BX:9:LEU:CD1 | 2.08 | 1.01 |
| 1:A2:740:A:C6 | 7:BE:198:LYS:HB2 | 1.95 | 1.01 |
| 1:A2:755:A:C2 | 12:BJ:3:ARG:HG2 | 1.94 | 1.01 |
| 1:A2:776:G:N2 | 27:BY:27:VAL:HB | 1.75 | 1.01 |
| 1:A2:791:A:C2 | 12:BJ:7:THR:OG1 | 2.14 | 1.01 |
| 1:A2:800:U:H5’ | 7:BE:187:ARG:N | 0.96 | 1.01 |
| 1:A2:803:A:H5’ | 25:BW:120:HIS:CE1 | 1.94 | 1.01 |
| 1:A2:812:A:N3 | 10:BH:111:LYS:HG3 | 1.64 | 1.01 |
| 1:A2:959:U:O2 | 25:BW:55:ASP:CB | 1.96 | 1.01 |
| 1:A2:1094:G:H4’ | 5:BC:161:LYS:CG | 1.90 | 1.01 |
| 1:A2:1243:G:O6 | 18:BP:88:GLU:OE2 | 1.78 | 1.01 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1254:U:C6 | 34:Bf:140:TYR:CD2 | 2.49 | 1.01 |
| 1:A2:1327:C:H6 | 6:BD:158:ILE:C | 1.61 | 1.01 |
| 1:A2:1399:C:C3' | 20:BR:66:VAL:HG23 | 1.89 | 1.01 |
| 1:A2:1473:U:H1' | 8:BF:113:ILE:HD13 | 1.40 | 1.01 |
| 8:BF:110:ALA:C | 8:BF:111:VAL:N | 2.18 | 1.01 |
| 1:A2:58:U:C2 | 27:BY:115:ASP:OD1 | 1.94 | 1.01 |
| 1:A2:89:G:C2 | 27:BY:115:ASP:HB3 | 1.96 | 1.01 |
| 1:A2:142:G:O4' | 9:BG:135:PRO:HG3 | 1.22 | 1.01 |
| 1:A2:168:A:O2' | 9:BG:132:ARG:CZ | 2.08 | 1.01 |
| 1:A2:238:U:H3' | 9:BG:210:GLN:CB | 1.90 | 1.01 |
| 1:A2:244:A:N7 | 7:BE:140:VAL:CG2 | 2.14 | 1.01 |
| 1:A2:325:G:H1' | 14:BL:133:LYS:CA | 1.89 | 1.01 |
| 1:A2:338:C:N4 | 11:BI:29:LEU:O | 1.91 | 1.01 |
| 1:A2:597:G:C3' | 26:BX:133:LEU:HD22 | 1.90 | 1.01 |
| 1:A2:785:U:C2' | 27:BY:70:VAL:CA | 2.39 | 1.01 |
| 1:A2:800:U:H5' | 7:BE:186:GLY:C | 1.86 | 1.01 |
| 1:A2:959:U:H1' | 25:BW:54:ASP:CG | 1.85 | 1.01 |
| 1:A2:1009:U:OP1 | 17:BO:129:LYS:HD3 | 1.58 | 1.01 |
| 1:A2:1037:C:C2' | 25:BW:19:LYS:HE2 | 1.91 | 1.01 |
| 1:A2:1067:C:H5' | 3:BA:31:VAL:HG13 | 1.43 | 1.01 |
| 1:A2:1102:G:H1' | 26:BX:7:ARG:HD2 | 1.30 | 1.01 |
| 1:A2:1403:C:H5" | 20:BR:2:GLY:C | 1.79 | 1.01 |
| 1:A2:1528:U:H5" | 19:BQ:43:ILE:CB | 1.89 | 1.01 |
| 1:A2:1549:C:O5' | 21:BS:86:LEU:CB | 2.05 | 1.01 |
| 1:A2:1683:C:OP2 | 9:BG:52:ILE:HA | 1.59 | 1.01 |
| 1:A2:1796:C:P | 29:Ba:92:ARG:NH2 | 2.32 | 1.01 |
| 27:BY:19:ALA:C | 27:BY:20:ARG:HA | 1.86 | 1.01 |
| 1:A2:3:U:O4' | 12:BJ:19:TYR:O | 1.78 | 1.01 |
| 1:A2:31:C:O2' | 26:BX:138:GLU:CG | 2.08 | 1.01 |
| 1:A2:76:A:C5' | 9:BG:165:GLY:O | 1.85 | 1.01 |
| 1:A2:129:U:O4 | 9:BG:177:ARG:HD3 | 1.59 | 1.01 |
| 1:A2:137:U:C3' | 9:BG:143:LYS:CE | 2.39 | 1.01 |
| 1:A2:179:A:C1' | 9:BG:184:LEU:HA | 1.90 | 1.01 |
| 1:A2:239:C:OP2 | 9:BG:210:GLN:CG | 1.99 | 1.01 |
| 1:A2:396:G:C5 | 9:BG:88:ARG:HD3 | 1.94 | 1.01 |
| 1:A2:457:G:N2 | 27:BY:109:LYS:H | 1.59 | 1.01 |
| 1:A2:632:U:OP1 | 14:BL:94:ILE:HB | 1.55 | 1.01 |
| 1:A2:737:A:H1' | 7:BE:157:ASN:C | 1.86 | 1.01 |
| 1:A2:783:G:C6 | 27:BY:35:VAL:HG22 | 1.94 | 1.01 |
| 1:A2:967:A:H2' | 26:BX:6:PRO:HA | 1.43 | 1.01 |
| 1:A2:1144:U:O2 | 5:BC:89:GLN:CG | 1.84 | 1.01 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1145:U:H5” | 5:BC:88:LYS:CE | 1.89 | 1.01 |
| 1:A2:1242:A:H5” | 18:BP:89:MET:HE2 | 1.35 | 1.01 |
| 1:A2:1254:U:OP2 | 34:Bf:139:LEU:O | 1.76 | 1.01 |
| 1:A2:1301:U:C1’ | 5:BC:86:VAL:HG21 | 1.91 | 1.01 |
| 1:A2:1528:U:O2’ | 19:BQ:42:GLU:CB | 2.07 | 1.01 |
| 1:A2:318:U:C4 | 11:BI:15:GLY:O | 2.14 | 1.00 |
| 1:A2:336:G:N2 | 11:BI:24:LYS:CA | 2.24 | 1.00 |
| 1:A2:631:G:C5’ | 26:BX:13:ARG:HA | 1.91 | 1.00 |
| 1:A2:806:A:N7 | 25:BW:82:LYS:HD3 | 1.76 | 1.00 |
| 1:A2:954:G:O5’ | 16:BN:2:GLY:CA | 2.09 | 1.00 |
| 1:A2:1053:G:C4’ | 3:BA:35:PRO:CB | 1.87 | 1.00 |
| 1:A2:1214:U:P | 18:BP:77:ARG:CD | 2.44 | 1.00 |
| 1:A2:1240:U:H5” | 18:BP:104:GLN:CD | 1.86 | 1.00 |
| 1:A2:1256:A:OP1 | 34:Bf:142:GLY:HA3 | 1.59 | 1.00 |
| 1:A2:1609:U:P | 19:BQ:75:VAL:N | 2.33 | 1.00 |
| 17:BO:17:ALA:HB3 | 17:BO:81:VAL:HG23 | 1.42 | 1.00 |
| 1:A2:78:A:H2 | 9:BG:160:ARG:CZ | 1.72 | 1.00 |
| 1:A2:141:U:C2’ | 9:BG:158:ILE:CG2 | 2.39 | 1.00 |
| 1:A2:266:A:H4’ | 9:BG:136:LYS:NZ | 1.76 | 1.00 |
| 1:A2:397:A:H2’ | 9:BG:88:ARG:NH2 | 1.75 | 1.00 |
| 1:A2:449:C:O2’ | 27:BY:109:LYS:NZ | 1.67 | 1.00 |
| 1:A2:592:A:H62 | 33:Be:23:LYS:NZ | 1.52 | 1.00 |
| 1:A2:597:G:O3’ | 26:BX:136:TRP:CE3 | 2.07 | 1.00 |
| 1:A2:630:A:C8 | 26:BX:13:ARG:CG | 2.40 | 1.00 |
| 1:A2:631:G:O2’ | 26:BX:16:ARG:HB3 | 1.57 | 1.00 |
| 1:A2:734:A:OP1 | 7:BE:211:LYS:HE3 | 1.60 | 1.00 |
| 1:A2:756:A:C5’ | 7:BE:23:LEU:HD12 | 1.91 | 1.00 |
| 1:A2:778:G:N2 | 27:BY:32:ARG:HB3 | 1.75 | 1.00 |
| 1:A2:889:U:P | 17:BO:89:THR:CA | 2.49 | 1.00 |
| 1:A2:1049:U:O3’ | 30:Bb:15:GLU:CG | 2.09 | 1.00 |
| 1:A2:1144:U:C2’ | 5:BC:89:GLN:HG3 | 1.91 | 1.00 |
| 1:A2:1202:A:N6 | 21:BS:136:GLN:C | 2.19 | 1.00 |
| 1:A2:1217:A:H5” | 32:Bd:7:TRP:CE2 | 1.90 | 1.00 |
| 1:A2:1240:U:O4’ | 18:BP:75:PRO:HA | 1.59 | 1.00 |
| 1:A2:1256:A:H2 | 34:Bf:98:LYS:CG | 1.39 | 1.00 |
| 1:A2:1420:C:C5’ | 23:BU:82:TYR:OH | 2.08 | 1.00 |
| 1:A2:1673:G:C2’ | 9:BG:94:ARG:HH21 | 1.74 | 1.00 |
| 2:AZ:6107:U:H5” | 8:BF:223:SER:CA | 1.91 | 1.00 |
| 2:AZ:6220:U:H5 | 6:BD:142:LEU:CB | 1.54 | 1.00 |
| 21:BS:28:ILE:O | 21:BS:30:TYR:N | 1.94 | 1.00 |
| 1:A2:27:U:O2 | 26:BX:103:LEU:HG | 1.61 | 1.00 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:76:A:H5” | 9:BG:165:GLY:C | 1.86 | 1.00 |
| 1:A2:139:C:O2 | 9:BG:136:LYS:HG2 | 1.61 | 1.00 |
| 1:A2:164:A:C8 | 9:BG:17:GLU:HG2 | 1.97 | 1.00 |
| 1:A2:242:U:C4 | 7:BE:137:PRO:CD | 2.43 | 1.00 |
| 1:A2:332:U:H3 | 11:BI:29:LEU:CD2 | 1.69 | 1.00 |
| 1:A2:336:G:N2 | 11:BI:25:ARG:N | 2.10 | 1.00 |
| 1:A2:631:G:HO3’ | 26:BX:16:ARG:NH1 | 1.52 | 1.00 |
| 1:A2:633:U:C6 | 14:BL:99:ARG:CD | 2.16 | 1.00 |
| 1:A2:633:U:H5’ | 14:BL:98:ASN:O | 1.58 | 1.00 |
| 1:A2:738:G:O5’ | 7:BE:157:ASN:OD1 | 1.80 | 1.00 |
| 1:A2:740:A:N3 | 7:BE:200:ARG:CB | 2.24 | 1.00 |
| 1:A2:778:G:C2’ | 27:BY:32:ARG:HH21 | 1.73 | 1.00 |
| 1:A2:784:C:C4’ | 27:BY:7:ILE:CG2 | 2.39 | 1.00 |
| 1:A2:878:G:O2’ | 16:BN:114:ARG:NH1 | 1.94 | 1.00 |
| 1:A2:898:A:O5’ | 17:BO:28:VAL:O | 1.79 | 1.00 |
| 1:A2:1055:U:H4’ | 3:BA:46:HIS:HB3 | 1.42 | 1.00 |
| 1:A2:1067:C:O4’ | 3:BA:32:HIS:N | 1.82 | 1.00 |
| 1:A2:1086:A:H8 | 5:BC:203:LYS:CE | 1.70 | 1.00 |
| 1:A2:1144:U:O3’ | 5:BC:88:LYS:CA | 2.09 | 1.00 |
| 1:A2:1328:G:H8 | 6:BD:159:HIS:CA | 1.59 | 1.00 |
| 1:A2:1473:U:C2 | 8:BF:113:ILE:HG23 | 1.82 | 1.00 |
| 1:A2:1548:G:OP2 | 21:BS:88:ARG:CD | 2.10 | 1.00 |
| 1:A2:1565:C:C1’ | 21:BS:43:SER:H | 1.74 | 1.00 |
| 1:A2:1710:U:N1 | 9:BG:115:LYS:HG3 | 1.76 | 1.00 |
| 1:A2:1722:A:C2 | 9:BG:70:PRO:CD | 2.45 | 1.00 |
| 1:A2:139:C:O4’ | 9:BG:137:ARG:C | 2.05 | 1.00 |
| 1:A2:220:A:C4’ | 9:BG:220:LYS:H | 1.65 | 1.00 |
| 1:A2:334:G:H3’ | 1:A2:335:U:P | 2.02 | 1.00 |
| 1:A2:703:G:O6 | 7:BE:178:GLY:O | 1.80 | 1.00 |
| 1:A2:1192:C:H5” | 19:BQ:141:SER:HB2 | 1.05 | 1.00 |
| 1:A2:1243:G:H5’ | 18:BP:61:ARG:N | 1.76 | 1.00 |
| 1:A2:1370:U:C5’ | 22:BT:119:LYS:NZ | 2.24 | 1.00 |
| 1:A2:1681:A:H5” | 9:BG:101:ILE:HD13 | 1.40 | 1.00 |
| 1:A2:85:A:H2’ | 27:BY:125:LEU:C | 1.84 | 1.00 |
| 1:A2:88:U:C5’ | 27:BY:119:PHE:CG | 2.41 | 1.00 |
| 1:A2:139:C:C6 | 9:BG:137:ARG:CA | 2.25 | 1.00 |
| 1:A2:179:A:C3’ | 9:BG:187:LYS:HD3 | 1.91 | 1.00 |
| 1:A2:451:A:H2 | 27:BY:111:LYS:HD2 | 1.24 | 1.00 |
| 1:A2:1299:G:N9 | 5:BC:86:VAL:HG13 | 1.76 | 1.00 |
| 1:A2:1497:U:H5’ | 22:BT:77:ASN:HD22 | 0.86 | 1.00 |
| 1:A2:1720:G:C4’ | 9:BG:64:LYS:CA | 2.40 | 1.00 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:14:C:C3' | 5:BC:203:LYS:HZ3 | 1.70 | 1.00 |
| 1:A2:215:A:C4' | 7:BE:131:LEU:C | 2.31 | 1.00 |
| 1:A2:310:C:H3' | 26:BX:33:LEU:HD23 | 1.02 | 1.00 |
| 1:A2:457:G:N2 | 27:BY:109:LYS:N | 2.09 | 1.00 |
| 1:A2:782:U:O5' | 27:BY:39:GLU:CG | 2.05 | 1.00 |
| 1:A2:1299:G:H2' | 5:BC:86:VAL:CA | 1.89 | 1.00 |
| 1:A2:734:A:OP2 | 7:BE:216:ASN:O | 1.79 | 1.00 |
| 1:A2:859:A:O5' | 10:BH:101:LYS:HG2 | 1.27 | 1.00 |
| 1:A2:917:U:O5' | 17:BO:84:ARG:NE | 1.84 | 1.00 |
| 1:A2:1242:A:H4' | 18:BP:89:MET:CE | 1.91 | 1.00 |
| 1:A2:1721:A:O2' | 9:BG:98:ARG:C | 1.85 | 1.00 |
| 10:BH:110:GLN:C | 10:BH:111:LYS:N | 2.19 | 1.00 |
| 1:A2:90:C:N4 | 27:BY:118:ILE:N | 2.11 | 0.99 |
| 1:A2:585:A:C8 | 33:Be:17:GLN:CB | 2.44 | 0.99 |
| 1:A2:588:U:C6 | 33:Be:21:VAL:HG23 | 1.97 | 0.99 |
| 1:A2:956:C:O2 | 16:BN:11:ILE:HD12 | 0.83 | 0.99 |
| 1:A2:1048:G:C2' | 30:Bb:18:LYS:HG2 | 1.91 | 0.99 |
| 1:A2:1144:U:C4 | 5:BC:89:GLN:CD | 2.40 | 0.99 |
| 1:A2:1243:G:O5' | 18:BP:57:MET:HA | 1.58 | 0.99 |
| 1:A2:1565:C:H3' | 21:BS:40:ARG:HA | 1.43 | 0.99 |
| 1:A2:1:U:C3' | 12:BJ:14:THR:HB | 1.76 | 0.99 |
| 1:A2:91:G:H3' | 27:BY:116:LYS:HZ2 | 0.98 | 0.99 |
| 1:A2:215:A:H4' | 7:BE:132:GLY:N | 1.71 | 0.99 |
| 1:A2:332:U:O4 | 11:BI:29:LEU:HD21 | 1.58 | 0.99 |
| 1:A2:1281:G:C5' | 23:BU:68:ARG:NH2 | 2.21 | 0.99 |
| 1:A2:1325:A:N3 | 6:BD:156:PHE:HA | 1.36 | 0.99 |
| 1:A2:1391:A:H5" | 20:BR:48:ASN:HB3 | 1.43 | 0.99 |
| 1:A2:1520:U:O5' | 22:BT:75:LYS:O | 1.78 | 0.99 |
| 1:A2:1710:U:N1 | 9:BG:115:LYS:CG | 2.23 | 0.99 |
| 1:A2:266:A:O4' | 9:BG:136:LYS:CD | 1.98 | 0.99 |
| 1:A2:324:U:O4' | 11:BI:11:ARG:O | 1.78 | 0.99 |
| 1:A2:640:U:C1' | 25:BW:119:LYS:CE | 2.37 | 0.99 |
| 1:A2:1034:C:N4 | 26:BX:3:LYS:NZ | 2.09 | 0.99 |
| 1:A2:1037:C:C2' | 25:BW:19:LYS:CE | 2.40 | 0.99 |
| 1:A2:1299:G:C4' | 5:BC:84:LYS:O | 2.11 | 0.99 |
| 1:A2:1325:A:H5' | 6:BD:156:PHE:CE2 | 1.89 | 0.99 |
| 1:A2:1532:U:OP1 | 28:BZ:81:ARG:HD3 | 1.63 | 0.99 |
| 1:A2:330:G:P | 11:BI:56:ARG:CD | 2.50 | 0.99 |
| 1:A2:331:A:C8 | 11:BI:31:ARG:CD | 2.44 | 0.99 |
| 1:A2:687:G:OP1 | 12:BJ:64:GLU:HG2 | 1.61 | 0.99 |
| 1:A2:761:G:OP1 | 12:BJ:11:THR:HG21 | 1.62 | 0.99 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:845:G:H3’ | 1:A2:846:G:P | 2.03 | 0.99 |
| 1:A2:1007:C:C4’ | 17:BO:137:LEU:HG | 1.93 | 0.99 |
| 1:A2:1009:U:P | 17:BO:129:LYS:CD | 2.51 | 0.99 |
| 1:A2:1082:C:H2’ | 5:BC:216:VAL:CG1 | 1.89 | 0.99 |
| 1:A2:1084:A:OP1 | 5:BC:167:VAL:HG23 | 1.62 | 0.99 |
| 1:A2:1453:G:O2’ | 18:BP:120:SER:N | 1.94 | 0.99 |
| 1:A2:1453:G:H4’ | 18:BP:119:PHE:H | 1.25 | 0.99 |
| 1:A2:1558:U:H5 | 21:BS:124:GLY:N | 1.60 | 0.99 |
| 1:A2:57:G:N1 | 27:BY:115:ASP:CA | 2.24 | 0.99 |
| 1:A2:163:G:O2’ | 9:BG:1:MET:C | 2.06 | 0.99 |
| 1:A2:395:U:C6 | 9:BG:93:LYS:CE | 2.44 | 0.99 |
| 1:A2:735:C:N4 | 7:BE:179:LYS:N | 2.10 | 0.99 |
| 1:A2:887:A:C2’ | 17:BO:124:ASP:H | 1.70 | 0.99 |
| 1:A2:1050:G:H3’ | 30:Bb:13:ALA:C | 1.85 | 0.99 |
| 1:A2:1547:A:O3’ | 21:BS:100:THR:N | 1.94 | 0.99 |
| 1:A2:1564:U:C1’ | 21:BS:41:ARG:HB3 | 1.92 | 0.99 |
| 1:A2:181:A:C3’ | 9:BG:191:ARG:NH1 | 2.23 | 0.99 |
| 1:A2:737:A:H1’ | 7:BE:157:ASN:O | 0.81 | 0.99 |
| 1:A2:804:A:C5’ | 25:BW:121:VAL:CA | 2.39 | 0.99 |
| 1:A2:1056:U:OP2 | 3:BA:40:ALA:CA | 2.10 | 0.99 |
| 1:A2:1455:G:OP1 | 21:BS:126:ARG:HD2 | 1.60 | 0.99 |
| 1:A2:1787:C:H5” | 17:BO:132:ARG:NH1 | 1.33 | 0.99 |
| 1:A2:599:A:N1 | 26:BX:103:LEU:HD12 | 1.78 | 0.99 |
| 1:A2:1301:U:C4 | 5:BC:97:ARG:HD2 | 1.35 | 0.99 |
| 1:A2:1454:G:P | 18:BP:118:GLU:HG2 | 2.02 | 0.99 |
| 1:A2:1529:C:C5 | 28:BZ:95:HIS:CG | 2.51 | 0.99 |
| 1:A2:1548:G:C1’ | 21:BS:99:HIS:ND1 | 2.24 | 0.99 |
| 1:A2:57:G:C6 | 27:BY:117:LYS:NZ | 2.12 | 0.99 |
| 1:A2:266:A:H5’ | 9:BG:136:LYS:CE | 1.91 | 0.99 |
| 1:A2:754:A:C4 | 7:BE:12:LEU:HD22 | 1.97 | 0.99 |
| 1:A2:1521:G:OP1 | 22:BT:75:LYS:CE | 2.06 | 0.99 |
| 1:A2:85:A:C1’ | 27:BY:126:ALA:CA | 2.32 | 0.99 |
| 1:A2:91:G:C4 | 27:BY:116:LYS:CE | 2.30 | 0.99 |
| 1:A2:636:A:O2’ | 25:BW:110:ILE:HG23 | 0.81 | 0.99 |
| 1:A2:753:A:C3’ | 7:BE:12:LEU:O | 2.10 | 0.99 |
| 1:A2:776:G:C1’ | 27:BY:62:THR:N | 2.25 | 0.99 |
| 1:A2:786:C:H5’ | 27:BY:26:ASP:CG | 1.88 | 0.99 |
| 1:A2:1058:U:OP2 | 3:BA:41:ARG:HB2 | 1.62 | 0.99 |
| 1:A2:1389:C:H4’ | 20:BR:45:ARG:N | 1.76 | 0.99 |
| 1:A2:1399:C:H3’ | 20:BR:66:VAL:HG23 | 1.02 | 0.99 |
| 1:A2:1452:U:C2 | 18:BP:96:ILE:HG22 | 1.96 | 0.99 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1452:U:O2' | 18:BP:117:GLY:N | 1.87 | 0.99 |
| 1:A2:216:U:C6 | 7:BE:129:VAL:HG22 | 1.97 | 0.99 |
| 1:A2:784:C:H4' | 27:BY:7:ILE:CG2 | 1.93 | 0.99 |
| 1:A2:1192:C:C5' | 19:BQ:141:SER:CB | 2.39 | 0.99 |
| 1:A2:1420:C:P | 23:BU:69:LYS:HE2 | 2.03 | 0.99 |
| 1:A2:1505:A:C2 | 21:BS:84:TRP:CG | 2.28 | 0.99 |
| 1:A2:1566:U:N1 | 21:BS:38:VAL:O | 1.94 | 0.99 |
| 1:A2:180:A:C2 | 9:BG:191:ARG:CB | 2.46 | 0.98 |
| 1:A2:329:G:C6 | 11:BI:30:GLY:HA3 | 1.98 | 0.98 |
| 1:A2:346:G:C3' | 11:BI:13:ALA:N | 2.24 | 0.98 |
| 1:A2:636:A:C5' | 25:BW:126:LEU:H | 1.65 | 0.98 |
| 1:A2:887:A:H3' | 17:BO:122:PRO:O | 1.62 | 0.98 |
| 1:A2:960:U:H5" | 25:BW:57:ARG:HA | 1.45 | 0.98 |
| 1:A2:1066:C:O2' | 3:BA:31:VAL:HA | 1.61 | 0.98 |
| 1:A2:311:U:H4' | 26:BX:34:LEU:HA | 0.99 | 0.98 |
| 1:A2:382:C:C4' | 12:BJ:2:PRO:CG | 2.40 | 0.98 |
| 1:A2:686:C:P | 12:BJ:64:GLU:OE2 | 2.21 | 0.98 |
| 1:A2:866:G:H5' | 25:BW:3:ARG:HA | 1.33 | 0.98 |
| 1:A2:1300:A:C4' | 5:BC:85:PRO:HB2 | 1.92 | 0.98 |
| 1:A2:1326:A:N3 | 6:BD:159:HIS:NE2 | 2.11 | 0.98 |
| 1:A2:1528:U:C5' | 19:BQ:43:ILE:CD1 | 2.39 | 0.98 |
| 1:A2:1566:U:H5" | 21:BS:30:TYR:HA | 1.45 | 0.98 |
| 1:A2:568:G:O2' | 33:Be:13:LYS:HB3 | 1.18 | 0.98 |
| 1:A2:753:A:OP1 | 7:BE:15:PRO:O | 1.52 | 0.98 |
| 1:A2:1040:G:H5' | 24:BV:62:ARG:NE | 1.75 | 0.98 |
| 1:A2:1505:A:N1 | 21:BS:84:TRP:CE2 | 2.31 | 0.98 |
| 1:A2:1600:A:C3' | 22:BT:86:ARG:HH21 | 1.71 | 0.98 |
| 1:A2:89:G:H22 | 27:BY:115:ASP:CB | 1.74 | 0.98 |
| 1:A2:340:U:C4 | 11:BI:3:ILE:HG21 | 1.87 | 0.98 |
| 1:A2:457:G:C1' | 27:BY:114:ARG:HH22 | 1.76 | 0.98 |
| 1:A2:609:U:N3 | 26:BX:28:ASN:OD1 | 1.96 | 0.98 |
| 1:A2:630:A:C4 | 26:BX:13:ARG:HG3 | 1.95 | 0.98 |
| 1:A2:1034:C:H42 | 26:BX:3:LYS:HZ2 | 1.10 | 0.98 |
| 1:A2:1253:U:H5' | 34:Bf:138:ARG:CA | 1.87 | 0.98 |
| 1:A2:1326:A:C2 | 6:BD:159:HIS:NE2 | 2.31 | 0.98 |
| 1:A2:1328:G:H8 | 6:BD:159:HIS:HB3 | 1.26 | 0.98 |
| 1:A2:1480:G:OP1 | 22:BT:12:GLN:HA | 1.63 | 0.98 |
| 1:A2:1498:G:H5" | 22:BT:72:GLY:HA3 | 1.44 | 0.98 |
| 1:A2:1797:A:H62 | 29:Ba:87:ARG:C | 1.58 | 0.98 |
| 26:BX:54:LEU:C | 26:BX:55:GLU:N | 2.21 | 0.98 |
| 1:A2:58:U:H5' | 27:BY:114:ARG:HE | 1.21 | 0.98 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:139:C:N3 | 9:BG:136:LYS:HB3 | 1.24 | 0.98 |
| 1:A2:142:G:O4' | 9:BG:135:PRO:CG | 2.11 | 0.98 |
| 1:A2:243:G:OP2 | 7:BE:138:TYR:CB | 2.10 | 0.98 |
| 1:A2:784:C:O4' | 27:BY:7:ILE:HG12 | 1.62 | 0.98 |
| 1:A2:814:A:N1 | 10:BH:109:VAL:CA | 2.17 | 0.98 |
| 1:A2:1298:U:H4' | 5:BC:115:ILE:HG21 | 1.45 | 0.98 |
| 1:A2:1418:G:H2' | 32:Bd:56:ARG:HG2 | 1.44 | 0.98 |
| 1:A2:1548:G:H2' | 21:BS:86:LEU:HA | 1.01 | 0.98 |
| 2:AZ:6106:A:O2' | 8:BF:225:ARG:N | 1.95 | 0.98 |
| 16:BN:112:LYS:C | 16:BN:113:PHE:N | 2.21 | 0.98 |
| 1:A2:238:U:O3' | 9:BG:210:GLN:CB | 2.10 | 0.98 |
| 1:A2:338:C:C3' | 11:BI:4:SER:CB | 2.41 | 0.98 |
| 1:A2:588:U:C6 | 33:Be:21:VAL:CG2 | 2.47 | 0.98 |
| 1:A2:632:U:H1' | 26:BX:15:LEU:HG | 1.45 | 0.98 |
| 1:A2:807:A:OP1 | 25:BW:79:PHE:C | 2.07 | 0.98 |
| 1:A2:921:U:OP1 | 4:BB:215:VAL:C | 2.06 | 0.98 |
| 1:A2:952:A:O3' | 16:BN:5:HIS:N | 1.97 | 0.98 |
| 1:A2:1037:C:C5' | 25:BW:15:ASN:CG | 2.27 | 0.98 |
| 1:A2:1298:U:C1' | 5:BC:208:GLU:HG3 | 1.92 | 0.98 |
| 1:A2:57:G:H3' | 27:BY:114:ARG:CZ | 1.90 | 0.98 |
| 1:A2:595:G:H2' | 26:BX:139:LYS:NZ | 1.75 | 0.98 |
| 1:A2:863:A:H3' | 25:BW:6:VAL:HG12 | 1.42 | 0.98 |
| 1:A2:865:A:H4' | 25:BW:8:ALA:HB3 | 1.46 | 0.98 |
| 1:A2:1098:U:O2' | 5:BC:169:LEU:C | 2.06 | 0.98 |
| 1:A2:1144:U:H2' | 5:BC:89:GLN:HG3 | 1.42 | 0.98 |
| 1:A2:1226:A:O2' | 34:Bf:99:ALA:O | 1.79 | 0.98 |
| 1:A2:1241:G:O6 | 18:BP:78:THR:C | 2.05 | 0.98 |
| 1:A2:1499:G:OP2 | 22:BT:102:ARG:C | 2.05 | 0.98 |
| 1:A2:1609:U:H5' | 19:BQ:75:VAL:HB | 1.46 | 0.98 |
| 1:A2:163:G:OP2 | 9:BG:108:VAL:CG2 | 2.11 | 0.98 |
| 1:A2:331:A:OP2 | 11:BI:31:ARG:HD2 | 1.62 | 0.98 |
| 1:A2:631:G:C8 | 26:BX:13:ARG:HG2 | 1.97 | 0.98 |
| 1:A2:632:U:H2' | 14:BL:99:ARG:HD2 | 1.00 | 0.98 |
| 1:A2:734:A:H8 | 7:BE:212:ASP:O | 1.47 | 0.98 |
| 1:A2:954:G:C8 | 16:BN:8:GLY:O | 1.94 | 0.98 |
| 1:A2:1050:G:OP1 | 30:Bb:15:GLU:HB2 | 1.16 | 0.98 |
| 1:A2:1211:A:H2 | 18:BP:120:SER:HG | 1.00 | 0.98 |
| 1:A2:1384:A:OP1 | 23:BU:87:HIS:CB | 2.11 | 0.98 |
| 1:A2:1402:G:C8 | 20:BR:5:ARG:NE | 2.31 | 0.98 |
| 1:A2:1482:C:O4' | 19:BQ:74:HIS:HE1 | 1.38 | 0.98 |
| 1:A2:1797:A:C5 | 29:Ba:92:ARG:CG | 2.47 | 0.98 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:89:G:N2 | 27:BY:115:ASP:HB2 | 1.79 | 0.98 |
| 1:A2:91:G:C2' | 27:BY:116:LYS:NZ | 2.27 | 0.98 |
| 1:A2:179:A:H3' | 9:BG:187:LYS:CD | 1.93 | 0.98 |
| 1:A2:338:C:H2' | 11:BI:4:SER:HB2 | 1.41 | 0.98 |
| 1:A2:589:C:C5 | 33:Be:21:VAL:CG2 | 2.46 | 0.98 |
| 1:A2:735:C:N4 | 7:BE:179:LYS:H | 1.61 | 0.98 |
| 1:A2:778:G:O6 | 27:BY:39:GLU:OE1 | 1.80 | 0.98 |
| 1:A2:1047:G:N3 | 30:Bb:22:LYS:NZ | 2.11 | 0.98 |
| 1:A2:1226:A:C5 | 34:Bf:99:ALA:N | 1.95 | 0.98 |
| 1:A2:1239:U:H6 | 18:BP:74:ALA:H | 1.09 | 0.98 |
| 1:A2:1240:U:O4' | 18:BP:76:VAL:N | 1.96 | 0.98 |
| 1:A2:1549:C:H5' | 21:BS:86:LEU:HD13 | 1.00 | 0.98 |
| 1:A2:101:U:O3' | 1:A2:102:U:P | 2.22 | 0.98 |
| 1:A2:243:G:O6 | 7:BE:138:TYR:CZ | 2.17 | 0.98 |
| 1:A2:686:C:H5' | 12:BJ:64:GLU:OE2 | 1.61 | 0.98 |
| 1:A2:1302:U:OP2 | 5:BC:95:ARG:HD2 | 1.56 | 0.98 |
| 1:A2:1608:U:C2' | 19:BQ:73:GLY:HA3 | 1.94 | 0.98 |
| 1:A2:1683:C:OP2 | 9:BG:52:ILE:CA | 2.10 | 0.98 |
| 2:AZ:6221:U:C2' | 6:BD:114:ALA:CB | 2.37 | 0.98 |
| 19:BQ:83:GLN:C | 19:BQ:84:ALA:HA | 1.87 | 0.98 |
| 32:Bd:39:CYS:HG | 32:Bd:41:GLN:N | 1.60 | 0.98 |
| 1:A2:833:U:P | 9:BG:213:ALA:HB1 | 2.04 | 0.97 |
| 1:A2:896:U:O2 | 17:BO:18:ARG:HB3 | 1.63 | 0.97 |
| 1:A2:1054:U:O2' | 3:BA:30:GLN:HG3 | 1.17 | 0.97 |
| 1:A2:1192:C:H5" | 19:BQ:141:SER:OG | 1.62 | 0.97 |
| 1:A2:1500:C:C6 | 22:BT:103:LYS:HG3 | 1.98 | 0.97 |
| 1:A2:1609:U:P | 19:BQ:75:VAL:H | 1.86 | 0.97 |
| 2:AZ:6107:U:O2' | 8:BF:219:ARG:O | 1.79 | 0.97 |
| 11:BI:192:TYR:O | 11:BI:195:ARG:N | 1.97 | 0.97 |
| 1:A2:138:A:C4 | 9:BG:140:ASN:HA | 1.97 | 0.97 |
| 1:A2:215:A:C3' | 7:BE:131:LEU:C | 2.34 | 0.97 |
| 1:A2:702:G:C5 | 7:BE:176:ASP:N | 2.32 | 0.97 |
| 1:A2:746:A:N1 | 25:BW:82:LYS:CD | 2.27 | 0.97 |
| 1:A2:784:C:H5' | 27:BY:43:LYS:HB2 | 1.44 | 0.97 |
| 1:A2:872:G:N1 | 16:BN:11:ILE:HG13 | 1.62 | 0.97 |
| 1:A2:896:U:O2' | 17:BO:18:ARG:HB2 | 1.61 | 0.97 |
| 1:A2:897:C:O3' | 1:A2:898:A:P | 2.19 | 0.97 |
| 1:A2:957:G:H5' | 30:Bb:22:LYS:CD | 1.95 | 0.97 |
| 1:A2:989:U:C2 | 17:BO:127:ARG:HG3 | 1.86 | 0.97 |
| 1:A2:1184:A:C4 | 18:BP:123:TYR:HB2 | 1.66 | 0.97 |
| 1:A2:1480:G:C5' | 22:BT:11:ALA:CB | 2.40 | 0.97 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:215:A:C4' | 7:BE:131:LEU:CA | 2.40 | 0.97 |
| 1:A2:570:A:N6 | 26:BX:68:ILE:O | 1.96 | 0.97 |
| 1:A2:639:U:P | 25:BW:108:ALA:HA | 2.02 | 0.97 |
| 1:A2:734:A:C3' | 7:BE:192:ILE:O | 2.11 | 0.97 |
| 1:A2:736:C:C2 | 7:BE:180:LEU:O | 2.17 | 0.97 |
| 1:A2:1103:U:C3' | 26:BX:15:LEU:HD22 | 1.94 | 0.97 |
| 1:A2:1159:C:O2' | 19:BQ:140:LYS:HD2 | 1.63 | 0.97 |
| 1:A2:1299:G:O4' | 5:BC:99:LYS:CB | 2.09 | 0.97 |
| 2:AZ:6218:U:O2 | 6:BD:146:ARG:CA | 2.13 | 0.97 |
| 34:Bf:132:LEU:HD23 | 34:Bf:139:LEU:HD23 | 1.42 | 0.97 |
| 1:A2:141:U:H3' | 9:BG:158:ILE:HG21 | 1.47 | 0.97 |
| 1:A2:215:A:H5" | 7:BE:130:GLN:CG | 1.81 | 0.97 |
| 1:A2:601:A:OP1 | 26:BX:43:PHE:CE2 | 2.18 | 0.97 |
| 1:A2:636:A:C8 | 25:BW:126:LEU:CD2 | 2.47 | 0.97 |
| 1:A2:734:A:H8 | 7:BE:212:ASP:C | 1.67 | 0.97 |
| 1:A2:782:U:H4' | 27:BY:39:GLU:HA | 1.46 | 0.97 |
| 1:A2:898:A:O4' | 17:BO:41:ARG:CG | 2.11 | 0.97 |
| 1:A2:1390:U:H5 | 20:BR:3:ARG:CD | 1.72 | 0.97 |
| 1:A2:1534:G:O2' | 8:BF:187:ILE:CG2 | 2.12 | 0.97 |
| 1:A2:1795:U:C5' | 29:Ba:4:LYS:NZ | 2.26 | 0.97 |
| 1:A2:75:U:C5 | 9:BG:166:GLU:O | 2.17 | 0.97 |
| 1:A2:141:U:C4 | 9:BG:173:PRO:HB2 | 1.99 | 0.97 |
| 1:A2:242:U:O4 | 7:BE:136:VAL:HA | 1.17 | 0.97 |
| 1:A2:244:A:OP2 | 7:BE:140:VAL:HA | 1.64 | 0.97 |
| 1:A2:649:U:OP1 | 7:BE:253:ASP:HA | 1.64 | 0.97 |
| 1:A2:697:C:H4' | 7:BE:209:HIS:HD2 | 1.28 | 0.97 |
| 1:A2:778:G:O2' | 27:BY:5:VAL:N | 1.96 | 0.97 |
| 1:A2:784:C:H41 | 27:BY:37:LYS:HA | 1.28 | 0.97 |
| 1:A2:894:U:H3' | 4:BB:65:VAL:CG2 | 1.94 | 0.97 |
| 1:A2:1054:U:C2' | 3:BA:30:GLN:HG3 | 1.74 | 0.97 |
| 1:A2:1183:A:H2' | 18:BP:124:THR:N | 1.72 | 0.97 |
| 1:A2:1301:U:C2' | 5:BC:86:VAL:HG21 | 1.95 | 0.97 |
| 1:A2:1326:A:C5 | 6:BD:159:HIS:HE1 | 1.83 | 0.97 |
| 1:A2:1797:A:C2 | 29:Ba:90:GLU:CA | 2.46 | 0.97 |
| 1:A2:168:A:O2' | 9:BG:132:ARG:NH2 | 1.97 | 0.97 |
| 1:A2:214:G:C8 | 7:BE:133:LYS:HD2 | 2.00 | 0.97 |
| 1:A2:458:G:H5' | 27:BY:110:GLN:NE2 | 1.78 | 0.97 |
| 1:A2:776:G:N2 | 27:BY:27:VAL:CB | 2.26 | 0.97 |
| 1:A2:778:G:N9 | 27:BY:32:ARG:NH2 | 2.12 | 0.97 |
| 1:A2:787:G:N2 | 27:BY:61:ARG:HD3 | 1.78 | 0.97 |
| 1:A2:967:A:C1' | 26:BX:7:ARG:HB2 | 1.95 | 0.97 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1428:G:N2 | 23:BU:74:GLU:CB | 0.82 | 0.97 |
| 1:A2:1709:C:H4' | 9:BG:9:VAL:HG23 | 1.46 | 0.97 |
| 1:A2:1797:A:C5 | 29:Ba:92:ARG:HG3 | 2.00 | 0.97 |
| 16:BN:5:HIS:C | 16:BN:6:SER:N | 2.22 | 0.97 |
| 1:A2:18:C:O3' | 26:BX:114:LYS:C | 2.07 | 0.97 |
| 1:A2:57:G:O6 | 27:BY:117:LYS:N | 1.97 | 0.97 |
| 1:A2:147:A:N3 | 27:BY:124:ARG:O | 1.77 | 0.97 |
| 1:A2:238:U:C3' | 9:BG:210:GLN:CB | 2.42 | 0.97 |
| 1:A2:812:A:C2 | 10:BH:111:LYS:CD | 2.47 | 0.97 |
| 1:A2:931:C:H4' | 4:BB:117:TRP:HZ3 | 1.04 | 0.97 |
| 1:A2:1038:U:H6 | 25:BW:19:LYS:CE | 1.77 | 0.97 |
| 1:A2:1299:G:OP2 | 5:BC:117:THR:N | 1.97 | 0.97 |
| 1:A2:1391:A:HO2' | 20:BR:28:PHE:HE1 | 1.07 | 0.97 |
| 1:A2:1419:G:H21 | 32:Bd:54:LYS:CG | 1.78 | 0.97 |
| 1:A2:1546:G:N2 | 21:BS:38:VAL:O | 1.95 | 0.97 |
| 1:A2:177:U:C5 | 9:BG:137:ARG:HD3 | 2.00 | 0.97 |
| 1:A2:322:G:O3' | 11:BI:9:HIS:HB2 | 1.65 | 0.97 |
| 1:A2:450:U:C6 | 27:BY:109:LYS:HE3 | 1.98 | 0.97 |
| 1:A2:652:G:OP2 | 12:BJ:88:GLU:OE2 | 1.78 | 0.97 |
| 1:A2:959:U:C1' | 25:BW:54:ASP:CG | 2.35 | 0.97 |
| 2:AZ:6137:C:C2' | 8:BF:126:ASP:HB2 | 1.95 | 0.97 |
| 2:AZ:6220:U:C6 | 6:BD:142:LEU:HA | 1.99 | 0.97 |
| 1:A2:85:A:H4' | 27:BY:129:VAL:HG11 | 1.46 | 0.97 |
| 1:A2:338:C:H2' | 11:BI:2:GLY:O | 1.63 | 0.97 |
| 1:A2:591:A:C5 | 33:Be:23:LYS:NZ | 2.33 | 0.97 |
| 1:A2:806:A:H8 | 25:BW:81:VAL:O | 1.47 | 0.97 |
| 1:A2:1280:C:C4 | 23:BU:72:ASN:OD1 | 2.17 | 0.97 |
| 1:A2:1389:C:H1' | 20:BR:48:ASN:CG | 1.62 | 0.97 |
| 1:A2:1535:U:C4 | 8:BF:186:ASN:C | 2.41 | 0.97 |
| 7:BE:137:PRO:C | 7:BE:138:TYR:N | 2.19 | 0.97 |
| 32:Bd:54:LYS:C | 32:Bd:55:PHE:HA | 1.88 | 0.97 |
| 1:A2:1:U:C2 | 12:BJ:12:TYR:HD1 | 1.71 | 0.97 |
| 1:A2:164:A:O5' | 9:BG:2:LYS:CG | 2.10 | 0.97 |
| 1:A2:826:U:O3' | 14:BL:35:TYR:OH | 1.81 | 0.97 |
| 1:A2:886:U:OP2 | 4:BB:122:GLU:CD | 2.08 | 0.97 |
| 1:A2:896:U:H1' | 17:BO:18:ARG:NH1 | 1.80 | 0.97 |
| 1:A2:1056:U:C5 | 3:BA:40:ALA:CB | 2.48 | 0.97 |
| 1:A2:1503:A:C8 | 22:BT:37:VAL:N | 2.32 | 0.97 |
| 1:A2:164:A:P | 9:BG:108:VAL:HG13 | 2.05 | 0.96 |
| 1:A2:179:A:H1' | 9:BG:184:LEU:HB3 | 1.42 | 0.96 |
| 1:A2:330:G:C3' | 11:BI:31:ARG:HB3 | 1.85 | 0.96 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:396:G:C3' | 9:BG:88:ARG:CB | 2.41 | 0.96 |
| 1:A2:609:U:N3 | 26:BX:28:ASN:ND2 | 2.13 | 0.96 |
| 1:A2:639:U:OP2 | 25:BW:108:ALA:HB2 | 1.62 | 0.96 |
| 1:A2:859:A:N6 | 10:BH:112:ARG:N | 2.13 | 0.96 |
| 1:A2:886:U:OP2 | 4:BB:122:GLU:OE1 | 1.82 | 0.96 |
| 1:A2:1049:U:O5' | 30:Bb:18:LYS:CB | 2.10 | 0.96 |
| 1:A2:1565:C:O2 | 21:BS:38:VAL:HA | 1.65 | 0.96 |
| 24:BV:28:ASP:O | 24:BV:30:ALA:N | 1.98 | 0.96 |
| 1:A2:138:A:C4' | 9:BG:143:LYS:N | 2.05 | 0.96 |
| 1:A2:335:U:O4 | 11:BI:25:ARG:CB | 2.14 | 0.96 |
| 1:A2:640:U:C2' | 25:BW:119:LYS:HE2 | 1.95 | 0.96 |
| 1:A2:736:C:N4 | 7:BE:195:ILE:CG1 | 2.04 | 0.96 |
| 1:A2:759:U:H3 | 12:BJ:7:THR:C | 1.72 | 0.96 |
| 1:A2:806:A:C5 | 25:BW:82:LYS:CD | 2.47 | 0.96 |
| 1:A2:899:G:C5' | 17:BO:25:ASP:OD1 | 2.13 | 0.96 |
| 1:A2:1299:G:H4' | 5:BC:84:LYS:O | 1.64 | 0.96 |
| 1:A2:1300:A:C5 | 5:BC:86:VAL:HB | 2.01 | 0.96 |
| 1:A2:1417:A:O2' | 19:BQ:126:PRO:HB2 | 1.66 | 0.96 |
| 1:A2:1548:G:O2' | 21:BS:86:LEU:HG | 1.14 | 0.96 |
| 1:A2:141:U:H4' | 9:BG:135:PRO:CB | 1.68 | 0.96 |
| 1:A2:179:A:N1 | 9:BG:186:ARG:O | 1.97 | 0.96 |
| 1:A2:777:C:H3' | 27:BY:32:ARG:CB | 1.95 | 0.96 |
| 1:A2:1054:U:O2' | 3:BA:30:GLN:CG | 0.67 | 0.96 |
| 1:A2:1457:C:C2 | 21:BS:136:GLN:N | 2.32 | 0.96 |
| 1:A2:1530:C:N3 | 28:BZ:96:SER:N | 1.97 | 0.96 |
| 17:BO:54:GLU:C | 17:BO:55:SER:N | 2.23 | 0.96 |
| 1:A2:597:G:O2' | 26:BX:136:TRP:CE3 | 2.09 | 0.96 |
| 1:A2:704:C:C5' | 7:BE:230:GLU:N | 2.09 | 0.96 |
| 1:A2:782:U:C4' | 27:BY:39:GLU:HA | 1.95 | 0.96 |
| 1:A2:901:G:H5" | 17:BO:86:THR:CB | 1.95 | 0.96 |
| 1:A2:1068:C:C5 | 3:BA:33:GLN:OE1 | 2.17 | 0.96 |
| 1:A2:1225:U:H3 | 34:Bf:96:ALA:N | 1.62 | 0.96 |
| 1:A2:1389:C:H4' | 20:BR:45:ARG:CB | 1.88 | 0.96 |
| 2:AZ:6110:A:H8 | 8:BF:219:ARG:NH2 | 1.61 | 0.96 |
| 1:A2:30:G:OP1 | 26:BX:142:LYS:CB | 2.13 | 0.96 |
| 1:A2:215:A:C5' | 7:BE:131:LEU:O | 2.14 | 0.96 |
| 1:A2:340:U:C4 | 11:BI:3:ILE:HG23 | 1.95 | 0.96 |
| 1:A2:597:G:C2' | 26:BX:136:TRP:HE3 | 1.77 | 0.96 |
| 1:A2:632:U:O2' | 14:BL:97:TYR:HB3 | 1.64 | 0.96 |
| 1:A2:776:G:H1 | 27:BY:35:VAL:CG1 | 1.75 | 0.96 |
| 1:A2:783:G:C8 | 27:BY:39:GLU:CA | 2.49 | 0.96 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:805:U:P | 25:BW:121:VAL:O | 2.22 | 0.96 |
| 1:A2:1239:U:O4 | 18:BP:64:LYS:N | 1.98 | 0.96 |
| 1:A2:1556:A:OP2 | 18:BP:38:PRO:HB2 | 0.79 | 0.96 |
| 1:A2:1683:C:N3 | 9:BG:65:GLN:OE1 | 1.99 | 0.96 |
| 2:AZ:6107:U:O5' | 8:BF:220:VAL:O | 1.84 | 0.96 |
| 1:A2:168:A:C4' | 9:BG:132:ARG:HD2 | 1.94 | 0.96 |
| 1:A2:181:A:H1' | 9:BG:191:ARG:CB | 1.66 | 0.96 |
| 1:A2:336:G:H22 | 11:BI:25:ARG:N | 1.62 | 0.96 |
| 1:A2:736:C:O2 | 7:BE:180:LEU:O | 1.81 | 0.96 |
| 1:A2:1084:A:C1' | 5:BC:161:LYS:HE3 | 1.95 | 0.96 |
| 1:A2:1316:G:H1' | 20:BR:6:THR:HG23 | 1.45 | 0.96 |
| 1:A2:1503:A:C8 | 21:BS:41:ARG:CZ | 2.49 | 0.96 |
| 1:A2:30:G:OP2 | 26:BX:130:VAL:HG21 | 1.38 | 0.96 |
| 1:A2:585:A:C8 | 33:Be:17:GLN:CA | 2.49 | 0.96 |
| 1:A2:634:G:C5' | 25:BW:79:PHE:H | 1.79 | 0.96 |
| 1:A2:776:G:H1 | 27:BY:35:VAL:HG12 | 1.28 | 0.96 |
| 1:A2:778:G:C1' | 27:BY:32:ARG:NH2 | 2.28 | 0.96 |
| 1:A2:889:U:OP1 | 17:BO:89:THR:CG2 | 2.14 | 0.96 |
| 1:A2:1326:A:O2' | 6:BD:157:LEU:HD22 | 1.05 | 0.96 |
| 1:A2:141:U:C6 | 9:BG:173:PRO:HG2 | 2.00 | 0.96 |
| 1:A2:765:G:O5' | 27:BY:64:PHE:CE2 | 2.03 | 0.96 |
| 1:A2:953:G:N7 | 16:BN:3:ARG:CD | 2.17 | 0.96 |
| 1:A2:1144:U:C2' | 5:BC:87:GLN:O | 2.14 | 0.96 |
| 1:A2:1175:U:O4 | 21:BS:140:THR:CG2 | 2.10 | 0.96 |
| 1:A2:1317:C:H6 | 20:BR:7:LYS:HD3 | 1.11 | 0.96 |
| 1:A2:1334:U:H4' | 23:BU:83:GLU:OE2 | 1.65 | 0.96 |
| 1:A2:1357:A:O4' | 22:BT:126:GLU:C | 2.08 | 0.96 |
| 1:A2:1367:G:OP1 | 22:BT:7:ARG:NH2 | 1.98 | 0.96 |
| 1:A2:1367:G:C4' | 22:BT:66:TYR:HE1 | 1.77 | 0.96 |
| 1:A2:1502:G:H2' | 22:BT:37:VAL:HG22 | 1.44 | 0.96 |
| 7:BE:65:LEU:C | 7:BE:66:MET:N | 2.24 | 0.96 |
| 1:A2:219:A:P | 7:BE:153:ASN:OD1 | 2.24 | 0.96 |
| 1:A2:338:C:O2' | 11:BI:24:LYS:CE | 2.10 | 0.96 |
| 1:A2:397:A:C2' | 9:BG:88:ARG:HH21 | 1.78 | 0.96 |
| 1:A2:636:A:H5" | 25:BW:126:LEU:N | 1.63 | 0.96 |
| 1:A2:787:G:N3 | 27:BY:61:ARG:HD2 | 1.81 | 0.96 |
| 1:A2:1582:U:O3' | 19:BQ:135:ARG:NH2 | 1.99 | 0.96 |
| 1:A2:86:A:H5" | 27:BY:125:LEU:CD1 | 1.91 | 0.96 |
| 1:A2:140:A:N3 | 9:BG:157:VAL:CB | 2.29 | 0.96 |
| 1:A2:165:G:O5' | 9:BG:15:THR:C | 1.92 | 0.96 |
| 1:A2:241:U:H3' | 7:BE:149:TYR:HD2 | 0.79 | 0.96 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:396:G:H3' | 9:BG:88:ARG:CB | 1.96 | 0.96 |
| 1:A2:956:C:N3 | 16:BN:11:ILE:HB | 1.81 | 0.96 |
| 1:A2:1037:C:O3' | 1:A2:1038:U:P | 2.24 | 0.96 |
| 1:A2:1502:G:C2' | 22:BT:37:VAL:HG23 | 1.84 | 0.96 |
| 1:A2:1548:G:N3 | 21:BS:86:LEU:HA | 1.77 | 0.96 |
| 1:A2:1797:A:C1' | 29:Ba:94:ASN:H | 1.70 | 0.96 |
| 27:BY:88:THR:HG1 | 27:BY:89:TYR:N | 1.62 | 0.96 |
| 1:A2:338:C:H3' | 11:BI:4:SER:HB3 | 1.44 | 0.95 |
| 1:A2:1037:C:H3' | 25:BW:19:LYS:HE2 | 1.46 | 0.95 |
| 1:A2:1055:U:C5' | 3:BA:46:HIS:CB | 2.44 | 0.95 |
| 1:A2:1256:A:N1 | 34:Bf:98:LYS:HD2 | 1.80 | 0.95 |
| 1:A2:1260:U:N3 | 34:Bf:93:ALA:HB1 | 1.79 | 0.95 |
| 1:A2:1300:A:H5' | 5:BC:86:VAL:HG22 | 1.48 | 0.95 |
| 1:A2:1326:A:C2 | 6:BD:159:HIS:HE1 | 1.70 | 0.95 |
| 1:A2:57:G:C5' | 27:BY:114:ARG:HG3 | 1.96 | 0.95 |
| 1:A2:91:G:C4 | 27:BY:116:LYS:HE3 | 1.96 | 0.95 |
| 1:A2:325:G:C1' | 14:BL:133:LYS:HG3 | 1.96 | 0.95 |
| 1:A2:704:C:OP2 | 7:BE:233:LYS:CE | 2.12 | 0.95 |
| 1:A2:760:A:C1' | 12:BJ:9:SER:O | 2.14 | 0.95 |
| 1:A2:776:G:O3' | 27:BY:66:GLY:HA2 | 1.66 | 0.95 |
| 1:A2:799:A:HO2' | 7:BE:186:GLY:N | 1.64 | 0.95 |
| 1:A2:1034:C:H42 | 26:BX:3:LYS:CE | 1.69 | 0.95 |
| 1:A2:1144:U:C1' | 5:BC:89:GLN:HG3 | 1.95 | 0.95 |
| 1:A2:1498:G:H5" | 22:BT:72:GLY:C | 1.91 | 0.95 |
| 1:A2:1682:U:C4' | 9:BG:102:VAL:HG12 | 1.96 | 0.95 |
| 1:A2:91:G:C3' | 27:BY:116:LYS:HZ2 | 1.74 | 0.95 |
| 1:A2:301:A:C5 | 7:BE:2:ALA:O | 2.18 | 0.95 |
| 1:A2:585:A:H8 | 33:Be:17:GLN:HA | 1.31 | 0.95 |
| 1:A2:776:G:C2' | 27:BY:29:HIS:HE2 | 1.67 | 0.95 |
| 1:A2:858:G:H22 | 10:BH:108:GLN:HG3 | 1.15 | 0.95 |
| 1:A2:864:U:OP1 | 25:BW:7:LEU:CD2 | 2.14 | 0.95 |
| 1:A2:1334:U:H4' | 23:BU:83:GLU:CG | 1.96 | 0.95 |
| 1:A2:1367:G:OP1 | 22:BT:7:ARG:CZ | 2.13 | 0.95 |
| 1:A2:1479:A:C5' | 22:BT:16:ASN:HD21 | 1.79 | 0.95 |
| 1:A2:1502:G:O6 | 22:BT:99:SER:HB3 | 1.66 | 0.95 |
| 1:A2:1721:A:C3' | 9:BG:67:VAL:CG2 | 2.31 | 0.95 |
| 1:A2:864:U:C6 | 25:BW:13:ALA:HB3 | 2.01 | 0.95 |
| 1:A2:957:G:H4' | 30:Bb:21:LEU:C | 1.91 | 0.95 |
| 1:A2:1060:U:OP2 | 3:BA:39:ASN:ND2 | 2.00 | 0.95 |
| 1:A2:1084:A:C2' | 5:BC:163:GLY:C | 2.38 | 0.95 |
| 1:A2:1086:A:H8 | 5:BC:203:LYS:HD3 | 0.80 | 0.95 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1252:C:C1’ | 34:Bf:136:LYS:CG | 2.45 | 0.95 |
| 1:A2:1608:U:O2’ | 19:BQ:73:GLY:CA | 2.15 | 0.95 |
| 1:A2:140:A:OP1 | 9:BG:138:ALA:CB | 2.15 | 0.95 |
| 1:A2:240:U:OP2 | 9:BG:211:LEU:HB2 | 1.65 | 0.95 |
| 1:A2:636:A:OP2 | 25:BW:78:ARG:HB3 | 1.65 | 0.95 |
| 1:A2:741:C:C6 | 7:BE:201:HIS:CA | 2.46 | 0.95 |
| 1:A2:920:U:H5” | 4:BB:214:LYS:CD | 1.52 | 0.95 |
| 1:A2:943:C:C6 | 29:Ba:16:GLY:N | 2.34 | 0.95 |
| 1:A2:1213:G:C2’ | 18:BP:78:THR:O | 2.14 | 0.95 |
| 1:A2:1299:G:C8 | 5:BC:99:LYS:HG3 | 2.01 | 0.95 |
| 1:A2:1366:U:H4’ | 22:BT:5:SER:HB2 | 1.48 | 0.95 |
| 1:A2:1401:A:C5’ | 20:BR:10:LYS:H | 1.77 | 0.95 |
| 1:A2:1520:U:H5” | 22:BT:75:LYS:CD | 1.95 | 0.95 |
| 21:BS:87:ASN:OD1 | 21:BS:88:ARG:N | 1.99 | 0.95 |
| 1:A2:147:A:H1’ | 27:BY:124:ARG:HH11 | 1.30 | 0.95 |
| 1:A2:246:G:OP1 | 7:BE:37:LYS:HD3 | 1.66 | 0.95 |
| 1:A2:338:C:O2’ | 11:BI:24:LYS:NZ | 1.98 | 0.95 |
| 1:A2:787:G:N3 | 27:BY:61:ARG:CD | 2.28 | 0.95 |
| 1:A2:814:A:N7 | 10:BH:108:GLN:HB2 | 1.41 | 0.95 |
| 3:BA:175:TYR:OH | 3:BA:197:ILE:O | 1.84 | 0.95 |
| 1:A2:116:U:N3 | 7:BE:4:GLY:HA3 | 1.81 | 0.95 |
| 1:A2:238:U:HO3’ | 9:BG:210:GLN:HB2 | 1.27 | 0.95 |
| 1:A2:354:C:O3’ | 1:A2:355:G:P | 2.24 | 0.95 |
| 1:A2:803:A:C3’ | 25:BW:120:HIS:CE1 | 2.49 | 0.95 |
| 1:A2:862:A:O4’ | 25:BW:32:LYS:N | 1.98 | 0.95 |
| 1:A2:957:G:H1’ | 30:Bb:21:LEU:HB3 | 0.97 | 0.95 |
| 1:A2:1230:A:C5’ | 34:Bf:98:LYS:HE2 | 1.86 | 0.95 |
| 1:A2:1357:A:O3’ | 22:BT:130:ARG:HG3 | 1.66 | 0.95 |
| 1:A2:1419:G:H2’ | 32:Bd:54:LYS:HE2 | 1.48 | 0.95 |
| 1:A2:1566:U:C5’ | 21:BS:30:TYR:O | 2.13 | 0.95 |
| 1:A2:1566:U:C2 | 21:BS:38:VAL:O | 2.20 | 0.95 |
| 1:A2:1584:G:OP1 | 19:BQ:123:ARG:O | 1.71 | 0.95 |
| 1:A2:149:C:H3’ | 27:BY:130:ALA:O | 1.66 | 0.95 |
| 1:A2:586:G:O6 | 33:Be:19:PRO:CG | 2.14 | 0.95 |
| 1:A2:589:C:H41 | 33:Be:21:VAL:C | 1.74 | 0.95 |
| 1:A2:632:U:C5 | 26:BX:12:ALA:N | 2.18 | 0.95 |
| 1:A2:688:G:H5’ | 12:BJ:67:PRO:CB | 1.96 | 0.95 |
| 1:A2:741:C:H42 | 7:BE:207:LEU:N | 1.64 | 0.95 |
| 1:A2:776:G:H4’ | 27:BY:66:GLY:N | 1.82 | 0.95 |
| 1:A2:786:C:H5’ | 27:BY:26:ASP:OD1 | 0.78 | 0.95 |
| 1:A2:873:U:N3 | 16:BN:11:ILE:N | 2.14 | 0.95 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:931:C:O2 | 4:BB:155:TYR:OH | 1.84 | 0.95 |
| 1:A2:1103:U:O3' | 26:BX:15:LEU:CD2 | 2.14 | 0.95 |
| 1:A2:1213:G:N2 | 18:BP:79:HIS:N | 2.14 | 0.95 |
| 1:A2:1563:C:C3' | 22:BT:38:LYS:CD | 2.45 | 0.95 |
| 1:A2:80:A:H61 | 9:BG:168:THR:CA | 1.80 | 0.95 |
| 1:A2:91:G:H2' | 27:BY:116:LYS:HE2 | 0.97 | 0.95 |
| 1:A2:242:U:H5 | 7:BE:149:TYR:CD1 | 1.83 | 0.95 |
| 1:A2:266:A:H2 | 9:BG:136:LYS:H | 1.08 | 0.95 |
| 1:A2:300:A:N6 | 7:BE:4:GLY:C | 2.19 | 0.95 |
| 1:A2:568:G:O2' | 33:Be:13:LYS:CB | 0.65 | 0.95 |
| 1:A2:570:A:N1 | 26:BX:67:ALA:HA | 1.82 | 0.95 |
| 1:A2:597:G:C1' | 26:BX:137:LYS:HG3 | 1.94 | 0.95 |
| 1:A2:1037:C:H4' | 25:BW:71:LYS:HD2 | 0.98 | 0.95 |
| 1:A2:1390:U:C4 | 20:BR:3:ARG:HD2 | 2.02 | 0.95 |
| 1:A2:1473:U:C1' | 8:BF:113:ILE:CD1 | 2.44 | 0.95 |
| 1:A2:1564:U:H2' | 21:BS:41:ARG:C | 1.92 | 0.95 |
| 7:BE:217:THR:HG1 | 7:BE:218:PHE:N | 1.63 | 0.95 |
| 25:BW:71:LYS:C | 25:BW:72:CYS:N | 2.25 | 0.95 |
| 1:A2:164:A:O5' | 9:BG:2:LYS:HG3 | 1.66 | 0.95 |
| 1:A2:324:U:C5' | 11:BI:11:ARG:C | 2.33 | 0.95 |
| 1:A2:331:A:H8 | 11:BI:31:ARG:CG | 1.52 | 0.95 |
| 1:A2:900:A:C4' | 17:BO:20:TYR:CE1 | 2.38 | 0.95 |
| 1:A2:975:C:O3' | 1:A2:976:G:P | 2.25 | 0.95 |
| 1:A2:1253:U:C6 | 34:Bf:136:LYS:HB3 | 2.02 | 0.95 |
| 1:A2:1295:G:N7 | 5:BC:116:LYS:HE2 | 1.82 | 0.95 |
| 1:A2:1418:G:C5 | 32:Bd:56:ARG:NH1 | 2.35 | 0.95 |
| 1:A2:1535:U:C5 | 8:BF:188:LYS:HG3 | 2.02 | 0.95 |
| 1:A2:1756:A:H3' | 1:A2:1757:G:P | 2.05 | 0.95 |
| 1:A2:91:G:N7 | 27:BY:116:LYS:O | 1.97 | 0.94 |
| 1:A2:245:U:C2 | 7:BE:128:LYS:NZ | 2.35 | 0.94 |
| 1:A2:631:G:H5' | 26:BX:13:ARG:CZ | 1.98 | 0.94 |
| 1:A2:632:U:HO2' | 14:BL:99:ARG:HD2 | 1.27 | 0.94 |
| 1:A2:933:A:C4' | 29:Ba:95:ARG:HH12 | 1.79 | 0.94 |
| 1:A2:1103:U:O2 | 26:BX:5:LYS:CB | 2.14 | 0.94 |
| 1:A2:1298:U:O2 | 5:BC:208:GLU:OE1 | 1.83 | 0.94 |
| 1:A2:1473:U:O4' | 8:BF:113:ILE:CD1 | 2.14 | 0.94 |
| 1:A2:137:U:H2' | 9:BG:143:LYS:NZ | 1.82 | 0.94 |
| 1:A2:139:C:C3' | 9:BG:138:ALA:H | 1.69 | 0.94 |
| 1:A2:139:C:N3 | 9:BG:136:LYS:CB | 2.15 | 0.94 |
| 1:A2:238:U:H3' | 9:BG:210:GLN:HB2 | 1.45 | 0.94 |
| 1:A2:244:A:H5" | 7:BE:141:THR:OG1 | 1.68 | 0.94 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:337:G:O2' | 11:BI:9:HIS:ND1 | 1.98 | 0.94 |
| 1:A2:597:G:O2' | 26:BX:136:TRP:HB3 | 1.67 | 0.94 |
| 1:A2:896:U:H1' | 17:BO:18:ARG:HG3 | 1.50 | 0.94 |
| 1:A2:899:G:C4' | 17:BO:25:ASP:OD1 | 2.14 | 0.94 |
| 1:A2:959:U:H5" | 25:BW:59:GLY:CA | 1.96 | 0.94 |
| 1:A2:1399:C:H3' | 20:BR:66:VAL:HG21 | 1.45 | 0.94 |
| 1:A2:1434:U:O2 | 32:Bd:26:SER:HB2 | 1.67 | 0.94 |
| 7:BE:16:HIS:C | 7:BE:17:HIS:N | 2.25 | 0.94 |
| 9:BG:96:SER:C | 9:BG:97:VAL:N | 2.25 | 0.94 |
| 1:A2:215:A:H5' | 7:BE:132:GLY:N | 1.80 | 0.94 |
| 1:A2:734:A:H2 | 7:BE:180:LEU:CD2 | 1.56 | 0.94 |
| 1:A2:1241:G:C6 | 18:BP:78:THR:N | 2.36 | 0.94 |
| 1:A2:1260:U:C5' | 34:Bf:92:LYS:CA | 2.36 | 0.94 |
| 1:A2:1389:C:C4' | 20:BR:45:ARG:HG3 | 1.97 | 0.94 |
| 1:A2:1453:G:O2' | 18:BP:118:GLU:O | 1.83 | 0.94 |
| 1:A2:1673:G:C3' | 9:BG:94:ARG:NE | 2.30 | 0.94 |
| 35:Bg:81:LEU:HD23 | 35:Bg:91:LEU:HD13 | 1.48 | 0.94 |
| 1:A2:328:A:H5" | 11:BI:172:ARG:NH1 | 1.82 | 0.94 |
| 1:A2:741:C:N4 | 7:BE:206:ASP:C | 2.25 | 0.94 |
| 1:A2:784:C:O3' | 27:BY:7:ILE:CG2 | 2.13 | 0.94 |
| 1:A2:967:A:C6 | 26:BX:8:GLY:N | 2.36 | 0.94 |
| 1:A2:1419:G:N9 | 32:Bd:56:ARG:HB3 | 1.50 | 0.94 |
| 1:A2:1505:A:C2 | 21:BS:84:TRP:CE2 | 2.54 | 0.94 |
| 1:A2:1546:G:H21 | 21:BS:38:VAL:H | 0.96 | 0.94 |
| 1:A2:180:A:H2 | 9:BG:188:ARG:O | 1.31 | 0.94 |
| 1:A2:298:C:C5 | 7:BE:7:LYS:HD2 | 2.02 | 0.94 |
| 1:A2:338:C:O2 | 11:BI:2:GLY:C | 2.11 | 0.94 |
| 1:A2:1145:U:O2' | 1:A2:1146:G:O5' | 1.83 | 0.94 |
| 1:A2:1416:G:HO2' | 19:BQ:126:PRO:HD3 | 1.14 | 0.94 |
| 1:A2:1566:U:H4' | 21:BS:32:LEU:O | 1.66 | 0.94 |
| 1:A2:1601:G:H8 | 22:BT:89:ARG:N | 1.63 | 0.94 |
| 1:A2:18:C:HO3' | 26:BX:114:LYS:HA | 0.78 | 0.94 |
| 1:A2:147:A:C1' | 27:BY:124:ARG:HH11 | 1.79 | 0.94 |
| 1:A2:736:C:H5 | 7:BE:225:VAL:HG13 | 1.13 | 0.94 |
| 1:A2:864:U:H3 | 25:BW:14:ILE:HD11 | 1.33 | 0.94 |
| 1:A2:922:G:OP2 | 4:BB:138:PHE:HZ | 1.51 | 0.94 |
| 1:A2:960:U:O4' | 25:BW:57:ARG:HD3 | 1.65 | 0.94 |
| 1:A2:1037:C:OP1 | 25:BW:15:ASN:HB2 | 1.67 | 0.94 |
| 1:A2:1238:A:O5' | 18:BP:63:ALA:O | 1.84 | 0.94 |
| 1:A2:1280:C:C1' | 23:BU:72:ASN:H | 1.79 | 0.94 |
| 1:A2:1331:A:C8 | 6:BD:161:GLY:HA3 | 1.88 | 0.94 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:141:U:C3' | 9:BG:158:ILE:HG21 | 1.97 | 0.94 |
| 1:A2:598:U:N1 | 26:BX:132:LEU:HB3 | 1.61 | 0.94 |
| 1:A2:783:G:C2 | 27:BY:40:LEU:CD2 | 2.49 | 0.94 |
| 1:A2:783:G:C5' | 27:BY:39:GLU:O | 2.16 | 0.94 |
| 1:A2:863:A:P | 25:BW:30:SER:O | 2.24 | 0.94 |
| 1:A2:920:U:H3' | 4:BB:214:LYS:CD | 1.96 | 0.94 |
| 1:A2:1458:G:H1' | 21:BS:126:ARG:HH22 | 1.24 | 0.94 |
| 1:A2:1553:G:C2 | 18:BP:40:ARG:HB2 | 2.03 | 0.94 |
| 1:A2:1565:C:H3' | 21:BS:40:ARG:CA | 1.98 | 0.94 |
| 2:AZ:6106:A:O2' | 8:BF:223:SER:C | 2.10 | 0.94 |
| 1:A2:29:U:N3 | 26:BX:131:SER:HB2 | 1.78 | 0.94 |
| 1:A2:137:U:C3' | 9:BG:143:LYS:HE2 | 1.97 | 0.94 |
| 1:A2:241:U:C4' | 7:BE:149:TYR:HD2 | 1.57 | 0.94 |
| 1:A2:583:C:C2 | 33:Be:17:GLN:OE1 | 2.20 | 0.94 |
| 1:A2:592:A:N6 | 33:Be:23:LYS:HZ2 | 1.59 | 0.94 |
| 1:A2:792:U:C5 | 12:BJ:7:THR:OG1 | 2.11 | 0.94 |
| 1:A2:858:G:N2 | 10:BH:108:GLN:CD | 2.25 | 0.94 |
| 1:A2:858:G:O2' | 10:BH:103:SER:N | 1.73 | 0.94 |
| 1:A2:916:U:C6 | 17:BO:84:ARG:NH1 | 2.36 | 0.94 |
| 1:A2:970:A:N9 | 26:BX:17:VAL:HG11 | 1.83 | 0.94 |
| 1:A2:1068:C:C5' | 3:BA:33:GLN:CB | 2.44 | 0.94 |
| 1:A2:1192:C:O2' | 19:BQ:140:LYS:HE2 | 1.67 | 0.94 |
| 1:A2:1202:A:N1 | 21:BS:136:GLN:HA | 1.81 | 0.94 |
| 1:A2:1260:U:H3' | 34:Bf:92:LYS:C | 1.92 | 0.94 |
| 1:A2:1281:G:C8 | 23:BU:70:THR:HG21 | 2.01 | 0.94 |
| 1:A2:1391:A:O2' | 20:BR:28:PHE:HE1 | 1.29 | 0.94 |
| 1:A2:1528:U:OP1 | 8:BF:112:ARG:HB2 | 1.66 | 0.94 |
| 1:A2:1565:C:H3' | 21:BS:40:ARG:N | 1.82 | 0.94 |
| 1:A2:1566:U:C4' | 21:BS:30:TYR:O | 2.16 | 0.94 |
| 1:A2:1613:U:P | 8:BF:84:LYS:CE | 2.56 | 0.94 |
| 1:A2:248:U:OP2 | 7:BE:128:LYS:HE2 | 1.68 | 0.94 |
| 1:A2:597:G:C2 | 26:BX:135:LEU:N | 2.35 | 0.94 |
| 1:A2:736:C:N3 | 7:BE:195:ILE:CD1 | 2.31 | 0.94 |
| 1:A2:739:G:O6 | 7:BE:175:PHE:HE1 | 1.51 | 0.94 |
| 1:A2:776:G:O6 | 27:BY:35:VAL:O | 1.85 | 0.94 |
| 1:A2:858:G:H1 | 10:BH:108:GLN:CG | 1.80 | 0.94 |
| 1:A2:873:U:H3 | 16:BN:10:GLY:HA2 | 1.30 | 0.94 |
| 1:A2:1212:G:C6 | 18:BP:99:GLY:C | 2.35 | 0.94 |
| 1:A2:1419:G:C2 | 32:Bd:54:LYS:HG2 | 2.03 | 0.94 |
| 1:A2:1555:A:C5' | 18:BP:40:ARG:HG2 | 1.95 | 0.94 |
| 1:A2:1710:U:C6 | 9:BG:115:LYS:CD | 2.51 | 0.94 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 14:BL:43:LYS:O | 14:BL:44:THR:N | 1.99 | 0.94 |
| 1:A2:75:U:H6 | 9:BG:166:GLU:O | 1.45 | 0.94 |
| 1:A2:145:A:OP1 | 9:BG:6:SER:HB2 | 1.68 | 0.94 |
| 1:A2:179:A:H1' | 9:BG:184:LEU:C | 1.93 | 0.94 |
| 1:A2:589:C:H5 | 33:Be:21:VAL:HG22 | 1.33 | 0.94 |
| 1:A2:736:C:H5" | 7:BE:182:TYR:O | 1.65 | 0.94 |
| 1:A2:832:U:C5' | 9:BG:213:ALA:HA | 1.97 | 0.94 |
| 1:A2:1051:G:C8 | 30:Bb:13:ALA:CB | 2.02 | 0.94 |
| 1:A2:1055:U:C4' | 3:BA:46:HIS:CB | 2.43 | 0.94 |
| 1:A2:1290:U:H4' | 6:BD:151:LYS:NZ | 1.82 | 0.94 |
| 1:A2:1519:U:OP2 | 22:BT:75:LYS:HE2 | 1.67 | 0.94 |
| 1:A2:1546:G:H1' | 21:BS:36:LYS:CB | 1.96 | 0.94 |
| 1:A2:1601:G:OP1 | 22:BT:89:ARG:HB3 | 0.95 | 0.94 |
| 1:A2:215:A:H4' | 7:BE:131:LEU:CA | 1.99 | 0.93 |
| 1:A2:323:A:C1' | 11:BI:11:ARG:CG | 2.44 | 0.93 |
| 1:A2:701:U:N3 | 7:BE:175:PHE:C | 2.26 | 0.93 |
| 1:A2:955:A:N6 | 16:BN:11:ILE:HA | 1.58 | 0.93 |
| 1:A2:1049:U:H3' | 30:Bb:18:LYS:HB3 | 1.50 | 0.93 |
| 1:A2:1302:U:OP1 | 5:BC:88:LYS:HD3 | 1.68 | 0.93 |
| 1:A2:1391:A:O2' | 20:BR:28:PHE:CE1 | 2.19 | 0.93 |
| 1:A2:1525:A:H61 | 19:BQ:73:GLY:N | 1.66 | 0.93 |
| 1:A2:1566:U:C6 | 21:BS:33:THR:CG2 | 2.50 | 0.93 |
| 1:A2:1:U:C2 | 12:BJ:12:TYR:CD1 | 2.56 | 0.93 |
| 1:A2:75:U:C2 | 9:BG:166:GLU:N | 2.37 | 0.93 |
| 1:A2:266:A:H4' | 9:BG:136:LYS:CD | 1.77 | 0.93 |
| 1:A2:803:A:C5' | 25:BW:120:HIS:ND1 | 2.31 | 0.93 |
| 1:A2:920:U:H3' | 4:BB:214:LYS:HD3 | 1.46 | 0.93 |
| 1:A2:1055:U:H5' | 3:BA:46:HIS:C | 1.91 | 0.93 |
| 1:A2:1327:C:C6 | 6:BD:159:HIS:N | 2.34 | 0.93 |
| 1:A2:1428:G:H1 | 23:BU:74:GLU:HG3 | 1.20 | 0.93 |
| 1:A2:1452:U:O2 | 18:BP:96:ILE:HG21 | 1.66 | 0.93 |
| 1:A2:1457:C:HO2' | 21:BS:132:ARG:N | 1.66 | 0.93 |
| 1:A2:1564:U:C4' | 21:BS:41:ARG:HH11 | 1.67 | 0.93 |
| 1:A2:1600:A:C3' | 22:BT:86:ARG:CZ | 2.43 | 0.93 |
| 1:A2:58:U:O3' | 27:BY:111:LYS:CD | 1.94 | 0.93 |
| 1:A2:140:A:P | 9:BG:153:VAL:O | 2.27 | 0.93 |
| 1:A2:165:G:N2 | 27:BY:131:ARG:HH12 | 1.66 | 0.93 |
| 1:A2:241:U:N3 | 7:BE:136:VAL:CG1 | 2.32 | 0.93 |
| 1:A2:755:A:N3 | 12:BJ:3:ARG:CG | 2.32 | 0.93 |
| 1:A2:879:G:O2' | 16:BN:111:ALA:N | 1.99 | 0.93 |
| 1:A2:957:G:H4' | 30:Bb:22:LYS:HG3 | 0.93 | 0.93 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:959:U:O2' | 25:BW:56:HIS:HB2 | 1.66 | 0.93 |
| 1:A2:1498:G:C8 | 22:BT:73:VAL:HG23 | 2.00 | 0.93 |
| 1:A2:1683:C:O5' | 9:BG:52:ILE:HG23 | 1.66 | 0.93 |
| 1:A2:1796:C:P | 29:Ba:92:ARG:CZ | 2.56 | 0.93 |
| 2:AZ:6220:U:O2 | 6:BD:143:ARG:CD | 0.64 | 0.93 |
| 1:A2:164:A:OP2 | 9:BG:2:LYS:HB3 | 1.69 | 0.93 |
| 1:A2:265:A:OP1 | 9:BG:176:GLN:HG3 | 1.66 | 0.93 |
| 1:A2:323:A:H1' | 11:BI:11:ARG:CD | 1.99 | 0.93 |
| 1:A2:567:A:H3' | 33:Be:10:ARG:HG2 | 1.49 | 0.93 |
| 1:A2:872:G:H22 | 16:BN:11:ILE:CG1 | 1.74 | 0.93 |
| 1:A2:955:A:H2 | 16:BN:11:ILE:HD13 | 0.83 | 0.93 |
| 1:A2:1040:G:C3' | 24:BV:62:ARG:HE | 1.81 | 0.93 |
| 1:A2:1055:U:P | 3:BA:46:HIS:CB | 2.57 | 0.93 |
| 1:A2:1290:U:C5' | 6:BD:151:LYS:HE3 | 1.98 | 0.93 |
| 1:A2:323:A:H1' | 11:BI:11:ARG:CG | 1.99 | 0.93 |
| 1:A2:597:G:C4' | 26:BX:137:LYS:CG | 2.41 | 0.93 |
| 1:A2:741:C:H42 | 7:BE:207:LEU:H | 1.16 | 0.93 |
| 1:A2:778:G:H3' | 27:BY:32:ARG:CZ | 1.87 | 0.93 |
| 1:A2:831:U:P | 7:BE:152:PRO:HB3 | 2.08 | 0.93 |
| 1:A2:865:A:O5' | 25:BW:8:ALA:CB | 1.92 | 0.93 |
| 1:A2:952:A:N3 | 16:BN:6:SER:N | 2.15 | 0.93 |
| 1:A2:989:U:O2 | 17:BO:127:ARG:HG3 | 1.67 | 0.93 |
| 1:A2:1326:A:C5' | 6:BD:156:PHE:C | 2.36 | 0.93 |
| 1:A2:1370:U:C5' | 22:BT:119:LYS:HZ1 | 1.80 | 0.93 |
| 1:A2:1454:G:OP1 | 18:BP:118:GLU:HB3 | 1.67 | 0.93 |
| 1:A2:1558:U:OP1 | 21:BS:127:HIS:CD2 | 2.20 | 0.93 |
| 1:A2:1683:C:OP1 | 9:BG:109:LEU:HG | 1.68 | 0.93 |
| 1:A2:1797:A:N3 | 29:Ba:90:GLU:O | 2.02 | 0.93 |
| 1:A2:28:A:N1 | 26:BX:131:SER:C | 2.26 | 0.93 |
| 1:A2:78:A:N1 | 9:BG:160:ARG:CG | 2.26 | 0.93 |
| 1:A2:215:A:C4' | 7:BE:131:LEU:HA | 1.98 | 0.93 |
| 1:A2:330:G:C4' | 11:BI:31:ARG:HB3 | 1.93 | 0.93 |
| 1:A2:346:G:N1 | 11:BI:16:ALA:N | 2.16 | 0.93 |
| 1:A2:600:U:C2 | 26:BX:105:ALA:CB | 2.45 | 0.93 |
| 1:A2:735:C:C5 | 7:BE:195:ILE:HG13 | 2.03 | 0.93 |
| 1:A2:1084:A:C5' | 5:BC:161:LYS:HA | 1.98 | 0.93 |
| 1:A2:1246:C:C4 | 18:BP:76:VAL:C | 2.45 | 0.93 |
| 1:A2:1298:U:O4' | 5:BC:99:LYS:HD3 | 1.36 | 0.93 |
| 1:A2:1535:U:C5' | 28:BZ:67:ASP:CG | 1.96 | 0.93 |
| 1:A2:1546:G:H22 | 21:BS:38:VAL:C | 1.76 | 0.93 |
| 1:A2:1709:C:H4' | 9:BG:9:VAL:HG22 | 1.00 | 0.93 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1721:A:H5' | 9:BG:64:LYS:HB2 | 1.51 | 0.93 |
| 26:BX:18:HIS:C | 26:BX:19:ARG:N | 2.27 | 0.93 |
| 1:A2:241:U:C4 | 7:BE:136:VAL:HG13 | 2.02 | 0.93 |
| 1:A2:634:G:C6 | 26:BX:9:LEU:HD12 | 2.03 | 0.93 |
| 1:A2:699:U:H5' | 7:BE:197:HIS:CE1 | 1.69 | 0.93 |
| 1:A2:733:A:N1 | 7:BE:195:ILE:CG2 | 2.30 | 0.93 |
| 1:A2:895:G:H2' | 17:BO:18:ARG:NH1 | 1.54 | 0.93 |
| 1:A2:1084:A:C2' | 5:BC:164:SER:N | 2.32 | 0.93 |
| 1:A2:1237:G:C8 | 18:BP:65:LEU:HD22 | 2.03 | 0.93 |
| 1:A2:1241:G:OP1 | 18:BP:105:VAL:N | 2.01 | 0.93 |
| 1:A2:1475:A:H62 | 28:BZ:97:LYS:CD | 1.82 | 0.93 |
| 1:A2:1498:G:H5' | 22:BT:73:VAL:N | 1.82 | 0.93 |
| 1:A2:1791:A:O3' | 29:Ba:2:PRO:O | 1.73 | 0.93 |
| 1:A2:1796:C:C5' | 29:Ba:92:ARG:HE | 1.78 | 0.93 |
| 1:A2:149:C:O3' | 27:BY:130:ALA:CB | 2.17 | 0.93 |
| 1:A2:864:U:H5 | 25:BW:13:ALA:CB | 1.82 | 0.93 |
| 1:A2:943:C:H5 | 29:Ba:16:GLY:HA2 | 1.22 | 0.93 |
| 1:A2:1068:C:H4' | 3:BA:153:SER:HB3 | 1.49 | 0.93 |
| 1:A2:1252:C:H3' | 34:Bf:136:LYS:HG3 | 1.49 | 0.93 |
| 1:A2:1419:G:C2 | 32:Bd:54:LYS:CG | 2.49 | 0.93 |
| 1:A2:32:U:O4 | 26:BX:140:LYS:HD2 | 1.68 | 0.93 |
| 1:A2:58:U:H5' | 27:BY:114:ARG:NE | 1.69 | 0.93 |
| 1:A2:87:C:OP2 | 1:A2:87:C:H6 | 1.50 | 0.93 |
| 1:A2:633:U:HO3' | 25:BW:79:PHE:HE1 | 0.96 | 0.93 |
| 1:A2:740:A:H2 | 7:BE:200:ARG:H | 1.15 | 0.93 |
| 1:A2:741:C:N4 | 7:BE:207:LEU:N | 2.17 | 0.93 |
| 1:A2:764:U:O3' | 27:BY:64:PHE:HA | 1.68 | 0.93 |
| 1:A2:858:G:N2 | 10:BH:108:GLN:CG | 2.20 | 0.93 |
| 1:A2:859:A:C2' | 10:BH:101:LYS:CE | 2.44 | 0.93 |
| 1:A2:1056:U:H5" | 3:BA:46:HIS:NE2 | 1.83 | 0.93 |
| 1:A2:1298:U:O2' | 5:BC:84:LYS:HG2 | 1.69 | 0.93 |
| 1:A2:1500:C:H6 | 22:BT:103:LYS:CG | 1.82 | 0.93 |
| 1:A2:1674:C:C4' | 9:BG:76:LEU:HG | 1.98 | 0.93 |
| 1:A2:1682:U:H4' | 9:BG:102:VAL:HG12 | 1.49 | 0.93 |
| 1:A2:76:A:O2' | 9:BG:163:THR:CG2 | 2.17 | 0.93 |
| 1:A2:179:A:H61 | 9:BG:190:GLN:HG2 | 1.34 | 0.93 |
| 1:A2:325:G:H1' | 14:BL:133:LYS:CG | 1.98 | 0.93 |
| 1:A2:591:A:N7 | 33:Be:23:LYS:NZ | 2.16 | 0.93 |
| 1:A2:742:U:H3 | 7:BE:206:ASP:C | 1.77 | 0.93 |
| 1:A2:1056:U:P | 3:BA:46:HIS:HA | 2.09 | 0.93 |
| 1:A2:1135:U:O5' | 26:BX:119:GLY:N | 2.01 | 0.93 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1556:A:P | 18:BP:38:PRO:CG | 2.56 | 0.93 |
| 5:BC:139:ILE:HD11 | 5:BC:191:ALA:HB1 | 1.47 | 0.93 |
| 1:A2:18:C:HO2' | 26:BX:115:GLY:HA2 | 0.88 | 0.92 |
| 1:A2:164:A:OP2 | 9:BG:108:VAL:HG13 | 1.68 | 0.92 |
| 1:A2:165:G:P | 9:BG:15:THR:N | 2.29 | 0.92 |
| 1:A2:735:C:C2' | 7:BE:193:GLY:N | 2.30 | 0.92 |
| 1:A2:746:A:N1 | 25:BW:82:LYS:CE | 2.33 | 0.92 |
| 1:A2:799:A:O2' | 7:BE:186:GLY:C | 2.12 | 0.92 |
| 1:A2:1056:U:OP2 | 3:BA:40:ALA:HA | 1.69 | 0.92 |
| 1:A2:1505:A:H5" | 22:BT:41:SER:HB3 | 1.51 | 0.92 |
| 1:A2:1521:G:OP1 | 22:BT:75:LYS:HE2 | 1.68 | 0.92 |
| 1:A2:241:U:OP2 | 9:BG:208:TYR:HB2 | 1.69 | 0.92 |
| 1:A2:585:A:N7 | 33:Be:17:GLN:O | 2.02 | 0.92 |
| 1:A2:686:C:H5" | 12:BJ:64:GLU:CG | 1.99 | 0.92 |
| 1:A2:704:C:C2 | 7:BE:231:GLN:HA | 2.03 | 0.92 |
| 1:A2:704:C:H5" | 7:BE:233:LYS:O | 1.68 | 0.92 |
| 1:A2:858:G:H1 | 10:BH:108:GLN:HG3 | 1.24 | 0.92 |
| 1:A2:1103:U:C5' | 26:BX:15:LEU:HD13 | 1.99 | 0.92 |
| 1:A2:1502:G:H2' | 22:BT:37:VAL:HG21 | 0.95 | 0.92 |
| 1:A2:1583:A:O3' | 1:A2:1584:G:P | 2.26 | 0.92 |
| 1:A2:91:G:H2' | 27:BY:116:LYS:NZ | 1.84 | 0.92 |
| 1:A2:165:G:H22 | 27:BY:131:ARG:NH1 | 1.66 | 0.92 |
| 1:A2:239:C:H5' | 9:BG:210:GLN:CG | 1.99 | 0.92 |
| 1:A2:741:C:H6 | 7:BE:201:HIS:CB | 1.72 | 0.92 |
| 1:A2:746:A:N1 | 25:BW:82:LYS:HE3 | 1.85 | 0.92 |
| 1:A2:814:A:H2 | 10:BH:109:VAL:CA | 1.52 | 0.92 |
| 1:A2:1038:U:C5' | 25:BW:19:LYS:NZ | 2.33 | 0.92 |
| 1:A2:1213:G:C4' | 18:BP:77:ARG:HD3 | 1.98 | 0.92 |
| 1:A2:1242:A:H4' | 18:BP:89:MET:HE2 | 1.44 | 0.92 |
| 1:A2:880:C:C6 | 16:BN:110:ASP:OD2 | 2.21 | 0.92 |
| 1:A2:895:G:C2' | 17:BO:18:ARG:HH12 | 1.80 | 0.92 |
| 1:A2:1146:G:C4 | 5:BC:93:GLY:N | 2.28 | 0.92 |
| 1:A2:1226:A:H1' | 34:Bf:99:ALA:O | 1.67 | 0.92 |
| 1:A2:1389:C:C5' | 20:BR:45:ARG:CA | 2.30 | 0.92 |
| 1:A2:1534:G:O2' | 8:BF:187:ILE:HG21 | 1.69 | 0.92 |
| 1:A2:180:A:H3' | 9:BG:187:LYS:NZ | 1.84 | 0.92 |
| 1:A2:329:G:H5' | 11:BI:56:ARG:HH21 | 1.14 | 0.92 |
| 1:A2:760:A:C2' | 12:BJ:9:SER:O | 2.17 | 0.92 |
| 1:A2:1056:U:OP2 | 3:BA:40:ALA:CB | 2.18 | 0.92 |
| 1:A2:1214:U:OP2 | 18:BP:102:PHE:HZ | 1.53 | 0.92 |
| 1:A2:1482:C:C1' | 19:BQ:74:HIS:HE1 | 1.77 | 0.92 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1797:A:N7 | 29:Ba:92:ARG:HG2 | 1.82 | 0.92 |
| 25:BW:34:ILE:C | 25:BW:35:ILE:N | 2.26 | 0.92 |
| 1:A2:78:A:N1 | 9:BG:162:VAL:CB | 2.31 | 0.92 |
| 1:A2:105:A:P | 11:BI:21:PHE:CB | 2.57 | 0.92 |
| 1:A2:776:G:C6 | 27:BY:35:VAL:HG12 | 2.05 | 0.92 |
| 1:A2:901:G:H22 | 17:BO:24:ASN:CA | 1.82 | 0.92 |
| 1:A2:1213:G:C6 | 18:BP:97:TYR:CD2 | 2.44 | 0.92 |
| 1:A2:1217:A:H5" | 32:Bd:7:TRP:CZ2 | 1.89 | 0.92 |
| 1:A2:1453:G:O2' | 18:BP:120:SER:O | 1.88 | 0.92 |
| 1:A2:1673:G:C2' | 9:BG:94:ARG:NE | 2.31 | 0.92 |
| 1:A2:458:G:N2 | 27:BY:105:ARG:HG2 | 1.83 | 0.92 |
| 1:A2:601:A:N7 | 26:BX:105:ALA:HB1 | 1.85 | 0.92 |
| 1:A2:632:U:C2' | 26:BX:15:LEU:CD1 | 2.42 | 0.92 |
| 1:A2:633:U:O3' | 1:A2:634:G:P | 2.19 | 0.92 |
| 1:A2:765:G:O6 | 12:BJ:132:ARG:HA | 1.68 | 0.92 |
| 1:A2:865:A:N7 | 25:BW:6:VAL:HG23 | 1.84 | 0.92 |
| 1:A2:955:A:H61 | 16:BN:11:ILE:HA | 0.77 | 0.92 |
| 1:A2:1159:C:C2' | 19:BQ:140:LYS:HZ2 | 1.82 | 0.92 |
| 1:A2:1244:A:C2' | 18:BP:59:LYS:CD | 2.41 | 0.92 |
| 1:A2:1255:G:O5' | 34:Bf:146:SER:C | 2.08 | 0.92 |
| 1:A2:1455:G:H8 | 18:BP:123:TYR:HE1 | 0.96 | 0.92 |
| 1:A2:1473:U:OP2 | 8:BF:191:ALA:N | 2.03 | 0.92 |
| 1:A2:217:A:O5' | 7:BE:155:LYS:HE2 | 1.70 | 0.92 |
| 1:A2:370:A:H4' | 12:BJ:13:SER:C | 1.95 | 0.92 |
| 1:A2:451:A:C2 | 27:BY:111:LYS:HD2 | 2.04 | 0.92 |
| 1:A2:734:A:N1 | 7:BE:180:LEU:CD2 | 2.21 | 0.92 |
| 1:A2:740:A:N3 | 7:BE:200:ARG:HA | 1.77 | 0.92 |
| 1:A2:778:G:H21 | 27:BY:32:ARG:CB | 1.81 | 0.92 |
| 1:A2:864:U:H5" | 25:BW:7:LEU:C | 1.93 | 0.92 |
| 1:A2:1056:U:OP2 | 3:BA:46:HIS:HA | 1.69 | 0.92 |
| 1:A2:1245:G:H3' | 18:BP:59:LYS:NZ | 1.84 | 0.92 |
| 1:A2:1501:C:H3' | 22:BT:33:TYR:CE1 | 2.04 | 0.92 |
| 17:BO:120:PRO:HA | 17:BO:121:VAL:N | 1.84 | 0.92 |
| 1:A2:78:A:H2 | 9:BG:160:ARG:NH2 | 1.68 | 0.92 |
| 1:A2:215:A:H5' | 7:BE:132:GLY:CA | 1.99 | 0.92 |
| 1:A2:244:A:OP2 | 7:BE:140:VAL:HG22 | 1.70 | 0.92 |
| 1:A2:323:A:H1' | 11:BI:11:ARG:HD3 | 1.52 | 0.92 |
| 1:A2:733:A:N1 | 7:BE:195:ILE:HG22 | 1.85 | 0.92 |
| 1:A2:1085:G:O6 | 5:BC:209:ASN:OD1 | 1.86 | 0.92 |
| 1:A2:1183:A:H8 | 18:BP:125:PRO:CD | 1.83 | 0.92 |
| 1:A2:1300:A:C2 | 5:BC:86:VAL:C | 2.48 | 0.92 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1470:C:H3' | 8:BF:184:PHE:CD1 | 2.04 | 0.92 |
| 1:A2:1530:C:N4 | 28:BZ:96:SER:CB | 2.33 | 0.92 |
| 1:A2:138:A:O4' | 9:BG:144:PHE:HB2 | 1.70 | 0.92 |
| 1:A2:182:A:N7 | 9:BG:191:ARG:NH2 | 2.15 | 0.92 |
| 1:A2:548:G:O5' | 26:BX:137:LYS:CA | 2.15 | 0.92 |
| 1:A2:631:G:H2' | 26:BX:12:ALA:O | 1.70 | 0.92 |
| 1:A2:916:U:C2 | 17:BO:20:TYR:CD2 | 2.48 | 0.92 |
| 1:A2:917:U:OP1 | 17:BO:86:THR:O | 1.85 | 0.92 |
| 1:A2:1056:U:OP2 | 3:BA:40:ALA:HB1 | 1.70 | 0.92 |
| 1:A2:1083:G:C2 | 5:BC:161:LYS:CD | 2.51 | 0.92 |
| 1:A2:1242:A:OP1 | 18:BP:107:ILE:HG21 | 1.68 | 0.92 |
| 1:A2:1389:C:C3' | 20:BR:45:ARG:HG3 | 1.96 | 0.92 |
| 1:A2:58:U:H5' | 27:BY:114:ARG:HH21 | 1.22 | 0.91 |
| 1:A2:78:A:C2 | 9:BG:162:VAL:CG2 | 2.52 | 0.91 |
| 1:A2:127:G:H8 | 9:BG:186:ARG:HB2 | 1.12 | 0.91 |
| 1:A2:632:U:H4' | 14:BL:97:TYR:CG | 2.06 | 0.91 |
| 1:A2:688:G:C5' | 12:BJ:67:PRO:CG | 2.04 | 0.91 |
| 1:A2:780:A:C2 | 27:BY:32:ARG:HD3 | 2.02 | 0.91 |
| 1:A2:1055:U:OP2 | 3:BA:46:HIS:CB | 2.17 | 0.91 |
| 1:A2:1244:A:C3' | 18:BP:59:LYS:HD2 | 1.91 | 0.91 |
| 1:A2:1260:U:C4 | 34:Bf:94:ALA:O | 2.23 | 0.91 |
| 1:A2:1453:G:O2' | 18:BP:118:GLU:C | 2.12 | 0.91 |
| 1:A2:1533:C:O4' | 28:BZ:77:ARG:NE | 2.02 | 0.91 |
| 1:A2:168:A:O3' | 9:BG:132:ARG:CD | 2.18 | 0.91 |
| 1:A2:568:G:O5' | 33:Be:9:ALA:O | 1.88 | 0.91 |
| 1:A2:637:C:OP1 | 25:BW:109:GLY:O | 1.88 | 0.91 |
| 1:A2:1057:U:H2' | 3:BA:40:ALA:O | 1.70 | 0.91 |
| 1:A2:1326:A:N1 | 6:BD:159:HIS:CE1 | 2.36 | 0.91 |
| 1:A2:1389:C:C4' | 20:BR:45:ARG:CB | 2.33 | 0.91 |
| 1:A2:1547:A:O4' | 21:BS:105:VAL:HG21 | 1.68 | 0.91 |
| 1:A2:177:U:C4 | 9:BG:137:ARG:HD3 | 2.05 | 0.91 |
| 1:A2:337:G:C8 | 11:BI:9:HIS:CE1 | 2.59 | 0.91 |
| 1:A2:736:C:O4' | 7:BE:181:VAL:HA | 1.69 | 0.91 |
| 1:A2:955:A:H2 | 16:BN:11:ILE:CD1 | 1.71 | 0.91 |
| 1:A2:959:U:C1' | 25:BW:56:HIS:N | 2.32 | 0.91 |
| 1:A2:966:A:H61 | 26:BX:10:ASN:H | 1.17 | 0.91 |
| 1:A2:966:A:N1 | 26:BX:9:LEU:N | 2.00 | 0.91 |
| 1:A2:1038:U:C5' | 25:BW:19:LYS:HZ2 | 1.82 | 0.91 |
| 1:A2:1060:U:P | 3:BA:39:ASN:HD21 | 1.93 | 0.91 |
| 1:A2:1236:A:C2' | 18:BP:65:LEU:HD21 | 1.95 | 0.91 |
| 1:A2:1299:G:C8 | 5:BC:86:VAL:CG1 | 2.53 | 0.91 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1367:G:H1' | 22:BT:66:TYR:HH | 1.33 | 0.91 |
| 1:A2:1501:C:H3' | 22:BT:33:TYR:CD1 | 2.04 | 0.91 |
| 1:A2:1519:U:P | 22:BT:75:LYS:HD3 | 2.10 | 0.91 |
| 22:BT:23:GLN:HA | 22:BT:55:TYR:CD2 | 2.05 | 0.91 |
| 1:A2:30:G:H3' | 26:BX:141:GLU:HA | 1.51 | 0.91 |
| 1:A2:64:U:O2' | 27:BY:123:LYS:NZ | 2.02 | 0.91 |
| 1:A2:244:A:OP2 | 7:BE:139:VAL:O | 1.87 | 0.91 |
| 1:A2:339:C:C5 | 11:BI:3:ILE:C | 2.21 | 0.91 |
| 1:A2:699:U:O2 | 7:BE:198:LYS:CG | 2.18 | 0.91 |
| 1:A2:755:A:C5 | 12:BJ:2:PRO:CB | 2.24 | 0.91 |
| 1:A2:901:G:H5" | 17:BO:86:THR:OG1 | 1.68 | 0.91 |
| 1:A2:1184:A:C6 | 18:BP:123:TYR:CE2 | 2.57 | 0.91 |
| 1:A2:1261:G:N7 | 34:Bf:93:ALA:HB1 | 1.84 | 0.91 |
| 1:A2:1419:G:N2 | 32:Bd:54:LYS:HG2 | 1.85 | 0.91 |
| 1:A2:1445:G:C5' | 34:Bf:89:ALA:HB3 | 2.00 | 0.91 |
| 1:A2:1505:A:N1 | 21:BS:84:TRP:CD2 | 2.38 | 0.91 |
| 1:A2:1535:U:O4' | 8:BF:187:ILE:HD12 | 1.47 | 0.91 |
| 1:A2:1563:C:O3' | 22:BT:38:LYS:HD2 | 1.67 | 0.91 |
| 27:BY:56:SER:HG | 27:BY:57:VAL:N | 1.68 | 0.91 |
| 1:A2:89:G:O6 | 27:BY:118:ILE:CG2 | 2.18 | 0.91 |
| 1:A2:141:U:C2 | 9:BG:136:LYS:HA | 2.06 | 0.91 |
| 1:A2:164:A:C8 | 9:BG:2:LYS:CB | 2.41 | 0.91 |
| 1:A2:331:A:H8 | 11:BI:31:ARG:HG2 | 0.87 | 0.91 |
| 1:A2:457:G:H22 | 27:BY:109:LYS:N | 1.65 | 0.91 |
| 1:A2:804:A:N3 | 25:BW:83:ILE:CA | 2.23 | 0.91 |
| 1:A2:831:U:OP1 | 7:BE:152:PRO:HB2 | 1.68 | 0.91 |
| 1:A2:899:G:H4' | 17:BO:26:THR:O | 1.70 | 0.91 |
| 1:A2:960:U:O5' | 25:BW:56:HIS:O | 1.89 | 0.91 |
| 1:A2:1056:U:C6 | 3:BA:40:ALA:HB3 | 2.03 | 0.91 |
| 1:A2:1226:A:O4' | 34:Bf:98:LYS:HD3 | 1.68 | 0.91 |
| 1:A2:1370:U:H5' | 22:BT:119:LYS:HZ2 | 1.12 | 0.91 |
| 1:A2:1473:U:O4' | 8:BF:113:ILE:HD13 | 1.69 | 0.91 |
| 1:A2:40:A:O3' | 1:A2:41:A:P | 2.27 | 0.91 |
| 1:A2:175:G:C2' | 9:BG:137:ARG:NH2 | 2.33 | 0.91 |
| 1:A2:703:G:C4 | 7:BE:230:GLU:HA | 2.04 | 0.91 |
| 1:A2:803:A:H5" | 25:BW:120:HIS:CE1 | 2.01 | 0.91 |
| 1:A2:1096:C:H1' | 5:BC:200:SER:O | 1.66 | 0.91 |
| 1:A2:1301:U:C4 | 5:BC:118:ALA:HA | 2.02 | 0.91 |
| 1:A2:1473:U:C2' | 8:BF:190:ILE:HG13 | 2.01 | 0.91 |
| 1:A2:632:U:O2' | 14:BL:99:ARG:CD | 2.17 | 0.91 |
| 1:A2:740:A:C5 | 7:BE:206:ASP:OD2 | 2.23 | 0.91 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:783:G:N7 | 27:BY:39:GLU:CB | 2.32 | 0.91 |
| 1:A2:831:U:P | 7:BE:152:PRO:HB2 | 2.10 | 0.91 |
| 1:A2:859:A:H2' | 10:BH:101:LYS:HE3 | 1.51 | 0.91 |
| 1:A2:897:C:H5 | 17:BO:38:THR:HG21 | 1.36 | 0.91 |
| 1:A2:953:G:H21 | 16:BN:9:LYS:H | 0.96 | 0.91 |
| 1:A2:1242:A:OP2 | 18:BP:107:ILE:HG13 | 1.70 | 0.91 |
| 1:A2:1252:C:C1' | 34:Bf:136:LYS:HG2 | 2.01 | 0.91 |
| 1:A2:1557:U:O2' | 21:BS:123:ARG:CA | 2.13 | 0.91 |
| 1:A2:1565:C:C6 | 21:BS:41:ARG:N | 2.38 | 0.91 |
| 1:A2:1591:C:C5' | 22:BT:93:HIS:CA | 2.33 | 0.91 |
| 1:A2:1682:U:C5' | 9:BG:102:VAL:HG11 | 1.91 | 0.91 |
| 1:A2:1797:A:H2 | 29:Ba:90:GLU:C | 1.78 | 0.91 |
| 1:A2:57:G:N2 | 27:BY:112:LYS:C | 2.29 | 0.91 |
| 1:A2:129:U:C4 | 9:BG:177:ARG:CD | 2.54 | 0.91 |
| 1:A2:456:A:O2' | 27:BY:111:LYS:HE2 | 1.71 | 0.91 |
| 1:A2:686:C:H5" | 12:BJ:64:GLU:CD | 1.93 | 0.91 |
| 1:A2:864:U:H5 | 25:BW:13:ALA:HB3 | 1.12 | 0.91 |
| 1:A2:896:U:C1' | 17:BO:18:ARG:NH1 | 2.34 | 0.91 |
| 1:A2:1225:U:O2 | 1:A2:1230:A:O3' | 1.87 | 0.91 |
| 1:A2:1241:G:OP2 | 18:BP:105:VAL:N | 2.04 | 0.91 |
| 1:A2:1389:C:C4' | 20:BR:45:ARG:CG | 2.47 | 0.91 |
| 1:A2:1502:G:OP1 | 22:BT:32:GLY:O | 1.88 | 0.91 |
| 26:BX:125:VAL:C | 26:BX:126:LYS:N | 2.28 | 0.91 |
| 1:A2:1:U:O3' | 12:BJ:14:THR:CB | 2.17 | 0.91 |
| 1:A2:27:U:C2 | 26:BX:126:LYS:HD2 | 2.05 | 0.91 |
| 1:A2:139:C:C5' | 9:BG:141:ILE:CB | 2.46 | 0.91 |
| 1:A2:244:A:O2' | 7:BE:144:GLY:HA2 | 1.66 | 0.91 |
| 1:A2:338:C:O5' | 11:BI:4:SER:OG | 1.88 | 0.91 |
| 1:A2:450:U:H6 | 27:BY:109:LYS:CE | 1.83 | 0.91 |
| 1:A2:459:G:O3' | 1:A2:460:A:P | 2.29 | 0.91 |
| 1:A2:756:A:C5' | 7:BE:23:LEU:HD11 | 1.98 | 0.91 |
| 1:A2:803:A:O3' | 25:BW:120:HIS:ND1 | 2.01 | 0.91 |
| 1:A2:866:G:C8 | 25:BW:3:ARG:C | 2.47 | 0.91 |
| 1:A2:957:G:H21 | 30:Bb:21:LEU:CD2 | 1.84 | 0.91 |
| 1:A2:1040:G:H3' | 24:BV:62:ARG:HE | 1.33 | 0.91 |
| 1:A2:1316:G:O3' | 20:BR:8:THR:N | 2.04 | 0.91 |
| 1:A2:1521:G:N7 | 22:BT:68:ARG:CD | 2.33 | 0.91 |
| 1:A2:1548:G:O4' | 21:BS:87:ASN:CG | 2.13 | 0.91 |
| 1:A2:1563:C:C3' | 22:BT:38:LYS:HD2 | 2.01 | 0.91 |
| 1:A2:1721:A:O5' | 9:BG:64:LYS:HB3 | 0.87 | 0.91 |
| 1:A2:322:G:H21 | 11:BI:10:LYS:HD2 | 1.27 | 0.91 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:859:A:H61 | 10:BH:111:LYS:CB | 1.76 | 0.91 |
| 1:A2:864:U:C5 | 25:BW:13:ALA:CB | 2.54 | 0.91 |
| 1:A2:1085:G:N7 | 5:BC:162:CYS:O | 2.03 | 0.91 |
| 1:A2:1097:U:H5" | 5:BC:199:GLN:N | 1.69 | 0.91 |
| 1:A2:1183:A:C8 | 18:BP:125:PRO:CD | 2.53 | 0.91 |
| 1:A2:1241:G:OP1 | 18:BP:104:GLN:HA | 1.70 | 0.91 |
| 1:A2:1325:A:N3 | 6:BD:156:PHE:CA | 2.31 | 0.91 |
| 2:AZ:6137:C:HO2' | 8:BF:126:ASP:HB2 | 1.09 | 0.91 |
| 8:BF:96:SER:HG | 8:BF:97:LEU:N | 1.69 | 0.91 |
| 1:A2:338:C:H3' | 11:BI:4:SER:OG | 1.69 | 0.90 |
| 1:A2:586:G:C6 | 33:Be:19:PRO:HB3 | 2.05 | 0.90 |
| 1:A2:631:G:C6 | 26:BX:11:SER:O | 2.24 | 0.90 |
| 1:A2:954:G:H8 | 16:BN:8:GLY:O | 1.39 | 0.90 |
| 1:A2:1034:C:C3' | 26:BX:2:GLY:N | 2.33 | 0.90 |
| 1:A2:1280:C:C2 | 23:BU:72:ASN:N | 2.35 | 0.90 |
| 1:A2:1533:C:O5' | 28:BZ:77:ARG:NH1 | 2.03 | 0.90 |
| 1:A2:1553:G:H5" | 18:BP:43:ARG:CD | 1.99 | 0.90 |
| 1:A2:141:U:C5 | 9:BG:173:PRO:HB2 | 2.06 | 0.90 |
| 1:A2:346:G:H1 | 11:BI:16:ALA:N | 1.67 | 0.90 |
| 1:A2:382:C:H4' | 12:BJ:2:PRO:CG | 1.99 | 0.90 |
| 1:A2:736:C:H42 | 7:BE:195:ILE:CD1 | 1.84 | 0.90 |
| 1:A2:896:U:H1' | 17:BO:18:ARG:HH11 | 1.29 | 0.90 |
| 1:A2:1050:G:N7 | 30:Bb:17:ARG:HG2 | 1.86 | 0.90 |
| 1:A2:1055:U:H5" | 3:BA:37:VAL:HG13 | 1.52 | 0.90 |
| 1:A2:1095:U:C4' | 5:BC:159:THR:HG21 | 1.99 | 0.90 |
| 1:A2:1239:U:OP1 | 18:BP:72:LYS:C | 2.13 | 0.90 |
| 1:A2:1722:A:N3 | 9:BG:70:PRO:CD | 2.34 | 0.90 |
| 1:A2:165:G:N2 | 27:BY:131:ARG:NH1 | 2.19 | 0.90 |
| 1:A2:216:U:O2 | 7:BE:150:PRO:C | 2.15 | 0.90 |
| 1:A2:240:U:H3' | 9:BG:208:TYR:HB3 | 1.53 | 0.90 |
| 1:A2:598:U:C1' | 26:BX:132:LEU:C | 2.38 | 0.90 |
| 1:A2:632:U:C1' | 26:BX:15:LEU:CD1 | 2.04 | 0.90 |
| 1:A2:699:U:H6 | 7:BE:197:HIS:CG | 1.84 | 0.90 |
| 1:A2:787:G:OP2 | 27:BY:24:VAL:CG1 | 2.19 | 0.90 |
| 1:A2:818:C:O3' | 1:A2:819:G:P | 2.29 | 0.90 |
| 1:A2:879:G:C1' | 16:BN:110:ASP:C | 2.37 | 0.90 |
| 1:A2:1082:C:O2' | 5:BC:216:VAL:HG13 | 1.69 | 0.90 |
| 1:A2:1097:U:H5" | 5:BC:199:GLN:H | 1.21 | 0.90 |
| 1:A2:1419:G:N3 | 32:Bd:54:LYS:HG2 | 1.83 | 0.90 |
| 1:A2:1505:A:O5' | 22:BT:38:LYS:CG | 2.19 | 0.90 |
| 1:A2:139:C:H6 | 9:BG:140:ASN:HB2 | 1.21 | 0.90 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:216:U:C2 | 7:BE:150:PRO:HG2 | 2.06 | 0.90 |
| 1:A2:303:U:C5 | 7:BE:2:ALA:N | 2.39 | 0.90 |
| 1:A2:783:G:N2 | 27:BY:35:VAL:CG2 | 2.34 | 0.90 |
| 1:A2:901:G:H5" | 17:BO:86:THR:HG23 | 1.31 | 0.90 |
| 1:A2:1068:C:H6 | 3:BA:33:GLN:OE1 | 1.26 | 0.90 |
| 1:A2:1213:G:H21 | 18:BP:79:HIS:N | 1.66 | 0.90 |
| 1:A2:1393:C:OP1 | 20:BR:26:LEU:C | 2.15 | 0.90 |
| 1:A2:1437:U:O3' | 1:A2:1438:G:P | 2.29 | 0.90 |
| 1:A2:1454:G:P | 18:BP:118:GLU:CB | 2.59 | 0.90 |
| 1:A2:1454:G:OP1 | 21:BS:122:HIS:HB3 | 1.71 | 0.90 |
| 1:A2:1455:G:H8 | 18:BP:123:TYR:CE1 | 1.82 | 0.90 |
| 1:A2:1498:G:H4' | 22:BT:72:GLY:C | 1.96 | 0.90 |
| 1:A2:436:A:H8 | 26:BX:101:GLU:OE2 | 1.49 | 0.90 |
| 1:A2:736:C:H4' | 7:BE:228:ILE:HG23 | 1.53 | 0.90 |
| 1:A2:1083:G:H21 | 5:BC:161:LYS:HE2 | 1.24 | 0.90 |
| 1:A2:1102:G:C1' | 26:BX:7:ARG:HE | 1.78 | 0.90 |
| 1:A2:1237:G:O6 | 18:BP:62:ALA:HB1 | 1.70 | 0.90 |
| 1:A2:1548:G:O4' | 21:BS:87:ASN:OD1 | 1.87 | 0.90 |
| 1:A2:1566:U:C5' | 21:BS:30:TYR:CA | 2.44 | 0.90 |
| 1:A2:1683:C:N4 | 9:BG:32:ILE:C | 2.22 | 0.90 |
| 1:A2:1:U:O2' | 12:BJ:14:THR:C | 2.05 | 0.90 |
| 1:A2:449:C:H6 | 27:BY:105:ARG:NE | 1.57 | 0.90 |
| 1:A2:588:U:C5 | 33:Be:21:VAL:HG21 | 1.97 | 0.90 |
| 1:A2:702:G:N3 | 7:BE:174:LYS:O | 2.04 | 0.90 |
| 1:A2:736:C:C5' | 7:BE:182:TYR:H | 1.77 | 0.90 |
| 1:A2:783:G:H22 | 27:BY:35:VAL:CG2 | 1.83 | 0.90 |
| 1:A2:811:A:H62 | 10:BH:103:SER:HB2 | 1.31 | 0.90 |
| 1:A2:1389:C:O3' | 20:BR:45:ARG:O | 1.89 | 0.90 |
| 1:A2:137:U:C4' | 9:BG:143:LYS:HE2 | 2.01 | 0.90 |
| 1:A2:179:A:C1' | 9:BG:184:LEU:CB | 2.49 | 0.90 |
| 1:A2:548:G:C5' | 26:BX:136:TRP:CD2 | 2.52 | 0.90 |
| 1:A2:586:G:C5 | 33:Be:19:PRO:HB3 | 2.06 | 0.90 |
| 1:A2:599:A:C2 | 26:BX:103:LEU:HB3 | 2.06 | 0.90 |
| 1:A2:783:G:N1 | 27:BY:35:VAL:CG2 | 1.73 | 0.90 |
| 1:A2:1240:U:C3' | 18:BP:104:GLN:HG2 | 2.02 | 0.90 |
| 1:A2:1241:G:O2' | 18:BP:116:LEU:CD1 | 2.20 | 0.90 |
| 1:A2:215:A:N6 | 7:BE:149:TYR:CA | 2.29 | 0.90 |
| 1:A2:302:U:C5' | 11:BI:25:ARG:CZ | 2.49 | 0.90 |
| 1:A2:456:A:H62 | 27:BY:108:ARG:HG2 | 1.29 | 0.90 |
| 1:A2:704:C:O2' | 7:BE:230:GLU:OE1 | 1.90 | 0.90 |
| 1:A2:777:C:H3' | 27:BY:32:ARG:HG3 | 1.53 | 0.90 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:812:A:H2 | 10:BH:111:LYS:HG3 | 1.33 | 0.90 |
| 1:A2:1086:A:C8 | 5:BC:203:LYS:HD2 | 2.04 | 0.90 |
| 1:A2:1108:G:N1 | 26:BX:26:GLU:HA | 1.84 | 0.90 |
| 1:A2:1301:U:O5’ | 5:BC:97:ARG:N | 2.00 | 0.90 |
| 1:A2:1558:U:C5 | 21:BS:124:GLY:N | 2.37 | 0.90 |
| 1:A2:57:G:H5” | 27:BY:114:ARG:HG3 | 1.52 | 0.90 |
| 1:A2:216:U:H6 | 7:BE:129:VAL:CG2 | 1.84 | 0.90 |
| 1:A2:243:G:C5’ | 7:BE:147:ILE:CG1 | 2.11 | 0.90 |
| 1:A2:631:G:H5’ | 26:BX:13:ARG:NH2 | 1.87 | 0.90 |
| 1:A2:633:U:O3’ | 25:BW:79:PHE:HZ | 1.49 | 0.90 |
| 1:A2:1256:A:OP1 | 34:Bf:142:GLY:CA | 2.19 | 0.90 |
| 1:A2:1553:G:OP1 | 18:BP:43:ARG:NH2 | 1.94 | 0.90 |
| 1:A2:3:U:H3 | 12:BJ:19:TYR:HD1 | 0.93 | 0.90 |
| 1:A2:325:G:H5’ | 11:BI:7:SER:HG | 1.36 | 0.90 |
| 1:A2:632:U:O2’ | 26:BX:15:LEU:HD12 | 1.72 | 0.90 |
| 1:A2:885:G:OP1 | 4:BB:122:GLU:OE1 | 1.89 | 0.90 |
| 1:A2:956:C:C2 | 16:BN:11:ILE:HG21 | 2.07 | 0.90 |
| 1:A2:970:A:C8 | 26:BX:17:VAL:CG1 | 2.54 | 0.90 |
| 1:A2:1009:U:O5’ | 17:BO:129:LYS:NZ | 0.75 | 0.90 |
| 1:A2:1177:C:H41 | 21:BS:139:LYS:HG3 | 1.38 | 0.90 |
| 1:A2:1252:C:H5” | 34:Bf:137:ASP:H | 1.35 | 0.90 |
| 1:A2:1298:U:O4’ | 5:BC:99:LYS:CD | 2.05 | 0.90 |
| 1:A2:1299:G:C8 | 5:BC:86:VAL:HG13 | 2.06 | 0.90 |
| 1:A2:1681:A:H3’ | 9:BG:31:ARG:CA | 2.01 | 0.90 |
| 1:A2:1721:A:H5’ | 9:BG:64:LYS:CB | 1.98 | 0.90 |
| 12:BJ:161:THR:HG1 | 12:BJ:162:SER:N | 1.69 | 0.90 |
| 1:A2:323:A:H1’ | 11:BI:11:ARG:HG2 | 1.54 | 0.89 |
| 1:A2:633:U:C4 | 26:BX:11:SER:N | 2.38 | 0.89 |
| 1:A2:702:G:C8 | 7:BE:176:ASP:HB2 | 2.06 | 0.89 |
| 1:A2:778:G:C3’ | 27:BY:32:ARG:CZ | 2.41 | 0.89 |
| 1:A2:968:U:C4’ | 26:BX:5:LYS:H | 1.74 | 0.89 |
| 1:A2:1055:U:H5’ | 3:BA:46:HIS:CB | 2.00 | 0.89 |
| 1:A2:1480:G:OP1 | 22:BT:11:ALA:C | 2.06 | 0.89 |
| 1:A2:1533:C:C6 | 28:BZ:77:ARG:NE | 2.40 | 0.89 |
| 1:A2:141:U:OP1 | 9:BG:141:ILE:HG12 | 1.73 | 0.89 |
| 1:A2:340:U:C2 | 11:BI:3:ILE:CG2 | 2.47 | 0.89 |
| 1:A2:568:G:C2’ | 33:Be:13:LYS:CD | 2.49 | 0.89 |
| 1:A2:828:U:H2’ | 1:A2:829:A:C8 | 2.06 | 0.89 |
| 1:A2:872:G:H22 | 16:BN:11:ILE:HG12 | 1.06 | 0.89 |
| 5:BC:125:ILE:O | 5:BC:128:GLY:N | 2.04 | 0.89 |
| 1:A2:90:C:C4 | 27:BY:116:LYS:O | 2.15 | 0.89 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:636:A:C2' | 25:BW:110:ILE:HG23 | 2.01 | 0.89 |
| 1:A2:760:A:C1' | 12:BJ:8:TYR:HB2 | 2.00 | 0.89 |
| 1:A2:775:G:N3 | 27:BY:61:ARG:HA | 1.86 | 0.89 |
| 1:A2:778:G:H3' | 27:BY:32:ARG:HH21 | 0.76 | 0.89 |
| 1:A2:915:A:C2 | 17:BO:27:PHE:HE2 | 1.89 | 0.89 |
| 1:A2:1055:U:OP2 | 3:BA:25:GLY:HA3 | 1.71 | 0.89 |
| 1:A2:1055:U:OP2 | 3:BA:46:HIS:HB2 | 1.71 | 0.89 |
| 1:A2:1548:G:O5' | 21:BS:87:ASN:OD1 | 1.91 | 0.89 |
| 1:A2:1565:C:C3' | 21:BS:40:ARG:HA | 1.95 | 0.89 |
| 1:A2:1674:C:C5' | 9:BG:76:LEU:HG | 2.02 | 0.89 |
| 1:A2:1721:A:N9 | 9:BG:67:VAL:CG2 | 2.24 | 0.89 |
| 1:A2:29:U:H1' | 26:BX:127:VAL:H | 1.36 | 0.89 |
| 1:A2:245:U:OP1 | 7:BE:142:HIS:O | 1.89 | 0.89 |
| 1:A2:330:G:P | 11:BI:56:ARG:HD3 | 2.12 | 0.89 |
| 1:A2:776:G:O3' | 27:BY:29:HIS:CE1 | 2.25 | 0.89 |
| 1:A2:871:G:N3 | 30:Bb:21:LEU:HD13 | 1.87 | 0.89 |
| 1:A2:930:A:O2' | 4:BB:116:LYS:HD3 | 1.72 | 0.89 |
| 1:A2:955:A:N6 | 16:BN:11:ILE:CA | 1.76 | 0.89 |
| 1:A2:1009:U:O5' | 17:BO:129:LYS:CD | 2.19 | 0.89 |
| 1:A2:1226:A:O2' | 34:Bf:99:ALA:C | 2.15 | 0.89 |
| 1:A2:1240:U:C5' | 18:BP:104:GLN:CD | 2.46 | 0.89 |
| 1:A2:1243:G:N1 | 18:BP:61:ARG:NH2 | 2.06 | 0.89 |
| 1:A2:1383:G:P | 23:BU:59:PRO:C | 2.55 | 0.89 |
| 1:A2:1419:G:OP1 | 19:BQ:129:PHE:CD1 | 2.26 | 0.89 |
| 1:A2:1499:G:H3' | 22:BT:102:ARG:C | 1.96 | 0.89 |
| 1:A2:1565:C:H2' | 21:BS:39:GLY:CA | 2.01 | 0.89 |
| 1:A2:163:G:H4' | 9:BG:1:MET:HB2 | 1.54 | 0.89 |
| 1:A2:701:U:O2 | 7:BE:174:LYS:HB3 | 1.72 | 0.89 |
| 1:A2:822:U:O4 | 1:A2:850:A:N6 | 2.06 | 0.89 |
| 1:A2:973:A:C2 | 1:A2:974:A:N7 | 2.40 | 0.89 |
| 1:A2:1084:A:H2' | 5:BC:164:SER:CA | 1.96 | 0.89 |
| 1:A2:1102:G:C2' | 26:BX:7:ARG:CD | 2.49 | 0.89 |
| 1:A2:1137:A:C8 | 26:BX:115:GLY:O | 2.25 | 0.89 |
| 1:A2:1260:U:OP2 | 34:Bf:92:LYS:HD2 | 1.71 | 0.89 |
| 1:A2:1480:G:H4' | 22:BT:11:ALA:HB3 | 1.53 | 0.89 |
| 1:A2:1498:G:H3' | 22:BT:73:VAL:HG21 | 1.53 | 0.89 |
| 1:A2:1498:G:O4' | 22:BT:73:VAL:HG23 | 1.53 | 0.89 |
| 1:A2:1549:C:OP2 | 21:BS:89:GLN:HA | 1.72 | 0.89 |
| 1:A2:1557:U:C2' | 21:BS:123:ARG:O | 2.19 | 0.89 |
| 4:BB:209:ASN:C | 4:BB:210:ILE:N | 2.30 | 0.89 |
| 1:A2:58:U:C6 | 27:BY:114:ARG:HB3 | 2.08 | 0.89 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:64:U:N3 | 27:BY:121:THR:OG1 | 2.01 | 0.89 |
| 1:A2:179:A:H61 | 9:BG:190:GLN:CG | 1.84 | 0.89 |
| 1:A2:239:C:OP2 | 9:BG:210:GLN:HG3 | 1.73 | 0.89 |
| 1:A2:370:A:H5' | 12:BJ:14:THR:CB | 2.03 | 0.89 |
| 1:A2:624:G:O3' | 1:A2:625:C:P | 2.30 | 0.89 |
| 1:A2:988:A:O3' | 1:A2:989:U:P | 2.29 | 0.89 |
| 1:A2:1056:U:H5 | 3:BA:40:ALA:HB2 | 1.38 | 0.89 |
| 1:A2:1301:U:H3' | 5:BC:97:ARG:HH11 | 0.76 | 0.89 |
| 1:A2:1326:A:OP1 | 6:BD:158:ILE:HG23 | 1.72 | 0.89 |
| 1:A2:1503:A:N3 | 22:BT:36:ILE:CG1 | 2.36 | 0.89 |
| 1:A2:702:G:C2 | 7:BE:173:ILE:CG2 | 2.47 | 0.89 |
| 1:A2:1050:G:N7 | 30:Bb:17:ARG:CG | 2.36 | 0.89 |
| 1:A2:1102:G:O2' | 26:BX:7:ARG:CD | 2.20 | 0.89 |
| 1:A2:1299:G:OP2 | 5:BC:117:THR:CA | 2.19 | 0.89 |
| 1:A2:1433:G:C2 | 32:Bd:26:SER:OG | 2.25 | 0.89 |
| 1:A2:1534:G:O6 | 28:BZ:61:SER:CB | 2.21 | 0.89 |
| 2:AZ:6219:U:C1' | 6:BD:144:ALA:HB1 | 2.00 | 0.89 |
| 11:BI:87:ASN:C | 11:BI:88:ASN:N | 2.31 | 0.89 |
| 12:BJ:75:ALA:O | 12:BJ:78:ARG:N | 2.06 | 0.89 |
| 1:A2:91:G:C3' | 27:BY:116:LYS:CE | 2.47 | 0.89 |
| 1:A2:635:A:N3 | 25:BW:126:LEU:HD22 | 1.87 | 0.89 |
| 1:A2:638:U:N1 | 25:BW:107:SER:HA | 1.85 | 0.89 |
| 1:A2:702:G:N2 | 7:BE:173:ILE:HG21 | 1.85 | 0.89 |
| 1:A2:896:U:C2' | 17:BO:18:ARG:HB2 | 2.02 | 0.89 |
| 1:A2:1242:A:C4' | 18:BP:89:MET:CE | 2.46 | 0.89 |
| 1:A2:1326:A:H5' | 6:BD:156:PHE:C | 1.94 | 0.89 |
| 1:A2:1457:C:O2' | 21:BS:132:ARG:N | 2.06 | 0.89 |
| 1:A2:56:U:C2 | 27:BY:113:ASN:CB | 2.54 | 0.89 |
| 1:A2:90:C:H2' | 27:BY:116:LYS:HG3 | 1.53 | 0.89 |
| 1:A2:1083:G:N3 | 5:BC:161:LYS:CD | 2.36 | 0.89 |
| 1:A2:1390:U:H5 | 20:BR:3:ARG:HD2 | 1.08 | 0.89 |
| 1:A2:1497:U:C5' | 22:BT:77:ASN:ND2 | 2.29 | 0.89 |
| 1:A2:149:C:O3' | 27:BY:130:ALA:HB1 | 1.72 | 0.89 |
| 1:A2:181:A:H3' | 9:BG:191:ARG:NH1 | 1.86 | 0.89 |
| 1:A2:395:U:C2' | 9:BG:91:GLU:OE2 | 2.20 | 0.89 |
| 1:A2:395:U:C5' | 9:BG:86:PRO:HA | 2.02 | 0.89 |
| 1:A2:631:G:C2' | 26:BX:16:ARG:H | 1.86 | 0.89 |
| 1:A2:859:A:C6 | 10:BH:111:LYS:CG | 2.53 | 0.89 |
| 1:A2:1096:C:H2' | 5:BC:166:THR:O | 1.72 | 0.89 |
| 1:A2:1295:G:C5 | 5:BC:116:LYS:CE | 2.55 | 0.89 |
| 1:A2:1550:A:O5' | 21:BS:84:TRP:HB3 | 1.38 | 0.89 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1582:U:C5' | 19:BQ:135:ARG:HG3 | 2.03 | 0.89 |
| 1:A2:1674:C:H5" | 9:BG:76:LEU:HG | 1.51 | 0.89 |
| 9:BG:123:GLY:C | 9:BG:124:LEU:N | 2.31 | 0.89 |
| 1:A2:677:G:OP1 | 12:BJ:151:ASP:HB3 | 1.73 | 0.88 |
| 1:A2:957:G:C4' | 30:Bb:21:LEU:C | 2.46 | 0.88 |
| 1:A2:1018:U:H4' | 16:BN:107:LYS:CG | 1.68 | 0.88 |
| 1:A2:1326:A:C4 | 6:BD:159:HIS:HE1 | 1.83 | 0.88 |
| 1:A2:1383:G:H8 | 23:BU:57:ARG:O | 1.52 | 0.88 |
| 1:A2:1549:C:C6 | 21:BS:86:LEU:CA | 2.55 | 0.88 |
| 1:A2:180:A:C4 | 9:BG:188:ARG:HA | 2.08 | 0.88 |
| 1:A2:216:U:N3 | 7:BE:150:PRO:CG | 1.97 | 0.88 |
| 1:A2:583:C:H2' | 33:Be:17:GLN:OE1 | 1.72 | 0.88 |
| 1:A2:600:U:H4' | 26:BX:104:LEU:HB3 | 1.55 | 0.88 |
| 1:A2:804:A:H5" | 25:BW:121:VAL:C | 1.97 | 0.88 |
| 1:A2:859:A:O5' | 10:BH:101:LYS:CG | 2.19 | 0.88 |
| 1:A2:1214:U:OP2 | 18:BP:102:PHE:CZ | 2.25 | 0.88 |
| 1:A2:1370:U:C3' | 22:BT:119:LYS:CE | 2.42 | 0.88 |
| 2:AZ:6106:A:H2 | 8:BF:225:ARG:O | 1.53 | 0.88 |
| 1:A2:138:A:H3' | 9:BG:143:LYS:N | 1.88 | 0.88 |
| 1:A2:165:G:O5' | 9:BG:15:THR:CA | 2.19 | 0.88 |
| 1:A2:347:G:N7 | 11:BI:14:THR:N | 2.21 | 0.88 |
| 1:A2:600:U:H5" | 26:BX:122:PHE:HB3 | 1.56 | 0.88 |
| 1:A2:1096:C:OP2 | 5:BC:168:ARG:NE | 2.06 | 0.88 |
| 1:A2:1301:U:O4 | 5:BC:119:LYS:N | 2.06 | 0.88 |
| 1:A2:1301:U:O2 | 5:BC:97:ARG:CZ | 2.21 | 0.88 |
| 1:A2:1501:C:C6 | 22:BT:33:TYR:CE1 | 2.61 | 0.88 |
| 1:A2:1548:G:P | 21:BS:100:THR:CG2 | 2.57 | 0.88 |
| 1:A2:1600:A:H3' | 22:BT:86:ARG:NE | 1.89 | 0.88 |
| 25:BW:23:ARG:C | 25:BW:24:GLN:N | 2.31 | 0.88 |
| 1:A2:38:C:H2' | 1:A2:39:A:H5' | 1.53 | 0.88 |
| 1:A2:329:G:C6 | 11:BI:30:GLY:CA | 2.56 | 0.88 |
| 1:A2:1096:C:C2' | 5:BC:166:THR:OG1 | 2.20 | 0.88 |
| 1:A2:1453:G:H4' | 18:BP:119:PHE:N | 1.80 | 0.88 |
| 1:A2:1565:C:HO2' | 21:BS:38:VAL:HG12 | 1.12 | 0.88 |
| 1:A2:1566:U:H6 | 21:BS:33:THR:OG1 | 1.54 | 0.88 |
| 1:A2:140:A:C8 | 9:BG:156:PHE:HA | 2.09 | 0.88 |
| 1:A2:178:U:O2 | 9:BG:183:ARG:HB3 | 1.68 | 0.88 |
| 1:A2:338:C:C3' | 11:BI:4:SER:OG | 2.21 | 0.88 |
| 1:A2:703:G:H1' | 7:BE:173:ILE:HG23 | 1.53 | 0.88 |
| 1:A2:742:U:N3 | 7:BE:206:ASP:C | 2.32 | 0.88 |
| 1:A2:1298:U:C3' | 5:BC:99:LYS:HD3 | 1.59 | 0.88 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1370:U:H5' | 22:BT:119:LYS:HZ1 | 1.29 | 0.88 |
| 1:A2:91:G:C5 | 27:BY:117:LYS:N | 2.38 | 0.88 |
| 1:A2:137:U:OP2 | 9:BG:143:LYS:HE3 | 1.71 | 0.88 |
| 1:A2:329:G:C4 | 11:BI:31:ARG:N | 2.42 | 0.88 |
| 1:A2:458:G:C5' | 27:BY:110:GLN:NE2 | 2.27 | 0.88 |
| 1:A2:568:G:H2' | 33:Be:13:LYS:HB3 | 1.53 | 0.88 |
| 1:A2:568:G:N3 | 33:Be:13:LYS:HD3 | 1.89 | 0.88 |
| 1:A2:597:G:C5' | 26:BX:137:LYS:HE2 | 1.97 | 0.88 |
| 1:A2:609:U:N1 | 26:BX:28:ASN:ND2 | 2.21 | 0.88 |
| 1:A2:957:G:H21 | 30:Bb:21:LEU:HD21 | 1.38 | 0.88 |
| 1:A2:968:U:O2' | 26:BX:5:LYS:HA | 0.75 | 0.88 |
| 1:A2:1159:C:O2 | 19:BQ:140:LYS:NZ | 2.05 | 0.88 |
| 1:A2:1229:G:O6 | 34:Bf:133:ALA:CB | 2.22 | 0.88 |
| 1:A2:1253:U:C5 | 34:Bf:136:LYS:CB | 2.56 | 0.88 |
| 1:A2:1548:G:C1' | 21:BS:87:ASN:CG | 2.46 | 0.88 |
| 1:A2:243:G:C6 | 7:BE:138:TYR:CE2 | 2.61 | 0.88 |
| 1:A2:632:U:OP1 | 14:BL:94:ILE:CB | 2.13 | 0.88 |
| 1:A2:640:U:O2' | 25:BW:119:LYS:CE | 2.22 | 0.88 |
| 1:A2:920:U:HO2' | 4:BB:216:LYS:HE2 | 1.28 | 0.88 |
| 1:A2:1260:U:C6 | 34:Bf:93:ALA:CB | 2.42 | 0.88 |
| 1:A2:1357:A:C4' | 22:BT:126:GLU:C | 2.47 | 0.88 |
| 1:A2:1418:G:O5' | 19:BQ:128:LYS:CD | 1.71 | 0.88 |
| 1:A2:1453:G:H1' | 18:BP:120:SER:HB3 | 1.53 | 0.88 |
| 1:A2:1454:G:C2 | 18:BP:123:TYR:CD1 | 2.61 | 0.88 |
| 1:A2:1535:U:O4' | 8:BF:187:ILE:HD13 | 1.66 | 0.88 |
| 1:A2:1673:G:H2' | 9:BG:94:ARG:HH21 | 0.87 | 0.88 |
| 1:A2:1683:C:H6 | 9:BG:52:ILE:O | 1.57 | 0.88 |
| 2:AZ:6111:G:HO2' | 8:BF:220:VAL:HG22 | 1.14 | 0.88 |
| 18:BP:103:ASN:C | 18:BP:104:GLN:N | 2.31 | 0.88 |
| 1:A2:332:U:C5 | 11:BI:31:ARG:NH1 | 2.42 | 0.88 |
| 1:A2:337:G:N9 | 11:BI:9:HIS:CE1 | 2.41 | 0.88 |
| 1:A2:630:A:C6 | 26:BX:14:LYS:HA | 2.08 | 0.88 |
| 1:A2:760:A:O4' | 12:BJ:9:SER:O | 1.89 | 0.88 |
| 1:A2:1068:C:O4' | 3:BA:33:GLN:CB | 2.21 | 0.88 |
| 1:A2:1084:A:HO2' | 5:BC:164:SER:HA | 1.38 | 0.88 |
| 1:A2:1419:G:N9 | 32:Bd:56:ARG:HB2 | 1.88 | 0.88 |
| 1:A2:1565:C:H4' | 21:BS:43:SER:C | 1.97 | 0.88 |
| 2:AZ:6219:U:C2' | 6:BD:144:ALA:CB | 2.50 | 0.88 |
| 1:A2:138:A:C5 | 9:BG:140:ASN:OD1 | 2.27 | 0.88 |
| 1:A2:266:A:H4' | 9:BG:136:LYS:HE2 | 1.55 | 0.88 |
| 1:A2:329:G:C5' | 11:BI:56:ARG:HH22 | 1.86 | 0.88 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:630:A:C4 | 26:BX:13:ARG:CG | 2.54 | 0.88 |
| 1:A2:737:A:O2' | 7:BE:157:ASN:OD1 | 1.89 | 0.88 |
| 1:A2:754:A:OP2 | 7:BE:14:ALA:CB | 2.21 | 0.88 |
| 1:A2:831:U:OP1 | 7:BE:152:PRO:HA | 1.72 | 0.88 |
| 1:A2:887:A:N7 | 17:BO:123:SER:CB | 2.28 | 0.88 |
| 1:A2:1259:U:N3 | 34:Bf:94:ALA:O | 1.74 | 0.88 |
| 1:A2:1281:G:C4' | 23:BU:76:SER:O | 2.20 | 0.88 |
| 1:A2:1434:U:H4' | 32:Bd:27:HIS:HD2 | 1.37 | 0.88 |
| 1:A2:1548:G:H1' | 21:BS:99:HIS:HE1 | 1.05 | 0.88 |
| 1:A2:3:U:N3 | 12:BJ:19:TYR:HD1 | 1.45 | 0.88 |
| 1:A2:18:C:C2' | 26:BX:115:GLY:H | 1.86 | 0.88 |
| 1:A2:218:A:C5' | 7:BE:152:PRO:O | 2.21 | 0.88 |
| 1:A2:218:A:OP2 | 7:BE:153:ASN:O | 1.92 | 0.88 |
| 1:A2:328:A:H4' | 11:BI:172:ARG:HH12 | 1.40 | 0.88 |
| 1:A2:338:C:N4 | 11:BI:29:LEU:CA | 2.35 | 0.88 |
| 1:A2:990:C:H1' | 17:BO:127:ARG:HH21 | 1.37 | 0.88 |
| 1:A2:1243:G:H1 | 18:BP:61:ARG:HH22 | 1.16 | 0.88 |
| 1:A2:1252:C:C6 | 34:Bf:136:LYS:HB3 | 2.07 | 0.88 |
| 1:A2:1389:C:O3' | 20:BR:45:ARG:C | 2.16 | 0.88 |
| 1:A2:1558:U:C5 | 21:BS:123:ARG:CA | 2.56 | 0.88 |
| 1:A2:1675:C:OP1 | 9:BG:76:LEU:HD13 | 1.71 | 0.88 |
| 1:A2:238:U:H2' | 9:BG:210:GLN:NE2 | 1.88 | 0.87 |
| 1:A2:244:A:OP2 | 7:BE:140:VAL:CA | 2.22 | 0.87 |
| 1:A2:365:G:O3' | 1:A2:366:A:OP1 | 1.92 | 0.87 |
| 1:A2:599:A:C4 | 26:BX:126:LYS:N | 2.41 | 0.87 |
| 1:A2:1396:U:O4 | 20:BR:56:HIS:ND1 | 2.08 | 0.87 |
| 1:A2:1451:C:H42 | 18:BP:97:TYR:HB3 | 1.38 | 0.87 |
| 1:A2:1503:A:C2 | 21:BS:82:PRO:HG2 | 2.10 | 0.87 |
| 1:A2:1548:G:N3 | 21:BS:86:LEU:CA | 2.28 | 0.87 |
| 2:AZ:6108:U:H5' | 8:BF:222:LYS:CB | 1.99 | 0.87 |
| 7:BE:97:GLU:O | 7:BE:98:ASN:N | 2.07 | 0.87 |
| 1:A2:138:A:C8 | 9:BG:135:PRO:CG | 2.50 | 0.87 |
| 1:A2:141:U:C2' | 9:BG:158:ILE:HG21 | 2.03 | 0.87 |
| 1:A2:569:C:H5' | 33:Be:12:GLY:C | 2.00 | 0.87 |
| 1:A2:953:G:O4' | 16:BN:6:SER:N | 2.06 | 0.87 |
| 1:A2:1419:G:N2 | 32:Bd:54:LYS:CG | 2.35 | 0.87 |
| 1:A2:1520:U:C5' | 22:BT:75:LYS:C | 2.43 | 0.87 |
| 1:A2:1555:A:O2' | 18:BP:115:TYR:CG | 2.27 | 0.87 |
| 1:A2:1797:A:N7 | 29:Ba:92:ARG:CG | 2.34 | 0.87 |
| 2:AZ:6106:A:C1' | 8:BF:223:SER:O | 2.22 | 0.87 |
| 1:A2:85:A:C4' | 27:BY:129:VAL:HG11 | 1.98 | 0.87 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:335:U:O5' | 11:BI:49:ARG:HD3 | 1.75 | 0.87 |
| 1:A2:458:G:H8 | 27:BY:107:GLN:HE22 | 1.19 | 0.87 |
| 1:A2:505:A:H3' | 1:A2:506:A:P | 2.14 | 0.87 |
| 1:A2:762:A:H3' | 1:A2:763:G:P | 2.14 | 0.87 |
| 1:A2:776:G:C2' | 27:BY:29:HIS:HE1 | 1.43 | 0.87 |
| 1:A2:952:A:C5' | 16:BN:121:ARG:NE | 2.31 | 0.87 |
| 1:A2:1034:C:N4 | 26:BX:3:LYS:CE | 2.16 | 0.87 |
| 1:A2:1144:U:H4' | 5:BC:87:GLN:O | 1.71 | 0.87 |
| 1:A2:1298:U:H3' | 5:BC:99:LYS:CB | 2.03 | 0.87 |
| 1:A2:1565:C:C5' | 21:BS:44:ASN:N | 2.38 | 0.87 |
| 2:AZ:6137:C:C2' | 8:BF:126:ASP:CB | 2.51 | 0.87 |
| 1:A2:322:G:N3 | 11:BI:9:HIS:CD2 | 2.43 | 0.87 |
| 1:A2:457:G:N1 | 27:BY:106:GLN:C | 2.26 | 0.87 |
| 1:A2:634:G:C5' | 25:BW:79:PHE:CG | 2.58 | 0.87 |
| 1:A2:699:U:C5' | 7:BE:197:HIS:CE1 | 2.33 | 0.87 |
| 1:A2:741:C:C5 | 7:BE:206:ASP:OD1 | 2.26 | 0.87 |
| 1:A2:870:C:C2' | 16:BN:13:SER:HB2 | 2.04 | 0.87 |
| 1:A2:1038:U:C4' | 25:BW:19:LYS:HZ2 | 1.87 | 0.87 |
| 1:A2:1102:G:H1' | 26:BX:7:ARG:HE | 1.07 | 0.87 |
| 1:A2:1300:A:H5' | 5:BC:86:VAL:CG2 | 2.04 | 0.87 |
| 1:A2:1334:U:C4' | 23:BU:83:GLU:OE2 | 2.22 | 0.87 |
| 1:A2:1525:A:N6 | 19:BQ:73:GLY:N | 2.21 | 0.87 |
| 1:A2:4:C:O3' | 1:A2:5:U:P | 2.32 | 0.87 |
| 1:A2:180:A:C3' | 9:BG:187:LYS:NZ | 2.36 | 0.87 |
| 1:A2:323:A:H5" | 11:BI:10:LYS:N | 1.87 | 0.87 |
| 1:A2:917:U:O5' | 17:BO:84:ARG:CZ | 2.22 | 0.87 |
| 1:A2:1295:G:C4 | 5:BC:116:LYS:NZ | 2.28 | 0.87 |
| 1:A2:1383:G:O4' | 23:BU:57:ARG:O | 1.88 | 0.87 |
| 1:A2:1454:G:C6 | 18:BP:122:THR:HG21 | 2.09 | 0.87 |
| 1:A2:177:U:C5 | 9:BG:137:ARG:CD | 2.57 | 0.87 |
| 1:A2:216:U:OP2 | 7:BE:129:VAL:O | 1.91 | 0.87 |
| 1:A2:318:U:C6 | 11:BI:11:ARG:NH1 | 2.42 | 0.87 |
| 1:A2:340:U:C6 | 11:BI:3:ILE:HG23 | 2.08 | 0.87 |
| 1:A2:424:C:O3' | 1:A2:425:A:P | 2.33 | 0.87 |
| 1:A2:887:A:C1' | 17:BO:124:ASP:OD1 | 2.23 | 0.87 |
| 1:A2:956:C:N3 | 16:BN:11:ILE:CG2 | 2.37 | 0.87 |
| 1:A2:959:U:OP1 | 25:BW:60:LYS:HE3 | 1.75 | 0.87 |
| 1:A2:1050:G:H2' | 30:Bb:13:ALA:HB3 | 0.90 | 0.87 |
| 1:A2:1685:G:H8 | 9:BG:51:LYS:HZ1 | 0.89 | 0.87 |
| 1:A2:1721:A:O3' | 9:BG:97:VAL:HB | 1.72 | 0.87 |
| 1:A2:150:U:P | 27:BY:130:ALA:CB | 2.62 | 0.87 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:701:U:C2 | 7:BE:175:PHE:C | 2.53 | 0.87 |
| 1:A2:791:A:H61 | 12:BJ:7:THR:H | 1.20 | 0.87 |
| 1:A2:866:G:C5' | 25:BW:3:ARG:N | 2.29 | 0.87 |
| 1:A2:897:C:OP1 | 17:BO:30:VAL:HG22 | 1.73 | 0.87 |
| 1:A2:1018:U:H4' | 16:BN:107:LYS:HG3 | 1.56 | 0.87 |
| 1:A2:1037:C:H5" | 25:BW:15:ASN:HB2 | 0.92 | 0.87 |
| 1:A2:1334:U:O2' | 23:BU:83:GLU:OE2 | 1.92 | 0.87 |
| 1:A2:1384:A:OP1 | 23:BU:87:HIS:HB3 | 1.70 | 0.87 |
| 1:A2:1390:U:OP2 | 20:BR:45:ARG:NH1 | 2.06 | 0.87 |
| 19:BQ:7:VAL:HB | 19:BQ:96:TYR:CE1 | 2.07 | 0.87 |
| 25:BW:25:VAL:C | 25:BW:26:LEU:N | 2.33 | 0.87 |
| 1:A2:141:U:H4' | 9:BG:135:PRO:N | 1.58 | 0.87 |
| 1:A2:218:A:C5' | 7:BE:155:LYS:HZ3 | 1.87 | 0.87 |
| 1:A2:220:A:P | 9:BG:219:ARG:H | 1.83 | 0.87 |
| 1:A2:240:U:O2 | 9:BG:206:ALA:N | 2.03 | 0.87 |
| 1:A2:245:U:N3 | 7:BE:128:LYS:HD2 | 1.87 | 0.87 |
| 1:A2:1236:A:H2' | 18:BP:65:LEU:HD22 | 0.87 | 0.87 |
| 1:A2:1238:A:OP1 | 18:BP:64:LYS:CA | 2.14 | 0.87 |
| 1:A2:1532:U:P | 28:BZ:77:ARG:C | 2.58 | 0.87 |
| 1:A2:1565:C:OP2 | 21:BS:40:ARG:HG2 | 1.74 | 0.87 |
| 1:A2:1667:A:H3' | 1:A2:1668:G:P | 2.15 | 0.87 |
| 1:A2:1797:A:C6 | 29:Ba:92:ARG:HG3 | 2.09 | 0.87 |
| 1:A2:56:U:O2 | 27:BY:113:ASN:HB3 | 1.75 | 0.87 |
| 1:A2:338:C:C2' | 11:BI:4:SER:CB | 2.53 | 0.87 |
| 1:A2:776:G:O4' | 27:BY:62:THR:CA | 2.22 | 0.87 |
| 1:A2:806:A:C5' | 25:BW:81:VAL:HG22 | 2.00 | 0.87 |
| 1:A2:806:A:C4 | 25:BW:82:LYS:CD | 2.58 | 0.87 |
| 1:A2:1037:C:OP1 | 25:BW:15:ASN:N | 2.08 | 0.87 |
| 1:A2:1049:U:C3' | 30:Bb:18:LYS:HB3 | 2.05 | 0.87 |
| 1:A2:1102:G:O2' | 26:BX:7:ARG:HA | 1.74 | 0.87 |
| 1:A2:1383:G:H4' | 23:BU:88:LYS:O | 1.75 | 0.87 |
| 1:A2:439:U:O3' | 1:A2:440:U:P | 2.33 | 0.86 |
| 1:A2:888:U:O3' | 17:BO:89:THR:CA | 2.16 | 0.86 |
| 1:A2:916:U:H3' | 17:BO:84:ARG:HH22 | 1.39 | 0.86 |
| 1:A2:1290:U:H4' | 6:BD:151:LYS:CD | 2.03 | 0.86 |
| 1:A2:1532:U:C5 | 28:BZ:77:ARG:HD3 | 2.10 | 0.86 |
| 1:A2:1547:A:O2' | 21:BS:100:THR:N | 2.07 | 0.86 |
| 1:A2:1608:U:O2' | 19:BQ:73:GLY:HA2 | 1.75 | 0.86 |
| 6:BD:208:ILE:C | 6:BD:209:ILE:N | 2.32 | 0.86 |
| 1:A2:105:A:P | 11:BI:21:PHE:HB2 | 2.15 | 0.86 |
| 1:A2:140:A:C4 | 9:BG:157:VAL:HG12 | 1.97 | 0.86 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:569:C:P | 33:Be:11:ALA:CA | 2.62 | 0.86 |
| 1:A2:698:U:O4 | 7:BE:208:VAL:HG22 | 1.75 | 0.86 |
| 1:A2:702:G:O6 | 7:BE:195:ILE:CD1 | 2.23 | 0.86 |
| 1:A2:735:C:OP1 | 7:BE:191:ARG:CG | 2.22 | 0.86 |
| 1:A2:1037:C:C5' | 25:BW:15:ASN:OD1 | 2.23 | 0.86 |
| 1:A2:1084:A:O5' | 5:BC:161:LYS:HA | 1.75 | 0.86 |
| 1:A2:1344:A:H4' | 23:BU:53:LYS:CG | 2.04 | 0.86 |
| 1:A2:1391:A:H5" | 20:BR:48:ASN:CB | 2.05 | 0.86 |
| 1:A2:1428:G:C4 | 23:BU:74:GLU:HG2 | 2.07 | 0.86 |
| 1:A2:1451:C:O3' | 18:BP:80:MET:CE | 2.23 | 0.86 |
| 1:A2:1581:C:OP1 | 19:BQ:137:ARG:HB2 | 1.75 | 0.86 |
| 1:A2:90:C:H41 | 27:BY:118:ILE:N | 1.70 | 0.86 |
| 1:A2:328:A:H5" | 11:BI:172:ARG:HH12 | 1.33 | 0.86 |
| 1:A2:347:G:C8 | 11:BI:14:THR:N | 2.39 | 0.86 |
| 1:A2:378:A:OP2 | 1:A2:379:U:OP2 | 1.92 | 0.86 |
| 1:A2:957:G:C4' | 30:Bb:22:LYS:HG2 | 1.93 | 0.86 |
| 1:A2:958:U:H5 | 25:BW:28:ARG:NH1 | 1.40 | 0.86 |
| 1:A2:1238:A:P | 18:BP:66:ALA:N | 2.49 | 0.86 |
| 1:A2:1298:U:C3' | 5:BC:99:LYS:CB | 2.37 | 0.86 |
| 1:A2:1327:C:H5 | 6:BD:158:ILE:HA | 1.40 | 0.86 |
| 1:A2:1473:U:OP2 | 8:BF:190:ILE:CA | 2.22 | 0.86 |
| 1:A2:1498:G:C5' | 22:BT:72:GLY:HA3 | 2.02 | 0.86 |
| 1:A2:1498:G:C5' | 22:BT:72:GLY:O | 2.22 | 0.86 |
| 1:A2:1564:U:C2' | 21:BS:41:ARG:C | 2.48 | 0.86 |
| 10:BH:139:ARG:O | 10:BH:151:LYS:N | 2.08 | 0.86 |
| 1:A2:30:G:OP1 | 26:BX:142:LYS:CG | 2.24 | 0.86 |
| 1:A2:494:U:O2 | 1:A2:494:U:H2' | 1.75 | 0.86 |
| 1:A2:807:A:OP2 | 25:BW:124:LYS:HG3 | 1.74 | 0.86 |
| 1:A2:934:C:H6 | 29:Ba:6:ALA:CB | 1.88 | 0.86 |
| 1:A2:1040:G:C5' | 24:BV:62:ARG:HE | 1.83 | 0.86 |
| 1:A2:1053:G:O2' | 3:BA:35:PRO:HD3 | 1.20 | 0.86 |
| 1:A2:1210:C:O2 | 18:BP:123:TYR:N | 2.08 | 0.86 |
| 1:A2:1252:C:H5" | 34:Bf:137:ASP:N | 1.90 | 0.86 |
| 1:A2:1281:G:H8 | 23:BU:70:THR:CG2 | 1.87 | 0.86 |
| 1:A2:137:U:C2' | 9:BG:143:LYS:HE2 | 2.03 | 0.86 |
| 1:A2:245:U:C6 | 7:BE:140:VAL:HG12 | 2.10 | 0.86 |
| 1:A2:862:A:H5' | 25:BW:32:LYS:N | 1.87 | 0.86 |
| 1:A2:887:A:C2' | 17:BO:124:ASP:N | 2.22 | 0.86 |
| 1:A2:954:G:C8 | 16:BN:2:GLY:HA2 | 2.11 | 0.86 |
| 1:A2:1048:G:H1' | 30:Bb:22:LYS:CE | 2.05 | 0.86 |
| 1:A2:1192:C:H5' | 19:BQ:142:TYR:H | 1.40 | 0.86 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1328:G:P | 6:BD:164:VAL:HG21 | 2.14 | 0.86 |
| 1:A2:1565:C:H6 | 21:BS:40:ARG:C | 1.74 | 0.86 |
| 1:A2:1709:C:C5' | 9:BG:9:VAL:CG2 | 2.44 | 0.86 |
| 16:BN:137:PRO:O | 16:BN:138:ASN:ND2 | 2.07 | 0.86 |
| 1:A2:266:A:N3 | 9:BG:136:LYS:CB | 2.38 | 0.86 |
| 1:A2:303:U:C4 | 7:BE:2:ALA:N | 2.43 | 0.86 |
| 1:A2:395:U:N1 | 9:BG:93:LYS:HE3 | 1.89 | 0.86 |
| 1:A2:777:C:H3' | 27:BY:32:ARG:HB2 | 1.57 | 0.86 |
| 1:A2:778:G:H4' | 27:BY:5:VAL:N | 1.90 | 0.86 |
| 1:A2:858:G:N2 | 10:BH:108:GLN:OE1 | 2.08 | 0.86 |
| 1:A2:1213:G:N2 | 18:BP:79:HIS:CG | 2.10 | 0.86 |
| 1:A2:1428:G:C2 | 23:BU:74:GLU:HG2 | 0.52 | 0.86 |
| 1:A2:339:C:C6 | 11:BI:2:GLY:O | 2.19 | 0.86 |
| 1:A2:636:A:H2' | 25:BW:105:THR:HG23 | 1.56 | 0.86 |
| 1:A2:961:U:C5 | 25:BW:58:SER:OG | 2.29 | 0.86 |
| 1:A2:1382:A:O2' | 23:BU:57:ARG:O | 1.94 | 0.86 |
| 1:A2:1498:G:H5' | 22:BT:72:GLY:CA | 2.04 | 0.86 |
| 1:A2:1564:U:H4' | 21:BS:41:ARG:NH1 | 1.29 | 0.86 |
| 1:A2:1716:C:O2' | 1:A2:1717:G:O5' | 1.92 | 0.86 |
| 1:A2:20:G:P | 26:BX:114:LYS:NZ | 2.49 | 0.86 |
| 1:A2:393:C:O2' | 1:A2:394:C:H5' | 1.75 | 0.86 |
| 1:A2:468:A:O3' | 1:A2:469:C:P | 2.34 | 0.86 |
| 1:A2:778:G:O3' | 27:BY:4:ALA:HA | 1.74 | 0.86 |
| 1:A2:1034:C:O2 | 26:BX:7:ARG:CZ | 2.22 | 0.86 |
| 1:A2:1210:C:N3 | 18:BP:122:THR:CB | 2.37 | 0.86 |
| 1:A2:1213:G:H2' | 18:BP:78:THR:O | 1.76 | 0.86 |
| 1:A2:1301:U:H5 | 5:BC:118:ALA:C | 1.65 | 0.86 |
| 1:A2:1383:G:C4' | 23:BU:88:LYS:O | 2.23 | 0.86 |
| 1:A2:1503:A:C8 | 21:BS:41:ARG:NH1 | 2.44 | 0.86 |
| 6:BD:201:ALA:C | 6:BD:202:LEU:N | 2.33 | 0.86 |
| 1:A2:704:C:O2 | 7:BE:231:GLN:CA | 2.23 | 0.86 |
| 1:A2:767:U:H3' | 1:A2:768:C:P | 2.15 | 0.86 |
| 1:A2:862:A:C5' | 25:BW:32:LYS:CA | 2.50 | 0.86 |
| 1:A2:1038:U:H6 | 25:BW:19:LYS:NZ | 1.73 | 0.86 |
| 1:A2:1137:A:H5' | 26:BX:64:PRO:HD3 | 1.54 | 0.86 |
| 1:A2:1396:U:C5 | 20:BR:56:HIS:HE1 | 1.94 | 0.86 |
| 1:A2:1480:G:C4' | 22:BT:11:ALA:HB3 | 1.83 | 0.86 |
| 1:A2:1534:G:C1' | 28:BZ:63:SER:HA | 2.04 | 0.86 |
| 1:A2:1555:A:C5' | 18:BP:40:ARG:CG | 2.28 | 0.86 |
| 1:A2:1557:U:C6 | 21:BS:123:ARG:CD | 2.55 | 0.86 |
| 1:A2:1563:C:H4' | 22:BT:38:LYS:NZ | 1.88 | 0.86 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AZ:6219:U:N1 | 6:BD:144:ALA:CB | 2.36 | 0.86 |
| 1:A2:241:U:H6 | 9:BG:205:ALA:HA | 1.38 | 0.86 |
| 1:A2:761:G:OP1 | 12:BJ:11:THR:CG2 | 2.24 | 0.86 |
| 1:A2:777:C:OP2 | 27:BY:33:ALA:C | 2.19 | 0.86 |
| 1:A2:1096:C:H3' | 5:BC:166:THR:C | 2.01 | 0.86 |
| 1:A2:1213:G:C6 | 18:BP:97:TYR:CZ | 2.47 | 0.86 |
| 1:A2:1298:U:C2' | 5:BC:99:LYS:CB | 2.54 | 0.86 |
| 1:A2:213:A:C3' | 7:BE:135:GLY:H | 1.89 | 0.85 |
| 1:A2:899:G:O3' | 17:BO:26:THR:O | 1.93 | 0.85 |
| 1:A2:1055:U:H5' | 3:BA:46:HIS:HB3 | 1.54 | 0.85 |
| 1:A2:1082:C:C2' | 5:BC:216:VAL:HG11 | 2.03 | 0.85 |
| 1:A2:1096:C:OP2 | 5:BC:168:ARG:CG | 2.23 | 0.85 |
| 1:A2:1144:U:C4 | 5:BC:89:GLN:OE1 | 2.28 | 0.85 |
| 1:A2:1326:A:N1 | 6:BD:159:HIS:HE1 | 1.71 | 0.85 |
| 1:A2:1370:U:H3' | 22:BT:119:LYS:NZ | 1.90 | 0.85 |
| 1:A2:1419:G:N3 | 32:Bd:54:LYS:HG3 | 1.91 | 0.85 |
| 1:A2:1438:G:H3' | 1:A2:1439:C:P | 2.16 | 0.85 |
| 1:A2:1682:U:H5" | 9:BG:52:ILE:HD13 | 1.57 | 0.85 |
| 25:BW:102:VAL:C | 25:BW:103:ILE:N | 2.34 | 0.85 |
| 1:A2:141:U:O4 | 9:BG:175:ILE:N | 2.08 | 0.85 |
| 1:A2:216:U:H3' | 7:BE:129:VAL:CG2 | 2.05 | 0.85 |
| 1:A2:632:U:H4' | 14:BL:97:TYR:CD1 | 2.11 | 0.85 |
| 1:A2:735:C:H42 | 7:BE:179:LYS:H | 1.16 | 0.85 |
| 1:A2:959:U:C2' | 25:BW:56:HIS:N | 2.38 | 0.85 |
| 1:A2:1326:A:C5 | 6:BD:157:LEU:O | 2.29 | 0.85 |
| 1:A2:1392:U:H5" | 20:BR:29:GLN:H | 1.37 | 0.85 |
| 2:AZ:6220:U:C2 | 6:BD:143:ARG:CG | 2.30 | 0.85 |
| 5:BC:44:LEU:C | 5:BC:45:VAL:N | 2.33 | 0.85 |
| 1:A2:89:G:N2 | 27:BY:115:ASP:CB | 2.38 | 0.85 |
| 1:A2:138:A:N3 | 9:BG:143:LYS:CB | 2.38 | 0.85 |
| 1:A2:214:G:H5" | 7:BE:136:VAL:O | 1.75 | 0.85 |
| 1:A2:334:G:H5' | 11:BI:49:ARG:HA | 1.56 | 0.85 |
| 1:A2:741:C:H6 | 7:BE:201:HIS:CA | 1.85 | 0.85 |
| 1:A2:741:C:H6 | 7:BE:201:HIS:O | 1.58 | 0.85 |
| 1:A2:1106:U:OP2 | 26:BX:22:ASN:HA | 1.74 | 0.85 |
| 1:A2:1384:A:OP1 | 23:BU:87:HIS:HB2 | 1.74 | 0.85 |
| 1:A2:1435:G:H21 | 13:BK:27:PHE:HE2 | 1.21 | 0.85 |
| 1:A2:1445:G:O5' | 34:Bf:89:ALA:HB1 | 1.74 | 0.85 |
| 1:A2:1683:C:O5' | 9:BG:52:ILE:CG2 | 2.22 | 0.85 |
| 1:A2:127:G:H1' | 9:BG:183:ARG:CZ | 2.05 | 0.85 |
| 1:A2:141:U:O2 | 9:BG:136:LYS:CG | 2.23 | 0.85 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:382:C:O4' | 12:BJ:2:PRO:CD | 2.24 | 0.85 |
| 1:A2:396:G:H3' | 9:BG:88:ARG:HA | 1.56 | 0.85 |
| 1:A2:448:C:N4 | 27:BY:104:SER:OG | 2.09 | 0.85 |
| 1:A2:572:C:H5" | 26:BX:116:ASP:H | 1.40 | 0.85 |
| 1:A2:806:A:C4 | 25:BW:82:LYS:HD3 | 2.10 | 0.85 |
| 1:A2:1056:U:P | 3:BA:46:HIS:CA | 2.65 | 0.85 |
| 1:A2:1144:U:H1' | 5:BC:87:GLN:O | 1.75 | 0.85 |
| 1:A2:1299:G:C5 | 5:BC:86:VAL:CG1 | 2.59 | 0.85 |
| 1:A2:1300:A:H4' | 5:BC:85:PRO:CB | 2.06 | 0.85 |
| 14:BL:4:GLU:HG3 | 14:BL:5:LEU:HG | 1.59 | 0.85 |
| 24:BV:56:SER:C | 24:BV:57:GLY:N | 2.34 | 0.85 |
| 1:A2:163:G:N3 | 9:BG:2:LYS:HB3 | 1.91 | 0.85 |
| 1:A2:776:G:C1' | 27:BY:62:THR:HA | 2.06 | 0.85 |
| 1:A2:954:G:P | 16:BN:2:GLY:N | 2.50 | 0.85 |
| 1:A2:1040:G:C5' | 24:BV:62:ARG:CD | 2.48 | 0.85 |
| 1:A2:1256:A:N1 | 34:Bf:98:LYS:HG2 | 1.60 | 0.85 |
| 1:A2:804:A:H3' | 25:BW:122:SER:HB3 | 1.56 | 0.85 |
| 1:A2:859:A:H61 | 10:BH:111:LYS:CG | 1.82 | 0.85 |
| 1:A2:1009:U:OP2 | 17:BO:129:LYS:HE2 | 1.74 | 0.85 |
| 1:A2:1105:C:OP1 | 26:BX:21:ASN:CB | 2.21 | 0.85 |
| 1:A2:1301:U:O2' | 5:BC:86:VAL:CG2 | 2.22 | 0.85 |
| 1:A2:1316:G:H3' | 20:BR:7:LYS:HG2 | 0.87 | 0.85 |
| 1:A2:1535:U:OP2 | 28:BZ:66:VAL:N | 1.98 | 0.85 |
| 1:A2:1679:G:C8 | 9:BG:68:LEU:HG | 1.73 | 0.85 |
| 7:BE:18:TRP:O | 7:BE:20:LEU:N | 2.09 | 0.85 |
| 1:A2:89:G:H8 | 27:BY:120:GLY:N | 1.55 | 0.85 |
| 1:A2:919:A:O2' | 4:BB:85:LYS:CE | 2.23 | 0.85 |
| 1:A2:1239:U:H5 | 18:BP:73:PRO:HB3 | 1.39 | 0.85 |
| 1:A2:1298:U:O4' | 5:BC:99:LYS:CE | 2.24 | 0.85 |
| 1:A2:1458:G:C1' | 21:BS:126:ARG:HH22 | 1.81 | 0.85 |
| 1:A2:1533:C:C6 | 28:BZ:77:ARG:CD | 2.59 | 0.85 |
| 11:BI:8:ARG:N | 11:BI:9:HIS:O | 2.08 | 0.85 |
| 1:A2:164:A:H8 | 9:BG:2:LYS:CB | 1.76 | 0.85 |
| 1:A2:245:U:C4 | 7:BE:128:LYS:CE | 2.59 | 0.85 |
| 1:A2:597:G:C3' | 26:BX:136:TRP:HE3 | 1.84 | 0.85 |
| 1:A2:698:U:C3' | 7:BE:197:HIS:CE1 | 2.50 | 0.85 |
| 1:A2:784:C:H1' | 27:BY:7:ILE:HG12 | 1.59 | 0.85 |
| 1:A2:882:U:H3' | 1:A2:883:C:P | 2.17 | 0.85 |
| 1:A2:946:U:H2' | 1:A2:947:U:C6 | 2.12 | 0.85 |
| 1:A2:1084:A:H5" | 5:BC:166:THR:HA | 1.53 | 0.85 |
| 1:A2:1226:A:H4' | 1:A2:1227:A:OP1 | 1.74 | 0.85 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1261:G:N7 | 34:Bf:93:ALA:CB | 2.39 | 0.85 |
| 1:A2:1428:G:C2 | 23:BU:74:GLU:CG | 0.87 | 0.85 |
| 1:A2:1498:G:C3' | 22:BT:73:VAL:CG2 | 2.46 | 0.85 |
| 1:A2:1505:A:H2 | 21:BS:84:TRP:CD2 | 1.42 | 0.85 |
| 2:AZ:6137:C:H2' | 8:BF:126:ASP:O | 1.75 | 0.85 |
| 2:AZ:6219:U:C1' | 6:BD:144:ALA:CB | 2.44 | 0.85 |
| 1:A2:116:U:H3 | 7:BE:4:GLY:CA | 1.90 | 0.85 |
| 1:A2:296:U:H5" | 7:BE:32:SER:HB2 | 1.58 | 0.85 |
| 1:A2:338:C:C2' | 11:BI:24:LYS:CE | 2.26 | 0.85 |
| 1:A2:456:A:H3' | 1:A2:457:G:P | 2.17 | 0.85 |
| 1:A2:641:G:C5' | 25:BW:118:ARG:HD2 | 2.06 | 0.85 |
| 1:A2:734:A:H2 | 7:BE:180:LEU:HD22 | 1.24 | 0.85 |
| 1:A2:917:U:C3' | 17:BO:118:VAL:CG2 | 2.55 | 0.85 |
| 1:A2:1255:G:H8 | 34:Bf:140:TYR:HB3 | 1.40 | 0.85 |
| 1:A2:1367:G:C4' | 22:BT:66:TYR:CE1 | 2.55 | 0.85 |
| 1:A2:1382:A:H1' | 23:BU:58:LEU:HA | 1.59 | 0.85 |
| 1:A2:1530:C:C4 | 28:BZ:95:HIS:C | 2.52 | 0.85 |
| 1:A2:1553:G:H3' | 18:BP:43:ARG:HD3 | 1.56 | 0.85 |
| 1:A2:1565:C:H6 | 21:BS:41:ARG:N | 1.71 | 0.85 |
| 1:A2:1721:A:N7 | 9:BG:67:VAL:CA | 2.40 | 0.85 |
| 2:AZ:6218:U:C2 | 6:BD:146:ARG:HD3 | 2.11 | 0.85 |
| 4:BB:112:SER:HG | 4:BB:113:MET:N | 1.75 | 0.85 |
| 16:BN:120:SER:HG | 16:BN:121:ARG:N | 1.75 | 0.85 |
| 1:A2:324:U:OP1 | 11:BI:18:ARG:HB2 | 1.76 | 0.85 |
| 1:A2:396:G:C5 | 9:BG:88:ARG:CD | 2.58 | 0.85 |
| 1:A2:598:U:O3' | 26:BX:88:PRO:CB | 2.23 | 0.85 |
| 1:A2:636:A:C8 | 25:BW:126:LEU:HD21 | 1.85 | 0.85 |
| 1:A2:736:C:H5' | 7:BE:226:PHE:HB3 | 0.87 | 0.85 |
| 1:A2:917:U:C3' | 17:BO:118:VAL:HG23 | 1.90 | 0.85 |
| 1:A2:1159:C:H2' | 19:BQ:140:LYS:HZ2 | 1.39 | 0.85 |
| 1:A2:1280:C:C2 | 23:BU:72:ASN:CA | 2.58 | 0.85 |
| 1:A2:1310:U:C3' | 20:BR:4:VAL:HG11 | 2.07 | 0.85 |
| 1:A2:1502:G:OP2 | 22:BT:33:TYR:N | 2.10 | 0.85 |
| 1:A2:1710:U:C5 | 9:BG:115:LYS:HD2 | 2.12 | 0.85 |
| 1:A2:1721:A:C2' | 9:BG:67:VAL:HG21 | 2.07 | 0.85 |
| 1:A2:58:U:H2' | 27:BY:115:ASP:OD1 | 1.77 | 0.84 |
| 1:A2:145:A:O2' | 1:A2:146:U:O4' | 1.95 | 0.84 |
| 1:A2:163:G:N9 | 9:BG:2:LYS:HB2 | 1.90 | 0.84 |
| 1:A2:217:A:O5' | 7:BE:155:LYS:CE | 2.21 | 0.84 |
| 1:A2:329:G:O2' | 11:BI:33:PRO:N | 2.08 | 0.84 |
| 1:A2:548:G:C4' | 26:BX:136:TRP:CE3 | 2.54 | 0.84 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:862:A:C4' | 25:BW:32:LYS:N | 2.40 | 0.84 |
| 1:A2:1049:U:O2' | 30:Bb:15:GLU:OE2 | 1.94 | 0.84 |
| 1:A2:1055:U:P | 3:BA:46:HIS:HB2 | 2.17 | 0.84 |
| 1:A2:1241:G:C6 | 18:BP:78:THR:HG22 | 2.12 | 0.84 |
| 1:A2:1454:G:C6 | 18:BP:122:THR:CB | 2.54 | 0.84 |
| 1:A2:1565:C:H5' | 21:BS:44:ASN:H | 1.38 | 0.84 |
| 1:A2:1797:A:C5 | 29:Ba:87:ARG:HB3 | 2.11 | 0.84 |
| 1:A2:57:G:O3' | 27:BY:114:ARG:CZ | 2.24 | 0.84 |
| 1:A2:138:A:C2 | 9:BG:140:ASN:HA | 2.11 | 0.84 |
| 1:A2:216:U:C3' | 7:BE:129:VAL:HG22 | 2.05 | 0.84 |
| 1:A2:331:A:C8 | 11:BI:31:ARG:HD3 | 2.12 | 0.84 |
| 1:A2:346:G:O6 | 11:BI:15:GLY:HA2 | 1.77 | 0.84 |
| 1:A2:396:G:N9 | 9:BG:91:GLU:OE1 | 2.10 | 0.84 |
| 1:A2:456:A:C2 | 27:BY:107:GLN:O | 2.29 | 0.84 |
| 1:A2:741:C:H6 | 7:BE:201:HIS:HB2 | 1.18 | 0.84 |
| 1:A2:756:A:H5' | 7:BE:23:LEU:HD12 | 1.40 | 0.84 |
| 1:A2:866:G:OP2 | 25:BW:3:ARG:HG2 | 1.76 | 0.84 |
| 1:A2:960:U:C5' | 25:BW:56:HIS:O | 2.25 | 0.84 |
| 1:A2:1064:G:H2' | 1:A2:1065:A:C8 | 2.11 | 0.84 |
| 1:A2:1529:C:H5 | 28:BZ:95:HIS:CD2 | 1.91 | 0.84 |
| 1:A2:89:G:H1 | 27:BY:115:ASP:CA | 1.90 | 0.84 |
| 1:A2:301:A:C5 | 7:BE:4:GLY:N | 2.45 | 0.84 |
| 1:A2:1096:C:O5' | 5:BC:168:ARG:CB | 2.23 | 0.84 |
| 1:A2:1498:G:H5' | 22:BT:72:GLY:HA2 | 1.57 | 0.84 |
| 1:A2:1796:C:C2 | 29:Ba:89:ARG:HD3 | 2.11 | 0.84 |
| 27:BY:56:SER:C | 27:BY:57:VAL:N | 2.35 | 0.84 |
| 1:A2:395:U:C6 | 9:BG:91:GLU:CD | 2.55 | 0.84 |
| 1:A2:640:U:H1' | 25:BW:119:LYS:CE | 2.00 | 0.84 |
| 1:A2:791:A:C5 | 12:BJ:7:THR:OG1 | 2.28 | 0.84 |
| 1:A2:1086:A:C8 | 5:BC:203:LYS:HE3 | 2.13 | 0.84 |
| 1:A2:1316:G:C1' | 20:BR:6:THR:HG23 | 2.06 | 0.84 |
| 1:A2:1502:G:C8 | 22:BT:33:TYR:CD1 | 2.65 | 0.84 |
| 1:A2:1710:U:C1' | 9:BG:115:LYS:CG | 2.31 | 0.84 |
| 35:Bg:61:PHE:C | 35:Bg:62:LYS:N | 2.35 | 0.84 |
| 1:A2:167:U:P | 9:BG:13:GLN:N | 2.51 | 0.84 |
| 1:A2:180:A:C2 | 9:BG:188:ARG:HA | 2.11 | 0.84 |
| 1:A2:522:U:O3' | 1:A2:523:G:P | 2.36 | 0.84 |
| 1:A2:704:C:H1' | 7:BE:231:GLN:C | 1.60 | 0.84 |
| 1:A2:863:A:OP1 | 25:BW:34:ILE:CD1 | 2.26 | 0.84 |
| 1:A2:871:G:N3 | 30:Bb:21:LEU:CD1 | 2.41 | 0.84 |
| 1:A2:934:C:C6 | 29:Ba:6:ALA:CB | 2.60 | 0.84 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1047:G:C2 | 30:Bb:22:LYS:NZ | 2.45 | 0.84 |
| 1:A2:1049:U:O3’ | 30:Bb:15:GLU:HG3 | 1.75 | 0.84 |
| 1:A2:1144:U:H2’ | 5:BC:89:GLN:CG | 2.06 | 0.84 |
| 1:A2:1183:A:H8 | 18:BP:125:PRO:HD3 | 1.39 | 0.84 |
| 1:A2:1281:G:C4 | 23:BU:74:GLU:O | 2.30 | 0.84 |
| 1:A2:1357:A:C1’ | 22:BT:126:GLU:C | 2.50 | 0.84 |
| 1:A2:1383:G:OP2 | 23:BU:60:THR:CA | 2.24 | 0.84 |
| 1:A2:1402:G:OP2 | 20:BR:5:ARG:HG3 | 1.77 | 0.84 |
| 1:A2:1420:C:OP2 | 23:BU:69:LYS:NZ | 2.09 | 0.84 |
| 1:A2:1601:G:OP2 | 22:BT:86:ARG:NE | 2.10 | 0.84 |
| 6:BD:135:GLU:C | 6:BD:136:VAL:N | 2.35 | 0.84 |
| 6:BD:162:GLN:O | 6:BD:165:ASN:N | 2.09 | 0.84 |
| 1:A2:381:C:O2’ | 12:BJ:2:PRO:CD | 2.24 | 0.84 |
| 1:A2:570:A:H61 | 26:BX:68:ILE:N | 1.75 | 0.84 |
| 1:A2:776:G:O5’ | 27:BY:62:THR:CG2 | 2.25 | 0.84 |
| 1:A2:776:G:H4’ | 27:BY:66:GLY:CA | 2.07 | 0.84 |
| 1:A2:1037:C:C3’ | 25:BW:15:ASN:HB3 | 2.07 | 0.84 |
| 1:A2:1050:G:H4’ | 30:Bb:11:THR:O | 1.77 | 0.84 |
| 1:A2:1399:C:OP2 | 20:BR:67:ARG:N | 2.10 | 0.84 |
| 1:A2:1417:A:C4’ | 19:BQ:128:LYS:NZ | 2.40 | 0.84 |
| 1:A2:1499:G:C8 | 22:BT:102:ARG:C | 2.49 | 0.84 |
| 14:BL:68:GLY:C | 14:BL:69:LYS:HA | 2.02 | 0.84 |
| 1:A2:65:A:O3’ | 1:A2:66:U:P | 2.34 | 0.84 |
| 1:A2:736:C:H42 | 7:BE:195:ILE:HG12 | 0.67 | 0.84 |
| 1:A2:741:C:C5 | 7:BE:206:ASP:CG | 2.55 | 0.84 |
| 1:A2:1326:A:C6 | 6:BD:159:HIS:CE1 | 2.65 | 0.84 |
| 1:A2:1454:G:H21 | 18:BP:123:TYR:CB | 1.90 | 0.84 |
| 1:A2:1566:U:C6 | 21:BS:33:THR:CB | 2.60 | 0.84 |
| 1:A2:1587:A:O2’ | 8:BF:104:ASN:HB3 | 1.77 | 0.84 |
| 1:A2:1685:G:H8 | 9:BG:51:LYS:NZ | 1.75 | 0.84 |
| 6:BD:35:SER:HG | 6:BD:52:ALA:N | 1.74 | 0.84 |
| 25:BW:110:ILE:C | 25:BW:111:MET:N | 2.35 | 0.84 |
| 27:BY:56:SER:HA | 27:BY:57:VAL:HG12 | 1.59 | 0.84 |
| 1:A2:328:A:C4’ | 11:BI:172:ARG:HH12 | 1.91 | 0.84 |
| 1:A2:862:A:C5’ | 25:BW:32:LYS:HA | 2.03 | 0.84 |
| 1:A2:1230:A:H4’ | 34:Bf:98:LYS:HZ3 | 1.40 | 0.84 |
| 1:A2:1242:A:C5’ | 18:BP:60:LEU:HD23 | 2.08 | 0.84 |
| 1:A2:1343:U:C4’ | 23:BU:54:GLY:C | 2.38 | 0.84 |
| 1:A2:1382:A:O2’ | 1:A2:1383:G:C8 | 2.30 | 0.84 |
| 1:A2:1385:G:OP2 | 23:BU:35:GLU:CG | 2.23 | 0.84 |
| 1:A2:1504:G:C5’ | 22:BT:39:THR:N | 2.39 | 0.84 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1528:U:C5' | 19:BQ:43:ILE:CB | 2.53 | 0.84 |
| 1:A2:2:A:N3 | 12:BJ:16:LYS:HB2 | 1.32 | 0.84 |
| 1:A2:177:U:C5' | 9:BG:139:ASN:N | 2.37 | 0.84 |
| 1:A2:323:A:C1' | 11:BI:11:ARG:HG2 | 1.77 | 0.84 |
| 1:A2:337:G:N9 | 11:BI:9:HIS:HE1 | 1.75 | 0.84 |
| 1:A2:592:A:C6 | 33:Be:23:LYS:NZ | 2.46 | 0.84 |
| 1:A2:704:C:H42 | 7:BE:193:GLY:HA2 | 1.43 | 0.84 |
| 1:A2:943:C:OP1 | 29:Ba:17:HIS:HB3 | 1.73 | 0.84 |
| 1:A2:1213:G:O6 | 18:BP:97:TYR:CD2 | 2.28 | 0.84 |
| 1:A2:1242:A:OP2 | 18:BP:94:VAL:CG2 | 2.25 | 0.84 |
| 1:A2:1302:U:C6 | 5:BC:97:ARG:NH2 | 2.45 | 0.84 |
| 1:A2:1454:G:OP1 | 18:BP:118:GLU:CG | 2.25 | 0.84 |
| 1:A2:80:A:C6 | 9:BG:162:VAL:C | 2.49 | 0.84 |
| 1:A2:91:G:H3' | 27:BY:116:LYS:HZ3 | 1.41 | 0.84 |
| 1:A2:115:G:N2 | 11:BI:27:PHE:HD2 | 1.40 | 0.84 |
| 1:A2:141:U:H4' | 9:BG:135:PRO:CD | 2.08 | 0.84 |
| 1:A2:220:A:OP1 | 9:BG:218:GLU:HG3 | 1.76 | 0.84 |
| 1:A2:735:C:H5' | 7:BE:193:GLY:HA3 | 1.60 | 0.84 |
| 1:A2:778:G:O6 | 27:BY:36:SER:OG | 1.95 | 0.84 |
| 1:A2:1008:G:OP2 | 17:BO:135:ARG:CA | 2.23 | 0.84 |
| 1:A2:1084:A:H5' | 5:BC:166:THR:HA | 1.59 | 0.84 |
| 1:A2:1212:G:C6 | 18:BP:99:GLY:CA | 2.60 | 0.84 |
| 1:A2:1537:C:O2' | 1:A2:1538:U:OP2 | 1.95 | 0.84 |
| 2:AZ:6107:U:P | 8:BF:220:VAL:O | 2.35 | 0.84 |
| 11:BI:104:ILE:C | 11:BI:105:ASP:N | 2.36 | 0.84 |
| 27:BY:92:VAL:HG11 | 27:BY:99:LYS:HG2 | 1.58 | 0.84 |
| 1:A2:30:G:O3' | 26:BX:141:GLU:HG2 | 1.78 | 0.83 |
| 1:A2:127:G:H1' | 9:BG:183:ARG:NE | 1.91 | 0.83 |
| 1:A2:322:G:N2 | 11:BI:10:LYS:CD | 2.33 | 0.83 |
| 1:A2:330:G:O5' | 11:BI:31:ARG:HB2 | 1.78 | 0.83 |
| 1:A2:337:G:H1' | 11:BI:9:HIS:HE1 | 0.76 | 0.83 |
| 1:A2:599:A:N3 | 26:BX:103:LEU:O | 2.11 | 0.83 |
| 1:A2:704:C:H1' | 7:BE:232:GLY:N | 1.93 | 0.83 |
| 1:A2:897:C:O3' | 17:BO:29:HIS:CB | 1.99 | 0.83 |
| 1:A2:1167:G:OP1 | 8:BF:101:GLY:CA | 2.25 | 0.83 |
| 1:A2:1261:G:C8 | 34:Bf:93:ALA:HB1 | 2.13 | 0.83 |
| 1:A2:1473:U:H1' | 8:BF:113:ILE:CD1 | 2.08 | 0.83 |
| 1:A2:1673:G:C3' | 9:BG:94:ARG:HE | 1.89 | 0.83 |
| 1:A2:141:U:H4' | 9:BG:135:PRO:HB2 | 1.57 | 0.83 |
| 1:A2:346:G:H1 | 11:BI:11:ARG:HB3 | 1.38 | 0.83 |
| 1:A2:547:U:H4' | 26:BX:138:GLU:C | 2.01 | 0.83 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:547:U:H5' | 26:BX:138:GLU:O | 1.78 | 0.83 |
| 1:A2:741:C:C6 | 7:BE:201:HIS:CG | 2.66 | 0.83 |
| 1:A2:741:C:C5 | 7:BE:206:ASP:HA | 2.13 | 0.83 |
| 1:A2:777:C:C3' | 27:BY:32:ARG:CG | 2.53 | 0.83 |
| 1:A2:871:G:C2 | 30:Bb:21:LEU:HD13 | 2.14 | 0.83 |
| 1:A2:901:G:H2' | 1:A2:902:G:O4' | 1.78 | 0.83 |
| 1:A2:917:U:P | 17:BO:86:THR:O | 2.35 | 0.83 |
| 1:A2:957:G:N2 | 30:Bb:21:LEU:CD2 | 2.40 | 0.83 |
| 1:A2:1006:C:H5" | 17:BO:136:ARG:HH12 | 1.03 | 0.83 |
| 1:A2:1183:A:N6 | 18:BP:121:ILE:CD1 | 2.19 | 0.83 |
| 1:A2:1240:U:O3' | 18:BP:104:GLN:CG | 2.25 | 0.83 |
| 1:A2:1403:C:O4' | 20:BR:3:ARG:C | 2.21 | 0.83 |
| 1:A2:1565:C:H2' | 21:BS:39:GLY:N | 1.93 | 0.83 |
| 1:A2:1566:U:C5 | 21:BS:33:THR:HG23 | 2.13 | 0.83 |
| 1:A2:1797:A:N7 | 29:Ba:87:ARG:CB | 2.40 | 0.83 |
| 1:A2:242:U:H5 | 7:BE:149:TYR:CE1 | 1.95 | 0.83 |
| 1:A2:347:G:OP1 | 14:BL:134:THR:HG21 | 1.78 | 0.83 |
| 1:A2:741:C:C6 | 7:BE:201:HIS:O | 2.31 | 0.83 |
| 1:A2:753:A:OP2 | 7:BE:16:HIS:CB | 2.15 | 0.83 |
| 1:A2:895:G:C2' | 17:BO:18:ARG:NH1 | 2.37 | 0.83 |
| 1:A2:1241:G:OP2 | 18:BP:104:GLN:HB3 | 1.75 | 0.83 |
| 1:A2:1295:G:N7 | 5:BC:116:LYS:CE | 2.41 | 0.83 |
| 1:A2:1333:C:H1' | 32:Bd:54:LYS:C | 2.04 | 0.83 |
| 1:A2:1502:G:P | 22:BT:32:GLY:C | 2.60 | 0.83 |
| 2:AZ:6171:U:P | 2:AZ:6208:A:H62 | 2.00 | 0.83 |
| 14:BL:7:VAL:C | 14:BL:8:GLN:N | 2.37 | 0.83 |
| 1:A2:138:A:H1' | 9:BG:144:PHE:HB2 | 1.59 | 0.83 |
| 1:A2:163:G:N7 | 9:BG:17:GLU:CD | 2.37 | 0.83 |
| 1:A2:325:G:H5" | 11:BI:7:SER:OG | 1.78 | 0.83 |
| 1:A2:570:A:C4 | 26:BX:69:ARG:NH2 | 2.47 | 0.83 |
| 1:A2:633:U:O2 | 26:BX:7:ARG:C | 2.20 | 0.83 |
| 1:A2:896:U:OP1 | 17:BO:33:LEU:C | 2.21 | 0.83 |
| 1:A2:1049:U:H4' | 30:Bb:23:THR:CA | 2.08 | 0.83 |
| 1:A2:1103:U:H4' | 26:BX:15:LEU:CD2 | 2.09 | 0.83 |
| 1:A2:1797:A:N1 | 29:Ba:89:ARG:C | 2.36 | 0.83 |
| 12:BJ:126:ARG:C | 12:BJ:127:VAL:N | 2.36 | 0.83 |
| 1:A2:90:C:N4 | 27:BY:117:LYS:N | 2.25 | 0.83 |
| 1:A2:214:G:H8 | 7:BE:133:LYS:N | 1.74 | 0.83 |
| 1:A2:245:U:C5 | 7:BE:140:VAL:HG12 | 2.14 | 0.83 |
| 1:A2:324:U:H5' | 11:BI:12:SER:N | 1.93 | 0.83 |
| 1:A2:324:U:P | 11:BI:18:ARG:HB2 | 2.19 | 0.83 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:335:U:C2' | 11:BI:27:PHE:O | 2.27 | 0.83 |
| 1:A2:396:G:H3' | 9:BG:88:ARG:CA | 2.07 | 0.83 |
| 1:A2:871:G:C6 | 16:BN:12:SER:N | 2.44 | 0.83 |
| 1:A2:871:G:O5' | 16:BN:13:SER:HA | 1.77 | 0.83 |
| 1:A2:1310:U:H4' | 20:BR:4:VAL:HG11 | 0.85 | 0.83 |
| 1:A2:1393:C:OP2 | 20:BR:28:PHE:HB3 | 1.78 | 0.83 |
| 1:A2:1548:G:O2' | 21:BS:86:LEU:HD12 | 1.77 | 0.83 |
| 1:A2:1550:A:O5' | 21:BS:84:TRP:HD1 | 1.58 | 0.83 |
| 1:A2:1556:A:P | 18:BP:38:PRO:HB2 | 2.18 | 0.83 |
| 20:BR:109:LEU:O | 20:BR:112:SER:C | 2.21 | 0.83 |
| 1:A2:89:G:N1 | 27:BY:115:ASP:CB | 2.11 | 0.83 |
| 1:A2:92:A:C8 | 27:BY:116:LYS:CE | 2.60 | 0.83 |
| 1:A2:138:A:N1 | 9:BG:140:ASN:OD1 | 2.11 | 0.83 |
| 1:A2:150:U:C4 | 27:BY:131:ARG:HD2 | 2.13 | 0.83 |
| 1:A2:337:G:O2' | 11:BI:9:HIS:CG | 2.31 | 0.83 |
| 1:A2:571:G:O2' | 26:BX:114:LYS:HE2 | 1.77 | 0.83 |
| 1:A2:777:C:OP2 | 27:BY:33:ALA:CA | 2.27 | 0.83 |
| 1:A2:920:U:HO2' | 4:BB:216:LYS:CE | 1.82 | 0.83 |
| 1:A2:946:U:H2' | 1:A2:947:U:H6 | 1.41 | 0.83 |
| 1:A2:1298:U:O4' | 5:BC:99:LYS:HE2 | 1.79 | 0.83 |
| 1:A2:1301:U:N3 | 5:BC:97:ARG:NE | 1.81 | 0.83 |
| 1:A2:1301:U:H3 | 5:BC:97:ARG:HE | 1.22 | 0.83 |
| 1:A2:1327:C:H2' | 6:BD:159:HIS:CB | 2.08 | 0.83 |
| 1:A2:1389:C:H5' | 20:BR:45:ARG:CA | 1.94 | 0.83 |
| 1:A2:1417:A:H4' | 19:BQ:128:LYS:HZ2 | 1.37 | 0.83 |
| 1:A2:1454:G:N2 | 18:BP:123:TYR:CB | 2.41 | 0.83 |
| 1:A2:1763:A:OP1 | 1:A2:1771:U:OP1 | 1.96 | 0.83 |
| 1:A2:12:U:H2' | 1:A2:13:C:H6 | 1.43 | 0.83 |
| 1:A2:64:U:O4 | 27:BY:121:THR:OG1 | 1.79 | 0.83 |
| 1:A2:329:G:H22 | 11:BI:3:ILE:CB | 1.91 | 0.83 |
| 1:A2:329:G:O3' | 11:BI:56:ARG:NE | 1.93 | 0.83 |
| 1:A2:395:U:H4' | 9:BG:87:ARG:HG2 | 1.58 | 0.83 |
| 1:A2:457:G:O6 | 27:BY:104:SER:O | 1.97 | 0.83 |
| 1:A2:601:A:H8 | 26:BX:105:ALA:CB | 1.59 | 0.83 |
| 1:A2:783:G:H8 | 27:BY:39:GLU:C | 1.83 | 0.83 |
| 1:A2:791:A:H61 | 12:BJ:7:THR:N | 1.76 | 0.83 |
| 1:A2:804:A:H5" | 25:BW:121:VAL:HA | 1.60 | 0.83 |
| 1:A2:917:U:C5 | 17:BO:84:ARG:CZ | 2.61 | 0.83 |
| 1:A2:1037:C:O5' | 25:BW:15:ASN:HB2 | 1.78 | 0.83 |
| 1:A2:1230:A:H4' | 34:Bf:98:LYS:HE2 | 1.22 | 0.83 |
| 1:A2:1237:G:H8 | 18:BP:65:LEU:HD22 | 1.39 | 0.83 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1673:G:C2' | 9:BG:94:ARG:NH2 | 2.33 | 0.83 |
| 1:A2:139:C:O2 | 9:BG:136:LYS:HG3 | 1.77 | 0.83 |
| 1:A2:216:U:C4 | 7:BE:150:PRO:HG2 | 2.14 | 0.83 |
| 1:A2:245:U:P | 7:BE:142:HIS:HA | 2.17 | 0.83 |
| 1:A2:325:G:H1' | 14:BL:133:LYS:HB2 | 0.83 | 0.83 |
| 1:A2:584:C:H3' | 33:Be:17:GLN:CB | 2.08 | 0.83 |
| 1:A2:1147:A:O4' | 1:A2:1147:A:OP1 | 1.96 | 0.83 |
| 1:A2:1254:U:H6 | 34:Bf:140:TYR:CE2 | 1.86 | 0.83 |
| 1:A2:1255:G:C8 | 34:Bf:140:TYR:CB | 2.60 | 0.83 |
| 1:A2:1536:G:N1 | 8:BF:187:ILE:CG1 | 2.35 | 0.83 |
| 1:A2:1748:G:H3' | 1:A2:1749:A:P | 2.19 | 0.83 |
| 1:A2:19:A:O3' | 1:A2:20:G:P | 2.36 | 0.83 |
| 1:A2:89:G:H1 | 27:BY:115:ASP:HB3 | 0.66 | 0.83 |
| 1:A2:216:U:P | 7:BE:129:VAL:O | 2.36 | 0.83 |
| 1:A2:410:A:H3' | 1:A2:411:C:P | 2.18 | 0.83 |
| 1:A2:596:C:O2 | 26:BX:137:LYS:HB2 | 1.78 | 0.83 |
| 1:A2:600:U:OP1 | 26:BX:122:PHE:C | 2.21 | 0.83 |
| 1:A2:736:C:C5' | 7:BE:182:TYR:O | 2.26 | 0.83 |
| 1:A2:779:U:O4 | 27:BY:43:LYS:HD3 | 1.79 | 0.83 |
| 1:A2:917:U:O3' | 17:BO:84:ARG:HA | 1.77 | 0.83 |
| 1:A2:1433:G:O3' | 1:A2:1434:U:P | 2.37 | 0.83 |
| 1:A2:1480:G:H4' | 22:BT:11:ALA:CB | 2.06 | 0.83 |
| 2:AZ:6220:U:C6 | 6:BD:142:LEU:CA | 2.59 | 0.83 |
| 4:BB:67:GLU:C | 4:BB:68:VAL:N | 2.37 | 0.83 |
| 1:A2:340:U:C4 | 11:BI:3:ILE:HG22 | 2.11 | 0.83 |
| 1:A2:347:G:O2' | 11:BI:18:ARG:NH1 | 2.12 | 0.83 |
| 1:A2:548:G:H5' | 26:BX:136:TRP:CE3 | 2.14 | 0.83 |
| 1:A2:592:A:H62 | 33:Be:23:LYS:HZ3 | 0.85 | 0.83 |
| 1:A2:633:U:H3 | 26:BX:9:LEU:N | 1.42 | 0.83 |
| 1:A2:778:G:C4 | 27:BY:32:ARG:NH2 | 2.39 | 0.83 |
| 1:A2:1290:U:C5' | 6:BD:151:LYS:CE | 2.56 | 0.83 |
| 1:A2:1549:C:OP1 | 21:BS:97:ASP:OD1 | 1.97 | 0.83 |
| 1:A2:1721:A:N6 | 9:BG:68:LEU:HA | 1.76 | 0.83 |
| 1:A2:1791:A:C3' | 29:Ba:2:PRO:C | 2.51 | 0.83 |
| 5:BC:138:PRO:C | 5:BC:139:ILE:HA | 2.03 | 0.83 |
| 1:A2:149:C:O2 | 27:BY:131:ARG:NH2 | 1.91 | 0.82 |
| 1:A2:318:U:C2 | 11:BI:11:ARG:NH1 | 2.46 | 0.82 |
| 1:A2:740:A:N6 | 7:BE:206:ASP:HB3 | 1.93 | 0.82 |
| 1:A2:806:A:C8 | 25:BW:81:VAL:O | 2.31 | 0.82 |
| 1:A2:872:G:H1 | 16:BN:11:ILE:HG12 | 1.18 | 0.82 |
| 1:A2:922:G:OP2 | 4:BB:138:PHE:CZ | 2.32 | 0.82 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:954:G:P | 16:BN:2:GLY:C | 2.62 | 0.82 |
| 1:A2:1383:G:O4' | 23:BU:58:LEU:N | 2.11 | 0.82 |
| 1:A2:600:U:O4' | 26:BX:104:LEU:HA | 1.77 | 0.82 |
| 1:A2:786:C:P | 27:BY:24:VAL:HG12 | 2.19 | 0.82 |
| 1:A2:885:G:O3' | 4:BB:120:LEU:HD22 | 1.78 | 0.82 |
| 1:A2:1049:U:C3' | 30:Bb:15:GLU:HA | 1.85 | 0.82 |
| 1:A2:1300:A:H3' | 5:BC:86:VAL:HG23 | 1.59 | 0.82 |
| 1:A2:1316:G:H3' | 20:BR:7:LYS:HG3 | 1.60 | 0.82 |
| 1:A2:1457:C:H4' | 21:BS:138:THR:N | 1.93 | 0.82 |
| 1:A2:1547:A:OP1 | 21:BS:109:LEU:N | 2.12 | 0.82 |
| 1:A2:57:G:H3' | 27:BY:114:ARG:HH11 | 0.82 | 0.82 |
| 1:A2:302:U:H5" | 11:BI:25:ARG:CZ | 2.09 | 0.82 |
| 1:A2:595:G:H2' | 26:BX:139:LYS:HZ2 | 1.38 | 0.82 |
| 1:A2:600:U:H4' | 26:BX:104:LEU:CB | 2.08 | 0.82 |
| 1:A2:735:C:C4 | 7:BE:194:THR:CA | 2.44 | 0.82 |
| 1:A2:752:A:O2' | 7:BE:16:HIS:N | 2.06 | 0.82 |
| 1:A2:862:A:P | 25:BW:32:LYS:HD3 | 2.19 | 0.82 |
| 1:A2:1103:U:O2' | 26:BX:6:PRO:HD2 | 1.78 | 0.82 |
| 1:A2:1433:G:N2 | 32:Bd:26:SER:OG | 2.11 | 0.82 |
| 1:A2:1435:G:N1 | 13:BK:27:PHE:HD2 | 1.78 | 0.82 |
| 1:A2:140:A:C8 | 9:BG:156:PHE:CA | 2.63 | 0.82 |
| 1:A2:242:U:C5 | 7:BE:149:TYR:CD1 | 2.67 | 0.82 |
| 1:A2:394:C:H3' | 9:BG:92:ARG:O | 1.74 | 0.82 |
| 1:A2:688:G:H5" | 12:BJ:67:PRO:HG3 | 1.57 | 0.82 |
| 1:A2:782:U:H4' | 27:BY:39:GLU:CA | 2.09 | 0.82 |
| 1:A2:888:U:H2' | 17:BO:126:THR:H | 1.42 | 0.82 |
| 1:A2:1007:C:OP2 | 17:BO:136:ARG:NE | 2.03 | 0.82 |
| 1:A2:1241:G:C5 | 18:BP:78:THR:CG2 | 2.40 | 0.82 |
| 1:A2:1317:C:C5' | 20:BR:11:ARG:HB2 | 2.10 | 0.82 |
| 1:A2:1383:G:O5' | 23:BU:88:LYS:N | 2.13 | 0.82 |
| 1:A2:1557:U:O2' | 21:BS:133:VAL:HG21 | 1.78 | 0.82 |
| 1:A2:180:A:C2 | 9:BG:188:ARG:C | 2.58 | 0.82 |
| 1:A2:208:U:O2' | 11:BI:55:TYR:CZ | 2.23 | 0.82 |
| 1:A2:209:U:H5' | 11:BI:53:LYS:HB3 | 1.60 | 0.82 |
| 1:A2:572:C:OP2 | 26:BX:69:ARG:CZ | 2.28 | 0.82 |
| 1:A2:737:A:C4 | 7:BE:227:VAL:HG11 | 2.15 | 0.82 |
| 1:A2:759:U:O4 | 12:BJ:6:ARG:C | 2.20 | 0.82 |
| 1:A2:1295:G:C5 | 5:BC:116:LYS:HZ1 | 1.37 | 0.82 |
| 1:A2:1790:A:O3' | 1:A2:1791:A:P | 2.37 | 0.82 |
| 1:A2:163:G:C3' | 9:BG:108:VAL:HA | 2.08 | 0.82 |
| 1:A2:196:G:O2' | 1:A2:197:A:O4' | 1.97 | 0.82 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:704:C:O2 | 7:BE:231:GLN:HA | 1.79 | 0.82 |
| 1:A2:778:G:OP1 | 27:BY:31:ASN:N | 2.13 | 0.82 |
| 1:A2:1037:C:H5' | 25:BW:15:ASN:OD1 | 1.80 | 0.82 |
| 1:A2:1055:U:OP2 | 3:BA:46:HIS:CA | 2.28 | 0.82 |
| 1:A2:1391:A:H5' | 20:BR:48:ASN:HB3 | 1.60 | 0.82 |
| 1:A2:1473:U:OP2 | 8:BF:190:ILE:C | 2.23 | 0.82 |
| 13:BK:51:SER:O | 13:BK:52:LYS:N | 2.12 | 0.82 |
| 1:A2:88:U:H2' | 27:BY:120:GLY:N | 1.93 | 0.82 |
| 1:A2:584:C:H3' | 33:Be:17:GLN:H | 1.42 | 0.82 |
| 1:A2:933:A:H4' | 29:Ba:95:ARG:NH1 | 1.95 | 0.82 |
| 1:A2:1210:C:C2 | 18:BP:123:TYR:N | 2.48 | 0.82 |
| 1:A2:1260:U:H5' | 34:Bf:92:LYS:HA | 1.62 | 0.82 |
| 1:A2:1790:A:H3' | 1:A2:1791:A:P | 2.19 | 0.82 |
| 14:BL:75:VAL:C | 14:BL:76:VAL:HA | 2.04 | 0.82 |
| 1:A2:70:C:H2' | 1:A2:71:A:O4' | 1.77 | 0.82 |
| 1:A2:138:A:H2 | 9:BG:143:LYS:HG2 | 1.41 | 0.82 |
| 1:A2:141:U:OP1 | 9:BG:141:ILE:CG1 | 2.28 | 0.82 |
| 1:A2:336:G:O6 | 11:BI:26:LYS:C | 2.17 | 0.82 |
| 1:A2:734:A:OP1 | 7:BE:211:LYS:CE | 2.28 | 0.82 |
| 1:A2:738:G:N3 | 7:BE:175:PHE:HB3 | 1.74 | 0.82 |
| 1:A2:760:A:C8 | 12:BJ:8:TYR:CB | 2.62 | 0.82 |
| 1:A2:1281:G:N2 | 23:BU:74:GLU:OE1 | 1.88 | 0.82 |
| 1:A2:1419:G:O2' | 23:BU:80:GLU:HG3 | 1.80 | 0.82 |
| 1:A2:1608:U:C1' | 19:BQ:73:GLY:HA3 | 2.08 | 0.82 |
| 1:A2:1740:A:H2' | 1:A2:1741:U:C6 | 2.15 | 0.82 |
| 25:BW:103:ILE:N | 25:BW:127:GLY:O | 2.13 | 0.82 |
| 26:BX:135:LEU:C | 26:BX:136:TRP:N | 2.37 | 0.82 |
| 1:A2:29:U:HO2' | 26:BX:127:VAL:HG22 | 0.86 | 0.82 |
| 1:A2:89:G:OP1 | 27:BY:119:PHE:CZ | 1.93 | 0.82 |
| 1:A2:143:G:OP1 | 9:BG:131:LYS:HA | 1.78 | 0.82 |
| 1:A2:759:U:C2 | 12:BJ:8:TYR:N | 2.48 | 0.82 |
| 1:A2:783:G:C4 | 27:BY:40:LEU:HD22 | 2.15 | 0.82 |
| 1:A2:831:U:O5' | 7:BE:152:PRO:HB2 | 1.79 | 0.82 |
| 1:A2:943:C:C5 | 29:Ba:16:GLY:N | 2.46 | 0.82 |
| 1:A2:1226:A:C6 | 34:Bf:99:ALA:N | 2.48 | 0.82 |
| 1:A2:1238:A:P | 18:BP:66:ALA:H | 2.03 | 0.82 |
| 1:A2:1258:U:O4 | 34:Bf:97:ALA:N | 2.13 | 0.82 |
| 1:A2:1326:A:C4' | 6:BD:156:PHE:O | 2.28 | 0.82 |
| 1:A2:1420:C:OP1 | 23:BU:80:GLU:CB | 2.21 | 0.82 |
| 1:A2:1434:U:C2 | 32:Bd:26:SER:HB2 | 2.14 | 0.82 |
| 1:A2:1454:G:C5 | 18:BP:122:THR:CG2 | 2.57 | 0.82 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1566:U:O2' | 21:BS:35:ILE:CA | 2.28 | 0.82 |
| 2:AZ:6110:A:H8 | 8:BF:219:ARG:CZ | 1.92 | 0.82 |
| 10:BH:140:VAL:O | 25:BW:51:GLU:N | 2.12 | 0.82 |
| 20:BR:54:THR:HG1 | 20:BR:55:THR:N | 1.75 | 0.82 |
| 1:A2:335:U:O4 | 11:BI:25:ARG:CD | 2.27 | 0.82 |
| 1:A2:447:U:O4 | 27:BY:104:SER:OG | 1.97 | 0.82 |
| 1:A2:598:U:OP2 | 26:BX:133:LEU:CD2 | 2.26 | 0.82 |
| 1:A2:759:U:C4 | 12:BJ:6:ARG:O | 2.32 | 0.82 |
| 1:A2:898:A:C1' | 17:BO:41:ARG:HG2 | 1.98 | 0.82 |
| 1:A2:1068:C:C4' | 3:BA:33:GLN:HB2 | 2.10 | 0.82 |
| 1:A2:1504:G:H5" | 22:BT:39:THR:H | 1.45 | 0.82 |
| 1:A2:1528:U:H5" | 19:BQ:43:ILE:HG12 | 0.83 | 0.82 |
| 1:A2:1532:U:P | 28:BZ:77:ARG:HB3 | 2.19 | 0.82 |
| 2:AZ:6218:U:C2 | 6:BD:146:ARG:CD | 2.63 | 0.82 |
| 1:A2:139:C:H3' | 9:BG:138:ALA:H | 1.32 | 0.81 |
| 1:A2:332:U:O2 | 11:BI:26:LYS:CD | 2.16 | 0.81 |
| 1:A2:631:G:C3' | 26:BX:13:ARG:CA | 2.58 | 0.81 |
| 1:A2:736:C:C4 | 7:BE:195:ILE:HD11 | 2.14 | 0.81 |
| 1:A2:916:U:H3' | 17:BO:84:ARG:CZ | 2.08 | 0.81 |
| 1:A2:920:U:C5' | 4:BB:214:LYS:CD | 2.36 | 0.81 |
| 1:A2:1050:G:OP1 | 30:Bb:15:GLU:CB | 0.67 | 0.81 |
| 1:A2:1300:A:C8 | 5:BC:86:VAL:HB | 2.15 | 0.81 |
| 1:A2:1327:C:C2' | 6:BD:159:HIS:CB | 2.58 | 0.81 |
| 1:A2:1334:U:C3' | 23:BU:83:GLU:OE2 | 2.27 | 0.81 |
| 1:A2:1358:G:C4' | 22:BT:130:ARG:HA | 2.09 | 0.81 |
| 1:A2:1389:C:O3' | 20:BR:45:ARG:CG | 2.19 | 0.81 |
| 1:A2:1403:C:C6 | 20:BR:3:ARG:HB3 | 2.14 | 0.81 |
| 1:A2:1718:G:N2 | 9:BG:65:GLN:HE22 | 1.77 | 0.81 |
| 1:A2:1722:A:OP2 | 9:BG:73:ILE:CD1 | 2.28 | 0.81 |
| 25:BW:102:VAL:C | 25:BW:103:ILE:CA | 2.53 | 0.81 |
| 1:A2:128:U:O2 | 1:A2:128:U:H2' | 1.79 | 0.81 |
| 1:A2:326:G:H5' | 14:BL:132:SER:O | 1.79 | 0.81 |
| 1:A2:572:C:H5" | 26:BX:116:ASP:N | 1.95 | 0.81 |
| 1:A2:597:G:C3' | 26:BX:136:TRP:CZ3 | 2.63 | 0.81 |
| 1:A2:775:G:C2 | 27:BY:61:ARG:CA | 2.62 | 0.81 |
| 1:A2:782:U:O5' | 27:BY:39:GLU:CA | 2.28 | 0.81 |
| 1:A2:921:U:C5' | 4:BB:138:PHE:HE2 | 1.93 | 0.81 |
| 1:A2:1060:U:P | 3:BA:39:ASN:ND2 | 2.53 | 0.81 |
| 1:A2:1435:G:C2 | 13:BK:27:PHE:CD2 | 2.68 | 0.81 |
| 1:A2:1505:A:C4' | 22:BT:41:SER:HB3 | 2.10 | 0.81 |
| 1:A2:1798:U:H6 | 29:Ba:94:ASN:HB3 | 1.44 | 0.81 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AZ:6107:U:H5” | 8:BF:223:SER:H | 1.13 | 0.81 |
| 1:A2:27:U:H3 | 26:BX:126:LYS:HD2 | 1.45 | 0.81 |
| 1:A2:324:U:OP2 | 11:BI:10:LYS:N | 2.06 | 0.81 |
| 1:A2:334:G:OP1 | 11:BI:47:ARG:CD | 2.29 | 0.81 |
| 1:A2:336:G:O6 | 11:BI:27:PHE:N | 2.13 | 0.81 |
| 1:A2:337:G:HO2’ | 11:BI:9:HIS:CD2 | 1.99 | 0.81 |
| 1:A2:738:G:H3’ | 7:BE:157:ASN:ND2 | 1.85 | 0.81 |
| 1:A2:741:C:N4 | 7:BE:207:LEU:H | 1.75 | 0.81 |
| 1:A2:784:C:C4’ | 27:BY:44:LEU:CD2 | 2.59 | 0.81 |
| 1:A2:785:U:C2’ | 27:BY:70:VAL:C | 2.53 | 0.81 |
| 1:A2:896:U:C1’ | 17:BO:18:ARG:HH11 | 1.91 | 0.81 |
| 1:A2:933:A:H5’ | 29:Ba:95:ARG:NH2 | 1.95 | 0.81 |
| 1:A2:943:C:H6 | 29:Ba:16:GLY:HA3 | 1.43 | 0.81 |
| 1:A2:946:U:C4’ | 4:BB:158:SER:OG | 2.29 | 0.81 |
| 1:A2:1037:C:C2’ | 25:BW:19:LYS:NZ | 2.43 | 0.81 |
| 1:A2:1240:U:O4’ | 18:BP:75:PRO:CA | 2.28 | 0.81 |
| 1:A2:1242:A:H5’ | 18:BP:89:MET:SD | 2.19 | 0.81 |
| 1:A2:1499:G:C4’ | 22:BT:102:ARG:O | 2.28 | 0.81 |
| 1:A2:1528:U:C5’ | 19:BQ:43:ILE:HB | 2.09 | 0.81 |
| 1:A2:1535:U:H4’ | 8:BF:187:ILE:HD13 | 1.43 | 0.81 |
| 1:A2:1558:U:N3 | 21:BS:126:ARG:N | 2.28 | 0.81 |
| 1:A2:1720:G:C4 | 9:BG:66:GLY:CA | 2.51 | 0.81 |
| 1:A2:1791:A:C2’ | 29:Ba:2:PRO:C | 2.52 | 0.81 |
| 1:A2:1797:A:H2 | 29:Ba:90:GLU:N | 1.78 | 0.81 |
| 29:Ba:49:ALA:O | 29:Ba:52:ASP:N | 2.13 | 0.81 |
| 1:A2:241:U:O2’ | 7:BE:148:ARG:NH2 | 2.14 | 0.81 |
| 1:A2:245:U:N3 | 7:BE:128:LYS:CE | 2.43 | 0.81 |
| 1:A2:300:A:N6 | 7:BE:5:PRO:O | 2.11 | 0.81 |
| 1:A2:739:G:C6 | 7:BE:175:PHE:HE1 | 1.98 | 0.81 |
| 1:A2:741:C:H6 | 7:BE:201:HIS:C | 1.88 | 0.81 |
| 1:A2:760:A:N9 | 12:BJ:8:TYR:HB2 | 1.96 | 0.81 |
| 1:A2:887:A:H2 | 17:BO:125:SER:H | 1.26 | 0.81 |
| 1:A2:1279:C:N3 | 23:BU:72:ASN:OD1 | 2.14 | 0.81 |
| 3:BA:103:THR:HB | 3:BA:106:SER:OG | 1.80 | 0.81 |
| 1:A2:164:A:C8 | 9:BG:2:LYS:HB2 | 2.16 | 0.81 |
| 1:A2:181:A:C8 | 9:BG:191:ARG:NH1 | 2.47 | 0.81 |
| 1:A2:242:U:C5 | 7:BE:149:TYR:CE1 | 2.69 | 0.81 |
| 1:A2:746:A:H2 | 25:BW:82:LYS:HE3 | 1.02 | 0.81 |
| 1:A2:1097:U:C1’ | 5:BC:199:GLN:HA | 2.09 | 0.81 |
| 1:A2:1299:G:C5 | 5:BC:86:VAL:HG12 | 2.11 | 0.81 |
| 1:A2:1532:U:H2’ | 28:BZ:77:ARG:HG3 | 1.59 | 0.81 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AZ:6108:U:OP2 | 8:BF:225:ARG:HB3 | 1.80 | 0.81 |
| 3:BA:177:LEU:O | 3:BA:181:VAL:HG13 | 1.79 | 0.81 |
| 1:A2:179:A:C6 | 9:BG:186:ARG:C | 2.59 | 0.81 |
| 1:A2:396:G:C5 | 9:BG:88:ARG:CG | 2.62 | 0.81 |
| 1:A2:783:G:C8 | 27:BY:39:GLU:CB | 2.63 | 0.81 |
| 1:A2:783:G:C2 | 27:BY:35:VAL:HG21 | 2.07 | 0.81 |
| 1:A2:899:G:H3' | 17:BO:25:ASP:CB | 2.10 | 0.81 |
| 1:A2:1392:U:H5' | 20:BR:29:GLN:HB2 | 1.60 | 0.81 |
| 1:A2:1565:C:C1' | 21:BS:41:ARG:H | 1.93 | 0.81 |
| 1:A2:1710:U:C6 | 9:BG:115:LYS:HD2 | 2.15 | 0.81 |
| 1:A2:1721:A:H3' | 9:BG:67:VAL:HG21 | 0.81 | 0.81 |
| 1:A2:127:G:H1' | 9:BG:183:ARG:NH2 | 1.95 | 0.81 |
| 1:A2:242:U:C5 | 7:BE:137:PRO:HD2 | 2.15 | 0.81 |
| 1:A2:325:G:C6 | 11:BI:10:LYS:NZ | 2.48 | 0.81 |
| 1:A2:370:A:C4' | 12:BJ:14:THR:N | 2.43 | 0.81 |
| 1:A2:572:C:O3' | 26:BX:116:ASP:HB3 | 1.80 | 0.81 |
| 1:A2:811:A:N6 | 10:BH:103:SER:CB | 2.41 | 0.81 |
| 1:A2:897:C:O3' | 17:BO:29:HIS:HB2 | 1.79 | 0.81 |
| 1:A2:897:C:OP2 | 17:BO:39:ILE:N | 2.13 | 0.81 |
| 1:A2:936:G:O6 | 29:Ba:13:LYS:HB3 | 1.80 | 0.81 |
| 1:A2:950:C:C4' | 16:BN:94:LYS:HE2 | 2.10 | 0.81 |
| 1:A2:1049:U:H3' | 30:Bb:15:GLU:HA | 1.59 | 0.81 |
| 1:A2:1255:G:OP2 | 34:Bf:141:CYS:N | 2.13 | 0.81 |
| 1:A2:1281:G:H5' | 23:BU:78:THR:HG1 | 1.44 | 0.81 |
| 1:A2:1328:G:P | 6:BD:164:VAL:CG2 | 2.69 | 0.81 |
| 1:A2:1417:A:H4' | 19:BQ:128:LYS:HZ1 | 1.43 | 0.81 |
| 1:A2:1454:G:N2 | 18:BP:123:TYR:CD1 | 2.49 | 0.81 |
| 1:A2:1504:G:O4' | 21:BS:41:ARG:NH2 | 2.12 | 0.81 |
| 1:A2:1548:G:OP2 | 21:BS:100:THR:CG2 | 2.29 | 0.81 |
| 1:A2:1688:U:H2' | 1:A2:1689:A:C8 | 2.16 | 0.81 |
| 1:A2:58:U:C6 | 27:BY:114:ARG:CB | 2.64 | 0.81 |
| 1:A2:220:A:P | 9:BG:219:ARG:N | 2.52 | 0.81 |
| 1:A2:370:A:H5" | 12:BJ:14:THR:OG1 | 1.80 | 0.81 |
| 1:A2:395:U:H1' | 9:BG:93:LYS:NZ | 1.96 | 0.81 |
| 1:A2:456:A:C2 | 27:BY:111:LYS:CB | 2.61 | 0.81 |
| 1:A2:863:A:N3 | 25:BW:7:LEU:N | 2.27 | 0.81 |
| 1:A2:917:U:H2' | 17:BO:118:VAL:HG21 | 1.61 | 0.81 |
| 1:A2:957:G:C5' | 30:Bb:22:LYS:CD | 2.55 | 0.81 |
| 1:A2:1454:G:P | 18:BP:118:GLU:CG | 2.68 | 0.81 |
| 1:A2:1495:C:O2' | 1:A2:1519:U:O2 | 1.99 | 0.81 |
| 2:AZ:6108:U:P | 8:BF:225:ARG:HD2 | 2.21 | 0.81 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:179:A:C1' | 9:BG:184:LEU:HB3 | 2.11 | 0.81 |
| 1:A2:241:U:C5' | 7:BE:149:TYR:CG | 2.55 | 0.81 |
| 1:A2:800:U:O3' | 7:BE:187:ARG:HG3 | 1.78 | 0.81 |
| 1:A2:1327:C:C5 | 6:BD:158:ILE:C | 2.58 | 0.81 |
| 1:A2:1498:G:C6 | 22:BT:102:ARG:CD | 2.63 | 0.81 |
| 1:A2:78:A:N3 | 9:BG:160:ARG:NE | 2.23 | 0.81 |
| 1:A2:89:G:C6 | 27:BY:118:ILE:HG22 | 2.16 | 0.81 |
| 1:A2:330:G:C4 | 11:BI:31:ARG:CG | 2.63 | 0.81 |
| 1:A2:336:G:N3 | 11:BI:6:ASP:OD2 | 2.14 | 0.81 |
| 1:A2:577:G:O3' | 1:A2:578:U:P | 2.39 | 0.81 |
| 1:A2:632:U:HO2' | 14:BL:97:TYR:HB3 | 1.43 | 0.81 |
| 1:A2:738:G:C5' | 7:BE:126:VAL:O | 2.27 | 0.81 |
| 1:A2:778:G:C6 | 27:BY:39:GLU:OE1 | 1.90 | 0.81 |
| 1:A2:870:C:H2' | 16:BN:13:SER:HB2 | 1.62 | 0.81 |
| 1:A2:952:A:C4' | 16:BN:5:HIS:CB | 2.55 | 0.81 |
| 1:A2:1401:A:OP2 | 20:BR:10:LYS:NZ | 2.11 | 0.81 |
| 1:A2:1539:G:C4 | 28:BZ:74:SER:OG | 2.25 | 0.81 |
| 2:AZ:6107:U:C2 | 8:BF:217:LEU:O | 2.34 | 0.81 |
| 2:AZ:6221:U:H3' | 6:BD:114:ALA:CB | 1.87 | 0.81 |
| 1:A2:56:U:O2 | 27:BY:113:ASN:O | 1.98 | 0.80 |
| 1:A2:137:U:HO2' | 9:BG:143:LYS:HD3 | 1.44 | 0.80 |
| 1:A2:329:G:C5' | 11:BI:175:GLN:HE22 | 1.93 | 0.80 |
| 1:A2:435:C:P | 26:BX:77:ILE:HD11 | 2.20 | 0.80 |
| 1:A2:598:U:H3' | 26:BX:88:PRO:HG2 | 1.61 | 0.80 |
| 1:A2:631:G:C5 | 26:BX:11:SER:O | 2.32 | 0.80 |
| 1:A2:832:U:H5' | 9:BG:212:LEU:O | 1.80 | 0.80 |
| 1:A2:1056:U:P | 3:BA:40:ALA:HB1 | 2.20 | 0.80 |
| 1:A2:1296:A:OP2 | 5:BC:116:LYS:HD3 | 1.81 | 0.80 |
| 1:A2:1298:U:H5' | 5:BC:115:ILE:CG2 | 2.09 | 0.80 |
| 1:A2:1451:C:N4 | 18:BP:97:TYR:HB3 | 1.96 | 0.80 |
| 1:A2:1503:A:N1 | 21:BS:82:PRO:CG | 2.43 | 0.80 |
| 9:BG:58:LYS:C | 9:BG:60:GLY:N | 2.38 | 0.80 |
| 12:BJ:23:ARG:O | 12:BJ:26:ALA:N | 2.14 | 0.80 |
| 1:A2:56:U:H3 | 27:BY:113:ASN:HD22 | 0.81 | 0.80 |
| 1:A2:760:A:O2' | 12:BJ:9:SER:O | 1.99 | 0.80 |
| 1:A2:780:A:C6 | 27:BY:32:ARG:HA | 2.15 | 0.80 |
| 1:A2:872:G:O3' | 1:A2:873:U:P | 2.39 | 0.80 |
| 1:A2:957:G:C2 | 30:Bb:21:LEU:CD2 | 2.59 | 0.80 |
| 1:A2:1096:C:C6 | 5:BC:201:ASN:HA | 2.16 | 0.80 |
| 1:A2:1182:U:H1' | 18:BP:125:PRO:O | 1.76 | 0.80 |
| 1:A2:1402:G:C2' | 20:BR:3:ARG:O | 2.29 | 0.80 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1504:G:OP2 | 22:BT:33:TYR:O | 1.99 | 0.80 |
| 1:A2:1530:C:H42 | 28:BZ:96:SER:CB | 1.85 | 0.80 |
| 10:BH:166:LEU:O | 10:BH:167:GLU:N | 2.14 | 0.80 |
| 25:BW:68:ARG:C | 25:BW:69:LEU:N | 2.40 | 0.80 |
| 30:Bb:21:LEU:C | 30:Bb:22:LYS:N | 2.39 | 0.80 |
| 1:A2:30:G:OP2 | 26:BX:130:VAL:CG2 | 2.23 | 0.80 |
| 1:A2:138:A:O3' | 9:BG:143:LYS:N | 2.14 | 0.80 |
| 1:A2:164:A:H3' | 9:BG:3:LEU:O | 1.81 | 0.80 |
| 1:A2:217:A:H5" | 7:BE:155:LYS:HA | 1.62 | 0.80 |
| 1:A2:266:A:C2 | 9:BG:135:PRO:C | 2.60 | 0.80 |
| 1:A2:451:A:H2 | 27:BY:111:LYS:CD | 1.94 | 0.80 |
| 1:A2:456:A:C2' | 27:BY:111:LYS:HE2 | 1.96 | 0.80 |
| 1:A2:735:C:OP1 | 7:BE:191:ARG:HG2 | 1.79 | 0.80 |
| 1:A2:754:A:P | 7:BE:14:ALA:CB | 2.70 | 0.80 |
| 1:A2:775:G:C4 | 27:BY:61:ARG:CA | 2.62 | 0.80 |
| 1:A2:786:C:H5 | 27:BY:71:GLY:N | 1.78 | 0.80 |
| 1:A2:1212:G:O6 | 18:BP:99:GLY:CA | 2.30 | 0.80 |
| 1:A2:1301:U:C1' | 5:BC:86:VAL:CG2 | 2.59 | 0.80 |
| 1:A2:1333:C:O3' | 32:Bd:55:PHE:CE2 | 2.11 | 0.80 |
| 1:A2:1381:U:C3' | 23:BU:59:PRO:CG | 2.60 | 0.80 |
| 2:AZ:6221:U:O3' | 6:BD:114:ALA:HB3 | 1.76 | 0.80 |
| 14:BL:65:SER:C | 14:BL:66:ILE:N | 2.39 | 0.80 |
| 24:BV:59:VAL:C | 24:BV:61:SER:N | 2.39 | 0.80 |
| 1:A2:57:G:C2 | 27:BY:112:LYS:C | 2.60 | 0.80 |
| 1:A2:215:A:H4' | 7:BE:131:LEU:HA | 1.60 | 0.80 |
| 1:A2:457:G:C1' | 27:BY:114:ARG:NH2 | 2.40 | 0.80 |
| 1:A2:703:G:N2 | 7:BE:180:LEU:O | 2.14 | 0.80 |
| 1:A2:786:C:OP1 | 27:BY:24:VAL:C | 2.23 | 0.80 |
| 1:A2:1103:U:H4' | 26:BX:15:LEU:HD13 | 1.61 | 0.80 |
| 1:A2:1245:G:OP1 | 18:BP:58:LYS:O | 1.98 | 0.80 |
| 1:A2:1453:G:N3 | 18:BP:120:SER:O | 2.14 | 0.80 |
| 1:A2:1502:G:OP2 | 22:BT:32:GLY:C | 2.24 | 0.80 |
| 1:A2:1613:U:O5' | 8:BF:84:LYS:HE2 | 1.81 | 0.80 |
| 1:A2:179:A:O4' | 9:BG:184:LEU:HA | 1.79 | 0.80 |
| 1:A2:698:U:H2' | 7:BE:197:HIS:CE1 | 2.16 | 0.80 |
| 1:A2:776:G:O3' | 27:BY:29:HIS:HE1 | 1.60 | 0.80 |
| 1:A2:776:G:C5' | 27:BY:62:THR:HG23 | 2.11 | 0.80 |
| 1:A2:1184:A:C4 | 18:BP:124:THR:N | 2.29 | 0.80 |
| 1:A2:1299:G:O2' | 5:BC:84:LYS:C | 2.21 | 0.80 |
| 1:A2:1519:U:OP2 | 22:BT:75:LYS:CE | 2.30 | 0.80 |
| 1:A2:1533:C:C1' | 28:BZ:77:ARG:HH21 | 1.94 | 0.80 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:Ba:25:ASN:C | 29:Ba:26:CYS:N | 2.40 | 0.80 |
| 31:Bc:47:PRO:C | 31:Bc:48:VAL:N | 2.39 | 0.80 |
| 1:A2:140:A:O3' | 9:BG:157:VAL:O | 1.74 | 0.80 |
| 1:A2:141:U:C5 | 9:BG:173:PRO:CB | 2.65 | 0.80 |
| 1:A2:243:G:O6 | 7:BE:138:TYR:OH | 2.00 | 0.80 |
| 1:A2:266:A:H4' | 9:BG:136:LYS:HZ3 | 1.43 | 0.80 |
| 1:A2:329:G:N1 | 11:BI:30:GLY:CA | 2.45 | 0.80 |
| 1:A2:588:U:O4 | 33:Be:19:PRO:C | 2.23 | 0.80 |
| 1:A2:777:C:C5' | 27:BY:32:ARG:HB2 | 2.12 | 0.80 |
| 1:A2:782:U:C5' | 27:BY:39:GLU:CA | 2.60 | 0.80 |
| 1:A2:987:G:N2 | 1:A2:1013:A:OP2 | 2.14 | 0.80 |
| 1:A2:1034:C:H3' | 26:BX:2:GLY:N | 1.96 | 0.80 |
| 1:A2:1037:C:H4' | 25:BW:71:LYS:CG | 2.12 | 0.80 |
| 1:A2:1184:A:C4 | 18:BP:123:TYR:HD2 | 1.99 | 0.80 |
| 1:A2:1200:G:H4' | 1:A2:1201:G:C5' | 2.10 | 0.80 |
| 1:A2:1241:G:OP1 | 18:BP:104:GLN:C | 2.25 | 0.80 |
| 1:A2:1241:G:OP1 | 18:BP:104:GLN:CA | 2.30 | 0.80 |
| 1:A2:1549:C:C5' | 21:BS:86:LEU:HB2 | 2.11 | 0.80 |
| 1:A2:1673:G:HO3' | 9:BG:94:ARG:HG2 | 0.86 | 0.80 |
| 1:A2:340:U:C2 | 11:BI:3:ILE:HG12 | 2.16 | 0.80 |
| 1:A2:697:C:H4' | 7:BE:209:HIS:CD2 | 2.14 | 0.80 |
| 1:A2:957:G:C5' | 30:Bb:22:LYS:HE2 | 2.07 | 0.80 |
| 1:A2:1084:A:H5" | 5:BC:166:THR:CA | 1.99 | 0.80 |
| 1:A2:1531:G:O6 | 28:BZ:97:LYS:HG3 | 1.81 | 0.80 |
| 1:A2:1710:U:C1' | 9:BG:115:LYS:HG3 | 2.05 | 0.80 |
| 1:A2:1720:G:C4 | 9:BG:66:GLY:HA2 | 2.16 | 0.80 |
| 17:BO:56:SER:OG | 17:BO:59:ALA:N | 2.13 | 0.80 |
| 1:A2:129:U:H3 | 9:BG:177:ARG:NE | 1.74 | 0.80 |
| 1:A2:215:A:N7 | 7:BE:138:TYR:N | 2.29 | 0.80 |
| 1:A2:216:U:H6 | 7:BE:129:VAL:HG22 | 1.43 | 0.80 |
| 1:A2:242:U:H1' | 7:BE:148:ARG:CZ | 2.12 | 0.80 |
| 1:A2:758:U:C4 | 12:BJ:6:ARG:O | 2.34 | 0.80 |
| 1:A2:760:A:C8 | 12:BJ:8:TYR:HB2 | 2.17 | 0.80 |
| 1:A2:765:G:C8 | 12:BJ:132:ARG:NH1 | 2.49 | 0.80 |
| 1:A2:804:A:H5' | 25:BW:120:HIS:O | 1.81 | 0.80 |
| 1:A2:863:A:OP1 | 25:BW:34:ILE:HD11 | 1.82 | 0.80 |
| 1:A2:946:U:O3' | 4:BB:158:SER:HB2 | 1.78 | 0.80 |
| 1:A2:1256:A:N1 | 34:Bf:98:LYS:HG3 | 1.66 | 0.80 |
| 1:A2:1521:G:OP1 | 22:BT:75:LYS:HE3 | 1.66 | 0.80 |
| 2:AZ:6218:U:N3 | 6:BD:146:ARG:HD2 | 1.97 | 0.80 |
| 1:A2:736:C:C6 | 7:BE:225:VAL:HG13 | 2.16 | 0.80 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:740:A:N3 | 7:BE:200:ARG:HB2 | 1.95 | 0.80 |
| 1:A2:784:C:H5' | 27:BY:43:LYS:CB | 2.11 | 0.80 |
| 1:A2:1018:U:C3' | 16:BN:107:LYS:HD2 | 1.72 | 0.80 |
| 1:A2:1053:G:O5' | 3:BA:35:PRO:CB | 2.30 | 0.80 |
| 1:A2:1097:U:H1' | 5:BC:199:GLN:HA | 1.63 | 0.80 |
| 1:A2:1102:G:HO2' | 26:BX:7:ARG:HD2 | 1.43 | 0.80 |
| 1:A2:1236:A:H5" | 18:BP:61:ARG:HG2 | 1.63 | 0.80 |
| 1:A2:1281:G:C5' | 23:BU:78:THR:OG1 | 2.25 | 0.80 |
| 1:A2:1300:A:N7 | 5:BC:86:VAL:HB | 1.96 | 0.80 |
| 1:A2:1498:G:N7 | 22:BT:73:VAL:HB | 1.96 | 0.80 |
| 1:A2:1547:A:C8 | 21:BS:87:ASN:HB2 | 2.17 | 0.80 |
| 1:A2:1581:C:OP1 | 19:BQ:137:ARG:HD2 | 1.81 | 0.80 |
| 2:AZ:6221:U:O2' | 6:BD:114:ALA:CB | 2.29 | 0.80 |
| 1:A2:2:A:N3 | 12:BJ:16:LYS:HD3 | 1.97 | 0.80 |
| 1:A2:138:A:C5 | 9:BG:140:ASN:HB3 | 2.17 | 0.80 |
| 1:A2:138:A:C2 | 9:BG:143:LYS:HG2 | 2.17 | 0.80 |
| 1:A2:746:A:N3 | 25:BW:82:LYS:HE3 | 1.92 | 0.80 |
| 1:A2:786:C:OP1 | 27:BY:24:VAL:O | 1.99 | 0.80 |
| 1:A2:866:G:H3' | 25:BW:3:ARG:H | 1.46 | 0.80 |
| 1:A2:1124:A:O3' | 1:A2:1125:A:P | 2.40 | 0.80 |
| 1:A2:1211:A:H2 | 18:BP:120:SER:OG | 1.64 | 0.80 |
| 12:BJ:94:ASP:O | 12:BJ:96:VAL:N | 2.15 | 0.80 |
| 22:BT:40:SER:HG | 22:BT:41:SER:N | 1.80 | 0.80 |
| 1:A2:149:C:H5" | 27:BY:130:ALA:HB3 | 0.88 | 0.79 |
| 1:A2:337:G:HO2' | 11:BI:9:HIS:CE1 | 1.88 | 0.79 |
| 1:A2:635:A:O3' | 25:BW:126:LEU:CA | 2.12 | 0.79 |
| 1:A2:705:U:O2' | 7:BE:232:GLY:N | 1.96 | 0.79 |
| 1:A2:804:A:H3' | 25:BW:122:SER:CB | 2.10 | 0.79 |
| 1:A2:855:A:C2 | 1:A2:857:U:H1' | 2.17 | 0.79 |
| 1:A2:900:A:O5' | 17:BO:25:ASP:HB3 | 1.80 | 0.79 |
| 1:A2:1389:C:H3' | 20:BR:45:ARG:HG3 | 1.64 | 0.79 |
| 1:A2:1419:G:H21 | 32:Bd:54:LYS:C | 1.89 | 0.79 |
| 11:BI:152:ILE:C | 11:BI:153:GLU:N | 2.40 | 0.79 |
| 19:BQ:99:GLU:OE1 | 35:Bg:59:ARG:C | 2.24 | 0.79 |
| 20:BR:7:LYS:C | 20:BR:8:THR:C | 2.51 | 0.79 |
| 21:BS:66:LEU:O | 21:BS:67:GLU:N | 2.15 | 0.79 |
| 25:BW:104:LEU:C | 25:BW:105:THR:N | 2.40 | 0.79 |
| 1:A2:599:A:C2 | 26:BX:103:LEU:CD1 | 2.64 | 0.79 |
| 1:A2:633:U:C3' | 25:BW:79:PHE:CE1 | 2.64 | 0.79 |
| 1:A2:776:G:C4' | 27:BY:66:GLY:HA2 | 2.12 | 0.79 |
| 1:A2:784:C:C4' | 27:BY:44:LEU:HD21 | 2.12 | 0.79 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1055:U:C6 | 3:BA:37:VAL:HG22 | 2.17 | 0.79 |
| 1:A2:1213:G:C1' | 18:BP:78:THR:O | 2.30 | 0.79 |
| 1:A2:1298:U:O2 | 5:BC:208:GLU:HG3 | 1.80 | 0.79 |
| 1:A2:1382:A:C2 | 23:BU:56:VAL:HG13 | 2.12 | 0.79 |
| 1:A2:1533:C:H1' | 28:BZ:77:ARG:HH21 | 1.46 | 0.79 |
| 1:A2:1555:A:H1' | 18:BP:115:TYR:CE2 | 2.16 | 0.79 |
| 1:A2:1675:C:OP1 | 9:BG:76:LEU:CD1 | 2.30 | 0.79 |
| 1:A2:1790:A:C3' | 1:A2:1791:A:P | 2.70 | 0.79 |
| 1:A2:1796:C:H5' | 29:Ba:92:ARG:HD2 | 0.80 | 0.79 |
| 17:BO:122:PRO:C | 17:BO:123:SER:N | 2.39 | 0.79 |
| 25:BW:94:LEU:HD11 | 25:BW:102:VAL:HG23 | 1.62 | 0.79 |
| 1:A2:89:G:N1 | 27:BY:115:ASP:C | 2.41 | 0.79 |
| 1:A2:395:U:H3' | 9:BG:91:GLU:CD | 2.07 | 0.79 |
| 1:A2:450:U:C4' | 27:BY:109:LYS:HE2 | 1.95 | 0.79 |
| 1:A2:735:C:H3' | 7:BE:192:ILE:HA | 1.64 | 0.79 |
| 1:A2:960:U:C6 | 25:BW:57:ARG:CG | 2.65 | 0.79 |
| 1:A2:1242:A:H5' | 18:BP:89:MET:HE1 | 1.63 | 0.79 |
| 1:A2:1252:C:C1' | 34:Bf:136:LYS:HG3 | 2.06 | 0.79 |
| 1:A2:1327:C:C5 | 6:BD:159:HIS:N | 2.50 | 0.79 |
| 1:A2:1498:G:H3' | 22:BT:73:VAL:CG2 | 2.12 | 0.79 |
| 1:A2:1547:A:O2' | 21:BS:100:THR:O | 2.00 | 0.79 |
| 1:A2:1565:C:C2' | 21:BS:38:VAL:HG12 | 2.12 | 0.79 |
| 1:A2:212:U:C6 | 7:BE:133:LYS:NZ | 2.50 | 0.79 |
| 1:A2:451:A:C2 | 27:BY:111:LYS:CB | 2.63 | 0.79 |
| 1:A2:634:G:C3' | 25:BW:79:PHE:H | 1.94 | 0.79 |
| 1:A2:638:U:O2 | 25:BW:107:SER:CB | 2.31 | 0.79 |
| 1:A2:800:U:O3' | 1:A2:801:G:P | 2.39 | 0.79 |
| 1:A2:863:A:H5' | 25:BW:6:VAL:HG21 | 1.64 | 0.79 |
| 1:A2:1290:U:H4' | 6:BD:151:LYS:HE2 | 1.51 | 0.79 |
| 1:A2:1328:G:N7 | 6:BD:159:HIS:C | 2.41 | 0.79 |
| 1:A2:1533:C:C1' | 28:BZ:77:ARG:NH2 | 2.45 | 0.79 |
| 1:A2:1556:A:OP2 | 18:BP:38:PRO:CG | 2.30 | 0.79 |
| 1:A2:1721:A:C8 | 9:BG:67:VAL:CA | 2.66 | 0.79 |
| 1:A2:1756:A:N1 | 2:AZ:6189:G:O2' | 2.16 | 0.79 |
| 6:BD:127:MET:HE1 | 6:BD:133:GLY:HA2 | 1.65 | 0.79 |
| 9:BG:64:LYS:NZ | 9:BG:83:CYS:SG | 2.55 | 0.79 |
| 1:A2:141:U:C5 | 9:BG:173:PRO:HG2 | 2.17 | 0.79 |
| 1:A2:452:A:N7 | 27:BY:115:ASP:CG | 2.40 | 0.79 |
| 1:A2:807:A:P | 25:BW:79:PHE:C | 2.65 | 0.79 |
| 1:A2:886:U:OP2 | 4:BB:122:GLU:OE2 | 1.99 | 0.79 |
| 1:A2:1558:U:C4 | 21:BS:122:HIS:O | 2.35 | 0.79 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1756:A:C3' | 1:A2:1757:G:OP1 | 2.28 | 0.79 |
| 14:BL:100:TYR:O | 26:BX:12:ALA:N | 2.15 | 0.79 |
| 35:Bg:19:TRP:HB2 | 35:Bg:38:ARG:HD2 | 1.64 | 0.79 |
| 1:A2:178:U:OP1 | 9:BG:179:VAL:HG12 | 1.83 | 0.79 |
| 1:A2:180:A:N1 | 9:BG:191:ARG:N | 2.28 | 0.79 |
| 1:A2:181:A:H1' | 9:BG:191:ARG:HB3 | 1.62 | 0.79 |
| 1:A2:396:G:C4 | 9:BG:88:ARG:HD2 | 2.17 | 0.79 |
| 1:A2:597:G:H3' | 26:BX:133:LEU:HD22 | 1.61 | 0.79 |
| 1:A2:738:G:H8 | 7:BE:157:ASN:OD1 | 1.63 | 0.79 |
| 1:A2:961:U:H5 | 25:BW:58:SER:OG | 1.64 | 0.79 |
| 1:A2:1049:U:H3' | 30:Bb:18:LYS:CB | 2.13 | 0.79 |
| 1:A2:1213:G:H4' | 18:BP:77:ARG:HD3 | 1.64 | 0.79 |
| 1:A2:1239:U:C6 | 18:BP:74:ALA:CA | 2.62 | 0.79 |
| 1:A2:1389:C:O3' | 20:BR:45:ARG:CA | 2.30 | 0.79 |
| 1:A2:1553:G:N3 | 18:BP:40:ARG:CD | 2.35 | 0.79 |
| 1:A2:1795:U:O2' | 29:Ba:92:ARG:CG | 2.20 | 0.79 |
| 1:A2:1797:A:C2 | 29:Ba:89:ARG:C | 2.61 | 0.79 |
| 15:BM:28:LEU:HD11 | 15:BM:61:VAL:HG21 | 1.64 | 0.79 |
| 26:BX:73:ARG:C | 26:BX:74:VAL:N | 2.41 | 0.79 |
| 1:A2:140:A:C5' | 9:BG:153:VAL:HG12 | 2.12 | 0.79 |
| 1:A2:325:G:C5' | 11:BI:7:SER:HG | 1.90 | 0.79 |
| 1:A2:347:G:C4 | 11:BI:16:ALA:N | 2.50 | 0.79 |
| 1:A2:464:A:C3' | 1:A2:465:G:P | 2.71 | 0.79 |
| 1:A2:787:G:C2 | 27:BY:61:ARG:HD3 | 2.07 | 0.79 |
| 1:A2:864:U:C4' | 25:BW:6:VAL:O | 2.31 | 0.79 |
| 1:A2:931:C:C4' | 4:BB:117:TRP:CZ3 | 2.51 | 0.79 |
| 1:A2:1331:A:C4 | 6:BD:161:GLY:N | 2.50 | 0.79 |
| 1:A2:1502:G:C6 | 22:BT:33:TYR:CD2 | 2.71 | 0.79 |
| 1:A2:1721:A:H62 | 9:BG:68:LEU:N | 1.79 | 0.79 |
| 3:BA:10:THR:HB | 3:BA:11:PRO:HD2 | 1.63 | 0.79 |
| 22:BT:28:LEU:HG | 22:BT:29:GLU:N | 1.98 | 0.79 |
| 1:A2:346:G:C2 | 11:BI:12:SER:O | 2.36 | 0.79 |
| 1:A2:632:U:C4 | 26:BX:12:ALA:N | 2.50 | 0.79 |
| 1:A2:686:C:H5" | 12:BJ:64:GLU:HG2 | 1.63 | 0.79 |
| 1:A2:1327:C:C5 | 6:BD:158:ILE:HA | 2.17 | 0.79 |
| 1:A2:1381:U:C3' | 23:BU:59:PRO:HG3 | 2.13 | 0.79 |
| 1:A2:1419:G:OP1 | 19:BQ:129:PHE:HD1 | 1.66 | 0.79 |
| 1:A2:1505:A:P | 22:BT:38:LYS:HG3 | 2.23 | 0.79 |
| 1:A2:1566:U:O2' | 21:BS:35:ILE:O | 1.99 | 0.79 |
| 25:BW:89:TRP:C | 25:BW:90:THR:N | 2.41 | 0.79 |
| 35:Bg:130:THR:HG1 | 35:Bg:131:ILE:N | 1.80 | 0.79 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:75:U:H5 | 9:BG:167:LYS:HB2 | 1.47 | 0.79 |
| 1:A2:238:U:H3' | 9:BG:210:GLN:HB3 | 1.63 | 0.79 |
| 1:A2:585:A:H8 | 33:Be:17:GLN:CB | 1.91 | 0.79 |
| 1:A2:791:A:N6 | 12:BJ:7:THR:N | 2.29 | 0.79 |
| 1:A2:888:U:H5 | 17:BO:123:SER:N | 1.81 | 0.79 |
| 1:A2:1327:C:H5" | 6:BD:164:VAL:HG22 | 1.65 | 0.79 |
| 1:A2:1507:G:C8 | 1:A2:1507:G:OP2 | 2.36 | 0.79 |
| 1:A2:1584:G:H2' | 19:BQ:124:PRO:HG3 | 1.64 | 0.79 |
| 1:A2:1722:A:C1' | 9:BG:71:THR:O | 2.29 | 0.79 |
| 1:A2:1731:A:O3' | 1:A2:1732:A:P | 2.41 | 0.79 |
| 1:A2:1791:A:O3' | 29:Ba:2:PRO:CA | 2.31 | 0.79 |
| 15:BM:52:LEU:HD12 | 15:BM:78:LEU:HB3 | 1.65 | 0.79 |
| 1:A2:783:G:OP1 | 27:BY:52:LYS:HG3 | 1.81 | 0.79 |
| 1:A2:916:U:C2 | 17:BO:20:TYR:CE2 | 2.71 | 0.79 |
| 1:A2:1184:A:H62 | 18:BP:125:PRO:HB3 | 1.47 | 0.79 |
| 1:A2:1255:G:N7 | 34:Bf:140:TYR:CB | 2.46 | 0.79 |
| 1:A2:1255:G:N7 | 34:Bf:140:TYR:HB3 | 1.96 | 0.79 |
| 1:A2:1498:G:C5' | 22:BT:72:GLY:C | 2.55 | 0.79 |
| 1:A2:1556:A:P | 18:BP:38:PRO:HG2 | 2.22 | 0.79 |
| 1:A2:1683:C:N3 | 9:BG:32:ILE:C | 2.41 | 0.79 |
| 2:AZ:6137:C:H2' | 8:BF:126:ASP:CA | 2.11 | 0.79 |
| 8:BF:173:ALA:C | 8:BF:174:LEU:N | 2.41 | 0.79 |
| 20:BR:2:GLY:O | 20:BR:4:VAL:N | 2.08 | 0.79 |
| 25:BW:102:VAL:C | 25:BW:103:ILE:HA | 2.08 | 0.79 |
| 1:A2:91:G:C4 | 27:BY:116:LYS:HE2 | 1.96 | 0.78 |
| 1:A2:140:A:H5' | 9:BG:153:VAL:CG1 | 2.12 | 0.78 |
| 1:A2:140:A:O5' | 9:BG:141:ILE:CD1 | 2.31 | 0.78 |
| 1:A2:449:C:C6 | 27:BY:105:ARG:NE | 2.28 | 0.78 |
| 1:A2:550:A:N6 | 33:Be:19:PRO:C | 2.40 | 0.78 |
| 1:A2:552:G:O3' | 1:A2:553:G:P | 2.42 | 0.78 |
| 1:A2:599:A:H2 | 26:BX:103:LEU:CB | 1.95 | 0.78 |
| 1:A2:785:U:O2' | 27:BY:26:ASP:HA | 1.82 | 0.78 |
| 1:A2:787:G:C5 | 27:BY:61:ARG:HB3 | 2.17 | 0.78 |
| 1:A2:863:A:OP1 | 25:BW:6:VAL:HG11 | 1.83 | 0.78 |
| 1:A2:863:A:O5' | 25:BW:31:SER:HB3 | 1.83 | 0.78 |
| 1:A2:920:U:C2' | 4:BB:216:LYS:HE3 | 2.13 | 0.78 |
| 1:A2:1246:C:C4 | 18:BP:76:VAL:CA | 2.64 | 0.78 |
| 1:A2:1299:G:N3 | 5:BC:86:VAL:HG12 | 1.98 | 0.78 |
| 1:A2:1433:G:N2 | 32:Bd:26:SER:CB | 2.46 | 0.78 |
| 1:A2:1503:A:C5 | 22:BT:37:VAL:N | 2.50 | 0.78 |
| 1:A2:1548:G:O2' | 21:BS:86:LEU:HA | 1.81 | 0.78 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1550:A:N7 | 21:BS:89:GLN:NE2 | 2.30 | 0.78 |
| 1:A2:1721:A:N7 | 9:BG:68:LEU:N | 2.31 | 0.78 |
| 1:A2:1797:A:N1 | 29:Ba:90:GLU:N | 2.30 | 0.78 |
| 1:A2:759:U:C4 | 12:BJ:6:ARG:C | 2.62 | 0.78 |
| 1:A2:804:A:OP1 | 25:BW:121:VAL:HA | 1.83 | 0.78 |
| 1:A2:826:U:O2 | 1:A2:846:G:O6 | 2.00 | 0.78 |
| 1:A2:1260:U:H5” | 34:Bf:92:LYS:CB | 2.12 | 0.78 |
| 1:A2:1302:U:C6 | 5:BC:97:ARG:CZ | 2.66 | 0.78 |
| 1:A2:1556:A:P | 18:BP:38:PRO:CB | 2.70 | 0.78 |
| 1:A2:1609:U:H5’ | 19:BQ:75:VAL:CB | 2.11 | 0.78 |
| 1:A2:1723:U:C6 | 9:BG:73:ILE:HD13 | 2.13 | 0.78 |
| 2:AZ:6220:U:C6 | 6:BD:142:LEU:CB | 2.65 | 0.78 |
| 5:BC:193:VAL:O | 5:BC:194:GLU:N | 2.17 | 0.78 |
| 18:BP:52:LYS:HA | 18:BP:80:MET:HE1 | 1.66 | 0.78 |
| 24:BV:36:VAL:HG12 | 24:BV:37:ALA:N | 1.98 | 0.78 |
| 1:A2:58:U:OP2 | 27:BY:114:ARG:HD3 | 1.36 | 0.78 |
| 1:A2:139:C:C2’ | 9:BG:138:ALA:H | 1.75 | 0.78 |
| 1:A2:179:A:N6 | 9:BG:190:GLN:HG2 | 1.99 | 0.78 |
| 1:A2:328:A:H4’ | 11:BI:172:ARG:NH1 | 1.96 | 0.78 |
| 1:A2:435:C:OP1 | 26:BX:77:ILE:CD1 | 2.31 | 0.78 |
| 1:A2:775:G:N3 | 27:BY:61:ARG:CA | 2.46 | 0.78 |
| 1:A2:960:U:C6 | 25:BW:57:ARG:HG3 | 2.19 | 0.78 |
| 1:A2:1054:U:H4’ | 3:BA:34:GLU:HB2 | 1.66 | 0.78 |
| 1:A2:1055:U:P | 3:BA:46:HIS:HB3 | 2.20 | 0.78 |
| 1:A2:1260:U:N3 | 34:Bf:93:ALA:CB | 2.42 | 0.78 |
| 1:A2:1326:A:O5’ | 6:BD:157:LEU:N | 2.10 | 0.78 |
| 1:A2:1328:G:N9 | 6:BD:159:HIS:O | 2.14 | 0.78 |
| 1:A2:1383:G:O3’ | 23:BU:87:HIS:O | 2.01 | 0.78 |
| 1:A2:1433:G:H1’ | 32:Bd:28:THR:N | 1.90 | 0.78 |
| 1:A2:1480:G:OP1 | 22:BT:12:GLN:CA | 2.32 | 0.78 |
| 1:A2:1722:A:C4’ | 9:BG:72:ARG:CA | 2.38 | 0.78 |
| 10:BH:136:VAL:O | 10:BH:137:GLY:N | 2.17 | 0.78 |
| 1:A2:90:C:C5 | 27:BY:116:LYS:O | 2.37 | 0.78 |
| 1:A2:140:A:C4 | 9:BG:157:VAL:CG1 | 2.56 | 0.78 |
| 1:A2:163:G:C5 | 9:BG:2:LYS:HB2 | 2.17 | 0.78 |
| 1:A2:395:U:H5’ | 9:BG:85:ARG:O | 1.83 | 0.78 |
| 1:A2:548:G:C2 | 1:A2:591:A:N1 | 2.51 | 0.78 |
| 1:A2:601:A:H5’ | 26:BX:43:PHE:CE2 | 2.18 | 0.78 |
| 1:A2:632:U:P | 26:BX:12:ALA:HB3 | 2.23 | 0.78 |
| 1:A2:640:U:C2’ | 25:BW:119:LYS:CE | 2.58 | 0.78 |
| 1:A2:703:G:H22 | 7:BE:180:LEU:C | 1.90 | 0.78 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:740:A:C4 | 7:BE:200:ARG:CB | 2.59 | 0.78 |
| 1:A2:960:U:C5' | 25:BW:57:ARG:CA | 2.26 | 0.78 |
| 1:A2:1094:G:C3' | 5:BC:161:LYS:HD2 | 2.10 | 0.78 |
| 1:A2:1095:U:H4' | 5:BC:159:THR:CB | 2.14 | 0.78 |
| 1:A2:1238:A:C8 | 18:BP:63:ALA:O | 2.37 | 0.78 |
| 1:A2:1358:G:H5' | 22:BT:130:ARG:CG | 2.13 | 0.78 |
| 1:A2:1547:A:C8 | 21:BS:87:ASN:CB | 2.66 | 0.78 |
| 1:A2:1558:U:H5 | 21:BS:123:ARG:O | 1.65 | 0.78 |
| 1:A2:1566:U:H4' | 21:BS:30:TYR:O | 1.83 | 0.78 |
| 1:A2:1601:G:C3' | 22:BT:90:PRO:CD | 2.57 | 0.78 |
| 2:AZ:6220:U:O5' | 6:BD:143:ARG:HB3 | 1.84 | 0.78 |
| 1:A2:148:A:OP2 | 27:BY:131:ARG:HB2 | 1.84 | 0.78 |
| 1:A2:265:A:OP1 | 9:BG:176:GLN:CG | 2.31 | 0.78 |
| 1:A2:457:G:H22 | 27:BY:109:LYS:HB2 | 1.47 | 0.78 |
| 1:A2:606:A:H4' | 1:A2:607:G:H5' | 1.65 | 0.78 |
| 1:A2:737:A:O4' | 7:BE:158:ASP:HA | 1.83 | 0.78 |
| 1:A2:1082:C:O2' | 5:BC:216:VAL:CG1 | 2.29 | 0.78 |
| 1:A2:1137:A:C4' | 26:BX:64:PRO:HD3 | 2.12 | 0.78 |
| 1:A2:1145:U:H5" | 5:BC:88:LYS:HE3 | 1.62 | 0.78 |
| 1:A2:1327:C:C2' | 6:BD:159:HIS:HB3 | 2.14 | 0.78 |
| 1:A2:1400:A:P | 20:BR:53:TYR:OH | 2.40 | 0.78 |
| 7:BE:65:LEU:O | 7:BE:68:ARG:N | 2.17 | 0.78 |
| 25:BW:14:ILE:O | 25:BW:18:GLU:N | 2.16 | 0.78 |
| 29:Ba:17:HIS:C | 29:Ba:18:VAL:N | 2.42 | 0.78 |
| 1:A2:243:G:N7 | 7:BE:138:TYR:CD2 | 2.52 | 0.78 |
| 1:A2:337:G:O2' | 11:BI:9:HIS:CD2 | 2.36 | 0.78 |
| 1:A2:548:G:H5' | 26:BX:136:TRP:CG | 2.17 | 0.78 |
| 1:A2:584:C:C3' | 33:Be:17:GLN:HB3 | 2.13 | 0.78 |
| 1:A2:736:C:C6 | 7:BE:181:VAL:HG13 | 2.16 | 0.78 |
| 1:A2:776:G:N2 | 27:BY:27:VAL:CG1 | 2.45 | 0.78 |
| 1:A2:844:A:O2' | 1:A2:845:G:O4' | 2.01 | 0.78 |
| 1:A2:859:A:H62 | 10:BH:111:LYS:HB3 | 1.44 | 0.78 |
| 1:A2:1136:U:O4 | 26:BX:113:ALA:CB | 2.32 | 0.78 |
| 1:A2:1261:G:H8 | 34:Bf:93:ALA:HB2 | 1.43 | 0.78 |
| 1:A2:1558:U:O4 | 21:BS:123:ARG:N | 2.17 | 0.78 |
| 1:A2:1565:C:O2 | 21:BS:38:VAL:CA | 2.20 | 0.78 |
| 33:Be:15:LYS:C | 33:Be:16:SER:N | 2.42 | 0.78 |
| 1:A2:91:G:H2' | 27:BY:113:ASN:OD1 | 1.84 | 0.78 |
| 1:A2:137:U:OP2 | 9:BG:143:LYS:CE | 2.31 | 0.78 |
| 1:A2:141:U:C4' | 9:BG:135:PRO:CB | 2.56 | 0.78 |
| 1:A2:266:A:C4' | 9:BG:136:LYS:HE2 | 2.04 | 0.78 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:352:A:N6 | 26:BX:20:ARG:HH21 | 1.82 | 0.78 |
| 1:A2:382:C:H5' | 12:BJ:2:PRO:CD | 2.14 | 0.78 |
| 1:A2:650:U:O3' | 12:BJ:91:LYS:HE3 | 1.83 | 0.78 |
| 1:A2:968:U:H4' | 26:BX:4:GLY:C | 2.07 | 0.78 |
| 1:A2:1383:G:OP2 | 23:BU:60:THR:HA | 1.82 | 0.78 |
| 1:A2:1383:G:C5' | 23:BU:88:LYS:O | 2.31 | 0.78 |
| 1:A2:1419:G:OP1 | 19:BQ:129:PHE:CE1 | 2.37 | 0.78 |
| 1:A2:1482:C:H1' | 19:BQ:74:HIS:CE1 | 2.17 | 0.78 |
| 1:A2:1711:C:OP2 | 9:BG:115:LYS:N | 2.14 | 0.78 |
| 5:BC:203:LYS:O | 5:BC:205:ARG:N | 2.17 | 0.78 |
| 1:A2:139:C:O5' | 9:BG:141:ILE:CA | 2.31 | 0.78 |
| 1:A2:142:G:C8 | 9:BG:135:PRO:HA | 2.19 | 0.78 |
| 1:A2:179:A:C2' | 9:BG:187:LYS:HD3 | 2.13 | 0.78 |
| 1:A2:329:G:N2 | 11:BI:30:GLY:C | 2.42 | 0.78 |
| 1:A2:370:A:C5' | 12:BJ:14:THR:CB | 2.62 | 0.78 |
| 1:A2:448:C:H42 | 27:BY:104:SER:C | 1.91 | 0.78 |
| 1:A2:584:C:OP1 | 33:Be:16:SER:N | 2.17 | 0.78 |
| 1:A2:585:A:C8 | 33:Be:17:GLN:C | 2.61 | 0.78 |
| 1:A2:698:U:C2' | 7:BE:197:HIS:CE1 | 2.67 | 0.78 |
| 1:A2:799:A:C3' | 7:BE:186:GLY:HA2 | 2.14 | 0.78 |
| 1:A2:1040:G:H5" | 24:BV:62:ARG:CZ | 2.14 | 0.78 |
| 1:A2:1085:G:H5" | 5:BC:202:GLY:HA2 | 1.66 | 0.78 |
| 1:A2:1241:G:C6 | 18:BP:96:ILE:HA | 1.65 | 0.78 |
| 1:A2:1243:G:O2' | 18:BP:53:PRO:CB | 2.32 | 0.78 |
| 1:A2:1333:C:N3 | 32:Bd:56:ARG:N | 2.30 | 0.78 |
| 1:A2:1384:A:OP2 | 23:BU:87:HIS:CG | 2.37 | 0.78 |
| 1:A2:1795:U:C3' | 29:Ba:4:LYS:NZ | 2.46 | 0.78 |
| 3:BA:54:TRP:O | 20:BR:109:LEU:N | 2.16 | 0.78 |
| 29:Ba:78:ALA:C | 29:Ba:79:ILE:N | 2.42 | 0.78 |
| 35:Bg:31:ASN:O | 35:Bg:33:LEU:N | 2.17 | 0.78 |
| 1:A2:139:C:C4' | 9:BG:137:ARG:C | 2.54 | 0.78 |
| 1:A2:180:A:P | 9:BG:187:LYS:HE3 | 2.23 | 0.78 |
| 1:A2:457:G:N2 | 27:BY:109:LYS:HB2 | 1.99 | 0.78 |
| 1:A2:632:U:C4' | 26:BX:15:LEU:HB2 | 2.14 | 0.78 |
| 1:A2:636:A:C4 | 25:BW:105:THR:HG21 | 2.18 | 0.78 |
| 1:A2:687:G:O2' | 12:BJ:67:PRO:HA | 1.84 | 0.78 |
| 1:A2:753:A:OP2 | 7:BE:16:HIS:HB2 | 1.83 | 0.78 |
| 1:A2:799:A:O2' | 7:BE:186:GLY:HA2 | 1.84 | 0.78 |
| 1:A2:877:G:N3 | 16:BN:6:SER:HB2 | 1.99 | 0.78 |
| 1:A2:954:G:P | 16:BN:2:GLY:CA | 2.72 | 0.78 |
| 1:A2:955:A:C6 | 16:BN:11:ILE:N | 2.49 | 0.78 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1184:A:C4 | 18:BP:123:TYR:CD2 | 2.71 | 0.78 |
| 1:A2:1358:G:P | 22:BT:130:ARG:CG | 2.72 | 0.78 |
| 1:A2:1563:C:H3' | 22:BT:38:LYS:HD2 | 1.63 | 0.78 |
| 1:A2:86:A:C8 | 27:BY:126:ALA:N | 2.51 | 0.78 |
| 1:A2:115:G:H1' | 11:BI:49:ARG:HH12 | 1.49 | 0.78 |
| 1:A2:175:G:O2' | 9:BG:137:ARG:NH2 | 2.15 | 0.78 |
| 1:A2:568:G:C2' | 33:Be:13:LYS:HD3 | 2.15 | 0.78 |
| 1:A2:784:C:C3' | 27:BY:44:LEU:HD21 | 2.14 | 0.78 |
| 1:A2:896:U:O2' | 17:BO:18:ARG:CB | 2.31 | 0.78 |
| 1:A2:968:U:O2' | 26:BX:5:LYS:CB | 2.31 | 0.78 |
| 1:A2:1036:A:OP2 | 25:BW:12:ASN:ND2 | 2.16 | 0.78 |
| 1:A2:1038:U:C6 | 25:BW:19:LYS:CE | 2.65 | 0.78 |
| 1:A2:1213:G:O2' | 18:BP:78:THR:C | 2.26 | 0.78 |
| 1:A2:1330:G:N7 | 6:BD:161:GLY:HA2 | 1.44 | 0.78 |
| 1:A2:1390:U:H5 | 20:BR:3:ARG:CG | 1.97 | 0.78 |
| 1:A2:1402:G:N7 | 20:BR:5:ARG:CZ | 2.46 | 0.78 |
| 11:BI:88:ASN:O | 11:BI:91:VAL:N | 2.17 | 0.78 |
| 14:BL:33:ARG:C | 14:BL:34:TRP:HA | 2.09 | 0.78 |
| 1:A2:632:U:O2' | 14:BL:97:TYR:CB | 2.32 | 0.77 |
| 1:A2:635:A:H3' | 25:BW:126:LEU:HD23 | 1.66 | 0.77 |
| 1:A2:820:U:O4 | 1:A2:853:G:N2 | 2.16 | 0.77 |
| 1:A2:1006:C:O3' | 17:BO:136:ARG:HG3 | 1.54 | 0.77 |
| 1:A2:1243:G:HO2' | 18:BP:53:PRO:HB2 | 1.49 | 0.77 |
| 1:A2:1259:U:H3 | 34:Bf:96:ALA:HA | 1.48 | 0.77 |
| 1:A2:29:U:HO2' | 26:BX:127:VAL:CG2 | 1.78 | 0.77 |
| 1:A2:89:G:OP1 | 27:BY:119:PHE:CE2 | 2.04 | 0.77 |
| 1:A2:631:G:H4' | 26:BX:16:ARG:NH1 | 1.98 | 0.77 |
| 1:A2:946:U:C3' | 4:BB:158:SER:HB3 | 2.14 | 0.77 |
| 1:A2:1260:U:H3' | 34:Bf:92:LYS:O | 1.81 | 0.77 |
| 1:A2:1354:G:O6 | 1:A2:1369:U:N3 | 2.17 | 0.77 |
| 1:A2:1390:U:OP1 | 20:BR:49:LYS:CD | 2.29 | 0.77 |
| 1:A2:1419:G:H21 | 32:Bd:54:LYS:CD | 1.83 | 0.77 |
| 1:A2:1503:A:N7 | 21:BS:41:ARG:CZ | 2.45 | 0.77 |
| 5:BC:62:PRO:C | 5:BC:63:VAL:HA | 2.10 | 0.77 |
| 1:A2:57:G:H1 | 27:BY:115:ASP:CA | 1.89 | 0.77 |
| 1:A2:140:A:P | 9:BG:138:ALA:HB2 | 2.24 | 0.77 |
| 1:A2:335:U:P | 11:BI:49:ARG:HB2 | 2.24 | 0.77 |
| 1:A2:779:U:OP1 | 27:BY:4:ALA:N | 2.17 | 0.77 |
| 1:A2:784:C:C1' | 27:BY:7:ILE:CG1 | 2.61 | 0.77 |
| 1:A2:871:G:N1 | 16:BN:12:SER:N | 2.32 | 0.77 |
| 1:A2:1419:G:N2 | 32:Bd:54:LYS:O | 2.18 | 0.77 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1549:C:O2' | 21:BS:84:TRP:CD2 | 2.38 | 0.77 |
| 1:A2:1608:U:C4' | 19:BQ:73:GLY:HA3 | 2.15 | 0.77 |
| 1:A2:1683:C:OP2 | 9:BG:52:ILE:CG2 | 2.31 | 0.77 |
| 1:A2:78:A:OP2 | 9:BG:161:GLU:OE1 | 2.03 | 0.77 |
| 1:A2:116:U:N3 | 7:BE:4:GLY:CA | 2.46 | 0.77 |
| 1:A2:776:G:N2 | 27:BY:27:VAL:HG11 | 2.00 | 0.77 |
| 1:A2:832:U:H5" | 9:BG:213:ALA:HA | 1.64 | 0.77 |
| 1:A2:1241:G:O6 | 18:BP:78:THR:CA | 2.32 | 0.77 |
| 1:A2:1301:U:O4' | 5:BC:86:VAL:CG2 | 2.31 | 0.77 |
| 1:A2:1477:G:H5' | 22:BT:48:GLN:HE21 | 1.46 | 0.77 |
| 1:A2:1555:A:H8 | 18:BP:40:ARG:HG3 | 1.50 | 0.77 |
| 1:A2:1565:C:C2' | 21:BS:39:GLY:N | 2.46 | 0.77 |
| 1:A2:1721:A:H8 | 9:BG:67:VAL:HG22 | 0.96 | 0.77 |
| 4:BB:218:LEU:HB2 | 4:BB:219:LYS:N | 1.98 | 0.77 |
| 16:BN:38:VAL:C | 16:BN:39:LYS:N | 2.41 | 0.77 |
| 1:A2:12:U:H2' | 1:A2:13:C:C6 | 2.19 | 0.77 |
| 1:A2:163:G:C8 | 9:BG:17:GLU:CD | 2.62 | 0.77 |
| 1:A2:210:A:N6 | 1:A2:255:U:O4 | 2.17 | 0.77 |
| 1:A2:636:A:C8 | 25:BW:78:ARG:NH1 | 2.53 | 0.77 |
| 1:A2:686:C:C3' | 12:BJ:65:LYS:CE | 2.30 | 0.77 |
| 1:A2:733:A:C6 | 7:BE:209:HIS:O | 2.37 | 0.77 |
| 1:A2:903:U:H4' | 17:BO:135:ARG:HH12 | 1.48 | 0.77 |
| 1:A2:1037:C:OP1 | 25:BW:15:ASN:CB | 2.33 | 0.77 |
| 1:A2:1282:U:OP2 | 23:BU:78:THR:HG21 | 1.84 | 0.77 |
| 1:A2:1433:G:N2 | 32:Bd:26:SER:HB3 | 2.00 | 0.77 |
| 1:A2:1454:G:C6 | 18:BP:122:THR:CG2 | 2.67 | 0.77 |
| 1:A2:1548:G:HO2' | 21:BS:86:LEU:HG | 1.45 | 0.77 |
| 1:A2:1563:C:C3' | 22:BT:38:LYS:HD3 | 2.09 | 0.77 |
| 1:A2:1565:C:C5' | 21:BS:44:ASN:H | 1.96 | 0.77 |
| 3:BA:63:ILE:O | 3:BA:66:ALA:CB | 2.32 | 0.77 |
| 10:BH:181:ILE:C | 10:BH:182:VAL:N | 2.43 | 0.77 |
| 1:A2:18:C:H5" | 26:BX:109:ARG:CD | 2.14 | 0.77 |
| 1:A2:30:G:N2 | 26:BX:138:GLU:N | 2.32 | 0.77 |
| 1:A2:71:A:H3' | 1:A2:72:A:H4' | 1.67 | 0.77 |
| 1:A2:301:A:H61 | 7:BE:5:PRO:HA | 1.49 | 0.77 |
| 1:A2:303:U:OP1 | 11:BI:22:ARG:CZ | 2.32 | 0.77 |
| 1:A2:329:G:H5" | 11:BI:56:ARG:NH2 | 1.98 | 0.77 |
| 1:A2:650:U:OP2 | 7:BE:256:ARG:CZ | 2.33 | 0.77 |
| 1:A2:960:U:H6 | 25:BW:57:ARG:CG | 1.98 | 0.77 |
| 1:A2:992:A:C2 | 1:A2:1012:U:O4 | 2.38 | 0.77 |
| 1:A2:1023:A:O3' | 1:A2:1024:U:O5' | 2.03 | 0.77 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1192:C:H4' | 19:BQ:141:SER:OG | 1.83 | 0.77 |
| 1:A2:1452:U:H2' | 18:BP:117:GLY:HA3 | 0.77 | 0.77 |
| 1:A2:1532:U:HO2' | 1:A2:1533:C:P | 2.04 | 0.77 |
| 1:A2:1553:G:H5" | 18:BP:43:ARG:HD3 | 1.67 | 0.77 |
| 1:A2:1684:U:OP2 | 9:BG:51:LYS:CB | 2.24 | 0.77 |
| 1:A2:1795:U:H3' | 29:Ba:4:LYS:NZ | 1.99 | 0.77 |
| 1:A2:91:G:C3' | 27:BY:112:LYS:HE3 | 2.15 | 0.77 |
| 1:A2:595:G:O6 | 26:BX:140:LYS:HD3 | 1.85 | 0.77 |
| 1:A2:792:U:O2 | 12:BJ:7:THR:HA | 1.84 | 0.77 |
| 1:A2:866:G:O2' | 25:BW:4:SER:HB3 | 1.83 | 0.77 |
| 1:A2:915:A:N1 | 17:BO:27:PHE:CD2 | 2.50 | 0.77 |
| 1:A2:953:G:H2' | 16:BN:8:GLY:O | 1.84 | 0.77 |
| 1:A2:1473:U:OP2 | 8:BF:190:ILE:N | 2.18 | 0.77 |
| 1:A2:1534:G:H2' | 28:BZ:63:SER:CA | 2.14 | 0.77 |
| 1:A2:1679:G:C4 | 9:BG:68:LEU:CG | 2.45 | 0.77 |
| 8:BF:166:ARG:C | 8:BF:167:ARG:N | 2.43 | 0.77 |
| 12:BJ:9:SER:C | 12:BJ:10:LYS:N | 2.43 | 0.77 |
| 20:BR:11:ARG:C | 20:BR:12:ALA:N | 2.43 | 0.77 |
| 1:A2:382:C:H5' | 12:BJ:2:PRO:HD2 | 1.67 | 0.77 |
| 1:A2:400:A:H4' | 1:A2:401:A:H5" | 1.66 | 0.77 |
| 1:A2:1260:U:C2' | 34:Bf:93:ALA:CB | 2.63 | 0.77 |
| 1:A2:1434:U:C2 | 32:Bd:26:SER:CB | 2.67 | 0.77 |
| 1:A2:1445:G:P | 34:Bf:89:ALA:HB3 | 2.24 | 0.77 |
| 1:A2:1549:C:C4' | 21:BS:86:LEU:HD13 | 2.14 | 0.77 |
| 1:A2:1795:U:O5' | 29:Ba:4:LYS:NZ | 2.18 | 0.77 |
| 1:A2:1796:C:C4' | 29:Ba:92:ARG:HD2 | 2.14 | 0.77 |
| 2:AZ:6123:A:C2 | 2:AZ:6152:C:N3 | 2.53 | 0.77 |
| 1:A2:20:G:O3' | 1:A2:21:U:P | 2.42 | 0.77 |
| 1:A2:175:G:C1' | 9:BG:137:ARG:HH21 | 1.98 | 0.77 |
| 1:A2:622:A:O3' | 1:A2:623:A:P | 2.42 | 0.77 |
| 1:A2:635:A:H5' | 25:BW:77:PRO:O | 1.85 | 0.77 |
| 1:A2:649:U:O5' | 7:BE:253:ASP:OD1 | 2.02 | 0.77 |
| 1:A2:764:U:O3' | 27:BY:64:PHE:CA | 2.31 | 0.77 |
| 1:A2:765:G:O6 | 12:BJ:132:ARG:CA | 2.31 | 0.77 |
| 1:A2:776:G:H5' | 27:BY:66:GLY:N | 2.00 | 0.77 |
| 1:A2:832:U:H5" | 9:BG:213:ALA:CA | 2.14 | 0.77 |
| 1:A2:1068:C:H6 | 3:BA:33:GLN:CD | 1.93 | 0.77 |
| 1:A2:1144:U:C5 | 5:BC:89:GLN:NE2 | 2.53 | 0.77 |
| 1:A2:1420:C:OP1 | 23:BU:80:GLU:HB2 | 1.84 | 0.77 |
| 1:A2:1454:G:C2 | 18:BP:123:TYR:HD1 | 2.02 | 0.77 |
| 1:A2:1454:G:C5 | 18:BP:122:THR:HG21 | 2.19 | 0.77 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1532:U:C2’ | 28:BZ:77:ARG:CG | 2.48 | 0.77 |
| 1:A2:1534:G:O2’ | 8:BF:187:ILE:HG22 | 1.84 | 0.77 |
| 1:A2:1555:A:O2’ | 18:BP:115:TYR:HB2 | 1.84 | 0.77 |
| 1:A2:1558:U:OP1 | 21:BS:127:HIS:CE1 | 2.38 | 0.77 |
| 1:A2:1673:G:C2’ | 9:BG:94:ARG:CZ | 2.63 | 0.77 |
| 1:A2:1687:U:O4 | 1:A2:1714:A:N6 | 2.16 | 0.77 |
| 1:A2:1721:A:C2’ | 9:BG:67:VAL:CG2 | 2.61 | 0.77 |
| 1:A2:832:U:H4’ | 9:BG:216:LEU:H | 1.48 | 0.77 |
| 1:A2:1094:G:O4’ | 5:BC:161:LYS:HD2 | 1.85 | 0.77 |
| 1:A2:1301:U:H3’ | 5:BC:97:ARG:NH1 | 1.38 | 0.77 |
| 1:A2:1316:G:O2’ | 20:BR:6:THR:HG22 | 1.84 | 0.77 |
| 1:A2:1328:G:N7 | 6:BD:159:HIS:CA | 2.47 | 0.77 |
| 1:A2:1384:A:H5” | 23:BU:31:VAL:HG12 | 1.65 | 0.77 |
| 1:A2:1384:A:O4’ | 23:BU:57:ARG:CD | 2.19 | 0.77 |
| 1:A2:1419:G:H21 | 32:Bd:54:LYS:HG2 | 1.45 | 0.77 |
| 1:A2:1419:G:C2’ | 32:Bd:54:LYS:HE2 | 2.15 | 0.77 |
| 1:A2:1501:C:C6 | 22:BT:33:TYR:CZ | 2.73 | 0.77 |
| 1:A2:1533:C:H6 | 28:BZ:77:ARG:CG | 1.97 | 0.77 |
| 1:A2:1550:A:N7 | 21:BS:89:GLN:OE1 | 2.18 | 0.77 |
| 1:A2:1614:A:OP2 | 8:BF:84:LYS:HE2 | 1.85 | 0.77 |
| 14:BL:65:SER:O | 14:BL:66:ILE:N | 2.18 | 0.77 |
| 1:A2:300:A:H62 | 7:BE:5:PRO:C | 1.92 | 0.76 |
| 1:A2:302:U:O3’ | 11:BI:25:ARG:NH1 | 2.18 | 0.76 |
| 1:A2:333:A:H3’ | 11:BI:26:LYS:CE | 2.15 | 0.76 |
| 1:A2:451:A:H1’ | 27:BY:112:LYS:CA | 2.15 | 0.76 |
| 1:A2:599:A:N1 | 26:BX:126:LYS:CG | 2.47 | 0.76 |
| 1:A2:804:A:O3’ | 25:BW:121:VAL:O | 2.02 | 0.76 |
| 1:A2:1037:C:O4’ | 25:BW:71:LYS:CE | 2.32 | 0.76 |
| 1:A2:1051:G:H5’ | 30:Bb:11:THR:CB | 2.15 | 0.76 |
| 1:A2:1183:A:H62 | 18:BP:121:ILE:HD12 | 1.49 | 0.76 |
| 1:A2:1280:C:OP1 | 32:Bd:44:ARG:NE | 2.17 | 0.76 |
| 1:A2:1300:A:C4 | 5:BC:86:VAL:CA | 2.68 | 0.76 |
| 1:A2:1326:A:C5 | 6:BD:159:HIS:CE1 | 2.68 | 0.76 |
| 1:A2:1328:G:N7 | 6:BD:159:HIS:CB | 2.41 | 0.76 |
| 1:A2:1591:C:H5” | 22:BT:93:HIS:CB | 2.16 | 0.76 |
| 1:A2:1722:A:N7 | 9:BG:67:VAL:O | 2.18 | 0.76 |
| 16:BN:76:LYS:O | 16:BN:77:SER:N | 2.17 | 0.76 |
| 26:BX:68:ILE:C | 26:BX:69:ARG:N | 2.44 | 0.76 |
| 1:A2:1:U:C6 | 12:BJ:12:TYR:CD1 | 2.58 | 0.76 |
| 1:A2:241:U:O4’ | 9:BG:204:ALA:HB3 | 1.62 | 0.76 |
| 1:A2:299:A:C8 | 7:BE:7:LYS:HB2 | 2.19 | 0.76 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:756:A:O5' | 7:BE:23:LEU:HD12 | 1.84 | 0.76 |
| 1:A2:865:A:H5' | 25:BW:6:VAL:O | 1.86 | 0.76 |
| 1:A2:871:G:H22 | 16:BN:11:ILE:HG13 | 1.50 | 0.76 |
| 1:A2:871:G:N2 | 16:BN:11:ILE:HG13 | 2.00 | 0.76 |
| 1:A2:1102:G:N3 | 26:BX:7:ARG:CZ | 2.48 | 0.76 |
| 1:A2:1144:U:N3 | 1:A2:1145:U:O4 | 2.18 | 0.76 |
| 1:A2:1298:U:C2' | 5:BC:99:LYS:HB3 | 2.14 | 0.76 |
| 1:A2:1459:C:O5' | 21:BS:131:LEU:HD23 | 1.84 | 0.76 |
| 1:A2:1557:U:O3' | 21:BS:123:ARG:O | 2.04 | 0.76 |
| 4:BB:48:VAL:HG22 | 4:BB:61:LEU:HD22 | 1.66 | 0.76 |
| 1:A2:29:U:C1' | 26:BX:127:VAL:H | 1.98 | 0.76 |
| 1:A2:175:G:C4 | 9:BG:137:ARG:NH2 | 2.53 | 0.76 |
| 1:A2:599:A:H3' | 26:BX:123:LYS:HB2 | 1.67 | 0.76 |
| 1:A2:717:C:H2' | 1:A2:718:U:H5' | 1.66 | 0.76 |
| 1:A2:782:U:H5" | 27:BY:39:GLU:HA | 1.65 | 0.76 |
| 1:A2:866:G:OP2 | 25:BW:3:ARG:HA | 1.85 | 0.76 |
| 1:A2:958:U:O5' | 25:BW:60:LYS:CE | 2.25 | 0.76 |
| 1:A2:1145:U:H5' | 5:BC:88:LYS:CE | 1.95 | 0.76 |
| 1:A2:1241:G:O6 | 18:BP:78:THR:N | 2.17 | 0.76 |
| 1:A2:1384:A:C5' | 23:BU:35:GLU:HG2 | 2.15 | 0.76 |
| 1:A2:1399:C:C3' | 20:BR:66:VAL:HG21 | 2.08 | 0.76 |
| 6:BD:164:VAL:C | 6:BD:165:ASN:N | 2.44 | 0.76 |
| 1:A2:215:A:N6 | 7:BE:149:TYR:HA | 1.99 | 0.76 |
| 1:A2:243:G:C4' | 7:BE:147:ILE:HG13 | 2.13 | 0.76 |
| 1:A2:452:A:O3' | 1:A2:453:U:P | 2.43 | 0.76 |
| 1:A2:584:C:H3' | 33:Be:17:GLN:HB3 | 1.67 | 0.76 |
| 1:A2:649:U:O4' | 7:BE:252:ARG:NH1 | 2.18 | 0.76 |
| 1:A2:754:A:P | 7:BE:14:ALA:CA | 2.73 | 0.76 |
| 1:A2:823:G:N3 | 1:A2:823:G:OP2 | 2.18 | 0.76 |
| 1:A2:864:U:C5' | 25:BW:7:LEU:C | 2.55 | 0.76 |
| 1:A2:866:G:N7 | 25:BW:3:ARG:O | 2.18 | 0.76 |
| 1:A2:1184:A:O5' | 18:BP:124:THR:OG1 | 2.02 | 0.76 |
| 1:A2:1243:G:C5' | 18:BP:61:ARG:N | 2.47 | 0.76 |
| 1:A2:1479:A:H5' | 22:BT:16:ASN:CG | 2.11 | 0.76 |
| 1:A2:1582:U:C5' | 19:BQ:135:ARG:NH1 | 2.48 | 0.76 |
| 1:A2:1681:A:H5" | 9:BG:101:ILE:CD1 | 1.97 | 0.76 |
| 32:Bd:7:TRP:N | 32:Bd:8:PHE:N | 2.33 | 0.76 |
| 1:A2:140:A:O5' | 9:BG:141:ILE:HD13 | 1.85 | 0.76 |
| 1:A2:218:A:O5' | 7:BE:155:LYS:NZ | 2.15 | 0.76 |
| 1:A2:436:A:N7 | 26:BX:50:LYS:HD2 | 1.97 | 0.76 |
| 1:A2:601:A:C1' | 26:BX:47:SER:C | 2.59 | 0.76 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:880:C:C3' | 1:A2:881:A:P | 2.72 | 0.76 |
| 1:A2:1327:C:H6 | 6:BD:158:ILE:O | 1.67 | 0.76 |
| 1:A2:1458:G:O4' | 21:BS:126:ARG:NH2 | 2.10 | 0.76 |
| 1:A2:1565:C:O2' | 21:BS:43:SER:CB | 2.32 | 0.76 |
| 1:A2:244:A:OP2 | 7:BE:140:VAL:CG2 | 2.33 | 0.76 |
| 1:A2:329:G:H22 | 11:BI:3:ILE:HB | 1.51 | 0.76 |
| 1:A2:333:A:H3' | 11:BI:26:LYS:HE2 | 1.68 | 0.76 |
| 1:A2:337:G:C2' | 11:BI:6:ASP:O | 2.31 | 0.76 |
| 1:A2:340:U:H3 | 11:BI:3:ILE:HG21 | 1.50 | 0.76 |
| 1:A2:348:U:O4 | 11:BI:14:THR:C | 2.22 | 0.76 |
| 1:A2:451:A:O4' | 27:BY:112:LYS:CB | 2.33 | 0.76 |
| 1:A2:888:U:C5 | 17:BO:123:SER:C | 2.64 | 0.76 |
| 1:A2:1038:U:C4' | 25:BW:19:LYS:NZ | 2.47 | 0.76 |
| 1:A2:1102:G:C4 | 26:BX:7:ARG:CZ | 2.69 | 0.76 |
| 1:A2:1238:A:O5' | 18:BP:63:ALA:C | 2.26 | 0.76 |
| 1:A2:1343:U:H4' | 23:BU:54:GLY:C | 1.88 | 0.76 |
| 1:A2:1399:C:O2' | 20:BR:60:ARG:HD3 | 0.79 | 0.76 |
| 1:A2:1470:C:H3' | 8:BF:184:PHE:CZ | 2.20 | 0.76 |
| 1:A2:1502:G:H3' | 22:BT:33:TYR:HB3 | 1.67 | 0.76 |
| 1:A2:1588:G:O3' | 1:A2:1589:C:P | 2.44 | 0.76 |
| 7:BE:66:MET:N | 7:BE:78:THR:HG1 | 1.82 | 0.76 |
| 1:A2:45:U:O2 | 26:BX:77:ILE:HG21 | 1.86 | 0.76 |
| 1:A2:59:C:OP1 | 27:BY:111:LYS:CE | 2.34 | 0.76 |
| 1:A2:450:U:O4' | 27:BY:109:LYS:CE | 2.24 | 0.76 |
| 1:A2:572:C:C5' | 26:BX:116:ASP:H | 1.98 | 0.76 |
| 1:A2:590:C:O3' | 1:A2:591:A:P | 2.44 | 0.76 |
| 1:A2:739:G:O6 | 7:BE:175:PHE:CE1 | 2.38 | 0.76 |
| 1:A2:786:C:C3' | 27:BY:70:VAL:CG1 | 2.52 | 0.76 |
| 1:A2:1530:C:C5 | 28:BZ:96:SER:N | 2.52 | 0.76 |
| 1:A2:1608:U:C3' | 19:BQ:73:GLY:HA3 | 2.14 | 0.76 |
| 1:A2:1683:C:O3' | 9:BG:53:SER:OG | 1.82 | 0.76 |
| 12:BJ:87:SER:C | 12:BJ:88:GLU:N | 2.44 | 0.76 |
| 1:A2:113:U:C4 | 7:BE:5:PRO:HA | 2.21 | 0.76 |
| 1:A2:149:C:C3' | 27:BY:130:ALA:CB | 2.61 | 0.76 |
| 1:A2:334:G:H5' | 11:BI:49:ARG:CA | 2.16 | 0.76 |
| 1:A2:631:G:C4' | 26:BX:13:ARG:CA | 2.58 | 0.76 |
| 1:A2:741:C:C2 | 7:BE:201:HIS:CD2 | 2.73 | 0.76 |
| 1:A2:780:A:N1 | 27:BY:32:ARG:HA | 2.01 | 0.76 |
| 1:A2:782:U:O5' | 27:BY:39:GLU:CB | 2.34 | 0.76 |
| 1:A2:921:U:C5' | 4:BB:138:PHE:CE2 | 2.68 | 0.76 |
| 1:A2:922:G:OP1 | 4:BB:136:ARG:HD2 | 1.86 | 0.76 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1051:G:O4' | 30:Bb:13:ALA:HB2 | 1.71 | 0.76 |
| 1:A2:1434:U:H4' | 32:Bd:27:HIS:CD2 | 2.20 | 0.76 |
| 1:A2:1452:U:H4' | 18:BP:80:MET:O | 1.83 | 0.76 |
| 1:A2:1613:U:OP2 | 8:BF:84:LYS:HE3 | 1.86 | 0.76 |
| 1:A2:1798:U:C6 | 29:Ba:94:ASN:HB3 | 2.19 | 0.76 |
| 3:BA:70:PRO:C | 3:BA:73:VAL:HG23 | 2.11 | 0.76 |
| 6:BD:89:GLU:O | 6:BD:90:ARG:N | 2.19 | 0.76 |
| 1:A2:80:A:N7 | 9:BG:163:THR:CB | 2.29 | 0.76 |
| 1:A2:245:U:C4 | 7:BE:128:LYS:NZ | 2.53 | 0.76 |
| 1:A2:323:A:O3' | 11:BI:18:ARG:HB2 | 1.86 | 0.76 |
| 1:A2:324:U:OP2 | 11:BI:9:HIS:C | 2.28 | 0.76 |
| 1:A2:329:G:O2' | 11:BI:33:PRO:CA | 2.34 | 0.76 |
| 1:A2:548:G:H5' | 26:BX:136:TRP:CE2 | 2.21 | 0.76 |
| 1:A2:736:C:C5' | 7:BE:182:TYR:N | 2.40 | 0.76 |
| 1:A2:1009:U:C4' | 17:BO:129:LYS:NZ | 2.49 | 0.76 |
| 1:A2:1056:U:H6 | 3:BA:40:ALA:CB | 1.96 | 0.76 |
| 1:A2:1214:U:OP1 | 18:BP:77:ARG:HD2 | 1.84 | 0.76 |
| 1:A2:1259:U:C2 | 34:Bf:94:ALA:O | 2.38 | 0.76 |
| 1:A2:1601:G:H8 | 22:BT:89:ARG:CG | 1.94 | 0.76 |
| 1:A2:1795:U:O2 | 29:Ba:5:ARG:NH1 | 1.83 | 0.76 |
| 9:BG:27:PHE:HB2 | 9:BG:28:PHE:N | 2.01 | 0.76 |
| 15:BM:33:ARG:O | 15:BM:37:VAL:HG21 | 1.85 | 0.76 |
| 19:BQ:20:ALA:HB2 | 19:BQ:67:VAL:HG11 | 1.68 | 0.76 |
| 1:A2:64:U:C5 | 27:BY:121:THR:HG21 | 2.21 | 0.76 |
| 1:A2:631:G:H3' | 26:BX:13:ARG:HA | 1.66 | 0.76 |
| 1:A2:733:A:N7 | 7:BE:209:HIS:HB2 | 2.01 | 0.76 |
| 1:A2:1049:U:C4' | 30:Bb:18:LYS:HB3 | 2.16 | 0.76 |
| 1:A2:1053:G:O4' | 3:BA:35:PRO:HG3 | 1.83 | 0.76 |
| 1:A2:1558:U:C5 | 21:BS:123:ARG:O | 2.39 | 0.76 |
| 1:A2:1721:A:N7 | 9:BG:67:VAL:C | 2.43 | 0.76 |
| 1:A2:1797:A:OP2 | 29:Ba:93:LYS:N | 2.02 | 0.76 |
| 2:AZ:6220:U:C4 | 6:BD:141:LYS:O | 2.39 | 0.76 |
| 1:A2:85:A:O2' | 27:BY:126:ALA:HA | 1.85 | 0.75 |
| 1:A2:245:U:C6 | 7:BE:128:LYS:NZ | 2.54 | 0.75 |
| 1:A2:635:A:C3' | 25:BW:126:LEU:HD23 | 2.13 | 0.75 |
| 1:A2:760:A:C8 | 12:BJ:8:TYR:HB3 | 2.22 | 0.75 |
| 1:A2:1108:G:H1 | 26:BX:26:GLU:CA | 1.94 | 0.75 |
| 1:A2:1144:U:N1 | 5:BC:89:GLN:CG | 2.36 | 0.75 |
| 1:A2:1316:G:O2' | 20:BR:6:THR:CG2 | 2.34 | 0.75 |
| 2:AZ:6109:U:O4 | 31:Bc:6:PRO:HD3 | 1.86 | 0.75 |
| 2:AZ:6110:A:C8 | 8:BF:219:ARG:CZ | 2.68 | 0.75 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 7:BE:3:ARG:O | 7:BE:4:GLY:N | 2.18 | 0.75 |
| 26:BX:74:VAL:O | 26:BX:75:GLN:N | 2.19 | 0.75 |
| 1:A2:434:G:H3' | 26:BX:52:ILE:CD1 | 2.13 | 0.75 |
| 1:A2:1225:U:N3 | 34:Bf:96:ALA:N | 2.16 | 0.75 |
| 1:A2:1280:C:O2 | 23:BU:72:ASN:C | 2.30 | 0.75 |
| 1:A2:1655:A:C2 | 1:A2:1746:A:C4 | 2.73 | 0.75 |
| 1:A2:1683:C:P | 9:BG:109:LEU:HD11 | 2.25 | 0.75 |
| 1:A2:1797:A:H2 | 29:Ba:90:GLU:CA | 1.91 | 0.75 |
| 7:BE:234:PRO:O | 7:BE:235:TYR:N | 2.18 | 0.75 |
| 1:A2:89:G:C2 | 27:BY:115:ASP:CB | 2.64 | 0.75 |
| 1:A2:449:C:N4 | 27:BY:108:ARG:HB2 | 2.02 | 0.75 |
| 1:A2:456:A:C2' | 27:BY:111:LYS:CE | 2.57 | 0.75 |
| 1:A2:633:U:H5' | 14:BL:98:ASN:C | 2.10 | 0.75 |
| 1:A2:634:G:OP2 | 14:BL:98:ASN:C | 2.30 | 0.75 |
| 1:A2:704:C:N4 | 1:A2:735:C:O4' | 2.19 | 0.75 |
| 1:A2:830:U:O2' | 1:A2:831:U:O4' | 2.04 | 0.75 |
| 1:A2:861:U:H3' | 1:A2:862:A:P | 2.26 | 0.75 |
| 1:A2:950:C:H5" | 16:BN:94:LYS:HE3 | 1.66 | 0.75 |
| 1:A2:952:A:H4' | 16:BN:5:HIS:CE1 | 2.13 | 0.75 |
| 1:A2:1548:G:OP2 | 21:BS:88:ARG:HD2 | 1.86 | 0.75 |
| 1:A2:1555:A:O4' | 18:BP:115:TYR:CE1 | 2.38 | 0.75 |
| 1:A2:1798:U:OP1 | 29:Ba:95:ARG:NE | 2.20 | 0.75 |
| 35:Bg:211:ILE:HD11 | 35:Bg:225:LEU:HD22 | 1.67 | 0.75 |
| 1:A2:32:U:C2 | 26:BX:139:LYS:C | 2.62 | 0.75 |
| 1:A2:214:G:N9 | 7:BE:133:LYS:HB2 | 1.72 | 0.75 |
| 1:A2:318:U:N1 | 11:BI:11:ARG:NH1 | 2.34 | 0.75 |
| 1:A2:633:U:C5' | 14:BL:99:ARG:CG | 1.97 | 0.75 |
| 1:A2:703:G:O6 | 7:BE:178:GLY:C | 2.21 | 0.75 |
| 1:A2:863:A:H5' | 25:BW:6:VAL:CG1 | 2.17 | 0.75 |
| 1:A2:1040:G:H5" | 24:BV:62:ARG:HE | 1.40 | 0.75 |
| 1:A2:1291:G:OP2 | 5:BC:119:LYS:NZ | 2.17 | 0.75 |
| 1:A2:1502:G:O5' | 22:BT:33:TYR:HB3 | 1.85 | 0.75 |
| 1:A2:1553:G:C5' | 18:BP:43:ARG:NE | 2.47 | 0.75 |
| 1:A2:1566:U:C6 | 21:BS:33:THR:OG1 | 2.38 | 0.75 |
| 1:A2:1670:G:O2' | 1:A2:1731:A:N6 | 2.19 | 0.75 |
| 1:A2:1795:U:C4 | 29:Ba:4:LYS:CB | 2.68 | 0.75 |
| 3:BA:55:GLU:HA | 20:BR:109:LEU:CB | 2.16 | 0.75 |
| 11:BI:168:CYS:SG | 11:BI:182:TYR:O | 2.44 | 0.75 |
| 14:BL:123:VAL:C | 14:BL:124:THR:N | 2.45 | 0.75 |
| 1:A2:213:A:N6 | 1:A2:252:U:O4 | 2.19 | 0.75 |
| 1:A2:241:U:C6 | 9:BG:205:ALA:CA | 2.69 | 0.75 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:347:G:C5 | 11:BI:14:THR:N | 2.54 | 0.75 |
| 1:A2:568:G:O5' | 33:Be:9:ALA:C | 2.28 | 0.75 |
| 1:A2:630:A:N6 | 26:BX:14:LYS:HA | 2.01 | 0.75 |
| 1:A2:632:U:H3' | 26:BX:12:ALA:HB2 | 1.65 | 0.75 |
| 1:A2:640:U:O2' | 25:BW:119:LYS:HE3 | 1.86 | 0.75 |
| 1:A2:736:C:N1 | 7:BE:227:VAL:HG12 | 2.01 | 0.75 |
| 1:A2:740:A:C2 | 7:BE:200:ARG:HA | 2.11 | 0.75 |
| 1:A2:967:A:H2 | 26:BX:7:ARG:C | 1.85 | 0.75 |
| 1:A2:1037:C:H2' | 25:BW:19:LYS:HZ1 | 1.48 | 0.75 |
| 1:A2:1038:U:C6 | 25:BW:19:LYS:HE3 | 2.22 | 0.75 |
| 1:A2:1795:U:C4' | 29:Ba:4:LYS:NZ | 2.50 | 0.75 |
| 1:A2:15:U:H2' | 1:A2:16:G:O4' | 1.87 | 0.75 |
| 1:A2:138:A:C8 | 9:BG:135:PRO:HG3 | 2.21 | 0.75 |
| 1:A2:241:U:C5 | 9:BG:205:ALA:HA | 2.21 | 0.75 |
| 1:A2:436:A:C5' | 26:BX:101:GLU:OE1 | 2.35 | 0.75 |
| 1:A2:703:G:C4 | 7:BE:230:GLU:CA | 2.69 | 0.75 |
| 1:A2:832:U:H4' | 9:BG:216:LEU:N | 1.67 | 0.75 |
| 1:A2:859:A:N6 | 10:BH:111:LYS:HG3 | 1.98 | 0.75 |
| 1:A2:989:U:C6 | 17:BO:127:ARG:HB2 | 2.11 | 0.75 |
| 1:A2:1037:C:C5' | 25:BW:15:ASN:HB3 | 2.01 | 0.75 |
| 1:A2:1184:A:C5' | 18:BP:124:THR:HG23 | 2.17 | 0.75 |
| 1:A2:1244:A:O2' | 18:BP:59:LYS:HD3 | 1.83 | 0.75 |
| 1:A2:1710:U:H6 | 9:BG:115:LYS:HG3 | 0.94 | 0.75 |
| 1:A2:1718:G:C2 | 9:BG:65:GLN:NE2 | 2.54 | 0.75 |
| 3:BA:55:GLU:HA | 20:BR:109:LEU:HB3 | 1.69 | 0.75 |
| 8:BF:48:PHE:C | 8:BF:51:VAL:HG13 | 2.11 | 0.75 |
| 24:BV:60:ARG:N | 24:BV:61:SER:N | 2.34 | 0.75 |
| 27:BY:4:ALA:C | 27:BY:5:VAL:N | 2.44 | 0.75 |
| 35:Bg:209:THR:HG22 | 35:Bg:226:ALA:HB3 | 1.67 | 0.75 |
| 1:A2:214:G:C8 | 7:BE:133:LYS:CA | 2.70 | 0.75 |
| 1:A2:351:C:O5' | 26:BX:16:ARG:NH2 | 2.20 | 0.75 |
| 1:A2:758:U:O4 | 12:BJ:6:ARG:N | 2.19 | 0.75 |
| 1:A2:818:C:C3' | 1:A2:819:G:P | 2.75 | 0.75 |
| 1:A2:863:A:H2' | 25:BW:6:VAL:C | 2.12 | 0.75 |
| 1:A2:956:C:C5 | 16:BN:11:ILE:HG22 | 2.21 | 0.75 |
| 1:A2:1049:U:O3' | 30:Bb:23:THR:HG22 | 1.86 | 0.75 |
| 1:A2:1240:U:H5" | 18:BP:104:GLN:CG | 2.16 | 0.75 |
| 1:A2:1252:C:C2' | 34:Bf:136:LYS:HG3 | 2.15 | 0.75 |
| 1:A2:1334:U:OP1 | 23:BU:85:ARG:HB2 | 1.87 | 0.75 |
| 1:A2:1417:A:C4' | 19:BQ:128:LYS:HZ2 | 2.00 | 0.75 |
| 1:A2:1472:C:H3' | 8:BF:188:LYS:O | 1.85 | 0.75 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1532:U:P | 28:BZ:77:ARG:CB | 2.72 | 0.75 |
| 21:BS:39:GLY:O | 21:BS:41:ARG:N | 2.18 | 0.75 |
| 1:A2:178:U:O5' | 9:BG:179:VAL:HB | 1.87 | 0.75 |
| 1:A2:208:U:H2' | 11:BI:55:TYR:OH | 1.87 | 0.75 |
| 1:A2:334:G:C5' | 11:BI:49:ARG:HA | 2.16 | 0.75 |
| 1:A2:550:A:H61 | 33:Be:19:PRO:C | 1.95 | 0.75 |
| 1:A2:636:A:H8 | 25:BW:126:LEU:CD2 | 1.98 | 0.75 |
| 1:A2:703:G:H2' | 7:BE:229:GLY:HA2 | 1.67 | 0.75 |
| 1:A2:757:A:H3' | 1:A2:758:U:P | 2.26 | 0.75 |
| 1:A2:863:A:C5 | 25:BW:78:ARG:NH2 | 2.55 | 0.75 |
| 1:A2:873:U:N3 | 16:BN:10:GLY:CA | 2.48 | 0.75 |
| 1:A2:954:G:C8 | 16:BN:2:GLY:CA | 2.70 | 0.75 |
| 1:A2:1212:G:C6 | 18:BP:99:GLY:N | 2.55 | 0.75 |
| 1:A2:1471:A:H3' | 8:BF:183:ALA:CB | 1.78 | 0.75 |
| 1:A2:1787:C:C5' | 17:BO:132:ARG:HH11 | 1.95 | 0.75 |
| 1:A2:216:U:C6 | 7:BE:129:VAL:HG21 | 2.20 | 0.75 |
| 1:A2:218:A:C5' | 7:BE:155:LYS:NZ | 2.50 | 0.75 |
| 1:A2:571:G:C2' | 26:BX:114:LYS:HE3 | 2.16 | 0.75 |
| 1:A2:583:C:C2' | 33:Be:17:GLN:OE1 | 2.35 | 0.75 |
| 1:A2:591:A:C5 | 33:Be:23:LYS:HE3 | 2.22 | 0.75 |
| 1:A2:888:U:H6 | 17:BO:124:ASP:N | 1.80 | 0.75 |
| 1:A2:1038:U:C6 | 25:BW:19:LYS:NZ | 2.55 | 0.75 |
| 1:A2:1053:G:H4' | 3:BA:35:PRO:HG3 | 1.19 | 0.75 |
| 3:BA:146:LEU:HD21 | 3:BA:177:LEU:HD11 | 1.68 | 0.75 |
| 1:A2:179:A:O2' | 9:BG:184:LEU:HD22 | 1.85 | 0.74 |
| 1:A2:329:G:N2 | 11:BI:3:ILE:HD13 | 2.00 | 0.74 |
| 1:A2:785:U:OP2 | 27:BY:44:LEU:CD1 | 2.27 | 0.74 |
| 1:A2:956:C:O2' | 30:Bb:22:LYS:HE3 | 1.86 | 0.74 |
| 1:A2:990:C:H1' | 17:BO:127:ARG:NH2 | 1.56 | 0.74 |
| 1:A2:1300:A:C5' | 5:BC:85:PRO:CB | 2.58 | 0.74 |
| 1:A2:1382:A:HO2' | 1:A2:1383:G:H8 | 1.35 | 0.74 |
| 1:A2:1498:G:C3' | 22:BT:73:VAL:HG21 | 2.15 | 0.74 |
| 1:A2:1502:G:P | 22:BT:33:TYR:CD1 | 2.64 | 0.74 |
| 1:A2:1520:U:OP2 | 22:BT:75:LYS:CA | 2.34 | 0.74 |
| 1:A2:1546:G:C4' | 21:BS:105:VAL:O | 2.35 | 0.74 |
| 1:A2:1573:A:N6 | 8:BF:184:PHE:HE1 | 1.85 | 0.74 |
| 2:AZ:6107:U:H5" | 8:BF:223:SER:CB | 2.15 | 0.74 |
| 2:AZ:6111:G:C4' | 8:BF:219:ARG:HB3 | 2.17 | 0.74 |
| 1:A2:245:U:N3 | 7:BE:128:LYS:NZ | 2.34 | 0.74 |
| 1:A2:333:A:H61 | 7:BE:3:ARG:HD3 | 1.52 | 0.74 |
| 1:A2:599:A:C2 | 26:BX:103:LEU:O | 2.40 | 0.74 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:631:G:HO3' | 26:BX:16:ARG:HH12 | 1.34 | 0.74 |
| 1:A2:699:U:O4 | 7:BE:208:VAL:CG1 | 2.23 | 0.74 |
| 1:A2:733:A:C3' | 7:BE:194:THR:OG1 | 2.36 | 0.74 |
| 1:A2:901:G:C2 | 17:BO:24:ASN:C | 2.52 | 0.74 |
| 1:A2:956:C:C5 | 16:BN:11:ILE:CG2 | 2.69 | 0.74 |
| 1:A2:1546:G:N2 | 21:BS:38:VAL:C | 2.43 | 0.74 |
| 1:A2:1563:C:C4' | 22:BT:38:LYS:HZ2 | 1.97 | 0.74 |
| 1:A2:334:G:H4' | 11:BI:49:ARG:HA | 1.68 | 0.74 |
| 1:A2:456:A:C2 | 27:BY:107:GLN:C | 2.65 | 0.74 |
| 1:A2:565:C:O3' | 1:A2:566:C:P | 2.45 | 0.74 |
| 1:A2:585:A:N7 | 33:Be:17:GLN:HB2 | 2.01 | 0.74 |
| 1:A2:599:A:O3' | 26:BX:86:PHE:O | 2.03 | 0.74 |
| 1:A2:686:C:O5' | 12:BJ:64:GLU:OE2 | 2.04 | 0.74 |
| 1:A2:1144:U:O2' | 5:BC:87:GLN:C | 2.29 | 0.74 |
| 1:A2:1503:A:OP2 | 22:BT:33:TYR:HA | 1.87 | 0.74 |
| 1:A2:1723:U:OP2 | 9:BG:73:ILE:CA | 2.09 | 0.74 |
| 1:A2:329:G:O6 | 11:BI:30:GLY:HA3 | 1.87 | 0.74 |
| 1:A2:332:U:H5 | 11:BI:31:ARG:NH1 | 1.85 | 0.74 |
| 1:A2:396:G:N7 | 9:BG:91:GLU:HB3 | 2.02 | 0.74 |
| 1:A2:699:U:C6 | 7:BE:197:HIS:CG | 2.63 | 0.74 |
| 1:A2:967:A:C1' | 26:BX:7:ARG:CB | 2.59 | 0.74 |
| 1:A2:1055:U:C5' | 3:BA:37:VAL:HG13 | 2.16 | 0.74 |
| 1:A2:1212:G:C8 | 18:BP:100:LYS:CG | 2.70 | 0.74 |
| 2:AZ:6137:C:H2' | 8:BF:126:ASP:C | 2.12 | 0.74 |
| 3:BA:59:LEU:HA | 3:BA:63:ILE:CD1 | 2.17 | 0.74 |
| 20:BR:83:GLN:O | 20:BR:84:TYR:N | 2.20 | 0.74 |
| 22:BT:96:ALA:C | 22:BT:97:SER:N | 2.45 | 0.74 |
| 1:A2:30:G:P | 26:BX:142:LYS:CA | 2.64 | 0.74 |
| 1:A2:87:C:OP2 | 1:A2:87:C:C6 | 2.38 | 0.74 |
| 1:A2:140:A:P | 9:BG:153:VAL:C | 2.69 | 0.74 |
| 1:A2:634:G:H5" | 25:BW:79:PHE:CG | 2.22 | 0.74 |
| 1:A2:650:U:O3' | 12:BJ:91:LYS:CE | 2.35 | 0.74 |
| 1:A2:800:U:HO3' | 7:BE:187:ARG:HG3 | 1.50 | 0.74 |
| 1:A2:1213:G:O2' | 18:BP:78:THR:O | 2.04 | 0.74 |
| 1:A2:1435:G:N1 | 13:BK:27:PHE:CD2 | 2.55 | 0.74 |
| 1:A2:1529:C:OP1 | 8:BF:112:ARG:NH2 | 2.20 | 0.74 |
| 3:BA:54:TRP:CH2 | 20:BR:119:LEU:HD23 | 2.23 | 0.74 |
| 6:BD:172:THR:HA | 6:BD:173:ARG:N | 2.03 | 0.74 |
| 22:BT:104:VAL:C | 22:BT:105:LEU:HA | 2.12 | 0.74 |
| 23:BU:95:ALA:HB3 | 23:BU:100:VAL:HG13 | 1.70 | 0.74 |
| 1:A2:267:U:P | 9:BG:136:LYS:NZ | 2.59 | 0.74 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:395:U:P | 9:BG:92:ARG:HA | 2.27 | 0.74 |
| 1:A2:595:G:H2' | 26:BX:139:LYS:HZ3 | 1.50 | 0.74 |
| 1:A2:704:C:H5' | 7:BE:230:GLU:H | 0.66 | 0.74 |
| 1:A2:759:U:N3 | 12:BJ:7:THR:C | 2.44 | 0.74 |
| 1:A2:775:G:N3 | 27:BY:61:ARG:C | 2.44 | 0.74 |
| 1:A2:863:A:P | 25:BW:31:SER:HB3 | 2.28 | 0.74 |
| 1:A2:865:A:C5 | 1:A2:866:G:C8 | 2.75 | 0.74 |
| 1:A2:1097:U:OP1 | 5:BC:167:VAL:HG12 | 1.87 | 0.74 |
| 1:A2:1103:U:C1' | 26:BX:5:LYS:CB | 2.53 | 0.74 |
| 1:A2:1538:U:O4 | 8:BF:185:ARG:HA | 1.88 | 0.74 |
| 1:A2:1555:A:H8 | 18:BP:40:ARG:HG2 | 1.20 | 0.74 |
| 1:A2:1591:C:C5' | 22:BT:93:HIS:CB | 2.66 | 0.74 |
| 1:A2:1682:U:O4 | 9:BG:31:ARG:HD3 | 1.88 | 0.74 |
| 1:A2:397:A:H2' | 9:BG:88:ARG:NE | 2.02 | 0.74 |
| 1:A2:811:A:H61 | 10:BH:103:SER:HB2 | 1.48 | 0.74 |
| 1:A2:956:C:C4 | 16:BN:11:ILE:HG21 | 2.22 | 0.74 |
| 1:A2:1454:G:H2' | 18:BP:123:TYR:CZ | 2.21 | 0.74 |
| 11:BI:42:ARG:C | 11:BI:43:ILE:N | 2.45 | 0.74 |
| 1:A2:75:U:C5 | 9:BG:167:LYS:HB2 | 2.21 | 0.74 |
| 1:A2:215:A:P | 7:BE:130:GLN:NE2 | 2.61 | 0.74 |
| 1:A2:597:G:O2' | 26:BX:136:TRP:CB | 2.35 | 0.74 |
| 1:A2:611:U:O3' | 1:A2:612:U:P | 2.46 | 0.74 |
| 1:A2:917:U:O4' | 17:BO:20:TYR:HD2 | 1.70 | 0.74 |
| 1:A2:955:A:C8 | 16:BN:9:LYS:HB3 | 2.22 | 0.74 |
| 1:A2:965:U:O3' | 1:A2:966:A:P | 2.45 | 0.74 |
| 1:A2:1084:A:C1' | 5:BC:161:LYS:CE | 2.60 | 0.74 |
| 1:A2:1085:G:OP1 | 5:BC:165:VAL:HG13 | 1.87 | 0.74 |
| 1:A2:1097:U:O4' | 5:BC:200:SER:N | 2.21 | 0.74 |
| 1:A2:1241:G:N7 | 18:BP:78:THR:HG23 | 2.01 | 0.74 |
| 1:A2:1334:U:C2' | 23:BU:83:GLU:OE2 | 2.36 | 0.74 |
| 1:A2:1344:A:O3' | 1:A2:1345:A:P | 2.45 | 0.74 |
| 1:A2:1358:G:O4' | 22:BT:130:ARG:HA | 1.88 | 0.74 |
| 1:A2:1473:U:N3 | 8:BF:97:LEU:HD21 | 1.97 | 0.74 |
| 2:AZ:6038:U:O4 | 2:AZ:6080:G:N3 | 2.20 | 0.74 |
| 1:A2:58:U:C5' | 27:BY:114:ARG:NE | 1.98 | 0.74 |
| 1:A2:164:A:O4' | 9:BG:17:GLU:CA | 2.31 | 0.74 |
| 1:A2:175:G:C1' | 9:BG:137:ARG:NH2 | 2.51 | 0.74 |
| 1:A2:242:U:H2' | 7:BE:138:TYR:HB3 | 1.68 | 0.74 |
| 1:A2:331:A:C6 | 11:BI:29:LEU:C | 2.61 | 0.74 |
| 1:A2:332:U:H3 | 11:BI:29:LEU:HD22 | 1.33 | 0.74 |
| 1:A2:337:G:C8 | 11:BI:9:HIS:HE1 | 2.04 | 0.74 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:560:U:H3' | 1:A2:561:G:P | 2.28 | 0.74 |
| 1:A2:632:U:HO2' | 14:BL:99:ARG:CD | 1.97 | 0.74 |
| 1:A2:786:C:C3' | 27:BY:70:VAL:HG11 | 2.00 | 0.74 |
| 1:A2:823:G:O6 | 1:A2:850:A:N6 | 2.20 | 0.74 |
| 1:A2:1058:U:OP2 | 3:BA:41:ARG:CB | 2.36 | 0.74 |
| 1:A2:1184:A:H5' | 18:BP:124:THR:HG23 | 1.70 | 0.74 |
| 1:A2:1680:G:H5" | 9:BG:31:ARG:HH22 | 1.50 | 0.74 |
| 2:AZ:6137:C:H2' | 8:BF:126:ASP:CB | 2.16 | 0.74 |
| 27:BY:37:LYS:C | 27:BY:38:ASP:N | 2.45 | 0.74 |
| 1:A2:370:A:O4' | 12:BJ:14:THR:O | 2.05 | 0.74 |
| 1:A2:640:U:O2' | 25:BW:119:LYS:HE2 | 1.85 | 0.74 |
| 1:A2:784:C:H4' | 27:BY:7:ILE:CB | 2.17 | 0.74 |
| 1:A2:806:A:N9 | 25:BW:82:LYS:HD3 | 2.01 | 0.74 |
| 1:A2:865:A:C5' | 25:BW:6:VAL:O | 2.34 | 0.74 |
| 1:A2:887:A:C6 | 17:BO:125:SER:OG | 2.41 | 0.74 |
| 1:A2:1067:C:C4' | 3:BA:32:HIS:N | 2.50 | 0.74 |
| 1:A2:1082:C:H2' | 5:BC:216:VAL:HG11 | 1.64 | 0.74 |
| 1:A2:1095:U:OP1 | 5:BC:166:THR:HA | 1.88 | 0.74 |
| 1:A2:1252:C:H3' | 34:Bf:136:LYS:O | 1.87 | 0.74 |
| 14:BL:96:LYS:O | 14:BL:97:TYR:N | 2.21 | 0.74 |
| 1:A2:57:G:N1 | 27:BY:115:ASP:C | 2.27 | 0.73 |
| 1:A2:168:A:H4' | 9:BG:132:ARG:HE | 0.94 | 0.73 |
| 1:A2:244:A:H3' | 7:BE:140:VAL:HG13 | 1.69 | 0.73 |
| 1:A2:597:G:H1' | 26:BX:137:LYS:HG3 | 1.70 | 0.73 |
| 1:A2:635:A:O3' | 25:BW:126:LEU:HA | 1.87 | 0.73 |
| 1:A2:735:C:OP2 | 7:BE:193:GLY:N | 2.21 | 0.73 |
| 1:A2:896:U:OP2 | 17:BO:34:SER:CB | 2.22 | 0.73 |
| 1:A2:902:G:OP1 | 17:BO:90:ARG:HB3 | 1.87 | 0.73 |
| 1:A2:1068:C:O5' | 3:BA:33:GLN:NE2 | 2.18 | 0.73 |
| 1:A2:1445:G:P | 34:Bf:89:ALA:CB | 2.75 | 0.73 |
| 1:A2:1546:G:O3' | 21:BS:105:VAL:O | 2.06 | 0.73 |
| 1:A2:1611:A:OP1 | 8:BF:107:LYS:NZ | 2.22 | 0.73 |
| 3:BA:50:VAL:CA | 20:BR:105:GLN:HB3 | 2.16 | 0.73 |
| 35:Bg:37:SER:HB2 | 35:Bg:41:THR:O | 1.87 | 0.73 |
| 1:A2:91:G:H2' | 27:BY:116:LYS:HZ3 | 1.51 | 0.73 |
| 1:A2:138:A:C5 | 9:BG:140:ASN:CB | 2.72 | 0.73 |
| 1:A2:180:A:C2 | 9:BG:188:ARG:CA | 2.70 | 0.73 |
| 1:A2:568:G:C1' | 33:Be:13:LYS:HD3 | 2.16 | 0.73 |
| 1:A2:569:C:P | 33:Be:12:GLY:N | 2.61 | 0.73 |
| 1:A2:858:G:O2' | 10:BH:106:SER:HB3 | 1.88 | 0.73 |
| 1:A2:866:G:P | 25:BW:3:ARG:HA | 2.29 | 0.73 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1049:U:C5' | 30:Bb:18:LYS:HB3 | 2.18 | 0.73 |
| 1:A2:1137:A:OP2 | 26:BX:62:LYS:CD | 2.36 | 0.73 |
| 3:BA:54:TRP:CD1 | 20:BR:110:VAL:HB | 2.23 | 0.73 |
| 3:BA:146:LEU:HD22 | 3:BA:160:ILE:CG2 | 2.19 | 0.73 |
| 9:BG:28:PHE:C | 9:BG:29:ASP:N | 2.46 | 0.73 |
| 13:BK:11:ILE:HG22 | 13:BK:12:HIS:HA | 1.70 | 0.73 |
| 24:BV:28:ASP:OD1 | 24:BV:30:ALA:N | 2.21 | 0.73 |
| 34:Bf:144:CYS:O | 34:Bf:146:SER:N | 2.20 | 0.73 |
| 1:A2:29:U:O2' | 26:BX:127:VAL:HG23 | 1.83 | 0.73 |
| 1:A2:57:G:H21 | 27:BY:112:LYS:C | 1.95 | 0.73 |
| 1:A2:76:A:O2' | 9:BG:163:THR:HB | 1.88 | 0.73 |
| 1:A2:141:U:O2 | 9:BG:136:LYS:CD | 2.36 | 0.73 |
| 1:A2:214:G:H8 | 7:BE:132:GLY:C | 1.96 | 0.73 |
| 1:A2:596:C:N3 | 26:BX:139:LYS:HB2 | 2.02 | 0.73 |
| 1:A2:631:G:H3' | 26:BX:12:ALA:C | 2.13 | 0.73 |
| 1:A2:919:A:O2' | 4:BB:85:LYS:HE3 | 1.88 | 0.73 |
| 1:A2:1220:C:O2 | 1:A2:1263:G:N2 | 2.21 | 0.73 |
| 1:A2:1384:A:C4' | 23:BU:35:GLU:HG2 | 2.18 | 0.73 |
| 1:A2:1480:G:H5" | 22:BT:11:ALA:HB1 | 1.69 | 0.73 |
| 1:A2:1532:U:C4' | 28:BZ:77:ARG:HB2 | 2.19 | 0.73 |
| 1:A2:1722:A:C4' | 9:BG:72:ARG:N | 2.24 | 0.73 |
| 1:A2:148:A:C1' | 27:BY:127:LYS:HG2 | 2.08 | 0.73 |
| 1:A2:178:U:O4' | 9:BG:179:VAL:HB | 1.89 | 0.73 |
| 1:A2:347:G:C6 | 11:BI:16:ALA:N | 2.56 | 0.73 |
| 1:A2:548:G:C5' | 26:BX:136:TRP:CE3 | 2.70 | 0.73 |
| 1:A2:686:C:H6 | 12:BJ:65:LYS:HZ1 | 1.36 | 0.73 |
| 1:A2:700:C:H5" | 7:BE:177:ALA:HB2 | 1.69 | 0.73 |
| 1:A2:703:G:H22 | 7:BE:180:LEU:CA | 2.01 | 0.73 |
| 1:A2:733:A:C5 | 7:BE:209:HIS:C | 2.66 | 0.73 |
| 1:A2:778:G:P | 27:BY:30:PRO:CD | 2.71 | 0.73 |
| 1:A2:870:C:C3' | 16:BN:13:SER:HB2 | 2.18 | 0.73 |
| 1:A2:989:U:O2 | 17:BO:127:ARG:CZ | 2.20 | 0.73 |
| 1:A2:1055:U:P | 3:BA:25:GLY:HA3 | 2.28 | 0.73 |
| 1:A2:1103:U:C2' | 26:BX:5:LYS:HB2 | 2.18 | 0.73 |
| 1:A2:1401:A:P | 20:BR:10:LYS:HZ3 | 2.10 | 0.73 |
| 31:Bc:17:GLY:O | 31:Bc:27:GLN:N | 2.21 | 0.73 |
| 1:A2:138:A:C5 | 9:BG:140:ASN:CG | 2.66 | 0.73 |
| 1:A2:631:G:C2' | 26:BX:16:ARG:N | 2.48 | 0.73 |
| 1:A2:703:G:C3' | 7:BE:230:GLU:HB2 | 2.12 | 0.73 |
| 1:A2:872:G:N2 | 16:BN:11:ILE:CD1 | 2.52 | 0.73 |
| 1:A2:916:U:C3' | 17:BO:84:ARG:NH2 | 2.49 | 0.73 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:966:A:H61 | 26:BX:10:ASN:N | 1.85 | 0.73 |
| 1:A2:1040:G:C3' | 24:BV:62:ARG:NE | 2.51 | 0.73 |
| 1:A2:1103:U:C4' | 26:BX:15:LEU:HD13 | 2.17 | 0.73 |
| 1:A2:1238:A:OP2 | 18:BP:63:ALA:C | 2.30 | 0.73 |
| 1:A2:1239:U:H6 | 18:BP:74:ALA:CA | 2.01 | 0.73 |
| 1:A2:1253:U:H5 | 34:Bf:136:LYS:CB | 1.99 | 0.73 |
| 1:A2:1384:A:OP2 | 23:BU:87:HIS:ND1 | 2.20 | 0.73 |
| 1:A2:1535:U:C5 | 8:BF:186:ASN:CA | 2.72 | 0.73 |
| 1:A2:1558:U:P | 21:BS:127:HIS:CD2 | 2.78 | 0.73 |
| 1:A2:1798:U:H5 | 29:Ba:94:ASN:HD22 | 1.33 | 0.73 |
| 5:BC:52:THR:HG1 | 5:BC:54:GLU:N | 1.85 | 0.73 |
| 20:BR:118:PRO:C | 20:BR:119:LEU:N | 2.46 | 0.73 |
| 1:A2:137:U:H3' | 9:BG:143:LYS:CE | 2.14 | 0.73 |
| 1:A2:334:G:P | 11:BI:26:LYS:NZ | 2.61 | 0.73 |
| 1:A2:548:G:C2 | 1:A2:591:A:C6 | 2.76 | 0.73 |
| 1:A2:703:G:O2' | 7:BE:173:ILE:HG12 | 1.88 | 0.73 |
| 1:A2:896:U:C5' | 17:BO:32:ASP:N | 2.50 | 0.73 |
| 15:BM:32:LEU:HD11 | 15:BM:61:VAL:HG11 | 1.68 | 0.73 |
| 1:A2:174:U:O4' | 1:A2:174:U:OP2 | 2.07 | 0.73 |
| 1:A2:241:U:OP2 | 9:BG:208:TYR:CB | 2.36 | 0.73 |
| 1:A2:329:G:H1 | 11:BI:30:GLY:C | 1.96 | 0.73 |
| 1:A2:736:C:N3 | 7:BE:227:VAL:HG12 | 2.02 | 0.73 |
| 1:A2:887:A:C2 | 17:BO:125:SER:CA | 2.71 | 0.73 |
| 1:A2:888:U:H6 | 17:BO:122:PRO:HB2 | 1.51 | 0.73 |
| 1:A2:1370:U:H3' | 22:BT:119:LYS:HZ2 | 1.51 | 0.73 |
| 1:A2:1435:G:N2 | 13:BK:27:PHE:CD2 | 2.53 | 0.73 |
| 1:A2:1500:C:C5 | 22:BT:102:ARG:HG2 | 2.22 | 0.73 |
| 1:A2:1502:G:C5 | 22:BT:33:TYR:HD2 | 2.03 | 0.73 |
| 1:A2:1530:C:N4 | 28:BZ:96:SER:N | 2.35 | 0.73 |
| 4:BB:129:THR:HG1 | 4:BB:133:TYR:N | 1.87 | 0.73 |
| 16:BN:121:ARG:N | 16:BN:122:ILE:N | 2.35 | 0.73 |
| 1:A2:129:U:C4 | 9:BG:177:ARG:NE | 2.57 | 0.73 |
| 1:A2:448:C:O2' | 27:BY:105:ARG:NH1 | 2.19 | 0.73 |
| 1:A2:457:G:H3' | 27:BY:107:GLN:HE21 | 1.51 | 0.73 |
| 1:A2:589:C:C4 | 33:Be:21:VAL:CG2 | 2.67 | 0.73 |
| 1:A2:597:G:C2' | 26:BX:133:LEU:HD22 | 2.19 | 0.73 |
| 1:A2:865:A:C4 | 25:BW:4:SER:O | 2.42 | 0.73 |
| 1:A2:952:A:O3' | 16:BN:4:MET:C | 2.32 | 0.73 |
| 1:A2:1041:G:H5' | 24:BV:62:ARG:HA | 1.71 | 0.73 |
| 1:A2:1295:G:C6 | 1:A2:1296:A:N7 | 2.57 | 0.73 |
| 1:A2:1402:G:C8 | 20:BR:5:ARG:CD | 2.71 | 0.73 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1419:G:N2 | 32:Bd:54:LYS:HD2 | 2.04 | 0.73 |
| 1:A2:1487:A:N6 | 1:A2:1519:U:O4 | 2.19 | 0.73 |
| 1:A2:1539:G:N2 | 28:BZ:77:ARG:HH22 | 1.85 | 0.73 |
| 1:A2:1557:U:C2' | 21:BS:123:ARG:C | 2.49 | 0.73 |
| 3:BA:73:VAL:HG12 | 3:BA:89:PHE:CE1 | 2.23 | 0.73 |
| 10:BH:163:ASP:C | 10:BH:164:TYR:N | 2.47 | 0.73 |
| 1:A2:31:C:C2' | 26:BX:138:GLU:HB3 | 2.17 | 0.73 |
| 1:A2:57:G:O6 | 27:BY:116:LYS:N | 2.21 | 0.73 |
| 1:A2:331:A:N7 | 11:BI:31:ARG:CD | 2.51 | 0.73 |
| 1:A2:382:C:O4' | 12:BJ:2:PRO:HG3 | 1.88 | 0.73 |
| 1:A2:631:G:H2' | 26:BX:16:ARG:H | 1.53 | 0.73 |
| 1:A2:639:U:P | 25:BW:108:ALA:CA | 2.77 | 0.73 |
| 1:A2:760:A:N9 | 12:BJ:8:TYR:CB | 2.51 | 0.73 |
| 1:A2:832:U:C5' | 9:BG:212:LEU:C | 2.45 | 0.73 |
| 1:A2:886:U:P | 4:BB:122:GLU:OE2 | 2.47 | 0.73 |
| 1:A2:895:G:H5' | 17:BO:34:SER:CB | 2.19 | 0.73 |
| 1:A2:896:U:H1' | 17:BO:18:ARG:CG | 2.18 | 0.73 |
| 1:A2:952:A:HO3' | 16:BN:4:MET:CG | 1.92 | 0.73 |
| 1:A2:1007:C:H4' | 17:BO:137:LEU:CG | 2.07 | 0.73 |
| 1:A2:1007:C:O4' | 17:BO:137:LEU:HA | 1.88 | 0.73 |
| 1:A2:1255:G:O5' | 34:Bf:141:CYS:O | 2.06 | 0.73 |
| 1:A2:1473:U:O4' | 8:BF:113:ILE:CG1 | 2.37 | 0.73 |
| 1:A2:1584:G:H5' | 19:BQ:124:PRO:HA | 1.70 | 0.73 |
| 1:A2:1721:A:C1' | 9:BG:67:VAL:CG2 | 2.66 | 0.73 |
| 3:BA:10:THR:HB | 3:BA:11:PRO:CD | 2.16 | 0.73 |
| 13:BK:84:GLU:C | 13:BK:85:HIS:N | 2.47 | 0.73 |
| 28:BZ:100:ILE:C | 28:BZ:101:TYR:N | 2.47 | 0.73 |
| 1:A2:266:A:H5' | 9:BG:136:LYS:HE2 | 1.60 | 0.73 |
| 1:A2:775:G:C5 | 27:BY:60:PHE:C | 2.66 | 0.73 |
| 1:A2:783:G:H21 | 27:BY:5:VAL:HG11 | 1.52 | 0.73 |
| 1:A2:818:C:H3' | 1:A2:819:G:P | 2.28 | 0.73 |
| 1:A2:1009:U:C4' | 17:BO:129:LYS:HZ2 | 2.02 | 0.73 |
| 1:A2:1192:C:C5' | 19:BQ:141:SER:OG | 2.35 | 0.73 |
| 1:A2:1213:G:C4 | 18:BP:78:THR:O | 2.40 | 0.73 |
| 1:A2:1499:G:O5' | 22:BT:105:LEU:N | 2.11 | 0.73 |
| 1:A2:1673:G:HO3' | 9:BG:94:ARG:CG | 1.75 | 0.73 |
| 1:A2:1721:A:H5' | 9:BG:64:LYS:N | 2.04 | 0.73 |
| 4:BB:155:TYR:C | 4:BB:156:ALA:N | 2.47 | 0.73 |
| 1:A2:386:G:O2' | 1:A2:387:A:O4' | 2.01 | 0.72 |
| 1:A2:397:A:P | 9:BG:88:ARG:HA | 2.29 | 0.72 |
| 1:A2:804:A:C3' | 25:BW:122:SER:CB | 2.60 | 0.72 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:814:A:H2' | 10:BH:108:GLN:C | 2.12 | 0.72 |
| 1:A2:818:C:N4 | 1:A2:819:G:O6 | 2.22 | 0.72 |
| 1:A2:1066:C:H2' | 3:BA:32:HIS:N | 2.04 | 0.72 |
| 1:A2:1535:U:C2' | 8:BF:187:ILE:CD1 | 2.41 | 0.72 |
| 1:A2:1549:C:C6 | 21:BS:86:LEU:N | 2.54 | 0.72 |
| 1:A2:1682:U:H5" | 9:BG:52:ILE:CD1 | 2.19 | 0.72 |
| 1:A2:1710:U:N1 | 9:BG:115:LYS:HG2 | 1.93 | 0.72 |
| 1:A2:1797:A:H1' | 29:Ba:94:ASN:OD1 | 1.89 | 0.72 |
| 1:A2:241:U:OP1 | 9:BG:207:GLU:CB | 2.33 | 0.72 |
| 1:A2:324:U:O5' | 11:BI:11:ARG:O | 2.06 | 0.72 |
| 1:A2:329:G:O2' | 11:BI:32:GLN:C | 2.32 | 0.72 |
| 1:A2:865:A:C4' | 25:BW:8:ALA:HB3 | 2.19 | 0.72 |
| 1:A2:931:C:H4' | 4:BB:117:TRP:CH2 | 2.25 | 0.72 |
| 1:A2:968:U:H4' | 26:BX:5:LYS:H | 0.91 | 0.72 |
| 1:A2:1034:C:H42 | 26:BX:3:LYS:HZ1 | 1.36 | 0.72 |
| 1:A2:1210:C:C4 | 18:BP:98:ASN:O | 2.42 | 0.72 |
| 1:A2:1252:C:O4' | 34:Bf:136:LYS:HG2 | 1.69 | 0.72 |
| 1:A2:1388:A:HO3' | 1:A2:1389:C:P | 2.11 | 0.72 |
| 1:A2:1417:A:O2' | 19:BQ:126:PRO:CB | 2.36 | 0.72 |
| 1:A2:1428:G:N2 | 23:BU:74:GLU:C | 2.47 | 0.72 |
| 1:A2:1567:U:O5' | 21:BS:33:THR:C | 2.30 | 0.72 |
| 1:A2:1584:G:OP1 | 19:BQ:123:ARG:N | 2.20 | 0.72 |
| 1:A2:1608:U:O2' | 19:BQ:73:GLY:HA3 | 1.87 | 0.72 |
| 1:A2:1709:C:H5' | 9:BG:9:VAL:CG2 | 2.19 | 0.72 |
| 2:AZ:6107:U:C4' | 8:BF:223:SER:N | 2.18 | 0.72 |
| 10:BH:140:VAL:HA | 10:BH:141:ARG:N | 2.04 | 0.72 |
| 12:BJ:45:ILE:C | 12:BJ:46:SER:N | 2.47 | 0.72 |
| 30:Bb:73:LEU:C | 30:Bb:74:SER:N | 2.47 | 0.72 |
| 1:A2:149:C:O3' | 27:BY:130:ALA:HB3 | 1.86 | 0.72 |
| 1:A2:169:A:P | 9:BG:132:ARG:HD3 | 2.27 | 0.72 |
| 1:A2:627:C:N3 | 1:A2:628:G:C4 | 2.57 | 0.72 |
| 1:A2:631:G:HO2' | 26:BX:16:ARG:CB | 1.80 | 0.72 |
| 1:A2:703:G:O3' | 7:BE:235:TYR:HE1 | 1.71 | 0.72 |
| 1:A2:757:A:OP2 | 12:BJ:6:ARG:NE | 2.21 | 0.72 |
| 1:A2:915:A:H2 | 17:BO:27:PHE:CZ | 2.06 | 0.72 |
| 1:A2:1213:G:H22 | 18:BP:79:HIS:CG | 2.04 | 0.72 |
| 1:A2:1246:C:N3 | 18:BP:76:VAL:HA | 2.04 | 0.72 |
| 1:A2:1260:U:C2' | 34:Bf:93:ALA:HB3 | 2.18 | 0.72 |
| 1:A2:1295:G:C6 | 5:BC:116:LYS:NZ | 2.58 | 0.72 |
| 1:A2:1785:U:O3' | 1:A2:1786:G:P | 2.38 | 0.72 |
| 2:AZ:6106:A:N3 | 8:BF:225:ARG:O | 2.22 | 0.72 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:BB:228:LEU:C | 4:BB:229:MET:N | 2.48 | 0.72 |
| 35:Bg:214:ALA:HB2 | 35:Bg:243:LEU:HD11 | 1.72 | 0.72 |
| 1:A2:30:G:H3' | 26:BX:141:GLU:CA | 2.18 | 0.72 |
| 1:A2:179:A:N1 | 9:BG:186:ARG:C | 2.47 | 0.72 |
| 1:A2:325:G:C2' | 14:BL:133:LYS:CA | 2.37 | 0.72 |
| 1:A2:338:C:C2' | 11:BI:24:LYS:NZ | 2.52 | 0.72 |
| 1:A2:338:C:C2 | 11:BI:4:SER:HB2 | 2.24 | 0.72 |
| 1:A2:588:U:C6 | 33:Be:21:VAL:HG21 | 2.18 | 0.72 |
| 1:A2:737:A:C4 | 7:BE:227:VAL:CG1 | 2.71 | 0.72 |
| 1:A2:754:A:P | 7:BE:14:ALA:N | 2.63 | 0.72 |
| 1:A2:954:G:OP2 | 16:BN:2:GLY:C | 2.32 | 0.72 |
| 1:A2:1258:U:C4 | 34:Bf:95:ALA:C | 2.66 | 0.72 |
| 1:A2:1298:U:H5' | 5:BC:115:ILE:HG22 | 1.69 | 0.72 |
| 1:A2:1536:G:C6 | 8:BF:187:ILE:HG12 | 2.23 | 0.72 |
| 1:A2:1564:U:OP1 | 22:BT:44:GLU:O | 2.07 | 0.72 |
| 1:A2:1682:U:O4' | 9:BG:100:ALA:O | 2.08 | 0.72 |
| 1:A2:80:A:N6 | 9:BG:162:VAL:O | 2.21 | 0.72 |
| 1:A2:168:A:C3' | 9:BG:132:ARG:NE | 2.52 | 0.72 |
| 1:A2:239:C:OP2 | 9:BG:210:GLN:HG2 | 1.86 | 0.72 |
| 1:A2:300:A:H61 | 7:BE:5:PRO:HD2 | 1.54 | 0.72 |
| 1:A2:632:U:HO2' | 14:BL:97:TYR:CB | 2.02 | 0.72 |
| 1:A2:686:C:C5 | 12:BJ:65:LYS:NZ | 2.56 | 0.72 |
| 1:A2:878:G:H21 | 16:BN:114:ARG:CG | 2.01 | 0.72 |
| 1:A2:900:A:C8 | 17:BO:25:ASP:CB | 2.72 | 0.72 |
| 1:A2:1068:C:O3' | 1:A2:1069:A:P | 2.47 | 0.72 |
| 1:A2:1298:U:C4' | 5:BC:115:ILE:HG21 | 2.18 | 0.72 |
| 1:A2:1370:U:C5' | 22:BT:119:LYS:HZ2 | 1.94 | 0.72 |
| 1:A2:1429:G:N2 | 23:BU:72:ASN:O | 2.22 | 0.72 |
| 1:A2:1528:U:H4' | 19:BQ:43:ILE:N | 2.04 | 0.72 |
| 1:A2:1588:G:H4' | 8:BF:102:ARG:O | 1.89 | 0.72 |
| 11:BI:90:LEU:O | 11:BI:93:THR:N | 2.23 | 0.72 |
| 1:A2:127:G:H22 | 9:BG:184:LEU:HG | 1.54 | 0.72 |
| 1:A2:178:U:O2 | 9:BG:183:ARG:CB | 2.38 | 0.72 |
| 1:A2:330:G:H5' | 11:BI:56:ARG:HD3 | 1.70 | 0.72 |
| 1:A2:548:G:O2' | 26:BX:136:TRP:CH2 | 2.40 | 0.72 |
| 1:A2:740:A:N1 | 7:BE:200:ARG:N | 2.36 | 0.72 |
| 1:A2:792:U:O2 | 12:BJ:7:THR:CA | 2.14 | 0.72 |
| 1:A2:812:A:N3 | 10:BH:111:LYS:HD3 | 2.02 | 0.72 |
| 1:A2:897:C:H1' | 17:BO:41:ARG:HD3 | 1.72 | 0.72 |
| 1:A2:1392:U:C5' | 20:BR:29:GLN:HB2 | 2.19 | 0.72 |
| 1:A2:1496:U:O3' | 22:BT:74:GLY:HA3 | 1.90 | 0.72 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1502:G:H21 | 1:A2:1504:G:H3' | 1.55 | 0.72 |
| 1:A2:1532:U:O5' | 28:BZ:77:ARG:HB3 | 1.84 | 0.72 |
| 1:A2:1534:G:C6 | 28:BZ:61:SER:CB | 2.71 | 0.72 |
| 1:A2:1550:A:C8 | 21:BS:89:GLN:OE1 | 2.42 | 0.72 |
| 1:A2:1554:U:P | 18:BP:43:ARG:O | 2.33 | 0.72 |
| 1:A2:1600:A:C2' | 22:BT:86:ARG:NH2 | 2.53 | 0.72 |
| 5:BC:184:VAL:C | 5:BC:185:LYS:N | 2.48 | 0.72 |
| 6:BD:19:ALA:C | 6:BD:20:GLU:N | 2.48 | 0.72 |
| 1:A2:85:A:C2' | 27:BY:125:LEU:O | 2.37 | 0.72 |
| 1:A2:137:U:O2' | 9:BG:143:LYS:CD | 2.17 | 0.72 |
| 1:A2:168:A:C3' | 9:BG:132:ARG:CD | 2.68 | 0.72 |
| 1:A2:455:C:P | 27:BY:103:ALA:N | 2.62 | 0.72 |
| 1:A2:1202:A:N6 | 21:BS:137:HIS:N | 2.33 | 0.72 |
| 1:A2:1452:U:C4 | 18:BP:81:ARG:NH1 | 2.57 | 0.72 |
| 21:BS:42:TYR:OH | 21:BS:73:MET:N | 2.21 | 0.72 |
| 1:A2:164:A:C1' | 9:BG:17:GLU:HG3 | 2.20 | 0.72 |
| 1:A2:245:U:C4 | 7:BE:128:LYS:CG | 2.73 | 0.72 |
| 1:A2:346:G:N2 | 11:BI:11:ARG:HB2 | 2.00 | 0.72 |
| 1:A2:632:U:O2' | 26:BX:15:LEU:CD1 | 2.38 | 0.72 |
| 1:A2:649:U:O4' | 7:BE:252:ARG:CZ | 2.37 | 0.72 |
| 1:A2:897:C:C3' | 1:A2:898:A:P | 2.76 | 0.72 |
| 1:A2:899:G:C4' | 17:BO:26:THR:O | 2.37 | 0.72 |
| 1:A2:946:U:H4' | 4:BB:158:SER:CB | 2.20 | 0.72 |
| 1:A2:956:C:N4 | 16:BN:11:ILE:HG22 | 2.02 | 0.72 |
| 1:A2:958:U:H5 | 25:BW:28:ARG:HH11 | 1.00 | 0.72 |
| 1:A2:1055:U:H6 | 3:BA:37:VAL:HG22 | 1.53 | 0.72 |
| 1:A2:1056:U:OP1 | 3:BA:46:HIS:N | 2.22 | 0.72 |
| 1:A2:1098:U:H6 | 5:BC:198:THR:HG22 | 1.54 | 0.72 |
| 1:A2:1183:A:O5' | 18:BP:124:THR:HB | 1.77 | 0.72 |
| 1:A2:1294:G:N1 | 1:A2:1295:G:C5 | 2.58 | 0.72 |
| 1:A2:1548:G:OP2 | 21:BS:100:THR:HG21 | 1.89 | 0.72 |
| 1:A2:1682:U:H3' | 9:BG:52:ILE:CG1 | 2.18 | 0.72 |
| 1:A2:1683:C:C6 | 9:BG:52:ILE:O | 2.42 | 0.72 |
| 1:A2:1722:A:C3' | 9:BG:72:ARG:N | 2.51 | 0.72 |
| 1:A2:219:A:OP2 | 9:BG:215:ARG:CD | 2.38 | 0.72 |
| 1:A2:396:G:C8 | 9:BG:91:GLU:OE1 | 2.43 | 0.72 |
| 1:A2:397:A:H5" | 9:BG:88:ARG:HG3 | 1.70 | 0.72 |
| 1:A2:410:A:C3' | 1:A2:411:C:P | 2.77 | 0.72 |
| 1:A2:452:A:C6 | 27:BY:115:ASP:OD2 | 2.42 | 0.72 |
| 1:A2:741:C:O4' | 7:BE:200:ARG:CB | 2.34 | 0.72 |
| 1:A2:776:G:H2' | 27:BY:29:HIS:HE2 | 0.90 | 0.72 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1241:G:P | 18:BP:104:GLN:CA | 2.78 | 0.72 |
| 1:A2:1299:G:O3' | 5:BC:85:PRO:HA | 1.89 | 0.72 |
| 1:A2:1565:C:C3' | 21:BS:40:ARG:N | 2.53 | 0.72 |
| 3:BA:178:ALA:HA | 3:BA:181:VAL:HG22 | 1.71 | 0.72 |
| 1:A2:57:G:H21 | 27:BY:112:LYS:CA | 2.02 | 0.72 |
| 1:A2:78:A:OP1 | 9:BG:163:THR:HG22 | 1.90 | 0.72 |
| 1:A2:168:A:N6 | 27:BY:124:ARG:HE | 1.88 | 0.72 |
| 1:A2:395:U:P | 9:BG:92:ARG:CA | 2.78 | 0.72 |
| 1:A2:456:A:H2 | 27:BY:107:GLN:O | 1.70 | 0.72 |
| 1:A2:1066:C:C2 | 3:BA:32:HIS:HA | 2.25 | 0.72 |
| 1:A2:1225:U:C4 | 34:Bf:98:LYS:HB3 | 2.25 | 0.72 |
| 1:A2:1300:A:O4' | 5:BC:86:VAL:CA | 2.37 | 0.72 |
| 1:A2:1367:G:O3' | 22:BT:66:TYR:HD1 | 1.68 | 0.72 |
| 1:A2:1480:G:H5' | 22:BT:11:ALA:HB1 | 1.60 | 0.72 |
| 9:BG:8:PRO:O | 9:BG:11:GLY:N | 2.23 | 0.72 |
| 12:BJ:134:ILE:HB | 12:BJ:157:ASP:O | 1.89 | 0.72 |
| 14:BL:17:PRO:C | 14:BL:18:HIS:N | 2.48 | 0.72 |
| 20:BR:83:GLN:C | 20:BR:84:TYR:HB2 | 2.15 | 0.72 |
| 22:BT:6:VAL:HG13 | 22:BT:67:MET:CE | 2.20 | 0.72 |
| 1:A2:151:G:O6 | 27:BY:135:ASP:OD2 | 2.08 | 0.71 |
| 1:A2:163:G:N3 | 9:BG:2:LYS:CB | 2.52 | 0.71 |
| 1:A2:240:U:C6 | 9:BG:206:ALA:O | 2.43 | 0.71 |
| 1:A2:570:A:H61 | 26:BX:67:ALA:C | 1.97 | 0.71 |
| 1:A2:598:U:H1' | 26:BX:132:LEU:C | 2.11 | 0.71 |
| 1:A2:811:A:O2' | 1:A2:812:A:OP1 | 2.07 | 0.71 |
| 1:A2:873:U:H3 | 16:BN:10:GLY:C | 1.98 | 0.71 |
| 1:A2:959:U:O2' | 25:BW:56:HIS:CG | 2.42 | 0.71 |
| 1:A2:1163:A:N6 | 1:A2:1164:G:C6 | 2.58 | 0.71 |
| 1:A2:1281:G:C8 | 23:BU:70:THR:CG2 | 2.69 | 0.71 |
| 1:A2:1294:G:H3' | 1:A2:1295:G:O5' | 1.90 | 0.71 |
| 1:A2:1381:U:H3' | 23:BU:59:PRO:HG3 | 1.71 | 0.71 |
| 1:A2:1553:G:C6 | 18:BP:39:ALA:CB | 2.70 | 0.71 |
| 1:A2:52:U:H2' | 1:A2:53:G:C8 | 2.25 | 0.71 |
| 1:A2:64:U:C4 | 27:BY:121:THR:CB | 2.73 | 0.71 |
| 1:A2:146:U:O2 | 27:BY:124:ARG:NH2 | 2.23 | 0.71 |
| 1:A2:148:A:H1' | 27:BY:127:LYS:HG2 | 1.71 | 0.71 |
| 1:A2:757:A:C5 | 12:BJ:3:ARG:NH1 | 2.58 | 0.71 |
| 1:A2:989:U:OP1 | 17:BO:126:THR:HG22 | 1.89 | 0.71 |
| 1:A2:1243:G:H5' | 18:BP:61:ARG:H | 1.55 | 0.71 |
| 1:A2:1298:U:C2' | 5:BC:99:LYS:HD2 | 1.86 | 0.71 |
| 1:A2:1358:G:OP1 | 22:BT:130:ARG:CD | 2.37 | 0.71 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1391:A:C5' | 20:BR:48:ASN:CB | 2.61 | 0.71 |
| 1:A2:1419:G:C8 | 32:Bd:56:ARG:CG | 2.73 | 0.71 |
| 1:A2:1454:G:N3 | 18:BP:123:TYR:CD1 | 2.57 | 0.71 |
| 1:A2:1455:G:P | 21:BS:126:ARG:HD3 | 2.29 | 0.71 |
| 2:AZ:6108:U:O5' | 8:BF:222:LYS:HB3 | 1.89 | 0.71 |
| 12:BJ:134:ILE:C | 12:BJ:135:ALA:N | 2.48 | 0.71 |
| 17:BO:89:THR:HG1 | 17:BO:90:ARG:N | 1.87 | 0.71 |
| 1:A2:588:U:C2 | 33:Be:21:VAL:HG21 | 2.24 | 0.71 |
| 1:A2:597:G:O4' | 26:BX:137:LYS:HG3 | 1.90 | 0.71 |
| 1:A2:738:G:P | 7:BE:157:ASN:OD1 | 2.48 | 0.71 |
| 1:A2:783:G:N7 | 27:BY:37:LYS:C | 2.48 | 0.71 |
| 1:A2:884:A:H4' | 4:BB:165:ARG:HH21 | 1.50 | 0.71 |
| 1:A2:897:C:OP1 | 17:BO:30:VAL:CG2 | 2.17 | 0.71 |
| 1:A2:970:A:N9 | 26:BX:17:VAL:CG1 | 2.53 | 0.71 |
| 1:A2:1037:C:O4' | 25:BW:71:LYS:NZ | 2.23 | 0.71 |
| 1:A2:1176:G:OP1 | 21:BS:137:HIS:NE2 | 2.22 | 0.71 |
| 1:A2:1679:G:C2 | 9:BG:68:LEU:HB2 | 2.25 | 0.71 |
| 13:BK:51:SER:C | 13:BK:52:LYS:N | 2.47 | 0.71 |
| 1:A2:1:U:H2' | 12:BJ:43:TYR:CG | 2.25 | 0.71 |
| 1:A2:179:A:N9 | 9:BG:184:LEU:O | 2.22 | 0.71 |
| 1:A2:597:G:N2 | 26:BX:135:LEU:N | 2.38 | 0.71 |
| 1:A2:631:G:H3' | 26:BX:13:ARG:CA | 2.20 | 0.71 |
| 1:A2:783:G:C8 | 27:BY:39:GLU:HB3 | 2.24 | 0.71 |
| 1:A2:804:A:OP1 | 25:BW:120:HIS:O | 2.08 | 0.71 |
| 1:A2:1096:C:H4' | 5:BC:168:ARG:HB2 | 1.72 | 0.71 |
| 1:A2:1147:A:N1 | 1:A2:1633:A:N6 | 2.39 | 0.71 |
| 1:A2:1243:G:N3 | 18:BP:57:MET:O | 2.24 | 0.71 |
| 1:A2:1389:C:H3' | 20:BR:45:ARG:CG | 2.20 | 0.71 |
| 1:A2:1419:G:N2 | 32:Bd:54:LYS:C | 2.47 | 0.71 |
| 1:A2:1454:G:N2 | 18:BP:123:TYR:N | 0.71 | 0.71 |
| 4:BB:204:ILE:HB | 4:BB:205:PHE:N | 2.05 | 0.71 |
| 16:BN:26:PHE:CE1 | 16:BN:66:ILE:HD11 | 2.26 | 0.71 |
| 1:A2:28:A:N6 | 26:BX:131:SER:HA | 2.04 | 0.71 |
| 1:A2:85:A:H2' | 27:BY:125:LEU:O | 1.89 | 0.71 |
| 1:A2:243:G:H5" | 7:BE:147:ILE:HG13 | 0.72 | 0.71 |
| 1:A2:458:G:N3 | 27:BY:106:GLN:CD | 2.45 | 0.71 |
| 1:A2:600:U:O2 | 26:BX:105:ALA:HB2 | 1.90 | 0.71 |
| 1:A2:635:A:C5' | 25:BW:77:PRO:O | 2.38 | 0.71 |
| 1:A2:701:U:C2' | 7:BE:176:ASP:CG | 2.33 | 0.71 |
| 1:A2:704:C:H42 | 7:BE:193:GLY:CA | 2.03 | 0.71 |
| 1:A2:803:A:C3' | 25:BW:120:HIS:HE1 | 1.97 | 0.71 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:942:G:O3' | 1:A2:943:C:P | 2.48 | 0.71 |
| 1:A2:969:C:O2 | 26:BX:14:LYS:HG3 | 1.87 | 0.71 |
| 1:A2:988:A:C2' | 17:BO:125:SER:O | 2.38 | 0.71 |
| 1:A2:1145:U:OP2 | 5:BC:89:GLN:N | 2.23 | 0.71 |
| 1:A2:1204:A:C8 | 1:A2:1555:A:N1 | 2.57 | 0.71 |
| 1:A2:1281:G:OP1 | 23:BU:78:THR:OG1 | 2.09 | 0.71 |
| 1:A2:1299:G:C5' | 5:BC:98:PHE:C | 2.62 | 0.71 |
| 1:A2:1534:G:O5' | 28:BZ:66:VAL:CG2 | 2.26 | 0.71 |
| 1:A2:1601:G:OP1 | 22:BT:86:ARG:HB3 | 1.89 | 0.71 |
| 5:BC:181:SER:HG | 5:BC:183:ALA:N | 1.88 | 0.71 |
| 30:Bb:79:PHE:CG | 30:Bb:79:PHE:O | 2.43 | 0.71 |
| 1:A2:76:A:C2 | 9:BG:167:LYS:N | 2.59 | 0.71 |
| 1:A2:329:G:N3 | 11:BI:31:ARG:N | 2.38 | 0.71 |
| 1:A2:737:A:H3' | 7:BE:125:LYS:CD | 2.20 | 0.71 |
| 1:A2:782:U:O5' | 27:BY:39:GLU:O | 2.09 | 0.71 |
| 1:A2:783:G:C5 | 27:BY:39:GLU:CB | 2.70 | 0.71 |
| 1:A2:804:A:N3 | 25:BW:83:ILE:N | 2.38 | 0.71 |
| 1:A2:865:A:O5' | 25:BW:8:ALA:N | 2.00 | 0.71 |
| 1:A2:887:A:H2' | 17:BO:124:ASP:CA | 2.19 | 0.71 |
| 1:A2:920:U:H3' | 4:BB:214:LYS:HD2 | 1.72 | 0.71 |
| 1:A2:1055:U:H5" | 3:BA:37:VAL:N | 2.06 | 0.71 |
| 1:A2:1240:U:H1' | 18:BP:76:VAL:HB | 1.72 | 0.71 |
| 1:A2:1503:A:H3' | 22:BT:37:VAL:HB | 0.82 | 0.71 |
| 1:A2:1682:U:C5' | 9:BG:52:ILE:HD13 | 2.20 | 0.71 |
| 5:BC:127:ALA:C | 5:BC:128:GLY:N | 2.49 | 0.71 |
| 7:BE:145:ARG:C | 7:BE:146:THR:N | 2.39 | 0.71 |
| 21:BS:3:LEU:HD13 | 21:BS:5:VAL:HG13 | 1.71 | 0.71 |
| 1:A2:14:C:O3' | 5:BC:203:LYS:HE2 | 1.90 | 0.71 |
| 1:A2:80:A:N6 | 9:BG:162:VAL:C | 2.47 | 0.71 |
| 1:A2:634:G:H3' | 25:BW:79:PHE:N | 2.04 | 0.71 |
| 1:A2:1255:G:O5' | 34:Bf:146:SER:CA | 2.16 | 0.71 |
| 1:A2:1358:G:H4' | 22:BT:130:ARG:HA | 1.73 | 0.71 |
| 3:BA:132:ALA:O | 3:BA:143:VAL:HG21 | 1.89 | 0.71 |
| 15:BM:66:VAL:HG12 | 15:BM:68:GLU:N | 2.06 | 0.71 |
| 1:A2:56:U:N3 | 27:BY:113:ASN:ND2 | 2.23 | 0.71 |
| 1:A2:64:U:O4 | 27:BY:121:THR:CB | 2.39 | 0.71 |
| 1:A2:150:U:C5 | 27:BY:131:ARG:CD | 2.67 | 0.71 |
| 1:A2:395:U:OP1 | 9:BG:84:TYR:CE2 | 2.39 | 0.71 |
| 1:A2:739:G:O6 | 7:BE:198:LYS:HB3 | 0.91 | 0.71 |
| 1:A2:922:G:H5' | 4:BB:136:ARG:NH2 | 2.06 | 0.71 |
| 1:A2:1034:C:O2 | 26:BX:7:ARG:NH2 | 2.23 | 0.71 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1261:G:OP2 | 34:Bf:91:LYS:C | 2.34 | 0.71 |
| 1:A2:1294:G:C6 | 1:A2:1295:G:C6 | 2.79 | 0.71 |
| 1:A2:1532:U:H3' | 28:BZ:77:ARG:CB | 2.21 | 0.71 |
| 1:A2:1535:U:C5 | 8:BF:188:LYS:CG | 2.73 | 0.71 |
| 1:A2:1553:G:C2 | 18:BP:40:ARG:CB | 2.73 | 0.71 |
| 12:BJ:157:ASP:C | 12:BJ:158:PHE:N | 2.47 | 0.71 |
| 14:BL:33:ARG:O | 14:BL:34:TRP:HA | 1.90 | 0.71 |
| 1:A2:137:U:OP2 | 9:BG:143:LYS:NZ | 2.24 | 0.71 |
| 1:A2:138:A:N9 | 9:BG:140:ASN:CB | 2.47 | 0.71 |
| 1:A2:139:C:O5' | 9:BG:141:ILE:CB | 2.38 | 0.71 |
| 1:A2:318:U:O4 | 11:BI:15:GLY:O | 2.08 | 0.71 |
| 1:A2:394:C:OP1 | 9:BG:92:ARG:CB | 2.31 | 0.71 |
| 1:A2:591:A:C5 | 33:Be:23:LYS:CE | 2.71 | 0.71 |
| 1:A2:784:C:C2 | 27:BY:35:VAL:HG13 | 2.25 | 0.71 |
| 1:A2:863:A:C5' | 25:BW:6:VAL:CG2 | 2.67 | 0.71 |
| 1:A2:1184:A:N3 | 18:BP:123:TYR:CD2 | 2.52 | 0.71 |
| 1:A2:1300:A:C4' | 5:BC:85:PRO:CB | 2.66 | 0.71 |
| 1:A2:1326:A:N9 | 6:BD:157:LEU:O | 2.18 | 0.71 |
| 6:BD:170:THR:HG22 | 6:BD:171:ALA:N | 2.05 | 0.71 |
| 9:BG:24:ILE:O | 9:BG:25:ARG:N | 2.22 | 0.71 |
| 29:Ba:94:ASN:HB3 | 29:Ba:95:ARG:N | 2.06 | 0.71 |
| 1:A2:141:U:OP1 | 9:BG:141:ILE:CB | 2.38 | 0.71 |
| 1:A2:141:U:OP1 | 9:BG:141:ILE:HG21 | 1.84 | 0.71 |
| 1:A2:163:G:C4 | 9:BG:2:LYS:HB3 | 2.22 | 0.71 |
| 1:A2:549:G:OP2 | 33:Be:15:LYS:HD2 | 1.91 | 0.71 |
| 1:A2:741:C:N1 | 7:BE:201:HIS:CD2 | 2.59 | 0.71 |
| 1:A2:776:G:C6 | 27:BY:35:VAL:CG1 | 2.70 | 0.71 |
| 1:A2:806:A:H5" | 25:BW:81:VAL:CG2 | 2.21 | 0.71 |
| 1:A2:888:U:C5 | 17:BO:123:SER:N | 2.59 | 0.71 |
| 1:A2:957:G:H5" | 30:Bb:22:LYS:HG2 | 0.71 | 0.71 |
| 1:A2:1095:U:C3' | 5:BC:159:THR:OG1 | 2.37 | 0.71 |
| 1:A2:1290:U:O2' | 1:A2:1291:G:O4' | 2.08 | 0.71 |
| 1:A2:1357:A:H4' | 22:BT:126:GLU:C | 2.15 | 0.71 |
| 1:A2:1454:G:O5' | 18:BP:118:GLU:HA | 1.89 | 0.71 |
| 1:A2:1473:U:O4' | 8:BF:113:ILE:HG12 | 1.91 | 0.71 |
| 1:A2:1529:C:C5 | 28:BZ:95:HIS:NE2 | 2.35 | 0.71 |
| 1:A2:1721:A:C8 | 9:BG:67:VAL:CB | 2.71 | 0.71 |
| 1:A2:240:U:H6 | 9:BG:206:ALA:O | 1.71 | 0.70 |
| 1:A2:243:G:C6 | 7:BE:138:TYR:HE2 | 2.08 | 0.70 |
| 1:A2:301:A:C4 | 7:BE:4:GLY:N | 2.59 | 0.70 |
| 1:A2:334:G:O5' | 11:BI:26:LYS:HE3 | 1.91 | 0.70 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:600:U:H5” | 26:BX:105:ALA:O | 1.91 | 0.70 |
| 1:A2:734:A:H2’ | 7:BE:193:GLY:C | 2.16 | 0.70 |
| 1:A2:1084:A:C8 | 5:BC:161:LYS:C | 2.59 | 0.70 |
| 1:A2:1240:U:H1’ | 18:BP:76:VAL:H | 1.55 | 0.70 |
| 1:A2:1241:G:N7 | 18:BP:78:THR:HG21 | 1.97 | 0.70 |
| 1:A2:1299:G:C2’ | 5:BC:86:VAL:HG13 | 2.21 | 0.70 |
| 3:BA:146:LEU:HD22 | 3:BA:160:ILE:HG21 | 1.73 | 0.70 |
| 1:A2:330:G:O5’ | 11:BI:31:ARG:CB | 2.39 | 0.70 |
| 1:A2:330:G:C4 | 11:BI:31:ARG:HG2 | 2.26 | 0.70 |
| 1:A2:784:C:O3’ | 27:BY:44:LEU:HD21 | 1.90 | 0.70 |
| 1:A2:1150:G:H2’ | 1:A2:1768:G:N2 | 2.06 | 0.70 |
| 1:A2:1327:C:C5 | 6:BD:158:ILE:CA | 2.73 | 0.70 |
| 4:BB:142:PHE:C | 4:BB:143:THR:N | 2.49 | 0.70 |
| 27:BY:109:LYS:C | 27:BY:110:GLN:N | 2.49 | 0.70 |
| 35:Bg:286:GLU:O | 35:Bg:288:HIS:N | 2.24 | 0.70 |
| 1:A2:332:U:H5 | 11:BI:31:ARG:HH12 | 1.36 | 0.70 |
| 1:A2:649:U:OP1 | 7:BE:253:ASP:OD1 | 2.08 | 0.70 |
| 1:A2:778:G:C4’ | 27:BY:5:VAL:N | 2.53 | 0.70 |
| 1:A2:807:A:OP2 | 25:BW:124:LYS:CG | 2.38 | 0.70 |
| 1:A2:831:U:OP1 | 7:BE:152:PRO:HB3 | 1.77 | 0.70 |
| 1:A2:953:G:C2’ | 16:BN:8:GLY:O | 2.39 | 0.70 |
| 1:A2:955:A:C6 | 16:BN:10:GLY:C | 2.68 | 0.70 |
| 1:A2:1048:G:C2’ | 30:Bb:22:LYS:CD | 2.46 | 0.70 |
| 1:A2:1058:U:H4’ | 1:A2:1059:U:OP1 | 1.91 | 0.70 |
| 1:A2:1125:A:O2’ | 1:A2:1776:A:OP1 | 2.08 | 0.70 |
| 1:A2:1210:C:C4 | 18:BP:122:THR:HB | 2.23 | 0.70 |
| 1:A2:1246:C:C4 | 18:BP:77:ARG:N | 2.59 | 0.70 |
| 4:BB:149:GLN:C | 4:BB:150:VAL:N | 2.49 | 0.70 |
| 11:BI:72:ILE:HD13 | 11:BI:112:TRP:CG | 2.26 | 0.70 |
| 20:BR:53:TYR:O | 20:BR:55:THR:N | 2.24 | 0.70 |
| 25:BW:50:PHE:O | 25:BW:51:GLU:N | 2.24 | 0.70 |
| 1:A2:137:U:C3’ | 9:BG:143:LYS:HG3 | 2.06 | 0.70 |
| 1:A2:324:U:O2’ | 14:BL:133:LYS:CG | 2.39 | 0.70 |
| 1:A2:601:A:P | 26:BX:122:PHE:CD1 | 2.84 | 0.70 |
| 1:A2:897:C:O3’ | 17:BO:41:ARG:HA | 1.85 | 0.70 |
| 1:A2:1210:C:O2 | 18:BP:123:TYR:CA | 2.39 | 0.70 |
| 1:A2:1298:U:H2’ | 5:BC:99:LYS:CB | 2.16 | 0.70 |
| 1:A2:1452:U:N3 | 18:BP:81:ARG:NH1 | 2.36 | 0.70 |
| 1:A2:1680:G:N3 | 9:BG:68:LEU:N | 2.40 | 0.70 |
| 1:A2:1682:U:H4’ | 9:BG:102:VAL:HG11 | 1.70 | 0.70 |
| 35:Bg:309:VAL:O | 35:Bg:310:ILE:N | 2.24 | 0.70 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:139:C:O4' | 9:BG:137:ARG:O | 2.09 | 0.70 |
| 1:A2:245:U:P | 7:BE:142:HIS:CA | 2.77 | 0.70 |
| 1:A2:756:A:C8 | 12:BJ:3:ARG:O | 2.44 | 0.70 |
| 1:A2:757:A:H3' | 1:A2:758:U:O5' | 1.91 | 0.70 |
| 1:A2:776:G:C1' | 27:BY:62:THR:CA | 2.70 | 0.70 |
| 1:A2:777:C:C3' | 27:BY:32:ARG:HG2 | 2.19 | 0.70 |
| 1:A2:917:U:C2' | 17:BO:118:VAL:CG2 | 2.70 | 0.70 |
| 1:A2:959:U:C4' | 25:BW:59:GLY:HA2 | 2.20 | 0.70 |
| 35:Bg:299:GLN:C | 35:Bg:300:THR:N | 2.50 | 0.70 |
| 1:A2:337:G:H3' | 11:BI:6:ASP:CA | 2.20 | 0.70 |
| 1:A2:346:G:C2 | 11:BI:11:ARG:HB2 | 2.27 | 0.70 |
| 1:A2:395:U:N1 | 9:BG:91:GLU:CD | 2.49 | 0.70 |
| 1:A2:456:A:C6 | 27:BY:108:ARG:HA | 2.22 | 0.70 |
| 1:A2:594:A:O3' | 1:A2:595:G:O5' | 2.08 | 0.70 |
| 1:A2:609:U:C4 | 26:BX:28:ASN:OD1 | 2.45 | 0.70 |
| 1:A2:705:U:OP1 | 7:BE:233:LYS:HG3 | 1.92 | 0.70 |
| 1:A2:754:A:N3 | 7:BE:12:LEU:HD22 | 2.06 | 0.70 |
| 1:A2:777:C:OP2 | 27:BY:33:ALA:HA | 1.92 | 0.70 |
| 1:A2:814:A:C2' | 10:BH:108:GLN:C | 2.54 | 0.70 |
| 1:A2:990:C:O2 | 17:BO:127:ARG:NH2 | 2.25 | 0.70 |
| 1:A2:1057:U:C3' | 3:BA:42:PRO:HD3 | 2.03 | 0.70 |
| 1:A2:1145:U:O5' | 5:BC:88:LYS:C | 2.27 | 0.70 |
| 1:A2:1183:A:H8 | 18:BP:125:PRO:HD2 | 1.57 | 0.70 |
| 1:A2:1184:A:C4 | 18:BP:124:THR:CA | 2.65 | 0.70 |
| 1:A2:1255:G:C8 | 34:Bf:140:TYR:CD2 | 2.79 | 0.70 |
| 1:A2:1457:C:O2 | 21:BS:136:GLN:CG | 2.31 | 0.70 |
| 1:A2:1546:G:H5" | 21:BS:105:VAL:O | 1.92 | 0.70 |
| 1:A2:1797:A:C6 | 29:Ba:87:ARG:C | 2.69 | 0.70 |
| 7:BE:150:PRO:C | 7:BE:151:ASP:N | 2.50 | 0.70 |
| 1:A2:3:U:C5 | 12:BJ:18:PRO:O | 2.06 | 0.70 |
| 1:A2:267:U:P | 9:BG:136:LYS:HZ3 | 2.15 | 0.70 |
| 1:A2:301:A:C5' | 7:BE:3:ARG:NH2 | 1.99 | 0.70 |
| 1:A2:329:G:H5" | 11:BI:56:ARG:HH22 | 1.56 | 0.70 |
| 1:A2:395:U:H1' | 9:BG:93:LYS:HZ1 | 1.55 | 0.70 |
| 1:A2:584:C:C2' | 33:Be:17:GLN:HB3 | 2.15 | 0.70 |
| 1:A2:775:G:C6 | 27:BY:61:ARG:N | 2.60 | 0.70 |
| 1:A2:896:U:P | 17:BO:33:LEU:C | 2.70 | 0.70 |
| 1:A2:1103:U:H1' | 26:BX:5:LYS:CB | 1.91 | 0.70 |
| 1:A2:1503:A:N7 | 1:A2:1564:U:O3' | 2.25 | 0.70 |
| 1:A2:1795:U:H5' | 29:Ba:4:LYS:NZ | 2.06 | 0.70 |
| 3:BA:71:GLU:HA | 3:BA:95:ALA:HA | 1.74 | 0.70 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 14:BL:43:LYS:C | 14:BL:44:THR:N | 2.50 | 0.70 |
| 26:BX:46:SER:C | 26:BX:47:SER:HA | 2.17 | 0.70 |
| 1:A2:141:U:O2 | 9:BG:136:LYS:CB | 2.40 | 0.70 |
| 1:A2:190:C:O2' | 1:A2:191:C:H5' | 1.92 | 0.70 |
| 1:A2:329:G:O3' | 11:BI:56:ARG:CD | 2.40 | 0.70 |
| 1:A2:566:C:C3' | 1:A2:567:A:P | 2.79 | 0.70 |
| 1:A2:776:G:H22 | 27:BY:27:VAL:HG21 | 1.56 | 0.70 |
| 1:A2:803:A:C3' | 25:BW:120:HIS:ND1 | 2.55 | 0.70 |
| 1:A2:1009:U:OP2 | 17:BO:129:LYS:CE | 2.34 | 0.70 |
| 1:A2:1144:U:C3' | 5:BC:88:LYS:CA | 2.66 | 0.70 |
| 1:A2:1227:A:OP1 | 34:Bf:98:LYS:HD2 | 1.90 | 0.70 |
| 1:A2:1481:C:OP2 | 22:BT:63:ARG:NH2 | 2.25 | 0.70 |
| 1:A2:1547:A:P | 21:BS:109:LEU:N | 2.65 | 0.70 |
| 1:A2:1567:U:O5' | 21:BS:33:THR:O | 2.10 | 0.70 |
| 9:BG:180:THR:HG1 | 9:BG:182:GLN:N | 1.89 | 0.70 |
| 18:BP:83:MET:O | 18:BP:116:LEU:N | 2.25 | 0.70 |
| 22:BT:113:ILE:HA | 22:BT:128:GLY:HA2 | 1.74 | 0.70 |
| 1:A2:272:U:O4 | 9:BG:169:TYR:CE1 | 2.44 | 0.70 |
| 1:A2:741:C:H5 | 7:BE:206:ASP:CG | 1.97 | 0.70 |
| 1:A2:959:U:OP2 | 25:BW:60:LYS:HG3 | 1.91 | 0.70 |
| 1:A2:1064:G:H2' | 1:A2:1065:A:H8 | 1.57 | 0.70 |
| 1:A2:1382:A:O2' | 1:A2:1383:G:H8 | 1.74 | 0.70 |
| 1:A2:1506:G:O6 | 22:BT:99:SER:HB2 | 1.92 | 0.70 |
| 1:A2:1532:U:C3' | 28:BZ:77:ARG:HB2 | 2.22 | 0.70 |
| 1:A2:1555:A:HO2' | 18:BP:115:TYR:CB | 2.04 | 0.70 |
| 1:A2:686:C:OP1 | 12:BJ:64:GLU:CD | 2.35 | 0.70 |
| 1:A2:805:U:OP1 | 25:BW:104:LEU:HD11 | 1.92 | 0.70 |
| 1:A2:858:G:N3 | 10:BH:107:ARG:C | 2.49 | 0.70 |
| 1:A2:863:A:N7 | 25:BW:78:ARG:NH2 | 2.40 | 0.70 |
| 1:A2:1036:A:N3 | 25:BW:71:LYS:NZ | 2.40 | 0.70 |
| 1:A2:1103:U:O2' | 26:BX:5:LYS:HB2 | 1.91 | 0.70 |
| 1:A2:1583:A:P | 19:BQ:135:ARG:NH2 | 2.65 | 0.70 |
| 1:A2:1674:C:H4' | 9:BG:76:LEU:HG | 1.73 | 0.70 |
| 1:A2:116:U:C4 | 7:BE:4:GLY:CA | 2.75 | 0.69 |
| 1:A2:242:U:C4 | 7:BE:136:VAL:C | 2.54 | 0.69 |
| 1:A2:324:U:O5' | 11:BI:11:ARG:C | 2.33 | 0.69 |
| 1:A2:456:A:N1 | 27:BY:108:ARG:N | 2.40 | 0.69 |
| 1:A2:746:A:C2 | 25:BW:82:LYS:CD | 2.69 | 0.69 |
| 1:A2:863:A:N1 | 25:BW:5:SER:OG | 2.23 | 0.69 |
| 1:A2:953:G:H21 | 16:BN:9:LYS:N | 1.51 | 0.69 |
| 1:A2:1096:C:C3' | 5:BC:166:THR:O | 2.39 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1104:U:C6 | 26:BX:18:HIS:NE2 | 2.27 | 0.69 |
| 1:A2:1214:U:OP1 | 18:BP:77:ARG:CD | 2.31 | 0.69 |
| 1:A2:1240:U:H5" | 18:BP:104:GLN:HG2 | 1.73 | 0.69 |
| 1:A2:1384:A:H4' | 23:BU:35:GLU:CG | 2.18 | 0.69 |
| 1:A2:1533:C:C6 | 28:BZ:77:ARG:CG | 2.75 | 0.69 |
| 7:BE:158:ASP:C | 7:BE:159:THR:N | 2.49 | 0.69 |
| 1:A2:92:A:H8 | 27:BY:116:LYS:HZ3 | 1.34 | 0.69 |
| 1:A2:245:U:O4 | 7:BE:128:LYS:CG | 2.40 | 0.69 |
| 1:A2:633:U:OP1 | 14:BL:96:LYS:O | 2.10 | 0.69 |
| 1:A2:737:A:C2' | 7:BE:157:ASN:O | 2.40 | 0.69 |
| 1:A2:740:A:C6 | 7:BE:198:LYS:CG | 2.75 | 0.69 |
| 1:A2:740:A:N6 | 7:BE:198:LYS:HB2 | 2.05 | 0.69 |
| 1:A2:1054:U:C2' | 3:BA:30:GLN:CD | 2.50 | 0.69 |
| 1:A2:1281:G:C5' | 23:BU:76:SER:O | 2.40 | 0.69 |
| 1:A2:1452:U:C2' | 18:BP:117:GLY:H | 1.81 | 0.69 |
| 1:A2:1453:G:O5' | 18:BP:117:GLY:C | 2.35 | 0.69 |
| 1:A2:1546:G:C5' | 21:BS:105:VAL:O | 2.39 | 0.69 |
| 2:AZ:6169:G:H2' | 2:AZ:6170:G:H5' | 1.74 | 0.69 |
| 8:BF:160:VAL:HG11 | 31:Bc:43:ASN:HB2 | 1.75 | 0.69 |
| 14:BL:33:ARG:HG2 | 14:BL:34:TRP:N | 2.07 | 0.69 |
| 1:A2:30:G:C3' | 26:BX:141:GLU:HA | 2.20 | 0.69 |
| 1:A2:139:C:OP2 | 9:BG:140:ASN:N | 2.26 | 0.69 |
| 1:A2:140:A:OP2 | 9:BG:175:ILE:CD1 | 2.36 | 0.69 |
| 1:A2:163:G:C4' | 9:BG:1:MET:HB2 | 2.21 | 0.69 |
| 1:A2:215:A:P | 7:BE:130:GLN:HE21 | 2.15 | 0.69 |
| 1:A2:318:U:H3 | 11:BI:15:GLY:C | 1.95 | 0.69 |
| 1:A2:457:G:N3 | 27:BY:110:GLN:HB2 | 2.08 | 0.69 |
| 1:A2:765:G:N2 | 12:BJ:142:ASN:ND2 | 2.39 | 0.69 |
| 1:A2:776:G:C3' | 27:BY:66:GLY:HA2 | 2.22 | 0.69 |
| 1:A2:1096:C:P | 5:BC:168:ARG:HE | 2.15 | 0.69 |
| 1:A2:1108:G:N2 | 26:BX:27:ASN:N | 2.32 | 0.69 |
| 1:A2:1301:U:H3' | 5:BC:97:ARG:CZ | 2.16 | 0.69 |
| 1:A2:1301:U:N3 | 5:BC:117:THR:OG1 | 2.26 | 0.69 |
| 1:A2:1358:G:OP1 | 22:BT:130:ARG:CG | 2.40 | 0.69 |
| 1:A2:1582:U:O3' | 19:BQ:135:ARG:CZ | 2.40 | 0.69 |
| 2:AZ:6130:C:H3' | 2:AZ:6131:U:H5" | 1.73 | 0.69 |
| 2:AZ:6221:U:H2' | 6:BD:114:ALA:HB2 | 1.66 | 0.69 |
| 4:BB:123:ALA:HB1 | 4:BB:124:ASN:HA | 1.74 | 0.69 |
| 15:BM:57:ALA:HB1 | 15:BM:122:VAL:HG12 | 1.72 | 0.69 |
| 1:A2:141:U:C6 | 9:BG:173:PRO:CG | 2.76 | 0.69 |
| 1:A2:214:G:N7 | 7:BE:133:LYS:HD2 | 2.08 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:329:G:C6 | 11:BI:30:GLY:C | 2.70 | 0.69 |
| 1:A2:330:G:C5' | 11:BI:56:ARG:HD3 | 2.22 | 0.69 |
| 1:A2:457:G:H22 | 27:BY:109:LYS:CB | 2.05 | 0.69 |
| 1:A2:597:G:C4' | 26:BX:133:LEU:HD22 | 2.21 | 0.69 |
| 1:A2:687:G:H4' | 12:BJ:66:ASP:C | 2.17 | 0.69 |
| 1:A2:1096:C:C5 | 5:BC:201:ASN:HA | 2.28 | 0.69 |
| 1:A2:1246:C:C4 | 18:BP:76:VAL:HA | 2.26 | 0.69 |
| 1:A2:1769:U:O2' | 1:A2:1770:U:H5' | 1.93 | 0.69 |
| 2:AZ:6107:U:O2' | 2:AZ:6110:A:N3 | 2.26 | 0.69 |
| 2:AZ:6220:U:C5' | 6:BD:143:ARG:HB3 | 1.87 | 0.69 |
| 1:A2:239:C:C5' | 9:BG:210:GLN:HG3 | 2.18 | 0.69 |
| 1:A2:330:G:N2 | 11:BI:3:ILE:H | 1.91 | 0.69 |
| 1:A2:457:G:N1 | 27:BY:105:ARG:O | 2.25 | 0.69 |
| 1:A2:740:A:C6 | 7:BE:200:ARG:HA | 2.27 | 0.69 |
| 1:A2:741:C:C6 | 7:BE:201:HIS:C | 2.69 | 0.69 |
| 1:A2:858:G:C4 | 10:BH:102:PRO:CB | 2.65 | 0.69 |
| 1:A2:1067:C:H4' | 3:BA:31:VAL:CG1 | 2.22 | 0.69 |
| 1:A2:1085:G:C6 | 5:BC:209:ASN:OD1 | 2.40 | 0.69 |
| 1:A2:1212:G:C4 | 18:BP:98:ASN:N | 2.58 | 0.69 |
| 3:BA:139:VAL:HG22 | 24:BV:60:ARG:NH1 | 2.07 | 0.69 |
| 14:BL:98:ASN:O | 14:BL:99:ARG:HG3 | 1.93 | 0.69 |
| 19:BQ:35:PRO:O | 19:BQ:36:ILE:C | 2.36 | 0.69 |
| 23:BU:50:LEU:HD11 | 23:BU:95:ALA:HB2 | 1.74 | 0.69 |
| 28:BZ:94:LYS:N | 28:BZ:98:GLN:O | 2.26 | 0.69 |
| 1:A2:272:U:C4 | 9:BG:169:TYR:CE1 | 2.80 | 0.69 |
| 1:A2:370:A:C5' | 12:BJ:14:THR:N | 2.55 | 0.69 |
| 1:A2:457:G:N2 | 27:BY:109:LYS:CA | 2.54 | 0.69 |
| 1:A2:734:A:HO3' | 7:BE:244:ILE:HD13 | 1.56 | 0.69 |
| 1:A2:737:A:O4' | 7:BE:158:ASP:C | 2.35 | 0.69 |
| 1:A2:741:C:N1 | 7:BE:201:HIS:CG | 2.60 | 0.69 |
| 1:A2:814:A:OP1 | 10:BH:110:GLN:HA | 1.91 | 0.69 |
| 1:A2:888:U:C6 | 17:BO:122:PRO:HB2 | 2.28 | 0.69 |
| 1:A2:900:A:C3' | 17:BO:20:TYR:HE1 | 2.04 | 0.69 |
| 1:A2:1046:G:C4 | 1:A2:1073:G:N2 | 2.60 | 0.69 |
| 1:A2:1084:A:H5' | 5:BC:161:LYS:HA | 1.74 | 0.69 |
| 1:A2:1097:U:C3' | 5:BC:199:GLN:N | 2.43 | 0.69 |
| 1:A2:1420:C:H5' | 23:BU:82:TYR:HH | 1.53 | 0.69 |
| 1:A2:1533:C:P | 28:BZ:75:LEU:H | 2.16 | 0.69 |
| 1:A2:1553:G:C2 | 18:BP:40:ARG:HD2 | 2.25 | 0.69 |
| 1:A2:1709:C:C4' | 9:BG:9:VAL:HG21 | 1.94 | 0.69 |
| 2:AZ:6107:U:P | 8:BF:223:SER:HB2 | 2.32 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 5:BC:118:ALA:HB3 | 5:BC:124:ALA:HB1 | 1.75 | 0.69 |
| 22:BT:36:ILE:HD12 | 22:BT:37:VAL:HB | 1.73 | 0.69 |
| 30:Bb:8:LEU:C | 30:Bb:9:HIS:N | 2.50 | 0.69 |
| 1:A2:1:U:C6 | 12:BJ:43:TYR:HB2 | 2.28 | 0.69 |
| 1:A2:162:A:H4' | 9:BG:58:LYS:CD | 2.23 | 0.69 |
| 1:A2:329:G:H5' | 11:BI:56:ARG:HH22 | 1.47 | 0.69 |
| 1:A2:457:G:N3 | 27:BY:106:GLN:O | 2.24 | 0.69 |
| 1:A2:534:A:H2' | 1:A2:535:A:O4' | 1.93 | 0.69 |
| 1:A2:586:G:C6 | 33:Be:19:PRO:CB | 2.76 | 0.69 |
| 1:A2:712:G:N2 | 1:A2:726:C:O2' | 2.25 | 0.69 |
| 1:A2:816:G:O4' | 10:BH:107:ARG:NH1 | 2.23 | 0.69 |
| 1:A2:1084:A:C2' | 5:BC:163:GLY:O | 2.39 | 0.69 |
| 1:A2:1226:A:C1' | 34:Bf:99:ALA:O | 2.40 | 0.69 |
| 1:A2:1260:U:H5 | 34:Bf:94:ALA:C | 1.62 | 0.69 |
| 1:A2:1532:U:C3' | 28:BZ:77:ARG:N | 2.46 | 0.69 |
| 1:A2:1532:U:OP2 | 28:BZ:77:ARG:HB3 | 1.93 | 0.69 |
| 1:A2:1564:U:C3' | 21:BS:41:ARG:CB | 2.67 | 0.69 |
| 1:A2:1613:U:OP2 | 8:BF:84:LYS:CD | 2.40 | 0.69 |
| 2:AZ:6219:U:C3' | 6:BD:144:ALA:HA | 2.22 | 0.69 |
| 5:BC:207:LEU:HA | 5:BC:208:GLU:N | 2.07 | 0.69 |
| 6:BD:161:GLY:N | 6:BD:163:PRO:HD2 | 2.08 | 0.69 |
| 7:BE:52:LEU:O | 7:BE:53:LYS:HB2 | 1.92 | 0.69 |
| 8:BF:120:ILE:C | 8:BF:121:ILE:N | 2.51 | 0.69 |
| 9:BG:193:LEU:N | 9:BG:194:LYS:N | 2.40 | 0.69 |
| 16:BN:21:ASN:O | 16:BN:22:ALA:O | 2.11 | 0.69 |
| 28:BZ:96:SER:HB3 | 28:BZ:97:LYS:HA | 1.72 | 0.69 |
| 30:Bb:8:LEU:HA | 30:Bb:9:HIS:N | 2.08 | 0.69 |
| 1:A2:242:U:C4 | 7:BE:137:PRO:N | 2.60 | 0.69 |
| 1:A2:246:G:OP2 | 7:BE:127:LYS:HD2 | 1.93 | 0.69 |
| 1:A2:299:A:H62 | 7:BE:7:LYS:NZ | 1.90 | 0.69 |
| 1:A2:736:C:N4 | 7:BE:195:ILE:CD1 | 2.51 | 0.69 |
| 1:A2:777:C:O3' | 27:BY:32:ARG:HG2 | 1.92 | 0.69 |
| 1:A2:803:A:C4' | 25:BW:120:HIS:ND1 | 2.48 | 0.69 |
| 1:A2:843:U:H3' | 1:A2:844:A:P | 2.33 | 0.69 |
| 1:A2:866:G:H8 | 25:BW:4:SER:O | 1.66 | 0.69 |
| 1:A2:887:A:H5" | 17:BO:122:PRO:O | 1.91 | 0.69 |
| 1:A2:901:G:N2 | 17:BO:25:ASP:H | 1.86 | 0.69 |
| 1:A2:1018:U:H5" | 16:BN:109:LYS:HD3 | 1.74 | 0.69 |
| 1:A2:1097:U:OP1 | 5:BC:167:VAL:CG1 | 2.41 | 0.69 |
| 1:A2:1106:U:OP2 | 26:BX:22:ASN:CA | 2.40 | 0.69 |
| 1:A2:1291:G:N2 | 1:A2:1324:G:N2 | 2.41 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1434:U:O2 | 32:Bd:26:SER:CB | 2.39 | 0.69 |
| 1:A2:1454:G:OP1 | 21:BS:122:HIS:CB | 2.39 | 0.69 |
| 1:A2:1554:U:O2' | 18:BP:41:VAL:HG13 | 1.92 | 0.69 |
| 1:A2:1577:A:H2' | 1:A2:1578:U:O4' | 1.93 | 0.69 |
| 1:A2:1613:U:OP2 | 8:BF:84:LYS:CE | 2.39 | 0.69 |
| 1:A2:1722:A:H62 | 9:BG:68:LEU:HB3 | 1.57 | 0.69 |
| 2:AZ:6117:C:H4' | 2:AZ:6118:G:O5' | 1.92 | 0.69 |
| 26:BX:31:LYS:N | 26:BX:32:ARG:N | 2.40 | 0.69 |
| 26:BX:74:VAL:C | 26:BX:75:GLN:N | 2.51 | 0.69 |
| 1:A2:57:G:H5" | 27:BY:114:ARG:CG | 2.20 | 0.69 |
| 1:A2:760:A:C3' | 12:BJ:9:SER:O | 2.41 | 0.69 |
| 1:A2:802:G:O3' | 1:A2:803:A:P | 2.50 | 0.69 |
| 1:A2:872:G:H1 | 16:BN:11:ILE:CG1 | 1.42 | 0.69 |
| 1:A2:944:A:C5 | 29:Ba:15:ARG:HB2 | 2.28 | 0.69 |
| 1:A2:1099:U:H5' | 5:BC:168:ARG:C | 2.17 | 0.69 |
| 1:A2:1238:A:OP2 | 18:BP:66:ALA:N | 2.22 | 0.69 |
| 1:A2:1239:U:C5 | 18:BP:73:PRO:HB3 | 2.25 | 0.69 |
| 1:A2:1252:C:C3' | 34:Bf:136:LYS:C | 2.60 | 0.69 |
| 1:A2:1252:C:H3' | 34:Bf:137:ASP:N | 2.06 | 0.69 |
| 1:A2:1281:G:H5' | 23:BU:76:SER:O | 1.93 | 0.69 |
| 1:A2:1294:G:N2 | 1:A2:1322:A:C5 | 2.61 | 0.69 |
| 1:A2:1309:C:H3' | 1:A2:1310:U:P | 2.33 | 0.69 |
| 1:A2:1358:G:C5' | 22:BT:130:ARG:CG | 2.68 | 0.69 |
| 1:A2:1527:C:H2' | 1:A2:1528:U:C6 | 2.26 | 0.69 |
| 2:AZ:6110:A:C8 | 8:BF:219:ARG:NH2 | 2.53 | 0.69 |
| 2:AZ:6220:U:C4 | 6:BD:142:LEU:HB3 | 2.27 | 0.69 |
| 15:BM:31:VAL:HG11 | 15:BM:136:ILE:HG21 | 1.75 | 0.69 |
| 1:A2:216:U:N3 | 7:BE:150:PRO:CD | 2.56 | 0.69 |
| 1:A2:323:A:C5' | 11:BI:10:LYS:H | 1.95 | 0.69 |
| 1:A2:329:G:H22 | 11:BI:3:ILE:CG1 | 2.06 | 0.69 |
| 1:A2:395:U:O4' | 9:BG:91:GLU:OE2 | 2.11 | 0.69 |
| 1:A2:609:U:O2 | 26:BX:28:ASN:ND2 | 2.25 | 0.69 |
| 1:A2:736:C:C4 | 7:BE:195:ILE:CG1 | 2.76 | 0.69 |
| 1:A2:741:C:C6 | 7:BE:201:HIS:CD2 | 2.81 | 0.69 |
| 1:A2:756:A:OP1 | 7:BE:23:LEU:HA | 1.92 | 0.69 |
| 1:A2:806:A:C5' | 25:BW:81:VAL:HG23 | 1.95 | 0.69 |
| 1:A2:899:G:OP2 | 17:BO:43:THR:OG1 | 2.09 | 0.69 |
| 1:A2:1009:U:P | 17:BO:129:LYS:HZ1 | 1.96 | 0.69 |
| 1:A2:1175:U:C5 | 21:BS:140:THR:HG22 | 2.25 | 0.69 |
| 1:A2:1419:G:N2 | 32:Bd:55:PHE:C | 2.51 | 0.69 |
| 1:A2:1550:A:N7 | 21:BS:89:GLN:CD | 2.51 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1601:G:P | 22:BT:86:ARG:HH21 | 2.16 | 0.69 |
| 16:BN:93:LYS:O | 16:BN:97:SER:N | 2.26 | 0.69 |
| 17:BO:110:LEU:HA | 17:BO:111:ARG:N | 2.08 | 0.69 |
| 19:BQ:29:ILE:HG23 | 19:BQ:65:ILE:CG1 | 2.23 | 0.69 |
| 1:A2:32:U:C4 | 26:BX:140:LYS:HD2 | 2.26 | 0.68 |
| 1:A2:56:U:N3 | 27:BY:113:ASN:HB2 | 2.06 | 0.68 |
| 1:A2:338:C:H2' | 11:BI:4:SER:CB | 2.20 | 0.68 |
| 1:A2:338:C:O2 | 11:BI:2:GLY:O | 2.11 | 0.68 |
| 1:A2:338:C:C6 | 11:BI:28:GLU:HB3 | 2.11 | 0.68 |
| 1:A2:548:G:O2' | 26:BX:136:TRP:HH2 | 1.74 | 0.68 |
| 1:A2:738:G:OP1 | 7:BE:125:LYS:HG2 | 1.93 | 0.68 |
| 1:A2:777:C:H4' | 27:BY:29:HIS:O | 1.86 | 0.68 |
| 1:A2:804:A:C2 | 25:BW:82:LYS:O | 2.46 | 0.68 |
| 1:A2:952:A:O3' | 16:BN:4:MET:CG | 2.33 | 0.68 |
| 1:A2:1565:C:O2' | 21:BS:43:SER:HB2 | 1.92 | 0.68 |
| 1:A2:1670:G:C2 | 1:A2:1730:A:C2 | 2.81 | 0.68 |
| 1:A2:1682:U:C5' | 9:BG:102:VAL:HG12 | 2.06 | 0.68 |
| 1:A2:1683:C:OP1 | 9:BG:109:LEU:CG | 2.40 | 0.68 |
| 1:A2:1720:G:H2' | 9:BG:67:VAL:N | 2.00 | 0.68 |
| 1:A2:1791:A:O3' | 29:Ba:2:PRO:HA | 1.93 | 0.68 |
| 11:BI:150:ALA:HB3 | 11:BI:151:LYS:CA | 2.23 | 0.68 |
| 1:A2:30:G:C5' | 26:BX:142:LYS:CB | 2.39 | 0.68 |
| 1:A2:116:U:C4 | 7:BE:4:GLY:HA3 | 2.29 | 0.68 |
| 1:A2:165:G:N1 | 27:BY:131:ARG:NH1 | 2.42 | 0.68 |
| 1:A2:324:U:OP1 | 11:BI:18:ARG:CB | 2.33 | 0.68 |
| 1:A2:627:C:N4 | 1:A2:628:G:C6 | 2.61 | 0.68 |
| 1:A2:785:U:O2' | 27:BY:70:VAL:HA | 1.94 | 0.68 |
| 1:A2:804:A:C5' | 25:BW:121:VAL:HA | 2.18 | 0.68 |
| 1:A2:1049:U:C3' | 30:Bb:18:LYS:CB | 2.71 | 0.68 |
| 1:A2:1326:A:OP1 | 6:BD:158:ILE:CG2 | 2.42 | 0.68 |
| 1:A2:1327:C:C6 | 6:BD:158:ILE:O | 2.42 | 0.68 |
| 1:A2:1565:C:O4' | 21:BS:43:SER:N | 2.11 | 0.68 |
| 1:A2:1567:U:H6 | 21:BS:33:THR:O | 1.76 | 0.68 |
| 1:A2:1636:C:O3' | 1:A2:1637:C:P | 2.51 | 0.68 |
| 1:A2:1674:C:C6 | 9:BG:94:ARG:NH2 | 2.15 | 0.68 |
| 1:A2:1685:G:C2 | 1:A2:1717:G:C6 | 2.81 | 0.68 |
| 1:A2:1795:U:H3' | 29:Ba:4:LYS:CE | 2.23 | 0.68 |
| 2:AZ:6057:G:H2' | 2:AZ:6057:G:N3 | 2.09 | 0.68 |
| 2:AZ:6123:A:H2 | 2:AZ:6152:C:N3 | 1.90 | 0.68 |
| 3:BA:116:LYS:C | 3:BA:118:PRO:HD3 | 2.17 | 0.68 |
| 1:A2:129:U:C4 | 9:BG:177:ARG:HD3 | 2.23 | 0.68 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:165:G:C2 | 27:BY:131:ARG:NH1 | 2.60 | 0.68 |
| 1:A2:351:C:H5 | 14:BL:101:GLU:OE2 | 1.70 | 0.68 |
| 1:A2:395:U:H6 | 9:BG:93:LYS:HE3 | 1.45 | 0.68 |
| 1:A2:785:U:C3' | 27:BY:70:VAL:HA | 2.22 | 0.68 |
| 1:A2:803:A:H5' | 25:BW:120:HIS:NE2 | 2.08 | 0.68 |
| 1:A2:863:A:C5' | 25:BW:6:VAL:HG21 | 2.23 | 0.68 |
| 1:A2:899:G:H5" | 17:BO:25:ASP:OD1 | 1.93 | 0.68 |
| 1:A2:953:G:C5 | 16:BN:3:ARG:HD2 | 2.28 | 0.68 |
| 1:A2:1048:G:C4' | 30:Bb:22:LYS:HD2 | 2.23 | 0.68 |
| 1:A2:1224:A:N6 | 34:Bf:96:ALA:HA | 2.08 | 0.68 |
| 1:A2:1281:G:C4' | 23:BU:75:GLY:O | 2.21 | 0.68 |
| 1:A2:1554:U:H3 | 18:BP:115:TYR:HE2 | 1.41 | 0.68 |
| 1:A2:1683:C:OP1 | 9:BG:110:ALA:O | 2.12 | 0.68 |
| 3:BA:54:TRP:NE1 | 20:BR:110:VAL:HB | 2.07 | 0.68 |
| 11:BI:43:ILE:HA | 11:BI:44:HIS:N | 2.07 | 0.68 |
| 18:BP:98:ASN:HB2 | 18:BP:122:THR:HA | 1.74 | 0.68 |
| 23:BU:58:LEU:N | 23:BU:88:LYS:O | 2.26 | 0.68 |
| 29:Ba:8:ASN:C | 29:Ba:9:GLY:N | 2.51 | 0.68 |
| 1:A2:58:U:OP2 | 27:BY:114:ARG:CD | 1.75 | 0.68 |
| 1:A2:138:A:H2 | 9:BG:143:LYS:CG | 2.06 | 0.68 |
| 1:A2:165:G:H1 | 27:BY:131:ARG:NH1 | 1.92 | 0.68 |
| 1:A2:338:C:C4' | 11:BI:4:SER:OG | 2.42 | 0.68 |
| 1:A2:636:A:O3' | 25:BW:104:LEU:O | 2.11 | 0.68 |
| 1:A2:638:U:C2 | 25:BW:107:SER:HB3 | 2.28 | 0.68 |
| 1:A2:814:A:H2' | 10:BH:108:GLN:O | 1.93 | 0.68 |
| 1:A2:896:U:O2' | 17:BO:18:ARG:CG | 2.41 | 0.68 |
| 1:A2:1184:A:H62 | 18:BP:125:PRO:CB | 2.06 | 0.68 |
| 1:A2:1682:U:O2 | 9:BG:32:ILE:HD12 | 1.91 | 0.68 |
| 7:BE:256:ARG:O | 7:BE:257:ALA:N | 2.26 | 0.68 |
| 8:BF:96:SER:C | 8:BF:97:LEU:N | 2.51 | 0.68 |
| 10:BH:136:VAL:N | 10:BH:153:LEU:O | 2.26 | 0.68 |
| 1:A2:58:U:C5' | 27:BY:114:ARG:HH21 | 2.01 | 0.68 |
| 1:A2:141:U:H5" | 9:BG:135:PRO:HB2 | 1.74 | 0.68 |
| 1:A2:738:G:P | 7:BE:126:VAL:O | 2.51 | 0.68 |
| 1:A2:920:U:H5" | 4:BB:214:LYS:HD3 | 1.31 | 0.68 |
| 1:A2:1241:G:C6 | 18:BP:78:THR:CG2 | 2.73 | 0.68 |
| 1:A2:1246:C:N3 | 18:BP:77:ARG:N | 2.41 | 0.68 |
| 1:A2:1418:G:C6 | 32:Bd:56:ARG:NH1 | 2.60 | 0.68 |
| 1:A2:1478:G:H8 | 1:A2:1478:G:O5' | 1.77 | 0.68 |
| 1:A2:1584:G:H5' | 19:BQ:124:PRO:CA | 2.23 | 0.68 |
| 1:A2:180:A:H3' | 9:BG:187:LYS:HZ1 | 1.59 | 0.68 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:634:G:C3' | 25:BW:79:PHE:N | 2.53 | 0.68 |
| 1:A2:735:C:C4 | 7:BE:194:THR:N | 2.56 | 0.68 |
| 1:A2:737:A:C1' | 7:BE:158:ASP:HA | 2.23 | 0.68 |
| 1:A2:779:U:N3 | 27:BY:43:LYS:NZ | 2.40 | 0.68 |
| 1:A2:873:U:H3 | 16:BN:11:ILE:N | 1.84 | 0.68 |
| 1:A2:903:U:O5' | 17:BO:135:ARG:NH1 | 2.27 | 0.68 |
| 1:A2:958:U:H1' | 30:Bb:26:GLN:HE22 | 1.57 | 0.68 |
| 1:A2:1085:G:OP1 | 5:BC:165:VAL:CG1 | 2.17 | 0.68 |
| 1:A2:1096:C:C5' | 5:BC:168:ARG:HB2 | 2.23 | 0.68 |
| 1:A2:1136:U:C2 | 26:BX:62:LYS:NZ | 2.61 | 0.68 |
| 1:A2:1255:G:C8 | 34:Bf:140:TYR:HD2 | 2.11 | 0.68 |
| 1:A2:1533:C:H4' | 28:BZ:74:SER:HA | 1.75 | 0.68 |
| 1:A2:1553:G:H5" | 18:BP:43:ARG:HE | 1.53 | 0.68 |
| 4:BB:179:SER:OG | 4:BB:180:THR:N | 2.26 | 0.68 |
| 11:BI:27:PHE:HD1 | 11:BI:27:PHE:C | 2.00 | 0.68 |
| 14:BL:10:GLU:O | 14:BL:11:ARG:N | 2.27 | 0.68 |
| 26:BX:127:VAL:O | 26:BX:129:GLY:N | 2.27 | 0.68 |
| 1:A2:57:G:N2 | 1:A2:451:A:O2' | 2.26 | 0.68 |
| 1:A2:180:A:C2 | 9:BG:191:ARG:N | 2.62 | 0.68 |
| 1:A2:302:U:H5" | 11:BI:25:ARG:NH2 | 2.08 | 0.68 |
| 1:A2:338:C:C4 | 11:BI:29:LEU:C | 2.65 | 0.68 |
| 1:A2:434:G:C3' | 26:BX:52:ILE:CD1 | 2.54 | 0.68 |
| 1:A2:451:A:H2 | 27:BY:111:LYS:HB3 | 1.57 | 0.68 |
| 1:A2:570:A:OP2 | 26:BX:90:ALA:C | 2.37 | 0.68 |
| 1:A2:740:A:N7 | 7:BE:198:LYS:HE2 | 2.04 | 0.68 |
| 1:A2:800:U:H3' | 1:A2:801:G:P | 2.34 | 0.68 |
| 1:A2:859:A:H61 | 10:BH:111:LYS:HG2 | 1.40 | 0.68 |
| 1:A2:866:G:H5' | 25:BW:2:THR:C | 2.16 | 0.68 |
| 1:A2:1034:C:C5' | 26:BX:2:GLY:N | 2.56 | 0.68 |
| 1:A2:1056:U:O5' | 3:BA:40:ALA:HB1 | 1.93 | 0.68 |
| 1:A2:1067:C:C4' | 3:BA:31:VAL:HG13 | 2.23 | 0.68 |
| 1:A2:1239:U:C5 | 18:BP:63:ALA:O | 2.15 | 0.68 |
| 1:A2:1298:U:H4' | 5:BC:115:ILE:CG2 | 2.21 | 0.68 |
| 1:A2:1502:G:C5 | 22:BT:33:TYR:CE2 | 2.76 | 0.68 |
| 1:A2:1558:U:C2 | 21:BS:133:VAL:HG23 | 2.19 | 0.68 |
| 13:BK:19:GLY:O | 13:BK:20:VAL:N | 2.27 | 0.68 |
| 21:BS:32:LEU:HD21 | 21:BS:69:ILE:CG2 | 2.24 | 0.68 |
| 30:Bb:11:THR:OG1 | 30:Bb:14:SER:N | 2.23 | 0.68 |
| 1:A2:138:A:C2 | 9:BG:143:LYS:HB2 | 2.27 | 0.68 |
| 1:A2:168:A:C4' | 9:BG:132:ARG:HE | 1.76 | 0.68 |
| 1:A2:178:U:P | 9:BG:179:VAL:HG12 | 2.34 | 0.68 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:216:U:H5 | 7:BE:138:TYR:O | 1.74 | 0.68 |
| 1:A2:216:U:H5' | 7:BE:131:LEU:N | 2.08 | 0.68 |
| 1:A2:737:A:H5' | 7:BE:227:VAL:N | 2.09 | 0.68 |
| 1:A2:779:U:C4 | 27:BY:43:LYS:NZ | 2.61 | 0.68 |
| 1:A2:889:U:OP1 | 17:BO:89:THR:CB | 2.41 | 0.68 |
| 1:A2:902:G:N7 | 17:BO:23:PHE:C | 2.52 | 0.68 |
| 1:A2:1051:G:O4' | 30:Bb:13:ALA:CB | 2.41 | 0.68 |
| 1:A2:1384:A:O4' | 23:BU:57:ARG:HD2 | 1.71 | 0.68 |
| 1:A2:1389:C:C3' | 20:BR:45:ARG:CA | 2.44 | 0.68 |
| 1:A2:1402:G:H2' | 20:BR:3:ARG:C | 2.18 | 0.68 |
| 1:A2:1500:C:C6 | 22:BT:103:LYS:CG | 2.69 | 0.68 |
| 1:A2:1680:G:O5' | 9:BG:31:ARG:NH2 | 2.22 | 0.68 |
| 1:A2:1720:G:OP1 | 9:BG:82:SER:N | 2.27 | 0.68 |
| 16:BN:94:LYS:O | 16:BN:98:VAL:HG23 | 1.94 | 0.68 |
| 1:A2:77:U:O5' | 1:A2:77:U:C6 | 2.47 | 0.68 |
| 1:A2:302:U:H5' | 11:BI:25:ARG:CZ | 2.24 | 0.68 |
| 1:A2:487:G:O6 | 1:A2:498:G:N2 | 2.25 | 0.68 |
| 1:A2:609:U:H3 | 26:BX:28:ASN:CG | 1.95 | 0.68 |
| 1:A2:741:C:H4' | 7:BE:200:ARG:CZ | 2.23 | 0.68 |
| 1:A2:787:G:C4 | 27:BY:61:ARG:HB3 | 2.29 | 0.68 |
| 1:A2:806:A:O3' | 25:BW:79:PHE:C | 2.36 | 0.68 |
| 1:A2:1018:U:O2' | 16:BN:107:LYS:CD | 2.39 | 0.68 |
| 1:A2:1238:A:N7 | 18:BP:62:ALA:C | 2.52 | 0.68 |
| 1:A2:1291:G:N2 | 1:A2:1325:A:C4 | 2.62 | 0.68 |
| 1:A2:1418:G:H1' | 32:Bd:56:ARG:NE | 2.08 | 0.68 |
| 1:A2:1503:A:C4 | 22:BT:36:ILE:CB | 2.49 | 0.68 |
| 1:A2:78:A:C2 | 9:BG:160:ARG:CD | 2.77 | 0.68 |
| 1:A2:245:U:N1 | 7:BE:128:LYS:NZ | 2.41 | 0.68 |
| 1:A2:325:G:C4' | 14:BL:133:LYS:HA | 2.24 | 0.68 |
| 1:A2:334:G:C4' | 11:BI:49:ARG:HA | 2.24 | 0.68 |
| 1:A2:779:U:O4 | 27:BY:43:LYS:CD | 2.42 | 0.68 |
| 1:A2:804:A:P | 25:BW:120:HIS:O | 2.52 | 0.68 |
| 1:A2:877:G:C2 | 16:BN:6:SER:HB3 | 2.29 | 0.68 |
| 1:A2:1074:G:C2 | 1:A2:1075:C:C5 | 2.82 | 0.68 |
| 1:A2:1083:G:H4' | 5:BC:160:GLY:CA | 2.24 | 0.68 |
| 1:A2:1145:U:P | 5:BC:88:LYS:HA | 2.34 | 0.68 |
| 1:A2:1166:A:O3' | 8:BF:101:GLY:HA2 | 1.93 | 0.68 |
| 1:A2:1315:U:O3' | 1:A2:1316:G:P | 2.52 | 0.68 |
| 1:A2:1425:A:O3' | 1:A2:1426:C:P | 2.52 | 0.68 |
| 1:A2:1453:G:O2' | 18:BP:119:PHE:N | 2.27 | 0.68 |
| 1:A2:1521:G:C8 | 22:BT:68:ARG:HD3 | 2.29 | 0.68 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1608:U:OP1 | 19:BQ:72:GLY:CA | 2.39 | 0.68 |
| 3:BA:27:ARG:HA | 3:BA:45:VAL:HG12 | 1.76 | 0.68 |
| 1:A2:1:U:N1 | 12:BJ:12:TYR:HD1 | 1.91 | 0.67 |
| 1:A2:127:G:C2' | 9:BG:183:ARG:NH2 | 2.56 | 0.67 |
| 1:A2:141:U:C5' | 9:BG:135:PRO:HB2 | 2.24 | 0.67 |
| 1:A2:245:U:C5 | 7:BE:140:VAL:CG1 | 2.77 | 0.67 |
| 1:A2:522:U:H3' | 1:A2:523:G:P | 2.34 | 0.67 |
| 1:A2:649:U:H3' | 7:BE:256:ARG:HD2 | 1.75 | 0.67 |
| 1:A2:738:G:C3' | 7:BE:156:VAL:HG13 | 2.23 | 0.67 |
| 1:A2:754:A:N9 | 7:BE:12:LEU:HD22 | 2.09 | 0.67 |
| 1:A2:811:A:N6 | 10:BH:104:ARG:N | 2.41 | 0.67 |
| 1:A2:878:G:C2' | 16:BN:114:ARG:HH12 | 1.92 | 0.67 |
| 1:A2:958:U:O2' | 25:BW:57:ARG:CZ | 2.42 | 0.67 |
| 1:A2:1006:C:H5" | 17:BO:136:ARG:HH11 | 1.50 | 0.67 |
| 1:A2:1176:G:O5' | 21:BS:137:HIS:HE1 | 1.77 | 0.67 |
| 1:A2:1299:G:C6 | 5:BC:99:LYS:NZ | 2.61 | 0.67 |
| 1:A2:1502:G:OP1 | 22:BT:32:GLY:C | 2.35 | 0.67 |
| 1:A2:1529:C:C4 | 28:BZ:95:HIS:CG | 2.69 | 0.67 |
| 1:A2:1683:C:C2' | 9:BG:52:ILE:O | 2.42 | 0.67 |
| 8:BF:194:LEU:HG | 8:BF:194:LEU:O | 1.93 | 0.67 |
| 1:A2:29:U:C4' | 26:BX:128:SER:HB2 | 1.94 | 0.67 |
| 1:A2:76:A:H3' | 1:A2:77:U:C5' | 2.24 | 0.67 |
| 1:A2:92:A:N7 | 27:BY:116:LYS:HE3 | 2.09 | 0.67 |
| 1:A2:141:U:C2 | 9:BG:136:LYS:HG3 | 2.29 | 0.67 |
| 1:A2:141:U:C4' | 9:BG:135:PRO:HB2 | 2.22 | 0.67 |
| 1:A2:346:G:N1 | 11:BI:11:ARG:CB | 2.47 | 0.67 |
| 1:A2:382:C:O4' | 12:BJ:2:PRO:CG | 2.42 | 0.67 |
| 1:A2:631:G:C4' | 26:BX:16:ARG:NH1 | 2.57 | 0.67 |
| 1:A2:702:G:N3 | 7:BE:173:ILE:HG22 | 2.08 | 0.67 |
| 1:A2:737:A:C4 | 7:BE:175:PHE:CB | 2.14 | 0.67 |
| 1:A2:757:A:C8 | 12:BJ:3:ARG:NH1 | 2.62 | 0.67 |
| 1:A2:784:C:N4 | 27:BY:37:LYS:HA | 2.07 | 0.67 |
| 1:A2:848:C:O3' | 1:A2:849:C:OP2 | 2.13 | 0.67 |
| 1:A2:887:A:C5' | 17:BO:122:PRO:O | 2.41 | 0.67 |
| 1:A2:959:U:HO2' | 25:BW:56:HIS:CB | 1.92 | 0.67 |
| 1:A2:1054:U:H2' | 3:BA:30:GLN:HG3 | 1.75 | 0.67 |
| 1:A2:1279:C:N3 | 23:BU:72:ASN:HB3 | 2.08 | 0.67 |
| 1:A2:1334:U:O3' | 23:BU:83:GLU:OE2 | 2.12 | 0.67 |
| 1:A2:1403:C:OP2 | 20:BR:3:ARG:HG3 | 1.94 | 0.67 |
| 1:A2:1761:U:O2 | 1:A2:1761:U:OP2 | 2.13 | 0.67 |
| 1:A2:1798:U:C6 | 29:Ba:95:ARG:CA | 2.69 | 0.67 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 7:BE:176:ASP:O | 7:BE:178:GLY:N | 2.28 | 0.67 |
| 1:A2:49:C:O3' | 1:A2:50:C:P | 2.52 | 0.67 |
| 1:A2:141:U:C4 | 9:BG:173:PRO:CB | 2.75 | 0.67 |
| 1:A2:214:G:H3' | 7:BE:132:GLY:HA3 | 0.68 | 0.67 |
| 1:A2:330:G:OP1 | 11:BI:56:ARG:HD3 | 1.86 | 0.67 |
| 1:A2:436:A:H5' | 26:BX:101:GLU:OE1 | 1.92 | 0.67 |
| 1:A2:451:A:C4' | 27:BY:112:LYS:HB2 | 2.24 | 0.67 |
| 1:A2:806:A:H8 | 25:BW:81:VAL:C | 2.03 | 0.67 |
| 1:A2:812:A:C4 | 10:BH:111:LYS:HD2 | 2.26 | 0.67 |
| 1:A2:876:G:C4 | 29:Ba:14:GLY:HA3 | 2.28 | 0.67 |
| 1:A2:1098:U:O2' | 5:BC:169:LEU:CA | 2.42 | 0.67 |
| 1:A2:1218:G:O6 | 34:Bf:91:LYS:HA | 1.94 | 0.67 |
| 1:A2:1326:A:O3' | 6:BD:168:ILE:HG21 | 1.94 | 0.67 |
| 1:A2:1563:C:C4' | 22:BT:38:LYS:NZ | 2.56 | 0.67 |
| 1:A2:1600:A:C3' | 22:BT:86:ARG:NE | 2.55 | 0.67 |
| 3:BA:73:VAL:HG12 | 3:BA:89:PHE:HE1 | 1.58 | 0.67 |
| 19:BQ:40:GLU:CD | 19:BQ:40:GLU:N | 2.52 | 0.67 |
| 1:A2:64:U:O2' | 27:BY:123:LYS:CE | 2.42 | 0.67 |
| 1:A2:76:A:C2 | 9:BG:166:GLU:N | 2.62 | 0.67 |
| 1:A2:135:A:H5' | 1:A2:136:C:OP2 | 1.95 | 0.67 |
| 1:A2:702:G:H21 | 7:BE:173:ILE:CB | 2.06 | 0.67 |
| 1:A2:784:C:O2 | 27:BY:35:VAL:CG1 | 2.43 | 0.67 |
| 1:A2:858:G:HO2' | 10:BH:106:SER:CB | 2.08 | 0.67 |
| 1:A2:865:A:C5' | 25:BW:8:ALA:HB3 | 2.23 | 0.67 |
| 1:A2:866:G:H8 | 25:BW:3:ARG:C | 2.02 | 0.67 |
| 1:A2:877:G:C2 | 16:BN:6:SER:CB | 2.77 | 0.67 |
| 1:A2:954:G:OP2 | 16:BN:2:GLY:CA | 2.42 | 0.67 |
| 1:A2:970:A:C1' | 26:BX:17:VAL:CG1 | 2.72 | 0.67 |
| 1:A2:1499:G:OP2 | 22:BT:102:ARG:O | 2.13 | 0.67 |
| 1:A2:1503:A:H8 | 21:BS:41:ARG:CZ | 2.07 | 0.67 |
| 9:BG:175:ILE:C | 9:BG:176:GLN:N | 2.53 | 0.67 |
| 17:BO:91:THR:C | 17:BO:92:LYS:HG2 | 2.20 | 0.67 |
| 27:BY:21:LYS:HB3 | 27:BY:75:VAL:HG13 | 1.77 | 0.67 |
| 1:A2:76:A:O2' | 9:BG:163:THR:CB | 2.42 | 0.67 |
| 1:A2:90:C:N4 | 27:BY:118:ILE:H | 1.92 | 0.67 |
| 1:A2:138:A:C2 | 9:BG:143:LYS:CG | 2.76 | 0.67 |
| 1:A2:239:C:C2 | 9:BG:210:GLN:OE1 | 2.48 | 0.67 |
| 1:A2:641:G:H5' | 25:BW:118:ARG:HD2 | 1.76 | 0.67 |
| 1:A2:736:C:C5 | 7:BE:225:VAL:HG11 | 2.28 | 0.67 |
| 1:A2:783:G:C4 | 27:BY:40:LEU:CD2 | 2.77 | 0.67 |
| 1:A2:783:G:OP1 | 27:BY:52:LYS:NZ | 2.27 | 0.67 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:858:G:O2' | 10:BH:106:SER:CB | 2.42 | 0.67 |
| 1:A2:1144:U:C6 | 5:BC:89:GLN:NE2 | 2.63 | 0.67 |
| 1:A2:1145:U:P | 5:BC:88:LYS:CA | 2.81 | 0.67 |
| 1:A2:1239:U:H5 | 18:BP:73:PRO:CB | 2.08 | 0.67 |
| 1:A2:1242:A:C5' | 18:BP:89:MET:SD | 2.80 | 0.67 |
| 1:A2:1303:U:O4 | 1:A2:1304:G:C2 | 2.48 | 0.67 |
| 1:A2:1388:A:H5" | 20:BR:44:LYS:HD2 | 1.77 | 0.67 |
| 1:A2:1553:G:N1 | 18:BP:40:ARG:N | 2.42 | 0.67 |
| 1:A2:1601:G:C8 | 22:BT:89:ARG:CD | 2.76 | 0.67 |
| 1:A2:1722:A:OP1 | 9:BG:73:ILE:HG13 | 1.80 | 0.67 |
| 1:A2:1795:U:O4 | 29:Ba:4:LYS:HB2 | 1.94 | 0.67 |
| 1:A2:1798:U:C5 | 29:Ba:94:ASN:ND2 | 2.61 | 0.67 |
| 24:BV:53:TYR:C | 24:BV:54:ALA:N | 2.53 | 0.67 |
| 1:A2:216:U:O2 | 7:BE:150:PRO:O | 2.11 | 0.67 |
| 1:A2:451:A:O4' | 27:BY:112:LYS:HB3 | 1.95 | 0.67 |
| 1:A2:522:U:C3' | 1:A2:523:G:P | 2.83 | 0.67 |
| 1:A2:583:C:P | 33:Be:14:VAL:CG1 | 2.62 | 0.67 |
| 1:A2:866:G:O3' | 25:BW:4:SER:OG | 2.12 | 0.67 |
| 1:A2:1056:U:C6 | 3:BA:40:ALA:HB2 | 2.16 | 0.67 |
| 1:A2:1108:G:H22 | 26:BX:27:ASN:H | 1.41 | 0.67 |
| 1:A2:1301:U:H5' | 5:BC:95:ARG:HG2 | 1.75 | 0.67 |
| 1:A2:1499:G:C2' | 22:BT:102:ARG:O | 2.42 | 0.67 |
| 1:A2:1528:U:C5 | 1:A2:1529:C:C5 | 2.83 | 0.67 |
| 1:A2:1535:U:H5 | 8:BF:186:ASN:CB | 1.75 | 0.67 |
| 1:A2:1558:U:C4 | 21:BS:123:ARG:N | 2.62 | 0.67 |
| 1:A2:1676:U:O2 | 1:A2:1726:G:C2 | 2.48 | 0.67 |
| 6:BD:176:LEU:N | 6:BD:177:MET:N | 2.41 | 0.67 |
| 13:BK:12:HIS:HB2 | 13:BK:76:LEU:HD11 | 1.77 | 0.67 |
| 14:BL:58:CYS:SG | 14:BL:61:THR:N | 2.63 | 0.67 |
| 35:Bg:100:TYR:CD1 | 35:Bg:100:TYR:N | 2.61 | 0.67 |
| 1:A2:127:G:C1' | 9:BG:183:ARG:NH2 | 2.57 | 0.67 |
| 1:A2:464:A:H3' | 1:A2:465:G:P | 2.34 | 0.67 |
| 1:A2:598:U:O4' | 26:BX:133:LEU:HA | 1.95 | 0.67 |
| 1:A2:636:A:H8 | 25:BW:126:LEU:HD23 | 1.58 | 0.67 |
| 1:A2:736:C:C1' | 7:BE:181:VAL:HA | 2.24 | 0.67 |
| 1:A2:784:C:O2 | 27:BY:35:VAL:HG11 | 1.94 | 0.67 |
| 1:A2:785:U:P | 27:BY:44:LEU:HD21 | 2.34 | 0.67 |
| 1:A2:804:A:N3 | 25:BW:82:LYS:C | 2.53 | 0.67 |
| 1:A2:1048:G:N2 | 30:Bb:18:LYS:HE3 | 2.09 | 0.67 |
| 1:A2:1144:U:H2' | 5:BC:89:GLN:CB | 2.19 | 0.67 |
| 1:A2:1253:U:C6 | 34:Bf:136:LYS:CB | 2.77 | 0.67 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1294:G:H8 | 1:A2:1294:G:OP2 | 1.78 | 0.67 |
| 1:A2:1358:G:OP1 | 22:BT:130:ARG:HG3 | 1.95 | 0.67 |
| 1:A2:1473:U:H2' | 8:BF:190:ILE:CG1 | 2.20 | 0.67 |
| 1:A2:1502:G:N7 | 22:BT:33:TYR:CD1 | 2.62 | 0.67 |
| 19:BQ:22:VAL:HG22 | 19:BQ:65:ILE:HG22 | 1.77 | 0.67 |
| 27:BY:75:VAL:HA | 27:BY:76:TYR:N | 2.10 | 0.67 |
| 1:A2:38:C:C2' | 1:A2:39:A:H5' | 2.24 | 0.67 |
| 1:A2:85:A:O2' | 27:BY:125:LEU:O | 2.12 | 0.67 |
| 1:A2:89:G:C8 | 27:BY:119:PHE:C | 2.70 | 0.67 |
| 1:A2:127:G:N3 | 9:BG:183:ARG:NE | 2.41 | 0.67 |
| 1:A2:704:C:O2 | 7:BE:231:GLN:HB2 | 1.94 | 0.67 |
| 1:A2:889:U:H5' | 17:BO:89:THR:HG22 | 1.76 | 0.67 |
| 1:A2:922:G:OP1 | 4:BB:136:ARG:CD | 2.42 | 0.67 |
| 1:A2:1240:U:C5' | 18:BP:104:GLN:CG | 2.72 | 0.67 |
| 1:A2:1450:U:O2' | 1:A2:1451:C:O4' | 2.11 | 0.67 |
| 1:A2:1555:A:O2' | 18:BP:115:TYR:CB | 2.42 | 0.67 |
| 1:A2:1710:U:OP1 | 9:BG:7:TYR:HE1 | 1.78 | 0.67 |
| 1:A2:1795:U:O4 | 29:Ba:4:LYS:CB | 2.43 | 0.67 |
| 1:A2:1797:A:O3' | 1:A2:1798:U:OP1 | 2.11 | 0.67 |
| 2:AZ:6165:C:O2 | 2:AZ:6165:C:H2' | 1.95 | 0.67 |
| 5:BC:138:PRO:C | 5:BC:139:ILE:CA | 2.67 | 0.67 |
| 7:BE:159:THR:C | 7:BE:160:VAL:N | 2.53 | 0.67 |
| 14:BL:65:SER:HG | 14:BL:66:ILE:N | 1.92 | 0.67 |
| 19:BQ:44:LEU:O | 19:BQ:46:PHE:N | 2.28 | 0.67 |
| 1:A2:76:A:H3' | 1:A2:77:U:H5" | 1.77 | 0.67 |
| 1:A2:242:U:C1' | 7:BE:148:ARG:NE | 2.31 | 0.67 |
| 1:A2:328:A:C3' | 11:BI:172:ARG:HH22 | 2.08 | 0.67 |
| 1:A2:394:C:N1 | 9:BG:93:LYS:HG2 | 1.91 | 0.67 |
| 1:A2:451:A:H2 | 27:BY:111:LYS:CB | 2.06 | 0.67 |
| 1:A2:754:A:C1' | 7:BE:12:LEU:CD2 | 2.64 | 0.67 |
| 1:A2:756:A:P | 7:BE:23:LEU:CA | 2.80 | 0.67 |
| 1:A2:1068:C:OP2 | 3:BA:33:GLN:NE2 | 2.23 | 0.67 |
| 1:A2:1083:G:N9 | 5:BC:161:LYS:C | 2.52 | 0.67 |
| 1:A2:1105:C:OP2 | 26:BX:22:ASN:HB2 | 1.94 | 0.67 |
| 1:A2:1205:C:O3' | 1:A2:1206:U:P | 2.53 | 0.67 |
| 1:A2:1212:G:H8 | 18:BP:100:LYS:HG3 | 1.60 | 0.67 |
| 1:A2:1238:A:OP1 | 18:BP:64:LYS:HA | 1.93 | 0.67 |
| 1:A2:1298:U:O3' | 5:BC:99:LYS:HB3 | 1.93 | 0.67 |
| 1:A2:1383:G:P | 23:BU:88:LYS:N | 2.67 | 0.67 |
| 1:A2:1383:G:H4' | 23:BU:87:HIS:O | 1.95 | 0.67 |
| 1:A2:1459:C:O5' | 21:BS:131:LEU:CD2 | 2.43 | 0.67 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1470:C:P | 8:BF:102:ARG:HH12 | 2.11 | 0.67 |
| 1:A2:1600:A:O3' | 22:BT:86:ARG:CZ | 2.43 | 0.67 |
| 1:A2:1710:U:C1' | 9:BG:115:LYS:HG2 | 1.87 | 0.67 |
| 1:A2:1722:A:C5' | 9:BG:73:ILE:HG12 | 2.25 | 0.67 |
| 3:BA:59:LEU:HA | 3:BA:63:ILE:HD13 | 1.76 | 0.67 |
| 10:BH:16:LEU:C | 10:BH:17:GLU:N | 2.53 | 0.67 |
| 11:BI:4:SER:HA | 11:BI:5:ARG:N | 2.08 | 0.67 |
| 14:BL:96:LYS:O | 14:BL:98:ASN:N | 2.27 | 0.67 |
| 35:Bg:169:ILE:HG23 | 35:Bg:183:LEU:HB3 | 1.74 | 0.67 |
| 1:A2:2:A:N3 | 12:BJ:16:LYS:CD | 2.58 | 0.67 |
| 1:A2:29:U:N3 | 26:BX:131:SER:CB | 2.26 | 0.67 |
| 1:A2:58:U:H5" | 27:BY:111:LYS:CE | 2.23 | 0.67 |
| 1:A2:290:G:H3' | 1:A2:291:G:H8 | 1.60 | 0.67 |
| 1:A2:300:A:N6 | 7:BE:5:PRO:C | 2.52 | 0.67 |
| 1:A2:554:C:O3' | 1:A2:555:A:OP1 | 2.12 | 0.67 |
| 1:A2:632:U:H3' | 26:BX:12:ALA:CB | 2.24 | 0.67 |
| 1:A2:735:C:C4 | 7:BE:195:ILE:HG13 | 2.29 | 0.67 |
| 1:A2:957:G:C5' | 30:Bb:22:LYS:HE3 | 2.16 | 0.67 |
| 1:A2:989:U:C2 | 17:BO:127:ARG:CG | 2.67 | 0.67 |
| 1:A2:1096:C:N1 | 5:BC:200:SER:O | 2.27 | 0.67 |
| 1:A2:1200:G:H4' | 1:A2:1201:G:H5' | 1.77 | 0.67 |
| 1:A2:1226:A:C1' | 34:Bf:98:LYS:HD3 | 2.24 | 0.67 |
| 1:A2:1242:A:H5" | 18:BP:60:LEU:CD2 | 2.25 | 0.67 |
| 1:A2:1269:U:O3' | 1:A2:1270:G:P | 2.53 | 0.67 |
| 1:A2:1299:G:C2' | 5:BC:84:LYS:O | 2.43 | 0.67 |
| 1:A2:1334:U:C4' | 23:BU:83:GLU:CD | 2.61 | 0.67 |
| 1:A2:1533:C:C6 | 28:BZ:77:ARG:HG2 | 2.30 | 0.67 |
| 1:A2:1565:C:O4' | 21:BS:42:TYR:N | 2.28 | 0.67 |
| 2:AZ:6132:A:N3 | 2:AZ:6132:A:H2' | 2.08 | 0.67 |
| 7:BE:64:ILE:HG21 | 27:BY:17:LEU:HD13 | 1.77 | 0.67 |
| 10:BH:141:ARG:N | 10:BH:149:ILE:O | 2.28 | 0.67 |
| 12:BJ:60:LEU:C | 12:BJ:61:THR:N | 2.53 | 0.67 |
| 24:BV:53:TYR:O | 24:BV:54:ALA:N | 2.27 | 0.67 |
| 1:A2:59:C:H42 | 27:BY:121:THR:HB | 1.59 | 0.66 |
| 1:A2:242:U:C5' | 7:BE:148:ARG:C | 2.64 | 0.66 |
| 1:A2:296:U:OP1 | 7:BE:33:ALA:CB | 2.43 | 0.66 |
| 1:A2:329:G:C4' | 11:BI:56:ARG:NH2 | 2.57 | 0.66 |
| 1:A2:548:G:N3 | 1:A2:591:A:C2 | 2.63 | 0.66 |
| 1:A2:700:C:H5" | 7:BE:177:ALA:CB | 2.25 | 0.66 |
| 1:A2:859:A:N1 | 10:BH:111:LYS:HG2 | 2.11 | 0.66 |
| 1:A2:900:A:O5' | 17:BO:25:ASP:O | 1.87 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:917:U:H2' | 17:BO:118:VAL:CG2 | 2.24 | 0.66 |
| 1:A2:1057:U:C6 | 3:BA:40:ALA:N | 2.57 | 0.66 |
| 1:A2:1213:G:HO2' | 18:BP:78:THR:HA | 1.58 | 0.66 |
| 1:A2:1370:U:C3' | 22:BT:119:LYS:NZ | 2.58 | 0.66 |
| 1:A2:1480:G:OP2 | 22:BT:15:ILE:HG21 | 1.96 | 0.66 |
| 1:A2:1690:G:H1' | 1:A2:1712:A:N6 | 2.10 | 0.66 |
| 7:BE:78:THR:N | 7:BE:79:ASP:N | 2.43 | 0.66 |
| 21:BS:52:VAL:HG21 | 21:BS:69:ILE:HD11 | 1.76 | 0.66 |
| 25:BW:78:ARG:HD2 | 25:BW:126:LEU:HD23 | 1.76 | 0.66 |
| 1:A2:57:G:O2' | 27:BY:111:LYS:HA | 1.96 | 0.66 |
| 1:A2:750:U:H3' | 1:A2:751:G:P | 2.35 | 0.66 |
| 1:A2:953:G:OP2 | 16:BN:3:ARG:HA | 1.94 | 0.66 |
| 1:A2:958:U:HO2' | 25:BW:57:ARG:NE | 1.92 | 0.66 |
| 1:A2:1147:A:O2' | 1:A2:1148:C:O5' | 2.12 | 0.66 |
| 1:A2:1281:G:N7 | 23:BU:74:GLU:O | 2.25 | 0.66 |
| 1:A2:1454:G:OP1 | 18:BP:118:GLU:HG2 | 1.92 | 0.66 |
| 1:A2:1548:G:C2' | 21:BS:99:HIS:ND1 | 2.58 | 0.66 |
| 1:A2:1584:G:C4 | 19:BQ:14:LYS:HE3 | 2.24 | 0.66 |
| 2:AZ:6205:A:O2' | 2:AZ:6206:G:C6 | 2.47 | 0.66 |
| 11:BI:81:VAL:C | 11:BI:82:VAL:N | 2.53 | 0.66 |
| 19:BQ:7:VAL:CB | 19:BQ:96:TYR:HE1 | 2.02 | 0.66 |
| 22:BT:18:TYR:HB3 | 22:BT:59:ALA:HB2 | 1.76 | 0.66 |
| 29:Ba:42:ARG:O | 29:Ba:67:THR:OG1 | 2.13 | 0.66 |
| 1:A2:215:A:OP1 | 7:BE:130:GLN:NE2 | 2.25 | 0.66 |
| 1:A2:220:A:H4' | 9:BG:220:LYS:H | 0.73 | 0.66 |
| 1:A2:241:U:H5' | 7:BE:149:TYR:HB2 | 1.78 | 0.66 |
| 1:A2:448:C:O2' | 1:A2:449:C:H5' | 1.94 | 0.66 |
| 1:A2:703:G:O3' | 7:BE:235:TYR:CE1 | 2.48 | 0.66 |
| 1:A2:753:A:O3' | 7:BE:13:ALA:C | 2.38 | 0.66 |
| 1:A2:778:G:O2' | 27:BY:5:VAL:CB | 2.43 | 0.66 |
| 1:A2:823:G:OP2 | 1:A2:823:G:C2 | 2.48 | 0.66 |
| 1:A2:863:A:OP1 | 25:BW:34:ILE:HD12 | 1.94 | 0.66 |
| 1:A2:1300:A:O5' | 5:BC:85:PRO:CB | 2.43 | 0.66 |
| 1:A2:1302:U:P | 5:BC:95:ARG:CD | 2.72 | 0.66 |
| 1:A2:1475:A:H62 | 28:BZ:97:LYS:HD3 | 1.56 | 0.66 |
| 1:A2:1502:G:C8 | 22:BT:33:TYR:CB | 2.79 | 0.66 |
| 1:A2:1531:G:H2' | 1:A2:1532:U:C6 | 2.30 | 0.66 |
| 1:A2:1533:C:C4' | 28:BZ:77:ARG:NH2 | 2.59 | 0.66 |
| 1:A2:1564:U:H2' | 21:BS:41:ARG:HB3 | 0.72 | 0.66 |
| 1:A2:1565:C:HO2' | 21:BS:38:VAL:CG1 | 1.90 | 0.66 |
| 1:A2:1576:A:H3' | 1:A2:1577:A:P | 2.35 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1683:C:C3' | 9:BG:52:ILE:O | 2.38 | 0.66 |
| 2:AZ:6029:A:H2 | 2:AZ:6030:U:C4 | 2.13 | 0.66 |
| 4:BB:62:LYS:HB3 | 4:BB:63:GLY:N | 2.10 | 0.66 |
| 7:BE:223:ASN:HD22 | 7:BE:223:ASN:C | 2.04 | 0.66 |
| 23:BU:95:ALA:HB3 | 23:BU:100:VAL:CG1 | 2.25 | 0.66 |
| 1:A2:137:U:P | 9:BG:143:LYS:NZ | 2.69 | 0.66 |
| 1:A2:396:G:C3' | 9:BG:88:ARG:CA | 2.70 | 0.66 |
| 1:A2:499:U:O2' | 1:A2:500:C:OP2 | 2.10 | 0.66 |
| 1:A2:778:G:P | 27:BY:31:ASN:H | 2.19 | 0.66 |
| 1:A2:1046:G:C2 | 1:A2:1073:G:C2 | 2.84 | 0.66 |
| 1:A2:1358:G:C4' | 22:BT:130:ARG:HG2 | 2.24 | 0.66 |
| 1:A2:1434:U:C2 | 32:Bd:26:SER:OG | 2.48 | 0.66 |
| 1:A2:1453:G:O2' | 18:BP:120:SER:C | 2.39 | 0.66 |
| 1:A2:1584:G:H3' | 19:BQ:124:PRO:CA | 2.19 | 0.66 |
| 30:Bb:32:PHE:O | 30:Bb:33:LEU:N | 2.29 | 0.66 |
| 1:A2:165:G:H4' | 9:BG:14:LYS:NZ | 2.11 | 0.66 |
| 1:A2:631:G:C4' | 26:BX:16:ARG:HH12 | 2.09 | 0.66 |
| 1:A2:703:G:N7 | 7:BE:230:GLU:CD | 2.53 | 0.66 |
| 1:A2:704:C:C1' | 7:BE:231:GLN:C | 2.49 | 0.66 |
| 1:A2:741:C:C5' | 7:BE:201:HIS:CA | 2.72 | 0.66 |
| 1:A2:811:A:H62 | 10:BH:104:ARG:N | 1.94 | 0.66 |
| 1:A2:1343:U:O2 | 23:BU:56:VAL:HG22 | 1.95 | 0.66 |
| 1:A2:1505:A:C5' | 22:BT:41:SER:CB | 2.68 | 0.66 |
| 1:A2:1528:U:OP1 | 8:BF:112:ARG:CG | 2.43 | 0.66 |
| 1:A2:1565:C:C3' | 21:BS:40:ARG:CA | 2.66 | 0.66 |
| 2:AZ:6219:U:O4' | 6:BD:145:ALA:CB | 2.43 | 0.66 |
| 3:BA:67:ILE:O | 3:BA:68:PRO:C | 2.38 | 0.66 |
| 11:BI:27:PHE:C | 11:BI:27:PHE:CD1 | 2.72 | 0.66 |
| 22:BT:83:ALA:HB1 | 22:BT:92:LYS:C | 2.20 | 0.66 |
| 1:A2:150:U:C6 | 27:BY:131:ARG:HD2 | 2.29 | 0.66 |
| 1:A2:177:U:C5 | 9:BG:137:ARG:HD2 | 2.29 | 0.66 |
| 1:A2:241:U:C2 | 7:BE:136:VAL:HG11 | 2.30 | 0.66 |
| 1:A2:329:G:H5' | 11:BI:175:GLN:HE22 | 1.60 | 0.66 |
| 1:A2:332:U:O2 | 11:BI:26:LYS:HD2 | 1.31 | 0.66 |
| 1:A2:396:G:C5 | 9:BG:91:GLU:OE1 | 2.48 | 0.66 |
| 1:A2:617:U:C5 | 1:A2:1093:A:C5 | 2.82 | 0.66 |
| 1:A2:631:G:C5' | 26:BX:13:ARG:CZ | 2.71 | 0.66 |
| 1:A2:737:A:C4 | 7:BE:175:PHE:HB2 | 1.53 | 0.66 |
| 1:A2:756:A:OP2 | 12:BJ:4:ALA:CB | 2.40 | 0.66 |
| 1:A2:888:U:H2' | 17:BO:126:THR:N | 2.11 | 0.66 |
| 1:A2:897:C:C3' | 17:BO:41:ARG:HA | 2.25 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:930:A:OP1 | 29:Ba:37:LYS:NZ | 2.25 | 0.66 |
| 1:A2:946:U:C4' | 4:BB:158:SER:CB | 2.72 | 0.66 |
| 1:A2:946:U:H4' | 4:BB:158:SER:HB3 | 1.75 | 0.66 |
| 1:A2:956:C:C2 | 16:BN:11:ILE:HD13 | 2.27 | 0.66 |
| 1:A2:1240:U:C1' | 18:BP:76:VAL:N | 2.49 | 0.66 |
| 1:A2:1240:U:C5' | 18:BP:104:GLN:HG2 | 2.25 | 0.66 |
| 1:A2:1327:C:P | 6:BD:158:ILE:N | 2.62 | 0.66 |
| 1:A2:1480:G:OP2 | 22:BT:15:ILE:CG2 | 2.42 | 0.66 |
| 1:A2:1547:A:O2' | 21:BS:100:THR:C | 2.39 | 0.66 |
| 1:A2:1651:A:H2' | 1:A2:1652:C:H6 | 1.61 | 0.66 |
| 1:A2:27:U:O2 | 26:BX:103:LEU:CG | 2.40 | 0.66 |
| 1:A2:162:A:H4' | 9:BG:58:LYS:HD2 | 1.77 | 0.66 |
| 1:A2:163:G:P | 9:BG:108:VAL:CG2 | 2.81 | 0.66 |
| 1:A2:242:U:O4 | 7:BE:136:VAL:C | 2.35 | 0.66 |
| 1:A2:302:U:C5' | 11:BI:25:ARG:NH2 | 2.58 | 0.66 |
| 1:A2:397:A:C5' | 9:BG:88:ARG:CG | 2.66 | 0.66 |
| 1:A2:451:A:O4' | 27:BY:112:LYS:HB2 | 1.96 | 0.66 |
| 1:A2:631:G:C2' | 26:BX:12:ALA:O | 2.41 | 0.66 |
| 1:A2:635:A:C2 | 25:BW:33:VAL:HG21 | 2.31 | 0.66 |
| 1:A2:686:C:H3' | 12:BJ:65:LYS:NZ | 2.08 | 0.66 |
| 1:A2:701:U:C3' | 7:BE:176:ASP:OD2 | 2.12 | 0.66 |
| 1:A2:706:A:C8 | 7:BE:231:GLN:CD | 2.74 | 0.66 |
| 1:A2:812:A:C2 | 10:BH:111:LYS:HD3 | 2.31 | 0.66 |
| 1:A2:894:U:C3' | 4:BB:65:VAL:CG2 | 2.72 | 0.66 |
| 1:A2:1007:C:P | 17:BO:136:ARG:NH1 | 2.68 | 0.66 |
| 1:A2:1036:A:O2' | 25:BW:71:LYS:HE3 | 1.96 | 0.66 |
| 1:A2:1094:G:C4' | 5:BC:161:LYS:CD | 1.87 | 0.66 |
| 1:A2:1137:A:OP2 | 26:BX:62:LYS:HD3 | 1.94 | 0.66 |
| 1:A2:1176:G:O5' | 21:BS:137:HIS:CE1 | 2.49 | 0.66 |
| 1:A2:1227:A:OP1 | 34:Bf:98:LYS:CD | 2.43 | 0.66 |
| 1:A2:1239:U:C5 | 18:BP:73:PRO:CB | 2.78 | 0.66 |
| 1:A2:1241:G:P | 18:BP:104:GLN:HA | 2.34 | 0.66 |
| 1:A2:1281:G:H4' | 23:BU:76:SER:C | 2.20 | 0.66 |
| 1:A2:1290:U:C4' | 6:BD:151:LYS:CE | 1.81 | 0.66 |
| 1:A2:1389:C:C3' | 20:BR:45:ARG:HG2 | 2.13 | 0.66 |
| 1:A2:1684:U:H5 | 9:BG:51:LYS:HE2 | 1.52 | 0.66 |
| 2:AZ:6093:A:H2' | 2:AZ:6094:U:H5' | 1.78 | 0.66 |
| 1:A2:91:G:C3' | 27:BY:116:LYS:HZ3 | 2.01 | 0.66 |
| 1:A2:175:G:H1' | 9:BG:137:ARG:HH21 | 1.61 | 0.66 |
| 1:A2:175:G:N3 | 9:BG:137:ARG:NH2 | 2.43 | 0.66 |
| 1:A2:208:U:C2' | 11:BI:55:TYR:OH | 2.43 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1068:C:H5” | 3:BA:154:GLU:H | 1.61 | 0.66 |
| 1:A2:1084:A:C8 | 5:BC:161:LYS:HG2 | 2.26 | 0.66 |
| 1:A2:1103:U:H4’ | 26:BX:15:LEU:HD11 | 1.77 | 0.66 |
| 1:A2:1300:A:C8 | 5:BC:86:VAL:HG23 | 2.30 | 0.66 |
| 1:A2:1326:A:C4 | 6:BD:157:LEU:O | 2.48 | 0.66 |
| 3:BA:180:GLU:O | 3:BA:184:LEU:HD23 | 1.95 | 0.66 |
| 14:BL:58:CYS:SG | 14:BL:60:PHE:N | 2.64 | 0.66 |
| 21:BS:18:LEU:O | 21:BS:20:THR:HG23 | 1.96 | 0.66 |
| 29:Ba:3:LYS:C | 29:Ba:4:LYS:N | 2.53 | 0.66 |
| 29:Ba:69:ASN:HD22 | 29:Ba:69:ASN:N | 1.94 | 0.66 |
| 1:A2:142:G:H8 | 9:BG:135:PRO:HA | 1.57 | 0.66 |
| 1:A2:164:A:C8 | 9:BG:17:GLU:CG | 2.76 | 0.66 |
| 1:A2:215:A:H8 | 7:BE:138:TYR:HD1 | 1.43 | 0.66 |
| 1:A2:370:A:P | 12:BJ:14:THR:HG1 | 2.19 | 0.66 |
| 1:A2:397:A:C3’ | 1:A2:398:G:P | 2.77 | 0.66 |
| 1:A2:789:A:HO3’ | 1:A2:790:U:C5’ | 2.09 | 0.66 |
| 1:A2:842:C:O2 | 1:A2:842:C:C2’ | 2.43 | 0.66 |
| 1:A2:863:A:C5 | 25:BW:5:SER:OG | 2.48 | 0.66 |
| 1:A2:1067:C:H4’ | 3:BA:31:VAL:HG13 | 1.78 | 0.66 |
| 1:A2:1102:G:C4 | 26:BX:7:ARG:NE | 2.63 | 0.66 |
| 1:A2:1260:U:C2’ | 34:Bf:93:ALA:HB2 | 2.26 | 0.66 |
| 1:A2:1300:A:C4 | 5:BC:86:VAL:HB | 2.31 | 0.66 |
| 1:A2:1327:C:H3’ | 6:BD:159:HIS:HA | 0.84 | 0.66 |
| 1:A2:1327:C:O2’ | 6:BD:187:LYS:NZ | 2.29 | 0.66 |
| 1:A2:1503:A:C3’ | 22:BT:37:VAL:CB | 2.56 | 0.66 |
| 1:A2:1503:A:C8 | 21:BS:41:ARG:NH2 | 2.64 | 0.66 |
| 4:BB:36:SER:O | 4:BB:41:ALA:HB2 | 1.96 | 0.66 |
| 7:BE:108:ARG:C | 7:BE:109:PHE:N | 2.54 | 0.66 |
| 13:BK:26:ASP:C | 13:BK:27:PHE:N | 2.54 | 0.66 |
| 35:Bg:150:TRP:O | 35:Bg:152:SER:N | 2.29 | 0.66 |
| 1:A2:44:U:O3’ | 1:A2:45:U:P | 2.54 | 0.66 |
| 1:A2:89:G:O6 | 27:BY:118:ILE:HG22 | 1.92 | 0.66 |
| 1:A2:127:G:C1’ | 9:BG:183:ARG:HH21 | 2.07 | 0.66 |
| 1:A2:179:A:N6 | 9:BG:190:GLN:CG | 2.56 | 0.66 |
| 1:A2:214:G:N9 | 7:BE:133:LYS:CB | 2.49 | 0.66 |
| 1:A2:216:U:H2’ | 7:BE:129:VAL:HG21 | 1.77 | 0.66 |
| 1:A2:611:U:C3’ | 1:A2:612:U:P | 2.84 | 0.66 |
| 1:A2:627:C:N3 | 1:A2:628:G:C5 | 2.65 | 0.66 |
| 1:A2:776:G:C4’ | 27:BY:66:GLY:CA | 2.71 | 0.66 |
| 1:A2:862:A:P | 25:BW:32:LYS:CD | 2.84 | 0.66 |
| 1:A2:893:U:O4 | 1:A2:919:A:N6 | 2.29 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:896:U:H2' | 17:BO:18:ARG:HB2 | 1.77 | 0.66 |
| 1:A2:1018:U:O2' | 16:BN:107:LYS:HD3 | 1.95 | 0.66 |
| 1:A2:1300:A:C8 | 5:BC:86:VAL:CB | 2.78 | 0.66 |
| 1:A2:1523:G:C8 | 22:BT:79:LEU:CD2 | 2.73 | 0.66 |
| 1:A2:1592:A:P | 22:BT:93:HIS:HB3 | 2.36 | 0.66 |
| 1:A2:1637:C:O3' | 1:A2:1638:G:P | 2.54 | 0.66 |
| 1:A2:1748:G:C3' | 1:A2:1749:A:P | 2.84 | 0.66 |
| 3:BA:108:THR:C | 3:BA:109:ASN:HB2 | 2.21 | 0.66 |
| 7:BE:140:VAL:HA | 7:BE:141:THR:HG23 | 1.78 | 0.66 |
| 12:BJ:49:LEU:HD11 | 12:BJ:99:LEU:O | 1.96 | 0.66 |
| 12:BJ:134:ILE:O | 12:BJ:135:ALA:N | 2.29 | 0.66 |
| 26:BX:75:GLN:HA | 26:BX:76:LEU:N | 2.11 | 0.66 |
| 1:A2:31:C:C2' | 26:BX:138:GLU:CB | 2.74 | 0.65 |
| 1:A2:141:U:C5 | 9:BG:173:PRO:CG | 2.79 | 0.65 |
| 1:A2:322:G:C2' | 11:BI:9:HIS:CD2 | 2.79 | 0.65 |
| 1:A2:395:U:C1' | 9:BG:93:LYS:NZ | 2.58 | 0.65 |
| 1:A2:585:A:C8 | 33:Be:17:GLN:HA | 2.22 | 0.65 |
| 1:A2:759:U:H3 | 12:BJ:7:THR:CA | 2.08 | 0.65 |
| 1:A2:786:C:C4' | 27:BY:26:ASP:OD1 | 2.43 | 0.65 |
| 1:A2:804:A:N3 | 25:BW:83:ILE:C | 2.54 | 0.65 |
| 1:A2:901:G:H5' | 17:BO:86:THR:CG2 | 2.08 | 0.65 |
| 1:A2:919:A:H5' | 4:BB:83:LYS:NZ | 2.11 | 0.65 |
| 1:A2:1095:U:OP1 | 5:BC:166:THR:CA | 2.35 | 0.65 |
| 1:A2:1102:G:N9 | 26:BX:7:ARG:NE | 2.44 | 0.65 |
| 1:A2:1399:C:OP2 | 20:BR:67:ARG:CA | 2.43 | 0.65 |
| 1:A2:1429:G:C2 | 23:BU:72:ASN:O | 2.49 | 0.65 |
| 1:A2:1507:G:OP2 | 1:A2:1507:G:H8 | 1.77 | 0.65 |
| 1:A2:1614:A:OP2 | 8:BF:84:LYS:CE | 2.44 | 0.65 |
| 1:A2:1625:C:P | 5:BC:91:ARG:CZ | 2.84 | 0.65 |
| 1:A2:1675:C:OP2 | 9:BG:76:LEU:N | 2.26 | 0.65 |
| 1:A2:1788:G:H3' | 1:A2:1789:G:P | 2.36 | 0.65 |
| 3:BA:141:ILE:HG22 | 3:BA:141:ILE:O | 1.96 | 0.65 |
| 21:BS:45:LEU:HD21 | 21:BS:81:ILE:HB | 1.77 | 0.65 |
| 22:BT:16:ASN:HA | 22:BT:19:ALA:HB2 | 1.77 | 0.65 |
| 29:Ba:45:VAL:O | 29:Ba:46:GLU:N | 2.30 | 0.65 |
| 1:A2:3:U:C1' | 12:BJ:19:TYR:O | 2.43 | 0.65 |
| 1:A2:436:A:C8 | 26:BX:50:LYS:HD3 | 2.31 | 0.65 |
| 1:A2:741:C:N4 | 7:BE:206:ASP:CG | 2.55 | 0.65 |
| 1:A2:778:G:C2 | 27:BY:35:VAL:HG23 | 2.31 | 0.65 |
| 1:A2:807:A:OP1 | 25:BW:124:LYS:HG2 | 1.96 | 0.65 |
| 1:A2:959:U:H4' | 25:BW:59:GLY:HA2 | 1.78 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1023:A:O3' | 1:A2:1024:U:P | 2.54 | 0.65 |
| 1:A2:1220:C:H6 | 1:A2:1220:C:O5' | 1.77 | 0.65 |
| 1:A2:1340:U:OP1 | 1:A2:1340:U:H3' | 1.96 | 0.65 |
| 1:A2:1370:U:H2' | 22:BT:119:LYS:HE3 | 1.71 | 0.65 |
| 1:A2:1565:C:C2' | 21:BS:39:GLY:CA | 2.68 | 0.65 |
| 1:A2:1583:A:OP1 | 19:BQ:135:ARG:NH2 | 2.28 | 0.65 |
| 1:A2:1591:C:O5' | 22:BT:93:HIS:N | 2.27 | 0.65 |
| 1:A2:1680:G:O3' | 1:A2:1681:A:H5' | 1.95 | 0.65 |
| 3:BA:120:LEU:HD22 | 3:BA:142:PRO:HB2 | 1.78 | 0.65 |
| 5:BC:116:LYS:C | 5:BC:117:THR:N | 2.53 | 0.65 |
| 35:Bg:309:VAL:C | 35:Bg:310:ILE:N | 2.54 | 0.65 |
| 1:A2:117:U:H2' | 1:A2:118:U:O4' | 1.96 | 0.65 |
| 1:A2:139:C:H2' | 9:BG:138:ALA:H | 1.36 | 0.65 |
| 1:A2:149:C:H3' | 27:BY:130:ALA:HB3 | 1.78 | 0.65 |
| 1:A2:360:A:O2' | 1:A2:361:C:O3' | 2.09 | 0.65 |
| 1:A2:583:C:OP1 | 33:Be:14:VAL:HG11 | 1.89 | 0.65 |
| 1:A2:701:U:C4 | 7:BE:175:PHE:O | 2.50 | 0.65 |
| 1:A2:703:G:H2' | 7:BE:230:GLU:N | 2.10 | 0.65 |
| 1:A2:760:A:H1' | 12:BJ:9:SER:N | 2.10 | 0.65 |
| 1:A2:775:G:N1 | 27:BY:61:ARG:N | 2.44 | 0.65 |
| 1:A2:777:C:O5' | 27:BY:29:HIS:ND1 | 2.28 | 0.65 |
| 1:A2:812:A:H2 | 10:BH:111:LYS:CG | 1.95 | 0.65 |
| 1:A2:864:U:C5' | 25:BW:6:VAL:HG12 | 2.26 | 0.65 |
| 1:A2:864:U:O5' | 25:BW:6:VAL:HG12 | 1.96 | 0.65 |
| 1:A2:899:G:H5" | 17:BO:45:GLY:N | 2.12 | 0.65 |
| 1:A2:917:U:N1 | 17:BO:84:ARG:NH1 | 2.44 | 0.65 |
| 1:A2:1037:C:O3' | 25:BW:15:ASN:HB3 | 1.95 | 0.65 |
| 1:A2:1103:U:C4' | 26:BX:15:LEU:HD22 | 2.26 | 0.65 |
| 1:A2:1104:U:C6 | 26:BX:18:HIS:CD2 | 2.82 | 0.65 |
| 1:A2:1136:U:O2 | 26:BX:62:LYS:NZ | 2.29 | 0.65 |
| 1:A2:1144:U:C4 | 5:BC:89:GLN:NE2 | 2.64 | 0.65 |
| 1:A2:1546:G:H4' | 21:BS:105:VAL:O | 1.97 | 0.65 |
| 1:A2:1601:G:C8 | 22:BT:89:ARG:CB | 2.79 | 0.65 |
| 13:BK:42:VAL:O | 13:BK:44:LYS:N | 2.29 | 0.65 |
| 1:A2:56:U:H3 | 27:BY:113:ASN:CG | 2.05 | 0.65 |
| 1:A2:58:U:H6 | 27:BY:114:ARG:HB3 | 1.61 | 0.65 |
| 1:A2:91:G:N3 | 27:BY:113:ASN:HA | 2.10 | 0.65 |
| 1:A2:105:A:OP1 | 11:BI:21:PHE:HB2 | 1.92 | 0.65 |
| 1:A2:142:G:H8 | 9:BG:135:PRO:CA | 2.08 | 0.65 |
| 1:A2:168:A:H62 | 27:BY:124:ARG:HE | 1.44 | 0.65 |
| 1:A2:365:G:O3' | 1:A2:366:A:P | 2.54 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:410:A:O3' | 1:A2:411:C:P | 2.55 | 0.65 |
| 1:A2:633:U:C3' | 1:A2:634:G:P | 2.82 | 0.65 |
| 1:A2:812:A:H5' | 10:BH:108:GLN:CD | 1.93 | 0.65 |
| 1:A2:1103:U:H5' | 26:BX:15:LEU:CD1 | 2.23 | 0.65 |
| 1:A2:1137:A:C3' | 26:BX:64:PRO:HD3 | 2.27 | 0.65 |
| 1:A2:1183:A:N7 | 18:BP:125:PRO:HD3 | 2.10 | 0.65 |
| 1:A2:1242:A:O5' | 18:BP:94:VAL:CG2 | 2.41 | 0.65 |
| 1:A2:1298:U:H5' | 5:BC:115:ILE:HG21 | 1.76 | 0.65 |
| 1:A2:1385:G:OP2 | 23:BU:35:GLU:HG3 | 1.41 | 0.65 |
| 1:A2:1555:A:H1' | 18:BP:115:TYR:CZ | 2.31 | 0.65 |
| 1:A2:1797:A:C2' | 29:Ba:94:ASN:H | 2.04 | 0.65 |
| 2:AZ:6106:A:O2' | 8:BF:223:SER:O | 2.14 | 0.65 |
| 2:AZ:6107:U:OP2 | 8:BF:220:VAL:O | 2.12 | 0.65 |
| 3:BA:53:THR:OG1 | 20:BR:105:GLN:HG3 | 1.96 | 0.65 |
| 5:BC:157:LYS:C | 5:BC:158:THR:HA | 2.21 | 0.65 |
| 10:BH:181:ILE:O | 10:BH:182:VAL:N | 2.29 | 0.65 |
| 33:Be:12:GLY:O | 33:Be:14:VAL:N | 2.27 | 0.65 |
| 1:A2:14:C:C1' | 5:BC:203:LYS:HZ1 | 1.82 | 0.65 |
| 1:A2:331:A:C8 | 11:BI:31:ARG:HG3 | 1.97 | 0.65 |
| 1:A2:702:G:C4 | 7:BE:174:LYS:O | 2.50 | 0.65 |
| 1:A2:782:U:H4' | 27:BY:39:GLU:C | 2.21 | 0.65 |
| 1:A2:791:A:C4 | 12:BJ:7:THR:OG1 | 2.50 | 0.65 |
| 1:A2:807:A:O2' | 14:BL:100:TYR:OH | 2.11 | 0.65 |
| 1:A2:898:A:O4' | 17:BO:41:ARG:HG3 | 1.95 | 0.65 |
| 1:A2:919:A:OP1 | 4:BB:107:THR:HG22 | 1.92 | 0.65 |
| 1:A2:956:C:O3' | 30:Bb:22:LYS:HE2 | 1.96 | 0.65 |
| 1:A2:960:U:H3' | 1:A2:961:U:OP2 | 1.97 | 0.65 |
| 1:A2:1050:G:C3' | 30:Bb:13:ALA:C | 2.67 | 0.65 |
| 1:A2:1504:G:N7 | 22:BT:37:VAL:HG23 | 2.11 | 0.65 |
| 1:A2:1531:G:O6 | 28:BZ:97:LYS:CG | 2.43 | 0.65 |
| 1:A2:1555:A:N7 | 18:BP:40:ARG:HD3 | 2.11 | 0.65 |
| 1:A2:1788:G:O2' | 1:A2:1789:G:O4' | 2.14 | 0.65 |
| 1:A2:1796:C:C4 | 29:Ba:89:ARG:NH1 | 2.60 | 0.65 |
| 3:BA:122:ILE:O | 3:BA:123:VAL:HB | 1.96 | 0.65 |
| 4:BB:30:PHE:HB3 | 4:BB:96:LEU:HD22 | 1.77 | 0.65 |
| 7:BE:234:PRO:O | 7:BE:236:ILE:N | 2.29 | 0.65 |
| 11:BI:96:LEU:C | 11:BI:97:THR:HG22 | 2.21 | 0.65 |
| 1:A2:113:U:O4 | 7:BE:5:PRO:HA | 1.97 | 0.65 |
| 1:A2:335:U:C3' | 11:BI:27:PHE:O | 2.44 | 0.65 |
| 1:A2:335:U:H2' | 11:BI:27:PHE:O | 1.96 | 0.65 |
| 1:A2:347:G:C5 | 11:BI:16:ALA:N | 2.65 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:595:G:H22 | 26:BX:139:LYS:N | 1.92 | 0.65 |
| 1:A2:597:G:C5' | 26:BX:133:LEU:HD21 | 2.27 | 0.65 |
| 1:A2:598:U:O4' | 26:BX:132:LEU:C | 2.39 | 0.65 |
| 1:A2:617:U:C6 | 1:A2:1093:A:N7 | 2.64 | 0.65 |
| 1:A2:698:U:H6 | 7:BE:207:LEU:HB2 | 1.52 | 0.65 |
| 1:A2:753:A:OP1 | 7:BE:17:HIS:N | 2.30 | 0.65 |
| 1:A2:778:G:O4' | 27:BY:32:ARG:CZ | 2.43 | 0.65 |
| 1:A2:799:A:O3' | 7:BE:186:GLY:CA | 2.38 | 0.65 |
| 1:A2:898:A:P | 17:BO:28:VAL:O | 2.54 | 0.65 |
| 1:A2:1241:G:C1' | 18:BP:96:ILE:HD11 | 2.26 | 0.65 |
| 1:A2:1252:C:C3' | 34:Bf:137:ASP:N | 2.60 | 0.65 |
| 1:A2:1260:U:H3' | 34:Bf:93:ALA:HB2 | 1.77 | 0.65 |
| 1:A2:1390:U:O2' | 1:A2:1391:A:C8 | 2.49 | 0.65 |
| 1:A2:1685:G:C8 | 9:BG:51:LYS:NZ | 2.56 | 0.65 |
| 1:A2:1715:G:C6 | 1:A2:1716:C:N3 | 2.65 | 0.65 |
| 3:BA:120:LEU:HD22 | 3:BA:142:PRO:CB | 2.26 | 0.65 |
| 4:BB:169:SER:O | 4:BB:172:LEU:N | 2.29 | 0.65 |
| 5:BC:99:LYS:C | 5:BC:100:ALA:N | 2.54 | 0.65 |
| 14:BL:37:ASN:O | 14:BL:39:GLY:N | 2.29 | 0.65 |
| 25:BW:75:ILE:HG23 | 25:BW:76:SER:HA | 1.77 | 0.65 |
| 35:Bg:100:TYR:N | 35:Bg:100:TYR:HD1 | 1.94 | 0.65 |
| 1:A2:163:G:H4' | 9:BG:1:MET:CB | 2.25 | 0.65 |
| 1:A2:591:A:H62 | 33:Be:23:LYS:HD3 | 1.61 | 0.65 |
| 1:A2:741:C:O2 | 7:BE:199:GLU:CG | 2.44 | 0.65 |
| 1:A2:804:A:N1 | 25:BW:82:LYS:HB2 | 2.11 | 0.65 |
| 1:A2:811:A:O2' | 1:A2:812:A:P | 2.55 | 0.65 |
| 1:A2:832:U:O5' | 9:BG:216:LEU:HD13 | 1.97 | 0.65 |
| 1:A2:1096:C:H4' | 5:BC:168:ARG:CB | 2.26 | 0.65 |
| 1:A2:1102:G:N3 | 26:BX:7:ARG:HD3 | 2.12 | 0.65 |
| 1:A2:1299:G:C1' | 5:BC:84:LYS:HG3 | 2.26 | 0.65 |
| 1:A2:1382:A:C1' | 23:BU:58:LEU:HA | 2.24 | 0.65 |
| 1:A2:1549:C:P | 21:BS:97:ASP:OD1 | 2.54 | 0.65 |
| 1:A2:127:G:N2 | 9:BG:183:ARG:HB3 | 2.11 | 0.65 |
| 1:A2:449:C:N3 | 27:BY:109:LYS:N | 2.45 | 0.65 |
| 1:A2:702:G:H8 | 7:BE:176:ASP:HB2 | 1.62 | 0.65 |
| 1:A2:734:A:O3' | 7:BE:244:ILE:HD12 | 1.97 | 0.65 |
| 1:A2:780:A:N6 | 27:BY:32:ARG:O | 2.30 | 0.65 |
| 1:A2:864:U:H4' | 25:BW:6:VAL:O | 1.96 | 0.65 |
| 1:A2:954:G:H8 | 16:BN:2:GLY:CA | 2.08 | 0.65 |
| 1:A2:970:A:O4' | 26:BX:17:VAL:HG12 | 1.97 | 0.65 |
| 1:A2:1041:G:H5' | 24:BV:62:ARG:CA | 2.26 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1055:U:P | 3:BA:46:HIS:C | 2.80 | 0.65 |
| 1:A2:1400:A:H5' | 20:BR:53:TYR:CE2 | 2.28 | 0.65 |
| 1:A2:1573:A:N6 | 8:BF:184:PHE:CD1 | 2.54 | 0.65 |
| 1:A2:1689:A:H2' | 1:A2:1690:G:H8 | 1.61 | 0.65 |
| 1:A2:1795:U:C2' | 29:Ba:4:LYS:HE2 | 2.23 | 0.65 |
| 35:Bg:306:THR:HG1 | 35:Bg:307:ASP:N | 1.95 | 0.65 |
| 1:A2:30:G:N7 | 26:BX:130:VAL:O | 2.30 | 0.65 |
| 1:A2:90:C:H42 | 27:BY:118:ILE:H | 1.45 | 0.65 |
| 1:A2:127:G:H1' | 9:BG:183:ARG:HE | 1.60 | 0.65 |
| 1:A2:239:C:C5' | 9:BG:210:GLN:CG | 2.75 | 0.65 |
| 1:A2:736:C:C6 | 7:BE:181:VAL:CG1 | 2.68 | 0.65 |
| 1:A2:827:C:C5 | 1:A2:828:U:C5 | 2.85 | 0.65 |
| 1:A2:858:G:C2' | 10:BH:106:SER:OG | 2.44 | 0.65 |
| 1:A2:896:U:O2' | 17:BO:18:ARG:HG3 | 1.97 | 0.65 |
| 1:A2:897:C:C5 | 17:BO:38:THR:CB | 2.80 | 0.65 |
| 1:A2:1098:U:C6 | 5:BC:198:THR:HG22 | 2.32 | 0.65 |
| 1:A2:1100:G:O2' | 25:BW:92:ASN:OD1 | 2.14 | 0.65 |
| 1:A2:1384:A:H4' | 23:BU:35:GLU:HG2 | 1.77 | 0.65 |
| 1:A2:1452:U:H2' | 18:BP:117:GLY:C | 2.20 | 0.65 |
| 1:A2:1454:G:H22 | 18:BP:123:TYR:N | 0.74 | 0.65 |
| 1:A2:1473:U:C2 | 8:BF:190:ILE:HB | 2.32 | 0.65 |
| 1:A2:1504:G:P | 22:BT:33:TYR:O | 2.54 | 0.65 |
| 1:A2:1565:C:H5" | 21:BS:44:ASN:N | 2.10 | 0.65 |
| 19:BQ:128:LYS:C | 19:BQ:129:PHE:C | 2.64 | 0.65 |
| 22:BT:6:VAL:HG13 | 22:BT:67:MET:HE1 | 1.78 | 0.65 |
| 1:A2:14:C:C3' | 5:BC:205:ARG:CZ | 2.48 | 0.65 |
| 1:A2:129:U:O4 | 9:BG:177:ARG:CD | 2.33 | 0.65 |
| 1:A2:585:A:O5' | 33:Be:17:GLN:HA | 1.96 | 0.65 |
| 1:A2:730:G:H2' | 1:A2:730:G:N3 | 2.10 | 0.65 |
| 1:A2:777:C:H5' | 27:BY:32:ARG:N | 2.12 | 0.65 |
| 1:A2:799:A:C2' | 7:BE:186:GLY:HA2 | 2.27 | 0.65 |
| 1:A2:894:U:P | 1:A2:895:G:OP2 | 2.55 | 0.65 |
| 1:A2:943:C:C5 | 29:Ba:15:ARG:C | 2.75 | 0.65 |
| 1:A2:968:U:C4 | 26:BX:6:PRO:HB3 | 1.36 | 0.65 |
| 1:A2:1037:C:C4' | 25:BW:15:ASN:HB3 | 2.26 | 0.65 |
| 1:A2:1082:C:H2' | 5:BC:216:VAL:HG12 | 1.77 | 0.65 |
| 1:A2:1085:G:N9 | 5:BC:163:GLY:HA3 | 2.12 | 0.65 |
| 1:A2:1242:A:C5' | 18:BP:60:LEU:CD2 | 2.74 | 0.65 |
| 1:A2:1399:C:O5' | 20:BR:67:ARG:HB2 | 1.97 | 0.65 |
| 1:A2:1454:G:N7 | 18:BP:81:ARG:NH2 | 2.44 | 0.65 |
| 1:A2:1477:G:C5' | 22:BT:48:GLN:NE2 | 2.50 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1558:U:C6 | 21:BS:133:VAL:HG23 | 2.13 | 0.65 |
| 1:A2:1614:A:OP2 | 8:BF:84:LYS:NZ | 2.28 | 0.65 |
| 1:A2:1709:C:OP1 | 9:BG:9:VAL:HA | 1.96 | 0.65 |
| 11:BI:27:PHE:O | 11:BI:27:PHE:HD1 | 1.80 | 0.65 |
| 30:Bb:35:VAL:N | 30:Bb:43:ILE:HG22 | 2.11 | 0.65 |
| 1:A2:56:U:H3 | 27:BY:113:ASN:CB | 2.10 | 0.64 |
| 1:A2:58:U:C1' | 27:BY:114:ARG:HB3 | 2.26 | 0.64 |
| 1:A2:397:A:H3' | 9:BG:88:ARG:HE | 1.59 | 0.64 |
| 1:A2:495:C:H3' | 1:A2:496:G:O4' | 1.97 | 0.64 |
| 1:A2:638:U:P | 25:BW:106:THR:OG1 | 2.55 | 0.64 |
| 1:A2:814:A:C5 | 1:A2:816:G:C8 | 2.85 | 0.64 |
| 1:A2:863:A:P | 25:BW:6:VAL:HG11 | 2.37 | 0.64 |
| 1:A2:898:A:N1 | 1:A2:911:U:O2' | 2.31 | 0.64 |
| 1:A2:1050:G:N7 | 30:Bb:17:ARG:CD | 2.60 | 0.64 |
| 1:A2:1243:G:H1 | 18:BP:61:ARG:NH2 | 1.82 | 0.64 |
| 1:A2:1292:G:H3' | 1:A2:1293:U:P | 2.36 | 0.64 |
| 1:A2:1298:U:C5' | 5:BC:115:ILE:HG21 | 2.27 | 0.64 |
| 1:A2:1403:C:H5' | 20:BR:4:VAL:HG23 | 1.78 | 0.64 |
| 1:A2:1453:G:C2' | 18:BP:118:GLU:O | 2.32 | 0.64 |
| 1:A2:1470:C:O3' | 8:BF:185:ARG:HG3 | 1.97 | 0.64 |
| 1:A2:1584:G:C3' | 19:BQ:124:PRO:HA | 2.24 | 0.64 |
| 1:A2:1591:C:H5' | 22:BT:93:HIS:CA | 2.25 | 0.64 |
| 1:A2:1611:A:N7 | 1:A2:1612:U:C5 | 2.65 | 0.64 |
| 5:BC:42:GLY:O | 5:BC:44:LEU:N | 2.30 | 0.64 |
| 13:BK:12:HIS:CB | 13:BK:76:LEU:HD11 | 2.27 | 0.64 |
| 25:BW:28:ARG:HB3 | 25:BW:29:PRO:CD | 2.27 | 0.64 |
| 25:BW:124:LYS:C | 25:BW:125:ILE:N | 2.56 | 0.64 |
| 1:A2:164:A:N3 | 9:BG:15:THR:HB | 2.12 | 0.64 |
| 1:A2:312:A:OP2 | 26:BX:24:TRP:HH2 | 1.81 | 0.64 |
| 1:A2:334:G:P | 11:BI:47:ARG:HH11 | 2.20 | 0.64 |
| 1:A2:638:U:C2 | 25:BW:107:SER:CB | 2.80 | 0.64 |
| 1:A2:751:G:H2' | 1:A2:752:A:O4' | 1.97 | 0.64 |
| 1:A2:760:A:N6 | 12:BJ:6:ARG:NH1 | 2.45 | 0.64 |
| 1:A2:800:U:C3' | 1:A2:801:G:P | 2.86 | 0.64 |
| 1:A2:894:U:O2' | 1:A2:895:G:O4' | 2.15 | 0.64 |
| 1:A2:1055:U:H5' | 3:BA:46:HIS:HA | 1.75 | 0.64 |
| 1:A2:1083:G:N3 | 5:BC:161:LYS:HB3 | 2.11 | 0.64 |
| 1:A2:1096:C:C3' | 5:BC:166:THR:C | 2.69 | 0.64 |
| 1:A2:1227:A:H2' | 34:Bf:100:ALA:CB | 2.27 | 0.64 |
| 1:A2:1298:U:H2' | 5:BC:99:LYS:CG | 2.26 | 0.64 |
| 1:A2:1329:A:C6 | 6:BD:160:SER:O | 2.48 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1563:C:H5” | 22:BT:44:GLU:HA | 1.79 | 0.64 |
| 1:A2:1583:A:P | 19:BQ:135:ARG:HH22 | 2.19 | 0.64 |
| 2:AZ:6029:A:C2 | 2:AZ:6030:U:C4 | 2.84 | 0.64 |
| 11:BI:170:SER:O | 11:BI:171:SER:N | 2.30 | 0.64 |
| 14:BL:56:LYS:C | 14:BL:57:LYS:N | 2.55 | 0.64 |
| 1:A2:139:C:H2’ | 9:BG:137:ARG:HA | 0.92 | 0.64 |
| 1:A2:632:U:C1’ | 26:BX:15:LEU:HG | 2.10 | 0.64 |
| 1:A2:737:A:C4’ | 7:BE:158:ASP:CA | 2.75 | 0.64 |
| 1:A2:737:A:O4’ | 7:BE:158:ASP:CA | 2.45 | 0.64 |
| 1:A2:776:G:H1 | 27:BY:35:VAL:HG13 | 1.62 | 0.64 |
| 1:A2:814:A:O5’ | 10:BH:110:GLN:N | 2.30 | 0.64 |
| 1:A2:872:G:H22 | 16:BN:11:ILE:CD1 | 2.07 | 0.64 |
| 1:A2:915:A:H2 | 17:BO:27:PHE:CE2 | 2.07 | 0.64 |
| 1:A2:957:G:N2 | 30:Bb:21:LEU:HD21 | 2.07 | 0.64 |
| 1:A2:1211:A:C2 | 18:BP:120:SER:OG | 2.45 | 0.64 |
| 1:A2:1294:G:N1 | 1:A2:1295:G:C6 | 2.65 | 0.64 |
| 1:A2:1299:G:H2’ | 5:BC:86:VAL:HG13 | 1.80 | 0.64 |
| 1:A2:1559:A:OP1 | 21:BS:133:VAL:C | 2.39 | 0.64 |
| 7:BE:11:ARG:C | 7:BE:12:LEU:N | 2.56 | 0.64 |
| 1:A2:395:U:O5’ | 9:BG:93:LYS:HG3 | 1.93 | 0.64 |
| 1:A2:749:U:O3’ | 1:A2:750:U:O5’ | 2.14 | 0.64 |
| 1:A2:784:C:C3’ | 27:BY:40:LEU:HD11 | 2.28 | 0.64 |
| 1:A2:804:A:C4 | 25:BW:82:LYS:C | 2.76 | 0.64 |
| 1:A2:865:A:C5’ | 25:BW:8:ALA:N | 2.60 | 0.64 |
| 1:A2:1054:U:H2’ | 3:BA:37:VAL:N | 2.12 | 0.64 |
| 1:A2:1057:U:H3’ | 3:BA:41:ARG:HA | 1.78 | 0.64 |
| 1:A2:1202:A:H3’ | 1:A2:1203:A:P | 2.38 | 0.64 |
| 1:A2:1212:G:C5 | 18:BP:99:GLY:N | 2.64 | 0.64 |
| 1:A2:1279:C:N4 | 23:BU:72:ASN:OD1 | 2.31 | 0.64 |
| 1:A2:1538:U:O4 | 8:BF:185:ARG:CA | 2.45 | 0.64 |
| 1:A2:1651:A:H2’ | 1:A2:1652:C:C6 | 2.33 | 0.64 |
| 5:BC:96:THR:C | 5:BC:97:ARG:N | 2.43 | 0.64 |
| 7:BE:103:TYR:C | 7:BE:104:ASP:HA | 2.23 | 0.64 |
| 7:BE:192:ILE:HB | 7:BE:193:GLY:HA3 | 1.78 | 0.64 |
| 1:A2:335:U:C1’ | 11:BI:27:PHE:O | 2.45 | 0.64 |
| 1:A2:733:A:H1’ | 7:BE:194:THR:CB | 2.27 | 0.64 |
| 1:A2:765:G:O6 | 12:BJ:132:ARG:CB | 2.46 | 0.64 |
| 1:A2:804:A:C2 | 25:BW:82:LYS:C | 2.75 | 0.64 |
| 1:A2:814:A:C2 | 10:BH:109:VAL:N | 2.41 | 0.64 |
| 1:A2:1037:C:C3’ | 1:A2:1038:U:P | 2.85 | 0.64 |
| 1:A2:1095:U:C4’ | 5:BC:159:THR:OG1 | 2.46 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1211:A:H1' | 18:BP:103:ASN:HD21 | 1.61 | 0.64 |
| 1:A2:1218:G:C6 | 34:Bf:91:LYS:HA | 2.32 | 0.64 |
| 1:A2:1291:G:N1 | 1:A2:1325:A:C6 | 2.66 | 0.64 |
| 1:A2:1327:C:C6 | 6:BD:158:ILE:CA | 2.80 | 0.64 |
| 1:A2:1454:G:N2 | 18:BP:123:TYR:CG | 2.64 | 0.64 |
| 1:A2:1502:G:C2 | 22:BT:37:VAL:HG13 | 2.32 | 0.64 |
| 1:A2:1530:C:N3 | 28:BZ:96:SER:CA | 2.60 | 0.64 |
| 1:A2:1549:C:C5' | 21:BS:86:LEU:CD1 | 2.51 | 0.64 |
| 1:A2:1652:C:H2' | 1:A2:1653:C:C6 | 2.33 | 0.64 |
| 1:A2:1681:A:H5' | 9:BG:101:ILE:HD11 | 1.74 | 0.64 |
| 11:BI:150:ALA:HB3 | 11:BI:151:LYS:HA | 1.78 | 0.64 |
| 17:BO:54:GLU:O | 17:BO:55:SER:N | 2.30 | 0.64 |
| 29:Ba:35:ALA:C | 29:Ba:36:ILE:N | 2.55 | 0.64 |
| 1:A2:1:U:N1 | 12:BJ:12:TYR:CD1 | 2.64 | 0.64 |
| 1:A2:78:A:C2 | 9:BG:162:VAL:CB | 2.81 | 0.64 |
| 1:A2:89:G:C8 | 27:BY:120:GLY:CA | 2.79 | 0.64 |
| 1:A2:127:G:N2 | 9:BG:184:LEU:HG | 2.12 | 0.64 |
| 1:A2:141:U:O2 | 9:BG:136:LYS:HG3 | 1.97 | 0.64 |
| 1:A2:163:G:H3' | 1:A2:164:A:OP2 | 1.98 | 0.64 |
| 1:A2:178:U:O5' | 9:BG:179:VAL:CG1 | 2.45 | 0.64 |
| 1:A2:365:G:C6 | 1:A2:377:G:C2 | 2.85 | 0.64 |
| 1:A2:597:G:C1' | 26:BX:133:LEU:HD22 | 2.28 | 0.64 |
| 1:A2:598:U:O3' | 26:BX:88:PRO:CD | 2.45 | 0.64 |
| 1:A2:634:G:O6 | 26:BX:10:ASN:CG | 2.40 | 0.64 |
| 1:A2:776:G:O3' | 27:BY:66:GLY:CA | 2.43 | 0.64 |
| 1:A2:1104:U:C5 | 1:A2:1105:C:C5 | 2.86 | 0.64 |
| 1:A2:1253:U:H2' | 34:Bf:140:TYR:CZ | 2.32 | 0.64 |
| 1:A2:1535:U:O5' | 28:BZ:67:ASP:OD1 | 2.02 | 0.64 |
| 1:A2:1546:G:H4' | 21:BS:105:VAL:C | 2.23 | 0.64 |
| 1:A2:1600:A:O2' | 22:BT:86:ARG:NH2 | 2.31 | 0.64 |
| 24:BV:26:ALA:C | 24:BV:27:ASP:HA | 2.23 | 0.64 |
| 27:BY:55:VAL:HG12 | 27:BY:74:LEU:O | 1.97 | 0.64 |
| 32:Bd:40:ARG:C | 32:Bd:41:GLN:N | 2.55 | 0.64 |
| 1:A2:57:G:H21 | 27:BY:112:LYS:HA | 1.61 | 0.64 |
| 1:A2:216:U:N1 | 7:BE:129:VAL:CG2 | 2.59 | 0.64 |
| 1:A2:334:G:P | 11:BI:26:LYS:HZ1 | 2.13 | 0.64 |
| 1:A2:351:C:O4' | 26:BX:16:ARG:NH2 | 2.30 | 0.64 |
| 1:A2:395:U:OP1 | 9:BG:92:ARG:HA | 1.98 | 0.64 |
| 1:A2:396:G:C5 | 9:BG:88:ARG:HG2 | 2.26 | 0.64 |
| 1:A2:457:G:H22 | 27:BY:109:LYS:CA | 2.09 | 0.64 |
| 1:A2:737:A:O3' | 7:BE:126:VAL:O | 2.14 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:778:G:OP1 | 27:BY:30:PRO:N | 2.31 | 0.64 |
| 1:A2:785:U:P | 27:BY:44:LEU:HD11 | 2.36 | 0.64 |
| 1:A2:786:C:P | 27:BY:25:VAL:N | 2.70 | 0.64 |
| 1:A2:863:A:OP1 | 25:BW:30:SER:O | 2.15 | 0.64 |
| 1:A2:896:U:OP2 | 17:BO:34:SER:N | 1.97 | 0.64 |
| 1:A2:896:U:C6 | 17:BO:31:THR:HG21 | 2.32 | 0.64 |
| 1:A2:900:A:O3' | 17:BO:20:TYR:CE1 | 2.50 | 0.64 |
| 1:A2:936:G:O3' | 1:A2:937:C:P | 2.56 | 0.64 |
| 1:A2:952:A:C3' | 16:BN:5:HIS:CG | 2.80 | 0.64 |
| 1:A2:1055:U:C5' | 3:BA:46:HIS:C | 2.68 | 0.64 |
| 1:A2:1067:C:H5" | 3:BA:31:VAL:HG13 | 1.78 | 0.64 |
| 1:A2:1145:U:P | 5:BC:89:GLN:N | 2.71 | 0.64 |
| 1:A2:1241:G:P | 18:BP:104:GLN:CB | 2.86 | 0.64 |
| 1:A2:1298:U:C2' | 5:BC:99:LYS:CG | 2.72 | 0.64 |
| 4:BB:214:LYS:C | 4:BB:215:VAL:HG12 | 2.21 | 0.64 |
| 1:A2:58:U:H6 | 27:BY:114:ARG:CG | 2.11 | 0.64 |
| 1:A2:84:A:H3' | 1:A2:85:A:OP2 | 1.96 | 0.64 |
| 1:A2:322:G:N1 | 1:A2:337:G:C5 | 2.66 | 0.64 |
| 1:A2:328:A:H5" | 11:BI:172:ARG:CZ | 2.28 | 0.64 |
| 1:A2:740:A:C4 | 7:BE:198:LYS:HE2 | 2.20 | 0.64 |
| 1:A2:787:G:H21 | 27:BY:61:ARG:HD3 | 1.61 | 0.64 |
| 1:A2:811:A:H2 | 10:BH:107:ARG:C | 2.06 | 0.64 |
| 1:A2:859:A:H2' | 10:BH:101:LYS:CE | 2.23 | 0.64 |
| 1:A2:887:A:O3' | 1:A2:888:U:P | 2.55 | 0.64 |
| 1:A2:959:U:O2' | 25:BW:56:HIS:CD2 | 2.51 | 0.64 |
| 1:A2:968:U:O3' | 26:BX:4:GLY:C | 2.41 | 0.64 |
| 1:A2:1246:C:C2 | 18:BP:77:ARG:N | 2.65 | 0.64 |
| 1:A2:1327:C:O4' | 6:BD:159:HIS:CD2 | 1.78 | 0.64 |
| 1:A2:1499:G:C8 | 22:BT:102:ARG:O | 2.50 | 0.64 |
| 1:A2:1532:U:H3' | 28:BZ:77:ARG:CA | 2.27 | 0.64 |
| 1:A2:1563:C:H5' | 22:BT:38:LYS:HZ1 | 0.63 | 0.64 |
| 1:A2:1566:U:O2' | 21:BS:35:ILE:C | 2.40 | 0.64 |
| 1:A2:1721:A:C4 | 9:BG:67:VAL:HG23 | 2.32 | 0.64 |
| 1:A2:1798:U:H5 | 29:Ba:94:ASN:ND2 | 1.95 | 0.64 |
| 4:BB:129:THR:OG1 | 4:BB:133:TYR:N | 2.31 | 0.64 |
| 6:BD:64:ARG:HD3 | 13:BK:90:THR:CB | 2.28 | 0.64 |
| 30:Bb:58:SER:HG | 30:Bb:59:CYS:N | 1.95 | 0.64 |
| 1:A2:56:U:N3 | 27:BY:113:ASN:CB | 2.60 | 0.64 |
| 1:A2:381:C:C2' | 12:BJ:2:PRO:HD2 | 2.28 | 0.64 |
| 1:A2:589:C:C5 | 33:Be:21:VAL:HG21 | 2.32 | 0.64 |
| 1:A2:601:A:N7 | 26:BX:105:ALA:CB | 2.53 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:804:A:C5' | 25:BW:120:HIS:O | 2.42 | 0.64 |
| 1:A2:946:U:C4' | 4:BB:158:SER:HB3 | 2.27 | 0.64 |
| 1:A2:952:A:H2' | 16:BN:6:SER:N | 2.13 | 0.64 |
| 1:A2:1159:C:C2 | 19:BQ:140:LYS:NZ | 2.62 | 0.64 |
| 1:A2:1242:A:C5' | 18:BP:89:MET:HE1 | 2.21 | 0.64 |
| 1:A2:1459:C:OP1 | 21:BS:131:LEU:HD23 | 1.98 | 0.64 |
| 2:AZ:6218:U:N1 | 6:BD:146:ARG:HD3 | 2.13 | 0.64 |
| 5:BC:62:PRO:C | 5:BC:63:VAL:HG22 | 2.22 | 0.64 |
| 8:BF:46:TRP:HB3 | 8:BF:130:ILE:HD13 | 1.79 | 0.64 |
| 8:BF:129:PRO:O | 8:BF:133:VAL:HG23 | 1.98 | 0.64 |
| 8:BF:189:THR:O | 8:BF:190:ILE:N | 2.31 | 0.64 |
| 9:BG:73:ILE:HB | 9:BG:74:ALA:N | 2.13 | 0.64 |
| 15:BM:31:VAL:HG11 | 15:BM:136:ILE:CG2 | 2.28 | 0.64 |
| 16:BN:105:ASN:HD22 | 16:BN:105:ASN:C | 2.06 | 0.64 |
| 25:BW:112:ASP:C | 25:BW:113:HIS:N | 2.55 | 0.64 |
| 26:BX:30:LYS:O | 26:BX:32:ARG:N | 2.30 | 0.64 |
| 1:A2:88:U:C2' | 27:BY:119:PHE:C | 2.68 | 0.64 |
| 1:A2:167:U:O2 | 27:BY:127:LYS:NZ | 2.31 | 0.64 |
| 1:A2:266:A:C2 | 9:BG:135:PRO:HA | 2.33 | 0.64 |
| 1:A2:331:A:H8 | 11:BI:31:ARG:CD | 1.99 | 0.64 |
| 1:A2:352:A:H62 | 26:BX:20:ARG:CZ | 2.07 | 0.64 |
| 1:A2:811:A:C8 | 10:BH:104:ARG:O | 2.51 | 0.64 |
| 1:A2:956:C:N3 | 16:BN:11:ILE:HG21 | 2.09 | 0.64 |
| 1:A2:1103:U:H4' | 26:BX:15:LEU:HD22 | 1.80 | 0.64 |
| 1:A2:1274:C:OP1 | 1:A2:1428:G:OP1 | 2.15 | 0.64 |
| 1:A2:1391:A:H2' | 1:A2:1392:U:C6 | 2.32 | 0.64 |
| 1:A2:1470:C:O3' | 8:BF:185:ARG:CG | 2.46 | 0.64 |
| 2:AZ:6125:G:O6 | 2:AZ:6151:C:O2 | 2.16 | 0.64 |
| 1:A2:31:C:C1' | 26:BX:138:GLU:CA | 2.46 | 0.63 |
| 1:A2:91:G:O3' | 27:BY:112:LYS:HE3 | 1.98 | 0.63 |
| 1:A2:141:U:O2 | 9:BG:136:LYS:HD2 | 1.98 | 0.63 |
| 1:A2:149:C:H3' | 27:BY:130:ALA:CB | 2.27 | 0.63 |
| 1:A2:244:A:OP2 | 7:BE:140:VAL:CB | 2.46 | 0.63 |
| 1:A2:703:G:H2' | 7:BE:229:GLY:C | 2.24 | 0.63 |
| 1:A2:703:G:H2' | 7:BE:229:GLY:CA | 2.27 | 0.63 |
| 1:A2:737:A:C6 | 7:BE:195:ILE:CD1 | 2.78 | 0.63 |
| 1:A2:737:A:N9 | 7:BE:227:VAL:HG13 | 2.13 | 0.63 |
| 1:A2:754:A:N9 | 7:BE:12:LEU:CD2 | 2.62 | 0.63 |
| 1:A2:756:A:C8 | 12:BJ:3:ARG:C | 2.76 | 0.63 |
| 1:A2:888:U:C6 | 17:BO:123:SER:C | 2.76 | 0.63 |
| 1:A2:968:U:C3' | 26:BX:5:LYS:N | 2.60 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1085:G:C5’ | 5:BC:202:GLY:HA2 | 2.27 | 0.63 |
| 1:A2:1184:A:C5 | 18:BP:123:TYR:CD2 | 2.65 | 0.63 |
| 1:A2:1218:G:O6 | 34:Bf:91:LYS:CA | 2.47 | 0.63 |
| 1:A2:1299:G:C1’ | 5:BC:99:LYS:HB2 | 2.24 | 0.63 |
| 1:A2:1403:C:C4’ | 20:BR:2:GLY:HA3 | 2.26 | 0.63 |
| 1:A2:1453:G:C4’ | 18:BP:119:PHE:N | 2.51 | 0.63 |
| 2:AZ:6107:U:H5” | 8:BF:223:SER:HB2 | 1.79 | 0.63 |
| 2:AZ:6137:C:O2’ | 8:BF:126:ASP:CA | 2.47 | 0.63 |
| 8:BF:61:TYR:O | 8:BF:62:VAL:HG23 | 1.99 | 0.63 |
| 16:BN:33:VAL:HG21 | 16:BN:66:ILE:HG21 | 1.80 | 0.63 |
| 25:BW:24:GLN:C | 25:BW:25:VAL:HA | 2.23 | 0.63 |
| 33:Be:35:TYR:C | 33:Be:36:LYS:HA | 2.23 | 0.63 |
| 1:A2:213:A:O3’ | 7:BE:135:GLY:CA | 2.46 | 0.63 |
| 1:A2:213:A:H3’ | 7:BE:133:LYS:HA | 1.76 | 0.63 |
| 1:A2:241:U:H3 | 7:BE:136:VAL:CG1 | 2.08 | 0.63 |
| 1:A2:244:A:C3’ | 7:BE:140:VAL:HG13 | 2.29 | 0.63 |
| 1:A2:296:U:OP1 | 7:BE:33:ALA:HB3 | 1.98 | 0.63 |
| 1:A2:335:U:C4 | 11:BI:25:ARG:CB | 2.67 | 0.63 |
| 1:A2:395:U:N1 | 9:BG:91:GLU:OE2 | 2.31 | 0.63 |
| 1:A2:784:C:O4’ | 27:BY:40:LEU:HD13 | 1.98 | 0.63 |
| 1:A2:896:U:C1’ | 17:BO:18:ARG:HG3 | 2.27 | 0.63 |
| 1:A2:956:C:C6 | 16:BN:11:ILE:HG21 | 2.33 | 0.63 |
| 1:A2:959:U:H3’ | 25:BW:55:ASP:CG | 1.96 | 0.63 |
| 1:A2:1098:U:C2’ | 5:BC:198:THR:HA | 2.23 | 0.63 |
| 1:A2:1205:C:H2’ | 1:A2:1206:U:O4’ | 1.98 | 0.63 |
| 1:A2:1498:G:C5’ | 22:BT:72:GLY:HA2 | 2.17 | 0.63 |
| 1:A2:1654:G:N2 | 1:A2:1745:G:H2’ | 2.14 | 0.63 |
| 27:BY:100:VAL:HG22 | 27:BY:102:LYS:N | 2.13 | 0.63 |
| 30:Bb:19:HIS:C | 30:Bb:20:LYS:N | 2.57 | 0.63 |
| 35:Bg:261:LYS:O | 35:Bg:263:PHE:N | 2.32 | 0.63 |
| 1:A2:57:G:O2’ | 1:A2:58:U:O4’ | 2.16 | 0.63 |
| 1:A2:456:A:N3 | 27:BY:111:LYS:HB2 | 2.13 | 0.63 |
| 1:A2:639:U:P | 25:BW:108:ALA:CB | 2.87 | 0.63 |
| 1:A2:704:C:O3’ | 7:BE:230:GLU:CD | 2.41 | 0.63 |
| 1:A2:735:C:C6 | 7:BE:181:VAL:CG2 | 2.77 | 0.63 |
| 1:A2:804:A:C2 | 25:BW:85:ASP:OD1 | 2.51 | 0.63 |
| 1:A2:911:U:H4’ | 1:A2:915:A:H1’ | 1.81 | 0.63 |
| 1:A2:918:U:HO2’ | 1:A2:919:A:H8 | 1.45 | 0.63 |
| 1:A2:967:A:H2’ | 26:BX:6:PRO:CA | 2.22 | 0.63 |
| 1:A2:1086:A:N7 | 5:BC:203:LYS:HD2 | 2.12 | 0.63 |
| 1:A2:1137:A:C5’ | 26:BX:64:PRO:CD | 2.70 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1240:U:H5' | 18:BP:104:GLN:CD | 2.23 | 0.63 |
| 1:A2:1299:G:C8 | 5:BC:99:LYS:CG | 2.81 | 0.63 |
| 1:A2:1392:U:C5' | 20:BR:29:GLN:N | 2.54 | 0.63 |
| 1:A2:1471:A:C3' | 8:BF:183:ALA:C | 2.66 | 0.63 |
| 1:A2:1503:A:OP2 | 22:BT:32:GLY:O | 2.16 | 0.63 |
| 1:A2:1681:A:O2' | 9:BG:29:ASP:HA | 1.99 | 0.63 |
| 2:AZ:6108:U:O2 | 8:BF:223:SER:CA | 2.34 | 0.63 |
| 5:BC:139:ILE:HG22 | 5:BC:140:ARG:N | 2.13 | 0.63 |
| 21:BS:93:THR:HG1 | 21:BS:94:ASP:N | 1.97 | 0.63 |
| 23:BU:61:LYS:O | 23:BU:62:VAL:N | 2.31 | 0.63 |
| 23:BU:93:LEU:C | 23:BU:94:GLU:N | 2.56 | 0.63 |
| 1:A2:338:C:O2' | 11:BI:24:LYS:HD2 | 1.89 | 0.63 |
| 1:A2:569:C:H5' | 33:Be:12:GLY:CA | 2.29 | 0.63 |
| 1:A2:583:C:O2 | 33:Be:17:GLN:OE1 | 2.16 | 0.63 |
| 1:A2:676:G:H4' | 12:BJ:154:LYS:HD2 | 1.80 | 0.63 |
| 1:A2:950:C:H5" | 16:BN:94:LYS:CE | 2.28 | 0.63 |
| 1:A2:1137:A:H3' | 26:BX:64:PRO:CD | 2.28 | 0.63 |
| 1:A2:1243:G:HO2' | 18:BP:53:PRO:CB | 2.09 | 0.63 |
| 1:A2:1254:U:N1 | 34:Bf:135:HIS:CD2 | 2.60 | 0.63 |
| 1:A2:1293:U:P | 1:A2:1293:U:H6 | 2.22 | 0.63 |
| 1:A2:1326:A:P | 6:BD:158:ILE:HG23 | 2.38 | 0.63 |
| 1:A2:1591:C:C5' | 22:BT:93:HIS:HB2 | 2.27 | 0.63 |
| 1:A2:1601:G:P | 22:BT:86:ARG:CZ | 2.86 | 0.63 |
| 3:BA:117:GLU:N | 3:BA:118:PRO:HD3 | 2.13 | 0.63 |
| 16:BN:72:MET:HB3 | 16:BN:73:ARG:N | 2.14 | 0.63 |
| 24:BV:35:ASN:C | 24:BV:36:VAL:N | 2.57 | 0.63 |
| 30:Bb:35:VAL:HG11 | 30:Bb:63:LEU:HD21 | 1.80 | 0.63 |
| 30:Bb:79:PHE:O | 30:Bb:79:PHE:CD2 | 2.51 | 0.63 |
| 1:A2:434:G:O3' | 26:BX:77:ILE:CD1 | 2.46 | 0.63 |
| 1:A2:1040:G:C4' | 24:BV:62:ARG:HE | 2.12 | 0.63 |
| 1:A2:1384:A:C4' | 23:BU:35:GLU:CG | 2.57 | 0.63 |
| 1:A2:1466:G:O2' | 1:A2:1602:C:OP2 | 2.15 | 0.63 |
| 6:BD:152:PHE:C | 6:BD:153:ALA:HB2 | 2.23 | 0.63 |
| 28:BZ:75:LEU:HA | 28:BZ:78:ILE:HD12 | 1.80 | 0.63 |
| 33:Be:18:THR:O | 33:Be:20:LYS:N | 2.31 | 0.63 |
| 1:A2:78:A:N6 | 9:BG:160:ARG:CG | 2.61 | 0.63 |
| 1:A2:177:U:H1' | 9:BG:178:LEU:N | 2.10 | 0.63 |
| 1:A2:243:G:C5 | 7:BE:138:TYR:CE2 | 2.87 | 0.63 |
| 1:A2:266:A:H5" | 9:BG:136:LYS:HE2 | 1.78 | 0.63 |
| 1:A2:310:C:H5" | 26:BX:32:ARG:HG2 | 1.79 | 0.63 |
| 1:A2:318:U:C5 | 11:BI:11:ARG:NH1 | 2.63 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:338:C:C1' | 11:BI:4:SER:HB2 | 2.28 | 0.63 |
| 1:A2:448:C:H41 | 27:BY:105:ARG:H | 1.35 | 0.63 |
| 1:A2:572:C:OP2 | 26:BX:69:ARG:NE | 2.32 | 0.63 |
| 1:A2:597:G:O3' | 26:BX:136:TRP:HZ3 | 1.68 | 0.63 |
| 1:A2:736:C:C4 | 7:BE:195:ILE:CD1 | 2.81 | 0.63 |
| 1:A2:776:G:O4' | 27:BY:62:THR:CB | 2.46 | 0.63 |
| 1:A2:776:G:O6 | 27:BY:35:VAL:C | 2.40 | 0.63 |
| 1:A2:787:G:N3 | 27:BY:61:ARG:CG | 2.62 | 0.63 |
| 1:A2:832:U:C3' | 9:BG:213:ALA:HA | 2.28 | 0.63 |
| 1:A2:900:A:H8 | 17:BO:25:ASP:CB | 2.12 | 0.63 |
| 1:A2:1068:C:H5' | 3:BA:33:GLN:CB | 2.20 | 0.63 |
| 1:A2:1280:C:H2' | 1:A2:1281:G:H8 | 1.63 | 0.63 |
| 1:A2:1317:C:H5' | 20:BR:11:ARG:CB | 2.23 | 0.63 |
| 1:A2:1504:G:C6 | 21:BS:85:PHE:CD1 | 2.87 | 0.63 |
| 1:A2:1547:A:O4' | 21:BS:105:VAL:CG2 | 2.43 | 0.63 |
| 1:A2:1550:A:C8 | 21:BS:84:TRP:HA | 2.34 | 0.63 |
| 1:A2:1558:U:C5 | 21:BS:133:VAL:HG21 | 2.31 | 0.63 |
| 1:A2:1636:C:C3' | 1:A2:1637:C:P | 2.87 | 0.63 |
| 4:BB:181:LEU:O | 4:BB:185:THR:HG23 | 1.99 | 0.63 |
| 7:BE:43:PRO:HB2 | 7:BE:45:ILE:HG22 | 1.81 | 0.63 |
| 9:BG:142:ARG:HE | 9:BG:149:LYS:HA | 1.63 | 0.63 |
| 11:BI:153:GLU:O | 11:BI:155:SER:N | 2.30 | 0.63 |
| 12:BJ:42:ILE:C | 12:BJ:43:TYR:CA | 2.63 | 0.63 |
| 1:A2:87:C:OP2 | 27:BY:122:GLY:HA2 | 1.98 | 0.63 |
| 1:A2:88:U:O5' | 27:BY:119:PHE:CB | 2.38 | 0.63 |
| 1:A2:382:C:C5' | 12:BJ:2:PRO:CG | 2.76 | 0.63 |
| 1:A2:703:G:C6 | 7:BE:230:GLU:HA | 2.33 | 0.63 |
| 1:A2:741:C:C5 | 7:BE:201:HIS:HB2 | 2.26 | 0.63 |
| 1:A2:755:A:H2' | 1:A2:756:A:C8 | 2.34 | 0.63 |
| 1:A2:784:C:H1' | 27:BY:7:ILE:CG1 | 2.28 | 0.63 |
| 1:A2:873:U:C5 | 16:BN:12:SER:HB3 | 2.33 | 0.63 |
| 1:A2:1227:A:C8 | 34:Bf:100:ALA:CB | 2.81 | 0.63 |
| 1:A2:1241:G:H4' | 18:BP:107:ILE:HD11 | 1.81 | 0.63 |
| 1:A2:1252:C:H6 | 34:Bf:136:LYS:CB | 1.89 | 0.63 |
| 1:A2:1292:G:C2 | 1:A2:1324:G:N2 | 2.66 | 0.63 |
| 1:A2:1295:G:O2' | 1:A2:1321:A:C8 | 2.51 | 0.63 |
| 1:A2:1584:G:O2' | 1:A2:1610:G:O6 | 2.14 | 0.63 |
| 1:A2:1601:G:O2' | 1:A2:1602:C:P | 2.56 | 0.63 |
| 1:A2:1796:C:C5' | 29:Ba:89:ARG:O | 2.33 | 0.63 |
| 2:AZ:6137:C:O2' | 8:BF:126:ASP:N | 2.29 | 0.63 |
| 17:BO:114:ARG:NH1 | 29:Ba:59:TYR:OH | 2.32 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 19:BQ:115:THR:OG1 | 19:BQ:116:LEU:N | 2.24 | 0.63 |
| 26:BX:118:PRO:O | 26:BX:120:VAL:N | 2.32 | 0.63 |
| 35:Bg:152:SER:HG | 35:Bg:173:GLY:N | 1.96 | 0.63 |
| 1:A2:242:U:C2 | 7:BE:148:ARG:NH1 | 2.65 | 0.63 |
| 1:A2:266:A:N3 | 9:BG:135:PRO:C | 2.57 | 0.63 |
| 1:A2:352:A:H62 | 26:BX:20:ARG:HH22 | 1.36 | 0.63 |
| 1:A2:450:U:H5" | 27:BY:112:LYS:NZ | 2.14 | 0.63 |
| 1:A2:451:A:H5" | 1:A2:452:A:OP2 | 1.99 | 0.63 |
| 1:A2:870:C:H3' | 16:BN:13:SER:HB2 | 1.78 | 0.63 |
| 1:A2:896:U:O2 | 17:BO:18:ARG:CB | 2.44 | 0.63 |
| 1:A2:943:C:C4 | 29:Ba:15:ARG:C | 2.77 | 0.63 |
| 1:A2:1254:U:H6 | 34:Bf:140:TYR:CD2 | 2.06 | 0.63 |
| 1:A2:1317:C:C1' | 20:BR:7:LYS:HD3 | 2.28 | 0.63 |
| 1:A2:1500:C:C6 | 22:BT:103:LYS:HD2 | 2.34 | 0.63 |
| 1:A2:1661:U:C4 | 1:A2:1662:G:N7 | 2.67 | 0.63 |
| 4:BB:69:CYS:SG | 4:BB:70:LEU:N | 2.71 | 0.63 |
| 9:BG:81:VAL:O | 9:BG:82:SER:HA | 1.99 | 0.63 |
| 9:BG:179:VAL:O | 9:BG:180:THR:HG23 | 1.99 | 0.63 |
| 10:BH:49:ILE:O | 10:BH:57:ALA:N | 2.32 | 0.63 |
| 18:BP:60:LEU:HD21 | 18:BP:89:MET:HB2 | 1.80 | 0.63 |
| 19:BQ:71:GLY:O | 19:BQ:77:GLN:NE2 | 2.32 | 0.63 |
| 26:BX:113:ALA:C | 26:BX:114:LYS:N | 2.57 | 0.63 |
| 1:A2:636:A:O2' | 25:BW:110:ILE:HG21 | 1.88 | 0.63 |
| 1:A2:760:A:N6 | 12:BJ:6:ARG:HH12 | 1.96 | 0.63 |
| 1:A2:878:G:H21 | 16:BN:114:ARG:HG3 | 1.63 | 0.63 |
| 1:A2:922:G:H5' | 4:BB:136:ARG:CZ | 2.29 | 0.63 |
| 1:A2:1084:A:O2' | 5:BC:163:GLY:O | 2.05 | 0.63 |
| 1:A2:1210:C:O2 | 18:BP:123:TYR:C | 2.42 | 0.63 |
| 1:A2:1298:U:O2' | 5:BC:84:LYS:HE2 | 1.98 | 0.63 |
| 1:A2:1367:G:C2' | 22:BT:66:TYR:HH | 2.09 | 0.63 |
| 1:A2:1390:U:C5 | 20:BR:3:ARG:CG | 2.78 | 0.63 |
| 1:A2:1549:C:C5' | 21:BS:86:LEU:CG | 2.70 | 0.63 |
| 3:BA:110:TYR:O | 3:BA:110:TYR:HD1 | 1.82 | 0.63 |
| 8:BF:97:LEU:HD21 | 8:BF:113:ILE:HG21 | 1.79 | 0.63 |
| 25:BW:25:VAL:HG12 | 25:BW:26:LEU:N | 2.14 | 0.63 |
| 1:A2:58:U:OP2 | 27:BY:114:ARG:HD2 | 1.50 | 0.62 |
| 1:A2:580:A:O2' | 1:A2:582:U:OP1 | 2.18 | 0.62 |
| 1:A2:634:G:OP2 | 14:BL:98:ASN:O | 2.17 | 0.62 |
| 1:A2:649:U:H3' | 7:BE:256:ARG:CD | 2.29 | 0.62 |
| 1:A2:737:A:C3' | 7:BE:125:LYS:HG3 | 2.29 | 0.62 |
| 1:A2:759:U:N3 | 12:BJ:6:ARG:O | 2.32 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:776:G:O2' | 27:BY:29:HIS:HE1 | 1.62 | 0.62 |
| 1:A2:917:U:O3' | 17:BO:84:ARG:CA | 2.40 | 0.62 |
| 1:A2:1050:G:C3' | 30:Bb:13:ALA:HB3 | 2.28 | 0.62 |
| 1:A2:1505:A:H2 | 21:BS:84:TRP:CB | 2.10 | 0.62 |
| 2:AZ:6110:A:C8 | 8:BF:219:ARG:NE | 2.66 | 0.62 |
| 8:BF:63:GLN:O | 8:BF:64:VAL:N | 2.32 | 0.62 |
| 9:BG:218:GLU:O | 9:BG:222:GLU:CB | 2.47 | 0.62 |
| 22:BT:12:GLN:HA | 22:BT:15:ILE:HG12 | 1.80 | 0.62 |
| 27:BY:109:LYS:O | 27:BY:111:LYS:N | 2.32 | 0.62 |
| 1:A2:29:U:C3' | 26:BX:128:SER:HB2 | 2.28 | 0.62 |
| 1:A2:91:G:O2' | 27:BY:113:ASN:OD1 | 0.63 | 0.62 |
| 1:A2:140:A:H3' | 9:BG:141:ILE:HD13 | 1.79 | 0.62 |
| 1:A2:209:U:O2' | 1:A2:210:A:O4' | 2.14 | 0.62 |
| 1:A2:597:G:H3' | 26:BX:133:LEU:CD2 | 2.29 | 0.62 |
| 1:A2:704:C:O2 | 7:BE:231:GLN:CB | 2.47 | 0.62 |
| 1:A2:1182:U:H2' | 18:BP:124:THR:OG1 | 1.99 | 0.62 |
| 1:A2:1237:G:C2 | 18:BP:66:ALA:CB | 2.81 | 0.62 |
| 1:A2:1298:U:C6 | 5:BC:99:LYS:HD2 | 2.34 | 0.62 |
| 1:A2:1383:G:N2 | 23:BU:55:PRO:O | 2.26 | 0.62 |
| 1:A2:1609:U:H3' | 1:A2:1610:G:P | 2.40 | 0.62 |
| 3:BA:67:ILE:HG22 | 3:BA:69:ASN:H | 1.64 | 0.62 |
| 7:BE:151:ASP:N | 7:BE:151:ASP:OD1 | 2.32 | 0.62 |
| 15:BM:44:GLY:C | 15:BM:45:LEU:N | 2.57 | 0.62 |
| 27:BY:125:LEU:O | 27:BY:129:VAL:HG12 | 1.98 | 0.62 |
| 1:A2:14:C:H5' | 5:BC:205:ARG:HB2 | 1.80 | 0.62 |
| 1:A2:214:G:P | 7:BE:135:GLY:HA2 | 2.39 | 0.62 |
| 1:A2:241:U:H2' | 7:BE:148:ARG:NH2 | 2.14 | 0.62 |
| 1:A2:332:U:C4 | 11:BI:31:ARG:NH1 | 2.67 | 0.62 |
| 1:A2:451:A:C1' | 27:BY:112:LYS:CB | 2.77 | 0.62 |
| 1:A2:585:A:C8 | 33:Be:17:GLN:O | 2.52 | 0.62 |
| 1:A2:776:G:C4' | 27:BY:66:GLY:N | 2.62 | 0.62 |
| 1:A2:888:U:C2' | 17:BO:126:THR:H | 2.11 | 0.62 |
| 1:A2:1163:A:N6 | 1:A2:1164:G:C5 | 2.67 | 0.62 |
| 1:A2:1274:C:OP2 | 1:A2:1428:G:OP2 | 2.16 | 0.62 |
| 1:A2:1294:G:OP2 | 1:A2:1294:G:C8 | 2.53 | 0.62 |
| 1:A2:1470:C:C6 | 8:BF:184:PHE:CE1 | 2.86 | 0.62 |
| 1:A2:1530:C:C4 | 28:BZ:96:SER:CA | 2.79 | 0.62 |
| 1:A2:1567:U:C5' | 21:BS:33:THR:O | 2.47 | 0.62 |
| 4:BB:126:THR:C | 4:BB:127:VAL:N | 2.58 | 0.62 |
| 17:BO:81:VAL:N | 17:BO:114:ARG:O | 2.32 | 0.62 |
| 20:BR:56:HIS:O | 20:BR:57:LEU:HA | 1.99 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:110:U:C3' | 1:A2:111:U:P | 2.81 | 0.62 |
| 1:A2:590:C:C2' | 1:A2:591:A:H5' | 2.30 | 0.62 |
| 1:A2:600:U:O4' | 26:BX:123:LYS:O | 2.11 | 0.62 |
| 1:A2:755:A:H3' | 12:BJ:5:PRO:HD3 | 1.81 | 0.62 |
| 1:A2:778:G:C6 | 27:BY:35:VAL:HG23 | 2.34 | 0.62 |
| 1:A2:1144:U:H4' | 5:BC:87:GLN:C | 2.23 | 0.62 |
| 1:A2:1301:U:C4 | 5:BC:118:ALA:N | 2.68 | 0.62 |
| 1:A2:1533:C:O2' | 1:A2:1539:G:C4 | 2.51 | 0.62 |
| 1:A2:1549:C:H5' | 21:BS:86:LEU:CG | 2.23 | 0.62 |
| 1:A2:1720:G:N3 | 9:BG:66:GLY:N | 2.23 | 0.62 |
| 3:BA:92:HIS:CD2 | 20:BR:88:VAL:HA | 2.34 | 0.62 |
| 4:BB:80:SER:HG | 4:BB:81:PHE:N | 1.97 | 0.62 |
| 5:BC:230:TRP:CD2 | 25:BW:68:ARG:HD3 | 2.34 | 0.62 |
| 8:BF:42:LEU:HD11 | 8:BF:47:SER:HA | 1.82 | 0.62 |
| 8:BF:124:LEU:O | 8:BF:125:THR:HG23 | 1.99 | 0.62 |
| 14:BL:125:VAL:HG12 | 14:BL:139:VAL:HA | 1.80 | 0.62 |
| 1:A2:302:U:O2' | 11:BI:27:PHE:HE2 | 1.81 | 0.62 |
| 1:A2:370:A:P | 12:BJ:14:THR:OG1 | 2.57 | 0.62 |
| 1:A2:548:G:C2 | 1:A2:591:A:C2 | 2.86 | 0.62 |
| 1:A2:635:A:N3 | 25:BW:126:LEU:CD2 | 2.61 | 0.62 |
| 1:A2:736:C:H5" | 7:BE:182:TYR:N | 2.14 | 0.62 |
| 1:A2:740:A:C6 | 7:BE:206:ASP:OD2 | 2.53 | 0.62 |
| 1:A2:740:A:N6 | 7:BE:206:ASP:OD2 | 2.32 | 0.62 |
| 1:A2:786:C:C4 | 27:BY:59:GLY:O | 2.53 | 0.62 |
| 1:A2:1084:A:O5' | 5:BC:162:CYS:N | 2.32 | 0.62 |
| 1:A2:1500:C:C6 | 22:BT:103:LYS:CD | 2.82 | 0.62 |
| 1:A2:1532:U:C3' | 28:BZ:77:ARG:CB | 2.78 | 0.62 |
| 1:A2:1797:A:OP1 | 29:Ba:92:ARG:CD | 2.48 | 0.62 |
| 3:BA:7:PHE:HB2 | 20:BR:110:VAL:HG12 | 1.81 | 0.62 |
| 3:BA:59:LEU:CA | 3:BA:63:ILE:HD13 | 2.29 | 0.62 |
| 3:BA:77:SER:OG | 3:BA:86:VAL:HG11 | 1.99 | 0.62 |
| 3:BA:197:ILE:O | 20:BR:91:ALA:N | 2.32 | 0.62 |
| 5:BC:124:ALA:N | 5:BC:125:ILE:N | 2.48 | 0.62 |
| 5:BC:179:VAL:HG23 | 5:BC:197:TYR:HA | 1.82 | 0.62 |
| 1:A2:163:G:N9 | 9:BG:2:LYS:CB | 2.42 | 0.62 |
| 1:A2:214:G:OP1 | 7:BE:136:VAL:N | 2.32 | 0.62 |
| 1:A2:244:A:C5' | 7:BE:141:THR:OG1 | 2.43 | 0.62 |
| 1:A2:457:G:C3' | 27:BY:107:GLN:HE21 | 2.12 | 0.62 |
| 1:A2:548:G:C4' | 26:BX:137:LYS:HG2 | 2.29 | 0.62 |
| 1:A2:753:A:O2' | 7:BE:12:LEU:O | 2.15 | 0.62 |
| 1:A2:861:U:C6 | 25:BW:32:LYS:HE2 | 2.28 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:877:G:N2 | 16:BN:6:SER:HB3 | 2.14 | 0.62 |
| 1:A2:989:U:O4' | 17:BO:125:SER:O | 2.17 | 0.62 |
| 1:A2:1055:U:C5' | 3:BA:37:VAL:N | 2.62 | 0.62 |
| 1:A2:1084:A:H1' | 5:BC:161:LYS:NZ | 2.14 | 0.62 |
| 1:A2:1160:A:O3' | 1:A2:1161:C:P | 2.57 | 0.62 |
| 1:A2:1212:G:C8 | 18:BP:100:LYS:HG3 | 2.34 | 0.62 |
| 1:A2:1261:G:OP2 | 34:Bf:92:LYS:N | 2.31 | 0.62 |
| 1:A2:1480:G:OP1 | 22:BT:12:GLN:N | 2.32 | 0.62 |
| 1:A2:1682:U:O2 | 9:BG:32:ILE:CD1 | 2.31 | 0.62 |
| 1:A2:1683:C:P | 9:BG:52:ILE:CA | 2.88 | 0.62 |
| 1:A2:1758:U:O3' | 1:A2:1759:C:O5' | 2.17 | 0.62 |
| 2:AZ:6111:G:C5' | 8:BF:219:ARG:HB3 | 2.28 | 0.62 |
| 4:BB:121:ILE:HG22 | 4:BB:122:GLU:N | 2.15 | 0.62 |
| 29:Ba:27:SER:C | 29:Ba:28:LYS:N | 2.58 | 0.62 |
| 29:Ba:61:GLU:OE1 | 29:Ba:61:GLU:N | 2.32 | 0.62 |
| 1:A2:127:G:N7 | 9:BG:186:ARG:CG | 2.60 | 0.62 |
| 1:A2:164:A:C5' | 9:BG:3:LEU:O | 2.46 | 0.62 |
| 1:A2:215:A:N6 | 7:BE:149:TYR:N | 2.47 | 0.62 |
| 1:A2:240:U:C4' | 9:BG:209:ALA:H | 2.11 | 0.62 |
| 1:A2:554:C:O3' | 1:A2:555:A:P | 2.57 | 0.62 |
| 1:A2:633:U:P | 14:BL:99:ARG:HB2 | 2.35 | 0.62 |
| 1:A2:735:C:OP2 | 7:BE:193:GLY:CA | 2.48 | 0.62 |
| 1:A2:740:A:N3 | 7:BE:198:LYS:HG3 | 2.02 | 0.62 |
| 1:A2:952:A:C4' | 16:BN:5:HIS:HB2 | 1.96 | 0.62 |
| 1:A2:1201:G:N2 | 1:A2:1600:A:OP2 | 2.32 | 0.62 |
| 1:A2:1240:U:H1' | 18:BP:76:VAL:CB | 2.30 | 0.62 |
| 1:A2:1241:G:OP2 | 18:BP:105:VAL:O | 2.16 | 0.62 |
| 1:A2:1392:U:H5' | 20:BR:29:GLN:CB | 2.30 | 0.62 |
| 1:A2:1681:A:O2' | 9:BG:102:VAL:O | 2.17 | 0.62 |
| 24:BV:56:SER:HG | 24:BV:57:GLY:N | 1.97 | 0.62 |
| 27:BY:103:ALA:HB1 | 27:BY:104:SER:N | 2.14 | 0.62 |
| 1:A2:57:G:C3' | 27:BY:114:ARG:HH11 | 1.71 | 0.62 |
| 1:A2:76:A:O2' | 9:BG:163:THR:HG22 | 1.98 | 0.62 |
| 1:A2:78:A:C2 | 9:BG:162:VAL:HB | 2.31 | 0.62 |
| 1:A2:88:U:H2' | 27:BY:119:PHE:C | 2.25 | 0.62 |
| 1:A2:115:G:H1' | 11:BI:49:ARG:NH1 | 2.13 | 0.62 |
| 1:A2:164:A:H3' | 9:BG:15:THR:HG22 | 1.81 | 0.62 |
| 1:A2:272:U:O4 | 9:BG:169:TYR:CG | 2.51 | 0.62 |
| 1:A2:296:U:C5' | 7:BE:32:SER:HB2 | 2.30 | 0.62 |
| 1:A2:337:G:C3' | 11:BI:6:ASP:C | 2.53 | 0.62 |
| 1:A2:394:C:H5" | 9:BG:76:LEU:HD23 | 1.80 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:508:U:O2 | 1:A2:508:U:H2' | 1.99 | 0.62 |
| 1:A2:588:U:N3 | 33:Be:21:VAL:HG21 | 1.93 | 0.62 |
| 1:A2:735:C:H5 | 7:BE:195:ILE:H | 0.63 | 0.62 |
| 1:A2:756:A:P | 7:BE:23:LEU:HD13 | 2.37 | 0.62 |
| 1:A2:871:G:N2 | 30:Bb:21:LEU:HD13 | 2.15 | 0.62 |
| 1:A2:933:A:C2 | 29:Ba:11:ASN:OD1 | 2.53 | 0.62 |
| 1:A2:993:A:H3' | 1:A2:994:G:P | 2.40 | 0.62 |
| 1:A2:1056:U:C5 | 3:BA:40:ALA:HB3 | 2.29 | 0.62 |
| 1:A2:1068:C:C4' | 3:BA:153:SER:HB3 | 2.26 | 0.62 |
| 1:A2:1137:A:H5' | 26:BX:63:GLN:N | 2.15 | 0.62 |
| 1:A2:1260:U:C5' | 34:Bf:92:LYS:HB3 | 2.30 | 0.62 |
| 1:A2:1326:A:O5' | 6:BD:156:PHE:C | 2.41 | 0.62 |
| 1:A2:1433:G:N2 | 32:Bd:28:THR:O | 2.32 | 0.62 |
| 1:A2:1479:A:C5' | 22:BT:16:ASN:ND2 | 2.49 | 0.62 |
| 1:A2:1533:C:C1' | 28:BZ:77:ARG:NE | 2.63 | 0.62 |
| 1:A2:1550:A:P | 21:BS:84:TRP:CD1 | 2.93 | 0.62 |
| 25:BW:58:SER:C | 25:BW:59:GLY:N | 2.58 | 0.62 |
| 1:A2:78:A:N1 | 9:BG:162:VAL:CG1 | 2.62 | 0.62 |
| 1:A2:163:G:H3' | 9:BG:108:VAL:HA | 1.82 | 0.62 |
| 1:A2:179:A:H2' | 9:BG:187:LYS:HD3 | 1.81 | 0.62 |
| 1:A2:330:G:C5 | 11:BI:31:ARG:HG3 | 2.35 | 0.62 |
| 1:A2:335:U:H3' | 11:BI:27:PHE:O | 1.99 | 0.62 |
| 1:A2:457:G:C2 | 27:BY:109:LYS:N | 2.65 | 0.62 |
| 1:A2:513:U:H2' | 1:A2:514:G:N7 | 2.14 | 0.62 |
| 1:A2:595:G:C2' | 26:BX:139:LYS:NZ | 2.60 | 0.62 |
| 1:A2:736:C:C4 | 1:A2:737:A:N7 | 2.67 | 0.62 |
| 1:A2:776:G:C5' | 27:BY:66:GLY:N | 2.63 | 0.62 |
| 1:A2:832:U:H5" | 9:BG:213:ALA:N | 2.13 | 0.62 |
| 1:A2:1279:C:C4 | 23:BU:72:ASN:OD1 | 2.52 | 0.62 |
| 1:A2:1331:A:C1' | 6:BD:163:PRO:HD3 | 2.30 | 0.62 |
| 1:A2:1546:G:C2 | 21:BS:38:VAL:N | 2.68 | 0.62 |
| 1:A2:1677:C:H1' | 1:A2:1725:U:O2 | 2.00 | 0.62 |
| 1:A2:1681:A:C5' | 9:BG:101:ILE:HD13 | 1.98 | 0.62 |
| 1:A2:1758:U:H3' | 1:A2:1759:C:P | 2.40 | 0.62 |
| 2:AZ:6136:G:O6 | 2:AZ:6139:G:C8 | 2.53 | 0.62 |
| 3:BA:121:VAL:O | 3:BA:122:ILE:HG13 | 2.00 | 0.62 |
| 7:BE:58:GLY:O | 7:BE:61:VAL:HG23 | 2.00 | 0.62 |
| 10:BH:17:GLU:O | 10:BH:21:ALA:N | 2.33 | 0.62 |
| 11:BI:46:VAL:HG13 | 11:BI:54:LYS:HB2 | 1.81 | 0.62 |
| 1:A2:59:C:OP1 | 27:BY:111:LYS:HD2 | 1.87 | 0.62 |
| 1:A2:88:U:O3' | 1:A2:171:A:H4' | 2.00 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:241:U:H5' | 7:BE:149:TYR:CB | 2.30 | 0.62 |
| 1:A2:297:U:O2' | 1:A2:298:C:O4' | 2.18 | 0.62 |
| 1:A2:435:C:H1' | 26:BX:101:GLU:C | 2.24 | 0.62 |
| 1:A2:548:G:C5' | 26:BX:136:TRP:CE2 | 2.81 | 0.62 |
| 1:A2:606:A:H4' | 1:A2:607:G:C5' | 2.28 | 0.62 |
| 1:A2:702:G:C8 | 7:BE:176:ASP:N | 2.66 | 0.62 |
| 1:A2:777:C:C3' | 27:BY:32:ARG:HB2 | 2.28 | 0.62 |
| 1:A2:782:U:O5' | 27:BY:39:GLU:HA | 1.97 | 0.62 |
| 1:A2:786:C:OP2 | 27:BY:25:VAL:N | 2.32 | 0.62 |
| 1:A2:1037:C:C4' | 25:BW:15:ASN:CB | 2.77 | 0.62 |
| 1:A2:1047:G:N2 | 30:Bb:22:LYS:NZ | 2.47 | 0.62 |
| 1:A2:1057:U:C4 | 3:BA:39:ASN:OD1 | 2.47 | 0.62 |
| 1:A2:1200:G:H4' | 1:A2:1201:G:H5" | 1.81 | 0.62 |
| 1:A2:1291:G:N2 | 1:A2:1325:A:N3 | 2.48 | 0.62 |
| 1:A2:1296:A:OP2 | 5:BC:116:LYS:CD | 2.47 | 0.62 |
| 1:A2:1399:C:C6 | 20:BR:60:ARG:CB | 2.83 | 0.62 |
| 2:AZ:6107:U:C2' | 8:BF:219:ARG:O | 2.47 | 0.62 |
| 2:AZ:6122:C:O2 | 2:AZ:6122:C:H2' | 2.00 | 0.62 |
| 6:BD:208:ILE:HG23 | 20:BR:38:ILE:HD11 | 1.80 | 0.62 |
| 17:BO:17:ALA:HB3 | 17:BO:81:VAL:CG2 | 2.26 | 0.62 |
| 22:BT:61:VAL:HG23 | 22:BT:80:TYR:OH | 1.99 | 0.62 |
| 30:Bb:13:ALA:C | 30:Bb:14:SER:HA | 2.25 | 0.62 |
| 34:Bf:126:CYS:HA | 34:Bf:130:VAL:HG21 | 1.82 | 0.62 |
| 1:A2:241:U:C2' | 7:BE:148:ARG:NH2 | 2.62 | 0.61 |
| 1:A2:242:U:C1' | 7:BE:148:ARG:CZ | 2.75 | 0.61 |
| 1:A2:266:A:N3 | 9:BG:136:LYS:N | 2.46 | 0.61 |
| 1:A2:643:G:H3' | 1:A2:644:C:P | 2.40 | 0.61 |
| 1:A2:776:G:H3' | 27:BY:34:ASN:CA | 2.30 | 0.61 |
| 1:A2:879:G:H2' | 1:A2:880:C:C6 | 2.35 | 0.61 |
| 1:A2:895:G:N3 | 17:BO:18:ARG:CZ | 2.63 | 0.61 |
| 1:A2:896:U:H5" | 17:BO:37:GLU:O | 2.00 | 0.61 |
| 1:A2:917:U:O4' | 17:BO:20:TYR:CD2 | 2.53 | 0.61 |
| 1:A2:1213:G:O2' | 18:BP:78:THR:N | 2.32 | 0.61 |
| 1:A2:1237:G:C6 | 18:BP:62:ALA:HB1 | 2.30 | 0.61 |
| 1:A2:1290:U:C4' | 6:BD:151:LYS:NZ | 2.53 | 0.61 |
| 1:A2:1548:G:O2' | 21:BS:86:LEU:CA | 2.36 | 0.61 |
| 1:A2:1565:C:C5 | 1:A2:1566:U:O4 | 2.53 | 0.61 |
| 1:A2:1681:A:N3 | 9:BG:101:ILE:CG1 | 2.48 | 0.61 |
| 1:A2:1689:A:H2' | 1:A2:1690:G:C8 | 2.35 | 0.61 |
| 20:BR:117:LEU:CB | 20:BR:119:LEU:HG | 2.30 | 0.61 |
| 35:Bg:213:SER:N | 35:Bg:221:MET:O | 2.33 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:153:G:H2' | 1:A2:154:G:C8 | 2.35 | 0.61 |
| 1:A2:301:A:C8 | 7:BE:2:ALA:C | 2.76 | 0.61 |
| 1:A2:825:U:C4 | 1:A2:826:U:C4 | 2.88 | 0.61 |
| 1:A2:884:A:H4' | 4:BB:165:ARG:CZ | 2.29 | 0.61 |
| 1:A2:892:A:C6 | 1:A2:893:U:C4 | 2.88 | 0.61 |
| 1:A2:1213:G:H5" | 18:BP:77:ARG:NH1 | 2.15 | 0.61 |
| 1:A2:1241:G:N3 | 18:BP:95:GLY:C | 2.54 | 0.61 |
| 1:A2:1245:G:H3' | 18:BP:59:LYS:HZ1 | 1.63 | 0.61 |
| 1:A2:1260:U:H2' | 34:Bf:93:ALA:HB2 | 1.81 | 0.61 |
| 1:A2:1280:C:H1' | 23:BU:72:ASN:N | 2.14 | 0.61 |
| 1:A2:1299:G:OP2 | 5:BC:117:THR:HA | 1.99 | 0.61 |
| 1:A2:1383:G:P | 23:BU:59:PRO:O | 2.53 | 0.61 |
| 1:A2:1417:A:O3' | 19:BQ:128:LYS:NZ | 2.24 | 0.61 |
| 1:A2:1479:A:H4' | 22:BT:12:GLN:OE1 | 2.01 | 0.61 |
| 1:A2:1548:G:P | 21:BS:87:ASN:OD1 | 2.58 | 0.61 |
| 1:A2:1586:A:H2' | 1:A2:1587:A:O4' | 2.00 | 0.61 |
| 2:AZ:6099:G:O2' | 2:AZ:6147:A:C6 | 2.49 | 0.61 |
| 2:AZ:6107:U:H3 | 8:BF:217:LEU:N | 1.98 | 0.61 |
| 10:BH:165:LYS:O | 10:BH:168:SER:N | 2.33 | 0.61 |
| 24:BV:28:ASP:OD2 | 24:BV:57:GLY:N | 2.34 | 0.61 |
| 1:A2:89:G:C5 | 27:BY:118:ILE:HG22 | 2.34 | 0.61 |
| 1:A2:172:C:C4 | 1:A2:173:A:N7 | 2.68 | 0.61 |
| 1:A2:494:U:O2 | 1:A2:494:U:C2' | 2.45 | 0.61 |
| 1:A2:545:A:N1 | 1:A2:593:U:O2' | 2.32 | 0.61 |
| 1:A2:780:A:N3 | 27:BY:32:ARG:HD2 | 2.13 | 0.61 |
| 1:A2:783:G:C8 | 27:BY:39:GLU:N | 2.68 | 0.61 |
| 1:A2:864:U:H5 | 25:BW:13:ALA:CA | 2.13 | 0.61 |
| 1:A2:1391:A:H5" | 20:BR:48:ASN:CG | 2.26 | 0.61 |
| 1:A2:1401:A:O4' | 20:BR:10:LYS:HE2 | 1.94 | 0.61 |
| 1:A2:1538:U:O2 | 1:A2:1538:U:C2' | 2.48 | 0.61 |
| 2:AZ:6039:G:H1' | 2:AZ:6079:A:H61 | 1.65 | 0.61 |
| 6:BD:101:GLN:C | 6:BD:102:ALA:N | 2.58 | 0.61 |
| 35:Bg:32:LEU:HD21 | 35:Bg:94:VAL:HG11 | 1.82 | 0.61 |
| 1:A2:754:A:C1' | 7:BE:12:LEU:HD23 | 2.29 | 0.61 |
| 1:A2:777:C:O2' | 27:BY:28:LEU:C | 2.44 | 0.61 |
| 1:A2:885:G:H5" | 1:A2:886:U:P | 2.40 | 0.61 |
| 1:A2:1192:C:C4' | 19:BQ:141:SER:OG | 2.48 | 0.61 |
| 1:A2:1226:A:N1 | 34:Bf:97:ALA:O | 2.22 | 0.61 |
| 1:A2:1236:A:H5' | 18:BP:61:ARG:HD3 | 1.82 | 0.61 |
| 1:A2:1325:A:C2 | 1:A2:1326:A:N7 | 2.69 | 0.61 |
| 1:A2:1567:U:C6 | 21:BS:33:THR:O | 2.53 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1742:U:O2 | 1:A2:1742:U:H2' | 1.99 | 0.61 |
| 1:A2:1797:A:C8 | 29:Ba:87:ARG:HB3 | 2.35 | 0.61 |
| 4:BB:92:GLN:O | 4:BB:94:LYS:N | 2.33 | 0.61 |
| 7:BE:163:ASP:O | 7:BE:165:ALA:N | 2.32 | 0.61 |
| 10:BH:113:PRO:O | 10:BH:115:SER:N | 2.33 | 0.61 |
| 20:BR:113:LEU:O | 20:BR:113:LEU:HD12 | 2.00 | 0.61 |
| 28:BZ:65:LEU:O | 28:BZ:70:LYS:N | 2.34 | 0.61 |
| 35:Bg:88:THR:HB | 35:Bg:89:LEU:N | 2.14 | 0.61 |
| 35:Bg:295:SER:HG | 35:Bg:297:ASP:N | 1.98 | 0.61 |
| 1:A2:180:A:N1 | 9:BG:191:ARG:CB | 2.56 | 0.61 |
| 1:A2:395:U:OP2 | 9:BG:91:GLU:CG | 2.38 | 0.61 |
| 1:A2:736:C:N1 | 7:BE:227:VAL:CG1 | 2.63 | 0.61 |
| 1:A2:806:A:H5' | 25:BW:81:VAL:HG22 | 1.81 | 0.61 |
| 1:A2:863:A:C3' | 25:BW:6:VAL:HB | 2.30 | 0.61 |
| 1:A2:1018:U:O3' | 16:BN:107:LYS:HD2 | 2.00 | 0.61 |
| 1:A2:1034:C:C4' | 26:BX:2:GLY:N | 2.36 | 0.61 |
| 1:A2:1230:A:H5" | 34:Bf:98:LYS:HE3 | 0.70 | 0.61 |
| 1:A2:1291:G:HO2' | 1:A2:1292:G:C1' | 2.12 | 0.61 |
| 1:A2:1294:G:C2 | 1:A2:1295:G:C4 | 2.89 | 0.61 |
| 1:A2:1420:C:H5' | 23:BU:82:TYR:CE1 | 2.32 | 0.61 |
| 1:A2:1479:A:OP1 | 22:BT:16:ASN:OD1 | 2.18 | 0.61 |
| 1:A2:1533:C:H6 | 28:BZ:77:ARG:HG2 | 1.64 | 0.61 |
| 1:A2:1684:U:OP2 | 9:BG:112:VAL:C | 2.43 | 0.61 |
| 1:A2:1722:A:O3' | 9:BG:72:ARG:N | 2.33 | 0.61 |
| 4:BB:61:LEU:HD21 | 4:BB:64:ARG:CZ | 2.31 | 0.61 |
| 7:BE:87:MET:HE3 | 7:BE:123:LEU:HD22 | 1.82 | 0.61 |
| 11:BI:93:THR:N | 11:BI:94:ASN:N | 2.49 | 0.61 |
| 35:Bg:153:GLN:C | 35:Bg:154:VAL:HG22 | 2.25 | 0.61 |
| 1:A2:148:A:OP1 | 27:BY:128:LYS:NZ | 2.33 | 0.61 |
| 1:A2:335:U:P | 11:BI:49:ARG:HD3 | 2.40 | 0.61 |
| 1:A2:589:C:N4 | 33:Be:21:VAL:C | 2.52 | 0.61 |
| 1:A2:601:A:H5' | 26:BX:43:PHE:CD2 | 2.35 | 0.61 |
| 1:A2:633:U:P | 14:BL:98:ASN:N | 2.73 | 0.61 |
| 1:A2:697:C:O2 | 7:BE:196:VAL:HG11 | 2.01 | 0.61 |
| 1:A2:736:C:C5' | 7:BE:226:PHE:CB | 2.58 | 0.61 |
| 1:A2:915:A:C2 | 17:BO:27:PHE:HZ | 2.13 | 0.61 |
| 1:A2:1054:U:H2' | 3:BA:30:GLN:CG | 2.17 | 0.61 |
| 1:A2:1331:A:C2' | 6:BD:163:PRO:HD3 | 2.30 | 0.61 |
| 1:A2:1357:A:O2' | 22:BT:126:GLU:C | 2.40 | 0.61 |
| 5:BC:211:LEU:C | 5:BC:212:LYS:N | 2.59 | 0.61 |
| 6:BD:152:PHE:C | 6:BD:153:ALA:N | 2.59 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 26:BX:7:ARG:C | 26:BX:8:GLY:N | 2.58 | 0.61 |
| 1:A2:220:A:N3 | 1:A2:842:C:O2' | 2.29 | 0.61 |
| 1:A2:337:G:O2' | 11:BI:9:HIS:NE2 | 2.09 | 0.61 |
| 1:A2:453:U:C2' | 1:A2:453:U:O2 | 2.49 | 0.61 |
| 1:A2:568:G:P | 33:Be:9:ALA:O | 2.58 | 0.61 |
| 1:A2:705:U:P | 7:BE:232:GLY:HA3 | 2.40 | 0.61 |
| 1:A2:784:C:H3' | 27:BY:40:LEU:HD11 | 1.82 | 0.61 |
| 1:A2:900:A:C8 | 17:BO:25:ASP:HB2 | 2.34 | 0.61 |
| 1:A2:952:A:C5' | 16:BN:5:HIS:ND1 | 2.62 | 0.61 |
| 1:A2:1299:G:O2' | 5:BC:84:LYS:O | 2.18 | 0.61 |
| 1:A2:1299:G:OP1 | 5:BC:100:ALA:N | 2.34 | 0.61 |
| 1:A2:1310:U:C2' | 20:BR:4:VAL:HG11 | 2.31 | 0.61 |
| 1:A2:1317:C:O4' | 20:BR:7:LYS:HA | 2.00 | 0.61 |
| 1:A2:1327:C:P | 6:BD:158:ILE:H | 2.23 | 0.61 |
| 1:A2:1453:G:C8 | 18:BP:81:ARG:HB2 | 2.36 | 0.61 |
| 1:A2:1479:A:P | 22:BT:56:LYS:HD2 | 2.39 | 0.61 |
| 6:BD:209:ILE:HG23 | 20:BR:20:TYR:OH | 2.01 | 0.61 |
| 13:BK:60:SER:HG | 13:BK:61:TRP:N | 1.99 | 0.61 |
| 1:A2:28:A:C2 | 26:BX:131:SER:N | 2.69 | 0.61 |
| 1:A2:214:G:OP1 | 7:BE:135:GLY:HA2 | 1.99 | 0.61 |
| 1:A2:396:G:C6 | 9:BG:88:ARG:HD3 | 2.35 | 0.61 |
| 1:A2:439:U:C3' | 1:A2:440:U:P | 2.89 | 0.61 |
| 1:A2:600:U:C5' | 26:BX:104:LEU:CD2 | 2.73 | 0.61 |
| 1:A2:703:G:C8 | 7:BE:230:GLU:CB | 2.84 | 0.61 |
| 1:A2:807:A:P | 25:BW:124:LYS:HG2 | 2.41 | 0.61 |
| 1:A2:1301:U:HO2' | 5:BC:86:VAL:HG21 | 1.62 | 0.61 |
| 1:A2:1312:A:H2' | 1:A2:1313:A:C8 | 2.36 | 0.61 |
| 1:A2:1402:G:H1' | 20:BR:4:VAL:HG13 | 1.82 | 0.61 |
| 2:AZ:6108:U:OP2 | 8:BF:223:SER:C | 2.43 | 0.61 |
| 6:BD:68:GLU:C | 6:BD:69:LEU:N | 2.59 | 0.61 |
| 14:BL:97:TYR:C | 14:BL:98:ASN:N | 2.59 | 0.61 |
| 20:BR:27:ASP:O | 20:BR:30:THR:N | 2.34 | 0.61 |
| 26:BX:83:VAL:C | 26:BX:84:THR:N | 2.59 | 0.61 |
| 27:BY:52:LYS:O | 27:BY:54:ALA:N | 2.34 | 0.61 |
| 1:A2:89:G:O6 | 27:BY:118:ILE:CA | 2.48 | 0.61 |
| 1:A2:265:A:H5" | 9:BG:176:GLN:HG2 | 0.76 | 0.61 |
| 1:A2:597:G:C2' | 26:BX:137:LYS:HG3 | 2.29 | 0.61 |
| 1:A2:777:C:O2' | 27:BY:29:HIS:N | 2.23 | 0.61 |
| 1:A2:785:U:H1' | 27:BY:27:VAL:CG2 | 2.31 | 0.61 |
| 1:A2:989:U:OP1 | 17:BO:126:THR:CG2 | 2.48 | 0.61 |
| 1:A2:1096:C:O2' | 5:BC:166:THR:O | 2.19 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1208:A:H4' | 1:A2:1270:G:P | 2.41 | 0.61 |
| 1:A2:1445:G:OP1 | 34:Bf:90:ALA:HB3 | 2.01 | 0.61 |
| 1:A2:1591:C:O5' | 22:BT:92:LYS:C | 2.42 | 0.61 |
| 2:AZ:6170:G:N2 | 2:AZ:6207:A:OP2 | 2.32 | 0.61 |
| 3:BA:13:ASP:CG | 20:BR:119:LEU:HB2 | 2.26 | 0.61 |
| 32:Bd:54:LYS:C | 32:Bd:55:PHE:C | 2.68 | 0.61 |
| 1:A2:301:A:C6 | 7:BE:4:GLY:N | 2.68 | 0.61 |
| 1:A2:633:U:C3' | 25:BW:79:PHE:HE1 | 2.08 | 0.61 |
| 1:A2:939:A:C2 | 1:A2:940:A:C4 | 2.89 | 0.61 |
| 1:A2:988:A:O2' | 17:BO:125:SER:HB3 | 2.00 | 0.61 |
| 1:A2:1034:C:C4 | 26:BX:3:LYS:CB | 2.84 | 0.61 |
| 1:A2:1050:G:C2' | 30:Bb:13:ALA:CB | 2.61 | 0.61 |
| 1:A2:1058:U:OP2 | 3:BA:41:ARG:CA | 2.49 | 0.61 |
| 1:A2:1294:G:C6 | 1:A2:1295:G:C5 | 2.89 | 0.61 |
| 1:A2:1300:A:O4' | 5:BC:86:VAL:HA | 2.00 | 0.61 |
| 1:A2:1502:G:N7 | 22:BT:33:TYR:CZ | 2.67 | 0.61 |
| 1:A2:1557:U:C3' | 21:BS:123:ARG:O | 2.48 | 0.61 |
| 1:A2:1655:A:C2 | 1:A2:1746:A:N3 | 2.69 | 0.61 |
| 1:A2:1722:A:OP1 | 9:BG:97:VAL:N | 2.33 | 0.61 |
| 3:BA:178:ALA:O | 3:BA:181:VAL:N | 2.34 | 0.61 |
| 25:BW:124:LYS:O | 25:BW:125:ILE:N | 2.34 | 0.61 |
| 1:A2:29:U:OP2 | 26:BX:129:GLY:O | 2.19 | 0.60 |
| 1:A2:57:G:N3 | 27:BY:112:LYS:C | 2.59 | 0.60 |
| 1:A2:58:U:O4' | 27:BY:114:ARG:CB | 2.40 | 0.60 |
| 1:A2:163:G:H1' | 9:BG:1:MET:CA | 2.31 | 0.60 |
| 1:A2:215:A:C5' | 7:BE:130:GLN:CG | 2.56 | 0.60 |
| 1:A2:336:G:C8 | 11:BI:27:PHE:HD1 | 2.19 | 0.60 |
| 1:A2:569:C:P | 33:Be:11:ALA:HA | 2.31 | 0.60 |
| 1:A2:584:C:P | 33:Be:16:SER:N | 2.74 | 0.60 |
| 1:A2:897:C:O3' | 17:BO:41:ARG:HG3 | 2.00 | 0.60 |
| 1:A2:955:A:N7 | 16:BN:9:LYS:O | 2.34 | 0.60 |
| 1:A2:1047:G:H2' | 30:Bb:22:LYS:HZ2 | 1.65 | 0.60 |
| 1:A2:1223:A:C2 | 1:A2:1261:G:C2 | 2.88 | 0.60 |
| 1:A2:1253:U:C6 | 34:Bf:136:LYS:CA | 2.84 | 0.60 |
| 1:A2:1297:G:N2 | 1:A2:1299:G:N7 | 2.49 | 0.60 |
| 1:A2:1310:U:HO2' | 20:BR:4:VAL:HG12 | 1.62 | 0.60 |
| 1:A2:1316:G:C1' | 20:BR:6:THR:CG2 | 2.79 | 0.60 |
| 1:A2:1528:U:O2' | 19:BQ:42:GLU:CA | 2.49 | 0.60 |
| 2:AZ:6109:U:O4 | 31:Bc:6:PRO:CD | 2.49 | 0.60 |
| 5:BC:145:GLY:O | 5:BC:146:THR:C | 2.44 | 0.60 |
| 7:BE:38:LEU:O | 7:BE:41:SER:N | 2.34 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 8:BF:194:LEU:C | 8:BF:197:GLU:HB3 | 2.26 | 0.60 |
| 9:BG:50:PHE:CD2 | 9:BG:111:LEU:HD13 | 2.36 | 0.60 |
| 1:A2:3:U:O2' | 12:BJ:18:PRO:HG2 | 1.96 | 0.60 |
| 1:A2:18:C:H3' | 1:A2:19:A:P | 2.41 | 0.60 |
| 1:A2:58:U:C5' | 27:BY:114:ARG:NH2 | 2.57 | 0.60 |
| 1:A2:218:A:H4' | 7:BE:153:ASN:HA | 1.83 | 0.60 |
| 1:A2:451:A:C2' | 27:BY:112:LYS:HA | 2.31 | 0.60 |
| 1:A2:775:G:H22 | 27:BY:69:SER:CA | 2.15 | 0.60 |
| 1:A2:775:G:H22 | 27:BY:69:SER:HB3 | 1.66 | 0.60 |
| 1:A2:886:U:P | 4:BB:122:GLU:CD | 2.84 | 0.60 |
| 1:A2:952:A:C3' | 16:BN:5:HIS:N | 2.50 | 0.60 |
| 1:A2:1242:A:OP1 | 18:BP:92:SER:O | 2.16 | 0.60 |
| 1:A2:1260:U:H2' | 34:Bf:93:ALA:CB | 2.31 | 0.60 |
| 1:A2:1369:U:C5' | 22:BT:123:ARG:HH21 | 2.14 | 0.60 |
| 1:A2:1523:G:OP1 | 22:BT:78:LYS:HB3 | 2.01 | 0.60 |
| 1:A2:1566:U:OP2 | 21:BS:29:VAL:HG12 | 2.01 | 0.60 |
| 1:A2:1682:U:O5' | 9:BG:102:VAL:HG13 | 1.98 | 0.60 |
| 1:A2:1683:C:H2' | 9:BG:52:ILE:O | 2.01 | 0.60 |
| 2:AZ:6171:U:H2' | 2:AZ:6173:C:H5' | 1.82 | 0.60 |
| 19:BQ:29:ILE:HG23 | 19:BQ:65:ILE:HG13 | 1.83 | 0.60 |
| 35:Bg:135:THR:O | 35:Bg:137:LYS:N | 2.34 | 0.60 |
| 1:A2:740:A:C6 | 7:BE:198:LYS:CB | 2.68 | 0.60 |
| 1:A2:784:C:C2 | 27:BY:35:VAL:CG1 | 2.84 | 0.60 |
| 1:A2:803:A:O2' | 1:A2:804:A:OP2 | 2.14 | 0.60 |
| 1:A2:1300:A:C8 | 5:BC:86:VAL:CG2 | 2.84 | 0.60 |
| 1:A2:1318:G:H2' | 1:A2:1319:A:H8 | 1.65 | 0.60 |
| 1:A2:1475:A:H62 | 28:BZ:97:LYS:CG | 2.15 | 0.60 |
| 1:A2:1546:G:H5" | 21:BS:109:LEU:HB2 | 1.83 | 0.60 |
| 1:A2:1548:G:OP2 | 21:BS:100:THR:HG23 | 1.98 | 0.60 |
| 1:A2:1601:G:P | 22:BT:86:ARG:NH2 | 2.74 | 0.60 |
| 4:BB:204:ILE:HG21 | 4:BB:205:PHE:HB2 | 1.83 | 0.60 |
| 8:BF:48:PHE:CD1 | 8:BF:130:ILE:HD12 | 2.36 | 0.60 |
| 14:BL:110:HIS:O | 14:BL:138:ASN:HA | 2.02 | 0.60 |
| 1:A2:58:U:H6 | 27:BY:114:ARG:CB | 2.09 | 0.60 |
| 1:A2:58:U:C2' | 27:BY:115:ASP:OD1 | 2.47 | 0.60 |
| 1:A2:631:G:C3' | 26:BX:16:ARG:NH1 | 2.63 | 0.60 |
| 1:A2:635:A:C2 | 25:BW:33:VAL:CG2 | 2.84 | 0.60 |
| 1:A2:735:C:C4' | 7:BE:193:GLY:N | 2.64 | 0.60 |
| 1:A2:742:U:N3 | 7:BE:206:ASP:CA | 2.65 | 0.60 |
| 1:A2:777:C:O3' | 27:BY:29:HIS:C | 2.39 | 0.60 |
| 1:A2:794:U:O2 | 1:A2:794:U:C2' | 2.49 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:946:U:C3' | 4:BB:158:SER:CB | 2.74 | 0.60 |
| 1:A2:1047:G:N2 | 30:Bb:22:LYS:HZ3 | 1.98 | 0.60 |
| 1:A2:1254:U:OP2 | 34:Bf:139:LEU:C | 2.43 | 0.60 |
| 1:A2:1401:A:OP2 | 20:BR:53:TYR:CD1 | 2.54 | 0.60 |
| 1:A2:1417:A:C2' | 19:BQ:126:PRO:HB2 | 2.32 | 0.60 |
| 1:A2:1531:G:N7 | 28:BZ:95:HIS:O | 2.19 | 0.60 |
| 1:A2:1722:A:C5' | 9:BG:73:ILE:CG1 | 2.79 | 0.60 |
| 2:AZ:6218:U:C2 | 6:BD:146:ARG:HD2 | 2.35 | 0.60 |
| 3:BA:103:THR:HG22 | 3:BA:106:SER:HA | 1.83 | 0.60 |
| 10:BH:16:LEU:O | 10:BH:17:GLU:N | 2.34 | 0.60 |
| 15:BM:36:LEU:HD23 | 15:BM:37:VAL:HG23 | 1.83 | 0.60 |
| 21:BS:91:ASP:O | 21:BS:92:ILE:HG22 | 2.01 | 0.60 |
| 28:BZ:77:ARG:N | 28:BZ:78:ILE:N | 2.50 | 0.60 |
| 1:A2:32:U:C4 | 26:BX:139:LYS:O | 2.52 | 0.60 |
| 1:A2:137:U:H2' | 9:BG:143:LYS:HZ3 | 1.63 | 0.60 |
| 1:A2:141:U:O2 | 9:BG:136:LYS:HA | 2.00 | 0.60 |
| 1:A2:179:A:O2' | 9:BG:184:LEU:HB3 | 2.01 | 0.60 |
| 1:A2:934:C:H6 | 29:Ba:6:ALA:HB1 | 1.63 | 0.60 |
| 1:A2:1136:U:C6 | 26:BX:118:PRO:HA | 2.36 | 0.60 |
| 1:A2:1212:G:C4 | 18:BP:97:TYR:CD1 | 2.83 | 0.60 |
| 1:A2:1241:G:O3' | 18:BP:107:ILE:HG13 | 2.01 | 0.60 |
| 1:A2:1242:A:H5" | 18:BP:60:LEU:HD21 | 1.84 | 0.60 |
| 1:A2:1243:G:C5 | 18:BP:61:ARG:NH1 | 2.52 | 0.60 |
| 1:A2:1285:U:P | 1:A2:1286:U:C5 | 2.94 | 0.60 |
| 1:A2:1299:G:C2' | 5:BC:86:VAL:CA | 2.73 | 0.60 |
| 1:A2:1471:A:N7 | 8:BF:186:ASN:O | 2.34 | 0.60 |
| 1:A2:1479:A:H5' | 22:BT:16:ASN:OD1 | 2.01 | 0.60 |
| 1:A2:1672:G:O3' | 1:A2:1673:G:H5' | 2.01 | 0.60 |
| 2:AZ:6095:U:H2' | 2:AZ:6096:U:H4' | 1.84 | 0.60 |
| 5:BC:137:ILE:HG21 | 5:BC:215:PHE:CZ | 2.37 | 0.60 |
| 1:A2:13:C:O2' | 1:A2:1298:U:O4 | 2.19 | 0.60 |
| 1:A2:57:G:O6 | 27:BY:117:LYS:HE2 | 1.95 | 0.60 |
| 1:A2:239:C:C3' | 9:BG:207:GLU:CA | 2.67 | 0.60 |
| 1:A2:337:G:H2' | 11:BI:6:ASP:O | 2.01 | 0.60 |
| 1:A2:450:U:C6 | 27:BY:109:LYS:N | 2.60 | 0.60 |
| 1:A2:601:A:P | 26:BX:122:PHE:HD1 | 2.25 | 0.60 |
| 1:A2:741:C:O5' | 7:BE:200:ARG:HD2 | 2.00 | 0.60 |
| 1:A2:885:G:OP1 | 4:BB:122:GLU:HB3 | 2.01 | 0.60 |
| 1:A2:900:A:O2' | 1:A2:901:G:H5' | 2.01 | 0.60 |
| 1:A2:1040:G:C4' | 24:BV:62:ARG:NE | 2.63 | 0.60 |
| 1:A2:1116:A:H2' | 1:A2:1117:U:O4' | 2.02 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1501:C:O5' | 22:BT:33:TYR:HE1 | 1.85 | 0.60 |
| 2:AZ:6094:U:O3' | 2:AZ:6095:U:O4' | 2.19 | 0.60 |
| 3:BA:103:THR:O | 3:BA:106:SER:HB2 | 2.02 | 0.60 |
| 7:BE:247:SER:O | 7:BE:249:ALA:N | 2.35 | 0.60 |
| 16:BN:118:ILE:O | 16:BN:121:ARG:N | 2.34 | 0.60 |
| 25:BW:75:ILE:O | 25:BW:76:SER:N | 2.33 | 0.60 |
| 25:BW:90:THR:HB | 25:BW:94:LEU:HD12 | 1.83 | 0.60 |
| 1:A2:152:U:O4 | 27:BY:135:ASP:HB3 | 1.97 | 0.60 |
| 1:A2:296:U:H5" | 7:BE:32:SER:CB | 2.30 | 0.60 |
| 1:A2:337:G:C3' | 11:BI:6:ASP:CA | 2.71 | 0.60 |
| 1:A2:396:G:C6 | 9:BG:91:GLU:HB2 | 2.36 | 0.60 |
| 1:A2:566:C:O3' | 1:A2:567:A:P | 2.60 | 0.60 |
| 1:A2:742:U:C2 | 7:BE:207:LEU:N | 2.69 | 0.60 |
| 1:A2:753:A:H8 | 7:BE:16:HIS:HB2 | 1.67 | 0.60 |
| 1:A2:756:A:O5' | 12:BJ:4:ALA:CA | 2.50 | 0.60 |
| 1:A2:889:U:P | 17:BO:88:GLY:C | 2.84 | 0.60 |
| 1:A2:1213:G:O2' | 18:BP:77:ARG:HB2 | 2.02 | 0.60 |
| 1:A2:1344:A:C4' | 23:BU:53:LYS:CG | 2.79 | 0.60 |
| 1:A2:1384:A:C8 | 23:BU:57:ARG:HG2 | 2.37 | 0.60 |
| 1:A2:1672:G:H3' | 1:A2:1673:G:P | 2.42 | 0.60 |
| 1:A2:1674:C:O2' | 1:A2:1675:C:O4' | 2.15 | 0.60 |
| 25:BW:79:PHE:C | 25:BW:80:ASN:HA | 2.26 | 0.60 |
| 29:Ba:23:CYS:C | 29:Ba:24:VAL:N | 2.60 | 0.60 |
| 1:A2:180:A:C6 | 9:BG:191:ARG:HB2 | 2.36 | 0.60 |
| 1:A2:182:A:H4' | 9:BG:195:VAL:HG22 | 1.83 | 0.60 |
| 1:A2:370:A:O2' | 12:BJ:13:SER:HB2 | 2.01 | 0.60 |
| 1:A2:698:U:H6 | 7:BE:207:LEU:CB | 2.05 | 0.60 |
| 1:A2:705:U:O2' | 7:BE:231:GLN:HA | 2.02 | 0.60 |
| 1:A2:736:C:C4' | 7:BE:182:TYR:H | 2.14 | 0.60 |
| 1:A2:775:G:C5 | 27:BY:60:PHE:O | 2.55 | 0.60 |
| 1:A2:832:U:C4' | 9:BG:213:ALA:HA | 2.32 | 0.60 |
| 1:A2:857:U:N3 | 10:BH:107:ARG:O | 2.35 | 0.60 |
| 1:A2:1008:G:P | 17:BO:135:ARG:C | 2.67 | 0.60 |
| 1:A2:1236:A:C5' | 18:BP:61:ARG:HD3 | 2.31 | 0.60 |
| 1:A2:1243:G:C5' | 18:BP:61:ARG:H | 2.11 | 0.60 |
| 1:A2:1256:A:OP1 | 34:Bf:142:GLY:HA2 | 2.01 | 0.60 |
| 7:BE:11:ARG:HB2 | 7:BE:28:ALA:N | 2.17 | 0.60 |
| 9:BG:125:THR:C | 9:BG:126:ASP:N | 2.59 | 0.60 |
| 11:BI:64:ASN:C | 11:BI:64:ASN:HD22 | 2.10 | 0.60 |
| 16:BN:139:TRP:O | 16:BN:140:LYS:O | 2.19 | 0.60 |
| 21:BS:93:THR:HG22 | 21:BS:115:ARG:HD3 | 1.84 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 23:BU:104:THR:HG1 | 23:BU:105:GLN:N | 2.00 | 0.60 |
| 1:A2:89:G:N7 | 27:BY:119:PHE:C | 2.59 | 0.60 |
| 1:A2:93:A:C8 | 1:A2:398:G:H2' | 2.36 | 0.60 |
| 1:A2:98:U:H2' | 1:A2:99:C:C6 | 2.37 | 0.60 |
| 1:A2:139:C:O5' | 9:BG:141:ILE:HB | 2.01 | 0.60 |
| 1:A2:178:U:OP1 | 9:BG:179:VAL:CG1 | 2.49 | 0.60 |
| 1:A2:243:G:C8 | 7:BE:146:THR:C | 2.79 | 0.60 |
| 1:A2:336:G:N7 | 11:BI:27:PHE:HD1 | 2.00 | 0.60 |
| 1:A2:627:C:H2' | 1:A2:627:C:O2 | 2.01 | 0.60 |
| 1:A2:631:G:HO2' | 26:BX:16:ARG:CA | 2.04 | 0.60 |
| 1:A2:886:U:O2 | 17:BO:124:ASP:OD2 | 2.19 | 0.60 |
| 1:A2:895:G:N3 | 17:BO:18:ARG:NH1 | 2.50 | 0.60 |
| 1:A2:1095:U:H5" | 1:A2:1096:C:H5' | 1.84 | 0.60 |
| 1:A2:1137:A:H8 | 26:BX:115:GLY:O | 1.81 | 0.60 |
| 1:A2:1280:C:C2 | 23:BU:72:ASN:C | 2.80 | 0.60 |
| 1:A2:1322:A:C2 | 1:A2:1323:C:C6 | 2.89 | 0.60 |
| 1:A2:1344:A:C4' | 23:BU:53:LYS:HG3 | 2.24 | 0.60 |
| 1:A2:1399:C:C5 | 20:BR:60:ARG:HB3 | 2.36 | 0.60 |
| 1:A2:1457:C:N3 | 21:BS:134:ARG:N | 2.50 | 0.60 |
| 1:A2:1499:G:C1' | 22:BT:102:ARG:O | 2.49 | 0.60 |
| 1:A2:1555:A:H1' | 18:BP:115:TYR:CD2 | 2.36 | 0.60 |
| 1:A2:1565:C:C6 | 21:BS:40:ARG:C | 2.66 | 0.60 |
| 1:A2:1621:U:H3' | 1:A2:1622:G:P | 2.41 | 0.60 |
| 7:BE:26:CYS:O | 7:BE:26:CYS:SG | 2.59 | 0.60 |
| 14:BL:127:GLN:HA | 14:BL:137:PHE:HA | 1.83 | 0.60 |
| 16:BN:139:TRP:O | 16:BN:140:LYS:N | 2.35 | 0.60 |
| 20:BR:99:VAL:CB | 20:BR:119:LEU:O | 2.50 | 0.60 |
| 23:BU:95:ALA:HB1 | 23:BU:99:ILE:HG23 | 1.83 | 0.60 |
| 25:BW:79:PHE:C | 25:BW:80:ASN:N | 2.60 | 0.60 |
| 1:A2:30:G:H3' | 26:BX:141:GLU:C | 2.27 | 0.60 |
| 1:A2:76:A:O2' | 9:BG:163:THR:HG21 | 2.00 | 0.60 |
| 1:A2:87:C:H3' | 1:A2:88:U:OP2 | 2.02 | 0.60 |
| 1:A2:116:U:O4 | 7:BE:4:GLY:CA | 2.44 | 0.60 |
| 1:A2:164:A:H1' | 9:BG:17:GLU:HG3 | 1.84 | 0.60 |
| 1:A2:235:G:H2' | 1:A2:236:A:C1' | 2.31 | 0.60 |
| 1:A2:241:U:N3 | 7:BE:136:VAL:HG11 | 2.16 | 0.60 |
| 1:A2:260:U:O3' | 1:A2:261:U:OP2 | 2.15 | 0.60 |
| 1:A2:370:A:C5' | 12:BJ:14:THR:CA | 2.80 | 0.60 |
| 1:A2:591:A:C6 | 33:Be:23:LYS:NZ | 2.70 | 0.60 |
| 1:A2:742:U:N3 | 7:BE:207:LEU:N | 2.50 | 0.60 |
| 1:A2:901:G:O2' | 17:BO:90:ARG:NH1 | 2.31 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:959:U:H1' | 25:BW:54:ASP:OD1 | 2.02 | 0.60 |
| 1:A2:1036:A:O3' | 1:A2:1037:C:P | 2.59 | 0.60 |
| 1:A2:1237:G:C2 | 18:BP:66:ALA:HB2 | 2.31 | 0.60 |
| 1:A2:1241:G:C5 | 18:BP:96:ILE:HG23 | 2.36 | 0.60 |
| 1:A2:1473:U:N1 | 8:BF:113:ILE:HD13 | 2.17 | 0.60 |
| 1:A2:1502:G:O2' | 21:BS:84:TRP:CZ2 | 2.55 | 0.60 |
| 1:A2:1553:G:C6 | 18:BP:39:ALA:C | 2.80 | 0.60 |
| 1:A2:1613:U:P | 8:BF:84:LYS:HE2 | 2.35 | 0.60 |
| 1:A2:1723:U:C5 | 9:BG:73:ILE:HD11 | 2.30 | 0.60 |
| 7:BE:140:VAL:C | 7:BE:141:THR:N | 2.60 | 0.60 |
| 13:BK:11:ILE:HD11 | 13:BK:37:THR:CG2 | 2.31 | 0.60 |
| 19:BQ:111:SER:C | 19:BQ:113:ASP:H | 2.09 | 0.60 |
| 1:A2:138:A:C2 | 9:BG:143:LYS:CB | 2.85 | 0.59 |
| 1:A2:322:G:O2' | 11:BI:9:HIS:NE2 | 2.31 | 0.59 |
| 1:A2:332:U:N3 | 1:A2:335:U:OP2 | 2.35 | 0.59 |
| 1:A2:702:G:H21 | 7:BE:173:ILE:HG22 | 0.54 | 0.59 |
| 1:A2:784:C:C2' | 27:BY:7:ILE:HG12 | 2.29 | 0.59 |
| 1:A2:806:A:O2' | 25:BW:80:ASN:OD1 | 2.20 | 0.59 |
| 1:A2:930:A:O2' | 4:BB:116:LYS:CD | 2.49 | 0.59 |
| 1:A2:1083:G:H4' | 5:BC:160:GLY:HA2 | 1.84 | 0.59 |
| 1:A2:1281:G:N9 | 23:BU:74:GLU:C | 2.57 | 0.59 |
| 1:A2:1281:G:C5 | 23:BU:74:GLU:O | 2.54 | 0.59 |
| 1:A2:1296:A:OP2 | 5:BC:116:LYS:CE | 2.50 | 0.59 |
| 1:A2:1302:U:C6 | 5:BC:97:ARG:NE | 2.70 | 0.59 |
| 1:A2:1326:A:H3' | 6:BD:158:ILE:H | 0.77 | 0.59 |
| 1:A2:1451:C:C4 | 18:BP:97:TYR:HB3 | 2.37 | 0.59 |
| 1:A2:1520:U:P | 22:BT:78:LYS:HB2 | 2.42 | 0.59 |
| 5:BC:119:LYS:HA | 5:BC:120:GLU:N | 2.16 | 0.59 |
| 8:BF:38:THR:HG1 | 8:BF:39:GLU:N | 1.99 | 0.59 |
| 15:BM:31:VAL:O | 15:BM:31:VAL:HG22 | 2.02 | 0.59 |
| 15:BM:58:LEU:HD11 | 15:BM:126:TRP:CH2 | 2.37 | 0.59 |
| 16:BN:64:ARG:C | 16:BN:65:VAL:N | 2.60 | 0.59 |
| 1:A2:214:G:C5 | 7:BE:133:LYS:HD2 | 2.37 | 0.59 |
| 1:A2:282:C:OP1 | 9:BG:154:ARG:CB | 2.49 | 0.59 |
| 1:A2:335:U:N1 | 11:BI:27:PHE:O | 2.27 | 0.59 |
| 1:A2:341:A:O3' | 1:A2:342:C:P | 2.59 | 0.59 |
| 1:A2:733:A:C2' | 7:BE:194:THR:OG1 | 2.49 | 0.59 |
| 1:A2:737:A:N1 | 7:BE:176:ASP:N | 2.50 | 0.59 |
| 1:A2:765:G:O6 | 12:BJ:132:ARG:CG | 2.25 | 0.59 |
| 1:A2:775:G:N2 | 27:BY:69:SER:HB3 | 2.17 | 0.59 |
| 1:A2:866:G:H3' | 25:BW:3:ARG:N | 2.16 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:873:U:N3 | 16:BN:10:GLY:HA2 | 2.10 | 0.59 |
| 1:A2:891:A:C2 | 1:A2:922:G:C2 | 2.90 | 0.59 |
| 1:A2:896:U:OP1 | 17:BO:34:SER:N | 2.27 | 0.59 |
| 1:A2:1452:U:O2' | 18:BP:117:GLY:CA | 2.37 | 0.59 |
| 1:A2:1755:A:H1' | 1:A2:1756:A:O4' | 2.02 | 0.59 |
| 2:AZ:6111:G:O4' | 8:BF:219:ARG:CB | 2.36 | 0.59 |
| 2:AZ:6171:U:OP2 | 2:AZ:6171:U:C6 | 2.55 | 0.59 |
| 4:BB:147:ALA:HA | 4:BB:148:ASN:N | 2.17 | 0.59 |
| 5:BC:199:GLN:C | 5:BC:200:SER:N | 2.60 | 0.59 |
| 10:BH:97:ARG:C | 10:BH:98:ILE:N | 2.60 | 0.59 |
| 18:BP:60:LEU:HD21 | 18:BP:89:MET:CB | 2.32 | 0.59 |
| 1:A2:56:U:C2 | 27:BY:113:ASN:HB3 | 2.32 | 0.59 |
| 1:A2:141:U:H4' | 9:BG:135:PRO:CG | 2.29 | 0.59 |
| 1:A2:142:G:H8 | 9:BG:135:PRO:N | 1.98 | 0.59 |
| 1:A2:214:G:C8 | 7:BE:132:GLY:C | 2.74 | 0.59 |
| 1:A2:322:G:C2 | 11:BI:9:HIS:NE2 | 2.57 | 0.59 |
| 1:A2:338:C:H5' | 11:BI:24:LYS:HA | 1.84 | 0.59 |
| 1:A2:590:C:H2' | 1:A2:591:A:H5' | 1.83 | 0.59 |
| 1:A2:634:G:C4' | 25:BW:79:PHE:H | 2.15 | 0.59 |
| 1:A2:702:G:C8 | 7:BE:176:ASP:CB | 2.83 | 0.59 |
| 1:A2:703:G:O2' | 7:BE:173:ILE:CG1 | 2.49 | 0.59 |
| 1:A2:956:C:C2 | 16:BN:11:ILE:CG2 | 2.80 | 0.59 |
| 1:A2:1034:C:C5 | 26:BX:3:LYS:CB | 2.84 | 0.59 |
| 1:A2:1099:U:H5' | 5:BC:199:GLN:HB3 | 1.79 | 0.59 |
| 1:A2:1383:G:O5' | 23:BU:88:LYS:C | 2.44 | 0.59 |
| 1:A2:1498:G:H5" | 22:BT:72:GLY:O | 1.88 | 0.59 |
| 1:A2:1498:G:C1' | 22:BT:73:VAL:HG23 | 2.28 | 0.59 |
| 1:A2:1533:C:C1' | 28:BZ:77:ARG:HE | 2.14 | 0.59 |
| 6:BD:101:GLN:C | 6:BD:102:ALA:C | 2.69 | 0.59 |
| 7:BE:206:ASP:O | 7:BE:222:LEU:N | 2.35 | 0.59 |
| 23:BU:78:THR:C | 23:BU:79:TRP:N | 2.60 | 0.59 |
| 1:A2:90:C:N4 | 27:BY:117:LYS:C | 2.60 | 0.59 |
| 1:A2:141:U:H5" | 9:BG:141:ILE:HG12 | 1.83 | 0.59 |
| 1:A2:219:A:OP2 | 9:BG:215:ARG:HD2 | 2.02 | 0.59 |
| 1:A2:329:G:N1 | 11:BI:30:GLY:HA3 | 2.16 | 0.59 |
| 1:A2:595:G:H22 | 26:BX:138:GLU:C | 2.10 | 0.59 |
| 1:A2:632:U:O4' | 26:BX:12:ALA:O | 2.21 | 0.59 |
| 1:A2:778:G:C1' | 27:BY:32:ARG:CZ | 2.80 | 0.59 |
| 1:A2:864:U:H5' | 25:BW:6:VAL:HG12 | 1.85 | 0.59 |
| 1:A2:866:G:OP2 | 25:BW:3:ARG:CA | 2.50 | 0.59 |
| 1:A2:956:C:C2' | 30:Bb:22:LYS:HE3 | 2.32 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:966:A:N6 | 26:BX:10:ASN:H | 1.95 | 0.59 |
| 1:A2:1096:C:OP2 | 5:BC:168:ARG:CD | 2.49 | 0.59 |
| 1:A2:1229:G:N1 | 34:Bf:133:ALA:HB1 | 2.15 | 0.59 |
| 1:A2:1252:C:C5 | 34:Bf:136:LYS:HB3 | 2.37 | 0.59 |
| 1:A2:1296:A:P | 5:BC:116:LYS:HD3 | 2.42 | 0.59 |
| 1:A2:1384:A:C8 | 23:BU:57:ARG:CG | 2.62 | 0.59 |
| 1:A2:1393:C:OP1 | 20:BR:27:ASP:N | 2.35 | 0.59 |
| 1:A2:1399:C:OP2 | 20:BR:67:ARG:CB | 2.51 | 0.59 |
| 1:A2:1502:G:O2' | 21:BS:84:TRP:HZ2 | 1.86 | 0.59 |
| 1:A2:1565:C:H5' | 21:BS:44:ASN:N | 2.03 | 0.59 |
| 1:A2:1720:G:H2' | 9:BG:67:VAL:H | 1.67 | 0.59 |
| 6:BD:116:ARG:O | 6:BD:117:ARG:C | 2.45 | 0.59 |
| 8:BF:96:SER:HB2 | 8:BF:176:THR:HG21 | 1.83 | 0.59 |
| 12:BJ:25:ASP:O | 12:BJ:26:ALA:HA | 2.02 | 0.59 |
| 25:BW:89:TRP:O | 25:BW:92:ASN:N | 2.35 | 0.59 |
| 31:Bc:26:THR:HG22 | 31:Bc:27:GLN:N | 2.18 | 0.59 |
| 1:A2:162:A:O2' | 9:BG:58:LYS:CE | 2.37 | 0.59 |
| 1:A2:226:A:H2' | 1:A2:227:U:H5' | 1.84 | 0.59 |
| 1:A2:243:G:H5' | 7:BE:147:ILE:CG1 | 2.27 | 0.59 |
| 1:A2:266:A:C2 | 9:BG:136:LYS:CB | 2.85 | 0.59 |
| 1:A2:591:A:H2' | 1:A2:592:A:C8 | 2.38 | 0.59 |
| 1:A2:634:G:O6 | 26:BX:10:ASN:OD1 | 2.21 | 0.59 |
| 1:A2:756:A:P | 12:BJ:4:ALA:HB3 | 2.42 | 0.59 |
| 1:A2:937:C:H2' | 1:A2:938:G:O5' | 2.02 | 0.59 |
| 1:A2:986:G:C2 | 1:A2:987:G:H1' | 2.37 | 0.59 |
| 1:A2:995:A:H2' | 1:A2:996:U:O4' | 2.02 | 0.59 |
| 1:A2:1137:A:H5" | 26:BX:64:PRO:HD3 | 1.81 | 0.59 |
| 1:A2:1242:A:H5" | 18:BP:89:MET:CE | 2.09 | 0.59 |
| 1:A2:1325:A:C2 | 1:A2:1326:A:C8 | 2.91 | 0.59 |
| 1:A2:1403:C:H5" | 20:BR:2:GLY:HA3 | 0.59 | 0.59 |
| 1:A2:1555:A:O2' | 18:BP:115:TYR:CD1 | 2.49 | 0.59 |
| 1:A2:1748:G:O3' | 1:A2:1749:A:P | 2.60 | 0.59 |
| 1:A2:1797:A:H1' | 29:Ba:94:ASN:CG | 2.26 | 0.59 |
| 2:AZ:6219:U:C2' | 6:BD:144:ALA:HB1 | 2.25 | 0.59 |
| 3:BA:108:THR:C | 3:BA:109:ASN:CB | 2.75 | 0.59 |
| 6:BD:164:VAL:HG13 | 6:BD:168:ILE:HD11 | 1.85 | 0.59 |
| 9:BG:19:ASP:C | 9:BG:20:ASP:N | 2.60 | 0.59 |
| 1:A2:395:U:OP2 | 9:BG:92:ARG:N | 2.35 | 0.59 |
| 1:A2:650:U:H2' | 12:BJ:91:LYS:HE2 | 1.83 | 0.59 |
| 1:A2:743:U:C4 | 1:A2:809:A:C2 | 2.90 | 0.59 |
| 1:A2:956:C:N1 | 16:BN:11:ILE:HG21 | 2.18 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:988:A:O2' | 17:BO:125:SER:C | 2.45 | 0.59 |
| 1:A2:1041:G:C5' | 24:BV:62:ARG:HA | 2.32 | 0.59 |
| 1:A2:1054:U:C3' | 3:BA:149:LEU:HD22 | 2.13 | 0.59 |
| 1:A2:1298:U:H2' | 5:BC:99:LYS:HB2 | 1.83 | 0.59 |
| 1:A2:1300:A:N9 | 5:BC:86:VAL:CA | 2.66 | 0.59 |
| 1:A2:1566:U:H4' | 21:BS:32:LEU:C | 2.26 | 0.59 |
| 1:A2:1588:G:H5' | 8:BF:101:GLY:O | 2.03 | 0.59 |
| 4:BB:126:THR:HG22 | 4:BB:136:ARG:HG3 | 1.83 | 0.59 |
| 4:BB:199:ASN:N | 4:BB:200:ALA:N | 2.50 | 0.59 |
| 5:BC:116:LYS:O | 5:BC:117:THR:N | 2.36 | 0.59 |
| 8:BF:148:ARG:NH2 | 8:BF:150:GLY:O | 2.35 | 0.59 |
| 10:BH:142:TYR:O | 25:BW:49:GLU:HA | 2.01 | 0.59 |
| 23:BU:26:LEU:HD21 | 23:BU:114:VAL:HG22 | 1.83 | 0.59 |
| 1:A2:90:C:H42 | 27:BY:117:LYS:N | 1.97 | 0.59 |
| 1:A2:93:A:C4 | 1:A2:399:A:C2 | 2.91 | 0.59 |
| 1:A2:140:A:P | 9:BG:141:ILE:HD12 | 2.42 | 0.59 |
| 1:A2:451:A:C1' | 27:BY:112:LYS:HA | 2.33 | 0.59 |
| 1:A2:457:G:N2 | 27:BY:109:LYS:CB | 2.64 | 0.59 |
| 1:A2:572:C:H5" | 26:BX:116:ASP:CB | 2.31 | 0.59 |
| 1:A2:631:G:H4' | 26:BX:16:ARG:CZ | 2.33 | 0.59 |
| 1:A2:706:A:C8 | 7:BE:231:GLN:NE2 | 2.71 | 0.59 |
| 1:A2:811:A:C2 | 10:BH:107:ARG:N | 2.70 | 0.59 |
| 1:A2:862:A:O3' | 25:BW:30:SER:O | 2.20 | 0.59 |
| 1:A2:1184:A:N6 | 18:BP:125:PRO:HB3 | 2.16 | 0.59 |
| 1:A2:1212:G:O6 | 18:BP:99:GLY:O | 2.21 | 0.59 |
| 1:A2:1260:U:O5' | 34:Bf:92:LYS:HB3 | 2.02 | 0.59 |
| 1:A2:1301:U:O2 | 1:A2:1301:U:H2' | 2.02 | 0.59 |
| 1:A2:1428:G:C2 | 23:BU:74:GLU:HG3 | 1.12 | 0.59 |
| 1:A2:1503:A:O2' | 22:BT:35:ASP:O | 2.20 | 0.59 |
| 1:A2:1795:U:H4' | 29:Ba:86:VAL:CG1 | 2.33 | 0.59 |
| 3:BA:5:ALA:N | 20:BR:114:GLY:O | 2.36 | 0.59 |
| 3:BA:67:ILE:C | 3:BA:69:ASN:N | 2.61 | 0.59 |
| 21:BS:45:LEU:HD21 | 21:BS:81:ILE:CG2 | 2.32 | 0.59 |
| 1:A2:29:U:O2 | 26:BX:132:LEU:N | 2.36 | 0.59 |
| 1:A2:30:G:OP2 | 26:BX:130:VAL:HG11 | 2.02 | 0.59 |
| 1:A2:91:G:C8 | 27:BY:116:LYS:HE3 | 2.35 | 0.59 |
| 1:A2:92:A:C8 | 27:BY:116:LYS:HE3 | 2.36 | 0.59 |
| 1:A2:241:U:H3 | 7:BE:136:VAL:HG13 | 1.57 | 0.59 |
| 1:A2:245:U:N3 | 7:BE:128:LYS:CD | 2.51 | 0.59 |
| 1:A2:338:C:N1 | 11:BI:4:SER:HB2 | 2.18 | 0.59 |
| 1:A2:452:A:C5 | 27:BY:115:ASP:OD2 | 2.56 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:568:G:H2' | 33:Be:13:LYS:HD3 | 1.84 | 0.59 |
| 1:A2:633:U:H3' | 1:A2:634:G:P | 2.42 | 0.59 |
| 1:A2:634:G:H5" | 25:BW:79:PHE:CA | 2.33 | 0.59 |
| 1:A2:757:A:OP2 | 12:BJ:6:ARG:CD | 2.51 | 0.59 |
| 1:A2:783:G:C8 | 27:BY:37:LYS:C | 2.81 | 0.59 |
| 1:A2:1034:C:C4 | 26:BX:3:LYS:HB3 | 2.37 | 0.59 |
| 1:A2:1213:G:O2' | 18:BP:77:ARG:CB | 2.50 | 0.59 |
| 1:A2:1241:G:H5' | 18:BP:105:VAL:O | 2.02 | 0.59 |
| 1:A2:1258:U:O4 | 34:Bf:97:ALA:CA | 2.50 | 0.59 |
| 1:A2:1260:U:C3' | 34:Bf:93:ALA:HB2 | 2.33 | 0.59 |
| 1:A2:1301:U:C4 | 5:BC:119:LYS:N | 2.68 | 0.59 |
| 1:A2:1453:G:H1' | 18:BP:120:SER:CB | 2.29 | 0.59 |
| 1:A2:1620:C:H2' | 1:A2:1621:U:C6 | 2.38 | 0.59 |
| 3:BA:51:GLY:O | 20:BR:107:SER:N | 2.35 | 0.59 |
| 3:BA:131:GLN:HE21 | 3:BA:134:LYS:HE3 | 1.67 | 0.59 |
| 6:BD:33:GLY:HA3 | 6:BD:53:THR:HG23 | 1.84 | 0.59 |
| 20:BR:121:VAL:O | 20:BR:122:ILE:N | 2.36 | 0.59 |
| 23:BU:61:LYS:O | 23:BU:62:VAL:HG23 | 2.03 | 0.59 |
| 25:BW:28:ARG:O | 25:BW:29:PRO:C | 2.46 | 0.59 |
| 27:BY:99:LYS:HE3 | 27:BY:100:VAL:HG12 | 1.85 | 0.59 |
| 29:Ba:37:LYS:O | 29:Ba:38:ARG:HD2 | 2.02 | 0.59 |
| 29:Ba:76:SER:O | 29:Ba:79:ILE:N | 2.36 | 0.59 |
| 1:A2:18:C:O3' | 26:BX:114:LYS:HG2 | 2.02 | 0.59 |
| 1:A2:89:G:O3' | 1:A2:90:C:P | 2.61 | 0.59 |
| 1:A2:163:G:HO2' | 9:BG:1:MET:C | 2.00 | 0.59 |
| 1:A2:165:G:H21 | 27:BY:131:ARG:HH22 | 1.37 | 0.59 |
| 1:A2:216:U:C3' | 7:BE:129:VAL:CG2 | 2.75 | 0.59 |
| 1:A2:300:A:N6 | 7:BE:5:PRO:CD | 2.54 | 0.59 |
| 1:A2:398:G:C3' | 9:BG:88:ARG:NH1 | 2.66 | 0.59 |
| 1:A2:600:U:C5' | 26:BX:122:PHE:HB3 | 2.31 | 0.59 |
| 1:A2:785:U:H2' | 27:BY:70:VAL:N | 2.13 | 0.59 |
| 1:A2:789:A:O3' | 1:A2:790:U:O5' | 2.12 | 0.59 |
| 1:A2:956:C:C2' | 30:Bb:22:LYS:CE | 2.81 | 0.59 |
| 1:A2:1096:C:C6 | 5:BC:200:SER:O | 2.55 | 0.59 |
| 1:A2:1299:G:O3' | 5:BC:85:PRO:CA | 2.51 | 0.59 |
| 1:A2:1299:G:N2 | 1:A2:1300:A:N1 | 2.51 | 0.59 |
| 1:A2:1549:C:OP1 | 21:BS:97:ASP:C | 2.46 | 0.59 |
| 1:A2:1555:A:C8 | 18:BP:40:ARG:CD | 2.85 | 0.59 |
| 1:A2:1722:A:C5' | 9:BG:97:VAL:O | 2.50 | 0.59 |
| 3:BA:58:VAL:HG22 | 3:BA:176:LEU:O | 2.03 | 0.59 |
| 3:BA:115:PHE:CE1 | 3:BA:116:LYS:HA | 2.37 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 6:BD:148:LYS:C | 6:BD:149:ALA:N | 2.61 | 0.59 |
| 11:BI:100:ALA:C | 11:BI:101:ILE:HD13 | 2.28 | 0.59 |
| 12:BJ:37:LYS:HE2 | 12:BJ:38:ASN:HD21 | 1.66 | 0.59 |
| 1:A2:129:U:C4 | 9:BG:177:ARG:CZ | 2.84 | 0.59 |
| 1:A2:138:A:O4' | 9:BG:144:PHE:CB | 2.40 | 0.59 |
| 1:A2:249:U:O3' | 1:A2:250:C:O5' | 2.20 | 0.59 |
| 1:A2:473:A:C8 | 1:A2:474:A:N7 | 2.71 | 0.59 |
| 1:A2:586:G:O6 | 33:Be:19:PRO:CB | 2.50 | 0.59 |
| 1:A2:737:A:C5' | 7:BE:158:ASP:C | 2.74 | 0.59 |
| 1:A2:740:A:C6 | 7:BE:198:LYS:HE3 | 2.37 | 0.59 |
| 1:A2:863:A:O3' | 25:BW:34:ILE:HG13 | 1.96 | 0.59 |
| 1:A2:917:U:P | 17:BO:84:ARG:NE | 2.76 | 0.59 |
| 1:A2:939:A:O2' | 1:A2:940:A:O4' | 2.20 | 0.59 |
| 1:A2:1191:U:O2 | 19:BQ:142:TYR:HB3 | 2.01 | 0.59 |
| 1:A2:1212:G:C6 | 18:BP:97:TYR:CZ | 2.74 | 0.59 |
| 1:A2:1240:U:H5' | 18:BP:104:GLN:OE1 | 2.03 | 0.59 |
| 1:A2:1243:G:C4 | 18:BP:57:MET:O | 2.51 | 0.59 |
| 1:A2:1260:U:H5" | 34:Bf:93:ALA:N | 2.17 | 0.59 |
| 1:A2:1418:G:C2 | 32:Bd:56:ARG:NH1 | 2.60 | 0.59 |
| 1:A2:1438:G:C5 | 1:A2:1439:C:C4 | 2.91 | 0.59 |
| 1:A2:1479:A:H4' | 22:BT:16:ASN:HD21 | 1.67 | 0.59 |
| 1:A2:1797:A:OP1 | 29:Ba:92:ARG:HD2 | 2.02 | 0.59 |
| 4:BB:214:LYS:HB3 | 4:BB:215:VAL:N | 2.18 | 0.59 |
| 6:BD:190:ARG:NH2 | 6:BD:195:SER:OG | 2.35 | 0.59 |
| 9:BG:8:PRO:O | 9:BG:10:ASN:N | 2.36 | 0.59 |
| 26:BX:120:VAL:C | 26:BX:121:ARG:N | 2.61 | 0.59 |
| 34:Bf:126:CYS:HA | 34:Bf:130:VAL:HG11 | 1.83 | 0.59 |
| 1:A2:1:U:C5 | 12:BJ:43:TYR:HB2 | 2.37 | 0.58 |
| 1:A2:216:U:C2 | 7:BE:150:PRO:HD2 | 2.38 | 0.58 |
| 1:A2:272:U:C4 | 9:BG:169:TYR:CD1 | 2.87 | 0.58 |
| 1:A2:317:C:H42 | 11:BI:15:GLY:C | 2.11 | 0.58 |
| 1:A2:394:C:P | 9:BG:92:ARG:HB2 | 2.42 | 0.58 |
| 1:A2:804:A:H2 | 25:BW:85:ASP:OD1 | 1.84 | 0.58 |
| 1:A2:958:U:C6 | 25:BW:28:ARG:NH1 | 2.62 | 0.58 |
| 1:A2:960:U:H5' | 25:BW:57:ARG:CA | 2.15 | 0.58 |
| 1:A2:1037:C:C1' | 25:BW:71:LYS:HD2 | 2.31 | 0.58 |
| 1:A2:1183:A:C8 | 18:BP:124:THR:HA | 2.38 | 0.58 |
| 1:A2:1212:G:C6 | 18:BP:97:TYR:CE1 | 2.83 | 0.58 |
| 1:A2:1334:U:O3' | 23:BU:83:GLU:CD | 2.46 | 0.58 |
| 3:BA:122:ILE:HG22 | 3:BA:123:VAL:N | 2.17 | 0.58 |
| 4:BB:117:TRP:CE3 | 4:BB:117:TRP:HA | 2.38 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 13:BK:67:THR:HG22 | 13:BK:68:LEU:HD13 | 1.85 | 0.58 |
| 21:BS:45:LEU:HD21 | 21:BS:81:ILE:HG22 | 1.84 | 0.58 |
| 27:BY:9:THR:C | 27:BY:10:ARG:N | 2.61 | 0.58 |
| 1:A2:300:A:O2' | 7:BE:3:ARG:NH1 | 2.36 | 0.58 |
| 1:A2:322:G:N1 | 1:A2:337:G:N7 | 2.51 | 0.58 |
| 1:A2:632:U:C5' | 26:BX:12:ALA:HB1 | 2.25 | 0.58 |
| 1:A2:739:G:C6 | 7:BE:175:PHE:CE1 | 2.87 | 0.58 |
| 1:A2:782:U:O5' | 27:BY:39:GLU:C | 2.46 | 0.58 |
| 1:A2:896:U:N3 | 17:BO:29:HIS:HE1 | 2.01 | 0.58 |
| 1:A2:897:C:C4 | 17:BO:38:THR:CG2 | 2.74 | 0.58 |
| 1:A2:1099:U:C5' | 5:BC:168:ARG:HB3 | 2.33 | 0.58 |
| 1:A2:1390:U:P | 20:BR:45:ARG:NH1 | 2.77 | 0.58 |
| 1:A2:1478:G:O5' | 1:A2:1478:G:C8 | 2.56 | 0.58 |
| 1:A2:1601:G:H8 | 22:BT:89:ARG:HD2 | 1.68 | 0.58 |
| 1:A2:1682:U:O2' | 1:A2:1683:C:O5' | 2.22 | 0.58 |
| 2:AZ:6034:A:N6 | 2:AZ:6082:G:OP2 | 2.36 | 0.58 |
| 4:BB:148:ASN:CG | 4:BB:148:ASN:O | 2.46 | 0.58 |
| 7:BE:162:ILE:HG22 | 7:BE:168:LYS:O | 2.03 | 0.58 |
| 14:BL:98:ASN:O | 14:BL:99:ARG:N | 2.36 | 0.58 |
| 28:BZ:53:GLU:HB3 | 28:BZ:57:TYR:CZ | 2.38 | 0.58 |
| 1:A2:30:G:OP1 | 26:BX:142:LYS:HG3 | 2.01 | 0.58 |
| 1:A2:90:C:H41 | 27:BY:117:LYS:C | 2.10 | 0.58 |
| 1:A2:178:U:C4 | 9:BG:177:ARG:O | 2.55 | 0.58 |
| 1:A2:240:U:C6 | 9:BG:209:ALA:HB3 | 2.37 | 0.58 |
| 1:A2:436:A:H1' | 26:BX:50:LYS:NZ | 2.19 | 0.58 |
| 1:A2:514:G:C8 | 1:A2:537:G:N2 | 2.71 | 0.58 |
| 1:A2:633:U:C5 | 14:BL:99:ARG:CB | 2.69 | 0.58 |
| 1:A2:698:U:C5 | 7:BE:207:LEU:CB | 2.30 | 0.58 |
| 1:A2:806:A:O2' | 25:BW:80:ASN:CG | 2.24 | 0.58 |
| 1:A2:888:U:C5 | 17:BO:124:ASP:N | 2.66 | 0.58 |
| 1:A2:952:A:C3' | 16:BN:5:HIS:H | 2.08 | 0.58 |
| 1:A2:954:G:O5' | 16:BN:2:GLY:N | 2.37 | 0.58 |
| 1:A2:956:C:C5 | 16:BN:11:ILE:HG21 | 2.37 | 0.58 |
| 1:A2:1037:C:OP1 | 25:BW:15:ASN:CA | 2.51 | 0.58 |
| 1:A2:1097:U:OP1 | 5:BC:168:ARG:O | 2.21 | 0.58 |
| 1:A2:1202:A:C8 | 1:A2:1456:C:C4 | 2.91 | 0.58 |
| 1:A2:1294:G:H8 | 1:A2:1294:G:P | 2.26 | 0.58 |
| 1:A2:1299:G:C1' | 5:BC:86:VAL:HG13 | 2.33 | 0.58 |
| 1:A2:1382:A:H1' | 23:BU:57:ARG:C | 2.28 | 0.58 |
| 1:A2:1453:G:O2' | 18:BP:119:PHE:CA | 2.51 | 0.58 |
| 1:A2:1547:A:C1' | 21:BS:100:THR:O | 2.52 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1586:A:OP1 | 19:BQ:134:ALA:N | 2.24 | 0.58 |
| 1:A2:1734:U:H2' | 1:A2:1735:U:O4' | 2.03 | 0.58 |
| 2:AZ:6161:C:O2 | 2:AZ:6161:C:H2' | 2.03 | 0.58 |
| 8:BF:61:TYR:HD2 | 8:BF:165:LEU:HD23 | 1.68 | 0.58 |
| 9:BG:193:LEU:O | 9:BG:194:LYS:N | 2.36 | 0.58 |
| 10:BH:12:ALA:HB3 | 10:BH:13:PRO:CD | 2.33 | 0.58 |
| 14:BL:109:VAL:HG22 | 14:BL:138:ASN:N | 2.18 | 0.58 |
| 35:Bg:130:THR:HG22 | 35:Bg:145:LEU:CD2 | 2.33 | 0.58 |
| 35:Bg:231:MET:O | 35:Bg:232:TYR:N | 2.37 | 0.58 |
| 1:A2:147:A:C1' | 27:BY:124:ARG:NH1 | 2.61 | 0.58 |
| 1:A2:314:C:C2 | 1:A2:355:G:C2 | 2.91 | 0.58 |
| 1:A2:322:G:C6 | 1:A2:337:G:N7 | 2.71 | 0.58 |
| 1:A2:347:G:N2 | 11:BI:17:LYS:N | 2.38 | 0.58 |
| 1:A2:382:C:C4' | 12:BJ:2:PRO:CD | 2.81 | 0.58 |
| 1:A2:567:A:H3' | 33:Be:10:ARG:CG | 2.27 | 0.58 |
| 1:A2:776:G:N2 | 27:BY:27:VAL:CG2 | 2.66 | 0.58 |
| 1:A2:784:C:C4' | 27:BY:7:ILE:HG12 | 2.33 | 0.58 |
| 1:A2:784:C:C4' | 27:BY:44:LEU:HD23 | 2.23 | 0.58 |
| 1:A2:887:A:H2' | 17:BO:124:ASP:HA | 1.84 | 0.58 |
| 1:A2:896:U:C2' | 17:BO:18:ARG:CB | 2.80 | 0.58 |
| 1:A2:1055:U:C2 | 3:BA:30:GLN:OE1 | 2.52 | 0.58 |
| 1:A2:1083:G:H22 | 5:BC:161:LYS:HE2 | 1.59 | 0.58 |
| 1:A2:1099:U:C6 | 5:BC:199:GLN:HB2 | 2.36 | 0.58 |
| 1:A2:1252:C:N1 | 34:Bf:136:LYS:CG | 2.47 | 0.58 |
| 1:A2:1253:U:H5' | 34:Bf:138:ARG:C | 2.28 | 0.58 |
| 1:A2:1384:A:O4' | 23:BU:57:ARG:HD3 | 1.87 | 0.58 |
| 1:A2:1417:A:C3' | 19:BQ:128:LYS:HZ2 | 2.16 | 0.58 |
| 1:A2:1470:C:C6 | 8:BF:184:PHE:CZ | 2.91 | 0.58 |
| 1:A2:1527:C:O3' | 8:BF:108:LEU:HD22 | 2.04 | 0.58 |
| 1:A2:1543:A:H2' | 1:A2:1544:U:O4' | 2.04 | 0.58 |
| 1:A2:1600:A:H4' | 22:BT:89:ARG:HB3 | 1.85 | 0.58 |
| 3:BA:61:ALA:O | 3:BA:62:ARG:HG3 | 2.03 | 0.58 |
| 3:BA:141:ILE:O | 3:BA:142:PRO:O | 2.21 | 0.58 |
| 4:BB:48:VAL:HG13 | 4:BB:61:LEU:HB3 | 1.84 | 0.58 |
| 11:BI:8:ARG:O | 11:BI:9:HIS:N | 2.36 | 0.58 |
| 11:BI:169:ILE:C | 11:BI:170:SER:N | 2.61 | 0.58 |
| 14:BL:68:GLY:O | 14:BL:69:LYS:HA | 2.04 | 0.58 |
| 16:BN:40:TYR:O | 16:BN:41:ALA:C | 2.47 | 0.58 |
| 21:BS:121:ALA:N | 21:BS:125:ILE:HD13 | 2.19 | 0.58 |
| 1:A2:163:G:C8 | 9:BG:17:GLU:CG | 2.85 | 0.58 |
| 1:A2:548:G:N1 | 1:A2:591:A:C6 | 2.70 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:628:G:N2 | 1:A2:972:G:C6 | 2.72 | 0.58 |
| 1:A2:641:G:H1 | 1:A2:693:U:H3 | 1.50 | 0.58 |
| 1:A2:765:G:N1 | 12:BJ:142:ASN:ND2 | 2.34 | 0.58 |
| 1:A2:821:U:C4 | 1:A2:853:G:N2 | 2.71 | 0.58 |
| 1:A2:858:G:O2' | 10:BH:106:SER:OG | 2.21 | 0.58 |
| 1:A2:959:U:C1' | 25:BW:54:ASP:OD1 | 2.51 | 0.58 |
| 1:A2:1007:C:P | 17:BO:136:ARG:HH11 | 2.25 | 0.58 |
| 1:A2:1102:G:N3 | 26:BX:7:ARG:NH1 | 2.51 | 0.58 |
| 1:A2:1114:G:O2' | 1:A2:1130:G:O6 | 2.20 | 0.58 |
| 1:A2:1236:A:H5" | 18:BP:61:ARG:CG | 2.31 | 0.58 |
| 1:A2:1390:U:C5 | 20:BR:3:ARG:HG2 | 2.37 | 0.58 |
| 1:A2:1479:A:C4' | 22:BT:16:ASN:HD21 | 2.16 | 0.58 |
| 1:A2:1709:C:H5' | 9:BG:9:VAL:HG23 | 1.86 | 0.58 |
| 7:BE:162:ILE:CD1 | 7:BE:164:LEU:HD22 | 2.33 | 0.58 |
| 11:BI:25:ARG:HG3 | 11:BI:27:PHE:CZ | 2.38 | 0.58 |
| 11:BI:105:ASP:O | 11:BI:106:ALA:C | 2.46 | 0.58 |
| 19:BQ:39:VAL:HG23 | 19:BQ:42:GLU:CG | 2.34 | 0.58 |
| 21:BS:138:THR:O | 21:BS:140:THR:N | 2.36 | 0.58 |
| 30:Bb:6:ASP:C | 30:Bb:7:LEU:HA | 2.28 | 0.58 |
| 32:Bd:10:HIS:O | 32:Bd:12:ARG:N | 2.36 | 0.58 |
| 1:A2:76:A:O4' | 9:BG:166:GLU:OE1 | 2.21 | 0.58 |
| 1:A2:101:U:C3' | 1:A2:102:U:P | 2.91 | 0.58 |
| 1:A2:216:U:C2' | 7:BE:129:VAL:HG21 | 2.32 | 0.58 |
| 1:A2:347:G:C2 | 11:BI:14:THR:OG1 | 2.56 | 0.58 |
| 1:A2:394:C:H5" | 9:BG:76:LEU:CD2 | 2.34 | 0.58 |
| 1:A2:427:C:O2' | 1:A2:428:A:O4' | 2.21 | 0.58 |
| 1:A2:456:A:N1 | 27:BY:107:GLN:C | 2.62 | 0.58 |
| 1:A2:601:A:C8 | 26:BX:105:ALA:HB2 | 2.26 | 0.58 |
| 1:A2:778:G:C2' | 27:BY:5:VAL:N | 2.65 | 0.58 |
| 1:A2:967:A:C2 | 26:BX:8:GLY:N | 2.71 | 0.58 |
| 1:A2:1049:U:C4' | 30:Bb:23:THR:HA | 2.20 | 0.58 |
| 1:A2:1096:C:H3' | 5:BC:167:VAL:N | 2.18 | 0.58 |
| 1:A2:1229:G:O2' | 1:A2:1255:G:N2 | 2.36 | 0.58 |
| 1:A2:1253:U:H6 | 34:Bf:136:LYS:CA | 2.16 | 0.58 |
| 1:A2:1400:A:O2' | 20:BR:10:LYS:HB3 | 2.03 | 0.58 |
| 1:A2:1553:G:C2 | 18:BP:40:ARG:CA | 2.86 | 0.58 |
| 1:A2:1566:U:OP1 | 21:BS:29:VAL:HA | 2.03 | 0.58 |
| 1:A2:1582:U:C3' | 19:BQ:135:ARG:NH1 | 2.66 | 0.58 |
| 1:A2:1600:A:H4' | 1:A2:1601:G:OP1 | 2.03 | 0.58 |
| 1:A2:1776:A:H2' | 1:A2:1777:G:C8 | 2.39 | 0.58 |
| 4:BB:137:ILE:CD1 | 4:BB:172:LEU:HD22 | 2.34 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 12:BJ:20:GLU:O | 12:BJ:22:SER:N | 2.37 | 0.58 |
| 13:BK:50:THR:C | 13:BK:51:SER:N | 2.62 | 0.58 |
| 14:BL:110:HIS:C | 14:BL:111:VAL:HB | 2.27 | 0.58 |
| 16:BN:103:GLU:OE1 | 16:BN:106:ARG:NH1 | 2.37 | 0.58 |
| 20:BR:113:LEU:C | 20:BR:114:GLY:N | 2.61 | 0.58 |
| 1:A2:164:A:C1' | 9:BG:17:GLU:N | 2.55 | 0.58 |
| 1:A2:181:A:H8 | 9:BG:191:ARG:NH1 | 2.00 | 0.58 |
| 1:A2:182:A:H8 | 9:BG:191:ARG:NH2 | 1.92 | 0.58 |
| 1:A2:216:U:C5 | 7:BE:138:TYR:O | 2.42 | 0.58 |
| 1:A2:246:G:H5" | 7:BE:127:LYS:HD3 | 1.84 | 0.58 |
| 1:A2:318:U:C2' | 11:BI:16:ALA:O | 2.44 | 0.58 |
| 1:A2:364:G:N2 | 1:A2:757:A:C2 | 2.72 | 0.58 |
| 1:A2:370:A:H5' | 12:BJ:14:THR:CA | 2.34 | 0.58 |
| 1:A2:374:U:O2 | 1:A2:374:U:H2' | 2.03 | 0.58 |
| 1:A2:395:U:C5 | 9:BG:91:GLU:HG3 | 2.39 | 0.58 |
| 1:A2:554:C:HO3' | 1:A2:555:A:P | 2.26 | 0.58 |
| 1:A2:566:C:H3' | 1:A2:567:A:P | 2.43 | 0.58 |
| 1:A2:735:C:C3' | 7:BE:192:ILE:HA | 2.27 | 0.58 |
| 1:A2:823:G:C2' | 1:A2:824:G:OP1 | 2.52 | 0.58 |
| 1:A2:888:U:C2' | 17:BO:126:THR:N | 2.66 | 0.58 |
| 1:A2:925:G:O5' | 1:A2:925:G:H8 | 1.86 | 0.58 |
| 1:A2:962:C:H3' | 1:A2:963:A:H8 | 1.69 | 0.58 |
| 1:A2:1033:C:O2' | 26:BX:2:GLY:O | 2.22 | 0.58 |
| 1:A2:1184:A:N9 | 18:BP:123:TYR:HB2 | 2.17 | 0.58 |
| 1:A2:1294:G:O6 | 1:A2:1295:G:O6 | 2.22 | 0.58 |
| 1:A2:1372:U:C4 | 1:A2:1373:C:C4 | 2.92 | 0.58 |
| 1:A2:1390:U:P | 20:BR:45:ARG:CZ | 2.89 | 0.58 |
| 1:A2:1475:A:N6 | 28:BZ:97:LYS:CD | 2.61 | 0.58 |
| 1:A2:1520:U:P | 22:BT:75:LYS:C | 2.74 | 0.58 |
| 2:AZ:6124:G:O6 | 2:AZ:6151:C:N3 | 2.36 | 0.58 |
| 3:BA:17:LEU:HD13 | 3:BA:22:THR:OG1 | 2.04 | 0.58 |
| 5:BC:96:THR:HG1 | 5:BC:97:ARG:N | 2.01 | 0.58 |
| 7:BE:21:ASP:O | 7:BE:22:LYS:CB | 2.51 | 0.58 |
| 28:BZ:66:VAL:HA | 28:BZ:70:LYS:N | 2.19 | 0.58 |
| 32:Bd:23:VAL:C | 32:Bd:24:CYS:N | 2.61 | 0.58 |
| 35:Bg:203:THR:HG22 | 35:Bg:212:ALA:HB3 | 1.85 | 0.58 |
| 1:A2:53:G:C6 | 1:A2:54:C:C4 | 2.92 | 0.58 |
| 1:A2:115:G:C1' | 11:BI:49:ARG:HH12 | 2.17 | 0.58 |
| 1:A2:137:U:C2' | 1:A2:137:U:O2 | 2.52 | 0.58 |
| 1:A2:450:U:H5" | 27:BY:112:LYS:HZ3 | 1.68 | 0.58 |
| 1:A2:777:C:H5' | 27:BY:32:ARG:HB2 | 1.84 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:783:G:N7 | 27:BY:39:GLU:CA | 2.67 | 0.58 |
| 1:A2:806:A:C8 | 25:BW:81:VAL:C | 2.80 | 0.58 |
| 1:A2:1009:U:H3' | 17:BO:129:LYS:CE | 2.34 | 0.58 |
| 1:A2:1109:G:N7 | 26:BX:112:LYS:HD2 | 2.19 | 0.58 |
| 1:A2:1401:A:OP2 | 20:BR:53:TYR:CG | 2.57 | 0.58 |
| 1:A2:1674:C:C3' | 9:BG:76:LEU:HG | 2.30 | 0.58 |
| 2:AZ:6218:U:N3 | 6:BD:146:ARG:CD | 2.65 | 0.58 |
| 3:BA:160:ILE:O | 3:BA:160:ILE:HG22 | 2.04 | 0.58 |
| 5:BC:193:VAL:O | 5:BC:193:VAL:HG12 | 2.02 | 0.58 |
| 8:BF:96:SER:OG | 8:BF:97:LEU:N | 2.35 | 0.58 |
| 11:BI:156:VAL:HA | 11:BI:159:GLN:HE21 | 1.69 | 0.58 |
| 16:BN:104:ARG:O | 16:BN:105:ASN:N | 2.36 | 0.58 |
| 20:BR:109:LEU:O | 20:BR:113:LEU:N | 2.37 | 0.58 |
| 21:BS:28:ILE:HG23 | 21:BS:29:VAL:H | 1.67 | 0.58 |
| 35:Bg:65:SER:C | 35:Bg:66:HIS:N | 2.62 | 0.58 |
| 35:Bg:70:ASP:C | 35:Bg:71:CYS:N | 2.61 | 0.58 |
| 1:A2:56:U:H3 | 27:BY:113:ASN:HB2 | 1.67 | 0.58 |
| 1:A2:138:A:N9 | 9:BG:140:ASN:CA | 2.67 | 0.58 |
| 1:A2:139:C:O5' | 9:BG:137:ARG:O | 2.22 | 0.58 |
| 1:A2:406:U:H3' | 1:A2:407:A:O5' | 2.03 | 0.58 |
| 1:A2:631:G:P | 26:BX:13:ARG:CB | 2.73 | 0.58 |
| 1:A2:679:U:OP2 | 7:BE:259:GLN:NE2 | 2.37 | 0.58 |
| 1:A2:706:A:H1' | 7:BE:213:SER:HB3 | 1.85 | 0.58 |
| 1:A2:896:U:C2 | 17:BO:29:HIS:CE1 | 2.92 | 0.58 |
| 1:A2:935:U:C3' | 1:A2:936:G:P | 2.92 | 0.58 |
| 1:A2:994:G:H3' | 1:A2:995:A:P | 2.44 | 0.58 |
| 1:A2:1034:C:N4 | 26:BX:3:LYS:HE3 | 2.17 | 0.58 |
| 1:A2:1240:U:O4' | 18:BP:75:PRO:C | 2.46 | 0.58 |
| 1:A2:1260:U:H3' | 34:Bf:93:ALA:CB | 2.34 | 0.58 |
| 1:A2:1294:G:N2 | 1:A2:1322:A:C4 | 2.72 | 0.58 |
| 1:A2:1305:U:O2 | 1:A2:1305:U:O4' | 2.22 | 0.58 |
| 1:A2:1328:G:P | 6:BD:164:VAL:HG23 | 2.44 | 0.58 |
| 1:A2:1433:G:N3 | 32:Bd:26:SER:OG | 2.36 | 0.58 |
| 1:A2:1499:G:H8 | 22:BT:102:ARG:C | 2.07 | 0.58 |
| 1:A2:1535:U:C6 | 8:BF:186:ASN:C | 2.64 | 0.58 |
| 1:A2:1547:A:O2' | 21:BS:100:THR:CA | 2.51 | 0.58 |
| 1:A2:1722:A:H1' | 9:BG:70:PRO:C | 1.92 | 0.58 |
| 2:AZ:6043:G:O2' | 2:AZ:6044:U:O4' | 2.22 | 0.58 |
| 3:BA:174:TRP:O | 3:BA:177:LEU:N | 2.36 | 0.58 |
| 10:BH:108:GLN:HA | 10:BH:109:VAL:C | 2.29 | 0.58 |
| 12:BJ:96:VAL:O | 12:BJ:97:LEU:N | 2.37 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 25:BW:89:TRP:C | 25:BW:90:THR:CA | 2.77 | 0.58 |
| 35:Bg:151:VAL:C | 35:Bg:172:ALA:HB3 | 2.28 | 0.58 |
| 1:A2:14:C:O4' | 5:BC:203:LYS:NZ | 2.37 | 0.58 |
| 1:A2:302:U:H5" | 11:BI:25:ARG:NH1 | 2.19 | 0.58 |
| 1:A2:329:G:O3' | 11:BI:56:ARG:HD3 | 2.04 | 0.58 |
| 1:A2:547:U:C5' | 26:BX:138:GLU:O | 2.50 | 0.58 |
| 1:A2:785:U:O3' | 27:BY:26:ASP:OD1 | 2.22 | 0.58 |
| 1:A2:871:G:N7 | 16:BN:12:SER:C | 2.47 | 0.58 |
| 1:A2:985:G:C4 | 1:A2:986:G:C8 | 2.91 | 0.58 |
| 1:A2:1353:U:H2' | 1:A2:1354:G:C8 | 2.39 | 0.58 |
| 1:A2:1454:G:C2' | 18:BP:123:TYR:CZ | 2.86 | 0.58 |
| 1:A2:1504:G:O2' | 1:A2:1563:C:O3' | 2.22 | 0.58 |
| 1:A2:1529:C:P | 8:BF:112:ARG:NH2 | 2.76 | 0.58 |
| 1:A2:1533:C:C4' | 28:BZ:77:ARG:CZ | 2.82 | 0.58 |
| 1:A2:1534:G:C1' | 28:BZ:63:SER:CA | 2.66 | 0.58 |
| 1:A2:1565:C:C4' | 21:BS:41:ARG:N | 2.52 | 0.58 |
| 3:BA:174:TRP:O | 3:BA:176:LEU:N | 2.36 | 0.58 |
| 4:BB:167:VAL:C | 4:BB:168:ILE:N | 2.60 | 0.58 |
| 5:BC:133:LYS:C | 5:BC:134:LEU:N | 2.62 | 0.58 |
| 1:A2:436:A:C4 | 26:BX:50:LYS:HD3 | 2.31 | 0.57 |
| 1:A2:572:C:H5' | 26:BX:115:GLY:HA3 | 1.85 | 0.57 |
| 1:A2:615:A:OP1 | 5:BC:201:ASN:C | 2.47 | 0.57 |
| 1:A2:962:C:C5 | 1:A2:963:A:N7 | 2.72 | 0.57 |
| 1:A2:969:C:N1 | 26:BX:14:LYS:HG2 | 2.04 | 0.57 |
| 1:A2:1237:G:OP2 | 18:BP:61:ARG:HG2 | 2.01 | 0.57 |
| 1:A2:1293:U:H2' | 1:A2:1294:G:O4' | 2.04 | 0.57 |
| 1:A2:1301:U:H5' | 5:BC:95:ARG:CG | 2.34 | 0.57 |
| 1:A2:1449:U:O4 | 18:BP:97:TYR:HE2 | 1.87 | 0.57 |
| 1:A2:1548:G:C5' | 21:BS:98:TYR:O | 2.51 | 0.57 |
| 1:A2:1560:U:O2 | 1:A2:1560:U:O4' | 2.22 | 0.57 |
| 1:A2:1750:A:C5 | 1:A2:1751:C:C5 | 2.91 | 0.57 |
| 3:BA:74:VAL:HG23 | 3:BA:75:ALA:N | 2.18 | 0.57 |
| 3:BA:118:PRO:HD2 | 3:BA:141:ILE:HD13 | 1.86 | 0.57 |
| 16:BN:115:LEU:O | 16:BN:119:GLU:N | 2.37 | 0.57 |
| 20:BR:104:ASN:HA | 20:BR:121:VAL:CB | 2.34 | 0.57 |
| 1:A2:63:G:O6 | 1:A2:87:C:N3 | 2.33 | 0.57 |
| 1:A2:78:A:C2 | 9:BG:160:ARG:CG | 2.85 | 0.57 |
| 1:A2:178:U:O5' | 9:BG:179:VAL:CB | 2.53 | 0.57 |
| 1:A2:266:A:H4' | 9:BG:136:LYS:HD2 | 1.52 | 0.57 |
| 1:A2:328:A:C2 | 1:A2:329:G:C4 | 2.92 | 0.57 |
| 1:A2:435:C:P | 26:BX:77:ILE:CD1 | 2.92 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:450:U:H2' | 1:A2:451:A:O4' | 2.03 | 0.57 |
| 1:A2:458:G:N3 | 27:BY:106:GLN:NE2 | 2.52 | 0.57 |
| 1:A2:635:A:N6 | 1:A2:964:U:C5 | 2.73 | 0.57 |
| 1:A2:641:G:P | 25:BW:118:ARG:HH11 | 2.26 | 0.57 |
| 1:A2:760:A:H61 | 12:BJ:6:ARG:HH12 | 1.52 | 0.57 |
| 1:A2:760:A:HO2' | 12:BJ:9:SER:C | 2.08 | 0.57 |
| 1:A2:779:U:O4 | 27:BY:43:LYS:CE | 2.51 | 0.57 |
| 1:A2:803:A:C3' | 25:BW:120:HIS:HD1 | 2.17 | 0.57 |
| 1:A2:960:U:C4' | 25:BW:57:ARG:HD3 | 2.35 | 0.57 |
| 1:A2:1280:C:N4 | 23:BU:72:ASN:OD1 | 2.36 | 0.57 |
| 1:A2:1672:G:O2' | 1:A2:1673:G:O4' | 2.15 | 0.57 |
| 1:A2:1683:C:H3' | 9:BG:52:ILE:O | 1.99 | 0.57 |
| 1:A2:1722:A:OP2 | 9:BG:73:ILE:HD11 | 2.04 | 0.57 |
| 13:BK:39:ASN:O | 13:BK:41:TYR:N | 2.36 | 0.57 |
| 14:BL:128:CYS:C | 14:BL:129:ARG:N | 2.63 | 0.57 |
| 14:BL:132:SER:OG | 14:BL:135:VAL:HG23 | 2.04 | 0.57 |
| 16:BN:142:GLU:O | 16:BN:144:ALA:N | 2.37 | 0.57 |
| 18:BP:85:ILE:O | 18:BP:86:VAL:N | 2.37 | 0.57 |
| 1:A2:100:A:H2' | 1:A2:101:U:O4' | 2.04 | 0.57 |
| 1:A2:149:C:OP2 | 27:BY:132:ARG:HG3 | 2.05 | 0.57 |
| 1:A2:182:A:C8 | 9:BG:191:ARG:CZ | 2.86 | 0.57 |
| 1:A2:275:C:H2' | 1:A2:276:C:O4' | 2.03 | 0.57 |
| 1:A2:302:U:H5 | 7:BE:2:ALA:CB | 1.50 | 0.57 |
| 1:A2:783:G:P | 27:BY:38:ASP:O | 2.60 | 0.57 |
| 1:A2:803:A:O3' | 25:BW:120:HIS:CE1 | 2.55 | 0.57 |
| 1:A2:823:G:N3 | 1:A2:823:G:H5" | 2.19 | 0.57 |
| 1:A2:898:A:C2 | 1:A2:915:A:C6 | 2.93 | 0.57 |
| 1:A2:1009:U:C5' | 17:BO:129:LYS:CD | 2.82 | 0.57 |
| 1:A2:1107:G:C6 | 1:A2:1108:G:O6 | 2.57 | 0.57 |
| 1:A2:1279:C:N3 | 23:BU:72:ASN:CB | 2.68 | 0.57 |
| 1:A2:1281:G:O4' | 23:BU:68:ARG:NH2 | 2.21 | 0.57 |
| 1:A2:1453:G:N3 | 18:BP:120:SER:C | 2.62 | 0.57 |
| 1:A2:1504:G:C6 | 21:BS:85:PHE:HD1 | 2.20 | 0.57 |
| 10:BH:140:VAL:HG23 | 10:BH:141:ARG:N | 2.18 | 0.57 |
| 16:BN:76:LYS:HB3 | 16:BN:81:ALA:HB2 | 1.86 | 0.57 |
| 20:BR:66:VAL:C | 20:BR:67:ARG:HA | 2.29 | 0.57 |
| 1:A2:242:U:O4 | 7:BE:137:PRO:N | 2.38 | 0.57 |
| 1:A2:334:G:H5' | 11:BI:49:ARG:N | 2.19 | 0.57 |
| 1:A2:386:G:HO2' | 1:A2:387:A:C1' | 2.14 | 0.57 |
| 1:A2:757:A:OP2 | 12:BJ:6:ARG:HD2 | 2.03 | 0.57 |
| 1:A2:783:G:C5 | 27:BY:40:LEU:HB2 | 2.38 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:833:U:OP2 | 9:BG:213:ALA:HB1 | 2.03 | 0.57 |
| 1:A2:918:U:H5" | 17:BO:118:VAL:N | 1.75 | 0.57 |
| 1:A2:957:G:N3 | 30:Bb:21:LEU:CG | 2.67 | 0.57 |
| 1:A2:958:U:O5' | 25:BW:60:LYS:HE3 | 2.03 | 0.57 |
| 1:A2:1007:C:O5' | 17:BO:136:ARG:N | 2.22 | 0.57 |
| 1:A2:1095:U:O3' | 5:BC:159:THR:CB | 2.50 | 0.57 |
| 1:A2:1227:A:C8 | 34:Bf:100:ALA:N | 2.71 | 0.57 |
| 1:A2:1454:G:H22 | 18:BP:123:TYR:CA | 1.77 | 0.57 |
| 1:A2:1499:G:OP2 | 22:BT:102:ARG:N | 2.36 | 0.57 |
| 1:A2:1506:G:H4' | 1:A2:1551:U:H5" | 1.85 | 0.57 |
| 1:A2:1520:U:OP2 | 22:BT:78:LYS:HB2 | 2.04 | 0.57 |
| 1:A2:1557:U:O2' | 21:BS:133:VAL:CG2 | 2.50 | 0.57 |
| 1:A2:1565:C:C4 | 21:BS:39:GLY:HA3 | 2.39 | 0.57 |
| 1:A2:1581:C:H5' | 19:BQ:136:SER:HA | 1.85 | 0.57 |
| 2:AZ:6036:C:O2' | 2:AZ:6037:U:C5' | 2.53 | 0.57 |
| 3:BA:92:HIS:ND1 | 3:BA:202:TYR:OH | 2.29 | 0.57 |
| 12:BJ:89:ASP:C | 12:BJ:90:LYS:N | 2.63 | 0.57 |
| 12:BJ:97:LEU:C | 12:BJ:98:ALA:N | 2.62 | 0.57 |
| 19:BQ:88:GLY:HA2 | 19:BQ:89:LEU:N | 2.19 | 0.57 |
| 1:A2:127:G:C2' | 9:BG:183:ARG:HH21 | 2.17 | 0.57 |
| 1:A2:138:A:C2 | 9:BG:140:ASN:OD1 | 2.57 | 0.57 |
| 1:A2:146:U:O2 | 27:BY:124:ARG:CZ | 2.51 | 0.57 |
| 1:A2:156:A:O3' | 1:A2:157:A:P | 2.63 | 0.57 |
| 1:A2:457:G:H1' | 27:BY:110:GLN:HB2 | 1.86 | 0.57 |
| 1:A2:759:U:C2 | 12:BJ:7:THR:C | 2.82 | 0.57 |
| 1:A2:871:G:H22 | 16:BN:11:ILE:CG1 | 2.17 | 0.57 |
| 1:A2:917:U:OP1 | 17:BO:87:GLY:HA3 | 2.04 | 0.57 |
| 1:A2:917:U:C5 | 17:BO:84:ARG:NH1 | 2.71 | 0.57 |
| 1:A2:1145:U:P | 5:BC:89:GLN:H | 2.28 | 0.57 |
| 1:A2:1146:G:N3 | 5:BC:92:ALA:C | 2.63 | 0.57 |
| 1:A2:1357:A:O5' | 22:BT:126:GLU:HG3 | 2.05 | 0.57 |
| 1:A2:1454:G:H1' | 18:BP:121:ILE:CA | 2.23 | 0.57 |
| 1:A2:1774:G:H2' | 1:A2:1775:U:O4' | 2.05 | 0.57 |
| 2:AZ:6111:G:H1' | 8:BF:219:ARG:O | 2.04 | 0.57 |
| 12:BJ:93:LEU:HB3 | 12:BJ:94:ASP:N | 2.20 | 0.57 |
| 22:BT:108:LEU:O | 22:BT:109:GLU:N | 2.37 | 0.57 |
| 31:Bc:40:ILE:HG22 | 31:Bc:41:VAL:N | 2.19 | 0.57 |
| 1:A2:129:U:C2 | 9:BG:177:ARG:NH1 | 2.50 | 0.57 |
| 1:A2:450:U:C6 | 27:BY:109:LYS:CE | 2.72 | 0.57 |
| 1:A2:699:U:C5 | 7:BE:198:LYS:C | 2.77 | 0.57 |
| 1:A2:753:A:OP2 | 7:BE:16:HIS:CG | 2.52 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:783:G:C4 | 27:BY:39:GLU:CG | 2.87 | 0.57 |
| 1:A2:806:A:H5' | 25:BW:81:VAL:CG2 | 2.25 | 0.57 |
| 1:A2:919:A:N3 | 4:BB:85:LYS:NZ | 2.46 | 0.57 |
| 1:A2:958:U:O2' | 25:BW:57:ARG:CD | 2.53 | 0.57 |
| 1:A2:1420:C:C5' | 23:BU:82:TYR:CZ | 2.66 | 0.57 |
| 1:A2:1536:G:P | 1:A2:1537:C:OP2 | 2.63 | 0.57 |
| 1:A2:1538:U:O2' | 1:A2:1539:G:H2' | 2.04 | 0.57 |
| 5:BC:42:GLY:O | 5:BC:45:VAL:N | 2.37 | 0.57 |
| 9:BG:137:ARG:O | 9:BG:140:ASN:N | 2.38 | 0.57 |
| 10:BH:97:ARG:O | 10:BH:98:ILE:N | 2.37 | 0.57 |
| 10:BH:111:LYS:C | 10:BH:112:ARG:HA | 2.30 | 0.57 |
| 16:BN:61:THR:C | 16:BN:62:GLN:N | 2.62 | 0.57 |
| 20:BR:19:ARG:HB2 | 20:BR:20:TYR:CD1 | 2.40 | 0.57 |
| 20:BR:83:GLN:CA | 20:BR:84:TYR:HB2 | 2.35 | 0.57 |
| 22:BT:18:TYR:O | 22:BT:19:ALA:C | 2.47 | 0.57 |
| 27:BY:39:GLU:C | 27:BY:40:LEU:N | 2.33 | 0.57 |
| 1:A2:89:G:C2 | 27:BY:115:ASP:O | 2.52 | 0.57 |
| 1:A2:164:A:H3' | 9:BG:15:THR:CG2 | 2.35 | 0.57 |
| 1:A2:245:U:C5 | 7:BE:128:LYS:NZ | 2.60 | 0.57 |
| 1:A2:572:C:C5' | 26:BX:116:ASP:N | 2.62 | 0.57 |
| 1:A2:631:G:H3' | 26:BX:13:ARG:N | 2.19 | 0.57 |
| 1:A2:774:A:H3' | 1:A2:774:A:N3 | 2.19 | 0.57 |
| 1:A2:775:G:C5 | 27:BY:61:ARG:HA | 2.34 | 0.57 |
| 1:A2:784:C:C5' | 27:BY:43:LYS:HB2 | 2.29 | 0.57 |
| 1:A2:784:C:C1' | 27:BY:40:LEU:HD11 | 1.98 | 0.57 |
| 1:A2:946:U:H4' | 4:BB:158:SER:OG | 2.05 | 0.57 |
| 1:A2:1242:A:C4' | 18:BP:89:MET:HE1 | 2.31 | 0.57 |
| 1:A2:1322:A:C2 | 1:A2:1323:C:C5 | 2.93 | 0.57 |
| 1:A2:1329:A:H2' | 1:A2:1330:G:O4' | 2.04 | 0.57 |
| 4:BB:222:LYS:C | 4:BB:223:PHE:N | 2.62 | 0.57 |
| 8:BF:48:PHE:HD1 | 8:BF:130:ILE:HD12 | 1.70 | 0.57 |
| 11:BI:7:SER:C | 11:BI:8:ARG:N | 2.63 | 0.57 |
| 11:BI:36:THR:HG21 | 11:BI:60:ILE:HD11 | 1.85 | 0.57 |
| 25:BW:14:ILE:C | 25:BW:15:ASN:N | 2.63 | 0.57 |
| 1:A2:2:A:H3' | 12:BJ:15:PRO:HB2 | 1.86 | 0.57 |
| 1:A2:89:G:H1 | 27:BY:115:ASP:C | 2.07 | 0.57 |
| 1:A2:128:U:H5 | 9:BG:187:LYS:HA | 1.69 | 0.57 |
| 1:A2:153:G:H2' | 1:A2:154:G:H8 | 1.70 | 0.57 |
| 1:A2:242:U:O2 | 7:BE:148:ARG:HD2 | 2.05 | 0.57 |
| 1:A2:297:U:P | 7:BE:32:SER:HB3 | 2.45 | 0.57 |
| 1:A2:336:G:C5 | 11:BI:27:PHE:CD1 | 2.92 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:347:G:N2 | 11:BI:17:LYS:H | 2.00 | 0.57 |
| 1:A2:400:A:H4' | 1:A2:401:A:C5' | 2.34 | 0.57 |
| 1:A2:451:A:H1' | 27:BY:112:LYS:HA | 1.84 | 0.57 |
| 1:A2:955:A:C5 | 16:BN:9:LYS:O | 2.57 | 0.57 |
| 1:A2:957:G:C2' | 30:Bb:21:LEU:HB3 | 2.35 | 0.57 |
| 1:A2:1037:C:OP1 | 25:BW:12:ASN:O | 2.23 | 0.57 |
| 1:A2:1208:A:N1 | 1:A2:1455:G:N2 | 2.52 | 0.57 |
| 1:A2:1256:A:H2 | 34:Bf:98:LYS:CB | 2.14 | 0.57 |
| 1:A2:1260:U:O4 | 34:Bf:94:ALA:O | 2.21 | 0.57 |
| 1:A2:1291:G:C2 | 1:A2:1325:A:C2 | 2.92 | 0.57 |
| 1:A2:1299:G:P | 5:BC:117:THR:N | 2.78 | 0.57 |
| 1:A2:1566:U:C3' | 21:BS:30:TYR:O | 2.53 | 0.57 |
| 5:BC:47:ALA:C | 5:BC:48:GLY:N | 2.63 | 0.57 |
| 6:BD:177:MET:SD | 6:BD:178:ARG:NH2 | 2.77 | 0.57 |
| 7:BE:126:VAL:HA | 7:BE:127:LYS:N | 2.19 | 0.57 |
| 8:BF:33:VAL:O | 8:BF:33:VAL:HG13 | 2.05 | 0.57 |
| 9:BG:162:VAL:N | 9:BG:169:TYR:O | 2.37 | 0.57 |
| 11:BI:112:TRP:C | 11:BI:113:PHE:N | 2.62 | 0.57 |
| 19:BQ:38:LEU:HD11 | 22:BT:9:VAL:C | 2.30 | 0.57 |
| 26:BX:49:ALA:HB1 | 26:BX:50:LYS:N | 2.19 | 0.57 |
| 26:BX:127:VAL:C | 26:BX:129:GLY:N | 2.63 | 0.57 |
| 29:Ba:35:ALA:C | 29:Ba:36:ILE:HG22 | 2.30 | 0.57 |
| 1:A2:20:G:P | 26:BX:114:LYS:HZ3 | 2.22 | 0.57 |
| 1:A2:139:C:O3' | 9:BG:175:ILE:CD1 | 2.53 | 0.57 |
| 1:A2:165:G:N2 | 27:BY:131:ARG:CZ | 2.31 | 0.57 |
| 1:A2:266:A:C2 | 9:BG:135:PRO:CA | 2.88 | 0.57 |
| 1:A2:299:A:C8 | 7:BE:7:LYS:CB | 2.88 | 0.57 |
| 1:A2:334:G:C5' | 11:BI:49:ARG:CA | 2.81 | 0.57 |
| 1:A2:634:G:H3' | 25:BW:79:PHE:H | 1.65 | 0.57 |
| 1:A2:872:G:C3' | 1:A2:873:U:P | 2.92 | 0.57 |
| 1:A2:898:A:H1' | 17:BO:27:PHE:CD1 | 2.39 | 0.57 |
| 1:A2:913:G:P | 1:A2:913:G:H3' | 2.45 | 0.57 |
| 1:A2:955:A:C2 | 1:A2:956:C:C2 | 2.93 | 0.57 |
| 1:A2:970:A:O4' | 26:BX:17:VAL:CG1 | 2.53 | 0.57 |
| 1:A2:1292:G:N1 | 1:A2:1324:G:C2 | 2.73 | 0.57 |
| 1:A2:1399:C:P | 20:BR:67:ARG:N | 2.77 | 0.57 |
| 1:A2:1428:G:N2 | 23:BU:74:GLU:HG3 | 1.27 | 0.57 |
| 1:A2:1451:C:N3 | 18:BP:97:TYR:HB3 | 2.20 | 0.57 |
| 1:A2:1471:A:O3' | 8:BF:183:ALA:O | 1.96 | 0.57 |
| 1:A2:1535:U:C5' | 28:BZ:67:ASP:CB | 2.80 | 0.57 |
| 3:BA:59:LEU:O | 3:BA:63:ILE:HG12 | 2.04 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:BA:108:THR:C | 3:BA:109:ASN:N | 2.63 | 0.57 |
| 7:BE:60:GLU:C | 7:BE:61:VAL:CA | 2.77 | 0.57 |
| 9:BG:75:LEU:C | 9:BG:76:LEU:N | 2.61 | 0.57 |
| 11:BI:159:GLN:C | 11:BI:162:ALA:HB2 | 2.29 | 0.57 |
| 29:Ba:12:LYS:HA | 29:Ba:13:LYS:N | 2.19 | 0.57 |
| 1:A2:736:C:N1 | 7:BE:181:VAL:HA | 2.20 | 0.57 |
| 1:A2:1083:G:N2 | 5:BC:161:LYS:HE3 | 2.13 | 0.57 |
| 1:A2:1298:U:O2 | 5:BC:208:GLU:CB | 2.53 | 0.57 |
| 1:A2:1392:U:OP1 | 20:BR:28:PHE:C | 2.48 | 0.57 |
| 1:A2:1534:G:C2' | 8:BF:187:ILE:HG21 | 2.35 | 0.57 |
| 1:A2:1549:C:C6 | 21:BS:86:LEU:CB | 2.87 | 0.57 |
| 1:A2:1636:C:O2 | 1:A2:1638:G:C5 | 2.57 | 0.57 |
| 3:BA:87:LEU:N | 3:BA:97:PRO:HB3 | 2.20 | 0.57 |
| 4:BB:128:LYS:NZ | 4:BB:132:ASP:O | 2.37 | 0.57 |
| 7:BE:241:GLY:O | 7:BE:243:GLY:N | 2.38 | 0.57 |
| 16:BN:88:LEU:O | 16:BN:92:ILE:N | 2.38 | 0.57 |
| 18:BP:38:PRO:O | 18:BP:40:ARG:N | 2.38 | 0.57 |
| 26:BX:27:ASN:HD22 | 26:BX:27:ASN:C | 2.13 | 0.57 |
| 35:Bg:32:LEU:CD2 | 35:Bg:94:VAL:HG11 | 2.34 | 0.57 |
| 1:A2:9:U:O2 | 1:A2:9:U:C2' | 2.53 | 0.56 |
| 1:A2:30:G:H5" | 26:BX:142:LYS:HB2 | 0.64 | 0.56 |
| 1:A2:179:A:H61 | 9:BG:190:GLN:CB | 2.17 | 0.56 |
| 1:A2:329:G:N3 | 11:BI:32:GLN:N | 2.53 | 0.56 |
| 1:A2:548:G:O4' | 26:BX:137:LYS:HG2 | 2.05 | 0.56 |
| 1:A2:866:G:OP2 | 25:BW:3:ARG:CG | 2.51 | 0.56 |
| 1:A2:872:G:N2 | 16:BN:11:ILE:HD11 | 2.20 | 0.56 |
| 1:A2:930:A:H1' | 4:BB:116:LYS:HG2 | 1.86 | 0.56 |
| 1:A2:1292:G:C5 | 1:A2:1293:U:C4 | 2.93 | 0.56 |
| 1:A2:1367:G:O2' | 22:BT:66:TYR:OH | 2.10 | 0.56 |
| 1:A2:1457:C:C6 | 21:BS:136:GLN:O | 2.58 | 0.56 |
| 1:A2:1537:C:C2' | 1:A2:1538:U:OP2 | 2.52 | 0.56 |
| 1:A2:1581:C:OP1 | 19:BQ:137:ARG:CB | 2.52 | 0.56 |
| 1:A2:1601:G:N9 | 22:BT:89:ARG:N | 2.17 | 0.56 |
| 1:A2:1621:U:O3' | 1:A2:1622:G:P | 2.63 | 0.56 |
| 1:A2:1795:U:H2' | 29:Ba:4:LYS:HE2 | 1.86 | 0.56 |
| 11:BI:96:LEU:C | 11:BI:97:THR:N | 2.63 | 0.56 |
| 13:BK:46:LEU:O | 13:BK:50:THR:HG23 | 2.04 | 0.56 |
| 1:A2:14:C:H5' | 5:BC:205:ARG:CB | 2.35 | 0.56 |
| 1:A2:215:A:O3' | 7:BE:131:LEU:CA | 2.02 | 0.56 |
| 1:A2:328:A:H2' | 1:A2:329:G:C8 | 2.39 | 0.56 |
| 1:A2:609:U:O2 | 26:BX:28:ASN:CG | 2.47 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:628:G:H3' | 1:A2:969:C:H41 | 1.69 | 0.56 |
| 1:A2:630:A:C5 | 26:BX:14:LYS:HA | 2.40 | 0.56 |
| 1:A2:754:A:OP2 | 7:BE:14:ALA:C | 2.40 | 0.56 |
| 1:A2:757:A:N7 | 12:BJ:3:ARG:NH1 | 2.53 | 0.56 |
| 1:A2:775:G:N2 | 27:BY:69:SER:HA | 2.20 | 0.56 |
| 1:A2:778:G:N1 | 27:BY:35:VAL:HG23 | 2.20 | 0.56 |
| 1:A2:814:A:N7 | 10:BH:107:ARG:HB3 | 2.12 | 0.56 |
| 1:A2:870:C:H2' | 16:BN:13:SER:CB | 2.33 | 0.56 |
| 1:A2:888:U:H6 | 17:BO:124:ASP:H | 1.52 | 0.56 |
| 1:A2:893:U:C4 | 1:A2:919:A:N6 | 2.73 | 0.56 |
| 1:A2:897:C:OP1 | 17:BO:30:VAL:HG13 | 2.03 | 0.56 |
| 1:A2:922:G:OP1 | 4:BB:136:ARG:NE | 2.28 | 0.56 |
| 1:A2:1037:C:C1' | 25:BW:71:LYS:CD | 2.82 | 0.56 |
| 1:A2:1055:U:C5 | 3:BA:37:VAL:HG22 | 2.39 | 0.56 |
| 1:A2:1084:A:C6 | 5:BC:162:CYS:SG | 2.98 | 0.56 |
| 1:A2:1086:A:C2 | 1:A2:1087:A:C4 | 2.93 | 0.56 |
| 1:A2:1134:C:OP2 | 26:BX:121:ARG:NH2 | 2.38 | 0.56 |
| 1:A2:1254:U:N1 | 34:Bf:140:TYR:CE2 | 2.34 | 0.56 |
| 1:A2:1277:G:H2' | 1:A2:1278:G:O4' | 2.05 | 0.56 |
| 1:A2:1582:U:C3' | 19:BQ:135:ARG:HH12 | 2.18 | 0.56 |
| 2:AZ:6107:U:O2' | 8:BF:219:ARG:C | 2.46 | 0.56 |
| 2:AZ:6219:U:O4' | 6:BD:145:ALA:HB3 | 2.05 | 0.56 |
| 11:BI:3:ILE:C | 11:BI:4:SER:N | 2.36 | 0.56 |
| 17:BO:81:VAL:HG13 | 17:BO:115:ILE:HG23 | 1.87 | 0.56 |
| 20:BR:74:GLN:O | 20:BR:77:GLU:N | 2.38 | 0.56 |
| 27:BY:32:ARG:O | 27:BY:33:ALA:HB3 | 2.04 | 0.56 |
| 28:BZ:100:ILE:HD13 | 28:BZ:100:ILE:O | 2.05 | 0.56 |
| 1:A2:2:A:H3' | 12:BJ:15:PRO:CB | 2.30 | 0.56 |
| 1:A2:10:G:C2 | 1:A2:11:A:C4 | 2.92 | 0.56 |
| 1:A2:32:U:C5 | 26:BX:140:LYS:CA | 2.81 | 0.56 |
| 1:A2:78:A:C5 | 9:BG:162:VAL:CB | 2.76 | 0.56 |
| 1:A2:80:A:N7 | 9:BG:163:THR:HB | 2.19 | 0.56 |
| 1:A2:179:A:C6 | 9:BG:186:ARG:O | 2.55 | 0.56 |
| 1:A2:230:C:H2' | 1:A2:231:U:H4' | 1.86 | 0.56 |
| 1:A2:241:U:C5' | 7:BE:149:TYR:CB | 2.83 | 0.56 |
| 1:A2:330:G:C4 | 1:A2:331:A:C8 | 2.94 | 0.56 |
| 1:A2:335:U:C5' | 11:BI:49:ARG:HD3 | 2.34 | 0.56 |
| 1:A2:451:A:C1' | 27:BY:112:LYS:CA | 2.83 | 0.56 |
| 1:A2:496:G:H2' | 1:A2:497:G:O4' | 2.05 | 0.56 |
| 1:A2:570:A:N6 | 26:BX:68:ILE:C | 2.62 | 0.56 |
| 1:A2:632:U:OP1 | 26:BX:12:ALA:CB | 2.53 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:736:C:H1' | 7:BE:180:LEU:O | 2.06 | 0.56 |
| 1:A2:755:A:O3' | 1:A2:756:A:P | 2.63 | 0.56 |
| 1:A2:758:U:O4 | 12:BJ:6:ARG:C | 2.48 | 0.56 |
| 1:A2:778:G:C4 | 27:BY:35:VAL:CG2 | 2.88 | 0.56 |
| 1:A2:783:G:O4' | 27:BY:39:GLU:O | 2.23 | 0.56 |
| 1:A2:804:A:N3 | 25:BW:82:LYS:O | 2.38 | 0.56 |
| 1:A2:811:A:C6 | 1:A2:858:G:O2' | 2.53 | 0.56 |
| 1:A2:865:A:O4' | 25:BW:6:VAL:N | 2.37 | 0.56 |
| 1:A2:879:G:H1' | 16:BN:110:ASP:C | 2.27 | 0.56 |
| 1:A2:897:C:H3' | 1:A2:898:A:P | 2.45 | 0.56 |
| 1:A2:917:U:H5' | 17:BO:120:PRO:HD2 | 1.83 | 0.56 |
| 1:A2:957:G:H5' | 30:Bb:22:LYS:CG | 1.98 | 0.56 |
| 1:A2:1034:C:C5 | 26:BX:3:LYS:HB3 | 2.40 | 0.56 |
| 1:A2:1068:C:H5' | 3:BA:153:SER:H | 1.70 | 0.56 |
| 1:A2:1084:A:N6 | 5:BC:162:CYS:SG | 2.78 | 0.56 |
| 1:A2:1090:C:O4' | 1:A2:1093:A:C2 | 2.59 | 0.56 |
| 1:A2:1099:U:C5' | 5:BC:199:GLN:HB3 | 1.85 | 0.56 |
| 1:A2:1241:G:C6 | 18:BP:96:ILE:CA | 2.58 | 0.56 |
| 1:A2:1328:G:OP2 | 6:BD:164:VAL:HG23 | 2.05 | 0.56 |
| 1:A2:1328:G:C1' | 6:BD:159:HIS:O | 2.54 | 0.56 |
| 1:A2:1366:U:C4' | 22:BT:5:SER:HB2 | 2.30 | 0.56 |
| 1:A2:1368:G:H5' | 22:BT:66:TYR:C | 2.29 | 0.56 |
| 1:A2:1370:U:C4' | 22:BT:119:LYS:NZ | 2.67 | 0.56 |
| 1:A2:1389:C:H5' | 20:BR:45:ARG:HB2 | 0.58 | 0.56 |
| 1:A2:1396:U:H2' | 1:A2:1397:U:H6 | 1.70 | 0.56 |
| 1:A2:1401:A:P | 20:BR:10:LYS:NZ | 2.78 | 0.56 |
| 1:A2:1453:G:H8 | 18:BP:81:ARG:HB2 | 1.70 | 0.56 |
| 1:A2:1457:C:H4' | 21:BS:138:THR:H | 1.69 | 0.56 |
| 1:A2:1499:G:O4' | 22:BT:102:ARG:O | 2.23 | 0.56 |
| 1:A2:1519:U:O5' | 22:BT:75:LYS:HD3 | 2.05 | 0.56 |
| 1:A2:1587:A:O2' | 8:BF:104:ASN:CB | 2.52 | 0.56 |
| 3:BA:70:PRO:C | 3:BA:73:VAL:CG2 | 2.78 | 0.56 |
| 3:BA:71:GLU:N | 3:BA:71:GLU:CD | 2.63 | 0.56 |
| 3:BA:76:ILE:HB | 3:BA:123:VAL:HA | 1.87 | 0.56 |
| 4:BB:153:HIS:CG | 4:BB:154:SER:N | 2.73 | 0.56 |
| 5:BC:161:LYS:C | 5:BC:162:CYS:N | 2.64 | 0.56 |
| 11:BI:165:LEU:HD22 | 11:BI:166:TYR:H | 1.71 | 0.56 |
| 12:BJ:141:VAL:HG12 | 12:BJ:141:VAL:O | 2.05 | 0.56 |
| 14:BL:131:ILE:HG22 | 14:BL:131:ILE:O | 2.04 | 0.56 |
| 15:BM:66:VAL:HG11 | 15:BM:71:ILE:HG23 | 1.86 | 0.56 |
| 16:BN:5:HIS:C | 16:BN:6:SER:CA | 2.79 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 16:BN:94:LYS:O | 16:BN:97:SER:N | 2.38 | 0.56 |
| 21:BS:28:ILE:HG23 | 21:BS:29:VAL:N | 2.20 | 0.56 |
| 22:BT:47:PRO:HB2 | 22:BT:53:TRP:CD1 | 2.40 | 0.56 |
| 27:BY:7:ILE:HA | 27:BY:8:ARG:N | 2.20 | 0.56 |
| 29:Ba:26:CYS:HG | 29:Ba:74:CYS:N | 2.02 | 0.56 |
| 1:A2:6:G:H2' | 1:A2:7:G:H5" | 1.86 | 0.56 |
| 1:A2:93:A:N3 | 1:A2:399:A:C2 | 2.74 | 0.56 |
| 1:A2:395:U:O4' | 9:BG:93:LYS:HD2 | 2.06 | 0.56 |
| 1:A2:400:A:C4' | 1:A2:401:A:H5" | 2.35 | 0.56 |
| 1:A2:434:G:O3' | 26:BX:77:ILE:HD13 | 2.05 | 0.56 |
| 1:A2:702:G:H22 | 7:BE:227:VAL:HB | 1.70 | 0.56 |
| 1:A2:877:G:N3 | 16:BN:6:SER:CB | 2.68 | 0.56 |
| 1:A2:1227:A:C8 | 34:Bf:100:ALA:HB2 | 2.40 | 0.56 |
| 1:A2:1329:A:C5 | 6:BD:160:SER:C | 2.82 | 0.56 |
| 1:A2:1370:U:C3' | 22:BT:119:LYS:HZ2 | 2.18 | 0.56 |
| 10:BH:21:ALA:C | 10:BH:22:GLN:N | 2.64 | 0.56 |
| 16:BN:137:PRO:O | 16:BN:138:ASN:CG | 2.48 | 0.56 |
| 20:BR:56:HIS:C | 20:BR:57:LEU:N | 2.63 | 0.56 |
| 1:A2:1:U:H6 | 12:BJ:43:TYR:HD2 | 1.53 | 0.56 |
| 1:A2:88:U:H5" | 27:BY:119:PHE:CE2 | 2.37 | 0.56 |
| 1:A2:128:U:O2 | 1:A2:128:U:C2' | 2.53 | 0.56 |
| 1:A2:164:A:O4' | 9:BG:17:GLU:HA | 2.05 | 0.56 |
| 1:A2:180:A:O5' | 9:BG:187:LYS:CE | 2.43 | 0.56 |
| 1:A2:597:G:C3' | 26:BX:137:LYS:HG3 | 2.36 | 0.56 |
| 1:A2:631:G:N1 | 26:BX:11:SER:O | 2.39 | 0.56 |
| 1:A2:799:A:O2' | 7:BE:186:GLY:N | 2.22 | 0.56 |
| 1:A2:937:C:C2' | 1:A2:938:G:O5' | 2.53 | 0.56 |
| 1:A2:1084:A:C5' | 5:BC:166:THR:CA | 2.63 | 0.56 |
| 1:A2:1328:G:N7 | 6:BD:159:HIS:N | 2.54 | 0.56 |
| 1:A2:1611:A:C8 | 1:A2:1612:U:C6 | 2.93 | 0.56 |
| 1:A2:1644:C:H3' | 1:A2:1645:G:P | 2.45 | 0.56 |
| 3:BA:62:ARG:HD3 | 20:BR:113:LEU:HD13 | 1.88 | 0.56 |
| 6:BD:69:LEU:HA | 6:BD:72:LEU:HD23 | 1.87 | 0.56 |
| 7:BE:155:LYS:HA | 7:BE:155:LYS:HE3 | 1.87 | 0.56 |
| 10:BH:119:THR:O | 10:BH:122:HIS:N | 2.38 | 0.56 |
| 13:BK:84:GLU:O | 13:BK:85:HIS:N | 2.38 | 0.56 |
| 20:BR:27:ASP:OD1 | 35:Bg:38:ARG:NH2 | 2.39 | 0.56 |
| 26:BX:37:ALA:C | 26:BX:38:PHE:N | 2.64 | 0.56 |
| 1:A2:58:U:H1' | 27:BY:115:ASP:N | 2.20 | 0.56 |
| 1:A2:78:A:OP1 | 9:BG:163:THR:CG2 | 2.53 | 0.56 |
| 1:A2:89:G:C8 | 27:BY:119:PHE:HA | 2.40 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:145:A:P | 9:BG:6:SER:HB2 | 2.45 | 0.56 |
| 1:A2:175:G:H2' | 9:BG:137:ARG:NH2 | 2.19 | 0.56 |
| 1:A2:181:A:H3' | 9:BG:191:ARG:NH2 | 2.12 | 0.56 |
| 1:A2:321:C:O3' | 1:A2:322:G:OP2 | 2.24 | 0.56 |
| 1:A2:631:G:OP2 | 26:BX:13:ARG:HB2 | 2.05 | 0.56 |
| 1:A2:754:A:C4 | 7:BE:12:LEU:CD2 | 2.82 | 0.56 |
| 1:A2:778:G:OP2 | 27:BY:32:ARG:CD | 2.53 | 0.56 |
| 1:A2:878:G:N2 | 16:BN:114:ARG:HG3 | 2.20 | 0.56 |
| 1:A2:889:U:OP2 | 17:BO:88:GLY:C | 2.49 | 0.56 |
| 1:A2:917:U:O2' | 17:BO:118:VAL:CG2 | 2.53 | 0.56 |
| 1:A2:919:A:H2' | 1:A2:920:U:H6 | 1.70 | 0.56 |
| 1:A2:1037:C:C1' | 25:BW:71:LYS:HZ2 | 2.17 | 0.56 |
| 1:A2:1086:A:H2' | 1:A2:1087:A:C8 | 2.41 | 0.56 |
| 1:A2:1238:A:O5' | 18:BP:66:ALA:N | 2.38 | 0.56 |
| 1:A2:1281:G:C1' | 23:BU:74:GLU:O | 2.50 | 0.56 |
| 1:A2:1298:U:C2' | 5:BC:84:LYS:HE2 | 2.35 | 0.56 |
| 1:A2:1310:U:O2' | 20:BR:4:VAL:HG11 | 1.99 | 0.56 |
| 1:A2:1334:U:OP1 | 23:BU:85:ARG:CB | 2.45 | 0.56 |
| 1:A2:1418:G:C1' | 32:Bd:56:ARG:NE | 2.69 | 0.56 |
| 1:A2:1535:U:C5' | 28:BZ:67:ASP:CA | 2.83 | 0.56 |
| 1:A2:1601:G:OP2 | 22:BT:86:ARG:CZ | 2.54 | 0.56 |
| 2:AZ:6137:C:C2' | 8:BF:126:ASP:CA | 2.77 | 0.56 |
| 4:BB:67:GLU:O | 4:BB:68:VAL:O | 2.23 | 0.56 |
| 8:BF:42:LEU:HD13 | 8:BF:48:PHE:N | 2.19 | 0.56 |
| 8:BF:197:GLU:O | 8:BF:201:ALA:N | 2.39 | 0.56 |
| 13:BK:11:ILE:HD11 | 13:BK:37:THR:HG21 | 1.88 | 0.56 |
| 17:BO:19:ILE:N | 17:BO:82:LYS:O | 2.38 | 0.56 |
| 21:BS:87:ASN:ND2 | 21:BS:99:HIS:CE1 | 2.74 | 0.56 |
| 29:Ba:26:CYS:SG | 29:Ba:74:CYS:N | 2.78 | 0.56 |
| 35:Bg:130:THR:HG22 | 35:Bg:145:LEU:HD23 | 1.87 | 0.56 |
| 1:A2:57:G:C6 | 27:BY:115:ASP:C | 2.78 | 0.56 |
| 1:A2:85:A:H1' | 27:BY:126:ALA:HA | 1.73 | 0.56 |
| 1:A2:88:U:C4 | 27:BY:122:GLY:N | 2.74 | 0.56 |
| 1:A2:321:C:O2 | 1:A2:321:C:O4' | 2.21 | 0.56 |
| 1:A2:351:C:C4 | 14:BL:101:GLU:OE2 | 2.58 | 0.56 |
| 1:A2:741:C:C4' | 7:BE:201:HIS:C | 2.78 | 0.56 |
| 1:A2:786:C:H3' | 1:A2:787:G:P | 2.46 | 0.56 |
| 1:A2:803:A:H4' | 25:BW:120:HIS:HE1 | 0.41 | 0.56 |
| 1:A2:862:A:O5' | 25:BW:32:LYS:N | 2.38 | 0.56 |
| 1:A2:1085:G:O6 | 5:BC:162:CYS:SG | 2.64 | 0.56 |
| 1:A2:1226:A:C2' | 34:Bf:99:ALA:O | 2.53 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1291:G:H4' | 6:BD:153:ALA:HB3 | 1.88 | 0.56 |
| 1:A2:1299:G:H2' | 5:BC:86:VAL:CG1 | 2.35 | 0.56 |
| 1:A2:1487:A:C2' | 1:A2:1488:G:O5' | 2.54 | 0.56 |
| 1:A2:1548:G:C1' | 21:BS:99:HIS:HE1 | 1.94 | 0.56 |
| 1:A2:1796:C:OP2 | 29:Ba:92:ARG:NH2 | 2.37 | 0.56 |
| 2:AZ:6171:U:C2' | 2:AZ:6173:C:H5' | 2.35 | 0.56 |
| 3:BA:56:LYS:HB3 | 3:BA:158:VAL:HG22 | 1.88 | 0.56 |
| 10:BH:166:LEU:HA | 10:BH:169:PHE:CD2 | 2.41 | 0.56 |
| 11:BI:150:ALA:HB3 | 11:BI:151:LYS:N | 2.20 | 0.56 |
| 22:BT:34:VAL:O | 22:BT:34:VAL:HG13 | 2.05 | 0.56 |
| 25:BW:103:ILE:HD13 | 25:BW:104:LEU:N | 2.21 | 0.56 |
| 1:A2:78:A:N3 | 9:BG:162:VAL:CG2 | 2.69 | 0.56 |
| 1:A2:257:A:H3' | 1:A2:258:C:P | 2.45 | 0.56 |
| 1:A2:492:A:N3 | 1:A2:495:C:OP2 | 2.39 | 0.56 |
| 1:A2:650:U:C2' | 12:BJ:91:LYS:HE2 | 2.35 | 0.56 |
| 1:A2:688:G:C2 | 1:A2:689:G:C5 | 2.94 | 0.56 |
| 1:A2:775:G:H22 | 27:BY:69:SER:CB | 2.18 | 0.56 |
| 1:A2:871:G:C2 | 16:BN:12:SER:N | 2.74 | 0.56 |
| 1:A2:929:A:H4' | 29:Ba:32:LYS:CD | 2.34 | 0.56 |
| 1:A2:933:A:C5' | 29:Ba:95:ARG:HH22 | 2.02 | 0.56 |
| 1:A2:1137:A:C5' | 26:BX:63:GLN:N | 2.69 | 0.56 |
| 1:A2:1366:U:H4' | 22:BT:5:SER:CB | 2.30 | 0.56 |
| 1:A2:1390:U:P | 20:BR:49:LYS:HD3 | 2.43 | 0.56 |
| 1:A2:1674:C:OP2 | 9:BG:75:LEU:HA | 2.06 | 0.56 |
| 7:BE:41:SER:OG | 7:BE:42:LEU:N | 2.37 | 0.56 |
| 7:BE:235:TYR:C | 7:BE:236:ILE:N | 2.64 | 0.56 |
| 11:BI:154:SER:O | 11:BI:155:SER:N | 2.38 | 0.56 |
| 11:BI:167:ALA:O | 11:BI:168:CYS:N | 2.39 | 0.56 |
| 12:BJ:71:PHE:CD1 | 12:BJ:71:PHE:C | 2.83 | 0.56 |
| 13:BK:82:LEU:HB2 | 13:BK:83:PRO:CD | 2.36 | 0.56 |
| 16:BN:125:LEU:HD22 | 16:BN:129:TYR:CE2 | 2.41 | 0.56 |
| 31:Bc:48:VAL:HG12 | 31:Bc:49:ARG:N | 2.21 | 0.56 |
| 1:A2:25:C:O2' | 1:A2:26:A:P | 2.63 | 0.56 |
| 1:A2:30:G:P | 26:BX:143:PRO:HD2 | 2.43 | 0.56 |
| 1:A2:166:C:N3 | 27:BY:131:ARG:NH2 | 2.53 | 0.56 |
| 1:A2:330:G:N2 | 11:BI:3:ILE:N | 2.54 | 0.56 |
| 1:A2:394:C:C6 | 9:BG:93:LYS:HG2 | 2.41 | 0.56 |
| 1:A2:760:A:C1' | 12:BJ:8:TYR:CB | 2.80 | 0.56 |
| 1:A2:776:G:H21 | 27:BY:27:VAL:CG1 | 2.13 | 0.56 |
| 1:A2:917:U:H3' | 17:BO:118:VAL:HG23 | 1.82 | 0.56 |
| 1:A2:959:U:H4' | 25:BW:59:GLY:CA | 2.36 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:960:U:O5' | 25:BW:56:HIS:C | 2.48 | 0.56 |
| 1:A2:1240:U:OP1 | 18:BP:104:GLN:NE2 | 2.39 | 0.56 |
| 1:A2:1279:C:H4' | 32:Bd:41:GLN:HB3 | 1.88 | 0.56 |
| 1:A2:1301:U:H1' | 5:BC:86:VAL:HG21 | 1.85 | 0.56 |
| 1:A2:1302:U:O2' | 1:A2:1303:U:O4' | 2.05 | 0.56 |
| 1:A2:1328:G:C8 | 6:BD:159:HIS:HB3 | 2.11 | 0.56 |
| 1:A2:1520:U:P | 22:BT:75:LYS:HA | 2.45 | 0.56 |
| 1:A2:1534:G:N1 | 28:BZ:61:SER:HB2 | 2.21 | 0.56 |
| 1:A2:1547:A:C3' | 21:BS:100:THR:H | 2.15 | 0.56 |
| 1:A2:1581:C:H4' | 19:BQ:135:ARG:HB2 | 1.88 | 0.56 |
| 3:BA:176:LEU:HD11 | 20:BR:101:ASN:C | 2.30 | 0.56 |
| 7:BE:106:LYS:CA | 7:BE:107:GLY:N | 2.69 | 0.56 |
| 12:BJ:81:VAL:O | 12:BJ:84:GLY:N | 2.38 | 0.56 |
| 21:BS:16:ARG:NH2 | 21:BS:22:VAL:HG23 | 2.20 | 0.56 |
| 28:BZ:62:VAL:HG21 | 28:BZ:77:ARG:HG2 | 1.87 | 0.56 |
| 1:A2:58:U:C6 | 27:BY:114:ARG:CG | 2.89 | 0.56 |
| 1:A2:175:G:N9 | 9:BG:137:ARG:NH2 | 2.54 | 0.56 |
| 1:A2:335:U:O4 | 11:BI:25:ARG:CG | 2.54 | 0.56 |
| 1:A2:336:G:H21 | 11:BI:24:LYS:HA | 1.67 | 0.56 |
| 1:A2:599:A:H2' | 26:BX:123:LYS:O | 2.03 | 0.56 |
| 1:A2:600:U:H5' | 26:BX:104:LEU:HD23 | 1.84 | 0.56 |
| 1:A2:703:G:C4 | 7:BE:229:GLY:C | 2.71 | 0.56 |
| 1:A2:887:A:C2' | 17:BO:124:ASP:CA | 2.83 | 0.56 |
| 1:A2:1009:U:H3' | 17:BO:129:LYS:HD2 | 1.88 | 0.56 |
| 1:A2:1040:G:C4' | 24:BV:62:ARG:CD | 2.82 | 0.56 |
| 1:A2:1057:U:O4 | 3:BA:39:ASN:OD1 | 2.22 | 0.56 |
| 1:A2:1317:C:C5' | 20:BR:11:ARG:HE | 2.18 | 0.56 |
| 1:A2:1393:C:OP1 | 20:BR:26:LEU:O | 2.24 | 0.56 |
| 1:A2:1433:G:C2 | 32:Bd:28:THR:C | 2.67 | 0.56 |
| 1:A2:1523:G:C4 | 22:BT:79:LEU:CD2 | 2.86 | 0.56 |
| 1:A2:1534:G:C2' | 8:BF:187:ILE:CG2 | 2.84 | 0.56 |
| 1:A2:1636:C:H3' | 1:A2:1637:C:P | 2.46 | 0.56 |
| 3:BA:52:LYS:HG2 | 20:BR:108:ASP:OD2 | 2.06 | 0.56 |
| 10:BH:9:LEU:HD11 | 10:BH:14:THR:HG21 | 1.88 | 0.56 |
| 16:BN:18:TYR:C | 16:BN:19:SER:N | 2.64 | 0.56 |
| 19:BQ:20:ALA:O | 19:BQ:21:HIS:N | 2.39 | 0.56 |
| 25:BW:78:ARG:O | 25:BW:79:PHE:C | 2.49 | 0.56 |
| 26:BX:27:ASN:C | 26:BX:27:ASN:ND2 | 2.63 | 0.56 |
| 1:A2:91:G:O2' | 27:BY:112:LYS:HG3 | 2.05 | 0.55 |
| 1:A2:139:C:C2 | 9:BG:137:ARG:HG3 | 2.41 | 0.55 |
| 1:A2:337:G:C8 | 11:BI:9:HIS:NE2 | 2.74 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:397:A:H5' | 9:BG:88:ARG:CG | 2.09 | 0.55 |
| 1:A2:649:U:P | 7:BE:256:ARG:HD2 | 2.46 | 0.55 |
| 1:A2:649:U:OP1 | 7:BE:253:ASP:CA | 2.48 | 0.55 |
| 1:A2:703:G:H3' | 7:BE:230:GLU:CB | 2.15 | 0.55 |
| 1:A2:736:C:C2 | 7:BE:227:VAL:CB | 2.89 | 0.55 |
| 1:A2:824:G:N7 | 1:A2:825:U:C4 | 2.74 | 0.55 |
| 1:A2:934:C:C5 | 29:Ba:6:ALA:HB2 | 2.41 | 0.55 |
| 1:A2:1144:U:C3' | 5:BC:87:GLN:O | 2.52 | 0.55 |
| 1:A2:1212:G:C5 | 18:BP:97:TYR:CD1 | 2.83 | 0.55 |
| 1:A2:1242:A:P | 18:BP:107:ILE:CG1 | 2.87 | 0.55 |
| 1:A2:1265:G:H2' | 1:A2:1266:U:O4' | 2.06 | 0.55 |
| 1:A2:1280:C:H2' | 1:A2:1281:G:C8 | 2.41 | 0.55 |
| 1:A2:1331:A:H2' | 6:BD:162:GLN:HB2 | 1.87 | 0.55 |
| 1:A2:1384:A:H5" | 23:BU:31:VAL:CG1 | 2.36 | 0.55 |
| 1:A2:1472:C:OP1 | 8:BF:190:ILE:HD11 | 1.96 | 0.55 |
| 1:A2:1520:U:H5" | 22:BT:75:LYS:CG | 2.36 | 0.55 |
| 1:A2:1654:G:H22 | 1:A2:1745:G:H2' | 1.70 | 0.55 |
| 3:BA:107:PHE:N | 3:BA:135:GLU:HB3 | 2.21 | 0.55 |
| 5:BC:36:VAL:HG13 | 5:BC:37:PRO:CD | 2.36 | 0.55 |
| 7:BE:149:TYR:N | 7:BE:150:PRO:HD3 | 2.20 | 0.55 |
| 10:BH:63:PRO:O | 10:BH:64:VAL:HG23 | 2.06 | 0.55 |
| 14:BL:96:LYS:C | 14:BL:97:TYR:N | 2.64 | 0.55 |
| 20:BR:101:ASN:N | 20:BR:101:ASN:OD1 | 2.38 | 0.55 |
| 26:BX:27:ASN:O | 26:BX:30:LYS:N | 2.39 | 0.55 |
| 1:A2:325:G:C3' | 14:BL:133:LYS:HA | 2.33 | 0.55 |
| 1:A2:451:A:H2 | 27:BY:111:LYS:CG | 2.19 | 0.55 |
| 1:A2:456:A:N6 | 27:BY:108:ARG:HG3 | 2.02 | 0.55 |
| 1:A2:583:C:O2 | 33:Be:13:LYS:NZ | 2.24 | 0.55 |
| 1:A2:741:C:O2 | 7:BE:199:GLU:HG2 | 2.05 | 0.55 |
| 1:A2:831:U:O5' | 7:BE:152:PRO:CB | 2.49 | 0.55 |
| 1:A2:862:A:HO3' | 1:A2:863:A:P | 2.28 | 0.55 |
| 1:A2:864:U:H3 | 25:BW:14:ILE:CD1 | 2.07 | 0.55 |
| 1:A2:867:G:C3' | 25:BW:2:THR:HG21 | 2.34 | 0.55 |
| 1:A2:968:U:O2 | 26:BX:7:ARG:N | 2.33 | 0.55 |
| 1:A2:986:G:N2 | 1:A2:987:G:H1' | 2.21 | 0.55 |
| 1:A2:1035:G:O3' | 1:A2:1036:A:H5' | 2.06 | 0.55 |
| 1:A2:1092:A:C2 | 1:A2:1094:G:C5 | 2.94 | 0.55 |
| 1:A2:1212:G:C8 | 18:BP:100:LYS:HG2 | 2.40 | 0.55 |
| 1:A2:1279:C:H3' | 23:BU:71:PRO:CG | 2.35 | 0.55 |
| 1:A2:1299:G:OP2 | 5:BC:117:THR:CB | 2.54 | 0.55 |
| 1:A2:1566:U:OP1 | 21:BS:29:VAL:CA | 2.43 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1566:U:O3' | 21:BS:30:TYR:O | 2.23 | 0.55 |
| 1:A2:1659:A:C2' | 1:A2:1660:A:H5' | 2.37 | 0.55 |
| 7:BE:189:LEU:C | 7:BE:189:LEU:HD12 | 2.31 | 0.55 |
| 9:BG:185:GLN:O | 9:BG:188:ARG:HB3 | 2.06 | 0.55 |
| 11:BI:163:GLY:O | 11:BI:164:ARG:N | 2.39 | 0.55 |
| 14:BL:78:THR:CG2 | 14:BL:84:ILE:HG21 | 2.14 | 0.55 |
| 16:BN:72:MET:C | 16:BN:75:LEU:HB2 | 2.31 | 0.55 |
| 19:BQ:86:ALA:C | 19:BQ:87:LYS:N | 2.64 | 0.55 |
| 25:BW:6:VAL:C | 25:BW:7:LEU:N | 2.63 | 0.55 |
| 27:BY:57:VAL:O | 27:BY:57:VAL:HG13 | 2.06 | 0.55 |
| 1:A2:215:A:O5' | 7:BE:138:TYR:CD1 | 2.40 | 0.55 |
| 1:A2:386:G:HO2' | 1:A2:387:A:C4' | 2.18 | 0.55 |
| 1:A2:395:U:OP2 | 9:BG:92:ARG:CA | 2.54 | 0.55 |
| 1:A2:436:A:N7 | 26:BX:50:LYS:CD | 2.62 | 0.55 |
| 1:A2:633:U:H5 | 14:BL:99:ARG:HB3 | 1.62 | 0.55 |
| 1:A2:783:G:C4 | 27:BY:39:GLU:CD | 2.84 | 0.55 |
| 1:A2:858:G:H1 | 10:BH:108:GLN:HG2 | 1.68 | 0.55 |
| 1:A2:987:G:H3' | 1:A2:988:A:P | 2.46 | 0.55 |
| 1:A2:1049:U:O3' | 30:Bb:15:GLU:CD | 2.49 | 0.55 |
| 1:A2:1070:C:H5' | 30:Bb:2:VAL:HG23 | 1.88 | 0.55 |
| 1:A2:1299:G:N7 | 5:BC:99:LYS:HG3 | 2.21 | 0.55 |
| 1:A2:1301:U:O4' | 5:BC:86:VAL:HG22 | 2.05 | 0.55 |
| 1:A2:1501:C:H3' | 22:BT:33:TYR:HE1 | 1.68 | 0.55 |
| 1:A2:1502:G:C6 | 22:BT:33:TYR:CE2 | 2.94 | 0.55 |
| 1:A2:1502:G:H3' | 22:BT:33:TYR:CB | 2.35 | 0.55 |
| 1:A2:1546:G:H1' | 21:BS:37:GLY:N | 2.20 | 0.55 |
| 8:BF:29:ILE:HB | 19:BQ:57:LEU:HD21 | 1.88 | 0.55 |
| 13:BK:3:MET:HB2 | 13:BK:4:PRO:HD3 | 1.87 | 0.55 |
| 19:BQ:20:ALA:C | 19:BQ:21:HIS:N | 2.64 | 0.55 |
| 19:BQ:40:GLU:N | 19:BQ:40:GLU:OE1 | 2.40 | 0.55 |
| 35:Bg:21:THR:OG1 | 35:Bg:37:SER:O | 2.24 | 0.55 |
| 1:A2:63:G:H2' | 1:A2:63:G:N3 | 2.20 | 0.55 |
| 1:A2:235:G:C2' | 1:A2:236:A:O4' | 2.44 | 0.55 |
| 1:A2:242:U:P | 7:BE:149:TYR:HB2 | 2.46 | 0.55 |
| 1:A2:628:G:O2' | 1:A2:629:U:O5' | 2.22 | 0.55 |
| 1:A2:735:C:C3' | 7:BE:193:GLY:N | 2.70 | 0.55 |
| 1:A2:806:A:H5" | 25:BW:81:VAL:HG23 | 1.86 | 0.55 |
| 1:A2:814:A:C2 | 10:BH:109:VAL:C | 2.80 | 0.55 |
| 1:A2:814:A:N6 | 1:A2:858:G:C2 | 2.74 | 0.55 |
| 1:A2:1055:U:H5" | 3:BA:37:VAL:CG1 | 2.32 | 0.55 |
| 1:A2:1502:G:N2 | 1:A2:1504:G:H3' | 2.22 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1532:U:C1' | 28:BZ:77:ARG:CD | 2.43 | 0.55 |
| 1:A2:1538:U:O4 | 8:BF:185:ARG:C | 2.49 | 0.55 |
| 1:A2:1550:A:P | 21:BS:84:TRP:HD1 | 2.30 | 0.55 |
| 1:A2:1613:U:OP2 | 8:BF:84:LYS:HG3 | 2.06 | 0.55 |
| 1:A2:1720:G:C5 | 9:BG:66:GLY:HA2 | 2.41 | 0.55 |
| 1:A2:1721:A:N6 | 9:BG:68:LEU:N | 2.45 | 0.55 |
| 5:BC:62:PRO:C | 5:BC:63:VAL:CA | 2.80 | 0.55 |
| 9:BG:147:LEU:HD13 | 9:BG:153:VAL:HG21 | 1.88 | 0.55 |
| 13:BK:23:ALA:O | 13:BK:24:LYS:N | 2.38 | 0.55 |
| 17:BO:43:THR:O | 17:BO:44:GLY:C | 2.49 | 0.55 |
| 22:BT:14:PHE:CZ | 22:BT:135:ILE:HD11 | 2.41 | 0.55 |
| 23:BU:57:ARG:O | 23:BU:58:LEU:N | 2.40 | 0.55 |
| 27:BY:7:ILE:N | 27:BY:7:ILE:HD12 | 2.21 | 0.55 |
| 29:Ba:36:ILE:O | 29:Ba:36:ILE:HG23 | 2.06 | 0.55 |
| 30:Bb:33:LEU:HB3 | 30:Bb:81:ARG:HA | 1.89 | 0.55 |
| 1:A2:30:G:O5' | 26:BX:142:LYS:HB2 | 2.02 | 0.55 |
| 1:A2:91:G:C2' | 27:BY:116:LYS:HZ3 | 2.06 | 0.55 |
| 1:A2:154:G:C4 | 1:A2:155:U:H5 | 2.24 | 0.55 |
| 1:A2:337:G:C5' | 11:BI:6:ASP:O | 2.55 | 0.55 |
| 1:A2:454:U:O2' | 1:A2:455:C:H5' | 2.07 | 0.55 |
| 1:A2:569:C:P | 33:Be:11:ALA:C | 2.84 | 0.55 |
| 1:A2:702:G:N3 | 7:BE:173:ILE:CG2 | 2.67 | 0.55 |
| 1:A2:759:U:H3 | 12:BJ:7:THR:N | 2.04 | 0.55 |
| 1:A2:778:G:O5' | 27:BY:2:SER:HB3 | 2.06 | 0.55 |
| 1:A2:1096:C:P | 5:BC:168:ARG:NE | 2.78 | 0.55 |
| 1:A2:1294:G:C8 | 1:A2:1294:G:O5' | 2.59 | 0.55 |
| 1:A2:1328:G:C5 | 6:BD:160:SER:OG | 2.59 | 0.55 |
| 1:A2:1336:A:H2' | 1:A2:1337:A:O4' | 2.06 | 0.55 |
| 1:A2:1471:A:H8 | 8:BF:186:ASN:H | 1.54 | 0.55 |
| 1:A2:1479:A:C5' | 22:BT:16:ASN:OD1 | 2.54 | 0.55 |
| 1:A2:1504:G:H1' | 21:BS:41:ARG:HH22 | 0.99 | 0.55 |
| 1:A2:1659:A:H2' | 1:A2:1660:A:H5' | 1.88 | 0.55 |
| 1:A2:1679:G:C2 | 9:BG:67:VAL:HA | 2.30 | 0.55 |
| 1:A2:1714:A:C2 | 1:A2:1715:G:C5 | 2.94 | 0.55 |
| 9:BG:16:PHE:CE2 | 9:BG:121:LEU:HD22 | 2.41 | 0.55 |
| 12:BJ:62:ARG:C | 12:BJ:63:ASP:N | 2.64 | 0.55 |
| 20:BR:43:SER:OG | 20:BR:44:LYS:N | 2.27 | 0.55 |
| 25:BW:35:ILE:C | 25:BW:36:LYS:HA | 2.31 | 0.55 |
| 1:A2:90:C:N4 | 27:BY:115:ASP:C | 2.60 | 0.55 |
| 1:A2:301:A:H61 | 7:BE:5:PRO:CA | 2.18 | 0.55 |
| 1:A2:334:G:O5' | 11:BI:26:LYS:CE | 2.55 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:338:C:H2' | 1:A2:338:C:O2 | 2.06 | 0.55 |
| 1:A2:353:A:O3' | 1:A2:354:C:P | 2.64 | 0.55 |
| 1:A2:439:U:H3' | 1:A2:440:U:P | 2.46 | 0.55 |
| 1:A2:560:U:C3' | 1:A2:561:G:P | 2.94 | 0.55 |
| 1:A2:570:A:H61 | 26:BX:68:ILE:C | 2.14 | 0.55 |
| 1:A2:631:G:C4 | 26:BX:11:SER:O | 2.59 | 0.55 |
| 1:A2:704:C:H6 | 7:BE:234:PRO:HA | 1.72 | 0.55 |
| 1:A2:760:A:O4' | 12:BJ:8:TYR:HB2 | 2.05 | 0.55 |
| 1:A2:879:G:H2' | 1:A2:880:C:O4' | 2.06 | 0.55 |
| 1:A2:1068:C:C4' | 3:BA:33:GLN:CB | 2.77 | 0.55 |
| 1:A2:1171:A:O2' | 1:A2:1172:G:C8 | 2.58 | 0.55 |
| 1:A2:1315:U:C3' | 1:A2:1316:G:P | 2.95 | 0.55 |
| 1:A2:1315:U:H3' | 1:A2:1316:G:P | 2.47 | 0.55 |
| 1:A2:1326:A:O4' | 6:BD:156:PHE:O | 2.20 | 0.55 |
| 1:A2:1435:G:H1 | 13:BK:27:PHE:HD2 | 1.55 | 0.55 |
| 1:A2:1787:C:H5' | 17:BO:132:ARG:HH11 | 1.72 | 0.55 |
| 2:AZ:6169:G:C2' | 2:AZ:6170:G:H5' | 2.36 | 0.55 |
| 20:BR:101:ASN:O | 20:BR:102:VAL:N | 2.40 | 0.55 |
| 1:A2:31:C:H1' | 26:BX:138:GLU:HA | 0.67 | 0.55 |
| 1:A2:160:C:H2' | 1:A2:161:U:O4' | 2.07 | 0.55 |
| 1:A2:298:C:H5 | 7:BE:7:LYS:CD | 2.06 | 0.55 |
| 1:A2:382:C:C5' | 12:BJ:2:PRO:CD | 2.84 | 0.55 |
| 1:A2:452:A:N7 | 27:BY:115:ASP:OD2 | 2.39 | 0.55 |
| 1:A2:453:U:O2 | 1:A2:453:U:H2' | 2.06 | 0.55 |
| 1:A2:738:G:C5' | 7:BE:126:VAL:C | 2.69 | 0.55 |
| 1:A2:758:U:O4 | 12:BJ:5:PRO:C | 2.50 | 0.55 |
| 1:A2:934:C:C6 | 29:Ba:6:ALA:HB3 | 2.42 | 0.55 |
| 1:A2:1032:G:C6 | 1:A2:1033:C:C4 | 2.95 | 0.55 |
| 1:A2:1069:A:OP1 | 3:BA:154:GLU:HA | 2.05 | 0.55 |
| 1:A2:1163:A:H3' | 1:A2:1164:G:P | 2.47 | 0.55 |
| 1:A2:1237:G:C8 | 18:BP:65:LEU:CD2 | 2.75 | 0.55 |
| 1:A2:1502:G:N2 | 22:BT:37:VAL:HG13 | 2.22 | 0.55 |
| 1:A2:1506:G:O3' | 1:A2:1551:U:H5" | 2.06 | 0.55 |
| 1:A2:1548:G:H8 | 21:BS:87:ASN:OD1 | 1.52 | 0.55 |
| 16:BN:42:ARG:O | 16:BN:44:GLY:N | 2.40 | 0.55 |
| 32:Bd:24:CYS:O | 32:Bd:25:SER:OG | 2.24 | 0.55 |
| 35:Bg:234:LEU:HD21 | 35:Bg:263:PHE:HB2 | 1.89 | 0.55 |
| 1:A2:2:A:H8 | 12:BJ:15:PRO:HA | 1.72 | 0.55 |
| 1:A2:89:G:C8 | 27:BY:119:PHE:CA | 2.90 | 0.55 |
| 1:A2:90:C:H42 | 27:BY:115:ASP:C | 2.14 | 0.55 |
| 1:A2:141:U:H3 | 9:BG:136:LYS:HZ2 | 1.53 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:265:A:C5' | 9:BG:176:GLN:CG | 2.54 | 0.55 |
| 1:A2:397:A:C3' | 9:BG:88:ARG:HE | 2.20 | 0.55 |
| 1:A2:410:A:H3' | 1:A2:411:C:OP2 | 2.07 | 0.55 |
| 1:A2:631:G:H1 | 26:BX:6:PRO:HG3 | 1.72 | 0.55 |
| 1:A2:701:U:H2' | 7:BE:176:ASP:CG | 2.27 | 0.55 |
| 1:A2:775:G:N2 | 27:BY:69:SER:CB | 2.70 | 0.55 |
| 1:A2:1068:C:O2' | 1:A2:1069:A:H5' | 2.06 | 0.55 |
| 1:A2:1070:C:H5' | 30:Bb:2:VAL:CG2 | 2.37 | 0.55 |
| 1:A2:1085:G:O2' | 5:BC:164:SER:HB3 | 2.04 | 0.55 |
| 1:A2:1085:G:N3 | 5:BC:163:GLY:HA3 | 2.20 | 0.55 |
| 1:A2:1135:U:P | 26:BX:119:GLY:N | 2.79 | 0.55 |
| 1:A2:1176:G:P | 21:BS:137:HIS:HE1 | 2.20 | 0.55 |
| 1:A2:1281:G:H1' | 23:BU:74:GLU:HA | 0.71 | 0.55 |
| 1:A2:1393:C:OP2 | 20:BR:28:PHE:CB | 2.49 | 0.55 |
| 1:A2:1550:A:C8 | 21:BS:89:GLN:NE2 | 2.73 | 0.55 |
| 1:A2:1565:C:C1' | 21:BS:43:SER:N | 2.58 | 0.55 |
| 3:BA:194:PRO:O | 3:BA:195:TRP:HB2 | 2.04 | 0.55 |
| 10:BH:111:LYS:HB3 | 10:BH:112:ARG:N | 2.21 | 0.55 |
| 12:BJ:72:GLU:O | 12:BJ:76:LEU:N | 2.40 | 0.55 |
| 12:BJ:114:TYR:CG | 12:BJ:122:VAL:HG12 | 2.42 | 0.55 |
| 22:BT:57:ARG:HG2 | 22:BT:61:VAL:HG21 | 1.89 | 0.55 |
| 1:A2:10:G:N2 | 1:A2:11:A:C4 | 2.75 | 0.55 |
| 1:A2:18:C:O3' | 26:BX:114:LYS:CG | 2.55 | 0.55 |
| 1:A2:86:A:C8 | 27:BY:125:LEU:HB2 | 2.38 | 0.55 |
| 1:A2:129:U:N1 | 9:BG:177:ARG:NH1 | 2.54 | 0.55 |
| 1:A2:243:G:H4' | 7:BE:147:ILE:HG13 | 1.88 | 0.55 |
| 1:A2:330:G:OP1 | 11:BI:46:VAL:HG11 | 2.07 | 0.55 |
| 1:A2:638:U:O2 | 1:A2:638:U:C2' | 2.54 | 0.55 |
| 1:A2:785:U:O3' | 27:BY:70:VAL:HA | 2.07 | 0.55 |
| 1:A2:800:U:H5' | 7:BE:186:GLY:CA | 2.36 | 0.55 |
| 1:A2:900:A:O3' | 17:BO:20:TYR:HE1 | 1.89 | 0.55 |
| 1:A2:918:U:O2' | 1:A2:919:A:O4' | 2.24 | 0.55 |
| 1:A2:934:C:C6 | 29:Ba:6:ALA:HB2 | 2.41 | 0.55 |
| 1:A2:1242:A:H5" | 18:BP:89:MET:HB2 | 1.88 | 0.55 |
| 1:A2:1473:U:O2 | 1:A2:1473:U:O4' | 2.25 | 0.55 |
| 1:A2:1608:U:C2' | 19:BQ:73:GLY:CA | 2.71 | 0.55 |
| 5:BC:138:PRO:C | 5:BC:139:ILE:N | 2.65 | 0.55 |
| 19:BQ:20:ALA:HB2 | 19:BQ:67:VAL:CG1 | 2.37 | 0.55 |
| 26:BX:113:ALA:O | 26:BX:114:LYS:N | 2.39 | 0.55 |
| 29:Ba:36:ILE:CG2 | 29:Ba:73:TYR:HB2 | 2.37 | 0.55 |
| 30:Bb:7:LEU:N | 30:Bb:7:LEU:HD12 | 2.22 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:57:G:C2' | 27:BY:114:ARG:CZ | 2.85 | 0.55 |
| 1:A2:300:A:O2' | 7:BE:3:ARG:CZ | 2.55 | 0.55 |
| 1:A2:370:A:OP2 | 12:BJ:14:THR:OG1 | 2.22 | 0.55 |
| 1:A2:382:C:H5' | 12:BJ:2:PRO:CG | 2.37 | 0.55 |
| 1:A2:463:U:H2' | 1:A2:464:A:C8 | 2.42 | 0.55 |
| 1:A2:633:U:O2 | 14:BL:99:ARG:NH1 | 2.32 | 0.55 |
| 1:A2:698:U:C6 | 7:BE:207:LEU:HB3 | 2.31 | 0.55 |
| 1:A2:933:A:H2 | 29:Ba:11:ASN:OD1 | 1.88 | 0.55 |
| 1:A2:953:G:C1' | 16:BN:8:GLY:O | 2.55 | 0.55 |
| 1:A2:1113:A:O3' | 1:A2:1114:G:P | 2.65 | 0.55 |
| 1:A2:1145:U:HO2' | 1:A2:1146:G:P | 2.24 | 0.55 |
| 1:A2:1280:C:OP1 | 32:Bd:44:ARG:CZ | 2.55 | 0.55 |
| 1:A2:1517:U:O3' | 1:A2:1518:C:P | 2.65 | 0.55 |
| 1:A2:1721:A:O3' | 9:BG:97:VAL:N | 2.34 | 0.55 |
| 1:A2:1722:A:N3 | 9:BG:70:PRO:N | 2.51 | 0.55 |
| 10:BH:114:ARG:C | 10:BH:116:ARG:H | 2.14 | 0.55 |
| 1:A2:32:U:O2 | 26:BX:139:LYS:O | 2.17 | 0.54 |
| 1:A2:57:G:C6 | 27:BY:115:ASP:CA | 2.89 | 0.54 |
| 1:A2:85:A:O2' | 27:BY:126:ALA:CA | 2.50 | 0.54 |
| 1:A2:127:G:N7 | 9:BG:186:ARG:C | 2.62 | 0.54 |
| 1:A2:139:C:C4 | 1:A2:266:A:C2 | 2.94 | 0.54 |
| 1:A2:180:A:N3 | 9:BG:188:ARG:CA | 2.51 | 0.54 |
| 1:A2:242:U:H1' | 7:BE:148:ARG:NH1 | 2.21 | 0.54 |
| 1:A2:451:A:H4' | 27:BY:112:LYS:HB2 | 1.89 | 0.54 |
| 1:A2:760:A:H1' | 12:BJ:8:TYR:CA | 2.37 | 0.54 |
| 1:A2:775:G:C2 | 27:BY:61:ARG:N | 2.76 | 0.54 |
| 1:A2:848:C:O3' | 1:A2:849:C:P | 2.65 | 0.54 |
| 1:A2:906:A:H2' | 1:A2:906:A:N3 | 2.21 | 0.54 |
| 1:A2:1068:C:H4' | 3:BA:153:SER:CB | 2.30 | 0.54 |
| 1:A2:1184:A:C4 | 18:BP:123:TYR:CB | 2.46 | 0.54 |
| 1:A2:1402:G:N7 | 20:BR:5:ARG:NH2 | 2.55 | 0.54 |
| 1:A2:1487:A:N6 | 1:A2:1488:G:C6 | 2.75 | 0.54 |
| 1:A2:1555:A:N7 | 18:BP:40:ARG:CD | 2.70 | 0.54 |
| 1:A2:1609:U:OP2 | 19:BQ:75:VAL:N | 2.38 | 0.54 |
| 1:A2:1684:U:C5 | 9:BG:51:LYS:CE | 2.77 | 0.54 |
| 1:A2:1795:U:C3' | 29:Ba:4:LYS:CE | 2.85 | 0.54 |
| 2:AZ:6106:A:C2' | 8:BF:223:SER:O | 2.55 | 0.54 |
| 2:AZ:6106:A:C3' | 2:AZ:6107:U:P | 2.94 | 0.54 |
| 3:BA:75:ALA:HB2 | 3:BA:174:TRP:CZ3 | 2.42 | 0.54 |
| 7:BE:248:ILE:O | 7:BE:252:ARG:N | 2.39 | 0.54 |
| 11:BI:63:GLY:HA3 | 11:BI:179:CYS:SG | 2.47 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 11:BI:195:ARG:O | 11:BI:196:LEU:N | 2.40 | 0.54 |
| 1:A2:56:U:HO3' | 1:A2:57:G:P | 2.27 | 0.54 |
| 1:A2:80:A:H3' | 1:A2:81:G:H5' | 1.88 | 0.54 |
| 1:A2:165:G:C5' | 9:BG:15:THR:N | 2.70 | 0.54 |
| 1:A2:395:U:C6 | 9:BG:91:GLU:CG | 2.90 | 0.54 |
| 1:A2:436:A:O5' | 26:BX:101:GLU:CD | 2.50 | 0.54 |
| 1:A2:698:U:C5 | 7:BE:208:VAL:CA | 2.58 | 0.54 |
| 1:A2:734:A:C8 | 7:BE:212:ASP:CA | 2.90 | 0.54 |
| 1:A2:776:G:C5' | 27:BY:66:GLY:HA2 | 2.37 | 0.54 |
| 1:A2:811:A:H61 | 10:BH:103:SER:CB | 2.16 | 0.54 |
| 1:A2:823:G:O6 | 1:A2:850:A:C6 | 2.60 | 0.54 |
| 1:A2:857:U:O4 | 10:BH:109:VAL:HG22 | 2.07 | 0.54 |
| 1:A2:889:U:C5' | 17:BO:89:THR:HG22 | 2.36 | 0.54 |
| 1:A2:894:U:C3' | 4:BB:65:VAL:HG22 | 2.25 | 0.54 |
| 1:A2:921:U:OP1 | 4:BB:216:LYS:N | 2.40 | 0.54 |
| 1:A2:956:C:N3 | 16:BN:11:ILE:CB | 2.63 | 0.54 |
| 1:A2:1053:G:N3 | 1:A2:1053:G:C2' | 2.70 | 0.54 |
| 1:A2:1102:G:C4 | 26:BX:5:LYS:NZ | 2.66 | 0.54 |
| 1:A2:1184:A:H62 | 18:BP:125:PRO:CA | 2.20 | 0.54 |
| 1:A2:1295:G:C6 | 5:BC:116:LYS:CE | 2.90 | 0.54 |
| 1:A2:1302:U:H6 | 5:BC:97:ARG:NH2 | 2.03 | 0.54 |
| 1:A2:1307:U:O2 | 1:A2:1307:U:O4' | 2.24 | 0.54 |
| 1:A2:1389:C:O3' | 20:BR:45:ARG:CB | 2.55 | 0.54 |
| 1:A2:1399:C:OP2 | 20:BR:67:ARG:O | 2.24 | 0.54 |
| 1:A2:1473:U:C2 | 8:BF:97:LEU:HD21 | 2.41 | 0.54 |
| 1:A2:1500:C:N4 | 22:BT:99:SER:HA | 2.22 | 0.54 |
| 1:A2:1546:G:N2 | 21:BS:38:VAL:CA | 2.69 | 0.54 |
| 1:A2:1680:G:C1' | 9:BG:68:LEU:HA | 2.22 | 0.54 |
| 3:BA:77:SER:HB2 | 3:BA:86:VAL:HG21 | 1.89 | 0.54 |
| 20:BR:102:VAL:C | 20:BR:103:ASP:O | 2.50 | 0.54 |
| 22:BT:5:SER:HG | 22:BT:6:VAL:N | 2.06 | 0.54 |
| 22:BT:18:TYR:OH | 22:BT:113:ILE:HD13 | 2.06 | 0.54 |
| 29:Ba:97:PRO:HB2 | 29:Ba:98:PRO:HD3 | 1.87 | 0.54 |
| 1:A2:85:A:N6 | 27:BY:123:LYS:HB2 | 2.23 | 0.54 |
| 1:A2:168:A:O3' | 9:BG:132:ARG:NH1 | 2.40 | 0.54 |
| 1:A2:178:U:P | 9:BG:179:VAL:CG1 | 2.94 | 0.54 |
| 1:A2:324:U:O2' | 14:BL:133:LYS:HG3 | 2.07 | 0.54 |
| 1:A2:370:A:H5" | 12:BJ:14:THR:N | 2.22 | 0.54 |
| 1:A2:395:U:C6 | 9:BG:91:GLU:OE2 | 2.59 | 0.54 |
| 1:A2:694:U:O2 | 1:A2:694:U:O4' | 2.25 | 0.54 |
| 1:A2:700:C:C5 | 7:BE:198:LYS:N | 2.74 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:735:C:C1' | 7:BE:193:GLY:N | 2.70 | 0.54 |
| 1:A2:778:G:C5 | 27:BY:35:VAL:CG2 | 2.90 | 0.54 |
| 1:A2:786:C:H3' | 27:BY:70:VAL:CG1 | 2.09 | 0.54 |
| 1:A2:876:G:O3' | 1:A2:877:G:P | 2.65 | 0.54 |
| 1:A2:1051:G:H1 | 3:BA:32:HIS:CE1 | 2.24 | 0.54 |
| 1:A2:1103:U:O2 | 26:BX:5:LYS:CG | 2.21 | 0.54 |
| 1:A2:1241:G:P | 18:BP:104:GLN:HB3 | 2.47 | 0.54 |
| 1:A2:1367:G:HO2' | 22:BT:129:GLN:CD | 2.12 | 0.54 |
| 1:A2:1671:A:H1' | 1:A2:1731:A:N1 | 2.22 | 0.54 |
| 1:A2:1679:G:O2' | 9:BG:68:LEU:O | 2.25 | 0.54 |
| 1:A2:1680:G:O2' | 1:A2:1720:G:N2 | 2.41 | 0.54 |
| 3:BA:131:GLN:HB3 | 3:BA:135:GLU:HG3 | 1.89 | 0.54 |
| 4:BB:81:PHE:HA | 4:BB:106:THR:HG23 | 1.88 | 0.54 |
| 7:BE:222:LEU:C | 7:BE:222:LEU:HD13 | 2.32 | 0.54 |
| 13:BK:53:GLY:O | 13:BK:69:THR:HG21 | 2.07 | 0.54 |
| 25:BW:71:LYS:HG3 | 25:BW:72:CYS:N | 2.22 | 0.54 |
| 1:A2:87:C:H3' | 1:A2:88:U:P | 2.47 | 0.54 |
| 1:A2:178:U:O2' | 9:BG:183:ARG:NH2 | 2.38 | 0.54 |
| 1:A2:244:A:H2' | 1:A2:245:U:O4' | 2.07 | 0.54 |
| 1:A2:331:A:OP2 | 11:BI:31:ARG:CD | 2.48 | 0.54 |
| 1:A2:543:C:O2 | 1:A2:543:C:O4' | 2.25 | 0.54 |
| 1:A2:702:G:N7 | 7:BE:176:ASP:O | 2.41 | 0.54 |
| 1:A2:703:G:C4 | 7:BE:230:GLU:N | 2.75 | 0.54 |
| 1:A2:814:A:H5" | 10:BH:108:GLN:C | 2.33 | 0.54 |
| 1:A2:819:G:C6 | 1:A2:853:G:C6 | 2.96 | 0.54 |
| 1:A2:821:U:H3' | 1:A2:822:U:H5" | 1.89 | 0.54 |
| 1:A2:863:A:C4' | 25:BW:6:VAL:HB | 2.36 | 0.54 |
| 1:A2:916:U:O3' | 17:BO:86:THR:O | 2.24 | 0.54 |
| 1:A2:1102:G:H4' | 14:BL:99:ARG:NH2 | 2.22 | 0.54 |
| 1:A2:1104:U:OP1 | 26:BX:15:LEU:O | 2.24 | 0.54 |
| 1:A2:1237:G:N3 | 18:BP:66:ALA:HB1 | 2.17 | 0.54 |
| 1:A2:1237:G:O3' | 1:A2:1238:A:P | 2.65 | 0.54 |
| 1:A2:1553:G:C4 | 18:BP:40:ARG:HD2 | 2.34 | 0.54 |
| 1:A2:1582:U:P | 19:BQ:135:ARG:HH11 | 2.25 | 0.54 |
| 1:A2:1674:C:H5" | 9:BG:76:LEU:CG | 2.30 | 0.54 |
| 3:BA:172:LEU:O | 3:BA:172:LEU:HD22 | 2.08 | 0.54 |
| 4:BB:39:GLU:O | 4:BB:41:ALA:N | 2.41 | 0.54 |
| 4:BB:91:VAL:HG22 | 4:BB:92:GLN:N | 2.23 | 0.54 |
| 7:BE:52:LEU:O | 7:BE:53:LYS:CB | 2.56 | 0.54 |
| 7:BE:127:LYS:N | 7:BE:140:VAL:O | 2.40 | 0.54 |
| 8:BF:118:LEU:HD13 | 8:BF:130:ILE:HG22 | 1.89 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 9:BG:57:ASP:HA | 9:BG:106:LEU:HD23 | 1.89 | 0.54 |
| 15:BM:34:THR:C | 15:BM:35:ALA:N | 2.65 | 0.54 |
| 1:A2:89:G:N7 | 27:BY:119:PHE:CA | 2.71 | 0.54 |
| 1:A2:318:U:C4 | 11:BI:11:ARG:NH1 | 2.75 | 0.54 |
| 1:A2:335:U:O2 | 11:BI:27:PHE:CZ | 2.13 | 0.54 |
| 1:A2:395:U:C4' | 9:BG:87:ARG:CG | 2.84 | 0.54 |
| 1:A2:451:A:C1' | 27:BY:112:LYS:HB3 | 2.38 | 0.54 |
| 1:A2:458:G:OP2 | 27:BY:107:GLN:NE2 | 2.40 | 0.54 |
| 1:A2:568:G:HO2' | 33:Be:13:LYS:CA | 2.02 | 0.54 |
| 1:A2:740:A:H62 | 7:BE:206:ASP:HB3 | 1.72 | 0.54 |
| 1:A2:755:A:N9 | 12:BJ:3:ARG:O | 2.40 | 0.54 |
| 1:A2:778:G:O2' | 27:BY:5:VAL:CA | 2.55 | 0.54 |
| 1:A2:862:A:N3 | 1:A2:963:A:C2 | 2.76 | 0.54 |
| 1:A2:895:G:C5' | 17:BO:34:SER:CB | 2.85 | 0.54 |
| 1:A2:917:U:C5' | 17:BO:120:PRO:CD | 2.65 | 0.54 |
| 1:A2:1049:U:C4' | 30:Bb:18:LYS:CB | 2.85 | 0.54 |
| 1:A2:1082:C:O2 | 1:A2:1082:C:O4' | 2.22 | 0.54 |
| 1:A2:1096:C:H2' | 5:BC:166:THR:C | 2.33 | 0.54 |
| 1:A2:1103:U:C2' | 26:BX:5:LYS:CB | 2.84 | 0.54 |
| 1:A2:1136:U:O4 | 26:BX:113:ALA:HB1 | 2.08 | 0.54 |
| 1:A2:1224:A:N6 | 34:Bf:96:ALA:CA | 2.70 | 0.54 |
| 1:A2:1533:C:C1' | 28:BZ:77:ARG:CZ | 2.81 | 0.54 |
| 1:A2:1658:G:N2 | 1:A2:1659:A:H1' | 2.22 | 0.54 |
| 1:A2:1681:A:H5' | 9:BG:101:ILE:HG12 | 0.65 | 0.54 |
| 1:A2:1683:C:P | 9:BG:52:ILE:HA | 2.47 | 0.54 |
| 2:AZ:6118:G:O6 | 2:AZ:6159:C:H4' | 2.06 | 0.54 |
| 7:BE:29:PRO:C | 7:BE:30:ARG:N | 2.66 | 0.54 |
| 10:BH:109:VAL:C | 10:BH:110:GLN:C | 2.76 | 0.54 |
| 12:BJ:93:LEU:C | 12:BJ:94:ASP:O | 2.51 | 0.54 |
| 16:BN:128:TYR:C | 16:BN:129:TYR:N | 2.66 | 0.54 |
| 21:BS:32:LEU:HD21 | 21:BS:69:ILE:HG22 | 1.89 | 0.54 |
| 22:BT:22:LEU:HD12 | 22:BT:58:ALA:CB | 2.37 | 0.54 |
| 23:BU:63:LEU:HD23 | 23:BU:63:LEU:N | 2.22 | 0.54 |
| 32:Bd:43:PHE:C | 32:Bd:44:ARG:N | 2.65 | 0.54 |
| 1:A2:181:A:O4' | 9:BG:191:ARG:NH1 | 2.23 | 0.54 |
| 1:A2:299:A:N7 | 7:BE:7:LYS:HB2 | 2.19 | 0.54 |
| 1:A2:572:C:OP2 | 26:BX:69:ARG:NH1 | 2.40 | 0.54 |
| 1:A2:704:C:C5' | 7:BE:233:LYS:O | 2.48 | 0.54 |
| 1:A2:848:C:O3' | 14:BL:43:LYS:HD2 | 2.07 | 0.54 |
| 1:A2:880:C:P | 16:BN:110:ASP:HB2 | 2.37 | 0.54 |
| 1:A2:899:G:C3' | 17:BO:25:ASP:CG | 2.47 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:919:A:H2' | 1:A2:920:U:C6 | 2.43 | 0.54 |
| 1:A2:959:U:H5 | 10:BH:138:LYS:HB2 | 1.73 | 0.54 |
| 1:A2:1051:G:O6 | 3:BA:32:HIS:CE1 | 2.61 | 0.54 |
| 1:A2:1240:U:C4 | 18:BP:63:ALA:CB | 2.90 | 0.54 |
| 1:A2:1242:A:C2' | 18:BP:60:LEU:HB2 | 2.16 | 0.54 |
| 1:A2:1445:G:C4' | 34:Bf:89:ALA:HB3 | 2.37 | 0.54 |
| 1:A2:1501:C:OP2 | 22:BT:103:LYS:HD3 | 2.08 | 0.54 |
| 1:A2:1523:G:N7 | 22:BT:79:LEU:HD21 | 2.19 | 0.54 |
| 1:A2:1594:G:C2 | 1:A2:1595:U:O2 | 2.60 | 0.54 |
| 2:AZ:6118:G:H2' | 2:AZ:6118:G:N3 | 2.22 | 0.54 |
| 2:AZ:6206:G:H3' | 2:AZ:6206:G:N3 | 2.23 | 0.54 |
| 6:BD:34:TYR:HH | 6:BD:36:GLY:N | 2.06 | 0.54 |
| 10:BH:36:ALA:HB3 | 10:BH:37:GLU:OE1 | 2.07 | 0.54 |
| 12:BJ:93:LEU:O | 12:BJ:93:LEU:HD23 | 2.08 | 0.54 |
| 27:BY:26:ASP:OD1 | 27:BY:70:VAL:HG22 | 2.08 | 0.54 |
| 1:A2:14:C:O3' | 5:BC:203:LYS:CE | 2.56 | 0.54 |
| 1:A2:129:U:H1' | 1:A2:264:G:N1 | 2.23 | 0.54 |
| 1:A2:149:C:C6 | 27:BY:127:LYS:O | 2.61 | 0.54 |
| 1:A2:238:U:H2' | 9:BG:210:GLN:HE21 | 1.69 | 0.54 |
| 1:A2:241:U:H6 | 9:BG:205:ALA:CA | 2.14 | 0.54 |
| 1:A2:329:G:O2' | 11:BI:33:PRO:HA | 2.05 | 0.54 |
| 1:A2:598:U:P | 26:BX:133:LEU:HD23 | 2.44 | 0.54 |
| 1:A2:830:U:O2' | 1:A2:831:U:C6 | 2.61 | 0.54 |
| 1:A2:863:A:C2' | 25:BW:6:VAL:HB | 2.38 | 0.54 |
| 1:A2:885:G:H5' | 4:BB:122:GLU:HB2 | 1.90 | 0.54 |
| 1:A2:953:G:OP2 | 16:BN:3:ARG:CA | 2.53 | 0.54 |
| 1:A2:1260:U:C3' | 34:Bf:93:ALA:CB | 2.86 | 0.54 |
| 1:A2:1502:G:O6 | 22:BT:33:TYR:CE2 | 2.61 | 0.54 |
| 1:A2:1535:U:C6 | 8:BF:188:LYS:HG3 | 2.41 | 0.54 |
| 1:A2:1744:A:H3' | 1:A2:1745:G:O5' | 2.08 | 0.54 |
| 1:A2:1753:A:N1 | 1:A2:1754:A:N6 | 2.56 | 0.54 |
| 6:BD:105:MET:O | 6:BD:106:LYS:C | 2.51 | 0.54 |
| 8:BF:57:SER:C | 8:BF:58:LEU:N | 2.66 | 0.54 |
| 11:BI:65:PHE:N | 11:BI:74:LYS:O | 2.41 | 0.54 |
| 29:Ba:97:PRO:HB2 | 29:Ba:98:PRO:CD | 2.36 | 0.54 |
| 1:A2:365:G:C5 | 1:A2:377:G:C2 | 2.96 | 0.54 |
| 1:A2:365:G:C5 | 1:A2:377:G:N2 | 2.76 | 0.54 |
| 1:A2:806:A:H5" | 25:BW:81:VAL:HG22 | 1.85 | 0.54 |
| 1:A2:819:G:H4' | 1:A2:820:U:OP1 | 2.07 | 0.54 |
| 1:A2:887:A:H2 | 17:BO:125:SER:CA | 2.12 | 0.54 |
| 1:A2:1087:A:C2 | 1:A2:1088:A:C4 | 2.96 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1102:G:N3 | 26:BX:7:ARG:NE | 2.56 | 0.54 |
| 1:A2:1259:U:H2' | 1:A2:1260:U:H6 | 1.72 | 0.54 |
| 1:A2:1281:G:P | 23:BU:78:THR:OG1 | 2.66 | 0.54 |
| 1:A2:1314:U:O2' | 1:A2:1315:U:P | 2.66 | 0.54 |
| 1:A2:1547:A:C2' | 21:BS:100:THR:H | 2.20 | 0.54 |
| 1:A2:1555:A:C1' | 18:BP:115:TYR:CZ | 2.91 | 0.54 |
| 1:A2:1601:G:C8 | 22:BT:89:ARG:CA | 2.90 | 0.54 |
| 2:AZ:6219:U:C2 | 6:BD:144:ALA:HB1 | 2.37 | 0.54 |
| 5:BC:118:ALA:HB3 | 5:BC:124:ALA:CB | 2.37 | 0.54 |
| 7:BE:27:TYR:C | 7:BE:28:ALA:N | 2.66 | 0.54 |
| 13:BK:49:LEU:O | 13:BK:50:THR:C | 2.51 | 0.54 |
| 14:BL:33:ARG:NH1 | 14:BL:51:GLY:O | 2.41 | 0.54 |
| 16:BN:96:VAL:C | 16:BN:97:SER:N | 2.65 | 0.54 |
| 31:Bc:35:ASP:OD1 | 31:Bc:35:ASP:N | 2.41 | 0.54 |
| 32:Bd:33:LYS:O | 32:Bd:34:TYR:HB2 | 2.06 | 0.54 |
| 35:Bg:287:PRO:C | 35:Bg:288:HIS:N | 2.66 | 0.54 |
| 1:A2:9:U:O2 | 1:A2:9:U:H2' | 2.08 | 0.54 |
| 1:A2:210:A:N1 | 1:A2:256:A:C6 | 2.76 | 0.54 |
| 1:A2:245:U:H6 | 7:BE:140:VAL:HG12 | 1.69 | 0.54 |
| 1:A2:299:A:N6 | 7:BE:7:LYS:CE | 2.70 | 0.54 |
| 1:A2:328:A:C4' | 11:BI:172:ARG:HH22 | 2.20 | 0.54 |
| 1:A2:396:G:H2' | 9:BG:88:ARG:HD2 | 1.90 | 0.54 |
| 1:A2:571:G:H2' | 26:BX:114:LYS:HE3 | 1.89 | 0.54 |
| 1:A2:740:A:H8 | 1:A2:740:A:O5' | 1.91 | 0.54 |
| 1:A2:1036:A:C3' | 1:A2:1037:C:P | 2.96 | 0.54 |
| 1:A2:1056:U:P | 3:BA:46:HIS:N | 2.81 | 0.54 |
| 1:A2:1241:G:H1' | 18:BP:96:ILE:HD11 | 1.90 | 0.54 |
| 1:A2:1243:G:H5" | 18:BP:60:LEU:N | 2.23 | 0.54 |
| 1:A2:1260:U:C3' | 34:Bf:92:LYS:C | 2.73 | 0.54 |
| 1:A2:1419:G:H21 | 32:Bd:54:LYS:HD2 | 1.64 | 0.54 |
| 1:A2:1565:C:P | 21:BS:41:ARG:CA | 2.80 | 0.54 |
| 1:A2:1581:C:O3' | 19:BQ:135:ARG:HB3 | 2.08 | 0.54 |
| 5:BC:146:THR:O | 5:BC:147:ASN:C | 2.50 | 0.54 |
| 6:BD:33:GLY:CA | 6:BD:53:THR:HG23 | 2.38 | 0.54 |
| 11:BI:81:VAL:CA | 11:BI:82:VAL:N | 2.71 | 0.54 |
| 18:BP:18:ARG:N | 18:BP:20:VAL:C | 2.66 | 0.54 |
| 23:BU:95:ALA:HB1 | 23:BU:99:ILE:CG2 | 2.37 | 0.54 |
| 1:A2:75:U:H2' | 9:BG:166:GLU:N | 2.23 | 0.54 |
| 1:A2:76:A:H2 | 9:BG:167:LYS:N | 2.05 | 0.54 |
| 1:A2:265:A:C2 | 1:A2:267:U:O4 | 2.60 | 0.54 |
| 1:A2:300:A:N6 | 7:BE:5:PRO:CA | 2.71 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:312:A:OP2 | 26:BX:24:TRP:CH2 | 2.61 | 0.54 |
| 1:A2:394:C:O5' | 9:BG:76:LEU:HD21 | 2.08 | 0.54 |
| 1:A2:633:U:C3' | 14:BL:99:ARG:CG | 2.76 | 0.54 |
| 1:A2:783:G:C4 | 27:BY:39:GLU:HG2 | 2.43 | 0.54 |
| 1:A2:787:G:N7 | 27:BY:59:GLY:O | 2.41 | 0.54 |
| 1:A2:842:C:O2 | 1:A2:842:C:H2' | 2.08 | 0.54 |
| 1:A2:899:G:C8 | 17:BO:43:THR:OG1 | 2.61 | 0.54 |
| 1:A2:960:U:O3' | 1:A2:961:U:O5' | 2.25 | 0.54 |
| 1:A2:1253:U:C5 | 34:Bf:136:LYS:N | 2.75 | 0.54 |
| 1:A2:1279:C:C2 | 23:BU:72:ASN:HB3 | 2.43 | 0.54 |
| 1:A2:1281:G:H4' | 23:BU:75:GLY:O | 2.08 | 0.54 |
| 1:A2:1309:C:C3' | 1:A2:1310:U:P | 2.95 | 0.54 |
| 1:A2:1458:G:N3 | 1:A2:1458:G:H2' | 2.23 | 0.54 |
| 1:A2:1519:U:C2 | 1:A2:1520:U:C5 | 2.96 | 0.54 |
| 1:A2:1533:C:C6 | 28:BZ:77:ARG:HD3 | 2.42 | 0.54 |
| 1:A2:1549:C:H6 | 21:BS:86:LEU:HB2 | 1.73 | 0.54 |
| 6:BD:197:THR:C | 6:BD:198:GLY:N | 2.66 | 0.54 |
| 8:BF:103:ASN:O | 8:BF:104:ASN:C | 2.50 | 0.54 |
| 8:BF:213:LYS:HA | 8:BF:216:GLU:HB3 | 1.89 | 0.54 |
| 12:BJ:135:ALA:HB3 | 12:BJ:157:ASP:O | 2.07 | 0.54 |
| 19:BQ:36:ILE:O | 19:BQ:39:VAL:HG13 | 2.07 | 0.54 |
| 19:BQ:39:VAL:HG23 | 19:BQ:42:GLU:HG2 | 1.89 | 0.54 |
| 19:BQ:107:LYS:N | 19:BQ:107:LYS:HE2 | 2.23 | 0.54 |
| 21:BS:28:ILE:C | 21:BS:30:TYR:H | 2.10 | 0.54 |
| 21:BS:29:VAL:HG12 | 21:BS:29:VAL:O | 2.07 | 0.54 |
| 24:BV:51:VAL:HA | 24:BV:52:THR:N | 2.23 | 0.54 |
| 35:Bg:144:LEU:HD11 | 35:Bg:186:PHE:CD1 | 2.43 | 0.54 |
| 35:Bg:150:TRP:O | 35:Bg:151:VAL:N | 2.41 | 0.54 |
| 1:A2:31:C:O2' | 26:BX:138:GLU:HG2 | 2.04 | 0.53 |
| 1:A2:69:G:H2' | 1:A2:70:C:O4' | 2.08 | 0.53 |
| 1:A2:148:A:P | 27:BY:131:ARG:HB2 | 2.48 | 0.53 |
| 1:A2:237:C:C5 | 1:A2:834:G:C8 | 2.95 | 0.53 |
| 1:A2:347:G:O2' | 11:BI:12:SER:N | 2.37 | 0.53 |
| 1:A2:436:A:C8 | 26:BX:50:LYS:CD | 2.89 | 0.53 |
| 1:A2:606:A:C4' | 1:A2:607:G:H5' | 2.37 | 0.53 |
| 1:A2:606:A:C5' | 1:A2:607:G:H5' | 2.38 | 0.53 |
| 1:A2:778:G:H2' | 27:BY:32:ARG:NH2 | 2.18 | 0.53 |
| 1:A2:859:A:N7 | 10:BH:112:ARG:N | 2.56 | 0.53 |
| 1:A2:887:A:C2' | 17:BO:124:ASP:HA | 2.38 | 0.53 |
| 1:A2:952:A:O3' | 1:A2:953:G:P | 2.66 | 0.53 |
| 1:A2:1224:A:C6 | 34:Bf:96:ALA:HB1 | 2.43 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1243:G:H5' | 18:BP:61:ARG:CB | 2.38 | 0.53 |
| 1:A2:1252:C:C5' | 34:Bf:137:ASP:N | 2.69 | 0.53 |
| 1:A2:1254:U:H6 | 34:Bf:140:TYR:CZ | 2.24 | 0.53 |
| 1:A2:1281:G:C1' | 23:BU:74:GLU:CA | 2.47 | 0.53 |
| 1:A2:1318:G:H2' | 1:A2:1319:A:C8 | 2.42 | 0.53 |
| 1:A2:1326:A:C4' | 6:BD:189:MET:SD | 2.95 | 0.53 |
| 1:A2:1416:G:O2' | 19:BQ:126:PRO:CG | 2.51 | 0.53 |
| 1:A2:1454:G:OP2 | 18:BP:118:GLU:HG2 | 2.08 | 0.53 |
| 1:A2:1538:U:O2 | 1:A2:1538:U:H2' | 2.09 | 0.53 |
| 1:A2:1682:U:OP1 | 9:BG:30:ALA:N | 2.29 | 0.53 |
| 2:AZ:6101:U:H2' | 2:AZ:6102:A:H5" | 1.90 | 0.53 |
| 2:AZ:6123:A:H2 | 2:AZ:6152:C:C2 | 2.25 | 0.53 |
| 2:AZ:6171:U:OP1 | 2:AZ:6207:A:N6 | 2.41 | 0.53 |
| 3:BA:50:VAL:C | 20:BR:105:GLN:HB3 | 2.32 | 0.53 |
| 3:BA:141:ILE:O | 3:BA:142:PRO:C | 2.49 | 0.53 |
| 4:BB:82:ARG:NH2 | 4:BB:188:LEU:O | 2.41 | 0.53 |
| 27:BY:88:THR:O | 27:BY:91:LEU:N | 2.35 | 0.53 |
| 28:BZ:77:ARG:O | 28:BZ:78:ILE:N | 2.41 | 0.53 |
| 1:A2:2:A:H5' | 12:BJ:14:THR:C | 2.21 | 0.53 |
| 1:A2:302:U:H5' | 11:BI:25:ARG:NH2 | 2.23 | 0.53 |
| 1:A2:325:G:C2 | 1:A2:326:G:C8 | 2.96 | 0.53 |
| 1:A2:365:G:C2 | 1:A2:366:A:C8 | 2.96 | 0.53 |
| 1:A2:635:A:H2 | 25:BW:33:VAL:HG22 | 1.71 | 0.53 |
| 1:A2:686:C:O5' | 12:BJ:65:LYS:HE3 | 2.08 | 0.53 |
| 1:A2:703:G:H21 | 7:BE:229:GLY:H | 1.57 | 0.53 |
| 1:A2:753:A:O3' | 7:BE:12:LEU:O | 2.26 | 0.53 |
| 1:A2:778:G:C5 | 27:BY:35:VAL:HG23 | 2.43 | 0.53 |
| 1:A2:785:U:C3' | 27:BY:26:ASP:HA | 2.38 | 0.53 |
| 1:A2:804:A:P | 25:BW:121:VAL:HA | 2.47 | 0.53 |
| 1:A2:1150:G:H2' | 1:A2:1768:G:H22 | 1.73 | 0.53 |
| 1:A2:1334:U:P | 32:Bd:55:PHE:CD2 | 2.88 | 0.53 |
| 1:A2:1601:G:O2' | 1:A2:1602:C:OP1 | 2.25 | 0.53 |
| 1:A2:1685:G:N2 | 1:A2:1717:G:C5 | 2.76 | 0.53 |
| 1:A2:1714:A:H8 | 1:A2:1714:A:OP2 | 1.92 | 0.53 |
| 1:A2:1720:G:C2' | 9:BG:67:VAL:H | 2.21 | 0.53 |
| 3:BA:103:THR:CG2 | 3:BA:106:SER:HA | 2.38 | 0.53 |
| 14:BL:78:THR:CG2 | 14:BL:84:ILE:CG2 | 2.71 | 0.53 |
| 19:BQ:90:VAL:O | 19:BQ:94:GLN:HB3 | 2.09 | 0.53 |
| 25:BW:30:SER:O | 25:BW:34:ILE:HD12 | 2.08 | 0.53 |
| 29:Ba:32:LYS:C | 29:Ba:33:ASP:O | 2.47 | 0.53 |
| 1:A2:226:A:C3' | 1:A2:227:U:H5' | 2.37 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:600:U:C5' | 26:BX:104:LEU:HD23 | 2.37 | 0.53 |
| 1:A2:754:A:N6 | 1:A2:794:U:OP1 | 2.42 | 0.53 |
| 1:A2:776:G:H22 | 27:BY:27:VAL:CG2 | 2.21 | 0.53 |
| 1:A2:1144:U:C4' | 5:BC:88:LYS:HA | 2.36 | 0.53 |
| 1:A2:1149:G:C2 | 1:A2:1151:A:C8 | 2.96 | 0.53 |
| 1:A2:1295:G:H2' | 1:A2:1296:A:O4' | 2.08 | 0.53 |
| 1:A2:1429:G:C6 | 1:A2:1430:U:C4 | 2.97 | 0.53 |
| 1:A2:1458:G:H4' | 21:BS:131:LEU:CA | 1.98 | 0.53 |
| 2:AZ:6219:U:C2 | 6:BD:144:ALA:CB | 2.92 | 0.53 |
| 4:BB:71:ALA:HB3 | 4:BB:72:ASP:N | 2.24 | 0.53 |
| 5:BC:201:ASN:C | 5:BC:202:GLY:N | 2.67 | 0.53 |
| 6:BD:37:VAL:HG13 | 6:BD:38:GLU:N | 2.24 | 0.53 |
| 9:BG:153:VAL:O | 9:BG:154:ARG:N | 2.41 | 0.53 |
| 15:BM:52:LEU:HB3 | 15:BM:78:LEU:HD13 | 1.90 | 0.53 |
| 17:BO:22:SER:HB2 | 17:BO:23:PHE:N | 2.24 | 0.53 |
| 19:BQ:115:THR:O | 19:BQ:118:ILE:N | 2.39 | 0.53 |
| 21:BS:16:ARG:HH21 | 21:BS:21:ASN:HA | 1.74 | 0.53 |
| 28:BZ:62:VAL:HG13 | 28:BZ:76:ALA:HB3 | 1.91 | 0.53 |
| 1:A2:270:C:C4 | 1:A2:271:A:N7 | 2.77 | 0.53 |
| 1:A2:299:A:H62 | 7:BE:7:LYS:HZ1 | 1.55 | 0.53 |
| 1:A2:445:A:C2 | 1:A2:446:A:C8 | 2.96 | 0.53 |
| 1:A2:451:A:H1' | 27:BY:112:LYS:N | 2.22 | 0.53 |
| 1:A2:572:C:H5" | 26:BX:116:ASP:OD1 | 2.08 | 0.53 |
| 1:A2:599:A:H1' | 26:BX:124:VAL:CG1 | 2.37 | 0.53 |
| 1:A2:731:C:H4' | 1:A2:732:G:OP1 | 2.08 | 0.53 |
| 1:A2:757:A:C3' | 1:A2:758:U:O5' | 2.57 | 0.53 |
| 1:A2:786:C:C5 | 27:BY:71:GLY:N | 2.68 | 0.53 |
| 1:A2:956:C:HO2' | 30:Bb:22:LYS:NZ | 1.99 | 0.53 |
| 1:A2:1102:G:C2 | 26:BX:7:ARG:NH1 | 2.76 | 0.53 |
| 1:A2:1137:A:H5' | 26:BX:64:PRO:CD | 2.33 | 0.53 |
| 1:A2:1246:C:N4 | 18:BP:76:VAL:C | 2.59 | 0.53 |
| 1:A2:1296:A:C5 | 1:A2:1297:G:C8 | 2.97 | 0.53 |
| 1:A2:1558:U:C5 | 21:BS:123:ARG:HA | 2.44 | 0.53 |
| 1:A2:1601:G:H8 | 22:BT:89:ARG:CD | 2.16 | 0.53 |
| 1:A2:1680:G:N3 | 9:BG:68:LEU:CA | 2.71 | 0.53 |
| 1:A2:1796:C:N3 | 29:Ba:89:ARG:HD3 | 2.23 | 0.53 |
| 8:BF:162:VAL:HG12 | 31:Bc:45:LYS:HB3 | 1.90 | 0.53 |
| 26:BX:11:SER:N | 26:BX:12:ALA:N | 2.56 | 0.53 |
| 27:BY:9:THR:O | 27:BY:9:THR:OG1 | 2.22 | 0.53 |
| 35:Bg:37:SER:CB | 35:Bg:41:THR:O | 2.55 | 0.53 |
| 1:A2:78:A:C4 | 9:BG:162:VAL:HG23 | 2.44 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:168:A:O3' | 9:BG:132:ARG:CZ | 2.56 | 0.53 |
| 1:A2:338:C:O2 | 11:BI:3:ILE:N | 2.41 | 0.53 |
| 1:A2:634:G:C5' | 25:BW:79:PHE:CD2 | 2.92 | 0.53 |
| 1:A2:634:G:O3' | 25:BW:77:PRO:HD2 | 2.08 | 0.53 |
| 1:A2:638:U:P | 25:BW:108:ALA:CB | 2.71 | 0.53 |
| 1:A2:785:U:H5 | 27:BY:57:VAL:HG23 | 1.74 | 0.53 |
| 1:A2:831:U:H5' | 7:BE:152:PRO:HG3 | 1.90 | 0.53 |
| 1:A2:900:A:C5' | 17:BO:20:TYR:CE1 | 2.91 | 0.53 |
| 1:A2:952:A:OP1 | 16:BN:121:ARG:CD | 2.57 | 0.53 |
| 1:A2:1057:U:C3' | 3:BA:41:ARG:HA | 2.37 | 0.53 |
| 1:A2:1067:C:C5' | 3:BA:31:VAL:CG1 | 2.72 | 0.53 |
| 1:A2:1293:U:OP2 | 1:A2:1294:G:OP2 | 2.26 | 0.53 |
| 1:A2:1299:G:H5' | 5:BC:98:PHE:C | 2.32 | 0.53 |
| 1:A2:1470:C:C3' | 8:BF:184:PHE:CZ | 2.91 | 0.53 |
| 1:A2:1553:G:O6 | 18:BP:39:ALA:CA | 2.53 | 0.53 |
| 1:A2:1681:A:O5' | 9:BG:29:ASP:O | 2.27 | 0.53 |
| 3:BA:131:GLN:HE21 | 3:BA:134:LYS:CE | 2.21 | 0.53 |
| 14:BL:128:CYS:C | 14:BL:129:ARG:O | 2.51 | 0.53 |
| 20:BR:102:VAL:C | 20:BR:121:VAL:CB | 2.81 | 0.53 |
| 1:A2:58:U:C4 | 27:BY:114:ARG:C | 2.85 | 0.53 |
| 1:A2:138:A:N7 | 9:BG:140:ASN:HB3 | 2.23 | 0.53 |
| 1:A2:181:A:H2' | 1:A2:182:A:O4' | 2.08 | 0.53 |
| 1:A2:208:U:C2' | 11:BI:55:TYR:CZ | 2.92 | 0.53 |
| 1:A2:216:U:O5' | 7:BE:129:VAL:O | 2.26 | 0.53 |
| 1:A2:741:C:C4 | 7:BE:206:ASP:CG | 2.86 | 0.53 |
| 1:A2:783:G:N7 | 27:BY:39:GLU:N | 2.56 | 0.53 |
| 1:A2:954:G:C4 | 1:A2:955:A:C8 | 2.96 | 0.53 |
| 1:A2:1049:U:O5' | 30:Bb:18:LYS:CG | 2.57 | 0.53 |
| 1:A2:1144:U:C2 | 1:A2:1145:U:O4 | 2.61 | 0.53 |
| 1:A2:1210:C:N4 | 18:BP:98:ASN:O | 2.42 | 0.53 |
| 1:A2:1211:A:C2 | 1:A2:1453:G:C2 | 2.97 | 0.53 |
| 1:A2:1213:G:H1' | 18:BP:78:THR:O | 2.07 | 0.53 |
| 1:A2:1226:A:C4' | 34:Bf:98:LYS:HD3 | 2.38 | 0.53 |
| 1:A2:1268:G:N2 | 1:A2:1270:G:C5 | 2.76 | 0.53 |
| 1:A2:1370:U:H3' | 22:BT:119:LYS:CG | 2.39 | 0.53 |
| 1:A2:1452:U:C2 | 18:BP:81:ARG:NH1 | 2.69 | 0.53 |
| 1:A2:1636:C:O2 | 1:A2:1638:G:C6 | 2.62 | 0.53 |
| 2:AZ:6029:A:C2 | 2:AZ:6030:U:C5 | 2.97 | 0.53 |
| 2:AZ:6111:G:O4' | 8:BF:219:ARG:C | 2.52 | 0.53 |
| 3:BA:48:ILE:HG22 | 20:BR:105:GLN:HE22 | 1.74 | 0.53 |
| 12:BJ:2:PRO:O | 12:BJ:3:ARG:N | 2.41 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 14:BL:8:GLN:HG3 | 14:BL:13:PHE:HA | 1.91 | 0.53 |
| 17:BO:74:VAL:O | 17:BO:74:VAL:HG22 | 2.07 | 0.53 |
| 21:BS:30:TYR:HB2 | 21:BS:31:ALA:N | 2.24 | 0.53 |
| 22:BT:43:ASN:C | 22:BT:44:GLU:N | 2.67 | 0.53 |
| 31:Bc:40:ILE:CG2 | 31:Bc:41:VAL:N | 2.72 | 0.53 |
| 35:Bg:9:LEU:HD22 | 35:Bg:9:LEU:N | 2.23 | 0.53 |
| 1:A2:1:U:OP1 | 12:BJ:39:LYS:HB2 | 2.08 | 0.53 |
| 1:A2:28:A:N1 | 26:BX:131:SER:N | 2.57 | 0.53 |
| 1:A2:57:G:C6 | 27:BY:115:ASP:N | 2.69 | 0.53 |
| 1:A2:162:A:H4' | 9:BG:58:LYS:HD3 | 1.91 | 0.53 |
| 1:A2:310:C:O2' | 26:BX:35:GLY:CA | 2.56 | 0.53 |
| 1:A2:635:A:H2 | 25:BW:33:VAL:CG2 | 2.21 | 0.53 |
| 1:A2:679:U:OP1 | 7:BE:259:GLN:CD | 2.51 | 0.53 |
| 1:A2:698:U:O4 | 7:BE:208:VAL:CG2 | 2.54 | 0.53 |
| 1:A2:701:U:N3 | 7:BE:175:PHE:O | 2.42 | 0.53 |
| 1:A2:703:G:C5 | 7:BE:230:GLU:CA | 2.72 | 0.53 |
| 1:A2:777:C:H5" | 27:BY:32:ARG:HB2 | 1.91 | 0.53 |
| 1:A2:1040:G:OP1 | 24:BV:58:TYR:CD2 | 2.45 | 0.53 |
| 1:A2:1074:G:C6 | 1:A2:1075:C:N4 | 2.76 | 0.53 |
| 1:A2:1084:A:C5 | 5:BC:162:CYS:SG | 3.01 | 0.53 |
| 1:A2:1205:C:HO3' | 1:A2:1206:U:P | 2.32 | 0.53 |
| 1:A2:1239:U:C2 | 18:BP:76:VAL:HG22 | 2.44 | 0.53 |
| 1:A2:1240:U:H5" | 18:BP:104:GLN:NE2 | 2.23 | 0.53 |
| 1:A2:1302:U:H6 | 5:BC:97:ARG:CZ | 2.17 | 0.53 |
| 1:A2:1391:A:OP1 | 20:BR:48:ASN:CB | 2.56 | 0.53 |
| 1:A2:1454:G:H21 | 18:BP:123:TYR:N | 1.08 | 0.53 |
| 1:A2:1472:C:H5" | 8:BF:190:ILE:HD11 | 1.90 | 0.53 |
| 1:A2:1504:G:C5' | 22:BT:39:THR:H | 2.15 | 0.53 |
| 1:A2:1547:A:H1' | 21:BS:100:THR:O | 2.09 | 0.53 |
| 1:A2:1721:A:H4' | 9:BG:97:VAL:C | 2.27 | 0.53 |
| 1:A2:1723:U:P | 9:BG:72:ARG:O | 2.66 | 0.53 |
| 2:AZ:6031:G:O2' | 2:AZ:6032:U:H2' | 2.09 | 0.53 |
| 2:AZ:6111:G:C1' | 8:BF:219:ARG:O | 2.57 | 0.53 |
| 5:BC:139:ILE:C | 5:BC:140:ARG:N | 2.66 | 0.53 |
| 11:BI:156:VAL:O | 11:BI:157:GLU:C | 2.52 | 0.53 |
| 12:BJ:159:ALA:O | 12:BJ:162:SER:N | 2.42 | 0.53 |
| 16:BN:92:ILE:O | 16:BN:95:ALA:N | 2.39 | 0.53 |
| 19:BQ:111:SER:C | 19:BQ:113:ASP:N | 2.66 | 0.53 |
| 27:BY:8:ARG:N | 27:BY:26:ASP:O | 2.42 | 0.53 |
| 28:BZ:54:VAL:O | 28:BZ:54:VAL:HG12 | 2.08 | 0.53 |
| 1:A2:30:G:P | 26:BX:142:LYS:CB | 2.96 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:87:C:H4' | 27:BY:124:ARG:CZ | 2.39 | 0.53 |
| 1:A2:325:G:C5 | 11:BI:10:LYS:HZ2 | 1.65 | 0.53 |
| 1:A2:405:C:N3 | 1:A2:406:U:C4 | 2.77 | 0.53 |
| 1:A2:586:G:C6 | 1:A2:587:C:N4 | 2.77 | 0.53 |
| 1:A2:704:C:N1 | 7:BE:231:GLN:HA | 2.00 | 0.53 |
| 1:A2:787:G:P | 27:BY:70:VAL:HG11 | 2.48 | 0.53 |
| 1:A2:873:U:C6 | 16:BN:12:SER:HB2 | 2.44 | 0.53 |
| 1:A2:896:U:N1 | 17:BO:18:ARG:NH1 | 2.56 | 0.53 |
| 1:A2:957:G:N3 | 30:Bb:21:LEU:HB3 | 2.23 | 0.53 |
| 1:A2:1033:C:H2' | 26:BX:3:LYS:C | 2.33 | 0.53 |
| 1:A2:1260:U:C5' | 34:Bf:92:LYS:CB | 2.79 | 0.53 |
| 1:A2:1417:A:OP1 | 19:BQ:125:GLU:CD | 2.52 | 0.53 |
| 1:A2:1470:C:H2' | 8:BF:184:PHE:CZ | 2.44 | 0.53 |
| 1:A2:1470:C:H2' | 8:BF:184:PHE:CE2 | 2.44 | 0.53 |
| 1:A2:1548:G:OP1 | 21:BS:100:THR:HG23 | 2.09 | 0.53 |
| 1:A2:1681:A:O2' | 9:BG:102:VAL:C | 2.39 | 0.53 |
| 3:BA:69:ASN:O | 3:BA:70:PRO:C | 2.51 | 0.53 |
| 11:BI:64:ASN:O | 11:BI:181:GLY:C | 2.52 | 0.53 |
| 14:BL:110:HIS:C | 14:BL:111:VAL:N | 2.67 | 0.53 |
| 33:Be:8:LEU:O | 33:Be:9:ALA:C | 2.52 | 0.53 |
| 1:A2:30:G:H5" | 26:BX:142:LYS:CG | 2.32 | 0.53 |
| 1:A2:92:A:N7 | 27:BY:116:LYS:CE | 2.70 | 0.53 |
| 1:A2:168:A:O3' | 9:BG:132:ARG:NE | 2.42 | 0.53 |
| 1:A2:299:A:N6 | 7:BE:7:LYS:HE3 | 2.13 | 0.53 |
| 1:A2:346:G:O6 | 11:BI:15:GLY:CA | 2.54 | 0.53 |
| 1:A2:395:U:C1' | 9:BG:93:LYS:CE | 2.87 | 0.53 |
| 1:A2:456:A:N6 | 27:BY:108:ARG:CD | 2.65 | 0.53 |
| 1:A2:586:G:OP2 | 33:Be:20:LYS:N | 2.42 | 0.53 |
| 1:A2:741:C:C1' | 7:BE:200:ARG:HB3 | 2.39 | 0.53 |
| 1:A2:783:G:O2' | 27:BY:41:ARG:C | 2.43 | 0.53 |
| 1:A2:865:A:N7 | 25:BW:6:VAL:CG2 | 2.66 | 0.53 |
| 1:A2:897:C:C6 | 17:BO:38:THR:OG1 | 2.61 | 0.53 |
| 1:A2:947:U:P | 4:BB:158:SER:HB2 | 2.48 | 0.53 |
| 1:A2:956:C:N3 | 16:BN:11:ILE:HD12 | 2.09 | 0.53 |
| 1:A2:967:A:C2' | 26:BX:6:PRO:C | 2.79 | 0.53 |
| 1:A2:1084:A:H4' | 5:BC:166:THR:CG2 | 2.38 | 0.53 |
| 1:A2:1301:U:O2 | 5:BC:97:ARG:NE | 1.95 | 0.53 |
| 1:A2:1315:U:C4 | 1:A2:1316:G:N7 | 2.77 | 0.53 |
| 1:A2:1402:G:O6 | 20:BR:5:ARG:NH2 | 2.42 | 0.53 |
| 1:A2:1555:A:C5' | 18:BP:41:VAL:HG23 | 2.39 | 0.53 |
| 1:A2:1738:U:H2' | 1:A2:1739:C:C6 | 2.43 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 11:BI:107:THR:N | 11:BI:108:PRO:CD | 2.72 | 0.53 |
| 12:BJ:33:GLU:OE1 | 12:BJ:33:GLU:N | 2.42 | 0.53 |
| 20:BR:9:VAL:O | 20:BR:12:ALA:N | 2.41 | 0.53 |
| 20:BR:41:ILE:C | 20:BR:42:GLN:HA | 2.34 | 0.53 |
| 34:Bf:95:ALA:C | 34:Bf:96:ALA:N | 2.66 | 0.53 |
| 1:A2:175:G:O2' | 9:BG:137:ARG:CZ | 2.56 | 0.53 |
| 1:A2:242:U:N1 | 7:BE:148:ARG:NH1 | 2.57 | 0.53 |
| 1:A2:882:U:C3' | 1:A2:883:C:P | 2.96 | 0.53 |
| 1:A2:909:U:H2' | 1:A2:910:C:C6 | 2.44 | 0.53 |
| 1:A2:1008:G:C6 | 1:A2:1009:U:C5 | 2.97 | 0.53 |
| 1:A2:1137:A:C3' | 26:BX:64:PRO:CD | 2.85 | 0.53 |
| 1:A2:1418:G:H1' | 32:Bd:56:ARG:HE | 1.72 | 0.53 |
| 1:A2:1520:U:P | 22:BT:75:LYS:CA | 2.97 | 0.53 |
| 1:A2:1536:G:H22 | 8:BF:187:ILE:HG13 | 1.68 | 0.53 |
| 1:A2:1723:U:P | 9:BG:72:ARG:C | 2.92 | 0.53 |
| 2:AZ:6123:A:N1 | 2:AZ:6152:C:N3 | 2.56 | 0.53 |
| 4:BB:65:VAL:HG12 | 4:BB:87:ARG:HB2 | 1.90 | 0.53 |
| 5:BC:146:THR:O | 5:BC:146:THR:HG23 | 2.09 | 0.53 |
| 10:BH:13:PRO:C | 10:BH:14:THR:OG1 | 2.52 | 0.53 |
| 14:BL:33:ARG:CG | 14:BL:34:TRP:N | 2.71 | 0.53 |
| 16:BN:138:ASN:O | 16:BN:140:LYS:N | 2.42 | 0.53 |
| 23:BU:48:HIS:CD2 | 23:BU:103:ILE:HD11 | 2.43 | 0.53 |
| 35:Bg:149:ASP:CG | 35:Bg:174:ASN:HB2 | 2.33 | 0.53 |
| 1:A2:57:G:C2 | 1:A2:58:U:H1' | 2.44 | 0.52 |
| 1:A2:149:C:C3' | 27:BY:130:ALA:O | 2.47 | 0.52 |
| 1:A2:338:C:C4 | 11:BI:5:ARG:N | 2.77 | 0.52 |
| 1:A2:354:C:C3' | 1:A2:355:G:P | 2.97 | 0.52 |
| 1:A2:568:G:OP1 | 33:Be:9:ALA:O | 2.27 | 0.52 |
| 1:A2:633:U:O5' | 14:BL:99:ARG:CD | 2.52 | 0.52 |
| 1:A2:687:G:P | 12:BJ:64:GLU:HG2 | 2.49 | 0.52 |
| 1:A2:728:U:O2 | 1:A2:728:U:H2' | 2.08 | 0.52 |
| 1:A2:733:A:C4' | 7:BE:194:THR:OG1 | 2.57 | 0.52 |
| 1:A2:765:G:N1 | 12:BJ:142:ASN:CB | 2.72 | 0.52 |
| 1:A2:803:A:H5" | 25:BW:120:HIS:CG | 2.42 | 0.52 |
| 1:A2:866:G:O2' | 25:BW:4:SER:CB | 2.57 | 0.52 |
| 1:A2:912:U:C5 | 1:A2:912:U:OP2 | 2.63 | 0.52 |
| 1:A2:916:U:C5 | 17:BO:84:ARG:NH1 | 2.76 | 0.52 |
| 1:A2:1097:U:O2 | 5:BC:200:SER:OG | 2.24 | 0.52 |
| 1:A2:1203:A:C5 | 1:A2:1556:A:C2 | 2.97 | 0.52 |
| 1:A2:1260:U:H3' | 34:Bf:93:ALA:N | 2.24 | 0.52 |
| 1:A2:1328:G:C6 | 6:BD:160:SER:OG | 2.62 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1344:A:C1’ | 23:BU:56:VAL:HG21 | 2.39 | 0.52 |
| 1:A2:1449:U:O4 | 18:BP:97:TYR:CE2 | 2.62 | 0.52 |
| 1:A2:1534:G:O4’ | 28:BZ:62:VAL:HG12 | 2.09 | 0.52 |
| 1:A2:1600:A:H2’ | 1:A2:1600:A:N3 | 2.24 | 0.52 |
| 2:AZ:6171:U:O2’ | 2:AZ:6173:C:H5’ | 2.10 | 0.52 |
| 4:BB:137:ILE:O | 4:BB:138:PHE:CD1 | 2.61 | 0.52 |
| 5:BC:53:ILE:HG23 | 5:BC:72:LEU:CD2 | 2.39 | 0.52 |
| 7:BE:58:GLY:O | 7:BE:61:VAL:N | 2.42 | 0.52 |
| 9:BG:120:GLU:HG3 | 9:BG:125:THR:HG21 | 1.89 | 0.52 |
| 15:BM:135:MET:SD | 15:BM:135:MET:O | 2.67 | 0.52 |
| 21:BS:63:GLN:HG3 | 21:BS:66:LEU:HG | 1.91 | 0.52 |
| 26:BX:73:ARG:C | 26:BX:74:VAL:CA | 2.81 | 0.52 |
| 27:BY:68:LYS:C | 27:BY:69:SER:N | 2.67 | 0.52 |
| 28:BZ:80:LEU:HB3 | 28:BZ:81:ARG:N | 2.23 | 0.52 |
| 31:Bc:27:GLN:HE22 | 31:Bc:43:ASN:CG | 2.17 | 0.52 |
| 1:A2:6:G:O6 | 1:A2:19:A:C6 | 2.63 | 0.52 |
| 1:A2:31:C:H1’ | 26:BX:138:GLU:CB | 2.34 | 0.52 |
| 1:A2:163:G:O3’ | 9:BG:108:VAL:CA | 2.42 | 0.52 |
| 1:A2:246:G:H5” | 7:BE:127:LYS:CD | 2.40 | 0.52 |
| 1:A2:282:C:OP1 | 9:BG:154:ARG:HB3 | 2.09 | 0.52 |
| 1:A2:559:C:O2 | 1:A2:559:C:H2’ | 2.09 | 0.52 |
| 1:A2:686:C:C4’ | 12:BJ:70:LEU:HD21 | 2.28 | 0.52 |
| 1:A2:804:A:C5’ | 25:BW:121:VAL:C | 2.74 | 0.52 |
| 1:A2:859:A:C6 | 10:BH:111:LYS:HG3 | 2.38 | 0.52 |
| 1:A2:930:A:C3’ | 4:BB:116:LYS:HD3 | 2.39 | 0.52 |
| 1:A2:934:C:P | 29:Ba:95:ARG:NH1 | 2.81 | 0.52 |
| 1:A2:940:A:C2 | 1:A2:941:A:H1’ | 2.45 | 0.52 |
| 1:A2:1036:A:H3’ | 1:A2:1037:C:P | 2.49 | 0.52 |
| 1:A2:1049:U:C5’ | 30:Bb:23:THR:N | 2.72 | 0.52 |
| 1:A2:1084:A:O2’ | 5:BC:164:SER:O | 2.25 | 0.52 |
| 1:A2:1096:C:P | 5:BC:159:THR:OG1 | 2.67 | 0.52 |
| 1:A2:1194:A:C6 | 1:A2:1195:C:C5 | 2.98 | 0.52 |
| 1:A2:1273:G:C2 | 1:A2:1430:U:C4 | 2.98 | 0.52 |
| 1:A2:1294:G:H5” | 1:A2:1295:G:P | 2.49 | 0.52 |
| 1:A2:1410:A:H2’ | 1:A2:1411:A:O4’ | 2.09 | 0.52 |
| 1:A2:1532:U:N1 | 28:BZ:77:ARG:NE | 2.55 | 0.52 |
| 1:A2:1720:G:C4 | 9:BG:65:GLN:CG | 2.93 | 0.52 |
| 3:BA:34:GLU:CD | 3:BA:147:THR:HB | 2.34 | 0.52 |
| 9:BG:88:ARG:O | 9:BG:89:ASP:C | 2.53 | 0.52 |
| 19:BQ:95:LYS:O | 35:Bg:59:ARG:NH2 | 2.43 | 0.52 |
| 20:BR:13:SER:OG | 20:BR:54:THR:C | 2.52 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 23:BU:37:VAL:C | 23:BU:41:ILE:N | 2.67 | 0.52 |
| 25:BW:102:VAL:O | 25:BW:103:ILE:HA | 2.08 | 0.52 |
| 26:BX:77:ILE:CA | 26:BX:78:LYS:N | 2.72 | 0.52 |
| 35:Bg:291:SER:O | 35:Bg:292:LEU:HD23 | 2.10 | 0.52 |
| 35:Bg:300:THR:HG23 | 35:Bg:314:GLN:CG | 2.39 | 0.52 |
| 1:A2:30:G:N2 | 26:BX:138:GLU:H | 2.04 | 0.52 |
| 1:A2:80:A:C8 | 9:BG:164:LYS:CA | 2.89 | 0.52 |
| 1:A2:127:G:H8 | 9:BG:186:ARG:CB | 1.82 | 0.52 |
| 1:A2:140:A:P | 9:BG:141:ILE:CD1 | 2.97 | 0.52 |
| 1:A2:141:U:N3 | 9:BG:136:LYS:HG3 | 2.24 | 0.52 |
| 1:A2:145:A:OP1 | 9:BG:6:SER:CB | 2.51 | 0.52 |
| 1:A2:168:A:C3' | 9:BG:132:ARG:CZ | 2.87 | 0.52 |
| 1:A2:243:G:N7 | 7:BE:138:TYR:CE2 | 2.77 | 0.52 |
| 1:A2:245:U:O2' | 1:A2:247:A:N7 | 2.32 | 0.52 |
| 1:A2:635:A:C8 | 1:A2:863:A:C6 | 2.97 | 0.52 |
| 1:A2:733:A:N7 | 7:BE:209:HIS:CB | 2.72 | 0.52 |
| 1:A2:746:A:C2 | 25:BW:82:LYS:NZ | 2.76 | 0.52 |
| 1:A2:783:G:OP1 | 27:BY:52:LYS:CE | 2.58 | 0.52 |
| 1:A2:784:C:H3' | 27:BY:40:LEU:CD1 | 2.38 | 0.52 |
| 1:A2:800:U:O3' | 7:BE:187:ARG:CG | 2.14 | 0.52 |
| 1:A2:819:G:H1' | 1:A2:820:U:C5 | 2.44 | 0.52 |
| 1:A2:916:U:C3' | 17:BO:84:ARG:CZ | 2.86 | 0.52 |
| 1:A2:1050:G:P | 30:Bb:23:THR:HG22 | 2.50 | 0.52 |
| 1:A2:1147:A:N1 | 1:A2:1633:A:C6 | 2.77 | 0.52 |
| 1:A2:1564:U:C1' | 21:BS:41:ARG:CB | 2.74 | 0.52 |
| 1:A2:1625:C:OP2 | 5:BC:91:ARG:NH1 | 2.38 | 0.52 |
| 1:A2:1682:U:C4' | 9:BG:52:ILE:HD13 | 2.38 | 0.52 |
| 1:A2:1683:C:P | 9:BG:52:ILE:CB | 2.80 | 0.52 |
| 2:AZ:6061:G:C6 | 2:AZ:6062:G:C8 | 2.97 | 0.52 |
| 3:BA:93:THR:HG22 | 3:BA:94:GLY:H | 1.74 | 0.52 |
| 3:BA:158:VAL:HG13 | 3:BA:159:ALA:N | 2.24 | 0.52 |
| 7:BE:29:PRO:C | 7:BE:30:ARG:CA | 2.83 | 0.52 |
| 1:A2:75:U:H5 | 9:BG:166:GLU:O | 1.86 | 0.52 |
| 1:A2:186:C:N3 | 1:A2:200:A:C2 | 2.78 | 0.52 |
| 1:A2:219:A:OP2 | 9:BG:215:ARG:HD3 | 2.08 | 0.52 |
| 1:A2:247:A:O2' | 1:A2:248:U:H5' | 2.08 | 0.52 |
| 1:A2:370:A:H5" | 12:BJ:14:THR:CB | 2.35 | 0.52 |
| 1:A2:649:U:OP1 | 7:BE:256:ARG:HB3 | 2.09 | 0.52 |
| 1:A2:650:U:OP2 | 7:BE:256:ARG:CD | 2.57 | 0.52 |
| 1:A2:679:U:OP1 | 7:BE:259:GLN:OE1 | 2.27 | 0.52 |
| 1:A2:1018:U:H3' | 16:BN:109:LYS:NZ | 2.24 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1037:C:H2' | 25:BW:19:LYS:HE3 | 1.79 | 0.52 |
| 1:A2:1074:G:C4 | 1:A2:1075:C:C5 | 2.97 | 0.52 |
| 1:A2:1175:U:O4 | 21:BS:140:THR:HG23 | 2.08 | 0.52 |
| 1:A2:1328:G:C3' | 6:BD:159:HIS:O | 2.56 | 0.52 |
| 1:A2:1479:A:OP1 | 22:BT:56:LYS:CD | 2.32 | 0.52 |
| 1:A2:1505:A:C2 | 1:A2:1550:A:H4' | 2.45 | 0.52 |
| 1:A2:1565:C:C4 | 1:A2:1566:U:C4 | 2.97 | 0.52 |
| 2:AZ:6099:G:O2' | 2:AZ:6147:A:N6 | 2.43 | 0.52 |
| 2:AZ:6108:U:C2 | 8:BF:223:SER:HA | 2.36 | 0.52 |
| 2:AZ:6142:C:O2 | 2:AZ:6142:C:H2' | 2.09 | 0.52 |
| 5:BC:157:LYS:C | 5:BC:158:THR:N | 2.68 | 0.52 |
| 6:BD:25:PHE:O | 6:BD:26:THR:C | 2.52 | 0.52 |
| 6:BD:109:LEU:C | 6:BD:110:LEU:N | 2.68 | 0.52 |
| 20:BR:70:SER:HA | 20:BR:71:PHE:N | 2.25 | 0.52 |
| 26:BX:94:ASN:O | 26:BX:95:PHE:CG | 2.62 | 0.52 |
| 27:BY:59:GLY:C | 27:BY:60:PHE:N | 2.67 | 0.52 |
| 28:BZ:100:ILE:C | 28:BZ:100:ILE:HD13 | 2.35 | 0.52 |
| 1:A2:18:C:C2' | 26:BX:115:GLY:N | 2.59 | 0.52 |
| 1:A2:91:G:C5 | 27:BY:116:LYS:CA | 2.51 | 0.52 |
| 1:A2:272:U:O2' | 1:A2:284:G:N2 | 2.43 | 0.52 |
| 1:A2:322:G:O2' | 11:BI:9:HIS:ND1 | 2.37 | 0.52 |
| 1:A2:503:G:H4' | 1:A2:504:U:OP1 | 2.10 | 0.52 |
| 1:A2:574:G:OP2 | 26:BX:65:ASN:OD1 | 2.27 | 0.52 |
| 1:A2:597:G:C5' | 26:BX:133:LEU:CD2 | 2.87 | 0.52 |
| 1:A2:597:G:C2' | 26:BX:136:TRP:CE3 | 2.67 | 0.52 |
| 1:A2:650:U:H1' | 12:BJ:74:ASN:ND2 | 2.25 | 0.52 |
| 1:A2:698:U:C5 | 7:BE:208:VAL:HA | 2.44 | 0.52 |
| 1:A2:757:A:C4 | 12:BJ:3:ARG:NH1 | 2.77 | 0.52 |
| 1:A2:785:U:H1' | 27:BY:27:VAL:HG21 | 1.91 | 0.52 |
| 1:A2:833:U:OP1 | 9:BG:213:ALA:HB1 | 2.10 | 0.52 |
| 1:A2:864:U:N3 | 25:BW:14:ILE:HD11 | 2.11 | 0.52 |
| 1:A2:867:G:H3' | 25:BW:2:THR:HG21 | 1.91 | 0.52 |
| 1:A2:901:G:N1 | 17:BO:24:ASN:O | 2.42 | 0.52 |
| 1:A2:1056:U:OP1 | 3:BA:45:VAL:O | 2.27 | 0.52 |
| 1:A2:1136:U:O4 | 26:BX:113:ALA:HB3 | 2.09 | 0.52 |
| 1:A2:1230:A:O2' | 1:A2:1231:U:O4' | 2.22 | 0.52 |
| 1:A2:1242:A:N6 | 1:A2:1244:A:C6 | 2.78 | 0.52 |
| 1:A2:1243:G:H1' | 18:BP:58:LYS:HG3 | 1.92 | 0.52 |
| 1:A2:1318:G:OP2 | 20:BR:11:ARG:CG | 2.43 | 0.52 |
| 1:A2:1502:G:H1' | 1:A2:1505:A:N6 | 2.25 | 0.52 |
| 1:A2:1548:G:C1' | 21:BS:87:ASN:ND2 | 2.71 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1795:U:O2' | 29:Ba:92:ARG:HG2 | 2.08 | 0.52 |
| 2:AZ:6036:C:O2' | 2:AZ:6037:U:H5' | 2.08 | 0.52 |
| 3:BA:17:LEU:HD12 | 20:BR:121:VAL:HA | 1.92 | 0.52 |
| 3:BA:87:LEU:HA | 3:BA:97:PRO:HB3 | 1.91 | 0.52 |
| 4:BB:106:THR:O | 4:BB:107:THR:HG22 | 2.09 | 0.52 |
| 4:BB:126:THR:HG1 | 4:BB:127:VAL:N | 2.07 | 0.52 |
| 6:BD:202:LEU:N | 6:BD:202:LEU:HD13 | 2.24 | 0.52 |
| 13:BK:16:PHE:O | 13:BK:17:GLN:CB | 2.58 | 0.52 |
| 21:BS:15:LEU:HD13 | 21:BS:58:ALA:O | 2.09 | 0.52 |
| 21:BS:52:VAL:HG12 | 21:BS:53:ASP:N | 2.25 | 0.52 |
| 22:BT:70:GLN:O | 22:BT:71:VAL:HG13 | 2.08 | 0.52 |
| 22:BT:101:ASN:O | 22:BT:102:ARG:N | 2.42 | 0.52 |
| 22:BT:138:GLN:O | 22:BT:139:THR:N | 2.43 | 0.52 |
| 28:BZ:93:SER:O | 28:BZ:94:LYS:N | 2.43 | 0.52 |
| 31:Bc:47:PRO:O | 31:Bc:48:VAL:N | 2.42 | 0.52 |
| 1:A2:163:G:O5' | 9:BG:108:VAL:CG2 | 2.56 | 0.52 |
| 1:A2:216:U:C2' | 7:BE:129:VAL:CG2 | 2.87 | 0.52 |
| 1:A2:245:U:H5 | 7:BE:140:VAL:HB | 1.73 | 0.52 |
| 1:A2:452:A:N1 | 27:BY:120:GLY:O | 2.42 | 0.52 |
| 1:A2:651:G:H3' | 12:BJ:88:GLU:OE2 | 2.09 | 0.52 |
| 1:A2:737:A:C8 | 7:BE:227:VAL:HG13 | 2.45 | 0.52 |
| 1:A2:1055:U:H4' | 3:BA:46:HIS:CB | 2.23 | 0.52 |
| 1:A2:1103:U:O2' | 1:A2:1104:U:H5' | 2.10 | 0.52 |
| 1:A2:1256:A:C6 | 34:Bf:98:LYS:HD2 | 2.44 | 0.52 |
| 1:A2:1280:C:N3 | 23:BU:72:ASN:OD1 | 2.40 | 0.52 |
| 1:A2:1300:A:C4 | 5:BC:86:VAL:CB | 2.92 | 0.52 |
| 1:A2:1445:G:H2' | 34:Bf:89:ALA:N | 2.25 | 0.52 |
| 1:A2:1537:C:H4' | 1:A2:1538:U:C6 | 2.45 | 0.52 |
| 1:A2:1675:C:N4 | 1:A2:1676:U:C4 | 2.77 | 0.52 |
| 1:A2:1774:G:C5 | 1:A2:1775:U:C5 | 2.98 | 0.52 |
| 1:A2:1796:C:C5' | 29:Ba:92:ARG:CG | 2.84 | 0.52 |
| 4:BB:193:ILE:O | 4:BB:196:GLU:N | 2.43 | 0.52 |
| 7:BE:106:LYS:C | 7:BE:107:GLY:CA | 2.82 | 0.52 |
| 1:A2:30:G:C8 | 26:BX:130:VAL:HG23 | 2.44 | 0.52 |
| 1:A2:57:G:H3' | 27:BY:114:ARG:CD | 2.35 | 0.52 |
| 1:A2:87:C:H5" | 1:A2:88:U:OP2 | 2.10 | 0.52 |
| 1:A2:137:U:H2' | 1:A2:137:U:O2 | 2.09 | 0.52 |
| 1:A2:145:A:H5" | 9:BG:6:SER:CB | 2.40 | 0.52 |
| 1:A2:432:G:H3' | 1:A2:433:C:P | 2.50 | 0.52 |
| 1:A2:434:G:O3' | 26:BX:77:ILE:HD11 | 2.08 | 0.52 |
| 1:A2:634:G:H5' | 25:BW:79:PHE:CD2 | 2.45 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:738:G:C5' | 7:BE:157:ASN:CG | 2.76 | 0.52 |
| 1:A2:784:C:C2' | 27:BY:40:LEU:HD11 | 2.37 | 0.52 |
| 1:A2:832:U:C5' | 9:BG:213:ALA:CA | 2.75 | 0.52 |
| 1:A2:1298:U:C1' | 5:BC:99:LYS:HD2 | 2.26 | 0.52 |
| 1:A2:1417:A:C5' | 19:BQ:128:LYS:HZ1 | 2.23 | 0.52 |
| 6:BD:219:ALA:HB1 | 6:BD:220:PRO:HD2 | 1.92 | 0.52 |
| 9:BG:25:ARG:HA | 9:BG:28:PHE:CD2 | 2.45 | 0.52 |
| 32:Bd:6:VAL:N | 32:Bd:7:TRP:HA | 2.24 | 0.52 |
| 1:A2:54:C:O2' | 1:A2:459:G:N7 | 2.43 | 0.52 |
| 1:A2:90:C:H41 | 27:BY:118:ILE:C | 2.18 | 0.52 |
| 1:A2:444:C:H4' | 1:A2:445:A:H5' | 1.91 | 0.52 |
| 1:A2:599:A:C2 | 26:BX:126:LYS:CG | 2.69 | 0.52 |
| 1:A2:699:U:H5 | 7:BE:209:HIS:N | 2.08 | 0.52 |
| 1:A2:917:U:O2' | 17:BO:118:VAL:HG21 | 2.08 | 0.52 |
| 1:A2:951:A:C2 | 16:BN:114:ARG:NE | 2.73 | 0.52 |
| 1:A2:1102:G:O3' | 14:BL:99:ARG:NH2 | 2.43 | 0.52 |
| 1:A2:1213:G:C6 | 1:A2:1214:U:C4 | 2.98 | 0.52 |
| 1:A2:1255:G:C5' | 34:Bf:147:VAL:N | 2.72 | 0.52 |
| 1:A2:1317:C:H5" | 20:BR:11:ARG:HE | 1.75 | 0.52 |
| 1:A2:1317:C:H2' | 1:A2:1318:G:C8 | 2.45 | 0.52 |
| 1:A2:1417:A:H5' | 19:BQ:128:LYS:HZ1 | 1.74 | 0.52 |
| 1:A2:1535:U:O2' | 1:A2:1536:G:OP1 | 2.26 | 0.52 |
| 1:A2:1559:A:OP1 | 21:BS:133:VAL:O | 2.27 | 0.52 |
| 1:A2:1723:U:OP2 | 9:BG:73:ILE:N | 2.42 | 0.52 |
| 1:A2:1796:C:O2 | 1:A2:1796:C:O4' | 2.25 | 0.52 |
| 2:AZ:6069:A:C2 | 2:AZ:6152:C:O2' | 2.52 | 0.52 |
| 2:AZ:6107:U:N3 | 8:BF:217:LEU:O | 2.42 | 0.52 |
| 3:BA:55:GLU:CA | 20:BR:109:LEU:HB3 | 2.40 | 0.52 |
| 3:BA:56:LYS:HD2 | 3:BA:158:VAL:HG22 | 1.92 | 0.52 |
| 5:BC:204:THR:C | 5:BC:205:ARG:N | 2.67 | 0.52 |
| 11:BI:102:VAL:HG23 | 11:BI:102:VAL:O | 2.10 | 0.52 |
| 21:BS:81:ILE:HD11 | 21:BS:86:LEU:HD11 | 1.91 | 0.52 |
| 22:BT:14:PHE:O | 22:BT:139:THR:HG21 | 2.10 | 0.52 |
| 26:BX:120:VAL:HA | 26:BX:121:ARG:N | 2.24 | 0.52 |
| 1:A2:19:A:P | 26:BX:109:ARG:HG3 | 2.49 | 0.52 |
| 1:A2:88:U:C5' | 27:BY:119:PHE:CB | 2.87 | 0.52 |
| 1:A2:324:U:O2' | 14:BL:133:LYS:HG2 | 2.08 | 0.52 |
| 1:A2:636:A:N7 | 25:BW:78:ARG:NH1 | 2.58 | 0.52 |
| 1:A2:640:U:HO2' | 25:BW:119:LYS:HE3 | 1.75 | 0.52 |
| 1:A2:784:C:H4' | 27:BY:7:ILE:HB | 1.91 | 0.52 |
| 1:A2:846:G:C6 | 1:A2:847:A:C5 | 2.97 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:862:A:C2 | 1:A2:963:A:N3 | 2.77 | 0.52 |
| 1:A2:939:A:C2 | 1:A2:940:A:C5 | 2.98 | 0.52 |
| 1:A2:953:G:C1' | 16:BN:6:SER:O | 2.57 | 0.52 |
| 1:A2:989:U:P | 17:BO:126:THR:CG2 | 2.98 | 0.52 |
| 1:A2:1009:U:H3' | 17:BO:129:LYS:HE3 | 1.92 | 0.52 |
| 1:A2:1030:A:C6 | 1:A2:1792:G:C6 | 2.98 | 0.52 |
| 1:A2:1074:G:C2 | 1:A2:1075:C:C4 | 2.97 | 0.52 |
| 1:A2:1326:A:P | 6:BD:156:PHE:CZ | 2.79 | 0.52 |
| 1:A2:1331:A:H2' | 6:BD:162:GLN:HG2 | 1.92 | 0.52 |
| 1:A2:1422:A:C2 | 1:A2:1423:U:C2 | 2.98 | 0.52 |
| 1:A2:1528:U:H5' | 19:BQ:43:ILE:HB | 1.88 | 0.52 |
| 1:A2:1555:A:O5' | 18:BP:41:VAL:CG2 | 2.58 | 0.52 |
| 1:A2:1591:C:OP2 | 22:BT:92:LYS:CA | 2.57 | 0.52 |
| 1:A2:1672:G:H2' | 1:A2:1673:G:C8 | 2.45 | 0.52 |
| 1:A2:1776:A:H2' | 1:A2:1777:G:H8 | 1.75 | 0.52 |
| 15:BM:25:GLU:HG2 | 15:BM:26:ASP:HA | 1.90 | 0.52 |
| 16:BN:126:ALA:O | 16:BN:130:ARG:N | 2.42 | 0.52 |
| 20:BR:119:LEU:N | 20:BR:119:LEU:HD12 | 2.25 | 0.52 |
| 30:Bb:70:LYS:C | 30:Bb:71:ALA:N | 2.68 | 0.52 |
| 1:A2:216:U:C2 | 7:BE:150:PRO:CG | 2.80 | 0.52 |
| 1:A2:552:G:C3' | 1:A2:553:G:P | 2.98 | 0.52 |
| 1:A2:702:G:H5" | 7:BE:179:LYS:CE | 2.40 | 0.52 |
| 1:A2:734:A:C8 | 7:BE:213:SER:N | 2.70 | 0.52 |
| 1:A2:741:C:C5' | 7:BE:200:ARG:CD | 2.74 | 0.52 |
| 1:A2:759:U:N3 | 12:BJ:6:ARG:C | 2.68 | 0.52 |
| 1:A2:784:C:O3' | 27:BY:7:ILE:HG22 | 2.05 | 0.52 |
| 1:A2:917:U:H4' | 17:BO:84:ARG:C | 2.35 | 0.52 |
| 1:A2:954:G:N2 | 1:A2:955:A:H1' | 2.24 | 0.52 |
| 1:A2:1068:C:O3' | 1:A2:1069:A:OP1 | 2.28 | 0.52 |
| 1:A2:1084:A:H5' | 5:BC:160:GLY:O | 2.10 | 0.52 |
| 1:A2:1471:A:H3' | 8:BF:183:ALA:C | 2.13 | 0.52 |
| 1:A2:1502:G:O6 | 22:BT:100:ILE:CD1 | 2.57 | 0.52 |
| 1:A2:1519:U:OP2 | 22:BT:75:LYS:HD3 | 2.10 | 0.52 |
| 1:A2:1533:C:H6 | 28:BZ:77:ARG:CD | 2.13 | 0.52 |
| 1:A2:1535:U:C4 | 8:BF:186:ASN:O | 2.61 | 0.52 |
| 1:A2:1548:G:C5 | 21:BS:86:LEU:O | 2.53 | 0.52 |
| 2:AZ:6209:A:C2 | 2:AZ:6210:U:O4 | 2.63 | 0.52 |
| 5:BC:191:ALA:C | 5:BC:193:VAL:HG23 | 2.35 | 0.52 |
| 6:BD:70:THR:CG2 | 6:BD:86:LEU:HD13 | 2.40 | 0.52 |
| 10:BH:163:ASP:C | 10:BH:166:LEU:HD13 | 2.34 | 0.52 |
| 11:BI:76:THR:HG22 | 11:BI:106:ALA:HB2 | 1.93 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 11:BI:98:LYS:HB2 | 11:BI:169:ILE:C | 2.34 | 0.52 |
| 11:BI:112:TRP:CH2 | 11:BI:116:HIS:CB | 2.93 | 0.52 |
| 20:BR:26:LEU:HD22 | 20:BR:58:MET:O | 2.10 | 0.52 |
| 1:A2:141:U:O2 | 9:BG:136:LYS:CA | 2.58 | 0.51 |
| 1:A2:338:C:C5' | 11:BI:4:SER:OG | 2.57 | 0.51 |
| 1:A2:633:U:C3' | 14:BL:99:ARG:HG2 | 2.40 | 0.51 |
| 1:A2:650:U:OP1 | 12:BJ:78:ARG:HG2 | 2.09 | 0.51 |
| 1:A2:762:A:H2' | 1:A2:763:G:O4' | 2.10 | 0.51 |
| 1:A2:783:G:N9 | 27:BY:39:GLU:HG2 | 2.24 | 0.51 |
| 1:A2:804:A:C5 | 25:BW:83:ILE:N | 2.71 | 0.51 |
| 1:A2:881:A:P | 16:BN:108:ASP:OD2 | 2.68 | 0.51 |
| 1:A2:899:G:OP1 | 17:BO:46:MET:HB2 | 2.10 | 0.51 |
| 1:A2:1102:G:N3 | 26:BX:7:ARG:CD | 2.73 | 0.51 |
| 1:A2:1227:A:H2' | 34:Bf:100:ALA:HB2 | 1.91 | 0.51 |
| 1:A2:1299:G:C5 | 5:BC:86:VAL:HG11 | 2.41 | 0.51 |
| 1:A2:1302:U:O3' | 5:BC:88:LYS:CD | 2.58 | 0.51 |
| 1:A2:1317:C:C4' | 20:BR:7:LYS:HA | 2.40 | 0.51 |
| 1:A2:1327:C:C5 | 6:BD:157:LEU:O | 2.62 | 0.51 |
| 1:A2:1428:G:C6 | 1:A2:1429:G:N7 | 2.77 | 0.51 |
| 1:A2:1556:A:P | 18:BP:38:PRO:HG3 | 2.48 | 0.51 |
| 1:A2:1558:U:C1' | 21:BS:126:ARG:C | 2.84 | 0.51 |
| 1:A2:1565:C:C5' | 21:BS:43:SER:C | 2.82 | 0.51 |
| 4:BB:70:LEU:O | 4:BB:73:LEU:N | 2.43 | 0.51 |
| 5:BC:35:TRP:CD1 | 5:BC:36:VAL:O | 2.62 | 0.51 |
| 6:BD:109:LEU:O | 6:BD:110:LEU:N | 2.43 | 0.51 |
| 10:BH:117:THR:O | 10:BH:118:LEU:C | 2.53 | 0.51 |
| 18:BP:106:GLU:O | 18:BP:111:MET:HE1 | 2.10 | 0.51 |
| 33:Be:22:GLU:HG3 | 33:Be:23:LYS:N | 2.25 | 0.51 |
| 1:A2:75:U:H6 | 9:BG:166:GLU:C | 1.79 | 0.51 |
| 1:A2:89:G:H5' | 27:BY:119:PHE:CE1 | 2.45 | 0.51 |
| 1:A2:136:C:O2 | 1:A2:136:C:C2' | 2.57 | 0.51 |
| 1:A2:336:G:C4 | 11:BI:25:ARG:HB2 | 2.22 | 0.51 |
| 1:A2:338:C:N3 | 11:BI:29:LEU:CA | 2.56 | 0.51 |
| 1:A2:388:G:C3' | 1:A2:389:G:P | 2.98 | 0.51 |
| 1:A2:597:G:C4' | 26:BX:137:LYS:HD3 | 2.20 | 0.51 |
| 1:A2:607:G:O2' | 1:A2:608:U:OP2 | 2.17 | 0.51 |
| 1:A2:630:A:N6 | 26:BX:14:LYS:CD | 2.35 | 0.51 |
| 1:A2:703:G:C2 | 7:BE:179:LYS:CB | 2.63 | 0.51 |
| 1:A2:705:U:O2' | 7:BE:231:GLN:CA | 2.54 | 0.51 |
| 1:A2:756:A:O5' | 12:BJ:4:ALA:N | 2.43 | 0.51 |
| 1:A2:832:U:O3' | 9:BG:213:ALA:HA | 2.10 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:916:U:O2 | 17:BO:27:PHE:CD2 | 2.63 | 0.51 |
| 1:A2:930:A:O3' | 4:BB:116:LYS:NZ | 2.41 | 0.51 |
| 1:A2:952:A:OP1 | 16:BN:121:ARG:HD3 | 2.10 | 0.51 |
| 1:A2:1051:G:O6 | 3:BA:32:HIS:HE1 | 1.93 | 0.51 |
| 1:A2:1140:G:O3' | 1:A2:1141:G:P | 2.69 | 0.51 |
| 1:A2:1252:C:C5 | 34:Bf:136:LYS:CB | 2.92 | 0.51 |
| 1:A2:1302:U:O3' | 5:BC:88:LYS:HD2 | 2.10 | 0.51 |
| 1:A2:1398:U:O2 | 1:A2:1398:U:O4' | 2.28 | 0.51 |
| 1:A2:1564:U:C2' | 21:BS:41:ARG:CG | 2.70 | 0.51 |
| 1:A2:1600:A:H4' | 22:BT:89:ARG:CB | 2.36 | 0.51 |
| 1:A2:1608:U:H4' | 19:BQ:73:GLY:HA3 | 1.92 | 0.51 |
| 1:A2:1750:A:C6 | 1:A2:1751:C:C4 | 2.98 | 0.51 |
| 1:A2:1755:A:O3' | 1:A2:1756:A:C4' | 2.58 | 0.51 |
| 3:BA:132:ALA:HB1 | 3:BA:143:VAL:HG13 | 1.92 | 0.51 |
| 5:BC:138:PRO:CA | 5:BC:139:ILE:N | 2.73 | 0.51 |
| 18:BP:85:ILE:C | 18:BP:86:VAL:N | 2.68 | 0.51 |
| 20:BR:101:ASN:HA | 20:BR:120:SER:CB | 2.40 | 0.51 |
| 24:BV:34:ILE:HG22 | 24:BV:36:VAL:N | 2.25 | 0.51 |
| 26:BX:36:THR:O | 26:BX:40:SER:N | 2.37 | 0.51 |
| 27:BY:9:THR:O | 27:BY:10:ARG:N | 2.43 | 0.51 |
| 1:A2:30:G:O6 | 26:BX:140:LYS:HG2 | 2.11 | 0.51 |
| 1:A2:76:A:H3' | 1:A2:77:U:H5' | 1.93 | 0.51 |
| 1:A2:127:G:C6 | 9:BG:186:ARG:N | 2.39 | 0.51 |
| 1:A2:141:U:C4' | 9:BG:135:PRO:CD | 2.82 | 0.51 |
| 1:A2:215:A:H5" | 7:BE:131:LEU:O | 2.05 | 0.51 |
| 1:A2:561:G:C6 | 1:A2:562:G:C5 | 2.98 | 0.51 |
| 1:A2:572:C:OP1 | 26:BX:117:ILE:HG13 | 2.10 | 0.51 |
| 1:A2:655:G:H4' | 1:A2:656:G:OP1 | 2.10 | 0.51 |
| 1:A2:784:C:O5' | 27:BY:40:LEU:HD12 | 2.10 | 0.51 |
| 1:A2:897:C:P | 17:BO:39:ILE:HG13 | 2.49 | 0.51 |
| 1:A2:916:U:C2 | 17:BO:27:PHE:CD2 | 2.98 | 0.51 |
| 1:A2:917:U:H3' | 17:BO:120:PRO:HD3 | 1.92 | 0.51 |
| 1:A2:1040:G:C5' | 24:BV:62:ARG:HD2 | 2.20 | 0.51 |
| 1:A2:1084:A:H4' | 5:BC:166:THR:HG22 | 1.93 | 0.51 |
| 1:A2:1096:C:C2' | 5:BC:166:THR:C | 2.83 | 0.51 |
| 1:A2:1107:G:H2' | 1:A2:1108:G:N3 | 2.25 | 0.51 |
| 1:A2:1151:A:H4' | 1:A2:1766:A:C8 | 2.45 | 0.51 |
| 1:A2:1185:U:O2 | 1:A2:1185:U:H2' | 2.11 | 0.51 |
| 1:A2:1326:A:O5' | 6:BD:157:LEU:C | 2.48 | 0.51 |
| 1:A2:1383:G:N3 | 23:BU:57:ARG:NE | 2.56 | 0.51 |
| 1:A2:1451:C:N4 | 1:A2:1452:U:C4 | 2.79 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1453:G:OP2 | 18:BP:115:TYR:CD2 | 2.63 | 0.51 |
| 1:A2:1458:G:OP1 | 21:BS:138:THR:CB | 2.43 | 0.51 |
| 1:A2:1473:U:C3' | 8:BF:190:ILE:HG13 | 2.39 | 0.51 |
| 1:A2:1564:U:O2' | 21:BS:41:ARG:C | 2.53 | 0.51 |
| 1:A2:1766:A:C4 | 1:A2:1794:A:C2 | 2.98 | 0.51 |
| 8:BF:215:ASP:O | 8:BF:217:LEU:N | 2.43 | 0.51 |
| 14:BL:88:ARG:O | 14:BL:89:ALA:C | 2.53 | 0.51 |
| 16:BN:36:GLN:O | 16:BN:39:LYS:HB3 | 2.11 | 0.51 |
| 20:BR:55:THR:O | 20:BR:55:THR:HG22 | 2.10 | 0.51 |
| 35:Bg:205:SER:HB3 | 35:Bg:210:LEU:HB2 | 1.92 | 0.51 |
| 35:Bg:266:ASP:HB3 | 35:Bg:267:PRO:HD2 | 1.93 | 0.51 |
| 1:A2:25:C:HO2' | 1:A2:26:A:P | 2.34 | 0.51 |
| 1:A2:144:U:H2' | 1:A2:145:A:O4' | 2.11 | 0.51 |
| 1:A2:179:A:H3' | 9:BG:187:LYS:HD2 | 1.88 | 0.51 |
| 1:A2:215:A:O5' | 7:BE:130:GLN:HG2 | 2.10 | 0.51 |
| 1:A2:219:A:C2 | 1:A2:220:A:C8 | 2.99 | 0.51 |
| 1:A2:316:A:O2' | 1:A2:317:C:O5' | 2.27 | 0.51 |
| 1:A2:362:G:C6 | 1:A2:383:G:C6 | 2.97 | 0.51 |
| 1:A2:395:U:N1 | 9:BG:93:LYS:CE | 2.65 | 0.51 |
| 1:A2:572:C:OP2 | 26:BX:69:ARG:CD | 2.59 | 0.51 |
| 1:A2:594:A:O3' | 1:A2:595:G:P | 2.69 | 0.51 |
| 1:A2:597:G:H3' | 1:A2:598:U:P | 2.50 | 0.51 |
| 1:A2:598:U:N1 | 26:BX:132:LEU:CB | 2.43 | 0.51 |
| 1:A2:633:U:H5" | 14:BL:99:ARG:CB | 2.32 | 0.51 |
| 1:A2:765:G:H1 | 12:BJ:142:ASN:CB | 2.24 | 0.51 |
| 1:A2:969:C:O2 | 26:BX:6:PRO:HG3 | 2.10 | 0.51 |
| 1:A2:1085:G:C6 | 5:BC:162:CYS:SG | 3.03 | 0.51 |
| 1:A2:1096:C:P | 5:BC:168:ARG:CG | 2.99 | 0.51 |
| 1:A2:1212:G:O6 | 18:BP:97:TYR:CZ | 2.52 | 0.51 |
| 1:A2:1403:C:C6 | 20:BR:3:ARG:CB | 2.89 | 0.51 |
| 1:A2:1507:G:C5 | 1:A2:1508:U:C5 | 2.98 | 0.51 |
| 1:A2:1532:U:H6 | 28:BZ:77:ARG:CD | 2.07 | 0.51 |
| 3:BA:56:LYS:HD2 | 3:BA:59:LEU:HD13 | 1.93 | 0.51 |
| 4:BB:126:THR:HG22 | 4:BB:136:ARG:CG | 2.41 | 0.51 |
| 4:BB:149:GLN:O | 4:BB:150:VAL:N | 2.43 | 0.51 |
| 10:BH:100:PRO:O | 10:BH:112:ARG:HD3 | 2.10 | 0.51 |
| 19:BQ:7:VAL:HA | 19:BQ:8:GLN:N | 2.24 | 0.51 |
| 26:BX:107:PHE:C | 26:BX:108:GLY:N | 2.69 | 0.51 |
| 26:BX:134:ALA:C | 26:BX:136:TRP:N | 2.68 | 0.51 |
| 1:A2:139:C:C6 | 9:BG:137:ARG:CB | 2.93 | 0.51 |
| 1:A2:145:A:C2 | 1:A2:146:U:C2 | 2.98 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:436:A:O5' | 26:BX:101:GLU:OE1 | 2.28 | 0.51 |
| 1:A2:570:A:N1 | 26:BX:67:ALA:C | 2.66 | 0.51 |
| 1:A2:617:U:C5 | 1:A2:1093:A:N7 | 2.78 | 0.51 |
| 1:A2:632:U:O2' | 14:BL:99:ARG:NE | 2.44 | 0.51 |
| 1:A2:636:A:OP2 | 25:BW:78:ARG:CB | 2.48 | 0.51 |
| 1:A2:638:U:C2 | 25:BW:107:SER:HA | 2.45 | 0.51 |
| 1:A2:697:C:C4' | 7:BE:209:HIS:HD2 | 2.00 | 0.51 |
| 1:A2:702:G:N7 | 7:BE:176:ASP:CA | 2.74 | 0.51 |
| 1:A2:737:A:C5 | 7:BE:227:VAL:CG1 | 2.93 | 0.51 |
| 1:A2:789:A:HO3' | 1:A2:790:U:P | 2.33 | 0.51 |
| 1:A2:805:U:H4' | 25:BW:86:ILE:HG23 | 1.92 | 0.51 |
| 1:A2:811:A:N3 | 10:BH:107:ARG:CA | 2.53 | 0.51 |
| 1:A2:880:C:O2' | 16:BN:101:HIS:CE1 | 2.58 | 0.51 |
| 1:A2:899:G:C3' | 17:BO:26:THR:O | 2.59 | 0.51 |
| 1:A2:959:U:P | 25:BW:60:LYS:HE3 | 2.50 | 0.51 |
| 1:A2:989:U:P | 17:BO:126:THR:HG23 | 2.50 | 0.51 |
| 1:A2:1119:G:C5 | 1:A2:1120:U:C5 | 2.99 | 0.51 |
| 1:A2:1165:G:H8 | 1:A2:1165:G:O5' | 1.94 | 0.51 |
| 1:A2:1253:U:H2' | 34:Bf:140:TYR:OH | 2.11 | 0.51 |
| 1:A2:1301:U:N1 | 5:BC:117:THR:OG1 | 2.43 | 0.51 |
| 1:A2:1303:U:C5 | 1:A2:1304:G:C5 | 2.98 | 0.51 |
| 1:A2:1774:G:N7 | 1:A2:1775:U:C5 | 2.79 | 0.51 |
| 2:AZ:6165:C:N4 | 2:AZ:6166:U:O2 | 2.43 | 0.51 |
| 7:BE:201:HIS:C | 7:BE:202:ASP:HB3 | 2.36 | 0.51 |
| 15:BM:70:ASN:O | 15:BM:74:LEU:HB2 | 2.10 | 0.51 |
| 17:BO:58:TYR:C | 17:BO:59:ALA:N | 2.69 | 0.51 |
| 19:BQ:115:THR:C | 19:BQ:117:LEU:H | 2.18 | 0.51 |
| 23:BU:68:ARG:NH2 | 23:BU:76:SER:O | 2.44 | 0.51 |
| 25:BW:28:ARG:HB3 | 25:BW:29:PRO:HD2 | 1.91 | 0.51 |
| 25:BW:112:ASP:CA | 25:BW:113:HIS:N | 2.73 | 0.51 |
| 27:BY:18:LEU:HD23 | 27:BY:85:PHE:CG | 2.46 | 0.51 |
| 30:Bb:61:THR:HA | 30:Bb:62:ILE:HA | 1.92 | 0.51 |
| 1:A2:12:U:C2 | 1:A2:13:C:C5 | 2.98 | 0.51 |
| 1:A2:13:C:O2' | 1:A2:1298:U:C4 | 2.62 | 0.51 |
| 1:A2:93:A:C2 | 1:A2:399:A:N1 | 2.79 | 0.51 |
| 1:A2:168:A:C2' | 9:BG:132:ARG:CZ | 2.89 | 0.51 |
| 1:A2:241:U:H2' | 7:BE:148:ARG:CZ | 2.41 | 0.51 |
| 1:A2:337:G:C4' | 11:BI:6:ASP:O | 2.57 | 0.51 |
| 1:A2:599:A:H1' | 26:BX:124:VAL:HG12 | 1.92 | 0.51 |
| 1:A2:735:C:OP1 | 7:BE:191:ARG:HG3 | 2.05 | 0.51 |
| 1:A2:919:A:H2' | 1:A2:920:U:O4' | 2.11 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:931:C:H5' | 4:BB:117:TRP:CH2 | 2.46 | 0.51 |
| 1:A2:990:C:O3' | 29:Ba:22:ARG:NH2 | 2.43 | 0.51 |
| 1:A2:1014:G:H2' | 1:A2:1015:U:O4' | 2.11 | 0.51 |
| 1:A2:1056:U:OP2 | 3:BA:40:ALA:C | 2.53 | 0.51 |
| 1:A2:1239:U:H3' | 18:BP:73:PRO:O | 2.08 | 0.51 |
| 1:A2:1299:G:H2' | 5:BC:86:VAL:CB | 2.38 | 0.51 |
| 1:A2:1299:G:O2' | 5:BC:84:LYS:HG3 | 2.10 | 0.51 |
| 1:A2:1392:U:C4 | 1:A2:1393:C:N4 | 2.78 | 0.51 |
| 1:A2:1417:A:O3' | 19:BQ:128:LYS:HD3 | 1.86 | 0.51 |
| 1:A2:1529:C:H5 | 28:BZ:95:HIS:NE2 | 1.99 | 0.51 |
| 1:A2:1534:G:O6 | 28:BZ:61:SER:C | 2.42 | 0.51 |
| 1:A2:1621:U:C3' | 1:A2:1622:G:P | 2.99 | 0.51 |
| 1:A2:1671:A:C2 | 1:A2:1672:G:H1' | 2.46 | 0.51 |
| 1:A2:1681:A:H3' | 9:BG:31:ARG:N | 2.25 | 0.51 |
| 1:A2:1682:U:C4 | 1:A2:1719:A:N1 | 2.78 | 0.51 |
| 1:A2:1796:C:H4' | 29:Ba:92:ARG:HD2 | 1.88 | 0.51 |
| 2:AZ:6107:U:O5' | 8:BF:221:ALA:HA | 2.10 | 0.51 |
| 2:AZ:6109:U:O4 | 31:Bc:5:THR:HA | 2.11 | 0.51 |
| 5:BC:157:LYS:C | 5:BC:158:THR:CA | 2.83 | 0.51 |
| 9:BG:56:ASN:HD21 | 9:BG:62:PRO:HA | 1.76 | 0.51 |
| 9:BG:84:TYR:CD1 | 9:BG:85:ARG:N | 2.78 | 0.51 |
| 11:BI:101:ILE:HG23 | 11:BI:167:ALA:O | 2.10 | 0.51 |
| 35:Bg:295:SER:O | 35:Bg:296:ALA:C | 2.53 | 0.51 |
| 1:A2:89:G:C6 | 1:A2:90:C:N4 | 2.78 | 0.51 |
| 1:A2:285:G:C6 | 1:A2:286:C:C4 | 2.98 | 0.51 |
| 1:A2:328:A:C5' | 11:BI:172:ARG:NH1 | 2.44 | 0.51 |
| 1:A2:370:A:C4' | 12:BJ:14:THR:O | 2.59 | 0.51 |
| 1:A2:397:A:C2 | 1:A2:398:G:H1' | 2.46 | 0.51 |
| 1:A2:639:U:O2 | 1:A2:639:U:O4' | 2.28 | 0.51 |
| 1:A2:740:A:N6 | 7:BE:206:ASP:CB | 2.69 | 0.51 |
| 1:A2:820:U:O4 | 1:A2:853:G:C2 | 2.63 | 0.51 |
| 1:A2:975:C:HO3' | 1:A2:976:G:P | 2.31 | 0.51 |
| 1:A2:1050:G:HO2' | 30:Bb:11:THR:CB | 1.98 | 0.51 |
| 1:A2:1054:U:C1' | 3:BA:30:GLN:HG2 | 2.34 | 0.51 |
| 1:A2:1084:A:O2' | 5:BC:163:GLY:C | 2.49 | 0.51 |
| 1:A2:1399:C:C5 | 20:BR:60:ARG:CB | 2.93 | 0.51 |
| 1:A2:1428:G:N2 | 23:BU:74:GLU:CG | 0.76 | 0.51 |
| 1:A2:1498:G:C5' | 22:BT:73:VAL:N | 2.65 | 0.51 |
| 1:A2:1529:C:OP2 | 8:BF:112:ARG:CZ | 2.59 | 0.51 |
| 1:A2:1565:C:C4 | 1:A2:1566:U:O4 | 2.64 | 0.51 |
| 1:A2:1566:U:H2' | 1:A2:1567:U:H6 | 1.76 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1737:G:C2 | 1:A2:1738:U:C2 | 2.99 | 0.51 |
| 2:AZ:6105:U:H2' | 2:AZ:6106:A:H5" | 1.92 | 0.51 |
| 5:BC:230:TRP:CE2 | 25:BW:68:ARG:HD3 | 2.45 | 0.51 |
| 11:BI:48:THR:HG22 | 11:BI:49:ARG:H | 1.76 | 0.51 |
| 22:BT:138:GLN:C | 22:BT:139:THR:N | 2.69 | 0.51 |
| 23:BU:104:THR:HG22 | 23:BU:116:VAL:HG21 | 1.92 | 0.51 |
| 28:BZ:81:ARG:O | 28:BZ:82:HIS:C | 2.53 | 0.51 |
| 35:Bg:194:GLY:O | 35:Bg:195:HIS:O | 2.29 | 0.51 |
| 35:Bg:205:SER:HB3 | 35:Bg:210:LEU:CB | 2.41 | 0.51 |
| 1:A2:69:G:C2 | 1:A2:70:C:C2 | 2.99 | 0.51 |
| 1:A2:451:A:H1' | 27:BY:112:LYS:CB | 2.41 | 0.51 |
| 1:A2:737:A:H3' | 7:BE:125:LYS:HG3 | 1.92 | 0.51 |
| 1:A2:777:C:H5" | 27:BY:34:ASN:N | 2.26 | 0.51 |
| 1:A2:1040:G:H3' | 24:BV:62:ARG:NE | 2.12 | 0.51 |
| 1:A2:1046:G:N3 | 1:A2:1073:G:N2 | 2.58 | 0.51 |
| 1:A2:1085:G:H5' | 5:BC:164:SER:O | 1.45 | 0.51 |
| 1:A2:1239:U:O2 | 18:BP:76:VAL:HG22 | 2.11 | 0.51 |
| 1:A2:1242:A:H4' | 18:BP:89:MET:HE1 | 1.84 | 0.51 |
| 1:A2:1255:G:N7 | 34:Bf:140:TYR:HB2 | 2.22 | 0.51 |
| 1:A2:1394:G:H2' | 1:A2:1395:G:O4' | 2.10 | 0.51 |
| 1:A2:1470:C:H1' | 8:BF:185:ARG:HH21 | 1.75 | 0.51 |
| 1:A2:1565:C:P | 21:BS:41:ARG:HA | 2.49 | 0.51 |
| 1:A2:1787:C:H5' | 17:BO:132:ARG:NH1 | 2.15 | 0.51 |
| 3:BA:179:ARG:HH11 | 20:BR:100:LEU:CB | 2.24 | 0.51 |
| 10:BH:27:LEU:O | 10:BH:31:SER:OG | 2.24 | 0.51 |
| 11:BI:168:CYS:SG | 11:BI:184:LEU:HD22 | 2.51 | 0.51 |
| 16:BN:58:HIS:O | 16:BN:59:GLY:C | 2.53 | 0.51 |
| 21:BS:71:GLN:C | 21:BS:73:MET:HB2 | 2.36 | 0.51 |
| 27:BY:54:ALA:O | 27:BY:76:TYR:N | 2.44 | 0.51 |
| 27:BY:126:ALA:O | 27:BY:129:VAL:HG13 | 2.10 | 0.51 |
| 33:Be:36:LYS:O | 33:Be:37:ARG:C | 2.54 | 0.51 |
| 1:A2:57:G:H22 | 27:BY:115:ASP:N | 1.98 | 0.51 |
| 1:A2:76:A:N3 | 9:BG:166:GLU:N | 2.59 | 0.51 |
| 1:A2:163:G:C8 | 9:BG:17:GLU:OE1 | 2.63 | 0.51 |
| 1:A2:179:A:C1' | 9:BG:184:LEU:C | 2.74 | 0.51 |
| 1:A2:301:A:C5 | 7:BE:2:ALA:C | 2.88 | 0.51 |
| 1:A2:322:G:C2 | 11:BI:10:LYS:HD2 | 2.33 | 0.51 |
| 1:A2:329:G:C2 | 11:BI:31:ARG:N | 2.79 | 0.51 |
| 1:A2:332:U:O2' | 11:BI:26:LYS:HB2 | 2.11 | 0.51 |
| 1:A2:595:G:C4 | 26:BX:139:LYS:HD3 | 2.45 | 0.51 |
| 1:A2:617:U:C5 | 1:A2:1093:A:C8 | 2.98 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:687:G:H4' | 12:BJ:66:ASP:O | 2.10 | 0.51 |
| 1:A2:699:U:H6 | 7:BE:197:HIS:ND1 | 2.09 | 0.51 |
| 1:A2:703:G:H1' | 7:BE:173:ILE:CG2 | 2.31 | 0.51 |
| 1:A2:1066:C:C2' | 3:BA:32:HIS:N | 2.74 | 0.51 |
| 1:A2:1083:G:N3 | 5:BC:161:LYS:O | 2.37 | 0.51 |
| 1:A2:1279:C:N3 | 23:BU:72:ASN:CG | 2.68 | 0.51 |
| 1:A2:1402:G:C1' | 20:BR:4:VAL:HG13 | 2.40 | 0.51 |
| 1:A2:1673:G:C5 | 1:A2:1674:C:C5 | 2.98 | 0.51 |
| 1:A2:1710:U:H6 | 9:BG:115:LYS:CG | 1.82 | 0.51 |
| 1:A2:1722:A:H2' | 9:BG:69:LEU:HD23 | 1.93 | 0.51 |
| 1:A2:1765:A:C6 | 1:A2:1767:G:N1 | 2.79 | 0.51 |
| 3:BA:122:ILE:HG23 | 3:BA:144:ILE:HG22 | 1.93 | 0.51 |
| 6:BD:142:LEU:O | 6:BD:143:ARG:N | 2.44 | 0.51 |
| 7:BE:243:GLY:C | 7:BE:244:ILE:N | 2.68 | 0.51 |
| 8:BF:205:SER:O | 8:BF:206:SER:CB | 2.58 | 0.51 |
| 10:BH:64:VAL:HG12 | 10:BH:65:PRO:N | 2.26 | 0.51 |
| 14:BL:123:VAL:O | 14:BL:123:VAL:HG22 | 2.11 | 0.51 |
| 22:BT:140:LEU:O | 22:BT:140:LEU:HD23 | 2.11 | 0.51 |
| 23:BU:25:THR:HG23 | 23:BU:90:TYR:HB3 | 1.93 | 0.51 |
| 35:Bg:52:GLN:C | 35:Bg:53:LYS:N | 2.69 | 0.51 |
| 1:A2:395:U:OP2 | 9:BG:92:ARG:C | 2.54 | 0.51 |
| 1:A2:597:G:C4' | 26:BX:133:LEU:CD2 | 2.89 | 0.51 |
| 1:A2:737:A:H8 | 7:BE:225:VAL:HG12 | 1.75 | 0.51 |
| 1:A2:754:A:N3 | 1:A2:754:A:H2' | 2.25 | 0.51 |
| 1:A2:772:G:O2' | 1:A2:773:C:OP1 | 2.27 | 0.51 |
| 1:A2:1082:C:OP2 | 1:A2:1083:G:OP2 | 2.29 | 0.51 |
| 1:A2:1196:A:OP2 | 1:A2:1464:G:N2 | 2.44 | 0.51 |
| 1:A2:1280:C:N1 | 23:BU:72:ASN:CA | 2.64 | 0.51 |
| 1:A2:1282:U:H3' | 1:A2:1283:U:H5" | 1.93 | 0.51 |
| 1:A2:1295:G:N1 | 1:A2:1296:A:C5 | 2.79 | 0.51 |
| 1:A2:1298:U:C2 | 5:BC:208:GLU:HG3 | 2.44 | 0.51 |
| 1:A2:1301:U:H3' | 5:BC:97:ARG:CD | 2.31 | 0.51 |
| 1:A2:1533:C:H4' | 1:A2:1539:G:C2 | 2.45 | 0.51 |
| 1:A2:1608:U:H1' | 19:BQ:73:GLY:HA3 | 1.91 | 0.51 |
| 1:A2:1650:U:H2' | 1:A2:1651:A:H8 | 1.75 | 0.51 |
| 2:AZ:6107:U:H3 | 8:BF:217:LEU:CA | 2.23 | 0.51 |
| 11:BI:170:SER:C | 11:BI:171:SER:N | 2.69 | 0.51 |
| 12:BJ:152:SER:O | 12:BJ:153:GLU:N | 2.44 | 0.51 |
| 27:BY:18:LEU:HD13 | 27:BY:20:ARG:NH1 | 2.26 | 0.51 |
| 29:Ba:62:TYR:O | 29:Ba:63:ALA:CB | 2.59 | 0.51 |
| 35:Bg:89:LEU:N | 35:Bg:89:LEU:HD23 | 2.25 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 35:Bg:211:ILE:HG22 | 35:Bg:223:TRP:CD1 | 2.45 | 0.51 |
| 1:A2:31:C:C2' | 26:BX:138:GLU:CA | 2.89 | 0.50 |
| 1:A2:131:C:O2 | 1:A2:133:U:N3 | 2.44 | 0.50 |
| 1:A2:143:G:OP1 | 9:BG:131:LYS:HG2 | 2.10 | 0.50 |
| 1:A2:220:A:C3' | 9:BG:220:LYS:N | 2.72 | 0.50 |
| 1:A2:457:G:C6 | 27:BY:104:SER:O | 2.64 | 0.50 |
| 1:A2:527:A:C5 | 1:A2:528:U:C5 | 2.99 | 0.50 |
| 1:A2:957:G:O3' | 30:Bb:22:LYS:HA | 2.11 | 0.50 |
| 1:A2:968:U:O2' | 26:BX:6:PRO:CD | 2.52 | 0.50 |
| 1:A2:973:A:N3 | 1:A2:974:A:C8 | 2.78 | 0.50 |
| 1:A2:1051:G:P | 30:Bb:12:ALA:O | 2.69 | 0.50 |
| 1:A2:1083:G:N3 | 5:BC:161:LYS:CG | 2.73 | 0.50 |
| 1:A2:1095:U:C4' | 5:BC:159:THR:CB | 2.87 | 0.50 |
| 1:A2:1145:U:O2 | 5:BC:94:GLN:HA | 2.11 | 0.50 |
| 1:A2:1224:A:H61 | 34:Bf:96:ALA:HA | 1.73 | 0.50 |
| 1:A2:1298:U:N1 | 5:BC:99:LYS:CD | 2.73 | 0.50 |
| 1:A2:1301:U:O2 | 1:A2:1302:U:H5' | 2.11 | 0.50 |
| 1:A2:1403:C:C6 | 20:BR:3:ARG:CA | 2.92 | 0.50 |
| 1:A2:1479:A:OP2 | 22:BT:56:LYS:HB3 | 2.10 | 0.50 |
| 1:A2:1549:C:C2 | 21:BS:86:LEU:O | 2.55 | 0.50 |
| 1:A2:1565:C:C5 | 1:A2:1566:U:C4 | 2.99 | 0.50 |
| 2:AZ:6168:C:H2' | 2:AZ:6169:G:O4' | 2.11 | 0.50 |
| 2:AZ:6220:U:C6 | 6:BD:142:LEU:HB2 | 2.45 | 0.50 |
| 3:BA:90:ALA:HB3 | 3:BA:97:PRO:HG3 | 1.92 | 0.50 |
| 5:BC:101:VAL:HG23 | 5:BC:115:ILE:HG12 | 1.92 | 0.50 |
| 9:BG:50:PHE:HB3 | 9:BG:111:LEU:HD22 | 1.93 | 0.50 |
| 11:BI:72:ILE:HG21 | 11:BI:112:TRP:CD1 | 2.46 | 0.50 |
| 11:BI:106:ALA:C | 11:BI:108:PRO:HD2 | 2.35 | 0.50 |
| 14:BL:21:ASN:HA | 14:BL:22:ASN:N | 2.27 | 0.50 |
| 14:BL:128:CYS:HB3 | 14:BL:129:ARG:O | 2.11 | 0.50 |
| 20:BR:110:VAL:HG13 | 20:BR:113:LEU:HG | 1.92 | 0.50 |
| 21:BS:75:ASN:O | 21:BS:76:PRO:C | 2.54 | 0.50 |
| 22:BT:22:LEU:HD12 | 22:BT:58:ALA:HB1 | 1.93 | 0.50 |
| 25:BW:7:LEU:O | 25:BW:10:ALA:N | 2.43 | 0.50 |
| 25:BW:9:ASP:O | 25:BW:12:ASN:HB3 | 2.10 | 0.50 |
| 30:Bb:21:LEU:C | 30:Bb:22:LYS:HG3 | 2.36 | 0.50 |
| 34:Bf:100:ALA:O | 34:Bf:102:VAL:N | 2.44 | 0.50 |
| 35:Bg:104:VAL:HG23 | 35:Bg:105:GLY:N | 2.26 | 0.50 |
| 1:A2:168:A:C4' | 9:BG:132:ARG:CZ | 2.80 | 0.50 |
| 1:A2:220:A:C2' | 9:BG:220:LYS:HA | 2.40 | 0.50 |
| 1:A2:457:G:O4' | 27:BY:114:ARG:NH2 | 2.43 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:549:G:H2' | 1:A2:550:A:O4' | 2.11 | 0.50 |
| 1:A2:630:A:N1 | 26:BX:17:VAL:HG11 | 2.25 | 0.50 |
| 1:A2:735:C:C2 | 7:BE:181:VAL:HG23 | 2.46 | 0.50 |
| 1:A2:834:G:C6 | 1:A2:835:U:C4 | 3.00 | 0.50 |
| 1:A2:864:U:H5' | 25:BW:7:LEU:C | 2.33 | 0.50 |
| 1:A2:892:A:H3' | 1:A2:893:U:P | 2.51 | 0.50 |
| 1:A2:1055:U:O5' | 3:BA:37:VAL:N | 2.44 | 0.50 |
| 1:A2:1144:U:C5 | 5:BC:89:GLN:CD | 2.88 | 0.50 |
| 1:A2:1418:G:O5' | 19:BQ:128:LYS:HD3 | 1.66 | 0.50 |
| 1:A2:1496:U:O2' | 1:A2:1512:G:N2 | 2.44 | 0.50 |
| 1:A2:1506:G:H4' | 1:A2:1551:U:C5' | 2.40 | 0.50 |
| 1:A2:1555:A:C1' | 18:BP:115:TYR:CE1 | 2.93 | 0.50 |
| 1:A2:1720:G:O3' | 9:BG:64:LYS:HE3 | 2.11 | 0.50 |
| 1:A2:1731:A:H3' | 1:A2:1732:A:O5' | 2.11 | 0.50 |
| 2:AZ:6106:A:N3 | 8:BF:224:ASN:C | 2.69 | 0.50 |
| 3:BA:53:THR:HG22 | 20:BR:106:THR:HG23 | 1.92 | 0.50 |
| 6:BD:23:GLU:OE1 | 13:BK:60:SER:OG | 2.29 | 0.50 |
| 6:BD:162:GLN:O | 6:BD:164:VAL:N | 2.45 | 0.50 |
| 6:BD:223:LYS:HB3 | 6:BD:225:TYR:CE1 | 2.46 | 0.50 |
| 7:BE:201:HIS:HB3 | 7:BE:202:ASP:N | 2.26 | 0.50 |
| 8:BF:144:GLU:OE1 | 8:BF:225:ARG:NH2 | 2.44 | 0.50 |
| 8:BF:177:ILE:HG22 | 8:BF:177:ILE:O | 2.09 | 0.50 |
| 10:BH:90:VAL:C | 10:BH:91:ILE:N | 2.69 | 0.50 |
| 10:BH:103:SER:C | 10:BH:104:ARG:HG2 | 2.35 | 0.50 |
| 10:BH:180:GLN:C | 10:BH:181:ILE:HD12 | 2.35 | 0.50 |
| 16:BN:71:ILE:O | 16:BN:72:MET:C | 2.54 | 0.50 |
| 21:BS:32:LEU:HD11 | 21:BS:69:ILE:HG23 | 1.92 | 0.50 |
| 29:Ba:4:LYS:O | 29:Ba:5:ARG:N | 2.44 | 0.50 |
| 29:Ba:43:ASN:O | 29:Ba:44:ILE:C | 2.54 | 0.50 |
| 32:Bd:46:LYS:C | 32:Bd:47:ALA:N | 2.69 | 0.50 |
| 1:A2:19:A:OP2 | 26:BX:109:ARG:HG2 | 2.12 | 0.50 |
| 1:A2:45:U:O2 | 26:BX:77:ILE:CG2 | 2.57 | 0.50 |
| 1:A2:289:U:H2' | 1:A2:290:G:O4' | 2.10 | 0.50 |
| 1:A2:462:G:C5 | 1:A2:463:U:C5 | 2.98 | 0.50 |
| 1:A2:601:A:H8 | 26:BX:105:ALA:HB1 | 0.70 | 0.50 |
| 1:A2:702:G:H22 | 7:BE:227:VAL:CG2 | 2.24 | 0.50 |
| 1:A2:735:C:C6 | 7:BE:181:VAL:HG23 | 2.45 | 0.50 |
| 1:A2:780:A:H5' | 27:BY:32:ARG:NH2 | 2.26 | 0.50 |
| 1:A2:863:A:H2' | 25:BW:6:VAL:HB | 1.92 | 0.50 |
| 1:A2:869:A:H2' | 1:A2:870:C:O4' | 2.12 | 0.50 |
| 1:A2:900:A:H8 | 17:BO:25:ASP:HB3 | 1.75 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:967:A:H8 | 1:A2:967:A:O5' | 1.95 | 0.50 |
| 1:A2:969:C:C2 | 26:BX:14:LYS:CD | 2.93 | 0.50 |
| 1:A2:1051:G:C2 | 1:A2:1053:G:H1' | 2.47 | 0.50 |
| 1:A2:1083:G:C8 | 5:BC:161:LYS:O | 2.60 | 0.50 |
| 1:A2:1281:G:C1' | 23:BU:74:GLU:C | 2.85 | 0.50 |
| 1:A2:1299:G:OP2 | 5:BC:117:THR:HB | 2.10 | 0.50 |
| 1:A2:1389:C:H5" | 20:BR:45:ARG:CD | 2.39 | 0.50 |
| 1:A2:1399:C:H5 | 20:BR:60:ARG:HB3 | 1.76 | 0.50 |
| 1:A2:1400:A:O5' | 20:BR:53:TYR:OH | 2.23 | 0.50 |
| 1:A2:1472:C:C5' | 8:BF:190:ILE:HD11 | 2.41 | 0.50 |
| 1:A2:1476:C:C4 | 1:A2:1477:G:N7 | 2.80 | 0.50 |
| 1:A2:1528:U:P | 8:BF:112:ARG:HB2 | 2.51 | 0.50 |
| 1:A2:1591:C:H5' | 22:BT:93:HIS:HB2 | 1.93 | 0.50 |
| 1:A2:1613:U:OP2 | 8:BF:84:LYS:CG | 2.59 | 0.50 |
| 1:A2:1655:A:N3 | 1:A2:1746:A:C2 | 2.80 | 0.50 |
| 2:AZ:6036:C:O2' | 2:AZ:6037:U:H5" | 2.12 | 0.50 |
| 2:AZ:6108:U:H4' | 2:AZ:6109:U:O5' | 2.11 | 0.50 |
| 3:BA:115:PHE:CD1 | 3:BA:116:LYS:HA | 2.47 | 0.50 |
| 9:BG:19:ASP:O | 9:BG:20:ASP:N | 2.44 | 0.50 |
| 10:BH:154:LEU:N | 10:BH:184:GLU:O | 2.44 | 0.50 |
| 25:BW:79:PHE:C | 25:BW:80:ASN:CA | 2.84 | 0.50 |
| 26:BX:29:TYR:O | 26:BX:32:ARG:N | 2.45 | 0.50 |
| 29:Ba:33:ASP:O | 29:Ba:35:ALA:N | 2.44 | 0.50 |
| 1:A2:18:C:C5' | 26:BX:109:ARG:CD | 2.62 | 0.50 |
| 1:A2:29:U:C5 | 26:BX:129:GLY:O | 2.52 | 0.50 |
| 1:A2:78:A:C2 | 9:BG:160:ARG:NH2 | 2.55 | 0.50 |
| 1:A2:137:U:H3 | 9:BG:139:ASN:HB2 | 1.76 | 0.50 |
| 1:A2:240:U:C3' | 9:BG:208:TYR:HB3 | 2.36 | 0.50 |
| 1:A2:265:A:C6 | 1:A2:290:G:N1 | 2.80 | 0.50 |
| 1:A2:295:A:O2' | 1:A2:296:U:O4' | 2.29 | 0.50 |
| 1:A2:325:G:O4' | 14:BL:133:LYS:HA | 2.11 | 0.50 |
| 1:A2:328:A:H2' | 1:A2:329:G:H8 | 1.75 | 0.50 |
| 1:A2:370:A:N7 | 12:BJ:16:LYS:HG3 | 2.25 | 0.50 |
| 1:A2:444:C:C4 | 1:A2:461:G:N2 | 2.79 | 0.50 |
| 1:A2:444:C:C2 | 27:BY:104:SER:HB3 | 2.36 | 0.50 |
| 1:A2:735:C:O3' | 7:BE:181:VAL:HG12 | 2.10 | 0.50 |
| 1:A2:775:G:O4' | 27:BY:61:ARG:NH2 | 2.44 | 0.50 |
| 1:A2:863:A:C3' | 25:BW:6:VAL:CG1 | 2.77 | 0.50 |
| 1:A2:958:U:OP1 | 30:Bb:24:LEU:O | 2.29 | 0.50 |
| 1:A2:959:U:H1' | 25:BW:54:ASP:OD2 | 2.11 | 0.50 |
| 1:A2:1418:G:N9 | 32:Bd:56:ARG:CZ | 2.70 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1470:C:O3' | 8:BF:185:ARG:HG2 | 2.11 | 0.50 |
| 1:A2:1502:G:N3 | 22:BT:37:VAL:HG22 | 2.26 | 0.50 |
| 1:A2:1505:A:H4' | 22:BT:41:SER:HB3 | 1.93 | 0.50 |
| 1:A2:1664:C:H2' | 1:A2:1664:C:O2 | 2.10 | 0.50 |
| 1:A2:1720:G:C4 | 9:BG:65:GLN:HG2 | 2.47 | 0.50 |
| 1:A2:1721:A:C5 | 9:BG:68:LEU:N | 2.79 | 0.50 |
| 1:A2:1782:A:H3' | 1:A2:1783:C:O5' | 2.12 | 0.50 |
| 2:AZ:6105:U:C3' | 2:AZ:6106:A:H5" | 2.42 | 0.50 |
| 2:AZ:6106:A:N3 | 8:BF:224:ASN:O | 2.44 | 0.50 |
| 3:BA:37:VAL:O | 3:BA:48:ILE:HG23 | 2.10 | 0.50 |
| 10:BH:17:GLU:N | 10:BH:17:GLU:CD | 2.69 | 0.50 |
| 11:BI:90:LEU:HB3 | 11:BI:95:THR:HB | 1.91 | 0.50 |
| 11:BI:162:ALA:HB1 | 11:BI:164:ARG:N | 2.26 | 0.50 |
| 17:BO:89:THR:OG1 | 17:BO:90:ARG:N | 2.45 | 0.50 |
| 19:BQ:112:TYR:O | 19:BQ:114:ALA:HB2 | 2.12 | 0.50 |
| 23:BU:80:GLU:CD | 23:BU:82:TYR:CZ | 2.89 | 0.50 |
| 24:BV:28:ASP:O | 24:BV:30:ALA:CA | 2.60 | 0.50 |
| 24:BV:51:VAL:C | 24:BV:52:THR:HA | 2.36 | 0.50 |
| 26:BX:19:ARG:O | 26:BX:23:ARG:N | 2.44 | 0.50 |
| 35:Bg:45:TRP:CE3 | 35:Bg:57:PRO:HB3 | 2.46 | 0.50 |
| 1:A2:30:G:N2 | 26:BX:137:LYS:H | 2.10 | 0.50 |
| 1:A2:43:A:C6 | 1:A2:378:A:C6 | 2.99 | 0.50 |
| 1:A2:57:G:C2' | 27:BY:114:ARG:NE | 2.73 | 0.50 |
| 1:A2:91:G:HO2' | 27:BY:113:ASN:CG | 1.86 | 0.50 |
| 1:A2:392:G:C6 | 1:A2:393:C:C4 | 3.00 | 0.50 |
| 1:A2:586:G:N7 | 33:Be:19:PRO:HB3 | 2.27 | 0.50 |
| 1:A2:787:G:C2 | 27:BY:61:ARG:CG | 2.88 | 0.50 |
| 1:A2:960:U:C5 | 25:BW:57:ARG:HG3 | 2.46 | 0.50 |
| 1:A2:1008:G:O3' | 17:BO:135:ARG:HD2 | 2.12 | 0.50 |
| 1:A2:1036:A:C2 | 25:BW:71:LYS:NZ | 2.79 | 0.50 |
| 1:A2:1103:U:C2' | 1:A2:1104:U:H5' | 2.41 | 0.50 |
| 1:A2:1225:U:O2 | 1:A2:1230:A:C3' | 2.59 | 0.50 |
| 1:A2:1326:A:C3' | 6:BD:157:LEU:HD23 | 2.16 | 0.50 |
| 1:A2:1453:G:OP1 | 18:BP:115:TYR:C | 2.55 | 0.50 |
| 1:A2:1488:G:O3' | 1:A2:1489:U:P | 2.70 | 0.50 |
| 1:A2:1504:G:OP2 | 22:BT:33:TYR:HB2 | 2.12 | 0.50 |
| 3:BA:7:PHE:N | 20:BR:114:GLY:N | 2.59 | 0.50 |
| 3:BA:59:LEU:N | 3:BA:63:ILE:HD13 | 2.27 | 0.50 |
| 3:BA:123:VAL:HG13 | 3:BA:129:ASP:OD1 | 2.11 | 0.50 |
| 19:BQ:140:LYS:C | 19:BQ:141:SER:N | 2.69 | 0.50 |
| 29:Ba:74:CYS:SG | 29:Ba:76:SER:HB2 | 2.51 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:585:A:H2' | 1:A2:586:G:C8 | 2.47 | 0.50 |
| 1:A2:632:U:N1 | 26:BX:15:LEU:HG | 2.27 | 0.50 |
| 1:A2:633:U:C2 | 26:BX:9:LEU:HA | 2.46 | 0.50 |
| 1:A2:741:C:C4 | 7:BE:206:ASP:CB | 2.86 | 0.50 |
| 1:A2:783:G:H5' | 27:BY:39:GLU:C | 2.25 | 0.50 |
| 1:A2:872:G:H3' | 1:A2:873:U:P | 2.52 | 0.50 |
| 1:A2:988:A:C5 | 1:A2:989:U:C5 | 3.00 | 0.50 |
| 1:A2:1145:U:H5 | 1:A2:1147:A:H62 | 1.59 | 0.50 |
| 1:A2:1202:A:O2' | 1:A2:1207:C:N4 | 2.45 | 0.50 |
| 1:A2:1241:G:P | 18:BP:104:GLN:C | 2.94 | 0.50 |
| 1:A2:1335:U:H5' | 23:BU:62:VAL:CG1 | 2.42 | 0.50 |
| 1:A2:1383:G:C4' | 23:BU:89:ARG:HE | 2.20 | 0.50 |
| 1:A2:1401:A:OP1 | 20:BR:10:LYS:CB | 2.29 | 0.50 |
| 1:A2:1417:A:H2' | 1:A2:1418:G:C8 | 2.47 | 0.50 |
| 1:A2:1533:C:O5' | 28:BZ:77:ARG:CZ | 2.58 | 0.50 |
| 1:A2:1550:A:C6 | 1:A2:1551:U:O4 | 2.65 | 0.50 |
| 1:A2:1564:U:H3' | 21:BS:41:ARG:O | 2.10 | 0.50 |
| 1:A2:1565:C:H2' | 21:BS:39:GLY:HA2 | 1.90 | 0.50 |
| 2:AZ:6038:U:O4 | 2:AZ:6080:G:C4 | 2.65 | 0.50 |
| 2:AZ:6107:U:O5' | 8:BF:221:ALA:CA | 2.56 | 0.50 |
| 3:BA:174:TRP:O | 3:BA:175:TYR:C | 2.54 | 0.50 |
| 4:BB:123:ALA:O | 4:BB:139:ALA:N | 2.44 | 0.50 |
| 4:BB:202:LYS:O | 4:BB:205:PHE:N | 2.45 | 0.50 |
| 5:BC:213:ALA:O | 5:BC:216:VAL:N | 2.45 | 0.50 |
| 8:BF:210:ALA:O | 8:BF:213:LYS:N | 2.44 | 0.50 |
| 9:BG:62:PRO:O | 9:BG:97:VAL:HG13 | 2.12 | 0.50 |
| 15:BM:60:VAL:HG23 | 15:BM:87:PRO:HB3 | 1.93 | 0.50 |
| 16:BN:119:GLU:C | 16:BN:120:SER:OG | 2.54 | 0.50 |
| 27:BY:48:TYR:HD2 | 27:BY:75:VAL:HG11 | 1.76 | 0.50 |
| 27:BY:99:LYS:HE3 | 27:BY:100:VAL:N | 2.27 | 0.50 |
| 29:Ba:26:CYS:SG | 29:Ba:77:CYS:SG | 3.09 | 0.50 |
| 1:A2:4:C:OP1 | 12:BJ:17:ARG:HD2 | 2.12 | 0.50 |
| 1:A2:163:G:C8 | 9:BG:2:LYS:HB2 | 2.46 | 0.50 |
| 1:A2:164:A:O5' | 9:BG:3:LEU:O | 2.25 | 0.50 |
| 1:A2:338:C:C1' | 11:BI:4:SER:HG | 2.25 | 0.50 |
| 1:A2:566:C:C5 | 1:A2:567:A:N7 | 2.79 | 0.50 |
| 1:A2:569:C:H5" | 26:BX:90:ALA:O | 2.12 | 0.50 |
| 1:A2:753:A:OP2 | 7:BE:16:HIS:CD2 | 2.64 | 0.50 |
| 1:A2:764:U:H4' | 27:BY:64:PHE:N | 2.25 | 0.50 |
| 1:A2:901:G:H4' | 17:BO:86:THR:HG21 | 1.92 | 0.50 |
| 1:A2:1057:U:C2' | 3:BA:41:ARG:HA | 2.41 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1186:U:O2 | 1:A2:1186:U:H2' | 2.10 | 0.50 |
| 1:A2:1240:U:O2' | 18:BP:94:VAL:CG1 | 2.57 | 0.50 |
| 1:A2:1501:C:C6 | 22:BT:33:TYR:OH | 2.52 | 0.50 |
| 1:A2:1550:A:H1' | 1:A2:1562:G:N2 | 2.26 | 0.50 |
| 1:A2:1609:U:H2' | 1:A2:1610:G:O5' | 2.12 | 0.50 |
| 6:BD:209:ILE:HG22 | 20:BR:38:ILE:O | 2.11 | 0.50 |
| 8:BF:24:VAL:O | 8:BF:24:VAL:HG13 | 2.12 | 0.50 |
| 8:BF:172:ILE:O | 8:BF:173:ALA:C | 2.54 | 0.50 |
| 10:BH:114:ARG:C | 10:BH:116:ARG:N | 2.67 | 0.50 |
| 13:BK:28:ASN:ND2 | 32:Bd:9:SER:OG | 2.44 | 0.50 |
| 22:BT:70:GLN:C | 22:BT:71:VAL:N | 2.70 | 0.50 |
| 29:Ba:62:TYR:O | 29:Ba:63:ALA:HB3 | 2.11 | 0.50 |
| 1:A2:19:A:C2 | 1:A2:20:G:C4 | 3.00 | 0.50 |
| 1:A2:85:A:N1 | 27:BY:123:LYS:O | 2.45 | 0.50 |
| 1:A2:124:A:C2 | 1:A2:125:U:H1' | 2.46 | 0.50 |
| 1:A2:140:A:P | 9:BG:175:ILE:CD1 | 3.00 | 0.50 |
| 1:A2:215:A:H8 | 7:BE:138:TYR:CD1 | 2.27 | 0.50 |
| 1:A2:215:A:C6 | 7:BE:149:TYR:HA | 2.47 | 0.50 |
| 1:A2:226:A:C2' | 1:A2:227:U:H5' | 2.42 | 0.50 |
| 1:A2:316:A:C2 | 1:A2:317:C:C6 | 3.00 | 0.50 |
| 1:A2:398:G:C2' | 9:BG:88:ARG:NH1 | 2.71 | 0.50 |
| 1:A2:436:A:N9 | 26:BX:50:LYS:HD3 | 2.27 | 0.50 |
| 1:A2:740:A:H61 | 7:BE:198:LYS:HB2 | 1.77 | 0.50 |
| 1:A2:960:U:H5' | 25:BW:56:HIS:O | 2.09 | 0.50 |
| 1:A2:1036:A:OP1 | 25:BW:12:ASN:CB | 2.59 | 0.50 |
| 1:A2:1048:G:C1' | 30:Bb:22:LYS:HD3 | 1.98 | 0.50 |
| 1:A2:1053:G:O2' | 3:BA:35:PRO:HD2 | 2.00 | 0.50 |
| 1:A2:1331:A:H2' | 6:BD:162:GLN:CB | 2.42 | 0.50 |
| 1:A2:1401:A:O4' | 20:BR:10:LYS:CE | 2.59 | 0.50 |
| 1:A2:1722:A:H5' | 9:BG:97:VAL:O | 2.12 | 0.50 |
| 2:AZ:6130:C:H2' | 2:AZ:6131:U:O4' | 2.12 | 0.50 |
| 2:AZ:6171:U:OP1 | 2:AZ:6208:A:N6 | 2.42 | 0.50 |
| 5:BC:218:ILE:HD12 | 5:BC:219:GLY:N | 2.27 | 0.50 |
| 6:BD:23:GLU:C | 6:BD:24:PHE:N | 2.70 | 0.50 |
| 13:BK:82:LEU:HB2 | 13:BK:83:PRO:HD2 | 1.93 | 0.50 |
| 14:BL:123:VAL:O | 14:BL:124:THR:N | 2.43 | 0.50 |
| 19:BQ:95:LYS:O | 19:BQ:95:LYS:HE2 | 2.12 | 0.50 |
| 22:BT:61:VAL:O | 22:BT:64:HIS:HB3 | 2.12 | 0.50 |
| 26:BX:73:ARG:C | 26:BX:74:VAL:HA | 2.36 | 0.50 |
| 35:Bg:23:LEU:HD12 | 35:Bg:291:SER:OG | 2.12 | 0.50 |
| 35:Bg:37:SER:HG | 35:Bg:41:THR:N | 2.10 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 35:Bg:201:THR:HG23 | 35:Bg:243:LEU:HD12 | 1.94 | 0.50 |
| 1:A2:91:G:N3 | 27:BY:116:LYS:HE2 | 2.23 | 0.50 |
| 1:A2:149:C:C6 | 27:BY:131:ARG:N | 2.80 | 0.50 |
| 1:A2:164:A:C1' | 9:BG:17:GLU:CG | 2.90 | 0.50 |
| 1:A2:215:A:N7 | 7:BE:138:TYR:CA | 2.74 | 0.50 |
| 1:A2:397:A:C6 | 1:A2:398:G:C4 | 3.00 | 0.50 |
| 1:A2:569:C:C5' | 33:Be:12:GLY:N | 2.75 | 0.50 |
| 1:A2:943:C:C4 | 29:Ba:15:ARG:O | 2.65 | 0.50 |
| 1:A2:1037:C:C1' | 25:BW:71:LYS:NZ | 2.75 | 0.50 |
| 1:A2:1048:G:H2' | 30:Bb:18:LYS:CD | 2.40 | 0.50 |
| 1:A2:1050:G:H4' | 30:Bb:11:THR:C | 2.36 | 0.50 |
| 1:A2:1073:G:H2' | 1:A2:1074:G:O4' | 2.11 | 0.50 |
| 1:A2:1103:U:H4' | 26:BX:15:LEU:CG | 2.42 | 0.50 |
| 1:A2:1260:U:C6 | 34:Bf:93:ALA:N | 2.71 | 0.50 |
| 1:A2:1376:C:H5" | 1:A2:1377:U:OP2 | 2.12 | 0.50 |
| 1:A2:1418:G:N3 | 32:Bd:56:ARG:NH1 | 2.48 | 0.50 |
| 1:A2:1538:U:O2' | 1:A2:1539:G:H8 | 1.95 | 0.50 |
| 1:A2:1675:C:C4 | 1:A2:1676:U:C4 | 3.00 | 0.50 |
| 1:A2:1729:C:O3' | 1:A2:1730:A:P | 2.70 | 0.50 |
| 1:A2:1755:A:O3' | 1:A2:1756:A:H4' | 2.11 | 0.50 |
| 3:BA:95:ALA:O | 3:BA:96:THR:N | 2.45 | 0.50 |
| 3:BA:134:LYS:HA | 3:BA:137:SER:OG | 2.12 | 0.50 |
| 5:BC:132:ALA:O | 5:BC:133:LYS:C | 2.53 | 0.50 |
| 7:BE:29:PRO:C | 7:BE:30:ARG:HA | 2.36 | 0.50 |
| 7:BE:251:GLU:C | 7:BE:252:ARG:N | 2.70 | 0.50 |
| 8:BF:97:LEU:O | 8:BF:99:MET:N | 2.45 | 0.50 |
| 10:BH:114:ARG:O | 10:BH:116:ARG:N | 2.45 | 0.50 |
| 14:BL:55:ASP:OD1 | 14:BL:57:LYS:N | 2.44 | 0.50 |
| 19:BQ:13:LYS:C | 19:BQ:14:LYS:N | 2.70 | 0.50 |
| 26:BX:24:TRP:O | 26:BX:25:ALA:C | 2.54 | 0.50 |
| 30:Bb:71:ALA:HA | 30:Bb:72:LYS:N | 2.27 | 0.50 |
| 30:Bb:73:LEU:HD12 | 30:Bb:73:LEU:O | 2.11 | 0.50 |
| 1:A2:137:U:O3' | 9:BG:143:LYS:HG3 | 1.86 | 0.49 |
| 1:A2:240:U:C4' | 9:BG:209:ALA:N | 2.72 | 0.49 |
| 1:A2:329:G:N2 | 11:BI:3:ILE:CD1 | 2.73 | 0.49 |
| 1:A2:340:U:C5 | 11:BI:3:ILE:CG2 | 2.55 | 0.49 |
| 1:A2:568:G:H1' | 33:Be:13:LYS:HD2 | 0.65 | 0.49 |
| 1:A2:597:G:H5" | 26:BX:133:LEU:HD21 | 1.94 | 0.49 |
| 1:A2:631:G:O2' | 26:BX:16:ARG:HB2 | 2.01 | 0.49 |
| 1:A2:636:A:N9 | 25:BW:105:THR:HG21 | 2.26 | 0.49 |
| 1:A2:638:U:OP2 | 25:BW:109:GLY:O | 2.29 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:741:C:O2' | 1:A2:742:U:O5' | 2.30 | 0.49 |
| 1:A2:756:A:H5" | 12:BJ:4:ALA:O | 2.12 | 0.49 |
| 1:A2:813:U:O2 | 1:A2:813:U:O4' | 2.30 | 0.49 |
| 1:A2:845:G:C3' | 1:A2:846:G:P | 2.91 | 0.49 |
| 1:A2:990:C:C3' | 29:Ba:22:ARG:CZ | 2.82 | 0.49 |
| 1:A2:1060:U:H5" | 3:BA:39:ASN:OD1 | 2.12 | 0.49 |
| 1:A2:1445:G:C4' | 34:Bf:89:ALA:CB | 2.90 | 0.49 |
| 1:A2:1520:U:H5" | 22:BT:75:LYS:HA | 1.94 | 0.49 |
| 1:A2:1555:A:O5' | 18:BP:41:VAL:HG23 | 2.12 | 0.49 |
| 1:A2:1579:U:O3' | 1:A2:1580:C:H5' | 2.12 | 0.49 |
| 1:A2:1671:A:H1' | 1:A2:1731:A:C2 | 2.47 | 0.49 |
| 1:A2:1712:A:C2 | 1:A2:1713:G:C8 | 3.00 | 0.49 |
| 5:BC:191:ALA:C | 5:BC:192:GLY:N | 2.70 | 0.49 |
| 5:BC:225:LEU:HB2 | 25:BW:70:ASN:HD21 | 1.75 | 0.49 |
| 11:BI:49:ARG:C | 11:BI:50:GLY:N | 2.70 | 0.49 |
| 11:BI:87:ASN:HB3 | 11:BI:90:LEU:N | 2.26 | 0.49 |
| 15:BM:74:LEU:O | 15:BM:78:LEU:HG | 2.12 | 0.49 |
| 16:BN:18:TYR:HB3 | 16:BN:19:SER:N | 2.27 | 0.49 |
| 16:BN:61:THR:O | 16:BN:62:GLN:N | 2.45 | 0.49 |
| 1:A2:91:G:C5 | 27:BY:116:LYS:HE3 | 2.42 | 0.49 |
| 1:A2:139:C:OP1 | 9:BG:142:ARG:CG | 2.43 | 0.49 |
| 1:A2:163:G:C3' | 9:BG:108:VAL:CA | 2.85 | 0.49 |
| 1:A2:328:A:H5" | 11:BI:172:ARG:NH2 | 2.28 | 0.49 |
| 1:A2:548:G:N3 | 1:A2:591:A:N1 | 2.59 | 0.49 |
| 1:A2:584:C:C3' | 33:Be:17:GLN:CA | 2.78 | 0.49 |
| 1:A2:616:G:C2 | 1:A2:622:A:N7 | 2.80 | 0.49 |
| 1:A2:736:C:O2 | 7:BE:227:VAL:HG12 | 1.98 | 0.49 |
| 1:A2:755:A:C5' | 12:BJ:4:ALA:HB2 | 2.41 | 0.49 |
| 1:A2:939:A:H2' | 1:A2:940:A:H8 | 1.78 | 0.49 |
| 1:A2:1072:C:N4 | 1:A2:1073:G:O6 | 2.45 | 0.49 |
| 1:A2:1099:U:H5' | 5:BC:168:ARG:HB3 | 1.94 | 0.49 |
| 1:A2:1296:A:C6 | 1:A2:1297:G:N7 | 2.81 | 0.49 |
| 1:A2:1302:U:OP1 | 5:BC:95:ARG:HD2 | 2.09 | 0.49 |
| 1:A2:1316:G:C2' | 20:BR:6:THR:HG22 | 2.42 | 0.49 |
| 2:AZ:6220:U:C5 | 6:BD:141:LYS:O | 2.65 | 0.49 |
| 3:BA:144:ILE:CG2 | 3:BA:160:ILE:HD12 | 2.41 | 0.49 |
| 5:BC:42:GLY:O | 5:BC:43:ARG:C | 2.55 | 0.49 |
| 5:BC:72:LEU:C | 5:BC:73:LEU:N | 2.70 | 0.49 |
| 5:BC:74:PRO:O | 5:BC:75:GLY:C | 2.54 | 0.49 |
| 7:BE:221:ARG:C | 7:BE:222:LEU:N | 2.70 | 0.49 |
| 8:BF:80:LYS:O | 8:BF:81:ARG:N | 2.45 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 9:BG:58:LYS:O | 9:BG:60:GLY:N | 2.45 | 0.49 |
| 23:BU:80:GLU:O | 23:BU:81:THR:N | 2.45 | 0.49 |
| 24:BV:19:ALA:N | 24:BV:20:THR:N | 2.59 | 0.49 |
| 28:BZ:54:VAL:N | 28:BZ:55:PRO:CD | 2.75 | 0.49 |
| 30:Bb:8:LEU:CA | 30:Bb:9:HIS:N | 2.74 | 0.49 |
| 35:Bg:132:LYS:HG3 | 35:Bg:143:THR:HG23 | 1.94 | 0.49 |
| 35:Bg:287:PRO:CA | 35:Bg:288:HIS:N | 2.75 | 0.49 |
| 1:A2:199:G:HO2' | 1:A2:200:A:H8 | 1.53 | 0.49 |
| 1:A2:220:A:OP1 | 9:BG:218:GLU:N | 2.45 | 0.49 |
| 1:A2:242:U:C1' | 7:BE:148:ARG:NH1 | 2.76 | 0.49 |
| 1:A2:334:G:O5' | 11:BI:26:LYS:NZ | 2.45 | 0.49 |
| 1:A2:399:A:C3' | 1:A2:400:A:P | 2.98 | 0.49 |
| 1:A2:452:A:C5 | 27:BY:115:ASP:CG | 2.90 | 0.49 |
| 1:A2:703:G:H8 | 7:BE:179:LYS:HE2 | 1.60 | 0.49 |
| 1:A2:732:G:C2 | 7:BE:177:ALA:O | 2.56 | 0.49 |
| 1:A2:786:C:P | 27:BY:26:ASP:OD1 | 2.69 | 0.49 |
| 1:A2:865:A:N3 | 25:BW:5:SER:HB2 | 2.27 | 0.49 |
| 1:A2:866:G:O5' | 25:BW:5:SER:N | 2.40 | 0.49 |
| 1:A2:1049:U:H5" | 30:Bb:23:THR:HG22 | 1.88 | 0.49 |
| 1:A2:1136:U:C5 | 26:BX:118:PRO:C | 2.90 | 0.49 |
| 1:A2:1580:C:H3' | 1:A2:1581:C:P | 2.52 | 0.49 |
| 1:A2:1710:U:H4' | 9:BG:116:LYS:O | 2.11 | 0.49 |
| 2:AZ:6058:A:O2' | 2:AZ:6059:G:H5' | 2.12 | 0.49 |
| 2:AZ:6107:U:H1' | 8:BF:218:GLU:O | 2.11 | 0.49 |
| 2:AZ:6209:A:H2 | 2:AZ:6210:U:O4 | 1.96 | 0.49 |
| 6:BD:170:THR:C | 6:BD:171:ALA:N | 2.70 | 0.49 |
| 11:BI:77:ARG:NH2 | 11:BI:106:ALA:HA | 2.28 | 0.49 |
| 12:BJ:41:GLU:C | 12:BJ:43:TYR:N | 2.70 | 0.49 |
| 13:BK:3:MET:HB2 | 13:BK:4:PRO:CD | 2.43 | 0.49 |
| 20:BR:7:LYS:C | 20:BR:9:VAL:N | 2.70 | 0.49 |
| 21:BS:52:VAL:CG2 | 21:BS:69:ILE:HD11 | 2.42 | 0.49 |
| 25:BW:8:ALA:O | 25:BW:9:ASP:C | 2.54 | 0.49 |
| 26:BX:30:LYS:C | 26:BX:31:LYS:N | 2.71 | 0.49 |
| 27:BY:13:ILE:O | 27:BY:15:ASN:N | 2.45 | 0.49 |
| 28:BZ:76:ALA:C | 28:BZ:77:ARG:HA | 2.37 | 0.49 |
| 33:Be:12:GLY:O | 33:Be:13:LYS:C | 2.55 | 0.49 |
| 35:Bg:223:TRP:HE3 | 35:Bg:224:ASN:O | 1.95 | 0.49 |
| 1:A2:164:A:H8 | 9:BG:2:LYS:CA | 2.24 | 0.49 |
| 1:A2:165:G:C4' | 9:BG:14:LYS:HE3 | 2.17 | 0.49 |
| 1:A2:248:U:C5 | 1:A2:250:C:H1' | 2.48 | 0.49 |
| 1:A2:332:U:O4 | 11:BI:31:ARG:NH1 | 2.44 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:425:A:O3' | 1:A2:426:G:P | 2.69 | 0.49 |
| 1:A2:480:G:C6 | 1:A2:481:A:C6 | 3.01 | 0.49 |
| 1:A2:757:A:C3' | 1:A2:758:U:P | 2.99 | 0.49 |
| 1:A2:765:G:N1 | 12:BJ:142:ASN:HB3 | 2.27 | 0.49 |
| 1:A2:771:A:C6 | 1:A2:772:G:C5 | 3.00 | 0.49 |
| 1:A2:787:G:N3 | 27:BY:61:ARG:HG2 | 2.27 | 0.49 |
| 1:A2:930:A:C2' | 4:BB:116:LYS:HD3 | 2.42 | 0.49 |
| 1:A2:937:C:O2' | 16:BN:7:ALA:HB1 | 2.12 | 0.49 |
| 1:A2:1033:C:H2' | 26:BX:3:LYS:CA | 2.41 | 0.49 |
| 1:A2:1050:G:O3' | 30:Bb:12:ALA:N | 2.45 | 0.49 |
| 1:A2:1223:A:H2' | 1:A2:1224:A:O4' | 2.12 | 0.49 |
| 1:A2:1299:G:O3' | 5:BC:84:LYS:C | 2.47 | 0.49 |
| 1:A2:1367:G:H4' | 22:BT:66:TYR:CE1 | 2.40 | 0.49 |
| 1:A2:1400:A:OP2 | 20:BR:53:TYR:OH | 2.30 | 0.49 |
| 1:A2:1417:A:H1' | 19:BQ:126:PRO:HB3 | 1.69 | 0.49 |
| 1:A2:1453:G:HO2' | 18:BP:119:PHE:C | 2.14 | 0.49 |
| 1:A2:1549:C:C5' | 21:BS:86:LEU:CB | 2.80 | 0.49 |
| 1:A2:1662:G:H2' | 1:A2:1663:G:C8 | 2.48 | 0.49 |
| 1:A2:1679:G:C4 | 9:BG:68:LEU:HB3 | 2.10 | 0.49 |
| 1:A2:1719:A:C2 | 9:BG:32:ILE:CG2 | 2.95 | 0.49 |
| 1:A2:1729:C:H3' | 1:A2:1730:A:P | 2.52 | 0.49 |
| 2:AZ:6128:G:C2 | 2:AZ:6149:A:N6 | 2.80 | 0.49 |
| 3:BA:89:PHE:CE2 | 3:BA:178:ALA:HB2 | 2.48 | 0.49 |
| 6:BD:35:SER:HB3 | 6:BD:51:ARG:CZ | 2.42 | 0.49 |
| 6:BD:68:GLU:O | 6:BD:69:LEU:N | 2.46 | 0.49 |
| 6:BD:225:TYR:CD2 | 35:Bg:188:ILE:HG23 | 2.46 | 0.49 |
| 7:BE:17:HIS:N | 7:BE:17:HIS:CD2 | 2.80 | 0.49 |
| 7:BE:159:THR:OG1 | 7:BE:160:VAL:N | 2.31 | 0.49 |
| 12:BJ:108:ARG:O | 12:BJ:112:GLN:N | 2.45 | 0.49 |
| 12:BJ:136:VAL:O | 12:BJ:155:HIS:HB3 | 2.12 | 0.49 |
| 16:BN:109:LYS:O | 16:BN:110:ASP:C | 2.54 | 0.49 |
| 19:BQ:81:ILE:C | 19:BQ:84:ALA:N | 2.70 | 0.49 |
| 20:BR:50:ILE:O | 20:BR:53:TYR:N | 2.45 | 0.49 |
| 22:BT:30:VAL:HG12 | 22:BT:54:PHE:CZ | 2.47 | 0.49 |
| 27:BY:99:LYS:HE3 | 27:BY:100:VAL:H | 1.77 | 0.49 |
| 1:A2:30:G:C6 | 1:A2:597:G:C6 | 3.01 | 0.49 |
| 1:A2:101:U:HO3' | 1:A2:102:U:P | 2.34 | 0.49 |
| 1:A2:178:U:O2 | 9:BG:179:VAL:HA | 2.12 | 0.49 |
| 1:A2:239:C:H3' | 9:BG:207:GLU:CA | 2.40 | 0.49 |
| 1:A2:249:U:O3' | 1:A2:250:C:C5' | 2.59 | 0.49 |
| 1:A2:344:A:C5 | 1:A2:345:U:C5 | 3.00 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:366:A:H2' | 1:A2:367:A:C8 | 2.47 | 0.49 |
| 1:A2:591:A:H62 | 33:Be:23:LYS:CD | 2.26 | 0.49 |
| 1:A2:737:A:C5 | 7:BE:227:VAL:HG11 | 2.48 | 0.49 |
| 1:A2:778:G:C4 | 27:BY:35:VAL:HG23 | 2.46 | 0.49 |
| 1:A2:832:U:O3' | 9:BG:213:ALA:CA | 2.60 | 0.49 |
| 1:A2:865:A:C2 | 1:A2:866:G:H1' | 2.48 | 0.49 |
| 1:A2:974:A:C2 | 1:A2:975:C:C6 | 3.00 | 0.49 |
| 1:A2:1009:U:O5' | 17:BO:129:LYS:HD3 | 2.01 | 0.49 |
| 1:A2:1042:G:H3' | 1:A2:1043:A:P | 2.51 | 0.49 |
| 1:A2:1055:U:C5 | 3:BA:37:VAL:CG2 | 2.95 | 0.49 |
| 1:A2:1145:U:P | 5:BC:88:LYS:C | 2.96 | 0.49 |
| 1:A2:1239:U:C5 | 18:BP:73:PRO:HB2 | 2.47 | 0.49 |
| 1:A2:1295:G:C4 | 1:A2:1296:A:C8 | 3.01 | 0.49 |
| 1:A2:1549:C:OP1 | 21:BS:97:ASP:O | 2.30 | 0.49 |
| 1:A2:1608:U:H5" | 19:BQ:72:GLY:C | 2.38 | 0.49 |
| 1:A2:1753:A:C6 | 1:A2:1754:A:N6 | 2.81 | 0.49 |
| 3:BA:64:ILE:C | 3:BA:66:ALA:HB3 | 2.37 | 0.49 |
| 19:BQ:47:LYS:O | 19:BQ:82:ARG:NE | 2.42 | 0.49 |
| 24:BV:30:ALA:O | 24:BV:57:GLY:HA2 | 2.12 | 0.49 |
| 25:BW:34:ILE:HG22 | 25:BW:38:LEU:CD2 | 2.43 | 0.49 |
| 27:BY:128:LYS:O | 27:BY:132:ARG:HG3 | 2.13 | 0.49 |
| 32:Bd:37:ASN:O | 32:Bd:38:ILE:N | 2.45 | 0.49 |
| 33:Be:25:GLU:C | 33:Be:26:LYS:N | 2.70 | 0.49 |
| 1:A2:26:A:C2 | 26:BX:48:HIS:ND1 | 2.81 | 0.49 |
| 1:A2:138:A:H4' | 9:BG:141:ILE:O | 2.11 | 0.49 |
| 1:A2:322:G:O2' | 11:BI:9:HIS:CB | 2.53 | 0.49 |
| 1:A2:339:C:C1' | 11:BI:3:ILE:HG13 | 2.42 | 0.49 |
| 1:A2:397:A:C2' | 9:BG:88:ARG:NE | 2.75 | 0.49 |
| 1:A2:436:A:C6 | 26:BX:50:LYS:CD | 2.71 | 0.49 |
| 1:A2:446:A:C5 | 1:A2:447:U:C5 | 3.00 | 0.49 |
| 1:A2:732:G:N3 | 1:A2:732:G:H2' | 2.28 | 0.49 |
| 1:A2:783:G:O2' | 1:A2:784:C:P | 2.70 | 0.49 |
| 1:A2:858:G:N3 | 10:BH:102:PRO:HB3 | 2.23 | 0.49 |
| 1:A2:863:A:C3' | 25:BW:34:ILE:HD11 | 2.40 | 0.49 |
| 1:A2:965:U:C3' | 1:A2:966:A:P | 3.01 | 0.49 |
| 1:A2:1035:G:H3' | 1:A2:1036:A:P | 2.53 | 0.49 |
| 1:A2:1049:U:H5' | 30:Bb:23:THR:N | 2.27 | 0.49 |
| 1:A2:1074:G:N3 | 1:A2:1075:C:C5 | 2.80 | 0.49 |
| 1:A2:1097:U:O4' | 1:A2:1097:U:O2 | 2.29 | 0.49 |
| 1:A2:1227:A:H5" | 34:Bf:100:ALA:HB2 | 1.94 | 0.49 |
| 1:A2:1238:A:OP1 | 18:BP:63:ALA:C | 2.53 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1392:U:H2' | 1:A2:1393:C:C6 | 2.47 | 0.49 |
| 3:BA:54:TRP:CZ2 | 20:BR:119:LEU:HD23 | 2.46 | 0.49 |
| 3:BA:120:LEU:CD1 | 3:BA:144:ILE:HD12 | 2.43 | 0.49 |
| 7:BE:18:TRP:O | 7:BE:19:LEU:C | 2.55 | 0.49 |
| 10:BH:33:GLU:O | 10:BH:34:LEU:C | 2.55 | 0.49 |
| 10:BH:95:GLU:C | 10:BH:96:ARG:HA | 2.37 | 0.49 |
| 12:BJ:20:GLU:C | 12:BJ:22:SER:N | 2.70 | 0.49 |
| 12:BJ:173:ALA:C | 12:BJ:174:ARG:N | 2.71 | 0.49 |
| 14:BL:109:VAL:HA | 14:BL:135:VAL:HG13 | 1.95 | 0.49 |
| 16:BN:4:MET:SD | 16:BN:124:ARG:NH1 | 2.86 | 0.49 |
| 26:BX:91:GLY:O | 26:BX:92:CYS:N | 2.46 | 0.49 |
| 1:A2:87:C:O4' | 27:BY:124:ARG:HB3 | 2.12 | 0.49 |
| 1:A2:164:A:C3' | 9:BG:15:THR:HG22 | 2.43 | 0.49 |
| 1:A2:199:G:O2' | 1:A2:200:A:C8 | 2.64 | 0.49 |
| 1:A2:347:G:OP2 | 11:BI:13:ALA:O | 2.17 | 0.49 |
| 1:A2:633:U:H3' | 14:BL:99:ARG:HG2 | 1.95 | 0.49 |
| 1:A2:636:A:C8 | 25:BW:126:LEU:HD23 | 2.34 | 0.49 |
| 1:A2:811:A:C8 | 10:BH:104:ARG:C | 2.68 | 0.49 |
| 1:A2:912:U:H4' | 1:A2:913:G:H3' | 1.95 | 0.49 |
| 1:A2:920:U:H2' | 4:BB:216:LYS:HE3 | 1.95 | 0.49 |
| 1:A2:1048:G:C1' | 30:Bb:22:LYS:CE | 2.77 | 0.49 |
| 1:A2:1225:U:H2' | 34:Bf:98:LYS:NZ | 2.28 | 0.49 |
| 1:A2:1291:G:N2 | 1:A2:1324:G:H22 | 2.08 | 0.49 |
| 1:A2:1402:G:C8 | 20:BR:5:ARG:CB | 2.57 | 0.49 |
| 1:A2:1402:G:OP2 | 20:BR:5:ARG:HA | 1.95 | 0.49 |
| 1:A2:1505:A:OP1 | 22:BT:40:SER:HA | 2.13 | 0.49 |
| 1:A2:1530:C:N4 | 28:BZ:96:SER:CA | 2.75 | 0.49 |
| 1:A2:1609:U:H5' | 19:BQ:75:VAL:CG2 | 2.43 | 0.49 |
| 3:BA:92:HIS:HB3 | 20:BR:88:VAL:HG13 | 1.95 | 0.49 |
| 5:BC:138:PRO:HA | 5:BC:139:ILE:N | 2.28 | 0.49 |
| 6:BD:31:GLU:O | 6:BD:32:GLU:HA | 2.13 | 0.49 |
| 9:BG:29:ASP:O | 9:BG:31:ARG:N | 2.46 | 0.49 |
| 12:BJ:31:ALA:O | 12:BJ:36:LEU:N | 2.46 | 0.49 |
| 12:BJ:122:VAL:O | 12:BJ:123:HIS:N | 2.45 | 0.49 |
| 14:BL:99:ARG:NH1 | 26:BX:7:ARG:O | 2.45 | 0.49 |
| 25:BW:6:VAL:C | 25:BW:7:LEU:C | 2.81 | 0.49 |
| 25:BW:28:ARG:CB | 25:BW:29:PRO:CD | 2.90 | 0.49 |
| 25:BW:34:ILE:O | 25:BW:37:PHE:HB3 | 2.13 | 0.49 |
| 32:Bd:52:PHE:C | 32:Bd:53:ASN:N | 2.71 | 0.49 |
| 35:Bg:144:LEU:O | 35:Bg:145:LEU:HD23 | 2.13 | 0.49 |
| 35:Bg:214:ALA:CB | 35:Bg:243:LEU:HD11 | 2.42 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1:U:H2' | 12:BJ:43:TYR:CE2 | 2.44 | 0.49 |
| 1:A2:57:G:O2' | 27:BY:110:GLN:O | 2.15 | 0.49 |
| 1:A2:163:G:H21 | 9:BG:108:VAL:CG2 | 2.26 | 0.49 |
| 1:A2:697:C:C4' | 7:BE:209:HIS:CD2 | 2.83 | 0.49 |
| 1:A2:784:C:C3' | 27:BY:40:LEU:CD1 | 2.91 | 0.49 |
| 1:A2:830:U:O2' | 1:A2:831:U:H6 | 1.96 | 0.49 |
| 1:A2:863:A:O4' | 25:BW:33:VAL:HG11 | 2.11 | 0.49 |
| 1:A2:903:U:H4' | 17:BO:135:ARG:NH1 | 2.24 | 0.49 |
| 1:A2:954:G:C2 | 1:A2:955:A:C8 | 3.00 | 0.49 |
| 1:A2:960:U:C5' | 25:BW:56:HIS:C | 2.85 | 0.49 |
| 1:A2:1056:U:OP1 | 3:BA:45:VAL:C | 2.56 | 0.49 |
| 1:A2:1107:G:C6 | 1:A2:1108:G:C6 | 3.01 | 0.49 |
| 1:A2:1157:A:C2 | 1:A2:1622:G:C2 | 3.01 | 0.49 |
| 1:A2:1238:A:OP1 | 18:BP:64:LYS:N | 2.46 | 0.49 |
| 1:A2:1240:U:C4' | 18:BP:76:VAL:N | 2.76 | 0.49 |
| 1:A2:1358:G:OP1 | 22:BT:130:ARG:HD2 | 2.12 | 0.49 |
| 1:A2:1390:U:H5" | 20:BR:49:LYS:CD | 2.43 | 0.49 |
| 1:A2:1519:U:OP2 | 22:BT:75:LYS:CD | 2.61 | 0.49 |
| 1:A2:1608:U:C3' | 19:BQ:73:GLY:CA | 2.89 | 0.49 |
| 1:A2:1683:C:OP1 | 9:BG:109:LEU:CD1 | 2.60 | 0.49 |
| 1:A2:1731:A:C3' | 1:A2:1732:A:O5' | 2.61 | 0.49 |
| 1:A2:1795:U:C2' | 29:Ba:4:LYS:CE | 2.86 | 0.49 |
| 4:BB:228:LEU:O | 4:BB:228:LEU:HD12 | 2.13 | 0.49 |
| 5:BC:108:ASN:O | 5:BC:110:HIS:ND1 | 2.43 | 0.49 |
| 5:BC:121:VAL:O | 5:BC:124:ALA:N | 2.45 | 0.49 |
| 7:BE:84:ALA:C | 7:BE:85:GLY:N | 2.70 | 0.49 |
| 24:BV:28:ASP:O | 24:BV:28:ASP:OD1 | 2.30 | 0.49 |
| 26:BX:120:VAL:CA | 26:BX:121:ARG:N | 2.76 | 0.49 |
| 33:Be:19:PRO:HA | 33:Be:20:LYS:N | 2.27 | 0.49 |
| 35:Bg:148:ASN:N | 35:Bg:149:ASP:N | 2.61 | 0.49 |
| 1:A2:206:A:C2 | 1:A2:262:U:C5 | 3.01 | 0.49 |
| 1:A2:318:U:N3 | 11:BI:11:ARG:NH1 | 2.60 | 0.49 |
| 1:A2:337:G:H1' | 11:BI:9:HIS:ND1 | 2.14 | 0.49 |
| 1:A2:477:A:C8 | 1:A2:538:A:N1 | 2.80 | 0.49 |
| 1:A2:535:A:H3' | 1:A2:536:C:P | 2.53 | 0.49 |
| 1:A2:592:A:C5 | 33:Be:23:LYS:NZ | 2.80 | 0.49 |
| 1:A2:624:G:O2' | 1:A2:625:C:O4' | 2.30 | 0.49 |
| 1:A2:880:C:C5 | 16:BN:110:ASP:OD2 | 2.65 | 0.49 |
| 1:A2:1037:C:C2' | 25:BW:19:LYS:HZ3 | 2.25 | 0.49 |
| 1:A2:1051:G:H2' | 1:A2:1052:U:OP1 | 2.13 | 0.49 |
| 1:A2:1060:U:OP2 | 3:BA:39:ASN:CG | 2.53 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1331:A:C8 | 6:BD:161:GLY:CA | 2.73 | 0.49 |
| 1:A2:1533:C:O5' | 28:BZ:77:ARG:HG3 | 2.13 | 0.49 |
| 1:A2:1567:U:O2 | 1:A2:1567:U:H2' | 2.12 | 0.49 |
| 3:BA:110:TYR:O | 3:BA:110:TYR:CD1 | 2.65 | 0.49 |
| 3:BA:124:THR:HG22 | 3:BA:170:ILE:HG23 | 1.95 | 0.49 |
| 6:BD:34:TYR:OH | 6:BD:36:GLY:O | 2.29 | 0.49 |
| 8:BF:42:LEU:CD1 | 8:BF:48:PHE:N | 2.76 | 0.49 |
| 9:BG:63:MET:HA | 9:BG:97:VAL:HG13 | 1.95 | 0.49 |
| 12:BJ:54:ARG:O | 12:BJ:58:ASP:N | 2.35 | 0.49 |
| 30:Bb:55:THR:HG22 | 30:Bb:62:ILE:HD12 | 1.95 | 0.49 |
| 1:A2:75:U:C2' | 9:BG:166:GLU:N | 2.71 | 0.49 |
| 1:A2:87:C:N4 | 27:BY:121:THR:OG1 | 2.44 | 0.49 |
| 1:A2:163:G:O5' | 9:BG:108:VAL:HG23 | 2.09 | 0.49 |
| 1:A2:332:U:C4 | 11:BI:29:LEU:HD22 | 2.09 | 0.49 |
| 1:A2:338:C:H1' | 11:BI:24:LYS:HD3 | 1.86 | 0.49 |
| 1:A2:477:A:N7 | 1:A2:538:A:C2 | 2.81 | 0.49 |
| 1:A2:597:G:C2 | 26:BX:134:ALA:C | 2.89 | 0.49 |
| 1:A2:917:U:C3' | 17:BO:120:PRO:HD3 | 2.43 | 0.49 |
| 1:A2:1052:U:O2 | 1:A2:1052:U:O4' | 2.30 | 0.49 |
| 1:A2:1103:U:O2 | 1:A2:1103:U:H2' | 2.12 | 0.49 |
| 1:A2:1216:C:H2' | 1:A2:1444:A:C2 | 2.47 | 0.49 |
| 1:A2:1258:U:O4 | 34:Bf:97:ALA:HA | 2.12 | 0.49 |
| 1:A2:1329:A:N6 | 6:BD:160:SER:C | 2.63 | 0.49 |
| 1:A2:1499:G:N1 | 22:BT:102:ARG:NH1 | 2.34 | 0.49 |
| 1:A2:1532:U:H6 | 28:BZ:77:ARG:HD2 | 1.59 | 0.49 |
| 1:A2:1546:G:C3' | 21:BS:105:VAL:O | 2.61 | 0.49 |
| 1:A2:1731:A:O3' | 1:A2:1732:A:O5' | 2.31 | 0.49 |
| 1:A2:1798:U:C2 | 29:Ba:96:ALA:HB3 | 2.48 | 0.49 |
| 4:BB:70:LEU:O | 4:BB:71:ALA:C | 2.56 | 0.49 |
| 5:BC:132:ALA:O | 5:BC:134:LEU:N | 2.46 | 0.49 |
| 7:BE:67:GLN:O | 7:BE:68:ARG:N | 2.45 | 0.49 |
| 13:BK:27:PHE:O | 13:BK:28:ASN:HB2 | 2.13 | 0.49 |
| 32:Bd:23:VAL:HB | 32:Bd:24:CYS:SG | 2.53 | 0.49 |
| 1:A2:78:A:N1 | 9:BG:162:VAL:HG11 | 2.28 | 0.48 |
| 1:A2:239:C:H3' | 9:BG:207:GLU:HA | 1.94 | 0.48 |
| 1:A2:458:G:H1' | 27:BY:110:GLN:HG3 | 1.66 | 0.48 |
| 1:A2:570:A:C6 | 26:BX:67:ALA:HB1 | 2.28 | 0.48 |
| 1:A2:607:G:C6 | 1:A2:613:G:O4' | 2.66 | 0.48 |
| 1:A2:636:A:O5' | 25:BW:125:ILE:N | 2.46 | 0.48 |
| 1:A2:878:G:C2' | 16:BN:114:ARG:NH1 | 2.58 | 0.48 |
| 1:A2:1096:C:P | 5:BC:168:ARG:CD | 3.01 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1219:A:N6 | 1:A2:1264:G:O2' | 2.46 | 0.48 |
| 1:A2:1241:G:O6 | 18:BP:78:THR:CG2 | 2.61 | 0.48 |
| 1:A2:1544:U:H2' | 1:A2:1545:A:O4' | 2.12 | 0.48 |
| 1:A2:1549:C:H6 | 21:BS:86:LEU:CB | 2.25 | 0.48 |
| 3:BA:64:ILE:O | 3:BA:66:ALA:HB3 | 2.13 | 0.48 |
| 3:BA:139:VAL:O | 3:BA:140:ASN:OD1 | 2.31 | 0.48 |
| 3:BA:154:GLU:CD | 3:BA:154:GLU:N | 2.71 | 0.48 |
| 5:BC:147:ASN:HD21 | 24:BV:4:ASP:N | 2.11 | 0.48 |
| 10:BH:113:PRO:HD2 | 10:BH:116:ARG:HB3 | 1.94 | 0.48 |
| 11:BI:142:LYS:C | 11:BI:143:TRP:N | 2.71 | 0.48 |
| 12:BJ:42:ILE:N | 12:BJ:43:TYR:N | 2.61 | 0.48 |
| 12:BJ:64:GLU:O | 12:BJ:65:LYS:HB2 | 2.13 | 0.48 |
| 13:BK:54:TYR:CE1 | 13:BK:75:TYR:HB2 | 2.48 | 0.48 |
| 20:BR:51:ALA:O | 20:BR:54:THR:OG1 | 2.31 | 0.48 |
| 35:Bg:149:ASP:O | 35:Bg:151:VAL:N | 2.45 | 0.48 |
| 35:Bg:206:PRO:HG2 | 35:Bg:247:PRO:HA | 1.95 | 0.48 |
| 1:A2:21:U:O3' | 1:A2:22:A:P | 2.71 | 0.48 |
| 1:A2:80:A:H3' | 1:A2:81:G:C5' | 2.43 | 0.48 |
| 1:A2:154:G:C4 | 1:A2:155:U:C5 | 3.01 | 0.48 |
| 1:A2:688:G:OP2 | 12:BJ:66:ASP:CA | 2.41 | 0.48 |
| 1:A2:880:C:H5' | 16:BN:111:ALA:N | 2.28 | 0.48 |
| 1:A2:1016:C:N3 | 1:A2:1017:U:C5 | 2.81 | 0.48 |
| 1:A2:1264:G:O2' | 1:A2:1265:G:O4' | 2.17 | 0.48 |
| 1:A2:1399:C:O2' | 1:A2:1400:A:P | 2.70 | 0.48 |
| 1:A2:1535:U:O2' | 1:A2:1536:G:P | 2.71 | 0.48 |
| 1:A2:1584:G:P | 19:BQ:123:ARG:N | 2.85 | 0.48 |
| 1:A2:1590:G:C6 | 1:A2:1591:C:C4 | 3.01 | 0.48 |
| 1:A2:1649:G:N1 | 1:A2:1650:U:C4 | 2.81 | 0.48 |
| 3:BA:178:ALA:O | 3:BA:179:ARG:C | 2.56 | 0.48 |
| 4:BB:62:LYS:HG2 | 4:BB:63:GLY:HA2 | 1.95 | 0.48 |
| 9:BG:113:ILE:C | 9:BG:114:VAL:N | 2.71 | 0.48 |
| 10:BH:119:THR:O | 10:BH:120:ALA:C | 2.56 | 0.48 |
| 13:BK:11:ILE:HD11 | 13:BK:37:THR:HB | 1.95 | 0.48 |
| 19:BQ:16:ALA:HB2 | 19:BQ:71:GLY:HA3 | 1.95 | 0.48 |
| 26:BX:83:VAL:HA | 26:BX:84:THR:N | 2.29 | 0.48 |
| 27:BY:81:GLU:O | 27:BY:84:LYS:N | 2.46 | 0.48 |
| 35:Bg:4:ASN:O | 35:Bg:318:ALA:HB2 | 2.13 | 0.48 |
| 35:Bg:83:ALA:O | 35:Bg:84:SER:CB | 2.62 | 0.48 |
| 35:Bg:116:ASP:HA | 35:Bg:156:VAL:HG11 | 1.96 | 0.48 |
| 1:A2:247:A:OP2 | 7:BE:128:LYS:NZ | 2.43 | 0.48 |
| 1:A2:291:G:N2 | 1:A2:292:U:O4 | 2.47 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:496:G:H2' | 1:A2:497:G:C1' | 2.42 | 0.48 |
| 1:A2:572:C:H5" | 26:BX:116:ASP:HB3 | 1.95 | 0.48 |
| 1:A2:597:G:C6 | 26:BX:134:ALA:CB | 2.95 | 0.48 |
| 1:A2:773:C:O2' | 1:A2:788:A:O2' | 2.31 | 0.48 |
| 1:A2:799:A:O2' | 7:BE:187:ARG:N | 2.47 | 0.48 |
| 1:A2:897:C:OP1 | 17:BO:39:ILE:HG13 | 2.13 | 0.48 |
| 1:A2:929:A:O3' | 29:Ba:32:LYS:HG2 | 2.13 | 0.48 |
| 1:A2:959:U:HO2' | 25:BW:56:HIS:CG | 2.29 | 0.48 |
| 1:A2:1003:A:C2 | 1:A2:1005:A:C5 | 3.00 | 0.48 |
| 1:A2:1006:C:H5" | 1:A2:1007:C:OP2 | 2.14 | 0.48 |
| 1:A2:1294:G:C2 | 1:A2:1295:G:C5 | 3.01 | 0.48 |
| 1:A2:1334:U:H3' | 1:A2:1335:U:P | 2.54 | 0.48 |
| 1:A2:1403:C:C5 | 20:BR:3:ARG:HB3 | 2.47 | 0.48 |
| 1:A2:1418:G:H2' | 1:A2:1419:G:C8 | 2.49 | 0.48 |
| 1:A2:1475:A:N6 | 28:BZ:97:LYS:HD2 | 2.28 | 0.48 |
| 1:A2:1503:A:H3' | 22:BT:36:ILE:HD12 | 1.95 | 0.48 |
| 1:A2:1518:C:H2' | 1:A2:1518:C:O2 | 2.14 | 0.48 |
| 1:A2:1520:U:C5' | 22:BT:75:LYS:CA | 2.91 | 0.48 |
| 1:A2:1547:A:O3' | 21:BS:87:ASN:OD1 | 2.30 | 0.48 |
| 1:A2:1645:G:O6 | 1:A2:1646:C:N4 | 2.46 | 0.48 |
| 4:BB:134:VAL:HB | 4:BB:219:LYS:N | 2.27 | 0.48 |
| 7:BE:105:VAL:HG22 | 7:BE:243:GLY:HA2 | 1.95 | 0.48 |
| 9:BG:104:PRO:O | 9:BG:105:ASP:N | 2.46 | 0.48 |
| 11:BI:158:SER:HB2 | 11:BI:159:GLN:N | 2.28 | 0.48 |
| 13:BK:11:ILE:HG22 | 13:BK:12:HIS:CA | 2.43 | 0.48 |
| 13:BK:61:TRP:O | 13:BK:62:GLN:N | 2.46 | 0.48 |
| 14:BL:72:THR:C | 14:BL:73:GLY:N | 2.71 | 0.48 |
| 35:Bg:107:LYS:CD | 35:Bg:107:LYS:N | 2.76 | 0.48 |
| 1:A2:5:U:O2' | 1:A2:553:G:O3' | 2.32 | 0.48 |
| 1:A2:29:U:C4' | 26:BX:128:SER:CB | 2.62 | 0.48 |
| 1:A2:76:A:N3 | 9:BG:164:LYS:N | 2.43 | 0.48 |
| 1:A2:78:A:C6 | 9:BG:162:VAL:CG1 | 2.95 | 0.48 |
| 1:A2:124:A:C6 | 1:A2:125:U:C2 | 3.01 | 0.48 |
| 1:A2:137:U:HO3' | 9:BG:143:LYS:HG2 | 1.68 | 0.48 |
| 1:A2:138:A:N3 | 9:BG:140:ASN:C | 2.72 | 0.48 |
| 1:A2:163:G:C8 | 9:BG:17:GLU:HG2 | 2.47 | 0.48 |
| 1:A2:166:C:OP2 | 9:BG:123:GLY:C | 2.50 | 0.48 |
| 1:A2:314:C:N3 | 1:A2:355:G:C6 | 2.81 | 0.48 |
| 1:A2:332:U:O4 | 11:BI:31:ARG:CZ | 2.61 | 0.48 |
| 1:A2:595:G:C6 | 26:BX:139:LYS:O | 2.64 | 0.48 |
| 1:A2:597:G:C3' | 26:BX:133:LEU:CD2 | 2.78 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:617:U:O3' | 1:A2:618:U:OP1 | 2.24 | 0.48 |
| 1:A2:633:U:C2 | 26:BX:9:LEU:CA | 2.79 | 0.48 |
| 1:A2:738:G:C8 | 7:BE:157:ASN:O | 2.66 | 0.48 |
| 1:A2:807:A:O2' | 14:BL:100:TYR:CZ | 2.64 | 0.48 |
| 1:A2:1009:U:OP2 | 17:BO:135:ARG:HD2 | 2.14 | 0.48 |
| 1:A2:1040:G:C5' | 24:BV:62:ARG:CZ | 2.78 | 0.48 |
| 1:A2:1482:C:O4' | 19:BQ:74:HIS:NE2 | 2.41 | 0.48 |
| 2:AZ:6027:A:N1 | 2:AZ:6088:U:O2 | 2.47 | 0.48 |
| 8:BF:118:LEU:HD22 | 8:BF:133:VAL:HG21 | 1.95 | 0.48 |
| 8:BF:203:LYS:N | 8:BF:204:GLY:C | 2.72 | 0.48 |
| 13:BK:13:GLN:O | 13:BK:16:PHE:O | 2.31 | 0.48 |
| 13:BK:50:THR:O | 13:BK:53:GLY:HA2 | 2.14 | 0.48 |
| 26:BX:75:GLN:C | 26:BX:76:LEU:HA | 2.38 | 0.48 |
| 1:A2:16:G:H2' | 1:A2:17:C:C6 | 2.48 | 0.48 |
| 1:A2:43:A:C6 | 1:A2:44:U:C4 | 3.02 | 0.48 |
| 1:A2:53:G:O6 | 1:A2:428:A:N6 | 2.46 | 0.48 |
| 1:A2:57:G:N2 | 27:BY:112:LYS:CA | 2.72 | 0.48 |
| 1:A2:85:A:H61 | 27:BY:123:LYS:HB2 | 1.78 | 0.48 |
| 1:A2:139:C:N3 | 9:BG:137:ARG:HG3 | 2.27 | 0.48 |
| 1:A2:156:A:H3' | 1:A2:157:A:P | 2.54 | 0.48 |
| 1:A2:213:A:C3' | 7:BE:133:LYS:CA | 2.64 | 0.48 |
| 1:A2:214:G:H5' | 7:BE:133:LYS:C | 2.38 | 0.48 |
| 1:A2:322:G:H22 | 11:BI:10:LYS:HD2 | 1.59 | 0.48 |
| 1:A2:552:G:H3' | 1:A2:553:G:P | 2.53 | 0.48 |
| 1:A2:701:U:C3' | 7:BE:176:ASP:CG | 2.80 | 0.48 |
| 1:A2:734:A:C2' | 7:BE:192:ILE:O | 2.61 | 0.48 |
| 1:A2:755:A:N3 | 12:BJ:3:ARG:CA | 2.73 | 0.48 |
| 1:A2:778:G:C4 | 27:BY:35:VAL:HG21 | 2.48 | 0.48 |
| 1:A2:783:G:C6 | 27:BY:39:GLU:OE1 | 2.67 | 0.48 |
| 1:A2:889:U:P | 17:BO:89:THR:CG2 | 3.02 | 0.48 |
| 1:A2:931:C:C5' | 4:BB:117:TRP:CZ3 | 2.95 | 0.48 |
| 1:A2:934:C:OP2 | 29:Ba:95:ARG:NE | 2.39 | 0.48 |
| 1:A2:1009:U:P | 17:BO:135:ARG:HD2 | 2.53 | 0.48 |
| 1:A2:1182:U:H2' | 18:BP:124:THR:HG1 | 1.78 | 0.48 |
| 1:A2:1295:G:N7 | 5:BC:116:LYS:NZ | 2.41 | 0.48 |
| 1:A2:1299:G:C3' | 5:BC:98:PHE:C | 2.86 | 0.48 |
| 1:A2:1306:C:O2' | 1:A2:1307:U:O2 | 2.28 | 0.48 |
| 1:A2:1473:U:N3 | 8:BF:113:ILE:CG2 | 2.69 | 0.48 |
| 1:A2:1504:G:N2 | 1:A2:1563:C:O2' | 2.39 | 0.48 |
| 1:A2:1505:A:C5' | 22:BT:38:LYS:HG3 | 2.42 | 0.48 |
| 1:A2:1664:C:C4 | 1:A2:1665:U:C4 | 3.01 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1682:U:O2' | 1:A2:1683:C:O4' | 2.31 | 0.48 |
| 2:AZ:6203:U:H2' | 2:AZ:6204:A:H8 | 1.78 | 0.48 |
| 3:BA:67:ILE:HD12 | 3:BA:73:VAL:HG23 | 1.95 | 0.48 |
| 4:BB:117:TRP:HA | 4:BB:117:TRP:HE3 | 1.76 | 0.48 |
| 8:BF:201:ALA:HB2 | 8:BF:208:SER:OG | 2.13 | 0.48 |
| 11:BI:64:ASN:HD21 | 11:BI:73:SER:C | 2.20 | 0.48 |
| 17:BO:22:SER:CB | 17:BO:23:PHE:N | 2.77 | 0.48 |
| 19:BQ:79:TYR:O | 19:BQ:80:ALA:C | 2.56 | 0.48 |
| 23:BU:60:THR:O | 23:BU:62:VAL:HG21 | 2.13 | 0.48 |
| 35:Bg:224:ASN:O | 35:Bg:228:LYS:N | 2.46 | 0.48 |
| 1:A2:3:U:C4 | 12:BJ:18:PRO:O | 2.65 | 0.48 |
| 1:A2:88:U:C4 | 27:BY:121:THR:C | 2.91 | 0.48 |
| 1:A2:401:A:O2' | 1:A2:402:C:H4' | 2.13 | 0.48 |
| 1:A2:457:G:N3 | 27:BY:110:GLN:CB | 2.76 | 0.48 |
| 1:A2:737:A:H3' | 7:BE:125:LYS:CG | 2.43 | 0.48 |
| 1:A2:786:C:OP1 | 27:BY:24:VAL:HG12 | 2.13 | 0.48 |
| 1:A2:864:U:N3 | 25:BW:27:ILE:HG21 | 2.29 | 0.48 |
| 1:A2:871:G:H5' | 16:BN:14:SER:OG | 2.14 | 0.48 |
| 1:A2:872:G:C2 | 1:A2:873:U:H1' | 2.49 | 0.48 |
| 1:A2:930:A:HO2' | 4:BB:116:LYS:HD3 | 1.78 | 0.48 |
| 1:A2:950:C:C5' | 16:BN:94:LYS:CE | 2.91 | 0.48 |
| 1:A2:953:G:H1' | 16:BN:6:SER:O | 2.13 | 0.48 |
| 1:A2:960:U:H5' | 25:BW:56:HIS:C | 2.38 | 0.48 |
| 1:A2:978:A:H2' | 1:A2:979:A:O4' | 2.13 | 0.48 |
| 1:A2:1096:C:C6 | 5:BC:201:ASN:CA | 2.93 | 0.48 |
| 1:A2:1104:U:H6 | 26:BX:18:HIS:CD2 | 2.31 | 0.48 |
| 1:A2:1224:A:C6 | 34:Bf:96:ALA:CB | 2.97 | 0.48 |
| 1:A2:1242:A:O2' | 18:BP:56:PHE:O | 2.30 | 0.48 |
| 1:A2:1295:G:OP2 | 5:BC:127:ALA:HB1 | 2.14 | 0.48 |
| 1:A2:1402:G:OP2 | 20:BR:5:ARG:CA | 2.59 | 0.48 |
| 1:A2:1438:G:C6 | 1:A2:1439:C:C4 | 3.00 | 0.48 |
| 1:A2:1451:C:C4 | 1:A2:1452:U:C5 | 3.01 | 0.48 |
| 1:A2:1536:G:C2 | 8:BF:187:ILE:CD1 | 2.95 | 0.48 |
| 1:A2:1625:C:P | 5:BC:91:ARG:NE | 2.86 | 0.48 |
| 1:A2:1679:G:H22 | 9:BG:67:VAL:CB | 2.27 | 0.48 |
| 2:AZ:6099:G:H2' | 2:AZ:6147:A:N1 | 2.29 | 0.48 |
| 2:AZ:6141:C:O2 | 2:AZ:6141:C:C2' | 2.62 | 0.48 |
| 2:AZ:6219:U:O3' | 6:BD:144:ALA:HA | 2.13 | 0.48 |
| 7:BE:16:HIS:CA | 7:BE:17:HIS:N | 2.76 | 0.48 |
| 7:BE:228:ILE:H | 7:BE:228:ILE:HD13 | 1.79 | 0.48 |
| 11:BI:27:PHE:O | 11:BI:27:PHE:CD1 | 2.63 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 17:BO:122:PRO:CA | 17:BO:123:SER:N | 2.77 | 0.48 |
| 22:BT:4:VAL:O | 22:BT:4:VAL:HG13 | 2.12 | 0.48 |
| 27:BY:99:LYS:CE | 27:BY:100:VAL:HG12 | 2.43 | 0.48 |
| 31:Bc:26:THR:C | 31:Bc:27:GLN:N | 2.71 | 0.48 |
| 35:Bg:45:TRP:CZ3 | 35:Bg:57:PRO:HB3 | 2.48 | 0.48 |
| 1:A2:2:A:C8 | 12:BJ:15:PRO:HA | 2.49 | 0.48 |
| 1:A2:151:G:C6 | 27:BY:135:ASP:HB3 | 2.48 | 0.48 |
| 1:A2:469:C:H2' | 1:A2:470:A:O4' | 2.13 | 0.48 |
| 1:A2:523:G:O2' | 1:A2:529:A:N6 | 2.46 | 0.48 |
| 1:A2:776:G:N9 | 27:BY:62:THR:N | 2.61 | 0.48 |
| 1:A2:777:C:O3' | 27:BY:30:PRO:CD | 2.62 | 0.48 |
| 1:A2:787:G:C4 | 27:BY:61:ARG:CG | 2.96 | 0.48 |
| 1:A2:805:U:H1' | 25:BW:85:ASP:CG | 2.39 | 0.48 |
| 1:A2:863:A:H4' | 25:BW:34:ILE:HG13 | 1.95 | 0.48 |
| 1:A2:896:U:C2 | 17:BO:29:HIS:HE1 | 2.31 | 0.48 |
| 1:A2:945:U:O2 | 1:A2:945:U:H2' | 2.13 | 0.48 |
| 1:A2:1012:U:C2' | 1:A2:1013:A:O5' | 2.62 | 0.48 |
| 1:A2:1094:G:O3' | 5:BC:161:LYS:HB2 | 2.13 | 0.48 |
| 1:A2:1175:U:H5 | 21:BS:140:THR:HG22 | 1.73 | 0.48 |
| 1:A2:1240:U:O2' | 18:BP:94:VAL:HG13 | 2.13 | 0.48 |
| 1:A2:1331:A:H2' | 6:BD:163:PRO:HD3 | 1.95 | 0.48 |
| 1:A2:1671:A:C6 | 1:A2:1672:G:C4 | 3.02 | 0.48 |
| 2:AZ:6025:A:H2' | 2:AZ:6025:A:N3 | 2.28 | 0.48 |
| 2:AZ:6119:U:O2 | 2:AZ:6158:G:O2' | 2.29 | 0.48 |
| 3:BA:70:PRO:HB2 | 3:BA:94:GLY:CA | 2.43 | 0.48 |
| 7:BE:209:HIS:C | 7:BE:210:ILE:HD13 | 2.39 | 0.48 |
| 10:BH:35:LYS:O | 10:BH:36:ALA:C | 2.57 | 0.48 |
| 12:BJ:25:ASP:O | 12:BJ:29:LYS:N | 2.46 | 0.48 |
| 16:BN:54:LEU:HB3 | 16:BN:60:VAL:CG2 | 2.44 | 0.48 |
| 16:BN:130:ARG:O | 16:BN:132:VAL:N | 2.47 | 0.48 |
| 17:BO:31:THR:HG22 | 17:BO:38:THR:HB | 1.96 | 0.48 |
| 20:BR:58:MET:C | 20:BR:59:LYS:N | 2.72 | 0.48 |
| 1:A2:30:G:H2' | 1:A2:31:C:O4' | 2.14 | 0.48 |
| 1:A2:76:A:N6 | 1:A2:80:A:O2' | 2.46 | 0.48 |
| 1:A2:128:U:O2 | 1:A2:204:G:O4' | 2.31 | 0.48 |
| 1:A2:218:A:N6 | 1:A2:844:A:H1' | 2.28 | 0.48 |
| 1:A2:311:U:C4' | 26:BX:34:LEU:CA | 2.56 | 0.48 |
| 1:A2:456:A:O2' | 27:BY:111:LYS:CE | 2.51 | 0.48 |
| 1:A2:560:U:O3' | 1:A2:561:G:P | 2.72 | 0.48 |
| 1:A2:570:A:OP1 | 26:BX:90:ALA:HA | 2.14 | 0.48 |
| 1:A2:863:A:H5' | 25:BW:6:VAL:HG11 | 1.96 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:936:G:O3' | 1:A2:937:C:O5' | 2.32 | 0.48 |
| 1:A2:1050:G:C5 | 30:Bb:17:ARG:NE | 2.60 | 0.48 |
| 1:A2:1166:A:H4' | 8:BF:104:ASN:ND2 | 2.28 | 0.48 |
| 1:A2:1242:A:O2' | 18:BP:56:PHE:C | 2.57 | 0.48 |
| 1:A2:1458:G:P | 21:BS:138:THR:HB | 2.52 | 0.48 |
| 1:A2:1530:C:C2 | 28:BZ:96:SER:N | 2.66 | 0.48 |
| 1:A2:1682:U:H2' | 9:BG:32:ILE:HA | 1.94 | 0.48 |
| 3:BA:71:GLU:HA | 3:BA:95:ALA:CA | 2.43 | 0.48 |
| 4:BB:61:LEU:HD11 | 4:BB:64:ARG:HH21 | 1.78 | 0.48 |
| 6:BD:217:ILE:N | 6:BD:217:ILE:HD12 | 2.29 | 0.48 |
| 9:BG:185:GLN:C | 9:BG:188:ARG:HB3 | 2.38 | 0.48 |
| 10:BH:145:GLY:O | 10:BH:146:GLY:C | 2.56 | 0.48 |
| 15:BM:66:VAL:HG11 | 15:BM:71:ILE:CG2 | 2.44 | 0.48 |
| 17:BO:18:ARG:O | 17:BO:19:ILE:N | 2.47 | 0.48 |
| 18:BP:17:TYR:CZ | 21:BS:92:ILE:HD11 | 2.48 | 0.48 |
| 19:BQ:22:VAL:HG21 | 19:BQ:88:GLY:O | 2.13 | 0.48 |
| 22:BT:36:ILE:HD12 | 22:BT:37:VAL:CB | 2.42 | 0.48 |
| 22:BT:66:TYR:HA | 22:BT:124:ILE:HG22 | 1.96 | 0.48 |
| 22:BT:104:VAL:O | 22:BT:105:LEU:HA | 2.13 | 0.48 |
| 1:A2:218:A:O2' | 1:A2:219:A:P | 2.72 | 0.48 |
| 1:A2:300:A:N6 | 7:BE:5:PRO:HD2 | 2.27 | 0.48 |
| 1:A2:301:A:C4 | 7:BE:4:GLY:CA | 2.92 | 0.48 |
| 1:A2:334:G:H2' | 11:BI:27:PHE:HA | 1.96 | 0.48 |
| 1:A2:355:G:N3 | 1:A2:355:G:H2' | 2.28 | 0.48 |
| 1:A2:551:G:C2 | 1:A2:552:G:C8 | 3.02 | 0.48 |
| 1:A2:596:C:N3 | 26:BX:139:LYS:CB | 2.66 | 0.48 |
| 1:A2:635:A:C4 | 25:BW:126:LEU:HD22 | 2.46 | 0.48 |
| 1:A2:651:G:OP1 | 12:BJ:88:GLU:OE1 | 2.31 | 0.48 |
| 1:A2:702:G:N3 | 7:BE:174:LYS:N | 2.62 | 0.48 |
| 1:A2:777:C:P | 27:BY:66:GLY:HA2 | 2.52 | 0.48 |
| 1:A2:848:C:HO3' | 1:A2:849:C:P | 2.35 | 0.48 |
| 1:A2:906:A:C2 | 1:A2:907:A:C4 | 3.02 | 0.48 |
| 1:A2:1055:U:O5' | 3:BA:46:HIS:HB3 | 2.10 | 0.48 |
| 1:A2:1058:U:OP2 | 3:BA:41:ARG:HA | 2.12 | 0.48 |
| 1:A2:1226:A:O4' | 34:Bf:98:LYS:CD | 2.53 | 0.48 |
| 1:A2:1300:A:C3' | 5:BC:86:VAL:HG23 | 2.38 | 0.48 |
| 1:A2:1301:U:C2' | 1:A2:1301:U:O2 | 2.61 | 0.48 |
| 1:A2:1399:C:OP2 | 20:BR:67:ARG:HB3 | 2.14 | 0.48 |
| 1:A2:1400:A:C5' | 20:BR:53:TYR:CZ | 2.58 | 0.48 |
| 1:A2:1400:A:O2' | 20:BR:10:LYS:CB | 2.61 | 0.48 |
| 1:A2:1458:G:C8 | 21:BS:126:ARG:NH2 | 2.82 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1601:G:C8 | 1:A2:1601:G:H5" | 2.49 | 0.48 |
| 2:AZ:6148:U:H5" | 2:AZ:6149:A:OP2 | 2.14 | 0.48 |
| 3:BA:63:ILE:C | 3:BA:66:ALA:HB1 | 2.36 | 0.48 |
| 12:BJ:75:ALA:C | 12:BJ:76:LEU:N | 2.72 | 0.48 |
| 28:BZ:76:ALA:C | 28:BZ:77:ARG:N | 2.72 | 0.48 |
| 31:Bc:59:SER:C | 31:Bc:60:GLU:HB2 | 2.39 | 0.48 |
| 33:Be:25:GLU:C | 33:Be:26:LYS:HB3 | 2.39 | 0.48 |
| 1:A2:1:U:H6 | 12:BJ:43:TYR:CD2 | 2.31 | 0.48 |
| 1:A2:88:U:C5' | 27:BY:119:PHE:HB3 | 2.40 | 0.48 |
| 1:A2:91:G:H1' | 27:BY:112:LYS:O | 2.14 | 0.48 |
| 1:A2:91:G:H21 | 27:BY:113:ASN:HB3 | 1.78 | 0.48 |
| 1:A2:165:G:OP1 | 9:BG:5:ILE:HD12 | 2.14 | 0.48 |
| 1:A2:180:A:OP2 | 9:BG:187:LYS:HE3 | 2.13 | 0.48 |
| 1:A2:336:G:N7 | 11:BI:27:PHE:CD1 | 2.82 | 0.48 |
| 1:A2:336:G:H1' | 11:BI:6:ASP:OD1 | 2.13 | 0.48 |
| 1:A2:374:U:N3 | 1:A2:375:U:C5 | 2.82 | 0.48 |
| 1:A2:505:A:N1 | 1:A2:507:U:N3 | 2.62 | 0.48 |
| 1:A2:698:U:C5 | 7:BE:207:LEU:HB3 | 2.39 | 0.48 |
| 1:A2:760:A:H1' | 12:BJ:8:TYR:C | 2.39 | 0.48 |
| 1:A2:1037:C:OP1 | 25:BW:12:ASN:HA | 2.13 | 0.48 |
| 1:A2:1057:U:H3' | 3:BA:41:ARG:CA | 2.44 | 0.48 |
| 1:A2:1083:G:N3 | 5:BC:161:LYS:CB | 2.77 | 0.48 |
| 1:A2:1326:A:H4' | 6:BD:157:LEU:HD23 | 1.22 | 0.48 |
| 1:A2:1477:G:H4' | 22:BT:48:GLN:CD | 2.39 | 0.48 |
| 1:A2:1520:U:C5' | 22:BT:75:LYS:CD | 2.81 | 0.48 |
| 1:A2:1680:G:H5" | 9:BG:31:ARG:NH2 | 2.10 | 0.48 |
| 6:BD:109:LEU:O | 6:BD:112:GLY:N | 2.47 | 0.48 |
| 9:BG:136:LYS:O | 9:BG:141:ILE:HD11 | 2.13 | 0.48 |
| 12:BJ:114:TYR:CD2 | 12:BJ:122:VAL:HG12 | 2.49 | 0.48 |
| 17:BO:120:PRO:C | 17:BO:121:VAL:HA | 2.39 | 0.48 |
| 18:BP:17:TYR:HB2 | 18:BP:25:LEU:HD13 | 1.96 | 0.48 |
| 24:BV:26:ALA:C | 24:BV:27:ASP:CA | 2.87 | 0.48 |
| 25:BW:98:GLN:HG2 | 25:BW:99:PHE:N | 2.28 | 0.48 |
| 31:Bc:8:THR:O | 31:Bc:56:LEU:HD12 | 2.14 | 0.48 |
| 1:A2:57:G:N3 | 27:BY:113:ASN:N | 2.62 | 0.47 |
| 1:A2:165:G:H5' | 9:BG:16:PHE:CD2 | 2.49 | 0.47 |
| 1:A2:245:U:C6 | 7:BE:140:VAL:CG1 | 2.91 | 0.47 |
| 1:A2:396:G:C3' | 9:BG:88:ARG:HA | 2.34 | 0.47 |
| 1:A2:458:G:C4 | 27:BY:106:GLN:NE2 | 2.82 | 0.47 |
| 1:A2:508:U:O2 | 1:A2:508:U:C2' | 2.62 | 0.47 |
| 1:A2:685:A:H2' | 1:A2:686:C:O4' | 2.14 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:702:G:H22 | 7:BE:227:VAL:CB | 2.26 | 0.47 |
| 1:A2:702:G:C4' | 7:BE:179:LYS:NZ | 2.71 | 0.47 |
| 1:A2:703:G:C6 | 1:A2:704:C:H2' | 2.48 | 0.47 |
| 1:A2:753:A:OP1 | 7:BE:19:LEU:N | 2.47 | 0.47 |
| 1:A2:771:A:N6 | 1:A2:772:G:C6 | 2.82 | 0.47 |
| 1:A2:775:G:H22 | 27:BY:70:VAL:H | 1.61 | 0.47 |
| 1:A2:776:G:C5' | 27:BY:66:GLY:CA | 2.92 | 0.47 |
| 1:A2:780:A:H2 | 27:BY:32:ARG:HD3 | 1.69 | 0.47 |
| 1:A2:919:A:C5' | 4:BB:83:LYS:NZ | 2.76 | 0.47 |
| 1:A2:1256:A:H2 | 34:Bf:98:LYS:H | 1.60 | 0.47 |
| 1:A2:1344:A:H5" | 23:BU:53:LYS:HD2 | 1.85 | 0.47 |
| 1:A2:1452:U:C2 | 18:BP:96:ILE:CG2 | 2.70 | 0.47 |
| 1:A2:1505:A:O5' | 22:BT:38:LYS:HG2 | 2.11 | 0.47 |
| 1:A2:1539:G:O6 | 28:BZ:72:GLY:O | 2.32 | 0.47 |
| 2:AZ:6075:A:O3' | 2:AZ:6076:A:P | 2.72 | 0.47 |
| 7:BE:55:ALA:CB | 7:BE:61:VAL:HG22 | 2.44 | 0.47 |
| 7:BE:58:GLY:O | 7:BE:59:ARG:C | 2.57 | 0.47 |
| 7:BE:60:GLU:O | 7:BE:63:ALA:HB3 | 2.13 | 0.47 |
| 10:BH:162:ILE:HD12 | 10:BH:165:LYS:CE | 2.44 | 0.47 |
| 11:BI:152:ILE:O | 11:BI:153:GLU:N | 2.47 | 0.47 |
| 12:BJ:33:GLU:C | 12:BJ:34:PHE:N | 2.71 | 0.47 |
| 18:BP:17:TYR:CB | 18:BP:25:LEU:HD13 | 2.44 | 0.47 |
| 24:BV:53:TYR:CE1 | 24:BV:72:LEU:HD13 | 2.49 | 0.47 |
| 25:BW:66:ASN:CG | 25:BW:68:ARG:HG3 | 2.39 | 0.47 |
| 25:BW:75:ILE:C | 25:BW:76:SER:N | 2.72 | 0.47 |
| 26:BX:57:LEU:HD23 | 26:BX:58:GLY:N | 2.29 | 0.47 |
| 1:A2:213:A:C3' | 7:BE:133:LYS:HA | 1.82 | 0.47 |
| 1:A2:857:U:C2 | 10:BH:107:ARG:O | 2.67 | 0.47 |
| 1:A2:1236:A:H5" | 18:BP:61:ARG:CD | 2.44 | 0.47 |
| 1:A2:1279:C:C4' | 23:BU:71:PRO:HB3 | 2.22 | 0.47 |
| 1:A2:1301:U:C5 | 5:BC:119:LYS:HB3 | 2.49 | 0.47 |
| 1:A2:1475:A:H62 | 28:BZ:97:LYS:HD2 | 1.72 | 0.47 |
| 1:A2:1505:A:H5' | 22:BT:41:SER:HB3 | 1.82 | 0.47 |
| 1:A2:1547:A:N3 | 21:BS:37:GLY:O | 2.47 | 0.47 |
| 1:A2:1550:A:C8 | 21:BS:89:GLN:CD | 2.92 | 0.47 |
| 1:A2:1601:G:C8 | 22:BT:89:ARG:HD2 | 2.45 | 0.47 |
| 1:A2:1722:A:O3' | 9:BG:72:ARG:C | 2.56 | 0.47 |
| 2:AZ:6086:U:C2' | 2:AZ:6086:U:O2 | 2.61 | 0.47 |
| 3:BA:57:LEU:HG | 3:BA:160:ILE:CG2 | 2.45 | 0.47 |
| 3:BA:67:ILE:HB | 3:BA:69:ASN:C | 2.39 | 0.47 |
| 7:BE:21:ASP:O | 7:BE:22:LYS:HB2 | 2.14 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 9:BG:180:THR:OG1 | 9:BG:182:GLN:N | 2.45 | 0.47 |
| 14:BL:92:HIS:O | 14:BL:93:TYR:N | 2.46 | 0.47 |
| 16:BN:17:PRO:O | 16:BN:19:SER:N | 2.46 | 0.47 |
| 20:BR:60:ARG:O | 20:BR:63:LYS:N | 2.47 | 0.47 |
| 35:Bg:192:PHE:CZ | 35:Bg:221:MET:HB3 | 2.48 | 0.47 |
| 1:A2:87:C:N3 | 27:BY:121:THR:OG1 | 2.48 | 0.47 |
| 1:A2:239:C:P | 9:BG:210:GLN:HG3 | 2.53 | 0.47 |
| 1:A2:402:C:O2' | 1:A2:403:G:H5" | 2.15 | 0.47 |
| 1:A2:583:C:O3' | 33:Be:13:LYS:HG2 | 2.07 | 0.47 |
| 1:A2:804:A:C6 | 25:BW:82:LYS:HB3 | 2.49 | 0.47 |
| 1:A2:880:C:H5' | 16:BN:108:ASP:C | 2.39 | 0.47 |
| 1:A2:886:U:OP1 | 4:BB:122:GLU:OE2 | 2.33 | 0.47 |
| 1:A2:903:U:H2' | 1:A2:903:U:O2 | 2.13 | 0.47 |
| 1:A2:1038:U:OP1 | 25:BW:19:LYS:CA | 2.62 | 0.47 |
| 1:A2:1126:G:O3' | 1:A2:1127:G:P | 2.72 | 0.47 |
| 1:A2:1159:C:C1' | 19:BQ:140:LYS:NZ | 2.77 | 0.47 |
| 1:A2:1240:U:H1' | 18:BP:76:VAL:N | 2.25 | 0.47 |
| 1:A2:1242:A:H5" | 18:BP:89:MET:CB | 2.43 | 0.47 |
| 1:A2:1298:U:C1' | 5:BC:208:GLU:CG | 2.81 | 0.47 |
| 1:A2:1389:C:C5' | 20:BR:45:ARG:N | 2.74 | 0.47 |
| 1:A2:1534:G:H2' | 28:BZ:63:SER:C | 2.39 | 0.47 |
| 1:A2:1563:C:O2 | 1:A2:1563:C:C2' | 2.62 | 0.47 |
| 1:A2:1582:U:O3' | 19:BQ:135:ARG:NH1 | 2.47 | 0.47 |
| 1:A2:1673:G:C2 | 1:A2:1674:C:C6 | 3.02 | 0.47 |
| 1:A2:1722:A:P | 9:BG:97:VAL:N | 2.88 | 0.47 |
| 1:A2:1723:U:OP2 | 9:BG:73:ILE:HA | 2.06 | 0.47 |
| 2:AZ:6111:G:OP1 | 8:BF:215:ASP:C | 2.58 | 0.47 |
| 4:BB:40:ASN:O | 4:BB:42:ASN:N | 2.48 | 0.47 |
| 5:BC:111:VAL:CG1 | 5:BC:191:ALA:HB2 | 2.45 | 0.47 |
| 6:BD:197:THR:O | 6:BD:198:GLY:N | 2.47 | 0.47 |
| 9:BG:124:LEU:N | 9:BG:124:LEU:HD22 | 2.29 | 0.47 |
| 12:BJ:72:GLU:O | 12:BJ:73:GLY:C | 2.55 | 0.47 |
| 20:BR:60:ARG:HG3 | 20:BR:66:VAL:HG11 | 1.95 | 0.47 |
| 22:BT:15:ILE:HD13 | 22:BT:15:ILE:N | 2.29 | 0.47 |
| 1:A2:18:C:HO3' | 26:BX:114:LYS:CB | 2.20 | 0.47 |
| 1:A2:58:U:N3 | 27:BY:115:ASP:CG | 2.56 | 0.47 |
| 1:A2:141:U:C2 | 9:BG:136:LYS:NZ | 2.76 | 0.47 |
| 1:A2:148:A:H3' | 27:BY:131:ARG:N | 2.29 | 0.47 |
| 1:A2:323:A:P | 11:BI:9:HIS:HB2 | 2.54 | 0.47 |
| 1:A2:395:U:C2 | 9:BG:91:GLU:OE1 | 2.68 | 0.47 |
| 1:A2:598:U:C4 | 26:BX:131:SER:OG | 2.68 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:637:C:H3' | 25:BW:109:GLY:O | 2.06 | 0.47 |
| 1:A2:641:G:H5' | 25:BW:118:ARG:HH11 | 1.79 | 0.47 |
| 1:A2:783:G:C5 | 27:BY:39:GLU:CG | 2.97 | 0.47 |
| 1:A2:818:C:H3' | 1:A2:819:G:OP2 | 2.14 | 0.47 |
| 1:A2:839:U:H3' | 1:A2:840:U:P | 2.54 | 0.47 |
| 1:A2:885:G:O2' | 1:A2:886:U:O4' | 2.20 | 0.47 |
| 1:A2:957:G:P | 30:Bb:22:LYS:HE2 | 2.55 | 0.47 |
| 1:A2:1047:G:O2' | 16:BN:11:ILE:HD11 | 2.14 | 0.47 |
| 1:A2:1176:G:O3' | 1:A2:1177:C:P | 2.72 | 0.47 |
| 1:A2:1191:U:H2' | 19:BQ:142:TYR:HB3 | 1.58 | 0.47 |
| 1:A2:1260:U:H5" | 34:Bf:92:LYS:HB3 | 1.90 | 0.47 |
| 1:A2:1580:C:H5" | 19:BQ:137:ARG:O | 2.15 | 0.47 |
| 1:A2:1683:C:O2 | 1:A2:1719:A:C2 | 2.66 | 0.47 |
| 2:AZ:6039:G:H1' | 2:AZ:6079:A:N6 | 2.29 | 0.47 |
| 3:BA:146:LEU:HD22 | 3:BA:160:ILE:CB | 2.44 | 0.47 |
| 4:BB:228:LEU:C | 4:BB:230:ALA:N | 2.72 | 0.47 |
| 8:BF:161:ASP:CG | 31:Bc:55:VAL:O | 2.57 | 0.47 |
| 9:BG:20:ASP:O | 9:BG:21:GLU:HB2 | 2.15 | 0.47 |
| 9:BG:180:THR:C | 9:BG:182:GLN:N | 2.72 | 0.47 |
| 16:BN:92:ILE:O | 16:BN:93:LYS:C | 2.57 | 0.47 |
| 20:BR:75:GLU:C | 20:BR:76:GLU:N | 2.73 | 0.47 |
| 26:BX:77:ILE:C | 26:BX:78:LYS:N | 2.73 | 0.47 |
| 26:BX:112:LYS:O | 26:BX:113:ALA:CB | 2.62 | 0.47 |
| 35:Bg:13:LEU:HD21 | 35:Bg:55:GLY:O | 2.14 | 0.47 |
| 1:A2:57:G:O6 | 27:BY:115:ASP:C | 2.58 | 0.47 |
| 1:A2:144:U:C2 | 1:A2:145:A:C8 | 3.02 | 0.47 |
| 1:A2:163:G:H3' | 9:BG:108:VAL:CA | 2.44 | 0.47 |
| 1:A2:265:A:C2 | 1:A2:267:U:C4 | 3.02 | 0.47 |
| 1:A2:325:G:H4' | 14:BL:133:LYS:O | 2.14 | 0.47 |
| 1:A2:631:G:O4' | 26:BX:13:ARG:HG3 | 2.15 | 0.47 |
| 1:A2:701:U:N3 | 7:BE:175:PHE:CA | 2.77 | 0.47 |
| 1:A2:867:G:H3' | 1:A2:868:G:P | 2.55 | 0.47 |
| 1:A2:896:U:N1 | 17:BO:31:THR:HG21 | 2.29 | 0.47 |
| 1:A2:929:A:H4' | 29:Ba:32:LYS:HD3 | 1.97 | 0.47 |
| 1:A2:993:A:C8 | 1:A2:994:G:C8 | 3.03 | 0.47 |
| 1:A2:1021:C:O2 | 1:A2:1021:C:H2' | 2.14 | 0.47 |
| 1:A2:1034:C:N4 | 26:BX:3:LYS:HZ2 | 1.90 | 0.47 |
| 1:A2:1167:G:P | 8:BF:101:GLY:CA | 3.03 | 0.47 |
| 1:A2:1172:G:N7 | 1:A2:1173:C:C5 | 2.83 | 0.47 |
| 1:A2:1417:A:C4' | 19:BQ:128:LYS:HZ1 | 2.13 | 0.47 |
| 1:A2:1429:G:O6 | 23:BU:72:ASN:OD1 | 2.16 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1433:G:H21 | 32:Bd:26:SER:CB | 2.25 | 0.47 |
| 1:A2:1479:A:C4 | 1:A2:1480:G:C8 | 3.02 | 0.47 |
| 1:A2:1535:U:H5' | 28:BZ:67:ASP:CG | 2.01 | 0.47 |
| 1:A2:1622:G:H2' | 1:A2:1623:C:C6 | 2.49 | 0.47 |
| 3:BA:83:GLN:O | 3:BA:87:LEU:HD22 | 2.14 | 0.47 |
| 10:BH:120:ALA:HB3 | 10:BH:121:VAL:N | 2.29 | 0.47 |
| 11:BI:106:ALA:HB1 | 11:BI:109:PHE:CD1 | 2.50 | 0.47 |
| 21:BS:30:TYR:HD1 | 21:BS:33:THR:HG21 | 1.80 | 0.47 |
| 22:BT:54:PHE:CZ | 22:BT:104:VAL:HG21 | 2.49 | 0.47 |
| 28:BZ:53:GLU:O | 28:BZ:54:VAL:N | 2.48 | 0.47 |
| 31:Bc:64:ARG:NE | 31:Bc:64:ARG:HA | 2.30 | 0.47 |
| 33:Be:32:GLY:O | 33:Be:33:ARG:N | 2.47 | 0.47 |
| 35:Bg:22:SER:O | 35:Bg:36:ALA:HB3 | 2.14 | 0.47 |
| 1:A2:87:C:N3 | 27:BY:123:LYS:N | 2.40 | 0.47 |
| 1:A2:107:C:H5" | 1:A2:383:G:O2' | 2.14 | 0.47 |
| 1:A2:178:U:C4' | 9:BG:179:VAL:HB | 2.45 | 0.47 |
| 1:A2:208:U:O5' | 11:BI:53:LYS:HG2 | 2.13 | 0.47 |
| 1:A2:239:C:H3' | 9:BG:210:GLN:HG2 | 1.95 | 0.47 |
| 1:A2:242:U:O4' | 7:BE:148:ARG:NE | 2.46 | 0.47 |
| 1:A2:244:A:OP2 | 7:BE:139:VAL:C | 2.55 | 0.47 |
| 1:A2:252:U:H2' | 1:A2:253:A:H8 | 1.80 | 0.47 |
| 1:A2:394:C:C4 | 1:A2:395:U:C5 | 3.02 | 0.47 |
| 1:A2:395:U:O4' | 9:BG:93:LYS:CD | 2.61 | 0.47 |
| 1:A2:398:G:OP2 | 9:BG:88:ARG:CG | 2.62 | 0.47 |
| 1:A2:578:U:H4' | 1:A2:579:A:OP1 | 2.14 | 0.47 |
| 1:A2:702:G:C3' | 7:BE:179:LYS:NZ | 2.44 | 0.47 |
| 1:A2:754:A:OP1 | 7:BE:14:ALA:HB3 | 2.13 | 0.47 |
| 1:A2:783:G:C5 | 27:BY:39:GLU:CD | 2.93 | 0.47 |
| 1:A2:824:G:O6 | 1:A2:847:A:N6 | 2.48 | 0.47 |
| 1:A2:979:A:H5' | 1:A2:1787:C:O2' | 2.14 | 0.47 |
| 1:A2:1036:A:H5" | 25:BW:12:ASN:HB2 | 1.96 | 0.47 |
| 1:A2:1246:C:C5 | 18:BP:77:ARG:NE | 2.79 | 0.47 |
| 1:A2:1445:G:C5' | 34:Bf:89:ALA:CB | 2.77 | 0.47 |
| 1:A2:1520:U:H5" | 22:BT:75:LYS:CA | 2.44 | 0.47 |
| 1:A2:1547:A:OP2 | 21:BS:109:LEU:N | 2.47 | 0.47 |
| 1:A2:1660:A:O2' | 1:A2:1661:U:H5' | 2.14 | 0.47 |
| 2:AZ:6038:U:O4 | 2:AZ:6080:G:H1' | 2.14 | 0.47 |
| 3:BA:70:PRO:O | 3:BA:73:VAL:HB | 2.15 | 0.47 |
| 9:BG:79:LYS:C | 9:BG:80:ASN:HD22 | 2.22 | 0.47 |
| 15:BM:105:LYS:O | 15:BM:106:ILE:CB | 2.62 | 0.47 |
| 16:BN:15:ALA:C | 16:BN:16:ILE:N | 2.73 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 19:BQ:4:VAL:O | 19:BQ:6:SER:N | 2.48 | 0.47 |
| 20:BR:24:LEU:HD13 | 20:BR:58:MET:CE | 2.44 | 0.47 |
| 28:BZ:49:ARG:HG3 | 28:BZ:69:LEU:HD22 | 1.97 | 0.47 |
| 35:Bg:167:VAL:HG12 | 35:Bg:168:THR:H | 1.79 | 0.47 |
| 1:A2:49:C:C3' | 1:A2:50:C:P | 3.03 | 0.47 |
| 1:A2:127:G:N3 | 9:BG:183:ARG:HB3 | 2.24 | 0.47 |
| 1:A2:179:A:H61 | 9:BG:190:GLN:HB2 | 1.79 | 0.47 |
| 1:A2:243:G:N3 | 7:BE:146:THR:OG1 | 2.46 | 0.47 |
| 1:A2:322:G:O2' | 11:BI:9:HIS:CE1 | 2.67 | 0.47 |
| 1:A2:329:G:C3' | 11:BI:56:ARG:CZ | 2.75 | 0.47 |
| 1:A2:338:C:C1' | 11:BI:4:SER:CB | 2.91 | 0.47 |
| 1:A2:570:A:N3 | 26:BX:69:ARG:NH2 | 2.61 | 0.47 |
| 1:A2:598:U:O2 | 26:BX:132:LEU:HB2 | 2.08 | 0.47 |
| 1:A2:629:U:H3' | 1:A2:629:U:OP2 | 2.15 | 0.47 |
| 1:A2:631:G:H2' | 26:BX:15:LEU:H | 1.78 | 0.47 |
| 1:A2:697:C:O2 | 7:BE:196:VAL:CG1 | 2.63 | 0.47 |
| 1:A2:734:A:C8 | 7:BE:212:ASP:O | 2.38 | 0.47 |
| 1:A2:784:C:C4' | 27:BY:7:ILE:CB | 2.87 | 0.47 |
| 1:A2:853:G:H3' | 1:A2:854:U:OP2 | 2.15 | 0.47 |
| 1:A2:859:A:H61 | 10:BH:111:LYS:HB3 | 1.46 | 0.47 |
| 1:A2:958:U:HO2' | 25:BW:57:ARG:HE | 1.52 | 0.47 |
| 1:A2:978:A:C2 | 1:A2:979:A:H1' | 2.49 | 0.47 |
| 1:A2:990:C:C3' | 29:Ba:22:ARG:NH2 | 2.78 | 0.47 |
| 1:A2:1018:U:C4' | 16:BN:107:LYS:HG3 | 2.34 | 0.47 |
| 1:A2:1055:U:H2' | 1:A2:1056:U:O4' | 2.14 | 0.47 |
| 1:A2:1107:G:C5 | 1:A2:1108:G:C6 | 3.02 | 0.47 |
| 1:A2:1163:A:C6 | 1:A2:1164:G:C5 | 3.02 | 0.47 |
| 1:A2:1229:G:N1 | 34:Bf:133:ALA:CB | 2.77 | 0.47 |
| 1:A2:1239:U:N3 | 18:BP:76:VAL:HG22 | 2.29 | 0.47 |
| 1:A2:1293:U:H6 | 1:A2:1293:U:OP2 | 1.98 | 0.47 |
| 1:A2:1298:U:C4' | 5:BC:115:ILE:CG2 | 2.89 | 0.47 |
| 1:A2:1326:A:O3' | 6:BD:168:ILE:CG2 | 2.60 | 0.47 |
| 1:A2:1327:C:H5" | 6:BD:168:ILE:HG12 | 1.96 | 0.47 |
| 1:A2:1388:A:N6 | 1:A2:1409:G:O2' | 2.48 | 0.47 |
| 1:A2:1406:A:O2' | 1:A2:1407:U:O5' | 2.33 | 0.47 |
| 1:A2:1417:A:C5' | 19:BQ:128:LYS:NZ | 2.77 | 0.47 |
| 1:A2:1479:A:C5' | 22:BT:16:ASN:CG | 2.86 | 0.47 |
| 1:A2:1528:U:H4' | 19:BQ:43:ILE:CB | 2.44 | 0.47 |
| 1:A2:1534:G:H4' | 8:BF:187:ILE:HG23 | 1.96 | 0.47 |
| 1:A2:1537:C:OP1 | 1:A2:1572:G:O6 | 2.33 | 0.47 |
| 1:A2:1564:U:HO3' | 21:BS:85:PHE:HE2 | 1.35 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1584:G:C5' | 19:BQ:124:PRO:HA | 2.43 | 0.47 |
| 1:A2:1681:A:OP1 | 9:BG:31:ARG:NH1 | 2.48 | 0.47 |
| 2:AZ:6034:A:N6 | 2:AZ:6082:G:P | 2.88 | 0.47 |
| 2:AZ:6131:U:O2' | 2:AZ:6133:G:C8 | 2.68 | 0.47 |
| 3:BA:57:LEU:CA | 3:BA:160:ILE:HG23 | 2.44 | 0.47 |
| 4:BB:51:SER:O | 4:BB:52:THR:HG23 | 2.15 | 0.47 |
| 4:BB:170:GLU:O | 4:BB:171:ILE:C | 2.57 | 0.47 |
| 5:BC:35:TRP:NE1 | 5:BC:36:VAL:O | 2.48 | 0.47 |
| 5:BC:41:LEU:HD12 | 5:BC:68:ILE:HD12 | 1.96 | 0.47 |
| 5:BC:175:GLY:O | 5:BC:176:SER:C | 2.58 | 0.47 |
| 5:BC:191:ALA:O | 5:BC:192:GLY:N | 2.48 | 0.47 |
| 6:BD:99:VAL:O | 6:BD:103:GLU:N | 2.48 | 0.47 |
| 6:BD:147:ALA:C | 6:BD:148:LYS:HA | 2.40 | 0.47 |
| 8:BF:92:ARG:O | 8:BF:95:ASN:N | 2.48 | 0.47 |
| 10:BH:133:THR:HG22 | 10:BH:158:ASP:O | 2.15 | 0.47 |
| 11:BI:91:VAL:HA | 11:BI:94:ASN:N | 2.30 | 0.47 |
| 11:BI:97:THR:C | 11:BI:98:LYS:C | 2.82 | 0.47 |
| 11:BI:135:LYS:O | 11:BI:136:SER:C | 2.57 | 0.47 |
| 15:BM:68:GLU:O | 15:BM:69:ALA:CB | 2.62 | 0.47 |
| 16:BN:33:VAL:HG21 | 16:BN:66:ILE:CG2 | 2.44 | 0.47 |
| 18:BP:33:PHE:O | 18:BP:33:PHE:CG | 2.67 | 0.47 |
| 19:BQ:67:VAL:O | 19:BQ:69:VAL:HG13 | 2.15 | 0.47 |
| 19:BQ:136:SER:C | 19:BQ:137:ARG:NE | 2.72 | 0.47 |
| 20:BR:41:ILE:O | 20:BR:42:GLN:HA | 2.14 | 0.47 |
| 21:BS:30:TYR:O | 21:BS:33:THR:HB | 2.14 | 0.47 |
| 22:BT:18:TYR:HB3 | 22:BT:59:ALA:CB | 2.43 | 0.47 |
| 25:BW:25:VAL:O | 25:BW:26:LEU:N | 2.48 | 0.47 |
| 31:Bc:7:VAL:HG22 | 31:Bc:57:MET:HG2 | 1.96 | 0.47 |
| 32:Bd:47:ALA:O | 32:Bd:52:PHE:C | 2.58 | 0.47 |
| 33:Be:20:LYS:HG3 | 33:Be:21:VAL:N | 2.28 | 0.47 |
| 33:Be:26:LYS:HB2 | 33:Be:27:PRO:HD2 | 1.96 | 0.47 |
| 34:Bf:147:VAL:HG22 | 34:Bf:148:TYR:H | 1.79 | 0.47 |
| 35:Bg:41:THR:C | 35:Bg:42:LEU:HD12 | 2.40 | 0.47 |
| 35:Bg:211:ILE:CD1 | 35:Bg:225:LEU:HD13 | 2.44 | 0.47 |
| 1:A2:18:C:O3' | 1:A2:19:A:H5' | 2.15 | 0.47 |
| 1:A2:215:A:OP1 | 7:BE:130:GLN:HG2 | 2.15 | 0.47 |
| 1:A2:384:G:H2' | 1:A2:385:A:H8 | 1.78 | 0.47 |
| 1:A2:393:C:O2' | 1:A2:394:C:P | 2.73 | 0.47 |
| 1:A2:595:G:C2' | 26:BX:139:LYS:HZ3 | 2.23 | 0.47 |
| 1:A2:631:G:H5" | 26:BX:16:ARG:HH12 | 1.80 | 0.47 |
| 1:A2:703:G:N2 | 1:A2:736:C:O2 | 2.48 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:741:C:O5' | 7:BE:200:ARG:CD | 2.61 | 0.47 |
| 1:A2:778:G:OP1 | 27:BY:30:PRO:CG | 2.60 | 0.47 |
| 1:A2:785:U:C2' | 27:BY:26:ASP:HA | 2.44 | 0.47 |
| 1:A2:863:A:H3' | 25:BW:6:VAL:HG11 | 1.91 | 0.47 |
| 1:A2:887:A:C3' | 17:BO:122:PRO:O | 2.41 | 0.47 |
| 1:A2:888:U:P | 17:BO:121:VAL:HG12 | 2.55 | 0.47 |
| 1:A2:897:C:C6 | 17:BO:38:THR:CB | 2.98 | 0.47 |
| 1:A2:900:A:H4' | 17:BO:20:TYR:CD1 | 2.35 | 0.47 |
| 1:A2:916:U:C2 | 17:BO:27:PHE:HD2 | 2.32 | 0.47 |
| 1:A2:933:A:C5' | 29:Ba:95:ARG:HH12 | 2.26 | 0.47 |
| 1:A2:1037:C:H4' | 25:BW:71:LYS:CB | 2.45 | 0.47 |
| 1:A2:1057:U:H3' | 3:BA:41:ARG:C | 2.40 | 0.47 |
| 1:A2:1057:U:H3' | 3:BA:42:PRO:HD3 | 1.93 | 0.47 |
| 1:A2:1159:C:C1' | 19:BQ:140:LYS:HZ2 | 2.28 | 0.47 |
| 1:A2:1167:G:P | 8:BF:101:GLY:HA3 | 2.49 | 0.47 |
| 1:A2:1211:A:N1 | 18:BP:122:THR:HG22 | 2.30 | 0.47 |
| 1:A2:1241:G:O4' | 18:BP:96:ILE:HD11 | 2.15 | 0.47 |
| 1:A2:1418:G:H2' | 1:A2:1419:G:H8 | 1.80 | 0.47 |
| 1:A2:1484:G:H8 | 1:A2:1484:G:O5' | 1.97 | 0.47 |
| 1:A2:1501:C:C6 | 22:BT:33:TYR:HE1 | 2.28 | 0.47 |
| 1:A2:1502:G:P | 22:BT:32:GLY:O | 2.67 | 0.47 |
| 1:A2:1533:C:H6 | 28:BZ:77:ARG:NE | 2.08 | 0.47 |
| 1:A2:1534:G:H1' | 8:BF:187:ILE:CG2 | 2.44 | 0.47 |
| 1:A2:1548:G:C8 | 21:BS:87:ASN:OD1 | 2.29 | 0.47 |
| 3:BA:176:LEU:HD11 | 20:BR:102:VAL:N | 2.30 | 0.47 |
| 4:BB:132:ASP:C | 4:BB:133:TYR:N | 2.73 | 0.47 |
| 7:BE:90:ILE:N | 7:BE:90:ILE:HD12 | 2.29 | 0.47 |
| 10:BH:168:SER:O | 10:BH:169:PHE:C | 2.56 | 0.47 |
| 12:BJ:44:ARG:O | 12:BJ:45:ILE:C | 2.57 | 0.47 |
| 13:BK:54:TYR:HA | 13:BK:72:GLY:HA3 | 1.97 | 0.47 |
| 13:BK:66:TYR:O | 13:BK:67:THR:CB | 2.62 | 0.47 |
| 16:BN:44:GLY:C | 16:BN:45:LEU:HD22 | 2.40 | 0.47 |
| 30:Bb:74:SER:O | 30:Bb:77:THR:HG22 | 2.14 | 0.47 |
| 1:A2:244:A:H3' | 7:BE:140:VAL:CG1 | 2.41 | 0.47 |
| 1:A2:600:U:O2' | 26:BX:48:HIS:HA | 2.15 | 0.47 |
| 1:A2:736:C:C1' | 7:BE:180:LEU:O | 2.63 | 0.47 |
| 1:A2:791:A:C6 | 12:BJ:7:THR:CB | 2.95 | 0.47 |
| 1:A2:794:U:O2' | 1:A2:795:U:H5' | 2.15 | 0.47 |
| 1:A2:823:G:O2' | 1:A2:824:G:OP1 | 2.33 | 0.47 |
| 1:A2:884:A:C2 | 1:A2:945:U:C2 | 3.01 | 0.47 |
| 1:A2:902:G:OP1 | 17:BO:90:ARG:CB | 2.60 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:929:A:C4' | 29:Ba:32:LYS:CD | 2.91 | 0.47 |
| 1:A2:957:G:H21 | 30:Bb:21:LEU:CD1 | 2.28 | 0.47 |
| 1:A2:1149:G:C6 | 1:A2:1629:G:C6 | 3.03 | 0.47 |
| 1:A2:1221:A:N6 | 1:A2:1263:G:C6 | 2.83 | 0.47 |
| 1:A2:1241:G:N2 | 18:BP:95:GLY:CA | 2.75 | 0.47 |
| 1:A2:1257:U:H3' | 1:A2:1258:U:O2 | 2.15 | 0.47 |
| 1:A2:1291:G:O2' | 1:A2:1292:G:C8 | 2.64 | 0.47 |
| 1:A2:1324:G:O5' | 1:A2:1324:G:H8 | 1.98 | 0.47 |
| 1:A2:1334:U:H4' | 23:BU:83:GLU:HG3 | 1.90 | 0.47 |
| 1:A2:1372:U:H2' | 1:A2:1373:C:O4' | 2.15 | 0.47 |
| 1:A2:1384:A:O2' | 23:BU:35:GLU:OE1 | 2.27 | 0.47 |
| 1:A2:1419:G:O2' | 32:Bd:54:LYS:HE2 | 2.15 | 0.47 |
| 1:A2:1452:U:H1' | 18:BP:96:ILE:CG2 | 2.45 | 0.47 |
| 1:A2:1497:U:H5' | 22:BT:74:GLY:HA2 | 1.32 | 0.47 |
| 1:A2:1534:G:O6 | 28:BZ:61:SER:CA | 2.62 | 0.47 |
| 1:A2:1758:U:O3' | 1:A2:1759:C:P | 2.72 | 0.47 |
| 2:AZ:6111:G:C5' | 8:BF:219:ARG:CB | 2.93 | 0.47 |
| 2:AZ:6218:U:C2 | 6:BD:146:ARG:HA | 2.33 | 0.47 |
| 3:BA:53:THR:HB | 20:BR:106:THR:N | 2.29 | 0.47 |
| 3:BA:138:TYR:O | 24:BV:60:ARG:O | 2.32 | 0.47 |
| 6:BD:18:TYR:O | 6:BD:22:ASN:HB2 | 2.15 | 0.47 |
| 7:BE:232:GLY:C | 7:BE:233:LYS:N | 2.73 | 0.47 |
| 9:BG:112:VAL:HA | 9:BG:113:ILE:N | 2.30 | 0.47 |
| 9:BG:120:GLU:CG | 9:BG:125:THR:HG21 | 2.44 | 0.47 |
| 11:BI:112:TRP:CH2 | 11:BI:116:HIS:HB3 | 2.50 | 0.47 |
| 19:BQ:52:LEU:O | 19:BQ:53:LEU:C | 2.58 | 0.47 |
| 21:BS:138:THR:HG22 | 21:BS:141:THR:OG1 | 2.15 | 0.47 |
| 24:BV:38:LYS:C | 24:BV:39:VAL:N | 2.72 | 0.47 |
| 25:BW:97:ARG:C | 25:BW:99:PHE:N | 2.73 | 0.47 |
| 26:BX:88:PRO:C | 26:BX:89:ASN:N | 2.73 | 0.47 |
| 26:BX:90:ALA:C | 26:BX:91:GLY:N | 2.73 | 0.47 |
| 26:BX:94:ASN:O | 26:BX:95:PHE:CB | 2.62 | 0.47 |
| 35:Bg:21:THR:C | 35:Bg:22:SER:N | 2.73 | 0.47 |
| 1:A2:2:A:C2 | 12:BJ:16:LYS:HD3 | 2.48 | 0.47 |
| 1:A2:129:U:C4 | 9:BG:177:ARG:HD2 | 2.46 | 0.47 |
| 1:A2:586:G:C6 | 1:A2:587:C:C4 | 3.02 | 0.47 |
| 1:A2:755:A:C6 | 12:BJ:2:PRO:CD | 2.64 | 0.47 |
| 1:A2:783:G:N2 | 27:BY:5:VAL:HG11 | 2.28 | 0.47 |
| 1:A2:906:A:H2' | 1:A2:907:A:C8 | 2.49 | 0.47 |
| 1:A2:1098:U:H4' | 5:BC:197:TYR:CB | 2.45 | 0.47 |
| 1:A2:1144:U:N1 | 5:BC:89:GLN:CD | 2.68 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1240:U:C5' | 18:BP:104:GLN:OE1 | 2.63 | 0.47 |
| 1:A2:1299:G:P | 5:BC:117:THR:HA | 2.55 | 0.47 |
| 1:A2:1330:G:N1 | 6:BD:163:PRO:HD2 | 2.30 | 0.47 |
| 1:A2:1389:C:O2' | 20:BR:45:ARG:O | 2.33 | 0.47 |
| 1:A2:1503:A:H3' | 22:BT:37:VAL:CA | 2.41 | 0.47 |
| 1:A2:1583:A:C8 | 1:A2:1585:U:C2 | 3.03 | 0.47 |
| 1:A2:1650:U:H2' | 1:A2:1651:A:C8 | 2.50 | 0.47 |
| 1:A2:1667:A:O2' | 1:A2:1668:G:O4' | 2.19 | 0.47 |
| 3:BA:59:LEU:O | 3:BA:63:ILE:CG1 | 2.63 | 0.47 |
| 12:BJ:83:VAL:HG23 | 12:BJ:85:VAL:HG23 | 1.97 | 0.47 |
| 22:BT:66:TYR:HA | 22:BT:124:ILE:CG2 | 2.45 | 0.47 |
| 25:BW:46:TYR:O | 25:BW:47:ILE:HG23 | 2.15 | 0.47 |
| 28:BZ:88:ILE:HG23 | 28:BZ:89:ILE:H | 1.80 | 0.47 |
| 1:A2:29:U:P | 26:BX:130:VAL:HG13 | 2.53 | 0.46 |
| 1:A2:58:U:C6 | 27:BY:114:ARG:HG2 | 2.50 | 0.46 |
| 1:A2:205:U:H2' | 1:A2:206:A:C8 | 2.49 | 0.46 |
| 1:A2:216:U:C2 | 7:BE:150:PRO:CD | 2.98 | 0.46 |
| 1:A2:222:A:H61 | 1:A2:839:U:H3 | 1.61 | 0.46 |
| 1:A2:332:U:O4 | 11:BI:31:ARG:NH2 | 2.48 | 0.46 |
| 1:A2:397:A:H5" | 9:BG:88:ARG:CG | 2.38 | 0.46 |
| 1:A2:441:A:C6 | 1:A2:464:A:C2 | 3.02 | 0.46 |
| 1:A2:569:C:C5' | 33:Be:12:GLY:CA | 2.93 | 0.46 |
| 1:A2:597:G:O4' | 26:BX:137:LYS:CG | 2.57 | 0.46 |
| 1:A2:776:G:C2' | 27:BY:69:SER:OG | 2.52 | 0.46 |
| 1:A2:777:C:H1' | 27:BY:27:VAL:HG12 | 1.96 | 0.46 |
| 1:A2:831:U:H5' | 7:BE:152:PRO:CG | 2.45 | 0.46 |
| 1:A2:960:U:O2 | 1:A2:960:U:H2' | 2.16 | 0.46 |
| 1:A2:1241:G:N1 | 18:BP:95:GLY:C | 2.64 | 0.46 |
| 1:A2:1402:G:C1' | 20:BR:4:VAL:CG1 | 2.93 | 0.46 |
| 1:A2:1473:U:C4' | 8:BF:113:ILE:HG12 | 2.45 | 0.46 |
| 1:A2:1487:A:C6 | 1:A2:1488:G:C6 | 3.03 | 0.46 |
| 1:A2:1503:A:N6 | 1:A2:1504:G:C6 | 2.80 | 0.46 |
| 1:A2:1503:A:C1' | 22:BT:37:VAL:N | 2.76 | 0.46 |
| 1:A2:1532:U:C3' | 28:BZ:77:ARG:CG | 2.92 | 0.46 |
| 2:AZ:6107:U:H5' | 8:BF:225:ARG:H | 1.80 | 0.46 |
| 3:BA:87:LEU:HD13 | 3:BA:99:ALA:HB3 | 1.97 | 0.46 |
| 3:BA:120:LEU:HD22 | 3:BA:142:PRO:HB3 | 1.97 | 0.46 |
| 6:BD:119:ALA:O | 6:BD:120:TYR:HA | 2.15 | 0.46 |
| 7:BE:188:ASN:OD1 | 7:BE:191:ARG:NH2 | 2.48 | 0.46 |
| 21:BS:85:PHE:C | 21:BS:86:LEU:HD12 | 2.41 | 0.46 |
| 22:BT:9:VAL:CG2 | 22:BT:140:LEU:HD12 | 2.45 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 22:BT:30:VAL:HA | 22:BT:31:PRO:HD2 | 1.77 | 0.46 |
| 24:BV:18:SER:O | 24:BV:19:ALA:N | 2.48 | 0.46 |
| 24:BV:71:ARG:HE | 30:Bb:4:VAL:HG11 | 1.80 | 0.46 |
| 29:Ba:8:ASN:O | 29:Ba:9:GLY:N | 2.49 | 0.46 |
| 32:Bd:21:CYS:SG | 32:Bd:22:ARG:N | 2.89 | 0.46 |
| 35:Bg:287:PRO:HA | 35:Bg:288:HIS:N | 2.30 | 0.46 |
| 1:A2:164:A:N9 | 9:BG:17:GLU:CG | 2.79 | 0.46 |
| 1:A2:468:A:C3' | 1:A2:469:C:P | 3.03 | 0.46 |
| 1:A2:505:A:C2 | 1:A2:507:U:OP1 | 2.68 | 0.46 |
| 1:A2:597:G:O4' | 26:BX:133:LEU:HD22 | 2.14 | 0.46 |
| 1:A2:631:G:O3' | 1:A2:632:U:P | 2.73 | 0.46 |
| 1:A2:637:C:O4' | 25:BW:105:THR:HG23 | 2.14 | 0.46 |
| 1:A2:740:A:N6 | 7:BE:198:LYS:HE3 | 2.30 | 0.46 |
| 1:A2:753:A:H3' | 7:BE:12:LEU:O | 2.08 | 0.46 |
| 1:A2:755:A:N3 | 12:BJ:3:ARG:CB | 2.77 | 0.46 |
| 1:A2:755:A:C1' | 12:BJ:3:ARG:O | 2.23 | 0.46 |
| 1:A2:1051:G:C2' | 1:A2:1052:U:OP1 | 2.62 | 0.46 |
| 1:A2:1054:U:H2' | 3:BA:30:GLN:CD | 2.33 | 0.46 |
| 1:A2:1067:C:C4' | 3:BA:31:VAL:CG1 | 2.90 | 0.46 |
| 1:A2:1095:U:O2' | 5:BC:159:THR:HG21 | 2.15 | 0.46 |
| 1:A2:1391:A:C2 | 1:A2:1408:G:C2 | 3.03 | 0.46 |
| 1:A2:1499:G:C2 | 1:A2:1509:C:O2 | 2.67 | 0.46 |
| 1:A2:1503:A:H2' | 22:BT:37:VAL:CA | 2.42 | 0.46 |
| 1:A2:1586:A:P | 19:BQ:134:ALA:H | 2.36 | 0.46 |
| 1:A2:1591:C:C5' | 22:BT:93:HIS:HA | 2.40 | 0.46 |
| 1:A2:1723:U:H6 | 9:BG:73:ILE:HG21 | 1.80 | 0.46 |
| 1:A2:1727:G:C6 | 1:A2:1728:A:C6 | 3.03 | 0.46 |
| 1:A2:1766:A:N3 | 1:A2:1794:A:N1 | 2.64 | 0.46 |
| 10:BH:162:ILE:HD12 | 10:BH:165:LYS:HE3 | 1.98 | 0.46 |
| 11:BI:119:GLN:N | 11:BI:120:THR:O | 2.48 | 0.46 |
| 12:BJ:30:LEU:O | 12:BJ:31:ALA:C | 2.58 | 0.46 |
| 12:BJ:117:GLY:O | 12:BJ:118:LEU:C | 2.58 | 0.46 |
| 24:BV:77:GLY:O | 24:BV:78:LEU:HD23 | 2.15 | 0.46 |
| 35:Bg:253:ALA:HB3 | 35:Bg:294:TRP:HE1 | 1.80 | 0.46 |
| 1:A2:18:C:C3' | 1:A2:19:A:P | 3.04 | 0.46 |
| 1:A2:129:U:C6 | 9:BG:177:ARG:NH1 | 2.84 | 0.46 |
| 1:A2:427:C:H4' | 1:A2:459:G:O2' | 2.15 | 0.46 |
| 1:A2:449:C:O3' | 1:A2:450:U:P | 2.73 | 0.46 |
| 1:A2:609:U:O2 | 26:BX:28:ASN:HB2 | 2.15 | 0.46 |
| 1:A2:737:A:C1' | 7:BE:158:ASP:CA | 2.94 | 0.46 |
| 1:A2:742:U:H3 | 7:BE:207:LEU:N | 2.11 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:775:G:N1 | 27:BY:69:SER:HB3 | 2.31 | 0.46 |
| 1:A2:858:G:N1 | 10:BH:108:GLN:CG | 2.46 | 0.46 |
| 1:A2:866:G:O5' | 25:BW:3:ARG:HA | 2.13 | 0.46 |
| 1:A2:898:A:P | 17:BO:29:HIS:HA | 2.53 | 0.46 |
| 1:A2:917:U:OP1 | 17:BO:87:GLY:CA | 2.64 | 0.46 |
| 1:A2:1084:A:C1' | 5:BC:163:GLY:O | 2.62 | 0.46 |
| 1:A2:1159:C:C2' | 19:BQ:140:LYS:NZ | 2.67 | 0.46 |
| 1:A2:1383:G:C4 | 23:BU:57:ARG:NE | 2.82 | 0.46 |
| 1:A2:1452:U:O2' | 18:BP:117:GLY:HA3 | 2.07 | 0.46 |
| 1:A2:1533:C:H3' | 28:BZ:62:VAL:HG11 | 1.96 | 0.46 |
| 1:A2:1548:G:N2 | 1:A2:1564:U:C2 | 2.83 | 0.46 |
| 1:A2:1558:U:C4 | 21:BS:123:ARG:CA | 2.99 | 0.46 |
| 1:A2:1558:U:H1' | 21:BS:126:ARG:CG | 2.45 | 0.46 |
| 2:AZ:6108:U:O2 | 2:AZ:6108:U:O4' | 2.31 | 0.46 |
| 5:BC:54:GLU:N | 5:BC:55:GLU:N | 2.64 | 0.46 |
| 10:BH:135:ILE:HG22 | 10:BH:136:VAL:O | 2.14 | 0.46 |
| 10:BH:175:LYS:C | 10:BH:176:LEU:HA | 2.41 | 0.46 |
| 11:BI:68:ALA:HA | 11:BI:71:GLY:HA2 | 1.98 | 0.46 |
| 15:BM:50:LYS:C | 34:Bf:129:GLY:HA3 | 2.41 | 0.46 |
| 17:BO:15:GLY:O | 17:BO:79:VAL:HG23 | 2.15 | 0.46 |
| 24:BV:68:SER:O | 24:BV:71:ARG:N | 2.48 | 0.46 |
| 25:BW:89:TRP:C | 25:BW:90:THR:C | 2.82 | 0.46 |
| 35:Bg:24:ALA:O | 35:Bg:25:THR:N | 2.47 | 0.46 |
| 1:A2:22:A:H2' | 1:A2:23:G:O4' | 2.15 | 0.46 |
| 1:A2:138:A:N3 | 9:BG:140:ASN:O | 2.48 | 0.46 |
| 1:A2:140:A:P | 9:BG:175:ILE:HD11 | 2.55 | 0.46 |
| 1:A2:141:U:P | 9:BG:141:ILE:HG23 | 2.45 | 0.46 |
| 1:A2:456:A:C6 | 27:BY:108:ARG:CA | 2.93 | 0.46 |
| 1:A2:570:A:N6 | 26:BX:68:ILE:N | 2.56 | 0.46 |
| 1:A2:776:G:H1' | 27:BY:62:THR:HA | 1.87 | 0.46 |
| 1:A2:862:A:O4' | 25:BW:31:SER:CB | 2.45 | 0.46 |
| 1:A2:959:U:P | 25:BW:60:LYS:HG3 | 2.55 | 0.46 |
| 1:A2:984:G:C6 | 1:A2:985:G:N7 | 2.83 | 0.46 |
| 1:A2:1074:G:N1 | 1:A2:1075:C:C4 | 2.83 | 0.46 |
| 1:A2:1095:U:C5' | 5:BC:159:THR:OG1 | 2.63 | 0.46 |
| 1:A2:1096:C:C1' | 5:BC:166:THR:OG1 | 2.63 | 0.46 |
| 1:A2:1212:G:O6 | 18:BP:99:GLY:HA2 | 2.12 | 0.46 |
| 1:A2:1229:G:H1 | 34:Bf:133:ALA:CB | 2.28 | 0.46 |
| 1:A2:1281:G:N3 | 23:BU:75:GLY:N | 2.64 | 0.46 |
| 1:A2:1372:U:O4 | 1:A2:1373:C:N4 | 2.49 | 0.46 |
| 1:A2:1383:G:C4' | 23:BU:87:HIS:O | 2.63 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1392:U:H5” | 20:BR:28:PHE:C | 2.37 | 0.46 |
| 1:A2:1422:A:N1 | 1:A2:1423:U:C2 | 2.84 | 0.46 |
| 1:A2:1453:G:C1’ | 18:BP:120:SER:HB3 | 2.37 | 0.46 |
| 1:A2:1502:G:O6 | 22:BT:99:SER:CB | 2.52 | 0.46 |
| 1:A2:1508:U:O2 | 1:A2:1508:U:H2’ | 2.14 | 0.46 |
| 1:A2:1554:U:N3 | 18:BP:115:TYR:CE2 | 2.70 | 0.46 |
| 1:A2:1591:C:OP2 | 22:BT:92:LYS:HA | 2.16 | 0.46 |
| 1:A2:1786:G:C5’ | 17:BO:133:ARG:HB2 | 2.46 | 0.46 |
| 3:BA:101:ARG:HA | 3:BA:102:PHE:N | 2.30 | 0.46 |
| 4:BB:197:ILE:O | 4:BB:200:ALA:N | 2.49 | 0.46 |
| 7:BE:50:ASN:C | 7:BE:51:ARG:HG2 | 2.41 | 0.46 |
| 9:BG:28:PHE:O | 9:BG:29:ASP:N | 2.47 | 0.46 |
| 10:BH:136:VAL:C | 10:BH:137:GLY:N | 2.72 | 0.46 |
| 10:BH:144:VAL:HG12 | 25:BW:42:GLN:HE21 | 1.80 | 0.46 |
| 11:BI:34:ALA:O | 11:BI:35:ASN:N | 2.49 | 0.46 |
| 16:BN:22:ALA:N | 16:BN:65:VAL:HG13 | 2.30 | 0.46 |
| 19:BQ:110:THR:HG23 | 19:BQ:113:ASP:OD1 | 2.16 | 0.46 |
| 20:BR:104:ASN:HB2 | 20:BR:122:ILE:N | 2.30 | 0.46 |
| 22:BT:15:ILE:O | 22:BT:19:ALA:HB2 | 2.15 | 0.46 |
| 24:BV:55:LEU:O | 24:BV:56:SER:O | 2.33 | 0.46 |
| 27:BY:59:GLY:CA | 27:BY:60:PHE:N | 2.78 | 0.46 |
| 1:A2:85:A:O2’ | 27:BY:126:ALA:C | 2.59 | 0.46 |
| 1:A2:175:G:H22 | 1:A2:266:A:P | 2.38 | 0.46 |
| 1:A2:216:U:C4 | 7:BE:150:PRO:CG | 2.87 | 0.46 |
| 1:A2:321:C:O2’ | 1:A2:322:G:C5’ | 2.64 | 0.46 |
| 1:A2:338:C:O4’ | 11:BI:4:SER:OG | 2.34 | 0.46 |
| 1:A2:397:A:C2’ | 9:BG:88:ARG:CZ | 2.70 | 0.46 |
| 1:A2:633:U:OP2 | 14:BL:99:ARG:CA | 2.62 | 0.46 |
| 1:A2:700:C:C4 | 7:BE:198:LYS:N | 2.84 | 0.46 |
| 1:A2:704:C:O2 | 7:BE:231:GLN:N | 2.47 | 0.46 |
| 1:A2:776:G:H3’ | 27:BY:34:ASN:N | 2.31 | 0.46 |
| 1:A2:790:U:H2’ | 1:A2:791:A:O4’ | 2.16 | 0.46 |
| 1:A2:811:A:H2 | 10:BH:107:ARG:N | 2.00 | 0.46 |
| 1:A2:812:A:H2 | 10:BH:111:LYS:HA | 1.80 | 0.46 |
| 1:A2:834:G:H2’ | 1:A2:835:U:O4’ | 2.16 | 0.46 |
| 1:A2:897:C:OP2 | 17:BO:38:THR:HA | 2.15 | 0.46 |
| 1:A2:960:U:C5’ | 25:BW:57:ARG:HD3 | 2.26 | 0.46 |
| 1:A2:1003:A:N3 | 1:A2:1005:A:C5 | 2.83 | 0.46 |
| 1:A2:1055:U:C4 | 1:A2:1056:U:C5 | 3.02 | 0.46 |
| 1:A2:1109:G:C8 | 26:BX:112:LYS:HE3 | 2.51 | 0.46 |
| 1:A2:1175:U:H2’ | 1:A2:1176:G:H8 | 1.80 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1299:G:C4' | 5:BC:98:PHE:C | 2.88 | 0.46 |
| 1:A2:1302:U:H2' | 1:A2:1303:U:C6 | 2.50 | 0.46 |
| 1:A2:1316:G:C2' | 20:BR:6:THR:CG2 | 2.93 | 0.46 |
| 1:A2:1331:A:H3' | 6:BD:162:GLN:HG2 | 1.97 | 0.46 |
| 1:A2:1334:U:HO3' | 23:BU:83:GLU:CD | 2.21 | 0.46 |
| 1:A2:1358:G:N2 | 1:A2:1366:U:H1' | 2.31 | 0.46 |
| 1:A2:1450:U:C2 | 1:A2:1451:C:C5 | 3.04 | 0.46 |
| 1:A2:1528:U:H4' | 19:BQ:43:ILE:HB | 1.97 | 0.46 |
| 1:A2:1629:G:C2' | 1:A2:1630:U:H5' | 2.45 | 0.46 |
| 1:A2:1721:A:N3 | 9:BG:99:GLY:C | 2.63 | 0.46 |
| 2:AZ:6130:C:H3' | 2:AZ:6131:U:C5' | 2.44 | 0.46 |
| 4:BB:134:VAL:O | 4:BB:218:LEU:HD23 | 2.15 | 0.46 |
| 5:BC:133:LYS:O | 5:BC:135:SER:N | 2.49 | 0.46 |
| 5:BC:227:PRO:HA | 5:BC:230:TRP:CE2 | 2.50 | 0.46 |
| 10:BH:15:GLU:CD | 10:BH:15:GLU:N | 2.73 | 0.46 |
| 12:BJ:141:VAL:C | 12:BJ:142:ASN:N | 2.74 | 0.46 |
| 24:BV:26:ALA:C | 24:BV:27:ASP:N | 2.73 | 0.46 |
| 35:Bg:106:HIS:C | 35:Bg:107:LYS:HD2 | 2.40 | 0.46 |
| 35:Bg:178:VAL:HG12 | 35:Bg:179:LYS:N | 2.31 | 0.46 |
| 35:Bg:199:ILE:HG23 | 35:Bg:213:SER:OG | 2.15 | 0.46 |
| 1:A2:139:C:O3' | 9:BG:175:ILE:HD13 | 2.16 | 0.46 |
| 1:A2:140:A:O2' | 9:BG:158:ILE:N | 2.45 | 0.46 |
| 1:A2:151:G:N7 | 27:BY:134:ALA:O | 2.49 | 0.46 |
| 1:A2:157:A:O2' | 1:A2:158:U:H5' | 2.16 | 0.46 |
| 1:A2:242:U:C6 | 7:BE:149:TYR:CG | 3.04 | 0.46 |
| 1:A2:302:U:H5 | 7:BE:2:ALA:HB1 | 1.63 | 0.46 |
| 1:A2:315:A:N6 | 1:A2:353:A:N7 | 2.64 | 0.46 |
| 1:A2:329:G:H2' | 11:BI:32:GLN:N | 2.31 | 0.46 |
| 1:A2:329:G:HO2' | 11:BI:33:PRO:HA | 1.79 | 0.46 |
| 1:A2:340:U:N1 | 11:BI:3:ILE:HG12 | 2.30 | 0.46 |
| 1:A2:599:A:H3' | 26:BX:123:LYS:CB | 2.32 | 0.46 |
| 1:A2:630:A:H61 | 26:BX:14:LYS:HD2 | 1.65 | 0.46 |
| 1:A2:638:U:O5' | 25:BW:107:SER:N | 2.44 | 0.46 |
| 1:A2:775:G:N2 | 27:BY:69:SER:CA | 2.78 | 0.46 |
| 1:A2:778:G:C8 | 1:A2:783:G:C2 | 3.03 | 0.46 |
| 1:A2:812:A:P | 10:BH:108:GLN:NE2 | 2.80 | 0.46 |
| 1:A2:865:A:C4 | 25:BW:5:SER:HB2 | 2.38 | 0.46 |
| 1:A2:921:U:OP1 | 4:BB:215:VAL:O | 2.33 | 0.46 |
| 1:A2:977:A:H2' | 1:A2:978:A:O4' | 2.15 | 0.46 |
| 1:A2:1048:G:N2 | 30:Bb:18:LYS:CE | 2.78 | 0.46 |
| 1:A2:1242:A:H5" | 18:BP:89:MET:SD | 2.54 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1329:A:C6 | 6:BD:160:SER:C | 2.93 | 0.46 |
| 1:A2:1331:A:H1' | 6:BD:163:PRO:CD | 2.46 | 0.46 |
| 1:A2:1413:U:O3' | 1:A2:1414:U:OP1 | 2.33 | 0.46 |
| 1:A2:1453:G:O2' | 18:BP:120:SER:CA | 2.64 | 0.46 |
| 1:A2:1488:G:O2' | 1:A2:1489:U:H5' | 2.16 | 0.46 |
| 1:A2:1505:A:C5 | 1:A2:1506:G:H1' | 2.50 | 0.46 |
| 1:A2:1750:A:C4 | 1:A2:1751:C:C6 | 3.03 | 0.46 |
| 2:AZ:6042:U:O3' | 2:AZ:6043:G:P | 2.74 | 0.46 |
| 4:BB:64:ARG:C | 4:BB:65:VAL:N | 2.74 | 0.46 |
| 5:BC:213:ALA:O | 5:BC:214:ALA:C | 2.59 | 0.46 |
| 6:BD:76:ARG:O | 6:BD:76:ARG:NH1 | 2.45 | 0.46 |
| 6:BD:115:ILE:HD12 | 6:BD:115:ILE:C | 2.41 | 0.46 |
| 8:BF:42:LEU:HD21 | 8:BF:47:SER:HA | 1.98 | 0.46 |
| 9:BG:23:ARG:O | 9:BG:23:ARG:CG | 2.64 | 0.46 |
| 16:BN:42:ARG:O | 16:BN:43:LYS:C | 2.58 | 0.46 |
| 19:BQ:7:VAL:HG13 | 19:BQ:8:GLN:N | 2.31 | 0.46 |
| 20:BR:54:THR:OG1 | 20:BR:55:THR:N | 2.43 | 0.46 |
| 23:BU:24:ILE:C | 23:BU:25:THR:N | 2.74 | 0.46 |
| 32:Bd:33:LYS:O | 32:Bd:36:LEU:HD12 | 2.15 | 0.46 |
| 35:Bg:93:ASP:O | 35:Bg:96:THR:N | 2.48 | 0.46 |
| 35:Bg:103:PHE:HE1 | 35:Bg:137:LYS:N | 2.13 | 0.46 |
| 1:A2:164:A:C2' | 9:BG:15:THR:HG22 | 2.46 | 0.46 |
| 1:A2:241:U:C2 | 7:BE:136:VAL:CG1 | 2.92 | 0.46 |
| 1:A2:329:G:HO2' | 11:BI:32:GLN:C | 2.23 | 0.46 |
| 1:A2:341:A:C3' | 1:A2:342:C:P | 3.04 | 0.46 |
| 1:A2:395:U:H1' | 9:BG:93:LYS:HZ2 | 1.77 | 0.46 |
| 1:A2:479:C:H3' | 1:A2:480:G:OP2 | 2.16 | 0.46 |
| 1:A2:736:C:O2 | 7:BE:227:VAL:CB | 2.64 | 0.46 |
| 1:A2:778:G:O2' | 27:BY:5:VAL:HB | 2.15 | 0.46 |
| 1:A2:865:A:H5" | 25:BW:6:VAL:CA | 2.32 | 0.46 |
| 1:A2:883:C:C2 | 1:A2:946:U:C4 | 3.03 | 0.46 |
| 1:A2:900:A:OP2 | 17:BO:25:ASP:OD1 | 2.28 | 0.46 |
| 1:A2:952:A:N3 | 1:A2:952:A:H2' | 2.31 | 0.46 |
| 1:A2:1097:U:O2 | 5:BC:200:SER:CB | 2.63 | 0.46 |
| 1:A2:1239:U:C6 | 18:BP:63:ALA:O | 2.67 | 0.46 |
| 1:A2:1252:C:C5 | 1:A2:1253:U:C5 | 3.04 | 0.46 |
| 1:A2:1260:U:C5' | 34:Bf:92:LYS:C | 2.71 | 0.46 |
| 1:A2:1294:G:C8 | 1:A2:1294:G:P | 3.09 | 0.46 |
| 1:A2:1330:G:C8 | 6:BD:161:GLY:HA2 | 2.29 | 0.46 |
| 1:A2:1553:G:C2 | 18:BP:40:ARG:N | 2.84 | 0.46 |
| 1:A2:1581:C:O3' | 19:BQ:135:ARG:CB | 2.63 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1758:U:HO3' | 1:A2:1759:C:C5' | 2.28 | 0.46 |
| 2:AZ:6107:U:N3 | 8:BF:217:LEU:CA | 2.79 | 0.46 |
| 5:BC:189:GLN:O | 5:BC:190:LEU:C | 2.58 | 0.46 |
| 6:BD:87:TYR:O | 6:BD:88:ALA:N | 2.48 | 0.46 |
| 7:BE:186:GLY:O | 7:BE:187:ARG:C | 2.58 | 0.46 |
| 16:BN:118:ILE:C | 16:BN:120:SER:OG | 2.59 | 0.46 |
| 17:BO:91:THR:OG1 | 17:BO:93:THR:HB | 2.16 | 0.46 |
| 26:BX:34:LEU:HD12 | 26:BX:34:LEU:N | 2.31 | 0.46 |
| 26:BX:76:LEU:O | 26:BX:78:LYS:N | 2.49 | 0.46 |
| 1:A2:348:U:O4 | 11:BI:14:THR:O | 2.34 | 0.46 |
| 1:A2:370:A:H5' | 12:BJ:14:THR:C | 2.41 | 0.46 |
| 1:A2:441:A:N1 | 1:A2:442:C:C4 | 2.84 | 0.46 |
| 1:A2:633:U:O5' | 14:BL:99:ARG:HD2 | 2.14 | 0.46 |
| 1:A2:736:C:N3 | 7:BE:195:ILE:CG1 | 2.78 | 0.46 |
| 1:A2:866:G:C3' | 25:BW:3:ARG:N | 2.78 | 0.46 |
| 1:A2:977:A:C2 | 1:A2:978:A:H1' | 2.51 | 0.46 |
| 1:A2:988:A:O3' | 17:BO:126:THR:HA | 2.15 | 0.46 |
| 1:A2:1066:C:O2' | 3:BA:31:VAL:CA | 2.49 | 0.46 |
| 1:A2:1253:U:C5 | 34:Bf:136:LYS:CA | 2.98 | 0.46 |
| 1:A2:1326:A:OP1 | 6:BD:189:MET:HE1 | 2.16 | 0.46 |
| 1:A2:1381:U:C3' | 23:BU:59:PRO:HG2 | 2.21 | 0.46 |
| 1:A2:1408:G:C2 | 1:A2:1409:G:H1' | 2.51 | 0.46 |
| 1:A2:1566:U:P | 21:BS:29:VAL:HG12 | 2.56 | 0.46 |
| 1:A2:1662:G:H2' | 1:A2:1663:G:H8 | 1.80 | 0.46 |
| 1:A2:1758:U:H3' | 1:A2:1759:C:OP2 | 2.15 | 0.46 |
| 3:BA:195:TRP:CE3 | 20:BR:91:ALA:N | 2.83 | 0.46 |
| 4:BB:189:ILE:HB | 4:BB:190:PRO:HD3 | 1.98 | 0.46 |
| 5:BC:53:ILE:HG23 | 5:BC:72:LEU:HD23 | 1.98 | 0.46 |
| 6:BD:168:ILE:C | 6:BD:168:ILE:HD12 | 2.41 | 0.46 |
| 12:BJ:111:THR:C | 12:BJ:112:GLN:N | 2.74 | 0.46 |
| 14:BL:14:GLN:HB3 | 14:BL:54:ILE:HG12 | 1.98 | 0.46 |
| 16:BN:142:GLU:O | 16:BN:143:SER:C | 2.59 | 0.46 |
| 21:BS:4:VAL:HG23 | 28:BZ:79:ALA:HB2 | 1.97 | 0.46 |
| 1:A2:1:U:C6 | 12:BJ:43:TYR:CD2 | 3.04 | 0.46 |
| 1:A2:39:A:C2 | 1:A2:467:G:C2 | 3.04 | 0.46 |
| 1:A2:141:U:O2' | 9:BG:158:ILE:CG2 | 2.64 | 0.46 |
| 1:A2:149:C:O4' | 27:BY:127:LYS:O | 2.32 | 0.46 |
| 1:A2:182:A:H4' | 9:BG:195:VAL:CG2 | 2.46 | 0.46 |
| 1:A2:210:A:C8 | 1:A2:211:U:C5 | 3.03 | 0.46 |
| 1:A2:267:U:OP2 | 9:BG:136:LYS:HE2 | 2.16 | 0.46 |
| 1:A2:312:A:C2 | 1:A2:315:A:C8 | 3.04 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:635:A:H5” | 25:BW:78:ARG:HA | 1.70 | 0.46 |
| 1:A2:783:G:N9 | 27:BY:39:GLU:C | 2.71 | 0.46 |
| 1:A2:865:A:C5’ | 25:BW:6:VAL:CA | 2.86 | 0.46 |
| 1:A2:873:U:C5 | 16:BN:12:SER:CB | 2.98 | 0.46 |
| 1:A2:959:U:C4 | 25:BW:54:ASP:N | 2.82 | 0.46 |
| 1:A2:960:U:OP2 | 25:BW:57:ARG:NE | 2.42 | 0.46 |
| 1:A2:965:U:C2’ | 1:A2:966:A:P | 3.03 | 0.46 |
| 1:A2:992:A:N1 | 1:A2:1013:A:C4 | 2.84 | 0.46 |
| 1:A2:1030:A:C3’ | 1:A2:1031:U:P | 2.98 | 0.46 |
| 1:A2:1098:U:H2’ | 5:BC:198:THR:HA | 1.97 | 0.46 |
| 1:A2:1135:U:H3’ | 26:BX:118:PRO:HB2 | 1.56 | 0.46 |
| 1:A2:1183:A:C2’ | 18:BP:124:THR:N | 2.59 | 0.46 |
| 1:A2:1331:A:H1’ | 6:BD:163:PRO:HD3 | 1.97 | 0.46 |
| 1:A2:1504:G:C1’ | 21:BS:41:ARG:HH21 | 2.11 | 0.46 |
| 1:A2:1505:A:H5’ | 22:BT:41:SER:CB | 2.43 | 0.46 |
| 1:A2:1548:G:H5’ | 21:BS:98:TYR:O | 2.16 | 0.46 |
| 1:A2:1565:C:H5” | 21:BS:43:SER:C | 2.40 | 0.46 |
| 1:A2:1683:C:P | 9:BG:109:LEU:CD1 | 3.01 | 0.46 |
| 1:A2:1744:A:C3’ | 1:A2:1745:G:O5’ | 2.64 | 0.46 |
| 4:BB:46:THR:C | 4:BB:47:LEU:HD22 | 2.41 | 0.46 |
| 5:BC:147:ASN:ND2 | 5:BC:148:LEU:O | 2.49 | 0.46 |
| 7:BE:21:ASP:OD1 | 7:BE:23:LEU:N | 2.44 | 0.46 |
| 20:BR:102:VAL:N | 20:BR:120:SER:O | 2.49 | 0.46 |
| 24:BV:51:VAL:O | 24:BV:52:THR:HA | 2.16 | 0.46 |
| 27:BY:57:VAL:N | 27:BY:72:PHE:O | 2.49 | 0.46 |
| 28:BZ:62:VAL:HG13 | 28:BZ:76:ALA:CB | 2.46 | 0.46 |
| 29:Ba:53:LEU:O | 29:Ba:56:ALA:N | 2.49 | 0.46 |
| 30:Bb:11:THR:O | 30:Bb:15:GLU:OE1 | 2.34 | 0.46 |
| 1:A2:58:U:C6 | 27:BY:114:ARG:CA | 2.97 | 0.46 |
| 1:A2:85:A:H1’ | 27:BY:126:ALA:CA | 2.37 | 0.46 |
| 1:A2:85:A:C2 | 27:BY:127:LYS:N | 2.80 | 0.46 |
| 1:A2:163:G:C2’ | 9:BG:1:MET:C | 2.89 | 0.46 |
| 1:A2:293:U:H2’ | 1:A2:294:C:C6 | 2.51 | 0.46 |
| 1:A2:346:G:N3 | 11:BI:12:SER:O | 2.49 | 0.46 |
| 1:A2:395:U:H5’ | 9:BG:85:ARG:C | 2.41 | 0.46 |
| 1:A2:557:G:O3’ | 1:A2:558:U:P | 2.74 | 0.46 |
| 1:A2:557:G:O6 | 33:Be:19:PRO:HG2 | 2.16 | 0.46 |
| 1:A2:601:A:P | 26:BX:43:PHE:CE2 | 3.08 | 0.46 |
| 1:A2:844:A:C6 | 1:A2:845:G:C5 | 3.03 | 0.46 |
| 1:A2:967:A:C1’ | 26:BX:7:ARG:HB3 | 2.43 | 0.46 |
| 1:A2:1033:C:C2’ | 26:BX:3:LYS:C | 2.78 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1054:U:H1' | 3:BA:30:GLN:HG2 | 1.97 | 0.46 |
| 1:A2:1099:U:H5" | 5:BC:168:ARG:HD3 | 1.98 | 0.46 |
| 1:A2:1378:U:H2' | 1:A2:1379:C:C1' | 2.46 | 0.46 |
| 1:A2:1554:U:C2 | 18:BP:44:ARG:NE | 2.83 | 0.46 |
| 1:A2:1563:C:C5' | 22:BT:38:LYS:CE | 2.90 | 0.46 |
| 1:A2:1607:G:C6 | 1:A2:1608:U:C4 | 3.04 | 0.46 |
| 3:BA:85:ALA:HB3 | 3:BA:171:GLY:HA3 | 1.98 | 0.46 |
| 4:BB:127:VAL:HG11 | 4:BB:176:VAL:HG11 | 1.98 | 0.46 |
| 6:BD:33:GLY:O | 6:BD:35:SER:N | 2.49 | 0.46 |
| 6:BD:98:ALA:O | 6:BD:102:ALA:N | 2.49 | 0.46 |
| 7:BE:48:LEU:C | 7:BE:49:ARG:N | 2.74 | 0.46 |
| 7:BE:161:LYS:HB2 | 7:BE:170:THR:OG1 | 2.16 | 0.46 |
| 7:BE:208:VAL:C | 7:BE:209:HIS:N | 2.74 | 0.46 |
| 8:BF:170:GLN:HE21 | 8:BF:170:GLN:HA | 1.80 | 0.46 |
| 9:BG:96:SER:O | 9:BG:97:VAL:N | 2.45 | 0.46 |
| 12:BJ:173:ALA:O | 12:BJ:174:ARG:N | 2.49 | 0.46 |
| 16:BN:135:LEU:HD22 | 16:BN:139:TRP:CD1 | 2.51 | 0.46 |
| 17:BO:91:THR:C | 17:BO:92:LYS:N | 2.73 | 0.46 |
| 21:BS:10:SER:N | 21:BS:11:PHE:N | 2.64 | 0.46 |
| 23:BU:38:SER:CB | 23:BU:55:PRO:HB3 | 2.46 | 0.46 |
| 25:BW:23:ARG:C | 25:BW:65:LEU:HD12 | 2.41 | 0.46 |
| 35:Bg:300:THR:C | 35:Bg:301:LEU:HA | 2.41 | 0.46 |
| 1:A2:26:A:C2 | 26:BX:48:HIS:CE1 | 3.04 | 0.45 |
| 1:A2:78:A:N1 | 9:BG:160:ARG:NE | 2.52 | 0.45 |
| 1:A2:242:U:C2 | 7:BE:148:ARG:HD2 | 2.45 | 0.45 |
| 1:A2:338:C:C2' | 11:BI:24:LYS:HZ3 | 2.17 | 0.45 |
| 1:A2:338:C:C2 | 11:BI:29:LEU:HA | 2.49 | 0.45 |
| 1:A2:570:A:P | 26:BX:90:ALA:HA | 2.56 | 0.45 |
| 1:A2:597:G:O5' | 26:BX:133:LEU:HD21 | 2.16 | 0.45 |
| 1:A2:733:A:N7 | 7:BE:209:HIS:C | 2.74 | 0.45 |
| 1:A2:785:U:O2 | 27:BY:69:SER:HB3 | 2.17 | 0.45 |
| 1:A2:833:U:P | 9:BG:213:ALA:CB | 2.92 | 0.45 |
| 1:A2:1176:G:H2' | 1:A2:1177:C:C6 | 2.50 | 0.45 |
| 1:A2:1191:U:O2 | 19:BQ:142:TYR:CB | 2.64 | 0.45 |
| 1:A2:1565:C:H1' | 21:BS:42:TYR:HB3 | 1.98 | 0.45 |
| 1:A2:1592:A:OP2 | 22:BT:93:HIS:HB3 | 2.14 | 0.45 |
| 1:A2:1711:C:H3' | 1:A2:1712:A:P | 2.56 | 0.45 |
| 1:A2:1726:G:H2' | 1:A2:1727:G:O4' | 2.16 | 0.45 |
| 2:AZ:6122:C:O2 | 2:AZ:6122:C:C2' | 2.63 | 0.45 |
| 5:BC:35:TRP:CE2 | 5:BC:36:VAL:O | 2.68 | 0.45 |
| 7:BE:40:GLU:N | 7:BE:41:SER:N | 2.64 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 7:BE:187:ARG:NE | 7:BE:187:ARG:HA | 2.31 | 0.45 |
| 9:BG:182:GLN:O | 9:BG:183:ARG:C | 2.58 | 0.45 |
| 11:BI:107:THR:O | 11:BI:111:GLN:N | 2.49 | 0.45 |
| 20:BR:99:VAL:HA | 20:BR:118:PRO:O | 2.16 | 0.45 |
| 25:BW:51:GLU:O | 25:BW:52:TYR:N | 2.49 | 0.45 |
| 27:BY:34:ASN:OD1 | 27:BY:35:VAL:N | 2.48 | 0.45 |
| 30:Bb:51:GLN:O | 30:Bb:52:THR:OG1 | 2.23 | 0.45 |
| 35:Bg:7:LEU:HD22 | 35:Bg:9:LEU:HD11 | 1.97 | 0.45 |
| 35:Bg:88:THR:HB | 35:Bg:89:LEU:CA | 2.47 | 0.45 |
| 1:A2:89:G:C6 | 27:BY:118:ILE:CG2 | 2.85 | 0.45 |
| 1:A2:216:U:N1 | 7:BE:129:VAL:HG21 | 2.26 | 0.45 |
| 1:A2:641:G:H2' | 1:A2:642:G:O4' | 2.15 | 0.45 |
| 1:A2:916:U:O2 | 17:BO:27:PHE:HD2 | 1.99 | 0.45 |
| 1:A2:936:G:O6 | 29:Ba:13:LYS:CB | 2.51 | 0.45 |
| 1:A2:938:G:N2 | 1:A2:942:G:C4 | 2.84 | 0.45 |
| 1:A2:959:U:N3 | 25:BW:54:ASP:N | 2.59 | 0.45 |
| 1:A2:997:G:H2' | 1:A2:998:A:O4' | 2.15 | 0.45 |
| 1:A2:1239:U:C6 | 18:BP:74:ALA:HB3 | 2.52 | 0.45 |
| 1:A2:1252:C:C3' | 34:Bf:136:LYS:CG | 2.50 | 0.45 |
| 1:A2:1260:U:O4 | 34:Bf:94:ALA:HB3 | 2.16 | 0.45 |
| 1:A2:1402:G:C8 | 20:BR:5:ARG:N | 2.73 | 0.45 |
| 1:A2:1458:G:N3 | 1:A2:1458:G:C2' | 2.79 | 0.45 |
| 1:A2:1532:U:H5" | 28:BZ:77:ARG:N | 2.31 | 0.45 |
| 1:A2:1532:U:C2 | 28:BZ:77:ARG:NE | 2.84 | 0.45 |
| 1:A2:1565:C:C4 | 21:BS:39:GLY:CA | 2.99 | 0.45 |
| 1:A2:1566:U:H2' | 1:A2:1567:U:C6 | 2.50 | 0.45 |
| 1:A2:1581:C:H4' | 19:BQ:135:ARG:CB | 2.45 | 0.45 |
| 1:A2:1593:A:H2' | 1:A2:1594:G:H8 | 1.82 | 0.45 |
| 1:A2:1682:U:O2' | 9:BG:53:SER:C | 2.59 | 0.45 |
| 1:A2:1768:G:H4' | 1:A2:1769:U:H5" | 1.98 | 0.45 |
| 1:A2:1797:A:C1' | 29:Ba:94:ASN:N | 2.53 | 0.45 |
| 2:AZ:6128:G:N2 | 2:AZ:6129:C:O2 | 2.48 | 0.45 |
| 3:BA:7:PHE:N | 20:BR:114:GLY:O | 2.49 | 0.45 |
| 4:BB:126:THR:C | 4:BB:127:VAL:HB | 2.41 | 0.45 |
| 5:BC:104:VAL:CG2 | 5:BC:132:ALA:HB3 | 2.46 | 0.45 |
| 9:BG:23:ARG:O | 9:BG:23:ARG:HG3 | 2.17 | 0.45 |
| 9:BG:75:LEU:HD13 | 9:BG:77:LEU:HD21 | 1.97 | 0.45 |
| 11:BI:97:THR:C | 11:BI:98:LYS:O | 2.59 | 0.45 |
| 16:BN:111:ALA:O | 16:BN:112:LYS:O | 2.35 | 0.45 |
| 24:BV:27:ASP:N | 24:BV:27:ASP:OD1 | 2.49 | 0.45 |
| 25:BW:124:LYS:C | 25:BW:125:ILE:HG22 | 2.40 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 30:Bb:64:CYS:HB2 | 30:Bb:71:ALA:CB | 2.47 | 0.45 |
| 34:Bf:151:ASN:O | 34:Bf:152:ALA:HB2 | 2.15 | 0.45 |
| 35:Bg:25:THR:HG23 | 35:Bg:293:ALA:HB1 | 1.97 | 0.45 |
| 35:Bg:85:TRP:HA | 35:Bg:109:ASP:HA | 1.98 | 0.45 |
| 1:A2:80:A:O3' | 1:A2:81:G:P | 2.75 | 0.45 |
| 1:A2:218:A:H5" | 7:BE:152:PRO:O | 2.13 | 0.45 |
| 1:A2:281:G:C2 | 1:A2:282:C:C4 | 3.05 | 0.45 |
| 1:A2:338:C:OP2 | 11:BI:9:HIS:N | 2.49 | 0.45 |
| 1:A2:351:C:O3' | 1:A2:352:A:OP2 | 2.31 | 0.45 |
| 1:A2:457:G:C1' | 27:BY:110:GLN:HB2 | 2.45 | 0.45 |
| 1:A2:733:A:C8 | 7:BE:209:HIS:C | 2.94 | 0.45 |
| 1:A2:774:A:OP2 | 1:A2:788:A:C2 | 2.70 | 0.45 |
| 1:A2:785:U:O2 | 27:BY:69:SER:CB | 2.64 | 0.45 |
| 1:A2:804:A:C6 | 25:BW:82:LYS:CB | 2.99 | 0.45 |
| 1:A2:921:U:OP1 | 4:BB:216:LYS:HG2 | 2.15 | 0.45 |
| 1:A2:960:U:O4' | 25:BW:57:ARG:CD | 2.52 | 0.45 |
| 1:A2:990:C:C6 | 17:BO:127:ARG:NH1 | 2.70 | 0.45 |
| 1:A2:1053:G:N3 | 1:A2:1053:G:H2' | 2.31 | 0.45 |
| 1:A2:1239:U:P | 18:BP:72:LYS:O | 2.63 | 0.45 |
| 1:A2:1279:C:O3' | 1:A2:1280:C:P | 2.75 | 0.45 |
| 1:A2:1299:G:O4' | 5:BC:84:LYS:HG3 | 2.15 | 0.45 |
| 1:A2:1327:C:C3' | 6:BD:159:HIS:CB | 2.94 | 0.45 |
| 1:A2:1328:G:O4' | 6:BD:159:HIS:O | 2.32 | 0.45 |
| 1:A2:1438:G:C6 | 1:A2:1439:C:N3 | 2.84 | 0.45 |
| 1:A2:1564:U:OP1 | 22:BT:44:GLU:HB2 | 2.17 | 0.45 |
| 1:A2:1566:U:O2' | 1:A2:1567:U:H5' | 2.15 | 0.45 |
| 1:A2:1647:U:C4 | 1:A2:1648:A:N7 | 2.84 | 0.45 |
| 1:A2:1663:G:H2' | 1:A2:1664:C:O4' | 2.16 | 0.45 |
| 2:AZ:6165:C:O2 | 2:AZ:6165:C:C2' | 2.59 | 0.45 |
| 3:BA:133:ILE:HG22 | 3:BA:133:ILE:O | 2.15 | 0.45 |
| 4:BB:54:LEU:O | 4:BB:55:LYS:HB3 | 2.15 | 0.45 |
| 4:BB:131:ASP:O | 4:BB:133:TYR:N | 2.50 | 0.45 |
| 4:BB:172:LEU:O | 4:BB:175:GLU:N | 2.48 | 0.45 |
| 5:BC:69:ILE:HD11 | 5:BC:133:LYS:HD3 | 1.98 | 0.45 |
| 6:BD:108:LYS:O | 6:BD:113:LEU:HD12 | 2.17 | 0.45 |
| 7:BE:25:GLY:O | 7:BE:26:CYS:C | 2.60 | 0.45 |
| 9:BG:214:LYS:HE2 | 9:BG:214:LYS:HA | 1.98 | 0.45 |
| 14:BL:15:LYS:HA | 14:BL:54:ILE:HD11 | 1.98 | 0.45 |
| 16:BN:119:GLU:C | 16:BN:120:SER:N | 2.73 | 0.45 |
| 20:BR:70:SER:CA | 20:BR:71:PHE:N | 2.80 | 0.45 |
| 23:BU:94:GLU:O | 23:BU:95:ALA:HB2 | 2.17 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 25:BW:7:LEU:HD22 | 25:BW:11:LEU:HD12 | 1.99 | 0.45 |
| 25:BW:79:PHE:O | 25:BW:80:ASN:HA | 2.17 | 0.45 |
| 26:BX:111:GLY:C | 26:BX:112:LYS:N | 2.74 | 0.45 |
| 29:Ba:3:LYS:C | 29:Ba:4:LYS:CA | 2.90 | 0.45 |
| 35:Bg:260:ILE:HD11 | 35:Bg:292:LEU:HD13 | 1.97 | 0.45 |
| 1:A2:1:U:C6 | 12:BJ:43:TYR:HD2 | 2.34 | 0.45 |
| 1:A2:29:U:C4' | 26:BX:129:GLY:N | 2.74 | 0.45 |
| 1:A2:299:A:H8 | 7:BE:7:LYS:HB2 | 1.76 | 0.45 |
| 1:A2:403:G:H2' | 1:A2:404:G:OP1 | 2.15 | 0.45 |
| 1:A2:736:C:O2 | 7:BE:227:VAL:CG1 | 2.61 | 0.45 |
| 1:A2:753:A:P | 7:BE:17:HIS:N | 2.88 | 0.45 |
| 1:A2:776:G:H3' | 27:BY:34:ASN:CB | 2.46 | 0.45 |
| 1:A2:897:C:OP1 | 17:BO:30:VAL:CG1 | 2.40 | 0.45 |
| 1:A2:901:G:C5' | 17:BO:86:THR:HG21 | 2.37 | 0.45 |
| 1:A2:960:U:C5 | 25:BW:57:ARG:CG | 3.00 | 0.45 |
| 1:A2:1018:U:C4' | 16:BN:107:LYS:CG | 2.57 | 0.45 |
| 1:A2:1246:C:O4' | 18:BP:77:ARG:C | 2.60 | 0.45 |
| 1:A2:1252:C:H5" | 34:Bf:137:ASP:CA | 2.47 | 0.45 |
| 1:A2:1294:G:O6 | 1:A2:1295:G:C6 | 2.69 | 0.45 |
| 1:A2:1343:U:C5' | 23:BU:54:GLY:HA3 | 2.06 | 0.45 |
| 1:A2:1358:G:H4' | 22:BT:130:ARG:HG2 | 1.96 | 0.45 |
| 1:A2:1401:A:C5' | 20:BR:10:LYS:N | 2.54 | 0.45 |
| 1:A2:1420:C:C5' | 23:BU:82:TYR:HH | 2.21 | 0.45 |
| 1:A2:1679:G:O2' | 1:A2:1722:A:N6 | 2.50 | 0.45 |
| 1:A2:1682:U:C4' | 9:BG:102:VAL:HG11 | 2.21 | 0.45 |
| 1:A2:1722:A:H2 | 9:BG:70:PRO:HD2 | 1.58 | 0.45 |
| 2:AZ:6070:A:O2' | 2:AZ:6071:U:OP2 | 2.32 | 0.45 |
| 2:AZ:6218:U:O2' | 6:BD:146:ARG:HB2 | 2.17 | 0.45 |
| 5:BC:132:ALA:O | 5:BC:133:LYS:O | 2.35 | 0.45 |
| 5:BC:203:LYS:O | 5:BC:204:THR:N | 2.50 | 0.45 |
| 8:BF:84:LYS:O | 8:BF:85:ALA:C | 2.60 | 0.45 |
| 8:BF:216:GLU:O | 8:BF:217:LEU:N | 2.49 | 0.45 |
| 9:BG:24:ILE:CG2 | 9:BG:28:PHE:CE1 | 3.00 | 0.45 |
| 12:BJ:2:PRO:C | 12:BJ:3:ARG:N | 2.73 | 0.45 |
| 12:BJ:71:PHE:HB3 | 12:BJ:72:GLU:N | 2.31 | 0.45 |
| 18:BP:70:ASN:C | 18:BP:71:GLU:N | 2.74 | 0.45 |
| 24:BV:71:ARG:HG3 | 24:BV:83:TRP:CZ2 | 2.51 | 0.45 |
| 25:BW:92:ASN:C | 25:BW:93:LEU:N | 2.75 | 0.45 |
| 35:Bg:144:LEU:HD11 | 35:Bg:186:PHE:CG | 2.51 | 0.45 |
| 1:A2:23:G:C5 | 1:A2:24:U:C5 | 3.04 | 0.45 |
| 1:A2:30:G:N2 | 26:BX:137:LYS:C | 2.75 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:213:A:H3' | 1:A2:214:G:H8 | 1.81 | 0.45 |
| 1:A2:332:U:O2 | 11:BI:26:LYS:CG | 2.64 | 0.45 |
| 1:A2:366:A:C2 | 1:A2:367:A:C5 | 3.05 | 0.45 |
| 1:A2:568:G:C4 | 33:Be:13:LYS:HD3 | 2.49 | 0.45 |
| 1:A2:569:C:H5' | 33:Be:12:GLY:N | 2.32 | 0.45 |
| 1:A2:599:A:H2 | 26:BX:103:LEU:CD1 | 2.18 | 0.45 |
| 1:A2:631:G:O2' | 26:BX:16:ARG:C | 2.54 | 0.45 |
| 1:A2:753:A:C8 | 7:BE:16:HIS:HB2 | 2.51 | 0.45 |
| 1:A2:757:A:C8 | 12:BJ:3:ARG:CZ | 3.00 | 0.45 |
| 1:A2:785:U:H4' | 27:BY:26:ASP:C | 2.15 | 0.45 |
| 1:A2:786:C:C5 | 27:BY:71:GLY:HA2 | 2.50 | 0.45 |
| 1:A2:831:U:C5' | 7:BE:152:PRO:CB | 2.94 | 0.45 |
| 1:A2:863:A:O3' | 25:BW:7:LEU:HG | 2.16 | 0.45 |
| 1:A2:900:A:O5' | 17:BO:25:ASP:CB | 2.45 | 0.45 |
| 1:A2:900:A:C8 | 17:BO:25:ASP:HB3 | 2.47 | 0.45 |
| 1:A2:919:A:O2' | 1:A2:920:U:O4' | 2.35 | 0.45 |
| 1:A2:1056:U:P | 3:BA:40:ALA:C | 3.00 | 0.45 |
| 1:A2:1103:U:C4' | 26:BX:15:LEU:CD2 | 2.82 | 0.45 |
| 1:A2:1114:G:N2 | 1:A2:1130:G:H2' | 2.32 | 0.45 |
| 1:A2:1303:U:C4 | 1:A2:1304:G:C4 | 3.04 | 0.45 |
| 1:A2:1334:U:O5' | 32:Bd:55:PHE:HD2 | 2.00 | 0.45 |
| 1:A2:1380:U:C5 | 1:A2:1381:U:C4 | 3.05 | 0.45 |
| 1:A2:1402:G:C6 | 20:BR:5:ARG:NH2 | 2.85 | 0.45 |
| 1:A2:1417:A:H5" | 19:BQ:128:LYS:HE3 | 1.96 | 0.45 |
| 1:A2:1536:G:N3 | 8:BF:187:ILE:HD11 | 2.32 | 0.45 |
| 3:BA:195:TRP:NE1 | 20:BR:90:ALA:HA | 2.31 | 0.45 |
| 3:BA:199:PRO:HG3 | 20:BR:91:ALA:O | 2.15 | 0.45 |
| 7:BE:24:SER:OG | 7:BE:25:GLY:N | 2.49 | 0.45 |
| 7:BE:120:SER:C | 7:BE:164:LEU:HD23 | 2.41 | 0.45 |
| 8:BF:62:VAL:O | 8:BF:62:VAL:HG12 | 2.16 | 0.45 |
| 10:BH:171:ALA:O | 10:BH:174:ASN:CB | 2.64 | 0.45 |
| 11:BI:58:LEU:HD12 | 11:BI:58:LEU:N | 2.31 | 0.45 |
| 12:BJ:83:VAL:HG23 | 12:BJ:85:VAL:CG2 | 2.47 | 0.45 |
| 19:BQ:13:LYS:CA | 19:BQ:14:LYS:N | 2.80 | 0.45 |
| 19:BQ:38:LEU:HD21 | 22:BT:10:ALA:HA | 1.98 | 0.45 |
| 20:BR:78:ARG:O | 20:BR:79:GLU:N | 2.50 | 0.45 |
| 23:BU:106:ILE:O | 23:BU:107:THR:C | 2.60 | 0.45 |
| 23:BU:107:THR:HG22 | 23:BU:108:ILE:O | 2.17 | 0.45 |
| 27:BY:128:LYS:O | 27:BY:132:ARG:CG | 2.65 | 0.45 |
| 1:A2:163:G:OP1 | 9:BG:107:ALA:N | 2.40 | 0.45 |
| 1:A2:213:A:O3' | 7:BE:135:GLY:HA2 | 2.15 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:217:A:H5' | 7:BE:156:VAL:HB | 1.98 | 0.45 |
| 1:A2:324:U:C2 | 1:A2:325:G:C8 | 3.05 | 0.45 |
| 1:A2:352:A:HO3' | 1:A2:353:A:P | 2.32 | 0.45 |
| 1:A2:583:C:O2 | 33:Be:13:LYS:CE | 2.65 | 0.45 |
| 1:A2:634:G:C6 | 26:BX:10:ASN:N | 2.85 | 0.45 |
| 1:A2:784:C:O2' | 27:BY:27:VAL:HG22 | 2.16 | 0.45 |
| 1:A2:892:A:N6 | 1:A2:893:U:O4 | 2.49 | 0.45 |
| 1:A2:895:G:OP1 | 4:BB:64:ARG:HB2 | 2.17 | 0.45 |
| 1:A2:902:G:P | 17:BO:86:THR:OG1 | 2.74 | 0.45 |
| 1:A2:990:C:C1' | 17:BO:127:ARG:NH2 | 2.38 | 0.45 |
| 1:A2:1056:U:H6 | 3:BA:40:ALA:HB1 | 1.78 | 0.45 |
| 1:A2:1077:C:H2' | 1:A2:1078:C:C6 | 2.51 | 0.45 |
| 1:A2:1142:A:H2' | 1:A2:1143:A:O4' | 2.16 | 0.45 |
| 1:A2:1271:G:C6 | 1:A2:1272:U:C4 | 3.04 | 0.45 |
| 1:A2:1298:U:O3' | 5:BC:101:VAL:HB | 2.16 | 0.45 |
| 1:A2:1534:G:O2' | 28:BZ:63:SER:C | 2.57 | 0.45 |
| 1:A2:1548:G:N9 | 21:BS:87:ASN:CG | 2.19 | 0.45 |
| 1:A2:1550:A:H8 | 21:BS:84:TRP:HA | 1.80 | 0.45 |
| 3:BA:101:ARG:O | 3:BA:103:THR:OG1 | 2.27 | 0.45 |
| 3:BA:174:TRP:C | 3:BA:176:LEU:N | 2.74 | 0.45 |
| 7:BE:18:TRP:N | 7:BE:19:LEU:N | 2.64 | 0.45 |
| 10:BH:17:GLU:N | 10:BH:17:GLU:OE1 | 2.49 | 0.45 |
| 11:BI:116:HIS:C | 11:BI:117:TYR:N | 2.74 | 0.45 |
| 11:BI:187:GLU:CD | 11:BI:187:GLU:C | 2.85 | 0.45 |
| 17:BO:79:VAL:O | 17:BO:79:VAL:HG22 | 2.15 | 0.45 |
| 20:BR:70:SER:C | 20:BR:71:PHE:N | 2.75 | 0.45 |
| 22:BT:6:VAL:O | 22:BT:7:ARG:N | 2.49 | 0.45 |
| 25:BW:33:VAL:HG12 | 25:BW:34:ILE:N | 2.32 | 0.45 |
| 27:BY:54:ALA:O | 27:BY:55:VAL:HG13 | 2.17 | 0.45 |
| 35:Bg:211:ILE:HD11 | 35:Bg:225:LEU:HD13 | 1.99 | 0.45 |
| 1:A2:87:C:O2' | 1:A2:169:A:N1 | 2.45 | 0.45 |
| 1:A2:164:A:C3' | 9:BG:3:LEU:O | 2.60 | 0.45 |
| 1:A2:241:U:O2' | 9:BG:201:GLN:HG3 | 2.16 | 0.45 |
| 1:A2:302:U:H4' | 11:BI:25:ARG:HD2 | 1.98 | 0.45 |
| 1:A2:334:G:OP1 | 11:BI:47:ARG:NH1 | 2.34 | 0.45 |
| 1:A2:471:A:C6 | 1:A2:472:U:C5 | 3.04 | 0.45 |
| 1:A2:496:G:C2' | 1:A2:497:G:O4' | 2.65 | 0.45 |
| 1:A2:631:G:C5' | 26:BX:16:ARG:HH12 | 2.29 | 0.45 |
| 1:A2:735:C:O4' | 7:BE:193:GLY:N | 2.49 | 0.45 |
| 1:A2:736:C:C6 | 7:BE:181:VAL:HA | 2.51 | 0.45 |
| 1:A2:737:A:H5' | 7:BE:227:VAL:HG22 | 1.99 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:756:A:C5' | 12:BJ:4:ALA:O | 2.65 | 0.45 |
| 1:A2:853:G:H3' | 1:A2:854:U:P | 2.56 | 0.45 |
| 1:A2:861:U:C4 | 1:A2:862:A:C2 | 3.05 | 0.45 |
| 1:A2:886:U:C2 | 17:BO:124:ASP:OD2 | 2.69 | 0.45 |
| 1:A2:952:A:H5" | 16:BN:121:ARG:HD3 | 1.99 | 0.45 |
| 1:A2:986:G:H2' | 1:A2:987:G:O4' | 2.17 | 0.45 |
| 1:A2:1085:G:C8 | 5:BC:164:SER:N | 2.80 | 0.45 |
| 1:A2:1104:U:C6 | 1:A2:1105:C:C5 | 3.05 | 0.45 |
| 1:A2:1139:A:C2 | 1:A2:1140:G:H1' | 2.52 | 0.45 |
| 1:A2:1172:G:O6 | 1:A2:1173:C:C4 | 2.70 | 0.45 |
| 1:A2:1280:C:H5 | 23:BU:71:PRO:HG2 | 0.96 | 0.45 |
| 1:A2:1381:U:C2' | 23:BU:59:PRO:CG | 2.94 | 0.45 |
| 2:AZ:6123:A:C2 | 2:AZ:6152:C:C2 | 3.04 | 0.45 |
| 3:BA:84:ARG:NH1 | 3:BA:204:TYR:O | 2.50 | 0.45 |
| 3:BA:115:PHE:O | 3:BA:115:PHE:CG | 2.69 | 0.45 |
| 4:BB:147:ALA:C | 4:BB:148:ASN:HD22 | 2.25 | 0.45 |
| 4:BB:182:ALA:O | 4:BB:185:THR:OG1 | 2.35 | 0.45 |
| 4:BB:223:PHE:CZ | 4:BB:225:VAL:HG12 | 2.52 | 0.45 |
| 5:BC:139:ILE:CD1 | 5:BC:191:ALA:HB1 | 2.34 | 0.45 |
| 7:BE:197:HIS:O | 7:BE:209:HIS:ND1 | 2.50 | 0.45 |
| 8:BF:136:ALA:HB1 | 8:BF:198:LEU:HD22 | 1.98 | 0.45 |
| 8:BF:201:ALA:HB2 | 8:BF:208:SER:CB | 2.47 | 0.45 |
| 12:BJ:100:LYS:O | 12:BJ:101:VAL:C | 2.59 | 0.45 |
| 16:BN:108:ASP:OD1 | 16:BN:111:ALA:N | 2.50 | 0.45 |
| 19:BQ:40:GLU:HG2 | 19:BQ:41:PRO:HD3 | 1.99 | 0.45 |
| 27:BY:89:TYR:O | 27:BY:90:ARG:N | 2.49 | 0.45 |
| 30:Bb:33:LEU:O | 30:Bb:34:ASP:N | 2.50 | 0.45 |
| 35:Bg:115:ILE:HG12 | 35:Bg:119:ALA:HA | 1.98 | 0.45 |
| 35:Bg:150:TRP:C | 35:Bg:151:VAL:N | 2.75 | 0.45 |
| 1:A2:45:U:H4' | 26:BX:77:ILE:O | 2.16 | 0.45 |
| 1:A2:150:U:C6 | 27:BY:131:ARG:CD | 2.97 | 0.45 |
| 1:A2:301:A:N6 | 7:BE:5:PRO:CA | 2.80 | 0.45 |
| 1:A2:336:G:H1' | 11:BI:6:ASP:CG | 2.41 | 0.45 |
| 1:A2:572:C:OP2 | 26:BX:69:ARG:HD2 | 2.17 | 0.45 |
| 1:A2:687:G:OP1 | 12:BJ:64:GLU:CG | 2.34 | 0.45 |
| 1:A2:703:G:N7 | 7:BE:230:GLU:OE1 | 2.49 | 0.45 |
| 1:A2:821:U:C5 | 1:A2:853:G:N2 | 2.84 | 0.45 |
| 1:A2:825:U:H2' | 1:A2:826:U:O4' | 2.17 | 0.45 |
| 1:A2:864:U:C5 | 25:BW:14:ILE:N | 2.85 | 0.45 |
| 1:A2:887:A:H61 | 1:A2:925:G:H1 | 1.64 | 0.45 |
| 1:A2:952:A:C5' | 16:BN:121:ARG:CD | 2.93 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:954:G:C8 | 16:BN:2:GLY:HA3 | 2.50 | 0.45 |
| 1:A2:1103:U:C4' | 26:BX:15:LEU:CD1 | 2.73 | 0.45 |
| 1:A2:1181:U:H2' | 18:BP:126:VAL:HA | 1.98 | 0.45 |
| 1:A2:1241:G:C6 | 18:BP:96:ILE:HG23 | 2.52 | 0.45 |
| 1:A2:1241:G:C1' | 18:BP:96:ILE:CD1 | 2.94 | 0.45 |
| 1:A2:1301:U:C2 | 5:BC:97:ARG:CZ | 2.57 | 0.45 |
| 1:A2:1301:U:H1' | 5:BC:86:VAL:CG2 | 2.41 | 0.45 |
| 1:A2:1327:C:C3' | 6:BD:159:HIS:CA | 2.62 | 0.45 |
| 1:A2:1352:G:C6 | 1:A2:1353:U:C2 | 3.05 | 0.45 |
| 1:A2:1489:U:N3 | 1:A2:1513:G:C2 | 2.85 | 0.45 |
| 1:A2:1547:A:OP1 | 21:BS:108:LYS:C | 2.48 | 0.45 |
| 1:A2:1573:A:C2 | 8:BF:100:ASN:ND2 | 2.85 | 0.45 |
| 3:BA:55:GLU:HA | 20:BR:109:LEU:HB2 | 1.95 | 0.45 |
| 4:BB:107:THR:C | 4:BB:108:ASP:N | 2.75 | 0.45 |
| 8:BF:37:GLN:CB | 8:BF:69:PHE:CE1 | 3.00 | 0.45 |
| 10:BH:113:PRO:O | 10:BH:114:ARG:C | 2.60 | 0.45 |
| 11:BI:121:LEU:HB2 | 11:BI:160:PHE:CB | 2.47 | 0.45 |
| 13:BK:77:ARG:HD3 | 13:BK:82:LEU:HD12 | 1.98 | 0.45 |
| 16:BN:70:LYS:O | 16:BN:71:ILE:C | 2.60 | 0.45 |
| 26:BX:110:LYS:C | 26:BX:112:LYS:N | 2.75 | 0.45 |
| 30:Bb:21:LEU:O | 30:Bb:22:LYS:N | 2.49 | 0.45 |
| 1:A2:20:G:O3' | 1:A2:21:U:OP1 | 2.34 | 0.45 |
| 1:A2:78:A:C4 | 9:BG:162:VAL:CG2 | 3.00 | 0.45 |
| 1:A2:179:A:O4' | 9:BG:184:LEU:CB | 2.62 | 0.45 |
| 1:A2:329:G:H22 | 11:BI:3:ILE:CD1 | 2.30 | 0.45 |
| 1:A2:330:G:H4' | 11:BI:32:GLN:O | 2.16 | 0.45 |
| 1:A2:395:U:C1' | 9:BG:93:LYS:HE3 | 2.47 | 0.45 |
| 1:A2:430:G:N2 | 1:A2:431:C:C2 | 2.85 | 0.45 |
| 1:A2:441:A:H2' | 1:A2:441:A:N3 | 2.32 | 0.45 |
| 1:A2:473:A:O3' | 1:A2:768:C:N3 | 2.41 | 0.45 |
| 1:A2:704:C:C1' | 7:BE:232:GLY:N | 2.73 | 0.45 |
| 1:A2:731:C:OP2 | 1:A2:732:G:OP1 | 2.35 | 0.45 |
| 1:A2:784:C:O4' | 27:BY:40:LEU:CD1 | 2.61 | 0.45 |
| 1:A2:785:U:H1' | 27:BY:27:VAL:HG23 | 1.98 | 0.45 |
| 1:A2:814:A:H2 | 10:BH:109:VAL:HA | 0.66 | 0.45 |
| 1:A2:913:G:P | 1:A2:913:G:C3' | 3.05 | 0.45 |
| 1:A2:952:A:O3' | 16:BN:5:HIS:CG | 2.70 | 0.45 |
| 1:A2:956:C:H2' | 30:Bb:22:LYS:HE3 | 1.97 | 0.45 |
| 1:A2:973:A:N3 | 1:A2:974:A:N7 | 2.63 | 0.45 |
| 1:A2:1008:G:C3' | 17:BO:129:LYS:HZ1 | 2.30 | 0.45 |
| 1:A2:1202:A:C8 | 1:A2:1456:C:C5 | 3.05 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1252:C:H3' | 34:Bf:136:LYS:CG | 2.35 | 0.45 |
| 1:A2:1445:G:P | 34:Bf:89:ALA:HB1 | 2.54 | 0.45 |
| 1:A2:1532:U:C5' | 28:BZ:77:ARG:CB | 2.70 | 0.45 |
| 1:A2:1547:A:HO2' | 21:BS:100:THR:C | 2.15 | 0.45 |
| 1:A2:1564:U:N1 | 21:BS:41:ARG:HB3 | 2.29 | 0.45 |
| 1:A2:1680:G:C2 | 9:BG:68:LEU:N | 2.84 | 0.45 |
| 1:A2:1721:A:OP1 | 9:BG:83:CYS:SG | 2.74 | 0.45 |
| 1:A2:1731:A:N3 | 1:A2:1731:A:H2' | 2.32 | 0.45 |
| 1:A2:1798:U:OP2 | 29:Ba:95:ARG:HA | 2.17 | 0.45 |
| 2:AZ:6118:G:N3 | 2:AZ:6118:G:C2' | 2.80 | 0.45 |
| 6:BD:208:ILE:O | 6:BD:208:ILE:HG22 | 2.16 | 0.45 |
| 7:BE:160:VAL:HG23 | 7:BE:171:ASP:O | 2.16 | 0.45 |
| 11:BI:67:TRP:O | 11:BI:71:GLY:N | 2.39 | 0.45 |
| 12:BJ:128:LEU:HD22 | 12:BJ:133:HIS:ND1 | 2.31 | 0.45 |
| 12:BJ:139:GLN:O | 12:BJ:140:ILE:C | 2.60 | 0.45 |
| 16:BN:109:LYS:C | 16:BN:111:ALA:N | 2.75 | 0.45 |
| 19:BQ:100:GLN:O | 19:BQ:104:GLU:N | 2.49 | 0.45 |
| 21:BS:15:LEU:HD11 | 21:BS:66:LEU:HD22 | 1.98 | 0.45 |
| 21:BS:68:ARG:HA | 21:BS:71:GLN:HB2 | 1.99 | 0.45 |
| 22:BT:113:ILE:HG22 | 22:BT:124:ILE:HD11 | 1.98 | 0.45 |
| 24:BV:53:TYR:O | 24:BV:54:ALA:HB2 | 2.17 | 0.45 |
| 25:BW:129:VAL:C | 25:BW:130:TYR:N | 2.75 | 0.45 |
| 1:A2:208:U:H2' | 11:BI:55:TYR:CZ | 2.52 | 0.45 |
| 1:A2:213:A:H3' | 7:BE:132:GLY:C | 2.41 | 0.45 |
| 1:A2:265:A:N1 | 1:A2:267:U:O4 | 2.50 | 0.45 |
| 1:A2:395:U:H4' | 9:BG:87:ARG:CG | 2.35 | 0.45 |
| 1:A2:704:C:H4' | 7:BE:233:LYS:HD2 | 1.70 | 0.45 |
| 1:A2:779:U:P | 27:BY:4:ALA:HA | 2.57 | 0.45 |
| 1:A2:783:G:C2 | 27:BY:40:LEU:HD23 | 2.46 | 0.45 |
| 1:A2:832:U:O5' | 9:BG:213:ALA:HA | 2.15 | 0.45 |
| 1:A2:876:G:C3' | 1:A2:877:G:P | 3.04 | 0.45 |
| 1:A2:950:C:C5' | 16:BN:94:LYS:HE2 | 2.45 | 0.45 |
| 1:A2:960:U:C3' | 1:A2:961:U:O5' | 2.64 | 0.45 |
| 1:A2:965:U:O2' | 1:A2:966:A:P | 2.74 | 0.45 |
| 1:A2:976:G:N2 | 1:A2:1023:A:O2' | 2.50 | 0.45 |
| 1:A2:1147:A:OP1 | 1:A2:1147:A:C4' | 2.55 | 0.45 |
| 1:A2:1306:C:N4 | 1:A2:1318:G:O6 | 2.49 | 0.45 |
| 1:A2:1317:C:N1 | 20:BR:7:LYS:HD3 | 2.24 | 0.45 |
| 1:A2:1323:C:N4 | 1:A2:1324:G:C6 | 2.85 | 0.45 |
| 1:A2:1349:G:N3 | 1:A2:1379:C:N4 | 2.65 | 0.45 |
| 1:A2:1396:U:H2' | 1:A2:1397:U:C6 | 2.51 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1504:G:H2' | 1:A2:1505:A:C8 | 2.52 | 0.45 |
| 1:A2:1547:A:C2' | 21:BS:100:THR:O | 2.64 | 0.45 |
| 2:AZ:6032:U:O2' | 2:AZ:6033:G:OP2 | 2.35 | 0.45 |
| 3:BA:17:LEU:HD11 | 20:BR:102:VAL:N | 2.32 | 0.45 |
| 4:BB:108:ASP:O | 4:BB:112:SER:N | 2.50 | 0.45 |
| 6:BD:224:ASP:HA | 6:BD:225:TYR:N | 2.32 | 0.45 |
| 13:BK:12:HIS:HB3 | 13:BK:76:LEU:HD11 | 1.99 | 0.45 |
| 15:BM:79:ALA:HB1 | 15:BM:87:PRO:O | 2.16 | 0.45 |
| 16:BN:64:ARG:N | 16:BN:65:VAL:N | 2.65 | 0.45 |
| 22:BT:6:VAL:C | 22:BT:67:MET:HE1 | 2.41 | 0.45 |
| 22:BT:61:VAL:HG12 | 22:BT:62:ALA:H | 1.82 | 0.45 |
| 23:BU:116:VAL:O | 23:BU:118:VAL:HG23 | 2.17 | 0.45 |
| 1:A2:30:G:N2 | 26:BX:137:LYS:N | 2.65 | 0.44 |
| 1:A2:85:A:C5 | 27:BY:126:ALA:HB2 | 1.21 | 0.44 |
| 1:A2:147:A:C8 | 27:BY:124:ARG:NH1 | 2.64 | 0.44 |
| 1:A2:149:C:H6 | 27:BY:131:ARG:N | 2.16 | 0.44 |
| 1:A2:217:A:H4' | 7:BE:156:VAL:H | 1.82 | 0.44 |
| 1:A2:220:A:H5' | 9:BG:217:SER:C | 2.42 | 0.44 |
| 1:A2:242:U:C6 | 7:BE:149:TYR:N | 2.79 | 0.44 |
| 1:A2:338:C:N1 | 11:BI:4:SER:CB | 2.79 | 0.44 |
| 1:A2:374:U:O2 | 1:A2:374:U:C2' | 2.65 | 0.44 |
| 1:A2:630:A:C5 | 1:A2:631:G:C8 | 3.04 | 0.44 |
| 1:A2:631:G:C2 | 26:BX:11:SER:O | 2.70 | 0.44 |
| 1:A2:681:U:C5 | 1:A2:682:C:C4 | 3.04 | 0.44 |
| 1:A2:698:U:O4' | 7:BE:209:HIS:HE1 | 1.99 | 0.44 |
| 1:A2:706:A:H8 | 7:BE:231:GLN:NE2 | 2.15 | 0.44 |
| 1:A2:794:U:O2 | 1:A2:794:U:H2' | 2.16 | 0.44 |
| 1:A2:863:A:P | 25:BW:31:SER:CB | 3.02 | 0.44 |
| 1:A2:863:A:C3' | 25:BW:6:VAL:CB | 2.95 | 0.44 |
| 1:A2:866:G:OP2 | 25:BW:5:SER:O | 2.32 | 0.44 |
| 1:A2:871:G:H1 | 16:BN:11:ILE:HB | 1.81 | 0.44 |
| 1:A2:873:U:O4 | 16:BN:10:GLY:HA3 | 2.16 | 0.44 |
| 1:A2:897:C:N4 | 1:A2:914:G:C8 | 2.85 | 0.44 |
| 1:A2:1037:C:H4' | 25:BW:71:LYS:HB2 | 1.99 | 0.44 |
| 1:A2:1103:U:H5" | 14:BL:97:TYR:HD2 | 1.82 | 0.44 |
| 1:A2:1226:A:O4' | 34:Bf:98:LYS:NZ | 2.42 | 0.44 |
| 1:A2:1352:G:N2 | 1:A2:1374:C:O2 | 2.50 | 0.44 |
| 1:A2:1503:A:C2' | 22:BT:37:VAL:N | 2.80 | 0.44 |
| 1:A2:1534:G:C3' | 28:BZ:62:VAL:O | 2.60 | 0.44 |
| 1:A2:1601:G:OP1 | 22:BT:86:ARG:CB | 2.64 | 0.44 |
| 1:A2:1769:U:C2' | 1:A2:1770:U:H5' | 2.46 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:BA:89:PHE:HE2 | 3:BA:178:ALA:HB2 | 1.81 | 0.44 |
| 3:BA:176:LEU:HD11 | 20:BR:101:ASN:O | 2.17 | 0.44 |
| 4:BB:205:PHE:CD1 | 4:BB:206:PRO:HD2 | 2.52 | 0.44 |
| 5:BC:42:GLY:C | 5:BC:44:LEU:N | 2.75 | 0.44 |
| 5:BC:139:ILE:O | 5:BC:140:ARG:HB3 | 2.17 | 0.44 |
| 6:BD:225:TYR:HD2 | 35:Bg:188:ILE:HG23 | 1.82 | 0.44 |
| 9:BG:12:SER:HA | 9:BG:13:GLN:N | 2.33 | 0.44 |
| 9:BG:113:ILE:O | 9:BG:114:VAL:HA | 2.17 | 0.44 |
| 12:BJ:96:VAL:N | 12:BJ:97:LEU:N | 2.65 | 0.44 |
| 16:BN:116:ILE:C | 16:BN:117:LEU:C | 2.85 | 0.44 |
| 16:BN:129:TYR:C | 16:BN:130:ARG:N | 2.75 | 0.44 |
| 20:BR:110:VAL:HA | 20:BR:113:LEU:HB3 | 2.00 | 0.44 |
| 21:BS:30:TYR:HA | 21:BS:33:THR:HB | 1.98 | 0.44 |
| 25:BW:18:GLU:O | 25:BW:19:LYS:C | 2.60 | 0.44 |
| 35:Bg:46:LYS:O | 35:Bg:55:GLY:C | 2.60 | 0.44 |
| 1:A2:140:A:N3 | 9:BG:157:VAL:CG1 | 2.73 | 0.44 |
| 1:A2:299:A:H62 | 7:BE:7:LYS:CE | 2.28 | 0.44 |
| 1:A2:311:U:H5” | 26:BX:33:LEU:HB3 | 1.50 | 0.44 |
| 1:A2:312:A:N6 | 1:A2:352:A:N3 | 2.64 | 0.44 |
| 1:A2:532:U:C5 | 1:A2:533:U:C5 | 3.05 | 0.44 |
| 1:A2:647:G:N1 | 1:A2:688:G:C2 | 2.85 | 0.44 |
| 1:A2:972:G:C2 | 1:A2:973:A:C8 | 3.04 | 0.44 |
| 1:A2:1084:A:C1’ | 5:BC:163:GLY:C | 2.90 | 0.44 |
| 1:A2:1099:U:H5” | 5:BC:168:ARG:CD | 2.47 | 0.44 |
| 1:A2:1241:G:HO2’ | 18:BP:116:LEU:CD1 | 2.24 | 0.44 |
| 1:A2:1295:G:C6 | 5:BC:116:LYS:HE3 | 2.53 | 0.44 |
| 1:A2:1502:G:O6 | 22:BT:33:TYR:HE2 | 1.99 | 0.44 |
| 1:A2:1502:G:O2’ | 22:BT:37:VAL:HG23 | 2.14 | 0.44 |
| 1:A2:1518:C:O3’ | 1:A2:1519:U:P | 2.75 | 0.44 |
| 1:A2:1547:A:P | 21:BS:105:VAL:O | 2.75 | 0.44 |
| 1:A2:1565:C:C1’ | 21:BS:42:TYR:H | 2.30 | 0.44 |
| 1:A2:1566:U:C2 | 21:BS:39:GLY:CA | 2.96 | 0.44 |
| 1:A2:1721:A:N3 | 9:BG:99:GLY:N | 2.57 | 0.44 |
| 1:A2:1798:U:P | 29:Ba:95:ARG:N | 2.88 | 0.44 |
| 2:AZ:6112:C:OP1 | 8:BF:216:GLU:HA | 2.16 | 0.44 |
| 2:AZ:6166:U:H1’ | 2:AZ:6167:G:N7 | 2.31 | 0.44 |
| 3:BA:87:LEU:CA | 3:BA:97:PRO:HB3 | 2.47 | 0.44 |
| 5:BC:246:GLU:HB2 | 5:BC:247:ALA:N | 2.32 | 0.44 |
| 8:BF:166:ARG:HG3 | 8:BF:166:ARG:O | 2.17 | 0.44 |
| 9:BG:8:PRO:O | 9:BG:9:VAL:C | 2.60 | 0.44 |
| 9:BG:182:GLN:O | 9:BG:185:GLN:HB3 | 2.16 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 10:BH:110:GLN:O | 10:BH:111:LYS:N | 2.48 | 0.44 |
| 11:BI:34:ALA:C | 11:BI:35:ASN:N | 2.76 | 0.44 |
| 12:BJ:25:ASP:C | 12:BJ:26:ALA:N | 2.75 | 0.44 |
| 16:BN:137:PRO:O | 16:BN:138:ASN:CB | 2.64 | 0.44 |
| 18:BP:90:ILE:O | 18:BP:90:ILE:HG22 | 2.16 | 0.44 |
| 22:BT:12:GLN:HA | 22:BT:15:ILE:CG1 | 2.38 | 0.44 |
| 22:BT:118:PRO:O | 22:BT:119:LYS:O | 2.35 | 0.44 |
| 24:BV:17:CYS:O | 24:BV:20:THR:N | 2.50 | 0.44 |
| 25:BW:42:GLN:O | 25:BW:43:LYS:C | 2.60 | 0.44 |
| 25:BW:90:THR:CB | 25:BW:94:LEU:HD12 | 2.47 | 0.44 |
| 25:BW:106:THR:OG1 | 25:BW:107:SER:N | 2.50 | 0.44 |
| 27:BY:53:ASP:C | 27:BY:55:VAL:H | 2.25 | 0.44 |
| 32:Bd:46:LYS:HB2 | 32:Bd:47:ALA:N | 2.33 | 0.44 |
| 1:A2:47:A:C8 | 1:A2:425:A:C4 | 3.06 | 0.44 |
| 1:A2:599:A:C2' | 26:BX:123:LYS:O | 2.55 | 0.44 |
| 1:A2:640:U:C2' | 25:BW:119:LYS:HE3 | 2.39 | 0.44 |
| 1:A2:686:C:C3' | 12:BJ:70:LEU:HD11 | 2.39 | 0.44 |
| 1:A2:786:C:P | 27:BY:24:VAL:C | 3.01 | 0.44 |
| 1:A2:814:A:C5 | 1:A2:816:G:N7 | 2.85 | 0.44 |
| 1:A2:825:U:C4 | 1:A2:826:U:O4 | 2.71 | 0.44 |
| 1:A2:919:A:HO2' | 1:A2:920:U:C4' | 2.30 | 0.44 |
| 1:A2:954:G:C2 | 1:A2:955:A:N9 | 2.85 | 0.44 |
| 1:A2:993:A:C2 | 1:A2:1012:U:C2 | 3.05 | 0.44 |
| 1:A2:1055:U:C4' | 3:BA:30:GLN:HB2 | 2.46 | 0.44 |
| 1:A2:1164:G:C6 | 1:A2:1165:G:C6 | 3.06 | 0.44 |
| 1:A2:1240:U:C4' | 18:BP:76:VAL:H | 2.25 | 0.44 |
| 1:A2:1241:G:O3' | 18:BP:107:ILE:CD1 | 2.65 | 0.44 |
| 1:A2:1369:U:OP2 | 22:BT:69:LYS:HB3 | 2.17 | 0.44 |
| 1:A2:1389:C:H5' | 20:BR:45:ARG:N | 2.30 | 0.44 |
| 1:A2:1504:G:N7 | 22:BT:37:VAL:CG2 | 2.70 | 0.44 |
| 1:A2:1565:C:C5' | 21:BS:43:SER:CA | 2.87 | 0.44 |
| 1:A2:1685:G:N2 | 1:A2:1717:G:C6 | 2.85 | 0.44 |
| 1:A2:1729:C:C3' | 1:A2:1730:A:P | 3.06 | 0.44 |
| 1:A2:1761:U:O2 | 1:A2:1761:U:O4' | 2.35 | 0.44 |
| 3:BA:17:LEU:HB2 | 20:BR:121:VAL:HA | 2.00 | 0.44 |
| 3:BA:59:LEU:O | 3:BA:63:ILE:CB | 2.66 | 0.44 |
| 4:BB:118:GLN:C | 4:BB:119:THR:N | 2.75 | 0.44 |
| 5:BC:71:THR:OG1 | 5:BC:72:LEU:N | 2.50 | 0.44 |
| 6:BD:147:ALA:HA | 6:BD:148:LYS:N | 2.32 | 0.44 |
| 9:BG:177:ARG:O | 9:BG:178:LEU:C | 2.59 | 0.44 |
| 11:BI:60:ILE:O | 11:BI:62:THR:N | 2.49 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 12:BJ:151:ASP:OD1 | 12:BJ:151:ASP:N | 2.50 | 0.44 |
| 19:BQ:123:ARG:HG2 | 19:BQ:124:PRO:HD2 | 1.99 | 0.44 |
| 29:Ba:46:GLU:OE1 | 29:Ba:48:ALA:N | 2.49 | 0.44 |
| 33:Be:10:ARG:O | 33:Be:11:ALA:C | 2.61 | 0.44 |
| 35:Bg:211:ILE:HD11 | 35:Bg:225:LEU:CD2 | 2.44 | 0.44 |
| 1:A2:27:U:O2 | 26:BX:126:LYS:HD2 | 2.16 | 0.44 |
| 1:A2:30:G:OP2 | 26:BX:130:VAL:CB | 2.66 | 0.44 |
| 1:A2:76:A:C4 | 9:BG:166:GLU:N | 2.86 | 0.44 |
| 1:A2:118:U:O2 | 1:A2:299:A:C2 | 2.70 | 0.44 |
| 1:A2:164:A:N9 | 9:BG:17:GLU:HG3 | 2.32 | 0.44 |
| 1:A2:548:G:C4' | 26:BX:136:TRP:CD2 | 2.93 | 0.44 |
| 1:A2:598:U:H1' | 26:BX:132:LEU:CA | 2.03 | 0.44 |
| 1:A2:630:A:H62 | 26:BX:14:LYS:HD3 | 1.69 | 0.44 |
| 1:A2:637:C:O5' | 25:BW:110:ILE:HG23 | 2.17 | 0.44 |
| 1:A2:738:G:OP1 | 7:BE:126:VAL:O | 2.34 | 0.44 |
| 1:A2:756:A:O5' | 12:BJ:4:ALA:O | 2.36 | 0.44 |
| 1:A2:785:U:C3' | 27:BY:70:VAL:C | 2.90 | 0.44 |
| 1:A2:880:C:C4' | 16:BN:111:ALA:N | 2.81 | 0.44 |
| 1:A2:886:U:C2 | 1:A2:887:A:C8 | 3.06 | 0.44 |
| 1:A2:1049:U:C5' | 30:Bb:23:THR:CG2 | 2.77 | 0.44 |
| 1:A2:1074:G:N1 | 1:A2:1075:C:N4 | 2.66 | 0.44 |
| 1:A2:1243:G:C5' | 18:BP:60:LEU:CB | 2.65 | 0.44 |
| 1:A2:1291:G:N2 | 1:A2:1325:A:C2 | 2.86 | 0.44 |
| 1:A2:1325:A:C2 | 1:A2:1326:A:C5 | 3.05 | 0.44 |
| 1:A2:1505:A:H4' | 22:BT:41:SER:CB | 2.48 | 0.44 |
| 1:A2:1558:U:H1' | 21:BS:126:ARG:HG3 | 1.99 | 0.44 |
| 1:A2:1672:G:O6 | 1:A2:1729:C:N3 | 2.51 | 0.44 |
| 1:A2:1722:A:N6 | 9:BG:68:LEU:HB3 | 2.29 | 0.44 |
| 2:AZ:6049:A:OP1 | 2:AZ:6155:G:N2 | 2.50 | 0.44 |
| 2:AZ:6086:U:O2 | 2:AZ:6086:U:H2' | 2.17 | 0.44 |
| 2:AZ:6130:C:H1' | 2:AZ:6147:A:H1' | 1.99 | 0.44 |
| 3:BA:146:LEU:HD22 | 3:BA:160:ILE:HB | 1.99 | 0.44 |
| 3:BA:175:TYR:CD1 | 20:BR:89:LYS:HD3 | 2.52 | 0.44 |
| 5:BC:195:ASP:C | 5:BC:196:VAL:HG12 | 2.43 | 0.44 |
| 6:BD:198:GLY:N | 6:BD:199:PRO:HD3 | 2.31 | 0.44 |
| 7:BE:156:VAL:O | 7:BE:156:VAL:HG22 | 2.17 | 0.44 |
| 8:BF:109:LYS:O | 8:BF:113:ILE:HD12 | 2.18 | 0.44 |
| 8:BF:136:ALA:CB | 8:BF:198:LEU:HD22 | 2.48 | 0.44 |
| 10:BH:99:LEU:HB2 | 10:BH:112:ARG:HD2 | 1.98 | 0.44 |
| 11:BI:43:ILE:CG1 | 11:BI:57:ALA:HB2 | 2.47 | 0.44 |
| 12:BJ:94:ASP:O | 12:BJ:95:TYR:C | 2.59 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 13:BK:83:PRO:O | 13:BK:84:GLU:CB | 2.65 | 0.44 |
| 14:BL:59:PRO:C | 14:BL:60:PHE:N | 2.75 | 0.44 |
| 26:BX:80:GLY:O | 26:BX:81:LYS:N | 2.51 | 0.44 |
| 27:BY:89:TYR:N | 27:BY:90:ARG:N | 2.66 | 0.44 |
| 31:Bc:32:PHE:CE2 | 31:Bc:40:ILE:HD12 | 2.52 | 0.44 |
| 32:Bd:23:VAL:HG23 | 32:Bd:38:ILE:HG23 | 1.98 | 0.44 |
| 1:A2:172:C:C5 | 1:A2:173:A:N7 | 2.86 | 0.44 |
| 1:A2:174:U:H2' | 1:A2:175:G:C8 | 2.51 | 0.44 |
| 1:A2:214:G:C8 | 7:BE:133:LYS:CB | 3.00 | 0.44 |
| 1:A2:220:A:P | 9:BG:216:LEU:C | 2.97 | 0.44 |
| 1:A2:288:A:H2' | 1:A2:289:U:C6 | 2.52 | 0.44 |
| 1:A2:611:U:H3' | 1:A2:612:U:P | 2.58 | 0.44 |
| 1:A2:634:G:O3' | 25:BW:77:PRO:O | 2.33 | 0.44 |
| 1:A2:743:U:C4 | 1:A2:744:U:C4 | 3.05 | 0.44 |
| 1:A2:903:U:C4' | 17:BO:135:ARG:HH12 | 2.23 | 0.44 |
| 1:A2:959:U:OP1 | 30:Bb:24:LEU:O | 2.35 | 0.44 |
| 1:A2:1005:A:H2' | 1:A2:1006:C:O4' | 2.17 | 0.44 |
| 1:A2:1068:C:C6 | 3:BA:33:GLN:CD | 2.72 | 0.44 |
| 1:A2:1196:A:O2' | 1:A2:1602:C:O2' | 2.11 | 0.44 |
| 1:A2:1344:A:H1' | 23:BU:56:VAL:HG21 | 1.99 | 0.44 |
| 1:A2:1354:G:C5 | 1:A2:1355:C:C4 | 3.05 | 0.44 |
| 1:A2:1402:G:C8 | 20:BR:5:ARG:HD3 | 2.53 | 0.44 |
| 1:A2:1455:G:H5" | 21:BS:126:ARG:HH11 | 1.83 | 0.44 |
| 1:A2:1499:G:OP2 | 22:BT:105:LEU:N | 2.43 | 0.44 |
| 1:A2:1535:U:H5' | 28:BZ:67:ASP:CB | 2.46 | 0.44 |
| 1:A2:1548:G:H3' | 21:BS:86:LEU:HB3 | 0.81 | 0.44 |
| 1:A2:1601:G:OP1 | 22:BT:86:ARG:NE | 2.42 | 0.44 |
| 1:A2:1622:G:C5 | 1:A2:1623:C:C4 | 3.06 | 0.44 |
| 1:A2:1778:G:C5 | 1:A2:1779:U:C5 | 3.05 | 0.44 |
| 2:AZ:6108:U:C5' | 8:BF:222:LYS:CB | 2.63 | 0.44 |
| 2:AZ:6116:A:N6 | 2:AZ:6154:G:C5 | 2.86 | 0.44 |
| 3:BA:62:ARG:HA | 3:BA:65:ALA:HB3 | 1.99 | 0.44 |
| 4:BB:94:LYS:C | 4:BB:95:ASN:N | 2.75 | 0.44 |
| 5:BC:155:ALA:HB2 | 24:BV:1:MET:HE1 | 2.00 | 0.44 |
| 7:BE:202:ASP:N | 7:BE:202:ASP:OD1 | 2.49 | 0.44 |
| 11:BI:72:ILE:HG21 | 11:BI:112:TRP:NE1 | 2.32 | 0.44 |
| 13:BK:30:ALA:C | 13:BK:31:ALA:HB2 | 2.42 | 0.44 |
| 17:BO:90:ARG:C | 17:BO:91:THR:N | 2.76 | 0.44 |
| 19:BQ:108:ALA:O | 19:BQ:109:PHE:HB2 | 2.18 | 0.44 |
| 20:BR:12:ALA:C | 20:BR:13:SER:N | 2.75 | 0.44 |
| 20:BR:109:LEU:O | 20:BR:112:SER:CA | 2.65 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 24:BV:72:LEU:O | 24:BV:74:GLN:N | 2.51 | 0.44 |
| 27:BY:82:ALA:O | 27:BY:83:LYS:C | 2.60 | 0.44 |
| 34:Bf:100:ALA:O | 34:Bf:102:VAL:O | 2.36 | 0.44 |
| 35:Bg:64:HIS:CE1 | 35:Bg:90:ARG:HD3 | 2.52 | 0.44 |
| 1:A2:10:G:N1 | 1:A2:11:A:C5 | 2.86 | 0.44 |
| 1:A2:18:C:O3' | 26:BX:114:LYS:CB | 2.62 | 0.44 |
| 1:A2:29:U:O4' | 26:BX:129:GLY:CA | 2.61 | 0.44 |
| 1:A2:53:G:C6 | 1:A2:428:A:N1 | 2.85 | 0.44 |
| 1:A2:57:G:O3' | 27:BY:110:GLN:HB3 | 2.17 | 0.44 |
| 1:A2:138:A:C4 | 9:BG:140:ASN:CG | 2.91 | 0.44 |
| 1:A2:393:C:O2 | 1:A2:394:C:C5 | 2.70 | 0.44 |
| 1:A2:529:A:C2 | 1:A2:530:C:C2 | 3.06 | 0.44 |
| 1:A2:588:U:N1 | 33:Be:21:VAL:HG21 | 2.31 | 0.44 |
| 1:A2:609:U:C2' | 26:BX:28:ASN:HD22 | 2.30 | 0.44 |
| 1:A2:627:C:C4 | 1:A2:628:G:C6 | 3.06 | 0.44 |
| 1:A2:639:U:OP2 | 25:BW:108:ALA:CA | 2.56 | 0.44 |
| 1:A2:649:U:OP2 | 7:BE:253:ASP:OD1 | 2.32 | 0.44 |
| 1:A2:736:C:O2 | 7:BE:227:VAL:HB | 2.17 | 0.44 |
| 1:A2:784:C:C1' | 27:BY:40:LEU:CD1 | 2.56 | 0.44 |
| 1:A2:859:A:H3' | 10:BH:101:LYS:HE2 | 0.56 | 0.44 |
| 1:A2:863:A:H3' | 25:BW:6:VAL:CB | 2.44 | 0.44 |
| 1:A2:880:C:O4' | 16:BN:110:ASP:HB3 | 2.18 | 0.44 |
| 1:A2:917:U:H4' | 17:BO:84:ARG:CA | 2.06 | 0.44 |
| 1:A2:1048:G:C1' | 30:Bb:22:LYS:NZ | 2.80 | 0.44 |
| 1:A2:1173:C:H2' | 1:A2:1174:C:H6 | 1.82 | 0.44 |
| 1:A2:1281:G:N3 | 23:BU:75:GLY:CA | 2.78 | 0.44 |
| 1:A2:1295:G:C8 | 5:BC:116:LYS:NZ | 2.78 | 0.44 |
| 1:A2:1533:C:P | 28:BZ:75:LEU:N | 2.87 | 0.44 |
| 1:A2:1570:A:H2' | 1:A2:1571:C:O5' | 2.17 | 0.44 |
| 1:A2:1573:A:H62 | 8:BF:184:PHE:HE1 | 1.33 | 0.44 |
| 1:A2:1795:U:C4 | 29:Ba:4:LYS:HB2 | 2.47 | 0.44 |
| 6:BD:59:LEU:C | 6:BD:59:LEU:HD22 | 2.42 | 0.44 |
| 6:BD:216:PRO:CB | 6:BD:217:ILE:HD12 | 2.48 | 0.44 |
| 7:BE:91:THR:C | 7:BE:92:LEU:HD12 | 2.43 | 0.44 |
| 11:BI:82:VAL:CG1 | 11:BI:196:LEU:HD11 | 2.47 | 0.44 |
| 16:BN:128:TYR:O | 16:BN:130:ARG:C | 2.60 | 0.44 |
| 30:Bb:47:PHE:CD2 | 30:Bb:49:HIS:O | 2.70 | 0.44 |
| 32:Bd:54:LYS:CA | 32:Bd:55:PHE:HA | 2.47 | 0.44 |
| 35:Bg:211:ILE:HB | 35:Bg:223:TRP:HB2 | 2.00 | 0.44 |
| 1:A2:271:A:C4 | 1:A2:272:U:H1' | 2.52 | 0.44 |
| 1:A2:325:G:N7 | 11:BI:10:LYS:CE | 2.72 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:396:G:C8 | 9:BG:91:GLU:CB | 2.97 | 0.44 |
| 1:A2:407:A:C2 | 1:A2:408:C:C2 | 3.06 | 0.44 |
| 1:A2:435:C:C1' | 26:BX:101:GLU:C | 2.90 | 0.44 |
| 1:A2:453:U:O2 | 1:A2:453:U:H3' | 2.18 | 0.44 |
| 1:A2:503:G:H2' | 1:A2:503:G:N3 | 2.32 | 0.44 |
| 1:A2:583:C:C2 | 33:Be:17:GLN:CD | 2.95 | 0.44 |
| 1:A2:585:A:H2' | 1:A2:586:G:H8 | 1.82 | 0.44 |
| 1:A2:696:C:O2 | 1:A2:696:C:O4' | 2.34 | 0.44 |
| 1:A2:736:C:H6 | 7:BE:181:VAL:HG13 | 1.77 | 0.44 |
| 1:A2:791:A:C2 | 12:BJ:7:THR:CB | 2.99 | 0.44 |
| 1:A2:833:U:OP2 | 9:BG:213:ALA:CB | 2.66 | 0.44 |
| 1:A2:897:C:H6 | 17:BO:38:THR:HG1 | 1.62 | 0.44 |
| 1:A2:932:U:H4' | 1:A2:933:A:N3 | 2.32 | 0.44 |
| 1:A2:957:G:N2 | 30:Bb:21:LEU:CD1 | 2.80 | 0.44 |
| 1:A2:1096:C:P | 5:BC:168:ARG:HG3 | 2.51 | 0.44 |
| 1:A2:1108:G:C2 | 26:BX:26:GLU:HA | 2.51 | 0.44 |
| 1:A2:1137:A:H3' | 26:BX:64:PRO:HD3 | 1.96 | 0.44 |
| 1:A2:1176:G:N7 | 21:BS:140:THR:OG1 | 2.49 | 0.44 |
| 1:A2:1293:U:OP2 | 1:A2:1293:U:C6 | 2.71 | 0.44 |
| 1:A2:1419:G:P | 19:BQ:129:PHE:CE1 | 3.11 | 0.44 |
| 1:A2:1419:G:P | 19:BQ:129:PHE:HE1 | 2.40 | 0.44 |
| 1:A2:1451:C:N3 | 18:BP:97:TYR:CB | 2.80 | 0.44 |
| 1:A2:1470:C:H1' | 8:BF:185:ARG:NH2 | 2.33 | 0.44 |
| 1:A2:1470:C:C2' | 8:BF:184:PHE:CZ | 3.01 | 0.44 |
| 1:A2:1555:A:C8 | 18:BP:40:ARG:HG3 | 2.35 | 0.44 |
| 1:A2:1721:A:N1 | 9:BG:101:ILE:HB | 2.33 | 0.44 |
| 1:A2:1723:U:C6 | 9:BG:73:ILE:HG21 | 2.52 | 0.44 |
| 1:A2:1723:U:O4' | 9:BG:71:THR:OG1 | 2.36 | 0.44 |
| 1:A2:1772:C:O2 | 1:A2:1773:C:C6 | 2.71 | 0.44 |
| 1:A2:1778:G:H3' | 1:A2:1779:U:P | 2.57 | 0.44 |
| 1:A2:1791:A:O3' | 29:Ba:3:LYS:C | 2.60 | 0.44 |
| 5:BC:69:ILE:HD12 | 5:BC:69:ILE:O | 2.18 | 0.44 |
| 5:BC:181:SER:O | 5:BC:182:PRO:C | 2.61 | 0.44 |
| 6:BD:179:GLN:HG3 | 6:BD:180:GLY:N | 2.33 | 0.44 |
| 6:BD:188:ILE:HG22 | 6:BD:189:MET:N | 2.33 | 0.44 |
| 9:BG:175:ILE:HG22 | 9:BG:176:GLN:O | 2.17 | 0.44 |
| 12:BJ:37:LYS:HE2 | 12:BJ:38:ASN:ND2 | 2.31 | 0.44 |
| 12:BJ:43:TYR:O | 12:BJ:46:SER:N | 2.51 | 0.44 |
| 14:BL:7:VAL:HG23 | 14:BL:8:GLN:N | 2.33 | 0.44 |
| 16:BN:56:ASP:C | 16:BN:57:ALA:N | 2.75 | 0.44 |
| 19:BQ:38:LEU:HD12 | 22:BT:7:ARG:O | 2.17 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 19:BQ:86:ALA:O | 19:BQ:87:LYS:N | 2.51 | 0.44 |
| 22:BT:47:PRO:HG2 | 22:BT:53:TRP:CD2 | 2.52 | 0.44 |
| 30:Bb:23:THR:O | 30:Bb:25:VAL:N | 2.51 | 0.44 |
| 30:Bb:74:SER:O | 30:Bb:76:GLY:N | 2.50 | 0.44 |
| 35:Bg:40:LYS:C | 35:Bg:41:THR:N | 2.76 | 0.44 |
| 1:A2:64:U:C4 | 27:BY:121:THR:HG21 | 2.53 | 0.44 |
| 1:A2:139:C:C5 | 9:BG:137:ARG:HB2 | 2.52 | 0.44 |
| 1:A2:317:C:O2 | 11:BI:16:ALA:HB1 | 2.18 | 0.44 |
| 1:A2:338:C:C3' | 11:BI:4:SER:HB3 | 2.27 | 0.44 |
| 1:A2:365:G:N2 | 1:A2:377:G:H1' | 2.33 | 0.44 |
| 1:A2:702:G:N2 | 7:BE:227:VAL:HG21 | 2.32 | 0.44 |
| 1:A2:736:C:H1' | 7:BE:228:ILE:H | 1.63 | 0.44 |
| 1:A2:958:U:C1' | 30:Bb:26:GLN:HE22 | 2.28 | 0.44 |
| 1:A2:975:C:C3' | 1:A2:976:G:P | 3.06 | 0.44 |
| 1:A2:1008:G:C6 | 1:A2:1009:U:C4 | 3.06 | 0.44 |
| 1:A2:1348:A:H1' | 1:A2:1380:U:O2 | 2.17 | 0.44 |
| 1:A2:1457:C:H1' | 21:BS:136:GLN:CG | 2.48 | 0.44 |
| 1:A2:1555:A:C8 | 18:BP:40:ARG:HD3 | 2.53 | 0.44 |
| 1:A2:1565:C:H2' | 1:A2:1566:U:C6 | 2.52 | 0.44 |
| 1:A2:1600:A:C3' | 22:BT:86:ARG:HE | 2.27 | 0.44 |
| 1:A2:1680:G:H3' | 1:A2:1681:A:P | 2.57 | 0.44 |
| 2:AZ:6036:C:H2' | 2:AZ:6085:A:H61 | 1.82 | 0.44 |
| 2:AZ:6105:U:H3' | 2:AZ:6106:A:C5' | 2.47 | 0.44 |
| 3:BA:136:ALA:CB | 3:BA:143:VAL:CG2 | 2.96 | 0.44 |
| 4:BB:79:HIS:O | 4:BB:80:SER:C | 2.60 | 0.44 |
| 7:BE:117:GLU:CD | 7:BE:117:GLU:C | 2.85 | 0.44 |
| 7:BE:150:PRO:C | 7:BE:151:ASP:CA | 2.91 | 0.44 |
| 8:BF:97:LEU:HD21 | 8:BF:113:ILE:CG2 | 2.46 | 0.44 |
| 11:BI:84:HIS:CG | 11:BI:85:PRO:HD2 | 2.53 | 0.44 |
| 12:BJ:95:TYR:O | 12:BJ:97:LEU:N | 2.51 | 0.44 |
| 15:BM:99:GLU:O | 15:BM:100:TRP:C | 2.60 | 0.44 |
| 22:BT:70:GLN:C | 22:BT:71:VAL:HG13 | 2.43 | 0.44 |
| 25:BW:125:ILE:HG23 | 25:BW:125:ILE:O | 2.17 | 0.44 |
| 26:BX:80:GLY:C | 26:BX:81:LYS:N | 2.75 | 0.44 |
| 26:BX:103:LEU:HD13 | 26:BX:103:LEU:C | 2.43 | 0.44 |
| 29:Ba:50:VAL:O | 29:Ba:51:ARG:C | 2.61 | 0.44 |
| 29:Ba:58:VAL:HG13 | 29:Ba:58:VAL:O | 2.17 | 0.44 |
| 35:Bg:237:GLN:O | 35:Bg:238:ASP:N | 2.51 | 0.44 |
| 35:Bg:244:ALA:HB1 | 35:Bg:294:TRP:HD1 | 1.83 | 0.44 |
| 35:Bg:249:ARG:NH1 | 35:Bg:298:GLY:O | 2.51 | 0.44 |
| 1:A2:40:A:C2 | 1:A2:469:C:O4' | 2.71 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:75:U:C5 | 9:BG:166:GLU:N | 2.83 | 0.44 |
| 1:A2:126:A:N1 | 1:A2:263:C:O2' | 2.51 | 0.44 |
| 1:A2:163:G:C1' | 9:BG:1:MET:CA | 2.95 | 0.44 |
| 1:A2:338:C:C2' | 1:A2:338:C:O2 | 2.66 | 0.44 |
| 1:A2:450:U:H2' | 1:A2:451:A:C1' | 2.45 | 0.44 |
| 1:A2:451:A:C2 | 1:A2:456:A:C2 | 3.06 | 0.44 |
| 1:A2:460:A:OP2 | 1:A2:461:G:OP2 | 2.35 | 0.44 |
| 1:A2:503:G:N2 | 1:A2:504:U:N3 | 2.66 | 0.44 |
| 1:A2:636:A:C2' | 25:BW:105:THR:CG2 | 2.75 | 0.44 |
| 1:A2:651:G:N2 | 1:A2:683:C:O2 | 2.41 | 0.44 |
| 1:A2:737:A:H8 | 7:BE:225:VAL:CG1 | 2.31 | 0.44 |
| 1:A2:775:G:H1 | 27:BY:69:SER:HB3 | 1.81 | 0.44 |
| 1:A2:940:A:C5 | 1:A2:941:A:C8 | 3.05 | 0.44 |
| 1:A2:952:A:O3' | 16:BN:4:MET:CA | 2.66 | 0.44 |
| 1:A2:953:G:H1' | 16:BN:8:GLY:N | 2.32 | 0.44 |
| 1:A2:958:U:H2' | 25:BW:57:ARG:HG2 | 1.99 | 0.44 |
| 1:A2:967:A:N3 | 26:BX:8:GLY:N | 2.59 | 0.44 |
| 1:A2:1085:G:H5" | 5:BC:202:GLY:CA | 2.42 | 0.44 |
| 1:A2:1103:U:O2' | 26:BX:15:LEU:CD2 | 2.66 | 0.44 |
| 1:A2:1227:A:C8 | 34:Bf:100:ALA:HB3 | 2.52 | 0.44 |
| 1:A2:1298:U:C2' | 5:BC:84:LYS:CE | 2.94 | 0.44 |
| 1:A2:1299:G:C2' | 5:BC:86:VAL:CG1 | 2.94 | 0.44 |
| 1:A2:1487:A:N6 | 1:A2:1488:G:O6 | 2.51 | 0.44 |
| 1:A2:1502:G:N3 | 22:BT:37:VAL:CG2 | 2.81 | 0.44 |
| 1:A2:1712:A:O5' | 1:A2:1713:G:OP2 | 2.35 | 0.44 |
| 2:AZ:6069:A:H1' | 2:AZ:6152:C:H4' | 2.00 | 0.44 |
| 3:BA:144:ILE:HG23 | 3:BA:160:ILE:HD12 | 1.99 | 0.44 |
| 5:BC:61:LEU:HB3 | 5:BC:62:PRO:HD2 | 2.00 | 0.44 |
| 6:BD:38:GLU:OE2 | 6:BD:40:ARG:NH2 | 2.51 | 0.44 |
| 10:BH:36:ALA:C | 10:BH:37:GLU:N | 2.76 | 0.44 |
| 11:BI:108:PRO:O | 11:BI:112:TRP:N | 2.51 | 0.44 |
| 16:BN:118:ILE:O | 16:BN:120:SER:OG | 2.36 | 0.44 |
| 18:BP:49:MET:N | 18:BP:49:MET:SD | 2.91 | 0.44 |
| 19:BQ:57:LEU:HD23 | 19:BQ:57:LEU:C | 2.43 | 0.44 |
| 20:BR:107:SER:O | 20:BR:111:LYS:HB2 | 2.17 | 0.44 |
| 22:BT:104:VAL:O | 22:BT:108:LEU:HD12 | 2.18 | 0.44 |
| 24:BV:50:TYR:CD1 | 24:BV:50:TYR:N | 2.86 | 0.44 |
| 25:BW:12:ASN:O | 25:BW:15:ASN:N | 2.51 | 0.44 |
| 27:BY:90:ARG:O | 27:BY:93:ARG:N | 2.45 | 0.44 |
| 35:Bg:232:TYR:O | 35:Bg:233:THR:N | 2.51 | 0.44 |
| 1:A2:5:U:O2 | 1:A2:20:G:N2 | 2.50 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:57:G:C3’ | 27:BY:114:ARG:NE | 2.80 | 0.43 |
| 1:A2:57:G:O2’ | 27:BY:114:ARG:NE | 2.51 | 0.43 |
| 1:A2:101:U:H3’ | 1:A2:102:U:P | 2.57 | 0.43 |
| 1:A2:116:U:O4 | 7:BE:4:GLY:HA3 | 2.15 | 0.43 |
| 1:A2:138:A:C4’ | 9:BG:143:LYS:HB2 | 2.46 | 0.43 |
| 1:A2:217:A:C5’ | 7:BE:155:LYS:HA | 2.41 | 0.43 |
| 1:A2:239:C:H5’ | 9:BG:210:GLN:CD | 2.38 | 0.43 |
| 1:A2:453:U:O2 | 1:A2:453:U:C3’ | 2.67 | 0.43 |
| 1:A2:598:U:C5 | 26:BX:131:SER:OG | 2.71 | 0.43 |
| 1:A2:635:A:H2’ | 25:BW:126:LEU:HD22 | 0.97 | 0.43 |
| 1:A2:739:G:H2’ | 1:A2:740:A:C8 | 2.53 | 0.43 |
| 1:A2:755:A:N7 | 12:BJ:2:PRO:HB3 | 2.31 | 0.43 |
| 1:A2:784:C:H5’ | 27:BY:44:LEU:N | 2.33 | 0.43 |
| 1:A2:862:A:P | 25:BW:32:LYS:HG3 | 2.58 | 0.43 |
| 1:A2:863:A:N3 | 25:BW:7:LEU:CB | 2.81 | 0.43 |
| 1:A2:930:A:H1’ | 4:BB:116:LYS:CG | 2.46 | 0.43 |
| 1:A2:1055:U:H5 | 3:BA:37:VAL:CG2 | 2.31 | 0.43 |
| 1:A2:1095:U:H5” | 5:BC:159:THR:OG1 | 2.18 | 0.43 |
| 1:A2:1218:G:O6 | 34:Bf:91:LYS:N | 2.51 | 0.43 |
| 1:A2:1227:A:N7 | 34:Bf:100:ALA:N | 2.66 | 0.43 |
| 1:A2:1280:C:H1’ | 23:BU:72:ASN:C | 2.42 | 0.43 |
| 1:A2:1292:G:N1 | 1:A2:1324:G:N2 | 2.66 | 0.43 |
| 1:A2:1296:A:C4 | 1:A2:1297:G:C8 | 3.06 | 0.43 |
| 1:A2:1475:A:N6 | 28:BZ:97:LYS:CG | 2.81 | 0.43 |
| 1:A2:1480:G:H4’ | 22:BT:11:ALA:CA | 2.28 | 0.43 |
| 1:A2:1502:G:OP2 | 22:BT:33:TYR:CG | 2.56 | 0.43 |
| 1:A2:1523:G:C5 | 22:BT:79:LEU:CD2 | 3.01 | 0.43 |
| 1:A2:1720:G:H3’ | 9:BG:66:GLY:HA3 | 1.84 | 0.43 |
| 1:A2:1721:A:H5’ | 9:BG:64:LYS:CA | 2.46 | 0.43 |
| 3:BA:90:ALA:HB1 | 3:BA:95:ALA:O | 2.18 | 0.43 |
| 4:BB:32:ILE:HD11 | 4:BB:46:THR:HG23 | 1.99 | 0.43 |
| 4:BB:61:LEU:HD11 | 4:BB:64:ARG:NH2 | 2.32 | 0.43 |
| 8:BF:62:VAL:HG13 | 8:BF:89:ILE:CG2 | 2.48 | 0.43 |
| 13:BK:12:HIS:HB3 | 13:BK:76:LEU:HD21 | 2.00 | 0.43 |
| 14:BL:21:ASN:O | 14:BL:22:ASN:N | 2.50 | 0.43 |
| 17:BO:108:SER:C | 17:BO:110:LEU:H | 2.26 | 0.43 |
| 18:BP:95:GLY:HA2 | 18:BP:104:GLN:HA | 2.00 | 0.43 |
| 20:BR:26:LEU:HA | 20:BR:55:THR:HG23 | 1.99 | 0.43 |
| 21:BS:36:LYS:O | 21:BS:38:VAL:N | 2.51 | 0.43 |
| 26:BX:76:LEU:C | 26:BX:78:LYS:N | 2.75 | 0.43 |
| 28:BZ:54:VAL:HA | 28:BZ:57:TYR:HB2 | 2.00 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:Ba:31:PRO:O | 29:Ba:33:ASP:O | 2.35 | 0.43 |
| 35:Bg:16:HIS:CE1 | 35:Bg:43:ILE:HD13 | 2.53 | 0.43 |
| 1:A2:57:G:O2' | 27:BY:114:ARG:CZ | 2.66 | 0.43 |
| 1:A2:67:A:C5 | 1:A2:84:A:C5 | 3.06 | 0.43 |
| 1:A2:73:U:H1' | 1:A2:74:U:H5' | 1.99 | 0.43 |
| 1:A2:116:U:O2 | 1:A2:116:U:H2' | 2.18 | 0.43 |
| 1:A2:141:U:O4 | 9:BG:175:ILE:CA | 2.65 | 0.43 |
| 1:A2:152:U:C4 | 27:BY:135:ASP:CB | 2.92 | 0.43 |
| 1:A2:178:U:C2' | 9:BG:183:ARG:HH22 | 2.32 | 0.43 |
| 1:A2:215:A:P | 7:BE:130:GLN:HG2 | 2.58 | 0.43 |
| 1:A2:239:C:C3' | 9:BG:207:GLU:HA | 2.24 | 0.43 |
| 1:A2:240:U:O2 | 1:A2:240:U:O2' | 2.36 | 0.43 |
| 1:A2:328:A:C5' | 11:BI:172:ARG:HH22 | 2.30 | 0.43 |
| 1:A2:385:A:C2 | 1:A2:386:G:C5 | 3.06 | 0.43 |
| 1:A2:572:C:C5' | 26:BX:116:ASP:OD1 | 2.67 | 0.43 |
| 1:A2:632:U:HO2' | 14:BL:99:ARG:NE | 2.16 | 0.43 |
| 1:A2:703:G:O2' | 7:BE:235:TYR:CZ | 2.69 | 0.43 |
| 1:A2:732:G:N2 | 7:BE:177:ALA:O | 2.51 | 0.43 |
| 1:A2:754:A:N9 | 7:BE:12:LEU:HD23 | 2.32 | 0.43 |
| 1:A2:807:A:P | 25:BW:124:LYS:CG | 3.06 | 0.43 |
| 1:A2:855:A:C2 | 1:A2:857:U:C1' | 2.97 | 0.43 |
| 1:A2:865:A:H5" | 25:BW:8:ALA:N | 2.31 | 0.43 |
| 1:A2:956:C:C2 | 16:BN:11:ILE:HB | 2.52 | 0.43 |
| 1:A2:985:G:C5 | 1:A2:986:G:C8 | 3.05 | 0.43 |
| 1:A2:1034:C:H5" | 26:BX:2:GLY:N | 2.33 | 0.43 |
| 1:A2:1094:G:H4' | 5:BC:161:LYS:HD2 | 0.46 | 0.43 |
| 1:A2:1104:U:C5 | 1:A2:1105:C:H5 | 2.33 | 0.43 |
| 1:A2:1202:A:C6 | 21:BS:136:GLN:HA | 2.50 | 0.43 |
| 1:A2:1279:C:H1' | 32:Bd:41:GLN:HG2 | 1.58 | 0.43 |
| 1:A2:1505:A:O4' | 1:A2:1563:C:O3' | 2.37 | 0.43 |
| 1:A2:1528:U:H5' | 8:BF:108:LEU:CD2 | 2.48 | 0.43 |
| 1:A2:1538:U:O4 | 8:BF:185:ARG:O | 2.37 | 0.43 |
| 1:A2:1564:U:H6 | 1:A2:1564:U:P | 2.41 | 0.43 |
| 1:A2:1581:C:H5" | 19:BQ:135:ARG:HB3 | 2.00 | 0.43 |
| 1:A2:1608:U:H4' | 19:BQ:73:GLY:CA | 2.48 | 0.43 |
| 1:A2:1636:C:C2 | 1:A2:1638:G:C5 | 3.07 | 0.43 |
| 1:A2:1671:A:C4 | 1:A2:1731:A:C2 | 3.06 | 0.43 |
| 1:A2:1727:G:N3 | 1:A2:1727:G:H2' | 2.33 | 0.43 |
| 2:AZ:6048:U:O4 | 2:AZ:6068:A:N1 | 2.52 | 0.43 |
| 3:BA:136:ALA:HB2 | 3:BA:143:VAL:CG2 | 2.48 | 0.43 |
| 5:BC:181:SER:O | 5:BC:185:LYS:N | 2.51 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 7:BE:114:ILE:HB | 7:BE:115:THR:OG1 | 2.18 | 0.43 |
| 7:BE:173:ILE:HD11 | 7:BE:235:TYR:CE2 | 2.53 | 0.43 |
| 7:BE:234:PRO:C | 7:BE:235:TYR:N | 2.76 | 0.43 |
| 10:BH:168:SER:O | 10:BH:171:ALA:N | 2.51 | 0.43 |
| 11:BI:10:LYS:O | 11:BI:11:ARG:C | 2.61 | 0.43 |
| 12:BJ:9:SER:O | 12:BJ:10:LYS:N | 2.51 | 0.43 |
| 13:BK:11:ILE:C | 13:BK:12:HIS:C | 2.87 | 0.43 |
| 15:BM:73:LYS:HD2 | 34:Bf:111:GLU:N | 2.32 | 0.43 |
| 16:BN:41:ALA:HB1 | 16:BN:80:LEU:HD12 | 1.98 | 0.43 |
| 16:BN:88:LEU:HA | 16:BN:91:LEU:HD12 | 2.00 | 0.43 |
| 17:BO:120:PRO:C | 17:BO:121:VAL:N | 2.76 | 0.43 |
| 24:BV:69:LEU:O | 24:BV:72:LEU:N | 2.51 | 0.43 |
| 29:Ba:50:VAL:O | 29:Ba:54:SER:N | 2.50 | 0.43 |
| 35:Bg:266:ASP:HB3 | 35:Bg:267:PRO:CD | 2.48 | 0.43 |
| 1:A2:64:U:C4 | 27:BY:121:THR:CG2 | 3.00 | 0.43 |
| 1:A2:147:A:C2 | 1:A2:148:A:H1' | 2.54 | 0.43 |
| 1:A2:179:A:H1' | 9:BG:184:LEU:O | 2.17 | 0.43 |
| 1:A2:568:G:H5" | 33:Be:9:ALA:HB3 | 1.64 | 0.43 |
| 1:A2:741:C:C4' | 7:BE:200:ARG:CZ | 2.94 | 0.43 |
| 1:A2:822:U:H3' | 1:A2:822:U:C6 | 2.53 | 0.43 |
| 1:A2:900:A:C5' | 17:BO:20:TYR:CD1 | 3.02 | 0.43 |
| 1:A2:957:G:C5 | 1:A2:958:U:N3 | 2.86 | 0.43 |
| 1:A2:959:U:H5 | 10:BH:138:LYS:CB | 2.31 | 0.43 |
| 1:A2:1050:G:O2' | 30:Bb:11:THR:OG1 | 0.51 | 0.43 |
| 1:A2:1076:A:N1 | 1:A2:1077:C:C4 | 2.87 | 0.43 |
| 1:A2:1154:G:C6 | 1:A2:1155:G:N7 | 2.86 | 0.43 |
| 1:A2:1181:U:H6 | 1:A2:1181:U:P | 2.41 | 0.43 |
| 1:A2:1278:G:C6 | 1:A2:1279:C:C4 | 3.06 | 0.43 |
| 1:A2:1409:G:H3' | 1:A2:1410:A:O5' | 2.19 | 0.43 |
| 1:A2:1502:G:C6 | 22:BT:33:TYR:HD2 | 2.23 | 0.43 |
| 1:A2:1607:G:C2' | 1:A2:1608:U:O5' | 2.66 | 0.43 |
| 1:A2:1673:G:H2' | 9:BG:94:ARG:NE | 2.05 | 0.43 |
| 2:AZ:6103:G:C2 | 2:AZ:6113:U:C2 | 3.06 | 0.43 |
| 2:AZ:6137:C:O3' | 8:BF:125:THR:HA | 2.17 | 0.43 |
| 4:BB:209:ASN:O | 4:BB:211:HIS:CD2 | 2.72 | 0.43 |
| 6:BD:21:LEU:O | 6:BD:25:PHE:N | 2.51 | 0.43 |
| 6:BD:194:LYS:C | 6:BD:195:SER:HA | 2.43 | 0.43 |
| 7:BE:220:THR:OG1 | 7:BE:221:ARG:N | 2.50 | 0.43 |
| 9:BG:98:ARG:HH12 | 9:BG:102:VAL:HA | 1.83 | 0.43 |
| 10:BH:140:VAL:O | 25:BW:52:TYR:N | 2.52 | 0.43 |
| 10:BH:150:GLN:C | 10:BH:151:LYS:HA | 2.43 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 16:BN:5:HIS:C | 16:BN:6:SER:HA | 2.42 | 0.43 |
| 18:BP:83:MET:SD | 18:BP:89:MET:HE1 | 2.58 | 0.43 |
| 22:BT:129:GLN:O | 22:BT:130:ARG:N | 2.51 | 0.43 |
| 25:BW:72:CYS:HA | 25:BW:128:PHE:O | 2.18 | 0.43 |
| 26:BX:36:THR:HB | 26:BX:37:ALA:N | 2.34 | 0.43 |
| 27:BY:7:ILE:O | 27:BY:9:THR:HG23 | 2.18 | 0.43 |
| 28:BZ:74:SER:O | 28:BZ:75:LEU:CB | 2.67 | 0.43 |
| 35:Bg:157:VAL:HB | 35:Bg:158:PRO:CD | 2.48 | 0.43 |
| 1:A2:73:U:C4' | 1:A2:74:U:OP1 | 2.67 | 0.43 |
| 1:A2:220:A:OP1 | 9:BG:219:ARG:N | 2.50 | 0.43 |
| 1:A2:333:A:H3' | 11:BI:26:LYS:HE3 | 1.96 | 0.43 |
| 1:A2:335:U:H2' | 1:A2:336:G:C8 | 2.53 | 0.43 |
| 1:A2:427:C:C4' | 1:A2:459:G:O2' | 2.66 | 0.43 |
| 1:A2:456:A:H2 | 27:BY:111:LYS:CB | 2.11 | 0.43 |
| 1:A2:548:G:N1 | 1:A2:591:A:N6 | 2.66 | 0.43 |
| 1:A2:572:C:H5' | 26:BX:116:ASP:H | 1.81 | 0.43 |
| 1:A2:704:C:C5 | 7:BE:228:ILE:HD11 | 2.53 | 0.43 |
| 1:A2:740:A:H62 | 7:BE:206:ASP:CB | 2.29 | 0.43 |
| 1:A2:754:A:P | 7:BE:14:ALA:H | 2.37 | 0.43 |
| 1:A2:776:G:C2 | 1:A2:785:U:O2 | 2.71 | 0.43 |
| 1:A2:844:A:C6 | 1:A2:845:G:C6 | 3.06 | 0.43 |
| 1:A2:1117:U:H2' | 1:A2:1118:G:C8 | 2.53 | 0.43 |
| 1:A2:1243:G:H5' | 18:BP:61:ARG:CA | 2.46 | 0.43 |
| 1:A2:1259:U:H2' | 1:A2:1260:U:C6 | 2.52 | 0.43 |
| 1:A2:1472:C:C3' | 8:BF:188:LYS:O | 2.58 | 0.43 |
| 1:A2:1548:G:C2' | 21:BS:99:HIS:CE1 | 2.98 | 0.43 |
| 1:A2:1591:C:H5' | 22:BT:93:HIS:CB | 2.47 | 0.43 |
| 1:A2:1671:A:C1' | 1:A2:1731:A:N1 | 2.80 | 0.43 |
| 2:AZ:6101:U:O2 | 2:AZ:6101:U:O4' | 2.35 | 0.43 |
| 2:AZ:6117:C:C4' | 2:AZ:6118:G:O5' | 2.63 | 0.43 |
| 3:BA:53:THR:OG1 | 20:BR:105:GLN:CG | 2.64 | 0.43 |
| 3:BA:199:PRO:HG2 | 20:BR:97:ASN:CB | 2.49 | 0.43 |
| 5:BC:71:THR:O | 5:BC:72:LEU:C | 2.61 | 0.43 |
| 7:BE:247:SER:C | 7:BE:249:ALA:N | 2.77 | 0.43 |
| 14:BL:137:PHE:O | 14:BL:138:ASN:N | 2.51 | 0.43 |
| 15:BM:51:ALA:CA | 15:BM:57:ALA:HB3 | 2.48 | 0.43 |
| 21:BS:30:TYR:C | 21:BS:31:ALA:HB3 | 2.42 | 0.43 |
| 24:BV:63:GLY:O | 24:BV:64:GLU:C | 2.61 | 0.43 |
| 27:BY:32:ARG:O | 27:BY:33:ALA:CB | 2.66 | 0.43 |
| 30:Bb:74:SER:O | 30:Bb:75:GLU:C | 2.61 | 0.43 |
| 31:Bc:59:SER:C | 31:Bc:60:GLU:CB | 2.91 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 35:Bg:210:LEU:C | 35:Bg:211:ILE:HG13 | 2.43 | 0.43 |
| 1:A2:58:U:O4 | 27:BY:118:ILE:HG12 | 2.18 | 0.43 |
| 1:A2:102:U:O4 | 1:A2:361:C:H4' | 2.18 | 0.43 |
| 1:A2:248:U:C4 | 1:A2:250:C:H1' | 2.54 | 0.43 |
| 1:A2:381:C:C2' | 12:BJ:2:PRO:CD | 2.93 | 0.43 |
| 1:A2:495:C:H3' | 1:A2:496:G:C4' | 2.48 | 0.43 |
| 1:A2:551:G:N3 | 1:A2:552:G:C8 | 2.86 | 0.43 |
| 1:A2:601:A:H1' | 26:BX:47:SER:C | 2.41 | 0.43 |
| 1:A2:737:A:H1' | 7:BE:158:ASP:HA | 1.97 | 0.43 |
| 1:A2:880:C:H5' | 16:BN:109:LYS:N | 2.34 | 0.43 |
| 1:A2:919:A:H5' | 4:BB:83:LYS:HZ1 | 1.82 | 0.43 |
| 1:A2:1037:C:HO3' | 1:A2:1038:U:P | 2.40 | 0.43 |
| 1:A2:1137:A:H5" | 26:BX:64:PRO:CD | 2.45 | 0.43 |
| 1:A2:1253:U:C6 | 34:Bf:136:LYS:N | 2.86 | 0.43 |
| 1:A2:1266:U:C2 | 1:A2:1267:G:C8 | 3.06 | 0.43 |
| 1:A2:1727:G:H3' | 1:A2:1728:A:C8 | 2.53 | 0.43 |
| 2:AZ:6108:U:O5' | 8:BF:222:LYS:CB | 2.52 | 0.43 |
| 2:AZ:6164:U:P | 2:AZ:6166:U:O4 | 2.76 | 0.43 |
| 3:BA:176:LEU:O | 3:BA:180:GLU:N | 2.50 | 0.43 |
| 7:BE:72:VAL:HG11 | 7:BE:82:TYR:CE2 | 2.53 | 0.43 |
| 7:BE:132:GLY:N | 7:BE:136:VAL:O | 2.50 | 0.43 |
| 8:BF:42:LEU:HD11 | 8:BF:47:SER:CA | 2.47 | 0.43 |
| 11:BI:159:GLN:O | 11:BI:162:ALA:HB2 | 2.18 | 0.43 |
| 13:BK:3:MET:HE2 | 13:BK:45:ALA:HB2 | 2.00 | 0.43 |
| 21:BS:26:ILE:HD12 | 21:BS:26:ILE:O | 2.19 | 0.43 |
| 22:BT:123:ARG:C | 22:BT:124:ILE:N | 2.76 | 0.43 |
| 24:BV:11:LEU:HD22 | 24:BV:11:LEU:N | 2.34 | 0.43 |
| 24:BV:36:VAL:HG12 | 24:BV:37:ALA:CA | 2.48 | 0.43 |
| 25:BW:25:VAL:N | 25:BW:63:VAL:HB | 2.34 | 0.43 |
| 26:BX:96:VAL:HG23 | 26:BX:96:VAL:O | 2.19 | 0.43 |
| 27:BY:3:ASP:O | 27:BY:4:ALA:C | 2.62 | 0.43 |
| 27:BY:45:ALA:O | 27:BY:46:GLU:C | 2.61 | 0.43 |
| 33:Be:35:TYR:O | 33:Be:36:LYS:HA | 2.18 | 0.43 |
| 34:Bf:121:CYS:O | 34:Bf:123:ASN:N | 2.50 | 0.43 |
| 35:Bg:124:SER:O | 35:Bg:131:ILE:HA | 2.19 | 0.43 |
| 1:A2:91:G:O3' | 27:BY:112:LYS:CE | 2.65 | 0.43 |
| 1:A2:214:G:O3' | 7:BE:132:GLY:HA3 | 2.03 | 0.43 |
| 1:A2:330:G:O5' | 11:BI:31:ARG:HB3 | 2.19 | 0.43 |
| 1:A2:550:A:N6 | 33:Be:19:PRO:O | 2.52 | 0.43 |
| 1:A2:631:G:HO3' | 26:BX:16:ARG:HH11 | 1.30 | 0.43 |
| 1:A2:780:A:H2 | 27:BY:2:SER:N | 2.15 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:784:C:C5' | 27:BY:44:LEU:N | 2.81 | 0.43 |
| 1:A2:864:U:C6 | 25:BW:13:ALA:CB | 2.87 | 0.43 |
| 1:A2:918:U:O2' | 1:A2:919:A:C8 | 2.71 | 0.43 |
| 1:A2:939:A:H2' | 1:A2:940:A:C8 | 2.54 | 0.43 |
| 1:A2:955:A:H2' | 1:A2:956:C:O4' | 2.19 | 0.43 |
| 1:A2:993:A:C3' | 1:A2:994:G:P | 3.07 | 0.43 |
| 1:A2:1012:U:C2' | 1:A2:1012:U:O2 | 2.67 | 0.43 |
| 1:A2:1087:A:C6 | 1:A2:1088:A:C6 | 3.06 | 0.43 |
| 1:A2:1203:A:C6 | 1:A2:1556:A:C4 | 3.07 | 0.43 |
| 1:A2:1342:C:O2 | 1:A2:1342:C:H2' | 2.17 | 0.43 |
| 1:A2:1401:A:P | 20:BR:53:TYR:CD2 | 3.12 | 0.43 |
| 1:A2:1401:A:H3' | 20:BR:5:ARG:HB3 | 1.31 | 0.43 |
| 1:A2:1457:C:H5" | 21:BS:136:GLN:O | 2.18 | 0.43 |
| 1:A2:1561:U:C4 | 1:A2:1562:G:N7 | 2.86 | 0.43 |
| 1:A2:1645:G:H3' | 1:A2:1646:C:OP2 | 2.18 | 0.43 |
| 1:A2:1681:A:C3' | 9:BG:31:ARG:N | 2.81 | 0.43 |
| 2:AZ:6103:G:N2 | 2:AZ:6113:U:C2 | 2.87 | 0.43 |
| 2:AZ:6153:A:OP1 | 2:AZ:6154:G:OP2 | 2.37 | 0.43 |
| 3:BA:50:VAL:HG12 | 20:BR:105:GLN:HG2 | 2.01 | 0.43 |
| 3:BA:62:ARG:O | 3:BA:65:ALA:N | 2.52 | 0.43 |
| 4:BB:222:LYS:HA | 4:BB:223:PHE:N | 2.34 | 0.43 |
| 8:BF:111:VAL:O | 8:BF:111:VAL:HG12 | 2.18 | 0.43 |
| 8:BF:194:LEU:O | 8:BF:197:GLU:HB3 | 2.18 | 0.43 |
| 10:BH:18:LEU:O | 10:BH:22:GLN:N | 2.52 | 0.43 |
| 14:BL:37:ASN:O | 14:BL:38:ALA:C | 2.61 | 0.43 |
| 15:BM:125:ASN:O | 15:BM:126:TRP:CD1 | 2.71 | 0.43 |
| 19:BQ:40:GLU:HG2 | 19:BQ:41:PRO:CD | 2.49 | 0.43 |
| 29:Ba:27:SER:O | 29:Ba:28:LYS:N | 2.52 | 0.43 |
| 1:A2:88:U:C4' | 27:BY:119:PHE:O | 2.64 | 0.43 |
| 1:A2:117:U:O3' | 1:A2:118:U:H5' | 2.18 | 0.43 |
| 1:A2:598:U:O2 | 26:BX:132:LEU:CG | 2.66 | 0.43 |
| 1:A2:777:C:O2' | 27:BY:28:LEU:O | 2.37 | 0.43 |
| 1:A2:779:U:OP2 | 27:BY:2:SER:N | 2.51 | 0.43 |
| 1:A2:836:U:C5 | 1:A2:837:G:N7 | 2.87 | 0.43 |
| 1:A2:873:U:N3 | 16:BN:10:GLY:C | 2.64 | 0.43 |
| 1:A2:1095:U:O3' | 5:BC:159:THR:HB | 2.18 | 0.43 |
| 1:A2:1099:U:C5' | 5:BC:199:GLN:CB | 2.63 | 0.43 |
| 1:A2:1243:G:C5' | 18:BP:60:LEU:C | 2.91 | 0.43 |
| 1:A2:1295:G:C8 | 1:A2:1296:A:OP2 | 2.72 | 0.43 |
| 1:A2:1367:G:O4' | 22:BT:66:TYR:OH | 2.32 | 0.43 |
| 1:A2:1403:C:OP2 | 20:BR:3:ARG:CG | 2.62 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1453:G:H1' | 18:BP:120:SER:N | 2.34 | 0.43 |
| 1:A2:1479:A:H2' | 1:A2:1480:G:O4' | 2.19 | 0.43 |
| 1:A2:1728:A:H2' | 1:A2:1729:C:O4' | 2.19 | 0.43 |
| 2:AZ:6128:G:N3 | 2:AZ:6149:A:N1 | 2.66 | 0.43 |
| 3:BA:96:THR:HG21 | 3:BA:116:LYS:HZ3 | 1.84 | 0.43 |
| 8:BF:181:GLU:O | 8:BF:184:PHE:HB3 | 2.18 | 0.43 |
| 8:BF:183:ALA:HB2 | 8:BF:188:LYS:O | 2.19 | 0.43 |
| 11:BI:44:HIS:O | 11:BI:46:VAL:N | 2.51 | 0.43 |
| 14:BL:132:SER:OG | 14:BL:133:LYS:N | 2.51 | 0.43 |
| 15:BM:57:ALA:HB1 | 15:BM:122:VAL:CG1 | 2.44 | 0.43 |
| 18:BP:92:SER:O | 18:BP:107:ILE:HG21 | 2.19 | 0.43 |
| 1:A2:3:U:H1' | 12:BJ:19:TYR:HB2 | 1.56 | 0.43 |
| 1:A2:252:U:H2' | 1:A2:253:A:C8 | 2.54 | 0.43 |
| 1:A2:306:U:O4' | 1:A2:796:A:O2' | 2.37 | 0.43 |
| 1:A2:333:A:N6 | 7:BE:3:ARG:HD3 | 2.26 | 0.43 |
| 1:A2:340:U:C6 | 11:BI:3:ILE:CG2 | 2.87 | 0.43 |
| 1:A2:435:C:H5' | 26:BX:52:ILE:HG12 | 1.13 | 0.43 |
| 1:A2:703:G:N2 | 7:BE:229:GLY:H | 2.16 | 0.43 |
| 1:A2:777:C:C3' | 27:BY:32:ARG:HG3 | 2.32 | 0.43 |
| 1:A2:778:G:OP1 | 27:BY:30:PRO:CB | 2.67 | 0.43 |
| 1:A2:865:A:C8 | 25:BW:6:VAL:HG23 | 2.50 | 0.43 |
| 1:A2:1008:G:C5 | 1:A2:1009:U:C5 | 3.06 | 0.43 |
| 1:A2:1009:U:O4' | 17:BO:129:LYS:NZ | 2.43 | 0.43 |
| 1:A2:1201:G:O4' | 1:A2:1600:A:N6 | 2.51 | 0.43 |
| 1:A2:1225:U:N3 | 34:Bf:98:LYS:HB3 | 2.34 | 0.43 |
| 1:A2:1301:U:O4' | 5:BC:86:VAL:HG21 | 2.03 | 0.43 |
| 1:A2:1353:U:C2 | 1:A2:1354:G:N7 | 2.87 | 0.43 |
| 1:A2:1473:U:P | 8:BF:190:ILE:N | 2.90 | 0.43 |
| 1:A2:1544:U:C4 | 1:A2:1545:A:N7 | 2.86 | 0.43 |
| 1:A2:1558:U:OP2 | 21:BS:123:ARG:NH1 | 2.45 | 0.43 |
| 1:A2:1684:U:OP2 | 9:BG:51:LYS:C | 2.62 | 0.43 |
| 1:A2:1715:G:H2' | 1:A2:1716:C:H5' | 2.01 | 0.43 |
| 2:AZ:6137:C:O2' | 2:AZ:6138:A:P | 2.77 | 0.43 |
| 2:AZ:6164:U:OP2 | 2:AZ:6166:U:O4 | 2.37 | 0.43 |
| 3:BA:54:TRP:HE3 | 20:BR:106:THR:HG22 | 1.84 | 0.43 |
| 3:BA:90:ALA:CB | 3:BA:97:PRO:HG3 | 2.49 | 0.43 |
| 3:BA:176:LEU:O | 3:BA:177:LEU:C | 2.59 | 0.43 |
| 11:BI:180:ASP:C | 11:BI:181:GLY:N | 2.77 | 0.43 |
| 17:BO:77:THR:N | 17:BO:78:ALA:N | 2.67 | 0.43 |
| 20:BR:9:VAL:O | 20:BR:10:LYS:C | 2.62 | 0.43 |
| 20:BR:56:HIS:O | 20:BR:57:LEU:N | 2.52 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 22:BT:6:VAL:C | 22:BT:7:ARG:N | 2.77 | 0.43 |
| 25:BW:32:LYS:O | 25:BW:34:ILE:N | 2.52 | 0.43 |
| 27:BY:18:LEU:HD12 | 27:BY:18:LEU:N | 2.34 | 0.43 |
| 35:Bg:22:SER:HA | 35:Bg:291:SER:HB3 | 2.00 | 0.43 |
| 35:Bg:141:LEU:HD23 | 35:Bg:141:LEU:O | 2.19 | 0.43 |
| 1:A2:58:U:H5" | 27:BY:111:LYS:HE3 | 1.99 | 0.43 |
| 1:A2:81:G:N3 | 1:A2:81:G:H2' | 2.33 | 0.43 |
| 1:A2:150:U:N1 | 27:BY:131:ARG:NH1 | 2.53 | 0.43 |
| 1:A2:215:A:H2' | 7:BE:137:PRO:HB3 | 1.81 | 0.43 |
| 1:A2:389:G:N7 | 1:A2:390:G:C2 | 2.87 | 0.43 |
| 1:A2:396:G:C5 | 9:BG:91:GLU:CB | 2.79 | 0.43 |
| 1:A2:573:C:P | 26:BX:116:ASP:HB3 | 2.57 | 0.43 |
| 1:A2:595:G:O6 | 26:BX:139:LYS:C | 2.62 | 0.43 |
| 1:A2:775:G:C2 | 27:BY:69:SER:HB3 | 2.53 | 0.43 |
| 1:A2:957:G:N3 | 30:Bb:21:LEU:CB | 2.81 | 0.43 |
| 1:A2:1060:U:H2' | 1:A2:1061:A:H4' | 2.01 | 0.43 |
| 1:A2:1116:A:C2 | 1:A2:1131:A:C4 | 3.06 | 0.43 |
| 1:A2:1166:A:H2' | 1:A2:1167:G:O4' | 2.18 | 0.43 |
| 1:A2:1191:U:H3' | 1:A2:1192:C:P | 2.59 | 0.43 |
| 1:A2:1290:U:O2' | 1:A2:1291:G:C8 | 2.71 | 0.43 |
| 1:A2:1298:U:O2' | 5:BC:84:LYS:CG | 2.55 | 0.43 |
| 1:A2:1299:G:C3' | 5:BC:98:PHE:O | 2.67 | 0.43 |
| 1:A2:1322:A:N1 | 1:A2:1323:C:C4 | 2.86 | 0.43 |
| 1:A2:1378:U:H2' | 1:A2:1379:C:H1' | 2.00 | 0.43 |
| 1:A2:1399:C:H3' | 20:BR:66:VAL:HB | 2.01 | 0.43 |
| 1:A2:1674:C:O4' | 9:BG:94:ARG:NH2 | 2.52 | 0.43 |
| 1:A2:1795:U:C4 | 29:Ba:4:LYS:HB3 | 2.53 | 0.43 |
| 3:BA:121:VAL:O | 3:BA:122:ILE:CG1 | 2.65 | 0.43 |
| 5:BC:62:PRO:C | 5:BC:63:VAL:CG2 | 2.91 | 0.43 |
| 7:BE:194:THR:OG1 | 7:BE:211:LYS:HG2 | 2.18 | 0.43 |
| 8:BF:62:VAL:O | 8:BF:63:GLN:C | 2.61 | 0.43 |
| 9:BG:138:ALA:C | 9:BG:139:ASN:HA | 2.43 | 0.43 |
| 11:BI:90:LEU:HD13 | 11:BI:97:THR:HG21 | 2.01 | 0.43 |
| 13:BK:27:PHE:N | 13:BK:27:PHE:CD1 | 2.87 | 0.43 |
| 13:BK:61:TRP:C | 13:BK:62:GLN:N | 2.77 | 0.43 |
| 17:BO:30:VAL:HG12 | 17:BO:40:ALA:O | 2.18 | 0.43 |
| 26:BX:73:ARG:CA | 26:BX:74:VAL:N | 2.82 | 0.43 |
| 35:Bg:55:GLY:O | 35:Bg:56:VAL:N | 2.51 | 0.43 |
| 1:A2:78:A:H3' | 9:BG:163:THR:HG23 | 2.00 | 0.43 |
| 1:A2:141:U:H3 | 9:BG:136:LYS:HG3 | 1.83 | 0.43 |
| 1:A2:151:G:O6 | 27:BY:135:ASP:CG | 2.61 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:156:A:C3' | 1:A2:157:A:P | 3.07 | 0.43 |
| 1:A2:208:U:O2' | 1:A2:209:U:H5' | 2.19 | 0.43 |
| 1:A2:219:A:H5" | 9:BG:215:ARG:HD2 | 2.00 | 0.43 |
| 1:A2:296:U:H2' | 1:A2:297:U:C6 | 2.53 | 0.43 |
| 1:A2:322:G:C1' | 11:BI:9:HIS:CD2 | 3.02 | 0.43 |
| 1:A2:330:G:H3' | 11:BI:31:ARG:HB3 | 1.88 | 0.43 |
| 1:A2:446:A:C2 | 1:A2:447:U:C6 | 3.07 | 0.43 |
| 1:A2:458:G:C8 | 27:BY:107:GLN:CA | 2.98 | 0.43 |
| 1:A2:634:G:C6 | 26:BX:9:LEU:CD1 | 2.53 | 0.43 |
| 1:A2:776:G:N2 | 27:BY:27:VAL:HG21 | 2.25 | 0.43 |
| 1:A2:806:A:N7 | 25:BW:82:LYS:CD | 2.63 | 0.43 |
| 1:A2:863:A:C2 | 25:BW:5:SER:OG | 2.71 | 0.43 |
| 1:A2:871:G:C4 | 1:A2:957:G:N2 | 2.86 | 0.43 |
| 1:A2:889:U:C5' | 17:BO:89:THR:CG2 | 2.97 | 0.43 |
| 1:A2:1047:G:O2' | 16:BN:11:ILE:CD1 | 2.66 | 0.43 |
| 1:A2:1050:G:H5" | 30:Bb:12:ALA:C | 2.44 | 0.43 |
| 1:A2:1154:G:N1 | 1:A2:1155:G:C5 | 2.87 | 0.43 |
| 1:A2:1255:G:C8 | 34:Bf:140:TYR:CG | 3.07 | 0.43 |
| 1:A2:1298:U:N1 | 5:BC:99:LYS:HD2 | 2.33 | 0.43 |
| 1:A2:1301:U:C4' | 5:BC:86:VAL:CG2 | 2.96 | 0.43 |
| 1:A2:1351:G:H2' | 1:A2:1352:G:O4' | 2.19 | 0.43 |
| 1:A2:1445:G:OP1 | 34:Bf:90:ALA:CB | 2.66 | 0.43 |
| 1:A2:1490:C:O2 | 1:A2:1490:C:C2' | 2.67 | 0.43 |
| 1:A2:1503:A:H5' | 22:BT:35:ASP:OD1 | 2.18 | 0.43 |
| 1:A2:1613:U:O5' | 8:BF:84:LYS:CE | 2.55 | 0.43 |
| 1:A2:1652:C:H2' | 1:A2:1653:C:C5 | 2.53 | 0.43 |
| 1:A2:1655:A:C2 | 1:A2:1746:A:C2 | 3.07 | 0.43 |
| 1:A2:1679:G:N2 | 9:BG:67:VAL:CB | 2.78 | 0.43 |
| 2:AZ:6025:A:C2 | 2:AZ:6026:A:N7 | 2.87 | 0.43 |
| 2:AZ:6161:C:O2 | 2:AZ:6161:C:C2' | 2.66 | 0.43 |
| 3:BA:67:ILE:O | 3:BA:69:ASN:N | 2.52 | 0.43 |
| 5:BC:45:VAL:HG22 | 5:BC:50:ILE:HB | 2.00 | 0.43 |
| 7:BE:28:ALA:HB1 | 7:BE:29:PRO:HD2 | 2.00 | 0.43 |
| 7:BE:30:ARG:CB | 7:BE:31:PRO:CD | 2.97 | 0.43 |
| 10:BH:77:LEU:O | 10:BH:80:GLU:N | 2.52 | 0.43 |
| 10:BH:140:VAL:HG13 | 25:BW:52:TYR:HB3 | 2.01 | 0.43 |
| 12:BJ:45:ILE:C | 12:BJ:46:SER:CA | 2.92 | 0.43 |
| 18:BP:86:VAL:HG12 | 18:BP:89:MET:HG2 | 2.00 | 0.43 |
| 21:BS:67:GLU:HA | 21:BS:70:VAL:HG22 | 2.00 | 0.43 |
| 24:BV:51:VAL:CA | 24:BV:52:THR:HA | 2.49 | 0.43 |
| 27:BY:54:ALA:HB2 | 27:BY:79:VAL:CA | 2.49 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 35:Bg:170:ILE:HD12 | 35:Bg:202:LEU:HD11 | 2.01 | 0.43 |
| 35:Bg:201:THR:O | 35:Bg:213:SER:OG | 2.36 | 0.43 |
| 1:A2:57:G:N2 | 27:BY:112:LYS:HA | 2.30 | 0.42 |
| 1:A2:136:C:H4' | 1:A2:137:U:OP1 | 2.19 | 0.42 |
| 1:A2:168:A:H2' | 1:A2:169:A:C8 | 2.54 | 0.42 |
| 1:A2:210:A:N7 | 1:A2:211:U:C5 | 2.87 | 0.42 |
| 1:A2:331:A:H2' | 11:BI:29:LEU:HD13 | 1.90 | 0.42 |
| 1:A2:513:U:C2' | 1:A2:514:G:C8 | 2.83 | 0.42 |
| 1:A2:600:U:OP1 | 26:BX:122:PHE:CA | 2.66 | 0.42 |
| 1:A2:624:G:C2 | 1:A2:625:C:C2 | 3.07 | 0.42 |
| 1:A2:740:A:N6 | 7:BE:198:LYS:CE | 2.77 | 0.42 |
| 1:A2:787:G:C4 | 27:BY:61:ARG:CB | 2.99 | 0.42 |
| 1:A2:805:U:H2' | 25:BW:81:VAL:HA | 1.36 | 0.42 |
| 1:A2:814:A:N7 | 10:BH:108:GLN:CB | 2.30 | 0.42 |
| 1:A2:1050:G:O3' | 30:Bb:11:THR:C | 2.62 | 0.42 |
| 1:A2:1306:C:N3 | 1:A2:1319:A:N1 | 2.66 | 0.42 |
| 1:A2:1487:A:O2' | 1:A2:1488:G:O5' | 2.28 | 0.42 |
| 1:A2:1502:G:O6 | 22:BT:100:ILE:HD12 | 2.19 | 0.42 |
| 1:A2:1505:A:P | 22:BT:38:LYS:CG | 3.01 | 0.42 |
| 1:A2:1528:U:H5' | 8:BF:108:LEU:HD21 | 2.00 | 0.42 |
| 1:A2:1674:C:H3' | 9:BG:76:LEU:HB2 | 1.66 | 0.42 |
| 2:AZ:6064:U:C5 | 2:AZ:6159:C:O2 | 2.71 | 0.42 |
| 2:AZ:6173:C:O2 | 2:AZ:6204:A:C8 | 2.71 | 0.42 |
| 6:BD:6:SER:O | 6:BD:7:LYS:C | 2.62 | 0.42 |
| 8:BF:96:SER:CA | 8:BF:97:LEU:N | 2.82 | 0.42 |
| 10:BH:96:ARG:O | 10:BH:98:ILE:N | 2.51 | 0.42 |
| 10:BH:111:LYS:C | 10:BH:113:PRO:HD3 | 2.44 | 0.42 |
| 13:BK:48:SER:O | 13:BK:51:SER:HB3 | 2.19 | 0.42 |
| 14:BL:57:LYS:HG2 | 14:BL:131:ILE:CG2 | 2.49 | 0.42 |
| 15:BM:135:MET:HA | 15:BM:138:GLU:N | 2.34 | 0.42 |
| 16:BN:30:SER:O | 16:BN:31:GLU:C | 2.61 | 0.42 |
| 16:BN:135:LEU:O | 16:BN:136:PRO:C | 2.61 | 0.42 |
| 17:BO:44:GLY:O | 17:BO:45:GLY:C | 2.62 | 0.42 |
| 17:BO:114:ARG:HA | 29:Ba:62:TYR:CZ | 2.54 | 0.42 |
| 20:BR:56:HIS:C | 20:BR:57:LEU:HA | 2.44 | 0.42 |
| 35:Bg:122:ILE:O | 35:Bg:133:VAL:HG13 | 2.19 | 0.42 |
| 35:Bg:223:TRP:CE3 | 35:Bg:224:ASN:O | 2.72 | 0.42 |
| 1:A2:163:G:C5 | 1:A2:164:A:N7 | 2.87 | 0.42 |
| 1:A2:242:U:H6 | 7:BE:149:TYR:CG | 2.38 | 0.42 |
| 1:A2:296:U:C5' | 7:BE:32:SER:CB | 2.96 | 0.42 |
| 1:A2:735:C:N1 | 7:BE:194:THR:N | 2.58 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:755:A:C2 | 1:A2:756:A:C4 | 3.08 | 0.42 |
| 1:A2:784:C:O2 | 27:BY:27:VAL:HG21 | 2.19 | 0.42 |
| 1:A2:850:A:H3' | 1:A2:851:U:OP2 | 2.19 | 0.42 |
| 1:A2:861:U:H6 | 25:BW:32:LYS:CE | 2.32 | 0.42 |
| 1:A2:973:A:C2 | 1:A2:974:A:C8 | 3.06 | 0.42 |
| 1:A2:1030:A:C5 | 1:A2:1792:G:C6 | 3.07 | 0.42 |
| 1:A2:1076:A:C2 | 1:A2:1077:C:C6 | 3.07 | 0.42 |
| 1:A2:1127:G:C4 | 1:A2:1128:C:C5 | 3.07 | 0.42 |
| 1:A2:1280:C:H1' | 23:BU:72:ASN:CA | 2.49 | 0.42 |
| 1:A2:1390:U:H5' | 1:A2:1391:A:OP1 | 2.19 | 0.42 |
| 1:A2:1399:C:O5' | 20:BR:67:ARG:N | 2.52 | 0.42 |
| 1:A2:1451:C:H3' | 1:A2:1452:U:P | 2.59 | 0.42 |
| 1:A2:1508:U:O2 | 1:A2:1508:U:C2' | 2.66 | 0.42 |
| 1:A2:1531:G:C2 | 1:A2:1532:U:C2 | 3.07 | 0.42 |
| 1:A2:1558:U:N3 | 21:BS:122:HIS:O | 2.52 | 0.42 |
| 1:A2:1565:C:C3' | 21:BS:39:GLY:C | 2.83 | 0.42 |
| 1:A2:1739:C:H2' | 1:A2:1740:A:C8 | 2.55 | 0.42 |
| 2:AZ:6133:G:N3 | 2:AZ:6133:G:H2' | 2.34 | 0.42 |
| 2:AZ:6175:A:N6 | 2:AZ:6202:C:N3 | 2.67 | 0.42 |
| 3:BA:37:VAL:HA | 3:BA:48:ILE:HA | 2.01 | 0.42 |
| 3:BA:56:LYS:HD2 | 3:BA:158:VAL:CG2 | 2.48 | 0.42 |
| 4:BB:105:PHE:HB3 | 4:BB:110:LEU:HD11 | 2.00 | 0.42 |
| 5:BC:35:TRP:CD1 | 5:BC:35:TRP:C | 2.97 | 0.42 |
| 7:BE:150:PRO:HB3 | 7:BE:169:ILE:HD13 | 2.01 | 0.42 |
| 7:BE:180:LEU:HB3 | 7:BE:228:ILE:HD11 | 2.01 | 0.42 |
| 8:BF:37:GLN:HB2 | 8:BF:69:PHE:CE1 | 2.54 | 0.42 |
| 13:BK:23:ALA:C | 13:BK:24:LYS:N | 2.77 | 0.42 |
| 13:BK:30:ALA:N | 13:BK:38:LYS:HA | 2.34 | 0.42 |
| 13:BK:44:LYS:C | 13:BK:47:GLN:HB3 | 2.44 | 0.42 |
| 16:BN:63:ALA:O | 16:BN:64:ARG:N | 2.52 | 0.42 |
| 16:BN:105:ASN:C | 16:BN:105:ASN:ND2 | 2.77 | 0.42 |
| 20:BR:38:ILE:HG23 | 20:BR:39:ALA:N | 2.33 | 0.42 |
| 21:BS:46:VAL:O | 21:BS:50:ALA:HB3 | 2.18 | 0.42 |
| 22:BT:30:VAL:HG12 | 22:BT:54:PHE:CE2 | 2.54 | 0.42 |
| 22:BT:44:GLU:N | 22:BT:44:GLU:OE1 | 2.51 | 0.42 |
| 23:BU:74:GLU:CD | 23:BU:75:GLY:N | 2.77 | 0.42 |
| 29:Ba:85:ARG:C | 29:Ba:86:VAL:N | 2.77 | 0.42 |
| 35:Bg:83:ALA:O | 35:Bg:84:SER:OG | 2.35 | 0.42 |
| 1:A2:10:G:C2 | 1:A2:11:A:C5 | 3.06 | 0.42 |
| 1:A2:142:G:H4' | 9:BG:144:PHE:CE1 | 2.54 | 0.42 |
| 1:A2:176:C:N4 | 9:BG:136:LYS:HG2 | 2.34 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:219:A:OP1 | 7:BE:153:ASN:OD1 | 2.35 | 0.42 |
| 1:A2:244:A:OP2 | 7:BE:146:THR:HA | 2.08 | 0.42 |
| 1:A2:333:A:O3' | 11:BI:47:ARG:NH1 | 2.52 | 0.42 |
| 1:A2:347:G:N3 | 11:BI:12:SER:N | 2.66 | 0.42 |
| 1:A2:396:G:C8 | 9:BG:91:GLU:HB3 | 2.53 | 0.42 |
| 1:A2:450:U:C5 | 27:BY:109:LYS:N | 2.80 | 0.42 |
| 1:A2:555:A:P | 1:A2:556:A:P | 3.17 | 0.42 |
| 1:A2:583:C:O2 | 33:Be:13:LYS:HE2 | 2.20 | 0.42 |
| 1:A2:597:G:C3' | 26:BX:136:TRP:HZ3 | 2.27 | 0.42 |
| 1:A2:600:U:C5' | 26:BX:105:ALA:O | 2.48 | 0.42 |
| 1:A2:734:A:C6 | 7:BE:194:THR:CG2 | 3.02 | 0.42 |
| 1:A2:784:C:O5' | 27:BY:40:LEU:CD1 | 2.66 | 0.42 |
| 1:A2:803:A:O3' | 25:BW:120:HIS:O | 2.37 | 0.42 |
| 1:A2:863:A:H2' | 25:BW:6:VAL:CB | 2.49 | 0.42 |
| 1:A2:871:G:N3 | 30:Bb:21:LEU:HD11 | 2.30 | 0.42 |
| 1:A2:1165:G:O3' | 8:BF:99:MET:HE2 | 2.18 | 0.42 |
| 1:A2:1197:C:O2 | 1:A2:1197:C:H2' | 2.18 | 0.42 |
| 1:A2:1280:C:O4' | 23:BU:71:PRO:C | 2.61 | 0.42 |
| 1:A2:1298:U:O2 | 5:BC:208:GLU:HB3 | 2.19 | 0.42 |
| 1:A2:1299:G:C8 | 5:BC:99:LYS:CB | 3.03 | 0.42 |
| 1:A2:1499:G:C2 | 1:A2:1500:C:C2 | 3.07 | 0.42 |
| 1:A2:1583:A:C8 | 1:A2:1585:U:O2 | 2.72 | 0.42 |
| 1:A2:1590:G:C6 | 1:A2:1591:C:N4 | 2.87 | 0.42 |
| 1:A2:1711:C:O3' | 1:A2:1712:A:OP1 | 2.29 | 0.42 |
| 1:A2:1719:A:C2 | 9:BG:32:ILE:HB | 2.55 | 0.42 |
| 2:AZ:6105:U:C2' | 2:AZ:6106:A:H5" | 2.49 | 0.42 |
| 2:AZ:6220:U:C2 | 6:BD:143:ARG:HG3 | 2.45 | 0.42 |
| 4:BB:108:ASP:OD1 | 4:BB:109:LYS:N | 2.52 | 0.42 |
| 5:BC:172:ALA:HB2 | 5:BC:197:TYR:CD2 | 2.54 | 0.42 |
| 12:BJ:42:ILE:O | 12:BJ:46:SER:N | 2.52 | 0.42 |
| 12:BJ:134:ILE:O | 12:BJ:140:ILE:HG23 | 2.19 | 0.42 |
| 15:BM:60:VAL:O | 15:BM:60:VAL:HG12 | 2.18 | 0.42 |
| 17:BO:131:GLY:O | 17:BO:132:ARG:C | 2.62 | 0.42 |
| 21:BS:30:TYR:C | 21:BS:31:ALA:C | 2.88 | 0.42 |
| 22:BT:69:LYS:O | 22:BT:123:ARG:N | 2.52 | 0.42 |
| 28:BZ:70:LYS:HA | 28:BZ:70:LYS:HE2 | 2.01 | 0.42 |
| 28:BZ:80:LEU:O | 28:BZ:88:ILE:HD11 | 2.19 | 0.42 |
| 34:Bf:138:ARG:NH2 | 34:Bf:140:TYR:OH | 2.52 | 0.42 |
| 35:Bg:32:LEU:O | 35:Bg:33:LEU:N | 2.52 | 0.42 |
| 1:A2:27:U:O3' | 1:A2:28:A:P | 2.78 | 0.42 |
| 1:A2:57:G:H3' | 27:BY:114:ARG:NE | 2.32 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:79:C:C6 | 9:BG:163:THR:OG1 | 2.63 | 0.42 |
| 1:A2:199:G:O2' | 1:A2:200:A:H8 | 2.01 | 0.42 |
| 1:A2:329:G:N2 | 1:A2:340:U:O2 | 2.52 | 0.42 |
| 1:A2:398:G:H3' | 9:BG:88:ARG:NH1 | 2.33 | 0.42 |
| 1:A2:458:G:H1' | 27:BY:106:GLN:O | 2.19 | 0.42 |
| 1:A2:627:C:O2' | 1:A2:628:G:OP1 | 2.33 | 0.42 |
| 1:A2:741:C:P | 7:BE:200:ARG:CD | 3.05 | 0.42 |
| 1:A2:751:G:C2 | 1:A2:752:A:C4 | 3.07 | 0.42 |
| 1:A2:775:G:H22 | 27:BY:69:SER:HA | 1.77 | 0.42 |
| 1:A2:779:U:C5 | 27:BY:43:LYS:CE | 2.74 | 0.42 |
| 1:A2:780:A:C2 | 27:BY:2:SER:N | 2.86 | 0.42 |
| 1:A2:784:C:H2' | 1:A2:785:U:O4' | 2.19 | 0.42 |
| 1:A2:865:A:N6 | 1:A2:866:G:C5 | 2.88 | 0.42 |
| 1:A2:904:G:H2' | 1:A2:904:G:N3 | 2.33 | 0.42 |
| 1:A2:953:G:H2' | 16:BN:2:GLY:CA | 2.03 | 0.42 |
| 1:A2:971:A:H2' | 1:A2:971:A:N3 | 2.34 | 0.42 |
| 1:A2:988:A:C4 | 1:A2:989:U:C6 | 3.07 | 0.42 |
| 1:A2:1301:U:H2' | 1:A2:1302:U:H5' | 2.01 | 0.42 |
| 1:A2:1317:C:H5' | 20:BR:7:LYS:O | 2.20 | 0.42 |
| 1:A2:1369:U:H4' | 22:BT:123:ARG:NH2 | 2.34 | 0.42 |
| 1:A2:1455:G:H1' | 18:BP:123:TYR:HB3 | 1.85 | 0.42 |
| 1:A2:1499:G:N2 | 1:A2:1509:C:O2 | 2.53 | 0.42 |
| 1:A2:1553:G:C3' | 18:BP:43:ARG:HD3 | 2.38 | 0.42 |
| 1:A2:1608:U:C5' | 19:BQ:72:GLY:C | 2.93 | 0.42 |
| 2:AZ:6094:U:H5" | 2:AZ:6095:U:H1' | 2.01 | 0.42 |
| 2:AZ:6106:A:C2 | 8:BF:224:ASN:O | 2.72 | 0.42 |
| 2:AZ:6128:G:H2' | 2:AZ:6129:C:O4' | 2.19 | 0.42 |
| 2:AZ:6174:G:H2' | 2:AZ:6175:A:H5" | 2.02 | 0.42 |
| 3:BA:71:GLU:N | 3:BA:71:GLU:OE1 | 2.53 | 0.42 |
| 3:BA:77:SER:OG | 3:BA:124:THR:HG21 | 2.19 | 0.42 |
| 4:BB:157:GLN:O | 4:BB:158:SER:CB | 2.67 | 0.42 |
| 7:BE:28:ALA:HB1 | 7:BE:29:PRO:CD | 2.50 | 0.42 |
| 9:BG:56:ASN:N | 9:BG:108:VAL:HB | 2.34 | 0.42 |
| 10:BH:132:PRO:HG2 | 10:BH:161:GLN:HB3 | 2.01 | 0.42 |
| 13:BK:5:LYS:O | 13:BK:9:ASN:ND2 | 2.52 | 0.42 |
| 14:BL:21:ASN:CA | 14:BL:22:ASN:N | 2.83 | 0.42 |
| 19:BQ:10:PHE:HA | 19:BQ:18:ALA:O | 2.20 | 0.42 |
| 20:BR:86:PRO:O | 20:BR:87:GLU:HG2 | 2.19 | 0.42 |
| 25:BW:35:ILE:C | 25:BW:36:LYS:N | 2.77 | 0.42 |
| 26:BX:81:LYS:HA | 26:BX:82:LYS:HB2 | 2.01 | 0.42 |
| 35:Bg:231:MET:HB3 | 35:Bg:232:TYR:N | 2.35 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:72:A:O2' | 1:A2:73:U:H5" | 2.19 | 0.42 |
| 1:A2:162:A:C6 | 1:A2:163:G:C6 | 3.08 | 0.42 |
| 1:A2:170:U:OP1 | 1:A2:267:U:O2' | 2.35 | 0.42 |
| 1:A2:175:G:H2' | 9:BG:137:ARG:HH22 | 1.83 | 0.42 |
| 1:A2:451:A:C2 | 27:BY:111:LYS:CG | 2.98 | 0.42 |
| 1:A2:458:G:C1' | 27:BY:106:GLN:O | 2.61 | 0.42 |
| 1:A2:632:U:OP2 | 26:BX:12:ALA:HB3 | 2.19 | 0.42 |
| 1:A2:732:G:H22 | 7:BE:177:ALA:C | 2.28 | 0.42 |
| 1:A2:759:U:O2' | 12:BJ:8:TYR:O | 2.37 | 0.42 |
| 1:A2:864:U:H5 | 25:BW:13:ALA:C | 2.27 | 0.42 |
| 1:A2:913:G:C8 | 1:A2:913:G:H5' | 2.54 | 0.42 |
| 1:A2:932:U:O4' | 1:A2:933:A:C2 | 2.73 | 0.42 |
| 1:A2:1009:U:H3' | 17:BO:129:LYS:CD | 2.47 | 0.42 |
| 1:A2:1068:C:H42 | 30:Bb:17:ARG:NH1 | 2.18 | 0.42 |
| 1:A2:1103:U:C5' | 14:BL:97:TYR:HD2 | 2.32 | 0.42 |
| 1:A2:1246:C:N3 | 18:BP:76:VAL:CA | 2.75 | 0.42 |
| 1:A2:1254:U:C6 | 34:Bf:140:TYR:CZ | 2.98 | 0.42 |
| 1:A2:1280:C:N3 | 23:BU:72:ASN:CG | 2.77 | 0.42 |
| 1:A2:1331:A:N7 | 6:BD:161:GLY:CA | 2.42 | 0.42 |
| 1:A2:1428:G:N3 | 23:BU:74:GLU:CG | 1.87 | 0.42 |
| 1:A2:1454:G:C1' | 18:BP:121:ILE:HA | 2.27 | 0.42 |
| 1:A2:1652:C:H2' | 1:A2:1653:C:H6 | 1.83 | 0.42 |
| 1:A2:1688:U:H2' | 1:A2:1689:A:N7 | 2.31 | 0.42 |
| 3:BA:59:LEU:O | 3:BA:63:ILE:HB | 2.19 | 0.42 |
| 3:BA:143:VAL:O | 3:BA:144:ILE:HG13 | 2.19 | 0.42 |
| 5:BC:43:ARG:CZ | 5:BC:248:SER:N | 2.83 | 0.42 |
| 5:BC:147:ASN:HD21 | 24:BV:3:ASN:C | 2.27 | 0.42 |
| 13:BK:83:PRO:O | 13:BK:84:GLU:CG | 2.68 | 0.42 |
| 15:BM:36:LEU:HD23 | 15:BM:37:VAL:CG2 | 2.48 | 0.42 |
| 19:BQ:52:LEU:O | 19:BQ:57:LEU:N | 2.52 | 0.42 |
| 22:BT:52:GLY:HA3 | 22:BT:55:TYR:CD2 | 2.55 | 0.42 |
| 28:BZ:59:TYR:O | 28:BZ:60:VAL:HG13 | 2.19 | 0.42 |
| 28:BZ:63:SER:O | 28:BZ:67:ASP:OD2 | 2.38 | 0.42 |
| 33:Be:37:ARG:HB2 | 33:Be:37:ARG:CZ | 2.48 | 0.42 |
| 33:Be:47:VAL:O | 33:Be:48:THR:CB | 2.67 | 0.42 |
| 1:A2:64:U:O4 | 27:BY:121:THR:HB | 2.20 | 0.42 |
| 1:A2:78:A:N3 | 9:BG:162:VAL:HG23 | 2.34 | 0.42 |
| 1:A2:179:A:C1' | 9:BG:184:LEU:O | 2.66 | 0.42 |
| 1:A2:245:U:N3 | 7:BE:128:LYS:HE2 | 2.31 | 0.42 |
| 1:A2:329:G:H5' | 11:BI:175:GLN:NE2 | 2.31 | 0.42 |
| 1:A2:329:G:H22 | 11:BI:3:ILE:HD13 | 1.82 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:570:A:N6 | 26:BX:67:ALA:C | 2.71 | 0.42 |
| 1:A2:632:U:O2 | 14:BL:99:ARG:HD3 | 2.19 | 0.42 |
| 1:A2:688:G:H5' | 12:BJ:67:PRO:HG3 | 0.44 | 0.42 |
| 1:A2:702:G:H22 | 7:BE:227:VAL:HG21 | 1.85 | 0.42 |
| 1:A2:736:C:C4' | 7:BE:228:ILE:HG23 | 2.38 | 0.42 |
| 1:A2:738:G:C8 | 7:BE:157:ASN:OD1 | 2.50 | 0.42 |
| 1:A2:758:U:C5 | 12:BJ:6:ARG:HG2 | 2.53 | 0.42 |
| 1:A2:778:G:C4' | 27:BY:32:ARG:NH2 | 2.64 | 0.42 |
| 1:A2:875:G:N2 | 16:BN:8:GLY:CA | 2.82 | 0.42 |
| 1:A2:919:A:OP2 | 17:BO:118:VAL:HA | 2.20 | 0.42 |
| 1:A2:1087:A:C2 | 1:A2:1088:A:C5 | 3.08 | 0.42 |
| 1:A2:1096:C:H4' | 5:BC:168:ARG:HB3 | 2.02 | 0.42 |
| 1:A2:1133:A:H2' | 1:A2:1134:C:O4' | 2.19 | 0.42 |
| 1:A2:1383:G:H4' | 23:BU:89:ARG:HE | 1.85 | 0.42 |
| 1:A2:1547:A:C8 | 21:BS:87:ASN:CG | 2.98 | 0.42 |
| 1:A2:1622:G:H2' | 1:A2:1623:C:O4' | 2.19 | 0.42 |
| 1:A2:1792:G:OP1 | 29:Ba:3:LYS:N | 2.53 | 0.42 |
| 2:AZ:6057:G:N3 | 2:AZ:6057:G:C2' | 2.81 | 0.42 |
| 3:BA:36:TYR:CD2 | 3:BA:159:ALA:HB2 | 2.55 | 0.42 |
| 5:BC:127:ALA:N | 5:BC:128:GLY:N | 2.68 | 0.42 |
| 8:BF:40:ILE:HG13 | 8:BF:41:LYS:N | 2.35 | 0.42 |
| 8:BF:61:TYR:OH | 31:Bc:49:ARG:HD3 | 2.19 | 0.42 |
| 9:BG:210:GLN:O | 9:BG:214:LYS:N | 2.53 | 0.42 |
| 10:BH:8:ILE:O | 10:BH:9:LEU:N | 2.52 | 0.42 |
| 15:BM:54:ARG:HB3 | 34:Bf:128:ALA:HB3 | 2.00 | 0.42 |
| 17:BO:107:ARG:NH1 | 29:Ba:52:ASP:OD2 | 2.48 | 0.42 |
| 19:BQ:83:GLN:C | 19:BQ:84:ALA:CA | 2.75 | 0.42 |
| 20:BR:23:LYS:N | 20:BR:23:LYS:HZ2 | 2.18 | 0.42 |
| 21:BS:109:LEU:C | 21:BS:109:LEU:HD12 | 2.45 | 0.42 |
| 24:BV:20:THR:C | 24:BV:21:ASN:N | 2.77 | 0.42 |
| 31:Bc:51:ASN:O | 31:Bc:53:ILE:N | 2.51 | 0.42 |
| 32:Bd:33:LYS:O | 32:Bd:36:LEU:CD1 | 2.68 | 0.42 |
| 1:A2:29:U:H4' | 26:BX:127:VAL:HG23 | 2.01 | 0.42 |
| 1:A2:58:U:C4 | 27:BY:114:ARG:O | 2.73 | 0.42 |
| 1:A2:141:U:C3' | 9:BG:135:PRO:CD | 2.88 | 0.42 |
| 1:A2:145:A:O2' | 1:A2:146:U:C4' | 2.66 | 0.42 |
| 1:A2:163:G:N7 | 9:BG:17:GLU:OE2 | 2.51 | 0.42 |
| 1:A2:214:G:C4 | 7:BE:133:LYS:HD2 | 2.55 | 0.42 |
| 1:A2:265:A:C6 | 1:A2:290:G:C2 | 3.07 | 0.42 |
| 1:A2:281:G:H2' | 1:A2:282:C:C6 | 2.54 | 0.42 |
| 1:A2:590:C:O2' | 1:A2:591:A:H5' | 2.20 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:601:A:H1' | 26:BX:48:HIS:N | 2.35 | 0.42 |
| 1:A2:611:U:C4 | 1:A2:612:U:C4 | 3.08 | 0.42 |
| 1:A2:823:G:H3' | 1:A2:824:G:O4' | 2.19 | 0.42 |
| 1:A2:897:C:C3' | 17:BO:41:ARG:CA | 2.96 | 0.42 |
| 1:A2:1015:U:H5" | 1:A2:1016:C:OP2 | 2.20 | 0.42 |
| 1:A2:1041:G:H5' | 24:BV:62:ARG:C | 2.44 | 0.42 |
| 1:A2:1049:U:H3' | 30:Bb:18:LYS:HB2 | 1.99 | 0.42 |
| 1:A2:1191:U:C4 | 1:A2:1192:C:N4 | 2.88 | 0.42 |
| 1:A2:1219:A:H3' | 1:A2:1220:C:C6 | 2.54 | 0.42 |
| 1:A2:1281:G:H1' | 23:BU:74:GLU:CB | 2.41 | 0.42 |
| 1:A2:1391:A:OP1 | 20:BR:48:ASN:HB3 | 2.18 | 0.42 |
| 1:A2:1422:A:C2 | 1:A2:1423:U:N1 | 2.88 | 0.42 |
| 1:A2:1534:G:H4' | 8:BF:187:ILE:CG2 | 2.50 | 0.42 |
| 1:A2:1546:G:C1' | 21:BS:37:GLY:N | 2.81 | 0.42 |
| 1:A2:1549:C:O3' | 21:BS:83:ALA:O | 2.19 | 0.42 |
| 1:A2:1570:A:C2' | 1:A2:1571:C:O5' | 2.68 | 0.42 |
| 1:A2:1597:A:H2' | 1:A2:1598:U:O4' | 2.19 | 0.42 |
| 1:A2:1659:A:H3' | 1:A2:1660:A:P | 2.59 | 0.42 |
| 2:AZ:6203:U:O4' | 2:AZ:6203:U:OP1 | 2.37 | 0.42 |
| 4:BB:27:LYS:HA | 4:BB:27:LYS:NZ | 2.35 | 0.42 |
| 4:BB:115:ARG:HB3 | 4:BB:116:LYS:O | 2.19 | 0.42 |
| 4:BB:218:LEU:CB | 4:BB:219:LYS:N | 2.77 | 0.42 |
| 7:BE:63:ALA:HA | 7:BE:66:MET:CE | 2.50 | 0.42 |
| 9:BG:56:ASN:ND2 | 9:BG:62:PRO:HA | 2.35 | 0.42 |
| 10:BH:103:SER:O | 10:BH:104:ARG:N | 2.53 | 0.42 |
| 12:BJ:59:LEU:HD22 | 12:BJ:69:ARG:HA | 2.02 | 0.42 |
| 14:BL:42:PHE:C | 14:BL:43:LYS:HA | 2.45 | 0.42 |
| 16:BN:49:GLN:O | 16:BN:50:ILE:C | 2.61 | 0.42 |
| 22:BT:90:PRO:O | 22:BT:91:TYR:C | 2.63 | 0.42 |
| 25:BW:25:VAL:N | 25:BW:63:VAL:O | 2.52 | 0.42 |
| 31:Bc:28:VAL:C | 31:Bc:41:VAL:HG13 | 2.45 | 0.42 |
| 1:A2:151:G:C5 | 27:BY:135:ASP:HB3 | 2.55 | 0.42 |
| 1:A2:164:A:H5" | 9:BG:3:LEU:HB2 | 1.39 | 0.42 |
| 1:A2:220:A:N3 | 1:A2:220:A:C2' | 2.82 | 0.42 |
| 1:A2:325:G:O4' | 14:BL:133:LYS:CA | 2.67 | 0.42 |
| 1:A2:436:A:O4' | 26:BX:101:GLU:OE1 | 2.37 | 0.42 |
| 1:A2:444:C:H4' | 1:A2:445:A:C5' | 2.50 | 0.42 |
| 1:A2:542:A:O2' | 1:A2:543:C:P | 2.78 | 0.42 |
| 1:A2:568:G:C3' | 33:Be:13:LYS:HB2 | 2.36 | 0.42 |
| 1:A2:609:U:C4 | 26:BX:28:ASN:ND2 | 2.87 | 0.42 |
| 1:A2:622:A:H4' | 1:A2:623:A:O5' | 2.19 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:705:U:C5 | 1:A2:707:A:N1 | 2.87 | 0.42 |
| 1:A2:763:G:C6 | 1:A2:764:U:N3 | 2.88 | 0.42 |
| 1:A2:1034:C:O3' | 1:A2:1035:G:P | 2.78 | 0.42 |
| 1:A2:1060:U:P | 3:BA:39:ASN:CG | 3.03 | 0.42 |
| 1:A2:1077:C:H2' | 1:A2:1078:C:H6 | 1.83 | 0.42 |
| 1:A2:1124:A:C5 | 1:A2:1125:A:N7 | 2.88 | 0.42 |
| 1:A2:1126:G:C3' | 1:A2:1127:G:P | 3.08 | 0.42 |
| 1:A2:1225:U:C2 | 1:A2:1230:A:O3' | 2.56 | 0.42 |
| 1:A2:1225:U:O4 | 1:A2:1226:A:C2 | 2.72 | 0.42 |
| 1:A2:1230:A:C5' | 34:Bf:98:LYS:NZ | 2.78 | 0.42 |
| 1:A2:1301:U:C5 | 5:BC:119:LYS:N | 2.81 | 0.42 |
| 1:A2:1396:U:C5 | 20:BR:56:HIS:CE1 | 2.87 | 0.42 |
| 1:A2:1417:A:C3' | 19:BQ:128:LYS:NZ | 2.82 | 0.42 |
| 1:A2:1470:C:C3' | 8:BF:184:PHE:CD1 | 2.88 | 0.42 |
| 1:A2:1553:G:H21 | 18:BP:40:ARG:HB2 | 1.67 | 0.42 |
| 1:A2:1565:C:C2' | 21:BS:43:SER:H | 2.29 | 0.42 |
| 1:A2:1655:A:H2 | 1:A2:1746:A:N3 | 2.17 | 0.42 |
| 1:A2:1714:A:H2' | 1:A2:1715:G:C8 | 2.55 | 0.42 |
| 2:AZ:6138:A:OP1 | 8:BF:126:ASP:N | 2.30 | 0.42 |
| 3:BA:59:LEU:HD13 | 3:BA:158:VAL:CG2 | 2.49 | 0.42 |
| 3:BA:146:LEU:HD11 | 3:BA:177:LEU:CD1 | 2.49 | 0.42 |
| 5:BC:121:VAL:O | 5:BC:125:ILE:N | 2.53 | 0.42 |
| 5:BC:145:GLY:O | 5:BC:147:ASN:N | 2.52 | 0.42 |
| 7:BE:142:HIS:C | 7:BE:144:GLY:N | 2.77 | 0.42 |
| 7:BE:189:LEU:HA | 7:BE:190:GLY:N | 2.34 | 0.42 |
| 10:BH:153:LEU:HD21 | 10:BH:184:GLU:HB3 | 2.01 | 0.42 |
| 11:BI:181:GLY:HA2 | 11:BI:182:TYR:N | 2.35 | 0.42 |
| 14:BL:71:LEU:O | 14:BL:125:VAL:HG22 | 2.19 | 0.42 |
| 14:BL:92:HIS:HA | 14:BL:93:TYR:N | 2.35 | 0.42 |
| 16:BN:96:VAL:C | 16:BN:97:SER:CA | 2.93 | 0.42 |
| 16:BN:98:VAL:O | 16:BN:99:ARG:C | 2.63 | 0.42 |
| 23:BU:101:LYS:O | 23:BU:105:GLN:N | 2.53 | 0.42 |
| 25:BW:11:LEU:HD22 | 25:BW:72:CYS:O | 2.19 | 0.42 |
| 30:Bb:42:ASN:HA | 30:Bb:43:ILE:HA | 2.01 | 0.42 |
| 33:Be:40:TYR:O | 33:Be:43:ARG:N | 2.53 | 0.42 |
| 34:Bf:151:ASN:O | 34:Bf:152:ALA:CB | 2.67 | 0.42 |
| 1:A2:18:C:H5" | 26:BX:109:ARG:CG | 2.49 | 0.42 |
| 1:A2:119:A:C8 | 1:A2:120:U:C6 | 3.08 | 0.42 |
| 1:A2:168:A:N6 | 27:BY:124:ARG:NE | 2.63 | 0.42 |
| 1:A2:212:U:C4 | 1:A2:213:A:N7 | 2.88 | 0.42 |
| 1:A2:215:A:H5' | 7:BE:132:GLY:HA2 | 1.94 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:318:U:H2' | 11:BI:16:ALA:O | 2.20 | 0.42 |
| 1:A2:329:G:C4' | 11:BI:56:ARG:CZ | 2.97 | 0.42 |
| 1:A2:363:G:H2' | 1:A2:364:G:O4' | 2.20 | 0.42 |
| 1:A2:376:C:H2' | 1:A2:377:G:O5' | 2.19 | 0.42 |
| 1:A2:436:A:C1' | 26:BX:50:LYS:NZ | 2.76 | 0.42 |
| 1:A2:570:A:OP2 | 26:BX:90:ALA:O | 2.38 | 0.42 |
| 1:A2:596:C:C4 | 26:BX:139:LYS:CB | 3.02 | 0.42 |
| 1:A2:933:A:OP2 | 29:Ba:10:ARG:NH2 | 2.53 | 0.42 |
| 1:A2:1137:A:C5' | 26:BX:62:LYS:C | 2.93 | 0.42 |
| 1:A2:1144:U:C6 | 5:BC:89:GLN:CD | 2.97 | 0.42 |
| 1:A2:1214:U:H2' | 1:A2:1215:C:C6 | 2.54 | 0.42 |
| 1:A2:1229:G:C6 | 34:Bf:133:ALA:CB | 2.78 | 0.42 |
| 1:A2:1301:U:C1' | 5:BC:86:VAL:HG22 | 2.48 | 0.42 |
| 1:A2:1311:U:H5' | 20:BR:2:GLY:O | 2.19 | 0.42 |
| 1:A2:1316:G:N2 | 1:A2:1317:C:C2 | 2.88 | 0.42 |
| 1:A2:1317:C:C5' | 20:BR:7:LYS:HB3 | 2.24 | 0.42 |
| 1:A2:1499:G:H3' | 22:BT:105:LEU:N | 2.35 | 0.42 |
| 2:AZ:6218:U:C4 | 6:BD:146:ARG:HD2 | 2.55 | 0.42 |
| 4:BB:129:THR:OG1 | 4:BB:131:ASP:O | 2.30 | 0.42 |
| 4:BB:204:ILE:CG2 | 4:BB:205:PHE:HB2 | 2.50 | 0.42 |
| 8:BF:149:VAL:O | 8:BF:150:GLY:N | 2.53 | 0.42 |
| 10:BH:163:ASP:HB3 | 10:BH:164:TYR:HA | 2.02 | 0.42 |
| 11:BI:60:ILE:O | 11:BI:61:GLU:C | 2.62 | 0.42 |
| 14:BL:68:GLY:C | 14:BL:69:LYS:N | 2.78 | 0.42 |
| 15:BM:105:LYS:CB | 15:BM:112:ALA:O | 2.68 | 0.42 |
| 16:BN:76:LYS:C | 16:BN:76:LYS:CD | 2.92 | 0.42 |
| 16:BN:109:LYS:O | 16:BN:111:ALA:C | 2.63 | 0.42 |
| 22:BT:36:ILE:HD12 | 22:BT:37:VAL:CG2 | 2.50 | 0.42 |
| 28:BZ:76:ALA:O | 28:BZ:78:ILE:N | 2.53 | 0.42 |
| 35:Bg:285:ALA:N | 35:Bg:286:GLU:HA | 2.34 | 0.42 |
| 1:A2:18:C:H5" | 26:BX:109:ARG:HD3 | 1.98 | 0.42 |
| 1:A2:147:A:H1' | 27:BY:124:ARG:NH1 | 2.14 | 0.42 |
| 1:A2:179:A:C2' | 9:BG:184:LEU:HB3 | 2.49 | 0.42 |
| 1:A2:468:A:O2' | 1:A2:469:C:P | 2.78 | 0.42 |
| 1:A2:523:G:N1 | 1:A2:528:U:OP2 | 2.49 | 0.42 |
| 1:A2:737:A:O4' | 7:BE:227:VAL:HG22 | 2.19 | 0.42 |
| 1:A2:740:A:O5' | 1:A2:740:A:C8 | 2.73 | 0.42 |
| 1:A2:783:G:OP1 | 27:BY:52:LYS:CG | 2.61 | 0.42 |
| 1:A2:861:U:H6 | 25:BW:32:LYS:NZ | 2.18 | 0.42 |
| 1:A2:863:A:H2' | 25:BW:6:VAL:CA | 2.49 | 0.42 |
| 1:A2:871:G:C5 | 16:BN:12:SER:N | 2.88 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:878:G:HO2' | 16:BN:114:ARG:NH1 | 2.10 | 0.42 |
| 1:A2:933:A:C6 | 1:A2:935:U:N3 | 2.88 | 0.42 |
| 1:A2:954:G:C6 | 1:A2:955:A:C5 | 3.06 | 0.42 |
| 1:A2:958:U:OP1 | 30:Bb:24:LEU:N | 2.53 | 0.42 |
| 1:A2:959:U:HO2' | 25:BW:56:HIS:CD2 | 2.38 | 0.42 |
| 1:A2:962:C:C6 | 1:A2:963:A:N7 | 2.88 | 0.42 |
| 1:A2:1145:U:H5 | 1:A2:1147:A:N6 | 2.18 | 0.42 |
| 1:A2:1242:A:C8 | 18:BP:94:VAL:HG22 | 2.55 | 0.42 |
| 1:A2:1244:A:H2' | 18:BP:59:LYS:CD | 2.40 | 0.42 |
| 1:A2:1394:G:C5 | 1:A2:1395:G:N7 | 2.88 | 0.42 |
| 1:A2:1457:C:C5' | 21:BS:136:GLN:O | 2.44 | 0.42 |
| 1:A2:1709:C:OP1 | 9:BG:9:VAL:CA | 2.66 | 0.42 |
| 1:A2:1715:G:C5 | 1:A2:1716:C:N3 | 2.88 | 0.42 |
| 2:AZ:6032:U:O2 | 2:AZ:6084:U:O4 | 2.38 | 0.42 |
| 3:BA:67:ILE:CD1 | 3:BA:73:VAL:HG23 | 2.50 | 0.42 |
| 4:BB:222:LYS:CA | 4:BB:223:PHE:N | 2.83 | 0.42 |
| 6:BD:65:ARG:O | 6:BD:69:LEU:HG | 2.20 | 0.42 |
| 6:BD:133:GLY:O | 6:BD:189:MET:N | 2.53 | 0.42 |
| 7:BE:155:LYS:CE | 7:BE:155:LYS:HA | 2.48 | 0.42 |
| 8:BF:25:LEU:HD21 | 19:BQ:57:LEU:CD2 | 2.50 | 0.42 |
| 8:BF:165:LEU:O | 8:BF:165:LEU:HD22 | 2.20 | 0.42 |
| 12:BJ:77:ILE:HD13 | 12:BJ:91:LYS:HB2 | 2.01 | 0.42 |
| 14:BL:134:THR:O | 14:BL:136:ARG:NH1 | 2.53 | 0.42 |
| 17:BO:83:ILE:N | 17:BO:116:GLU:O | 2.52 | 0.42 |
| 22:BT:19:ALA:HB1 | 22:BT:55:TYR:O | 2.20 | 0.42 |
| 22:BT:19:ALA:O | 22:BT:20:SER:N | 2.53 | 0.42 |
| 26:BX:131:SER:O | 26:BX:133:LEU:N | 2.47 | 0.42 |
| 27:BY:7:ILE:CA | 27:BY:8:ARG:N | 2.82 | 0.42 |
| 35:Bg:104:VAL:CG2 | 35:Bg:105:GLY:N | 2.83 | 0.42 |
| 35:Bg:270:LEU:O | 35:Bg:271:VAL:C | 2.63 | 0.42 |
| 1:A2:14:C:O3' | 5:BC:203:LYS:NZ | 2.48 | 0.41 |
| 1:A2:90:C:C2' | 27:BY:116:LYS:HG3 | 2.38 | 0.41 |
| 1:A2:249:U:O3' | 1:A2:250:C:H5' | 2.20 | 0.41 |
| 1:A2:299:A:H8 | 7:BE:7:LYS:CB | 2.30 | 0.41 |
| 1:A2:324:U:OP2 | 11:BI:9:HIS:O | 2.38 | 0.41 |
| 1:A2:365:G:C2 | 1:A2:366:A:N7 | 2.88 | 0.41 |
| 1:A2:396:G:C2 | 9:BG:88:ARG:HD3 | 2.55 | 0.41 |
| 1:A2:430:G:C2 | 1:A2:431:C:C2 | 3.08 | 0.41 |
| 1:A2:700:C:N4 | 7:BE:198:LYS:N | 2.68 | 0.41 |
| 1:A2:733:A:H5' | 7:BE:211:LYS:HZ2 | 1.46 | 0.41 |
| 1:A2:757:A:N9 | 12:BJ:3:ARG:CZ | 2.83 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:814:A:C5' | 10:BH:110:GLN:N | 2.83 | 0.41 |
| 1:A2:859:A:O4' | 10:BH:102:PRO:HG2 | 2.20 | 0.41 |
| 1:A2:865:A:N7 | 1:A2:866:G:C8 | 2.87 | 0.41 |
| 1:A2:1049:U:O2 | 30:Bb:18:LYS:NZ | 2.46 | 0.41 |
| 1:A2:1083:G:H21 | 5:BC:161:LYS:HD3 | 1.19 | 0.41 |
| 1:A2:1298:U:C5' | 5:BC:115:ILE:CG2 | 2.84 | 0.41 |
| 1:A2:1315:U:C2 | 1:A2:1316:G:C8 | 3.08 | 0.41 |
| 1:A2:1334:U:O5' | 32:Bd:55:PHE:CD2 | 2.73 | 0.41 |
| 1:A2:1358:G:OP1 | 22:BT:130:ARG:NE | 2.53 | 0.41 |
| 1:A2:1549:C:H5 | 21:BS:89:GLN:HB2 | 1.85 | 0.41 |
| 1:A2:1558:U:H2' | 21:BS:133:VAL:O | 1.83 | 0.41 |
| 1:A2:1565:C:C1' | 21:BS:42:TYR:N | 2.83 | 0.41 |
| 1:A2:1728:A:C5 | 1:A2:1729:C:C5 | 3.08 | 0.41 |
| 1:A2:1797:A:N1 | 29:Ba:89:ARG:CA | 2.83 | 0.41 |
| 2:AZ:6031:G:N2 | 2:AZ:6032:U:O4 | 2.53 | 0.41 |
| 2:AZ:6035:U:C4 | 2:AZ:6036:C:C5 | 3.07 | 0.41 |
| 2:AZ:6039:G:N2 | 2:AZ:6040:C:O2 | 2.52 | 0.41 |
| 2:AZ:6196:G:O2' | 2:AZ:6197:U:O4' | 2.33 | 0.41 |
| 3:BA:75:ALA:HB2 | 3:BA:174:TRP:CE3 | 2.55 | 0.41 |
| 3:BA:131:GLN:O | 3:BA:135:GLU:HB2 | 2.19 | 0.41 |
| 6:BD:195:SER:C | 6:BD:197:THR:HG21 | 2.45 | 0.41 |
| 7:BE:95:THR:HG21 | 27:BY:16:PRO:HG2 | 2.02 | 0.41 |
| 7:BE:110:ALA:O | 7:BE:112:HIS:N | 2.53 | 0.41 |
| 14:BL:67:ARG:HD3 | 14:BL:67:ARG:N | 2.34 | 0.41 |
| 19:BQ:50:GLU:N | 19:BQ:51:PRO:HD2 | 2.35 | 0.41 |
| 23:BU:76:SER:HB3 | 23:BU:78:THR:HG21 | 2.01 | 0.41 |
| 25:BW:97:ARG:O | 25:BW:98:GLN:C | 2.63 | 0.41 |
| 27:BY:76:TYR:C | 27:BY:77:ASN:N | 2.78 | 0.41 |
| 33:Be:40:TYR:CD1 | 33:Be:40:TYR:C | 2.98 | 0.41 |
| 1:A2:10:G:N7 | 1:A2:1633:A:C2 | 2.88 | 0.41 |
| 1:A2:38:C:C2' | 1:A2:39:A:C5' | 2.95 | 0.41 |
| 1:A2:44:U:O2' | 1:A2:436:A:N1 | 2.50 | 0.41 |
| 1:A2:164:A:C2' | 9:BG:15:THR:CG2 | 2.95 | 0.41 |
| 1:A2:180:A:C4' | 9:BG:187:LYS:NZ | 2.82 | 0.41 |
| 1:A2:246:G:OP2 | 7:BE:127:LYS:CD | 2.65 | 0.41 |
| 1:A2:329:G:N2 | 11:BI:3:ILE:CG1 | 2.77 | 0.41 |
| 1:A2:398:G:O3' | 1:A2:399:A:P | 2.78 | 0.41 |
| 1:A2:457:G:H2' | 1:A2:458:G:O4' | 2.17 | 0.41 |
| 1:A2:599:A:H4' | 26:BX:124:VAL:HB | 1.06 | 0.41 |
| 1:A2:740:A:C6 | 7:BE:198:LYS:HG3 | 2.39 | 0.41 |
| 1:A2:740:A:N1 | 7:BE:199:GLU:N | 2.68 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:746:A:C6 | 25:BW:82:LYS:HD2 | 2.48 | 0.41 |
| 1:A2:800:U:P | 7:BE:186:GLY:HA2 | 2.58 | 0.41 |
| 1:A2:804:A:O5' | 25:BW:121:VAL:HA | 2.18 | 0.41 |
| 1:A2:812:A:O5' | 10:BH:108:GLN:NE2 | 2.23 | 0.41 |
| 1:A2:858:G:C5 | 10:BH:107:ARG:C | 2.96 | 0.41 |
| 1:A2:870:C:H2' | 16:BN:14:SER:H | 1.86 | 0.41 |
| 1:A2:876:G:C5 | 29:Ba:14:GLY:HA3 | 2.54 | 0.41 |
| 1:A2:879:G:H2' | 1:A2:880:C:H6 | 1.80 | 0.41 |
| 1:A2:897:C:C5 | 17:BO:38:THR:OG1 | 2.70 | 0.41 |
| 1:A2:926:A:H2' | 1:A2:927:C:H6 | 1.84 | 0.41 |
| 1:A2:1049:U:H4' | 30:Bb:23:THR:N | 2.34 | 0.41 |
| 1:A2:1068:C:C2' | 1:A2:1069:A:H5' | 2.50 | 0.41 |
| 1:A2:1216:C:O2 | 1:A2:1448:G:N2 | 2.53 | 0.41 |
| 1:A2:1331:A:H2' | 6:BD:162:GLN:CG | 2.50 | 0.41 |
| 1:A2:1367:G:O2' | 22:BT:129:GLN:OE1 | 2.16 | 0.41 |
| 1:A2:1502:G:N7 | 22:BT:33:TYR:CE1 | 2.88 | 0.41 |
| 1:A2:1504:G:O3' | 22:BT:38:LYS:CG | 2.68 | 0.41 |
| 1:A2:1546:G:H21 | 21:BS:36:LYS:C | 2.28 | 0.41 |
| 1:A2:1565:C:O4' | 21:BS:41:ARG:C | 2.63 | 0.41 |
| 1:A2:1753:A:C2' | 1:A2:1754:A:O5' | 2.68 | 0.41 |
| 2:AZ:6025:A:O2' | 2:AZ:6095:U:O5' | 2.30 | 0.41 |
| 4:BB:194:ASN:O | 4:BB:195:LYS:O | 2.38 | 0.41 |
| 5:BC:54:GLU:C | 5:BC:55:GLU:N | 2.78 | 0.41 |
| 5:BC:189:GLN:O | 5:BC:192:GLY:N | 2.53 | 0.41 |
| 8:BF:115:LYS:O | 8:BF:115:LYS:HG2 | 2.20 | 0.41 |
| 9:BG:57:ASP:OD1 | 9:BG:58:LYS:N | 2.53 | 0.41 |
| 10:BH:12:ALA:HB3 | 10:BH:13:PRO:HD3 | 2.01 | 0.41 |
| 10:BH:62:VAL:HG12 | 10:BH:64:VAL:N | 2.36 | 0.41 |
| 12:BJ:45:ILE:C | 12:BJ:46:SER:C | 2.89 | 0.41 |
| 14:BL:137:PHE:C | 14:BL:138:ASN:N | 2.78 | 0.41 |
| 15:BM:79:ALA:HB2 | 15:BM:87:PRO:HB2 | 2.02 | 0.41 |
| 18:BP:121:ILE:HD11 | 21:BS:122:HIS:CE1 | 2.55 | 0.41 |
| 20:BR:51:ALA:HA | 20:BR:54:THR:HG23 | 2.03 | 0.41 |
| 22:BT:23:GLN:HA | 22:BT:55:TYR:CE2 | 2.52 | 0.41 |
| 29:Ba:79:ILE:N | 29:Ba:79:ILE:HD12 | 2.34 | 0.41 |
| 30:Bb:62:ILE:O | 30:Bb:63:LEU:HB2 | 2.20 | 0.41 |
| 1:A2:26:A:C4 | 1:A2:27:U:C5 | 3.08 | 0.41 |
| 1:A2:58:U:C4' | 27:BY:111:LYS:O | 2.68 | 0.41 |
| 1:A2:133:U:C6 | 1:A2:133:U:H5' | 2.55 | 0.41 |
| 1:A2:242:U:OP2 | 7:BE:149:TYR:O | 2.38 | 0.41 |
| 1:A2:257:A:H2' | 1:A2:258:C:P | 2.60 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:333:A:N1 | 1:A2:334:G:C6 | 2.89 | 0.41 |
| 1:A2:359:A:C2 | 26:BX:78:LYS:HG3 | 2.56 | 0.41 |
| 1:A2:360:A:H2' | 1:A2:361:C:H4' | 2.02 | 0.41 |
| 1:A2:395:U:C1' | 9:BG:93:LYS:HZ1 | 2.26 | 0.41 |
| 1:A2:504:U:H2' | 1:A2:505:A:H4' | 2.01 | 0.41 |
| 1:A2:548:G:C4' | 26:BX:136:TRP:CE2 | 3.03 | 0.41 |
| 1:A2:588:U:N3 | 33:Be:21:VAL:HG11 | 2.35 | 0.41 |
| 1:A2:631:G:H3' | 26:BX:12:ALA:O | 2.20 | 0.41 |
| 1:A2:657:U:H3' | 1:A2:657:U:H6 | 1.85 | 0.41 |
| 1:A2:703:G:C3' | 1:A2:704:C:H5' | 2.50 | 0.41 |
| 1:A2:776:G:O3' | 27:BY:66:GLY:C | 2.64 | 0.41 |
| 1:A2:783:G:OP2 | 27:BY:39:GLU:O | 2.26 | 0.41 |
| 1:A2:783:G:C2 | 27:BY:39:GLU:OE2 | 2.74 | 0.41 |
| 1:A2:870:C:C2 | 16:BN:13:SER:CB | 3.03 | 0.41 |
| 1:A2:1032:G:C6 | 1:A2:1033:C:N4 | 2.88 | 0.41 |
| 1:A2:1103:U:HO2' | 1:A2:1104:U:H5' | 1.85 | 0.41 |
| 1:A2:1210:C:N4 | 18:BP:122:THR:HB | 2.35 | 0.41 |
| 1:A2:1236:A:H5" | 18:BP:61:ARG:HD3 | 1.98 | 0.41 |
| 1:A2:1292:G:C3' | 1:A2:1293:U:P | 3.07 | 0.41 |
| 1:A2:1300:A:N9 | 5:BC:86:VAL:CB | 2.83 | 0.41 |
| 1:A2:1331:A:N3 | 6:BD:161:GLY:CA | 2.57 | 0.41 |
| 1:A2:1499:G:P | 22:BT:102:ARG:O | 2.79 | 0.41 |
| 1:A2:1504:G:C2' | 1:A2:1505:A:O5' | 2.68 | 0.41 |
| 1:A2:1518:C:C6 | 1:A2:1518:C:C5' | 3.03 | 0.41 |
| 1:A2:1528:U:C4' | 19:BQ:43:ILE:HB | 2.50 | 0.41 |
| 1:A2:1533:C:C5 | 28:BZ:77:ARG:HG2 | 2.54 | 0.41 |
| 1:A2:1591:C:H5' | 22:BT:93:HIS:HA | 1.99 | 0.41 |
| 1:A2:1722:A:C4' | 9:BG:72:ARG:HA | 1.78 | 0.41 |
| 1:A2:1742:U:C6 | 1:A2:1742:U:H5" | 2.55 | 0.41 |
| 3:BA:53:THR:OG1 | 20:BR:105:GLN:CD | 2.63 | 0.41 |
| 3:BA:106:SER:C | 3:BA:115:PHE:HA | 2.45 | 0.41 |
| 4:BB:156:ALA:HB3 | 4:BB:161:ILE:HD11 | 2.01 | 0.41 |
| 5:BC:142:GLY:N | 5:BC:153:SER:O | 2.47 | 0.41 |
| 5:BC:173:PRO:O | 5:BC:174:ARG:O | 2.38 | 0.41 |
| 6:BD:222:VAL:N | 35:Bg:193:ILE:HD12 | 2.36 | 0.41 |
| 12:BJ:109:LEU:O | 12:BJ:110:GLN:C | 2.62 | 0.41 |
| 14:BL:111:VAL:C | 14:BL:112:SER:CA | 2.93 | 0.41 |
| 15:BM:30:VAL:O | 15:BM:30:VAL:HG12 | 2.20 | 0.41 |
| 20:BR:24:LEU:HD13 | 20:BR:58:MET:HE1 | 2.01 | 0.41 |
| 20:BR:34:LEU:C | 20:BR:34:LEU:HD23 | 2.44 | 0.41 |
| 22:BT:45:MET:SD | 22:BT:46:PRO:O | 2.78 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 23:BU:94:GLU:O | 23:BU:95:ALA:CB | 2.68 | 0.41 |
| 24:BV:74:GLN:NE2 | 24:BV:81:ASN:O | 2.49 | 0.41 |
| 25:BW:60:LYS:C | 25:BW:61:ILE:N | 2.78 | 0.41 |
| 27:BY:54:ALA:HB2 | 27:BY:79:VAL:HA | 2.02 | 0.41 |
| 35:Bg:196:ASN:O | 35:Bg:197:SER:CB | 2.68 | 0.41 |
| 1:A2:31:C:O2' | 26:BX:138:GLU:HG3 | 2.13 | 0.41 |
| 1:A2:140:A:H3' | 9:BG:141:ILE:HG21 | 2.02 | 0.41 |
| 1:A2:150:U:H2' | 1:A2:151:G:O4' | 2.20 | 0.41 |
| 1:A2:163:G:C3' | 1:A2:164:A:OP2 | 2.64 | 0.41 |
| 1:A2:336:G:C8 | 11:BI:27:PHE:CD1 | 3.06 | 0.41 |
| 1:A2:374:U:C2 | 1:A2:375:U:C6 | 3.08 | 0.41 |
| 1:A2:392:G:C5 | 1:A2:393:C:C5 | 3.09 | 0.41 |
| 1:A2:429:G:N3 | 1:A2:429:G:H2' | 2.36 | 0.41 |
| 1:A2:433:C:N3 | 1:A2:434:G:C4 | 2.88 | 0.41 |
| 1:A2:449:C:O2' | 1:A2:450:U:H5' | 2.20 | 0.41 |
| 1:A2:457:G:C2' | 27:BY:107:GLN:HE21 | 2.34 | 0.41 |
| 1:A2:738:G:OP2 | 7:BE:157:ASN:OD1 | 2.39 | 0.41 |
| 1:A2:916:U:H3' | 17:BO:84:ARG:NH1 | 2.34 | 0.41 |
| 1:A2:957:G:C2 | 30:Bb:21:LEU:HD13 | 2.56 | 0.41 |
| 1:A2:1036:A:P | 25:BW:12:ASN:HB2 | 2.60 | 0.41 |
| 1:A2:1039:A:O2' | 1:A2:1040:G:O5' | 2.31 | 0.41 |
| 1:A2:1123:C:H2' | 1:A2:1124:A:O4' | 2.21 | 0.41 |
| 1:A2:1244:A:C2' | 18:BP:59:LYS:HD3 | 2.41 | 0.41 |
| 1:A2:1244:A:H3' | 18:BP:59:LYS:HB2 | 1.33 | 0.41 |
| 1:A2:1280:C:P | 32:Bd:44:ARG:NH2 | 2.93 | 0.41 |
| 1:A2:1295:G:O2' | 1:A2:1321:A:H8 | 1.99 | 0.41 |
| 1:A2:1297:G:C2 | 1:A2:1299:G:N7 | 2.88 | 0.41 |
| 1:A2:1304:G:H3' | 1:A2:1305:U:H3' | 2.03 | 0.41 |
| 1:A2:1401:A:P | 20:BR:10:LYS:CE | 2.90 | 0.41 |
| 1:A2:1414:U:HO2' | 1:A2:1416:G:P | 2.43 | 0.41 |
| 1:A2:1451:C:N4 | 1:A2:1452:U:O4 | 2.53 | 0.41 |
| 1:A2:1458:G:H4' | 21:BS:131:LEU:C | 2.44 | 0.41 |
| 1:A2:1534:G:O5' | 28:BZ:66:VAL:HG22 | 2.15 | 0.41 |
| 1:A2:1756:A:C2' | 1:A2:1757:G:OP1 | 2.69 | 0.41 |
| 2:AZ:6061:G:N1 | 2:AZ:6062:G:N7 | 2.68 | 0.41 |
| 5:BC:60:SER:O | 5:BC:60:SER:OG | 2.26 | 0.41 |
| 5:BC:215:PHE:CD1 | 5:BC:215:PHE:C | 2.97 | 0.41 |
| 6:BD:66:ILE:HD13 | 6:BD:66:ILE:HA | 1.94 | 0.41 |
| 6:BD:87:TYR:C | 6:BD:88:ALA:N | 2.79 | 0.41 |
| 10:BH:140:VAL:CA | 10:BH:141:ARG:N | 2.79 | 0.41 |
| 14:BL:87:ARG:NH2 | 14:BL:104:HIS:CD2 | 2.89 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 15:BM:94:ALA:HB1 | 15:BM:117:GLY:HA3 | 2.02 | 0.41 |
| 16:BN:50:ILE:HG22 | 16:BN:51:GLY:N | 2.36 | 0.41 |
| 17:BO:16:VAL:HG13 | 17:BO:33:LEU:HA | 2.01 | 0.41 |
| 18:BP:33:PHE:CZ | 18:BP:37:ALA:HB2 | 2.55 | 0.41 |
| 19:BQ:69:VAL:HG11 | 19:BQ:81:ILE:CG2 | 2.49 | 0.41 |
| 23:BU:52:LYS:HA | 23:BU:92:ASP:HB3 | 2.02 | 0.41 |
| 25:BW:110:ILE:CA | 25:BW:111:MET:N | 2.83 | 0.41 |
| 29:Ba:25:ASN:C | 29:Ba:25:ASN:HD22 | 2.29 | 0.41 |
| 35:Bg:43:ILE:N | 35:Bg:43:ILE:CD1 | 2.83 | 0.41 |
| 1:A2:28:A:C2 | 26:BX:131:SER:C | 2.96 | 0.41 |
| 1:A2:75:U:H3 | 9:BG:164:LYS:HE3 | 1.76 | 0.41 |
| 1:A2:296:U:OP1 | 7:BE:33:ALA:HB2 | 2.17 | 0.41 |
| 1:A2:304:U:H3' | 1:A2:305:C:H6 | 1.86 | 0.41 |
| 1:A2:334:G:C5 | 11:BI:26:LYS:HB3 | 2.32 | 0.41 |
| 1:A2:394:C:C5' | 9:BG:76:LEU:HD21 | 2.50 | 0.41 |
| 1:A2:407:A:C6 | 1:A2:408:C:C4 | 3.09 | 0.41 |
| 1:A2:600:U:OP1 | 26:BX:122:PHE:O | 2.37 | 0.41 |
| 1:A2:831:U:H5' | 7:BE:152:PRO:CB | 2.50 | 0.41 |
| 1:A2:871:G:C3' | 16:BN:13:SER:N | 2.78 | 0.41 |
| 1:A2:875:G:H4' | 1:A2:936:G:O2' | 2.21 | 0.41 |
| 1:A2:888:U:C4 | 1:A2:889:U:C5 | 3.08 | 0.41 |
| 1:A2:897:C:OP2 | 17:BO:39:ILE:HG13 | 2.21 | 0.41 |
| 1:A2:1127:G:C5 | 1:A2:1128:C:C5 | 3.08 | 0.41 |
| 1:A2:1328:G:OP2 | 1:A2:1330:G:O6 | 2.38 | 0.41 |
| 1:A2:1391:A:HO2' | 1:A2:1392:U:H6 | 1.65 | 0.41 |
| 1:A2:1503:A:N7 | 22:BT:37:VAL:N | 2.66 | 0.41 |
| 1:A2:1547:A:C4 | 21:BS:87:ASN:ND2 | 2.81 | 0.41 |
| 1:A2:1547:A:H2' | 21:BS:99:HIS:CE1 | 2.53 | 0.41 |
| 1:A2:1679:G:C8 | 9:BG:68:LEU:CG | 2.64 | 0.41 |
| 1:A2:1753:A:C2 | 1:A2:1754:A:N7 | 2.89 | 0.41 |
| 2:AZ:6216:U:O3' | 2:AZ:6217:A:P | 2.79 | 0.41 |
| 3:BA:103:THR:O | 3:BA:106:SER:N | 2.54 | 0.41 |
| 3:BA:123:VAL:CG2 | 3:BA:132:ALA:HB3 | 2.51 | 0.41 |
| 4:BB:64:ARG:O | 4:BB:87:ARG:HG3 | 2.20 | 0.41 |
| 7:BE:54:TYR:CE1 | 27:BY:16:PRO:HD3 | 2.56 | 0.41 |
| 8:BF:58:LEU:HD12 | 8:BF:138:THR:HB | 2.03 | 0.41 |
| 11:BI:112:TRP:CZ3 | 11:BI:116:HIS:HB3 | 2.56 | 0.41 |
| 12:BJ:139:GLN:HE21 | 12:BJ:140:ILE:N | 2.17 | 0.41 |
| 17:BO:102:LEU:C | 17:BO:103:ARG:N | 2.79 | 0.41 |
| 23:BU:65:ILE:O | 23:BU:65:ILE:HG22 | 2.20 | 0.41 |
| 29:Ba:31:PRO:C | 29:Ba:32:LYS:N | 2.78 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 32:Bd:34:TYR:O | 32:Bd:35:GLY:C | 2.63 | 0.41 |
| 1:A2:27:U:C2 | 26:BX:126:LYS:CD | 2.91 | 0.41 |
| 1:A2:29:U:O5' | 26:BX:129:GLY:C | 2.64 | 0.41 |
| 1:A2:204:G:C2 | 1:A2:264:G:N2 | 2.88 | 0.41 |
| 1:A2:213:A:C2 | 1:A2:253:A:C2 | 3.09 | 0.41 |
| 1:A2:346:G:C2 | 11:BI:16:ALA:N | 2.86 | 0.41 |
| 1:A2:389:G:H3' | 1:A2:390:G:O5' | 2.20 | 0.41 |
| 1:A2:441:A:C2 | 1:A2:442:C:C5 | 3.09 | 0.41 |
| 1:A2:520:A:C6 | 1:A2:521:A:C6 | 3.08 | 0.41 |
| 1:A2:632:U:H5' | 26:BX:16:ARG:HB2 | 2.01 | 0.41 |
| 1:A2:703:G:C5 | 7:BE:230:GLU:CG | 2.98 | 0.41 |
| 1:A2:753:A:O3' | 7:BE:12:LEU:C | 2.63 | 0.41 |
| 1:A2:864:U:C5 | 25:BW:13:ALA:CA | 2.97 | 0.41 |
| 1:A2:946:U:O5' | 4:BB:158:SER:OG | 2.36 | 0.41 |
| 1:A2:1131:A:C2 | 1:A2:1132:A:C4 | 3.09 | 0.41 |
| 1:A2:1240:U:C4 | 18:BP:63:ALA:HB3 | 2.56 | 0.41 |
| 1:A2:1240:U:C4' | 18:BP:104:GLN:HG2 | 2.48 | 0.41 |
| 1:A2:1297:G:N1 | 1:A2:1301:U:C2 | 2.87 | 0.41 |
| 1:A2:1331:A:C3' | 6:BD:162:GLN:HG2 | 2.50 | 0.41 |
| 1:A2:1335:U:C5' | 23:BU:62:VAL:CG1 | 2.98 | 0.41 |
| 1:A2:1399:C:C6 | 20:BR:60:ARG:HB3 | 2.54 | 0.41 |
| 1:A2:1451:C:C4 | 18:BP:79:HIS:CG | 2.95 | 0.41 |
| 1:A2:1502:G:C3' | 22:BT:37:VAL:HG21 | 2.46 | 0.41 |
| 1:A2:1518:C:C6 | 1:A2:1518:C:H5' | 2.55 | 0.41 |
| 1:A2:1573:A:H2 | 8:BF:100:ASN:ND2 | 2.19 | 0.41 |
| 1:A2:1611:A:N7 | 1:A2:1612:U:C6 | 2.89 | 0.41 |
| 1:A2:1622:G:O2' | 1:A2:1623:C:O4' | 2.37 | 0.41 |
| 1:A2:1632:C:H2' | 1:A2:1633:A:H8 | 1.85 | 0.41 |
| 1:A2:1722:A:H3' | 9:BG:73:ILE:HG23 | 1.59 | 0.41 |
| 1:A2:1729:C:C5 | 1:A2:1730:A:N7 | 2.88 | 0.41 |
| 1:A2:1732:A:C6 | 1:A2:1733:C:C4 | 3.09 | 0.41 |
| 1:A2:1788:G:C3' | 1:A2:1789:G:P | 3.08 | 0.41 |
| 4:BB:24:PHE:CE1 | 17:BO:39:ILE:HG22 | 2.56 | 0.41 |
| 4:BB:190:PRO:O | 4:BB:191:GLU:C | 2.63 | 0.41 |
| 5:BC:113:LEU:N | 5:BC:132:ALA:HB1 | 2.36 | 0.41 |
| 5:BC:207:LEU:CA | 5:BC:208:GLU:N | 2.81 | 0.41 |
| 7:BE:18:TRP:C | 7:BE:19:LEU:CB | 2.94 | 0.41 |
| 8:BF:48:PHE:CB | 8:BF:65:ALA:HB3 | 2.50 | 0.41 |
| 8:BF:58:LEU:HD21 | 8:BF:167:ARG:NH1 | 2.35 | 0.41 |
| 8:BF:90:ILE:O | 8:BF:93:LEU:HB2 | 2.20 | 0.41 |
| 8:BF:162:VAL:C | 8:BF:163:SER:N | 2.79 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 19:BQ:90:VAL:HA | 19:BQ:93:HIS:HB2 | 2.02 | 0.41 |
| 23:BU:31:VAL:C | 23:BU:32:LYS:HA | 2.45 | 0.41 |
| 25:BW:70:ASN:HB2 | 25:BW:130:TYR:C | 2.45 | 0.41 |
| 26:BX:49:ALA:CA | 26:BX:50:LYS:N | 2.83 | 0.41 |
| 26:BX:75:GLN:N | 26:BX:76:LEU:N | 2.69 | 0.41 |
| 28:BZ:75:LEU:O | 28:BZ:76:ALA:C | 2.64 | 0.41 |
| 33:Be:39:LEU:O | 33:Be:40:TYR:C | 2.64 | 0.41 |
| 35:Bg:41:THR:O | 35:Bg:42:LEU:HD12 | 2.20 | 0.41 |
| 35:Bg:65:SER:N | 35:Bg:66:HIS:N | 2.68 | 0.41 |
| 1:A2:28:A:C2 | 26:BX:131:SER:CA | 2.94 | 0.41 |
| 1:A2:433:C:N4 | 1:A2:434:G:C6 | 2.89 | 0.41 |
| 1:A2:592:A:C6 | 1:A2:593:U:C2 | 3.08 | 0.41 |
| 1:A2:633:U:O5’ | 14:BL:99:ARG:CG | 2.61 | 0.41 |
| 1:A2:736:C:C6 | 7:BE:225:VAL:CG1 | 2.88 | 0.41 |
| 1:A2:754:A:H2’ | 7:BE:12:LEU:HD22 | 1.31 | 0.41 |
| 1:A2:858:G:N3 | 10:BH:102:PRO:CB | 2.83 | 0.41 |
| 1:A2:958:U:H5’ | 30:Bb:26:GLN:HB3 | 2.03 | 0.41 |
| 1:A2:1035:G:O6 | 1:A2:1036:A:N6 | 2.54 | 0.41 |
| 1:A2:1047:G:C5 | 1:A2:1048:G:N7 | 2.89 | 0.41 |
| 1:A2:1048:G:H21 | 30:Bb:18:LYS:CE | 2.33 | 0.41 |
| 1:A2:1049:U:H5’ | 30:Bb:22:LYS:C | 2.46 | 0.41 |
| 1:A2:1067:C:H4’ | 3:BA:31:VAL:HG12 | 2.00 | 0.41 |
| 1:A2:1103:U:C3’ | 26:BX:15:LEU:CD2 | 2.81 | 0.41 |
| 1:A2:1119:G:C6 | 1:A2:1120:U:C4 | 3.09 | 0.41 |
| 1:A2:1220:C:O3’ | 1:A2:1221:A:P | 2.79 | 0.41 |
| 1:A2:1256:A:H2 | 34:Bf:98:LYS:HG2 | 0.98 | 0.41 |
| 1:A2:1281:G:H4’ | 23:BU:68:ARG:HH22 | 1.38 | 0.41 |
| 1:A2:1399:C:P | 20:BR:67:ARG:CB | 3.09 | 0.41 |
| 1:A2:1418:G:H4’ | 19:BQ:128:LYS:HD3 | 2.01 | 0.41 |
| 1:A2:1664:C:N4 | 1:A2:1665:U:O4 | 2.53 | 0.41 |
| 1:A2:1739:C:N4 | 1:A2:1740:A:N6 | 2.69 | 0.41 |
| 2:AZ:6169:G:H2’ | 2:AZ:6170:G:C8 | 2.55 | 0.41 |
| 3:BA:36:TYR:CD2 | 3:BA:159:ALA:CB | 3.04 | 0.41 |
| 3:BA:76:ILE:HG23 | 3:BA:102:PHE:CD2 | 2.56 | 0.41 |
| 3:BA:141:ILE:O | 3:BA:141:ILE:CG2 | 2.66 | 0.41 |
| 6:BD:119:ALA:O | 6:BD:122:VAL:N | 2.53 | 0.41 |
| 6:BD:223:LYS:O | 35:Bg:190:ALA:HB2 | 2.20 | 0.41 |
| 7:BE:57:ASN:O | 7:BE:58:GLY:N | 2.54 | 0.41 |
| 15:BM:27:ALA:HB2 | 15:BM:135:MET:HE3 | 2.03 | 0.41 |
| 19:BQ:39:VAL:HG23 | 19:BQ:42:GLU:HG3 | 2.02 | 0.41 |
| 29:Ba:40:ALA:O | 29:Ba:69:ASN:ND2 | 2.52 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:Ba:68:TYR:O | 29:Ba:69:ASN:HB3 | 2.21 | 0.41 |
| 31:Bc:25:VAL:HG12 | 31:Bc:26:THR:C | 2.46 | 0.41 |
| 1:A2:13:C:O2 | 1:A2:13:C:H2' | 2.20 | 0.41 |
| 1:A2:119:A:N3 | 1:A2:397:A:C6 | 2.88 | 0.41 |
| 1:A2:214:G:C8 | 7:BE:133:LYS:HA | 2.56 | 0.41 |
| 1:A2:275:C:H2' | 1:A2:276:C:C1' | 2.50 | 0.41 |
| 1:A2:548:G:H5" | 33:Be:15:LYS:HE2 | 2.03 | 0.41 |
| 1:A2:565:C:O2' | 1:A2:577:G:N2 | 2.54 | 0.41 |
| 1:A2:638:U:C6 | 25:BW:107:SER:HA | 2.53 | 0.41 |
| 1:A2:740:A:N3 | 7:BE:200:ARG:N | 2.29 | 0.41 |
| 1:A2:756:A:P | 12:BJ:4:ALA:CA | 3.08 | 0.41 |
| 1:A2:778:G:OP1 | 27:BY:30:PRO:CA | 2.68 | 0.41 |
| 1:A2:826:U:H2' | 1:A2:827:C:C6 | 2.56 | 0.41 |
| 1:A2:880:C:O3' | 1:A2:881:A:P | 2.79 | 0.41 |
| 1:A2:880:C:OP1 | 16:BN:109:LYS:HG2 | 2.21 | 0.41 |
| 1:A2:1048:G:H1' | 30:Bb:22:LYS:NZ | 2.35 | 0.41 |
| 1:A2:1108:G:C2 | 26:BX:27:ASN:N | 2.84 | 0.41 |
| 1:A2:1226:A:C1' | 34:Bf:98:LYS:HB2 | 2.41 | 0.41 |
| 1:A2:1259:U:N3 | 34:Bf:96:ALA:HA | 2.26 | 0.41 |
| 1:A2:1323:C:H2' | 1:A2:1324:G:O4' | 2.20 | 0.41 |
| 1:A2:1327:C:C5' | 6:BD:168:ILE:HG12 | 2.51 | 0.41 |
| 1:A2:1367:G:O2' | 22:BT:66:TYR:CE2 | 2.57 | 0.41 |
| 1:A2:1389:C:C2' | 20:BR:45:ARG:HA | 2.46 | 0.41 |
| 1:A2:1417:A:C5' | 19:BQ:128:LYS:HE3 | 2.51 | 0.41 |
| 1:A2:1420:C:H4' | 23:BU:82:TYR:CE1 | 2.55 | 0.41 |
| 1:A2:1503:A:C6 | 1:A2:1504:G:C5 | 3.09 | 0.41 |
| 1:A2:1525:A:H61 | 19:BQ:73:GLY:CA | 2.31 | 0.41 |
| 1:A2:1534:G:C1' | 8:BF:187:ILE:CG2 | 2.98 | 0.41 |
| 1:A2:1758:U:H3' | 1:A2:1759:C:O5' | 2.21 | 0.41 |
| 2:AZ:6061:G:C6 | 2:AZ:6062:G:H8 | 2.39 | 0.41 |
| 2:AZ:6174:G:H3' | 2:AZ:6175:A:P | 2.61 | 0.41 |
| 4:BB:127:VAL:CG1 | 4:BB:176:VAL:HG11 | 2.51 | 0.41 |
| 5:BC:53:ILE:HD12 | 5:BC:110:HIS:CD2 | 2.56 | 0.41 |
| 5:BC:202:GLY:O | 5:BC:204:THR:HG23 | 2.20 | 0.41 |
| 7:BE:43:PRO:HG2 | 7:BE:46:VAL:HG23 | 2.03 | 0.41 |
| 10:BH:34:LEU:C | 10:BH:35:LYS:N | 2.79 | 0.41 |
| 10:BH:67:LEU:HD11 | 10:BH:128:ASP:OD2 | 2.21 | 0.41 |
| 10:BH:79:ARG:C | 10:BH:80:GLU:CA | 2.93 | 0.41 |
| 11:BI:3:ILE:HB | 11:BI:30:GLY:C | 2.46 | 0.41 |
| 14:BL:100:TYR:CD1 | 26:BX:9:LEU:HD11 | 2.56 | 0.41 |
| 15:BM:93:ASP:HB3 | 15:BM:94:ALA:N | 2.35 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 19:BQ:11:GLY:O | 19:BQ:17:THR:HB | 2.21 | 0.41 |
| 19:BQ:16:ALA:HB2 | 19:BQ:71:GLY:C | 2.46 | 0.41 |
| 20:BR:79:GLU:N | 20:BR:82:ASP:OD2 | 2.54 | 0.41 |
| 22:BT:54:PHE:O | 22:BT:57:ARG:HB3 | 2.20 | 0.41 |
| 26:BX:26:GLU:O | 26:BX:28:ASN:N | 2.54 | 0.41 |
| 27:BY:122:GLY:CA | 27:BY:125:LEU:HD23 | 2.51 | 0.41 |
| 28:BZ:78:ILE:HG22 | 28:BZ:79:ALA:N | 2.36 | 0.41 |
| 1:A2:3:U:H2' | 12:BJ:18:PRO:HG2 | 0.41 | 0.41 |
| 1:A2:18:C:O3' | 1:A2:19:A:P | 2.79 | 0.41 |
| 1:A2:71:A:H3' | 1:A2:72:A:C4' | 2.45 | 0.41 |
| 1:A2:72:A:O2' | 1:A2:73:U:C5' | 2.69 | 0.41 |
| 1:A2:79:C:P | 9:BG:163:THR:OG1 | 2.79 | 0.41 |
| 1:A2:89:G:C6 | 1:A2:90:C:C4 | 3.09 | 0.41 |
| 1:A2:96:G:C5 | 1:A2:97:C:C5 | 3.08 | 0.41 |
| 1:A2:164:A:C4 | 9:BG:15:THR:HB | 2.54 | 0.41 |
| 1:A2:218:A:O2' | 1:A2:219:A:OP1 | 2.38 | 0.41 |
| 1:A2:238:U:HO3' | 9:BG:210:GLN:CB | 2.13 | 0.41 |
| 1:A2:329:G:N2 | 11:BI:3:ILE:HB | 2.28 | 0.41 |
| 1:A2:366:A:C2 | 1:A2:367:A:C4 | 3.09 | 0.41 |
| 1:A2:396:G:C8 | 9:BG:87:ARG:C | 2.96 | 0.41 |
| 1:A2:441:A:C2 | 1:A2:442:C:C6 | 3.09 | 0.41 |
| 1:A2:444:C:O2 | 27:BY:104:SER:OG | 2.35 | 0.41 |
| 1:A2:509:G:H2' | 1:A2:510:G:C8 | 2.56 | 0.41 |
| 1:A2:597:G:H5" | 26:BX:133:LEU:CD2 | 2.51 | 0.41 |
| 1:A2:617:U:O3' | 1:A2:618:U:P | 2.79 | 0.41 |
| 1:A2:635:A:C4 | 25:BW:126:LEU:CD2 | 3.04 | 0.41 |
| 1:A2:649:U:P | 1:A2:649:U:H2' | 2.60 | 0.41 |
| 1:A2:703:G:C4 | 7:BE:179:LYS:HB3 | 2.54 | 0.41 |
| 1:A2:719:U:O2 | 1:A2:719:U:C2' | 2.68 | 0.41 |
| 1:A2:805:U:HO2' | 25:BW:81:VAL:HA | 1.74 | 0.41 |
| 1:A2:811:A:C2 | 10:BH:107:ARG:C | 2.90 | 0.41 |
| 1:A2:866:G:N9 | 25:BW:3:ARG:O | 2.41 | 0.41 |
| 1:A2:887:A:N1 | 17:BO:125:SER:CB | 2.78 | 0.41 |
| 1:A2:896:U:H4' | 17:BO:16:VAL:CG2 | 2.51 | 0.41 |
| 1:A2:933:A:C3' | 29:Ba:95:ARG:HH12 | 2.34 | 0.41 |
| 1:A2:938:G:N1 | 1:A2:942:G:C6 | 2.89 | 0.41 |
| 1:A2:943:C:H3' | 29:Ba:16:GLY:H | 1.86 | 0.41 |
| 1:A2:951:A:H2 | 16:BN:114:ARG:HE | 1.59 | 0.41 |
| 1:A2:961:U:O4 | 25:BW:58:SER:OG | 2.30 | 0.41 |
| 1:A2:1009:U:C5' | 17:BO:129:LYS:HD3 | 2.51 | 0.41 |
| 1:A2:1034:C:N4 | 26:BX:3:LYS:HZ1 | 2.03 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1057:U:H3' | 3:BA:42:PRO:CD | 2.51 | 0.41 |
| 1:A2:1098:U:O2' | 5:BC:169:LEU:N | 2.54 | 0.41 |
| 1:A2:1098:U:H3' | 5:BC:198:THR:C | 2.46 | 0.41 |
| 1:A2:1104:U:C4 | 1:A2:1105:C:C4 | 3.08 | 0.41 |
| 1:A2:1147:A:C2 | 1:A2:1148:C:C5 | 3.09 | 0.41 |
| 1:A2:1202:A:H61 | 21:BS:136:GLN:CA | 2.21 | 0.41 |
| 1:A2:1274:C:H2' | 1:A2:1274:C:O2 | 2.20 | 0.41 |
| 1:A2:1282:U:C3' | 1:A2:1283:U:H5" | 2.50 | 0.41 |
| 1:A2:1302:U:P | 1:A2:1302:U:H3' | 2.61 | 0.41 |
| 1:A2:1309:C:H2' | 1:A2:1310:U:O5' | 2.21 | 0.41 |
| 1:A2:1371:A:H1' | 1:A2:1373:C:OP2 | 2.20 | 0.41 |
| 1:A2:1402:G:C5 | 20:BR:5:ARG:NH2 | 2.89 | 0.41 |
| 1:A2:1498:G:H3' | 22:BT:102:ARG:HA | 2.03 | 0.41 |
| 1:A2:1499:G:H8 | 22:BT:102:ARG:O | 2.00 | 0.41 |
| 1:A2:1558:U:N1 | 21:BS:126:ARG:C | 2.79 | 0.41 |
| 1:A2:1565:C:H4' | 21:BS:44:ASN:N | 2.34 | 0.41 |
| 1:A2:1565:C:O4' | 21:BS:41:ARG:CA | 2.60 | 0.41 |
| 1:A2:1649:G:C2 | 1:A2:1650:U:C4 | 3.09 | 0.41 |
| 1:A2:1651:A:C4 | 1:A2:1652:C:C5 | 3.09 | 0.41 |
| 1:A2:1673:G:C6 | 1:A2:1674:C:C4 | 3.09 | 0.41 |
| 1:A2:1679:G:C4 | 9:BG:68:LEU:HG | 1.99 | 0.41 |
| 1:A2:1679:G:H3' | 9:BG:68:LEU:HD21 | 1.48 | 0.41 |
| 1:A2:1709:C:OP1 | 9:BG:9:VAL:N | 2.54 | 0.41 |
| 1:A2:1710:U:H2' | 9:BG:115:LYS:HG2 | 0.82 | 0.41 |
| 1:A2:1742:U:O2 | 1:A2:1742:U:C2' | 2.68 | 0.41 |
| 2:AZ:6069:A:H1' | 2:AZ:6152:C:O3' | 2.21 | 0.41 |
| 2:AZ:6105:U:O2 | 2:AZ:6111:G:C2 | 2.74 | 0.41 |
| 3:BA:101:ARG:O | 3:BA:103:THR:N | 2.54 | 0.41 |
| 3:BA:182:LEU:C | 3:BA:184:LEU:H | 2.29 | 0.41 |
| 4:BB:146:GLN:O | 4:BB:148:ASN:N | 2.54 | 0.41 |
| 4:BB:155:TYR:C | 4:BB:156:ALA:CA | 2.94 | 0.41 |
| 4:BB:209:ASN:O | 4:BB:210:ILE:O | 2.38 | 0.41 |
| 5:BC:203:LYS:O | 5:BC:206:THR:HG23 | 2.19 | 0.41 |
| 6:BD:117:ARG:HB3 | 6:BD:118:ALA:N | 2.36 | 0.41 |
| 6:BD:129:SER:O | 6:BD:130:GLY:C | 2.63 | 0.41 |
| 7:BE:30:ARG:HB2 | 7:BE:31:PRO:CD | 2.51 | 0.41 |
| 7:BE:60:GLU:C | 7:BE:61:VAL:HA | 2.45 | 0.41 |
| 7:BE:120:SER:O | 7:BE:164:LEU:HD23 | 2.20 | 0.41 |
| 7:BE:125:LYS:N | 7:BE:142:HIS:HD1 | 2.18 | 0.41 |
| 8:BF:62:VAL:HG13 | 8:BF:89:ILE:HG21 | 2.03 | 0.41 |
| 8:BF:83:ARG:C | 8:BF:85:ALA:N | 2.77 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 9:BG:84:TYR:C | 9:BG:85:ARG:HA | 2.46 | 0.41 |
| 9:BG:164:LYS:HD2 | 9:BG:167:LYS:HB3 | 2.01 | 0.41 |
| 9:BG:175:ILE:HG22 | 9:BG:176:GLN:N | 2.36 | 0.41 |
| 10:BH:175:LYS:O | 10:BH:176:LEU:HA | 2.21 | 0.41 |
| 12:BJ:64:GLU:O | 12:BJ:65:LYS:CB | 2.69 | 0.41 |
| 12:BJ:146:PHE:CZ | 12:BJ:149:ARG:NH1 | 2.89 | 0.41 |
| 14:BL:63:LEU:N | 14:BL:63:LEU:HD12 | 2.36 | 0.41 |
| 14:BL:109:VAL:HA | 14:BL:135:VAL:CG1 | 2.50 | 0.41 |
| 14:BL:111:VAL:C | 14:BL:112:SER:N | 2.79 | 0.41 |
| 16:BN:76:LYS:C | 16:BN:76:LYS:HD2 | 2.45 | 0.41 |
| 16:BN:134:VAL:HG22 | 16:BN:134:VAL:O | 2.21 | 0.41 |
| 18:BP:30:THR:HG22 | 18:BP:45:PHE:CE1 | 2.55 | 0.41 |
| 19:BQ:135:ARG:HA | 19:BQ:137:ARG:NH1 | 2.35 | 0.41 |
| 21:BS:81:ILE:HA | 21:BS:82:PRO:HD3 | 1.59 | 0.41 |
| 21:BS:85:PHE:HB3 | 21:BS:86:LEU:HD12 | 2.03 | 0.41 |
| 24:BV:75:ASN:O | 24:BV:75:ASN:ND2 | 2.54 | 0.41 |
| 25:BW:48:GLY:O | 25:BW:64:GLN:HB2 | 2.21 | 0.41 |
| 26:BX:83:VAL:CA | 26:BX:84:THR:N | 2.84 | 0.41 |
| 29:Ba:61:GLU:HG2 | 29:Ba:62:TYR:N | 2.36 | 0.41 |
| 32:Bd:47:ALA:HA | 32:Bd:50:ILE:HB | 2.03 | 0.41 |
| 35:Bg:14:GLU:HA | 35:Bg:309:VAL:HG13 | 2.02 | 0.41 |
| 1:A2:15:U:H5’ | 5:BC:203:LYS:HE2 | 2.03 | 0.41 |
| 1:A2:68:A:H4’ | 1:A2:69:G:OP2 | 2.21 | 0.41 |
| 1:A2:177:U:C6 | 9:BG:137:ARG:HD2 | 2.55 | 0.41 |
| 1:A2:240:U:OP2 | 9:BG:208:TYR:HA | 2.18 | 0.41 |
| 1:A2:389:G:C8 | 1:A2:390:G:C2 | 3.09 | 0.41 |
| 1:A2:583:C:N1 | 33:Be:17:GLN:OE1 | 2.54 | 0.41 |
| 1:A2:632:U:C4’ | 14:BL:97:TYR:CG | 2.83 | 0.41 |
| 1:A2:688:G:N1 | 1:A2:689:G:C6 | 2.89 | 0.41 |
| 1:A2:740:A:C2 | 7:BE:199:GLU:C | 2.82 | 0.41 |
| 1:A2:757:A:H62 | 12:BJ:5:PRO:HB3 | 1.85 | 0.41 |
| 1:A2:799:A:H2’ | 1:A2:800:U:O4’ | 2.21 | 0.41 |
| 1:A2:839:U:C2’ | 1:A2:840:U:H5’ | 2.51 | 0.41 |
| 1:A2:952:A:C3’ | 1:A2:953:G:H5’ | 2.51 | 0.41 |
| 1:A2:1003:A:N3 | 1:A2:1005:A:N7 | 2.68 | 0.41 |
| 1:A2:1063:U:C5 | 1:A2:1064:G:N7 | 2.89 | 0.41 |
| 1:A2:1173:C:H2’ | 1:A2:1174:C:C6 | 2.55 | 0.41 |
| 1:A2:1236:A:C3’ | 18:BP:65:LEU:HD22 | 2.48 | 0.41 |
| 1:A2:1280:C:H5” | 23:BU:69:LYS:CA | 2.42 | 0.41 |
| 1:A2:1298:U:O2’ | 5:BC:84:LYS:CE | 2.66 | 0.41 |
| 1:A2:1299:G:H1’ | 5:BC:84:LYS:HG3 | 1.99 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1329:A:N6 | 1:A2:1330:G:C2 | 2.89 | 0.41 |
| 7:BE:203:GLY:HA3 | 7:BE:204:GLY:N | 2.36 | 0.41 |
| 9:BG:18:ILE:HB | 9:BG:24:ILE:HD11 | 2.03 | 0.41 |
| 10:BH:89:HIS:C | 10:BH:90:VAL:HA | 2.46 | 0.41 |
| 13:BK:56:LYS:HG3 | 13:BK:56:LYS:O | 2.20 | 0.41 |
| 23:BU:78:THR:CA | 23:BU:79:TRP:N | 2.84 | 0.41 |
| 25:BW:57:ARG:HB3 | 25:BW:59:GLY:N | 2.36 | 0.41 |
| 30:Bb:58:SER:OG | 30:Bb:59:CYS:N | 2.53 | 0.41 |
| 30:Bb:70:LYS:O | 30:Bb:71:ALA:N | 2.54 | 0.41 |
| 1:A2:30:G:O3' | 1:A2:31:C:P | 2.78 | 0.40 |
| 1:A2:64:U:C5 | 27:BY:121:THR:CG2 | 3.00 | 0.40 |
| 1:A2:90:C:N4 | 27:BY:118:ILE:O | 2.54 | 0.40 |
| 1:A2:446:A:C6 | 1:A2:447:U:C5 | 3.09 | 0.40 |
| 1:A2:551:G:H2' | 1:A2:552:G:O4' | 2.20 | 0.40 |
| 1:A2:565:C:C4 | 1:A2:576:G:N7 | 2.89 | 0.40 |
| 1:A2:594:A:HO3' | 1:A2:595:G:P | 2.40 | 0.40 |
| 1:A2:595:G:O6 | 26:BX:139:LYS:O | 2.38 | 0.40 |
| 1:A2:627:C:C4 | 1:A2:628:G:C5 | 3.09 | 0.40 |
| 1:A2:632:U:O2 | 26:BX:15:LEU:CD1 | 2.69 | 0.40 |
| 1:A2:634:G:H5" | 25:BW:79:PHE:CB | 2.51 | 0.40 |
| 1:A2:733:A:H5' | 7:BE:211:LYS:HB3 | 1.63 | 0.40 |
| 1:A2:735:C:OP2 | 7:BE:193:GLY:HA3 | 2.21 | 0.40 |
| 1:A2:754:A:O2' | 7:BE:12:LEU:C | 2.62 | 0.40 |
| 1:A2:762:A:C3' | 1:A2:763:G:P | 3.00 | 0.40 |
| 1:A2:791:A:C6 | 12:BJ:7:THR:N | 2.84 | 0.40 |
| 1:A2:881:A:C2 | 1:A2:948:G:C2 | 3.09 | 0.40 |
| 1:A2:891:A:H2' | 1:A2:892:A:C8 | 2.56 | 0.40 |
| 1:A2:990:C:C2 | 17:BO:127:ARG:NH1 | 2.67 | 0.40 |
| 1:A2:1094:G:C5 | 1:A2:1095:U:C5 | 3.09 | 0.40 |
| 1:A2:1226:A:C4' | 34:Bf:98:LYS:HZ2 | 2.34 | 0.40 |
| 1:A2:1300:A:C2 | 5:BC:86:VAL:O | 2.62 | 0.40 |
| 1:A2:1310:U:O3' | 20:BR:4:VAL:HB | 2.21 | 0.40 |
| 1:A2:1388:A:C2 | 1:A2:1411:A:H2' | 2.56 | 0.40 |
| 1:A2:1471:A:C8 | 8:BF:186:ASN:N | 2.88 | 0.40 |
| 1:A2:1489:U:O2 | 1:A2:1513:G:N2 | 2.54 | 0.40 |
| 1:A2:1533:C:C5 | 28:BZ:77:ARG:HD3 | 2.56 | 0.40 |
| 1:A2:1535:U:C6 | 8:BF:186:ASN:CA | 3.01 | 0.40 |
| 1:A2:1550:A:N3 | 1:A2:1562:G:C2 | 2.90 | 0.40 |
| 1:A2:1564:U:C3' | 21:BS:41:ARG:O | 2.69 | 0.40 |
| 1:A2:1580:C:H2' | 1:A2:1581:C:P | 2.60 | 0.40 |
| 1:A2:1594:G:N2 | 1:A2:1595:U:O2 | 2.54 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1719:A:C2 | 9:BG:32:ILE:HG21 | 2.56 | 0.40 |
| 1:A2:1762:A:C2 | 1:A2:1763:A:C8 | 3.09 | 0.40 |
| 2:AZ:6115:U:O2 | 2:AZ:6115:U:C2' | 2.69 | 0.40 |
| 2:AZ:6137:C:C6 | 8:BF:126:ASP:O | 2.74 | 0.40 |
| 3:BA:139:VAL:HG22 | 24:BV:60:ARG:CZ | 2.50 | 0.40 |
| 4:BB:119:THR:OG1 | 4:BB:156:ALA:N | 2.29 | 0.40 |
| 5:BC:81:MET:HA | 5:BC:81:MET:HE2 | 2.03 | 0.40 |
| 5:BC:139:ILE:C | 5:BC:140:ARG:HB3 | 2.46 | 0.40 |
| 7:BE:162:ILE:HD13 | 7:BE:164:LEU:H | 1.86 | 0.40 |
| 10:BH:11:GLN:O | 10:BH:12:ALA:HB2 | 2.21 | 0.40 |
| 10:BH:137:GLY:O | 10:BH:138:LYS:N | 2.54 | 0.40 |
| 16:BN:115:LEU:HD13 | 16:BN:115:LEU:C | 2.46 | 0.40 |
| 18:BP:17:TYR:CD2 | 18:BP:18:ARG:N | 2.88 | 0.40 |
| 20:BR:86:PRO:C | 20:BR:88:VAL:H | 2.28 | 0.40 |
| 22:BT:19:ALA:C | 22:BT:55:TYR:HB3 | 2.47 | 0.40 |
| 22:BT:113:ILE:O | 22:BT:124:ILE:HA | 2.20 | 0.40 |
| 23:BU:51:VAL:O | 23:BU:52:LYS:N | 2.54 | 0.40 |
| 29:Ba:10:ARG:HB2 | 29:Ba:34:LYS:H | 1.85 | 0.40 |
| 35:Bg:300:THR:HG23 | 35:Bg:314:GLN:NE2 | 2.35 | 0.40 |
| 35:Bg:312:VAL:C | 35:Bg:313:TRP:HB2 | 2.46 | 0.40 |
| 1:A2:29:U:P | 26:BX:129:GLY:C | 3.04 | 0.40 |
| 1:A2:113:U:C4 | 7:BE:5:PRO:CA | 3.00 | 0.40 |
| 1:A2:127:G:C8 | 9:BG:186:ARG:C | 2.99 | 0.40 |
| 1:A2:152:U:C4 | 27:BY:135:ASP:HB3 | 2.56 | 0.40 |
| 1:A2:217:A:H4' | 7:BE:156:VAL:N | 2.36 | 0.40 |
| 1:A2:265:A:C4 | 1:A2:290:G:N2 | 2.90 | 0.40 |
| 1:A2:332:U:O2' | 11:BI:26:LYS:CB | 2.60 | 0.40 |
| 1:A2:359:A:H1' | 26:BX:78:LYS:HD2 | 2.03 | 0.40 |
| 1:A2:363:G:C4 | 1:A2:364:G:C8 | 3.09 | 0.40 |
| 1:A2:485:A:H5' | 1:A2:486:G:OP2 | 2.22 | 0.40 |
| 1:A2:617:U:C6 | 1:A2:1093:A:C8 | 3.08 | 0.40 |
| 1:A2:699:U:C2 | 1:A2:700:C:C5 | 3.08 | 0.40 |
| 1:A2:729:G:H2' | 1:A2:729:G:N3 | 2.36 | 0.40 |
| 1:A2:732:G:N2 | 7:BE:177:ALA:C | 2.78 | 0.40 |
| 1:A2:755:A:H5' | 12:BJ:4:ALA:HB2 | 2.02 | 0.40 |
| 1:A2:825:U:H2' | 1:A2:826:U:C6 | 2.57 | 0.40 |
| 1:A2:857:U:O2 | 10:BH:107:ARG:O | 2.39 | 0.40 |
| 1:A2:1043:A:C6 | 1:A2:1044:U:C4 | 3.09 | 0.40 |
| 1:A2:1055:U:C2 | 1:A2:1056:U:C6 | 3.09 | 0.40 |
| 1:A2:1086:A:O5' | 5:BC:203:LYS:HD3 | 2.21 | 0.40 |
| 1:A2:1124:A:C4 | 1:A2:1125:A:C8 | 3.09 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1255:G:C5 | 34:Bf:140:TYR:HD2 | 2.40 | 0.40 |
| 1:A2:1470:C:H6 | 8:BF:184:PHE:CE1 | 2.37 | 0.40 |
| 1:A2:1558:U:O3' | 1:A2:1559:A:P | 2.79 | 0.40 |
| 1:A2:1564:U:OP1 | 22:BT:44:GLU:CA | 2.69 | 0.40 |
| 2:AZ:6108:U:OP1 | 8:BF:222:LYS:CB | 2.50 | 0.40 |
| 2:AZ:6117:C:O2 | 2:AZ:6117:C:O4' | 2.39 | 0.40 |
| 2:AZ:6121:C:C4 | 2:AZ:6122:C:C5 | 3.09 | 0.40 |
| 6:BD:196:ARG:HA | 6:BD:200:LYS:CE | 2.51 | 0.40 |
| 9:BG:176:GLN:O | 9:BG:177:ARG:HB2 | 2.17 | 0.40 |
| 10:BH:16:LEU:N | 10:BH:17:GLU:OE1 | 2.55 | 0.40 |
| 12:BJ:29:LYS:HE3 | 33:Be:44:PHE:CE1 | 2.57 | 0.40 |
| 13:BK:46:LEU:HB3 | 13:BK:66:TYR:CE1 | 2.55 | 0.40 |
| 15:BM:38:HIS:O | 15:BM:39:ASP:C | 2.64 | 0.40 |
| 15:BM:57:ALA:HB2 | 15:BM:124:LYS:HE3 | 2.03 | 0.40 |
| 16:BN:98:VAL:O | 16:BN:101:HIS:N | 2.55 | 0.40 |
| 16:BN:135:LEU:HD23 | 16:BN:136:PRO:HD2 | 2.03 | 0.40 |
| 24:BV:53:TYR:OH | 24:BV:76:ASP:HB2 | 2.21 | 0.40 |
| 27:BY:23:PHE:O | 27:BY:73:GLY:N | 2.52 | 0.40 |
| 30:Bb:4:VAL:O | 30:Bb:5:GLN:HB3 | 2.21 | 0.40 |
| 30:Bb:42:ASN:CB | 30:Bb:43:ILE:N | 2.84 | 0.40 |
| 31:Bc:10:ALA:O | 31:Bc:54:LEU:HB3 | 2.21 | 0.40 |
| 33:Be:40:TYR:C | 33:Be:40:TYR:HD1 | 2.29 | 0.40 |
| 1:A2:63:G:C6 | 1:A2:87:C:N3 | 2.89 | 0.40 |
| 1:A2:91:G:H5" | 1:A2:92:A:OP2 | 2.21 | 0.40 |
| 1:A2:129:U:OP1 | 1:A2:130:C:C5 | 2.74 | 0.40 |
| 1:A2:138:A:C4 | 9:BG:140:ASN:OD1 | 2.72 | 0.40 |
| 1:A2:168:A:O2' | 9:BG:132:ARG:NH1 | 2.50 | 0.40 |
| 1:A2:180:A:C2 | 9:BG:191:ARG:CA | 3.04 | 0.40 |
| 1:A2:214:G:N9 | 7:BE:133:LYS:HD2 | 2.30 | 0.40 |
| 1:A2:242:U:H1' | 7:BE:148:ARG:HH11 | 1.85 | 0.40 |
| 1:A2:445:A:C8 | 1:A2:525:A:C8 | 3.09 | 0.40 |
| 1:A2:631:G:C3' | 26:BX:12:ALA:O | 2.70 | 0.40 |
| 1:A2:699:U:H3' | 7:BE:197:HIS:HB2 | 1.27 | 0.40 |
| 1:A2:753:A:O2' | 7:BE:13:ALA:HA | 2.22 | 0.40 |
| 1:A2:784:C:C4' | 27:BY:7:ILE:CG1 | 2.99 | 0.40 |
| 1:A2:806:A:N9 | 25:BW:82:LYS:CD | 2.73 | 0.40 |
| 1:A2:814:A:OP1 | 10:BH:110:GLN:CA | 2.67 | 0.40 |
| 1:A2:858:G:H4' | 10:BH:103:SER:H | 1.40 | 0.40 |
| 1:A2:916:U:C2 | 17:BO:27:PHE:CE2 | 3.09 | 0.40 |
| 1:A2:1106:U:O2' | 1:A2:1107:G:H5' | 2.21 | 0.40 |
| 1:A2:1211:A:H2' | 18:BP:98:ASN:HD22 | 1.66 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1239:U:O2' | 18:BP:75:PRO:CB | 2.46 | 0.40 |
| 1:A2:1390:U:H5" | 20:BR:49:LYS:HD3 | 2.03 | 0.40 |
| 1:A2:1473:U:N1 | 8:BF:113:ILE:HG21 | 2.27 | 0.40 |
| 1:A2:1477:G:O6 | 28:BZ:96:SER:HB2 | 2.20 | 0.40 |
| 1:A2:1488:G:H2' | 1:A2:1515:A:N6 | 2.37 | 0.40 |
| 1:A2:1537:C:H4' | 1:A2:1538:U:H6 | 1.85 | 0.40 |
| 1:A2:1564:U:C3' | 21:BS:41:ARG:CZ | 2.72 | 0.40 |
| 1:A2:1600:A:C2' | 1:A2:1600:A:N3 | 2.83 | 0.40 |
| 1:A2:1608:U:C2' | 1:A2:1609:U:O5' | 2.70 | 0.40 |
| 2:AZ:6047:A:N6 | 2:AZ:6070:A:H2 | 2.19 | 0.40 |
| 2:AZ:6206:G:N3 | 2:AZ:6206:G:C3' | 2.83 | 0.40 |
| 3:BA:142:PRO:HG3 | 24:BV:66:ASP:OD1 | 2.21 | 0.40 |
| 3:BA:145:ALA:O | 3:BA:147:THR:N | 2.55 | 0.40 |
| 8:BF:213:LYS:O | 8:BF:214:LYS:C | 2.64 | 0.40 |
| 8:BF:221:ALA:O | 8:BF:225:ARG:HB2 | 2.22 | 0.40 |
| 12:BJ:30:LEU:O | 12:BJ:34:PHE:N | 2.54 | 0.40 |
| 12:BJ:56:ALA:O | 12:BJ:60:LEU:HD23 | 2.21 | 0.40 |
| 13:BK:37:THR:HG22 | 13:BK:41:TYR:HB3 | 2.03 | 0.40 |
| 14:BL:33:ARG:C | 14:BL:34:TRP:CA | 2.88 | 0.40 |
| 20:BR:27:ASP:CG | 35:Bg:38:ARG:NH2 | 2.80 | 0.40 |
| 22:BT:102:ARG:C | 22:BT:105:LEU:N | 2.79 | 0.40 |
| 27:BY:78:SER:OG | 27:BY:81:GLU:OE1 | 2.40 | 0.40 |
| 29:Ba:45:VAL:O | 29:Ba:46:GLU:HG3 | 2.21 | 0.40 |
| 35:Bg:89:LEU:N | 35:Bg:103:PHE:HB2 | 2.35 | 0.40 |
| 1:A2:81:G:N2 | 1:A2:82:U:H1' | 2.37 | 0.40 |
| 1:A2:478:A:C6 | 1:A2:479:C:C4 | 3.09 | 0.40 |
| 1:A2:512:A:C2 | 1:A2:513:U:O2 | 2.74 | 0.40 |
| 1:A2:783:G:N1 | 27:BY:40:LEU:HD23 | 2.36 | 0.40 |
| 1:A2:891:A:H2' | 1:A2:892:A:O4' | 2.22 | 0.40 |
| 1:A2:919:A:H4' | 4:BB:83:LYS:NZ | 2.37 | 0.40 |
| 1:A2:955:A:C2 | 1:A2:956:C:N1 | 2.90 | 0.40 |
| 1:A2:1103:U:H4' | 26:BX:15:LEU:HD21 | 1.99 | 0.40 |
| 1:A2:1137:A:OP2 | 26:BX:62:LYS:HE2 | 2.21 | 0.40 |
| 1:A2:1253:U:H5' | 34:Bf:138:ARG:O | 2.20 | 0.40 |
| 1:A2:1356:U:H2' | 1:A2:1357:A:C8 | 2.56 | 0.40 |
| 1:A2:1383:G:H4' | 23:BU:88:LYS:C | 2.43 | 0.40 |
| 1:A2:1508:U:H2' | 1:A2:1509:C:C6 | 2.57 | 0.40 |
| 1:A2:1535:U:H5' | 28:BZ:67:ASP:CA | 2.51 | 0.40 |
| 1:A2:1639:C:H2' | 1:A2:1640:C:O4' | 2.22 | 0.40 |
| 1:A2:1721:A:C4' | 9:BG:97:VAL:C | 2.80 | 0.40 |
| 2:AZ:6111:G:OP1 | 8:BF:215:ASP:HB3 | 2.22 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AZ:6117:C:H4' | 2:AZ:6118:G:H4' | 2.04 | 0.40 |
| 2:AZ:6158:G:H2' | 2:AZ:6159:C:O5' | 2.21 | 0.40 |
| 3:BA:36:TYR:CG | 3:BA:159:ALA:CB | 3.04 | 0.40 |
| 3:BA:132:ALA:HB1 | 3:BA:143:VAL:CG1 | 2.51 | 0.40 |
| 3:BA:197:ILE:C | 3:BA:198:MET:HA | 2.45 | 0.40 |
| 6:BD:132:LYS:HE3 | 6:BD:192:PRO:HD2 | 2.03 | 0.40 |
| 6:BD:175:VAL:C | 6:BD:176:LEU:N | 2.79 | 0.40 |
| 7:BE:54:TYR:C | 7:BE:55:ALA:N | 2.79 | 0.40 |
| 8:BF:58:LEU:N | 8:BF:59:VAL:N | 2.70 | 0.40 |
| 8:BF:58:LEU:HD12 | 8:BF:138:THR:CB | 2.52 | 0.40 |
| 8:BF:160:VAL:CG1 | 31:Bc:43:ASN:HB2 | 2.50 | 0.40 |
| 8:BF:190:ILE:N | 8:BF:190:ILE:HD13 | 2.37 | 0.40 |
| 9:BG:50:PHE:HD2 | 9:BG:111:LEU:HD13 | 1.86 | 0.40 |
| 9:BG:197:ASN:O | 9:BG:200:ALA:HB3 | 2.22 | 0.40 |
| 10:BH:12:ALA:CB | 10:BH:13:PRO:CD | 2.99 | 0.40 |
| 11:BI:43:ILE:C | 11:BI:44:HIS:HA | 2.46 | 0.40 |
| 12:BJ:109:LEU:O | 12:BJ:112:GLN:N | 2.54 | 0.40 |
| 19:BQ:7:VAL:O | 19:BQ:8:GLN:N | 2.55 | 0.40 |
| 20:BR:110:VAL:HG13 | 20:BR:113:LEU:CG | 2.52 | 0.40 |
| 22:BT:100:ILE:O | 22:BT:103:LYS:N | 2.54 | 0.40 |
| 24:BV:40:ASP:O | 24:BV:42:GLU:N | 2.54 | 0.40 |
| 25:BW:89:TRP:N | 25:BW:90:THR:N | 2.70 | 0.40 |
| 26:BX:93:LEU:O | 26:BX:94:ASN:CG | 2.65 | 0.40 |
| 1:A2:47:A:C8 | 1:A2:425:A:C5 | 3.10 | 0.40 |
| 1:A2:257:A:C5 | 1:A2:258:C:C5 | 3.09 | 0.40 |
| 1:A2:322:G:H1' | 11:BI:9:HIS:CD2 | 2.56 | 0.40 |
| 1:A2:394:C:C5' | 9:BG:76:LEU:CD2 | 3.00 | 0.40 |
| 1:A2:555:A:C6 | 1:A2:556:A:N1 | 2.90 | 0.40 |
| 1:A2:597:G:N2 | 26:BX:135:LEU:CA | 2.84 | 0.40 |
| 1:A2:638:U:C2 | 25:BW:107:SER:CA | 3.05 | 0.40 |
| 1:A2:704:C:C2 | 7:BE:231:GLN:CA | 2.79 | 0.40 |
| 1:A2:735:C:O4' | 7:BE:193:GLY:CA | 2.70 | 0.40 |
| 1:A2:754:A:P | 7:BE:12:LEU:C | 3.04 | 0.40 |
| 1:A2:786:C:C5 | 27:BY:71:GLY:CA | 3.04 | 0.40 |
| 1:A2:955:A:C8 | 16:BN:9:LYS:O | 2.74 | 0.40 |
| 1:A2:968:U:O3' | 1:A2:1032:G:N2 | 2.52 | 0.40 |
| 1:A2:1010:C:C4 | 1:A2:1011:G:C5 | 3.10 | 0.40 |
| 1:A2:1037:C:H3' | 25:BW:15:ASN:HB3 | 1.99 | 0.40 |
| 1:A2:1216:C:H2' | 1:A2:1444:A:N1 | 2.37 | 0.40 |
| 1:A2:1242:A:P | 18:BP:107:ILE:HG21 | 2.59 | 0.40 |
| 1:A2:1293:U:OP2 | 5:BC:123:GLY:HA2 | 2.21 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A2:1342:C:O2 | 1:A2:1342:C:C2' | 2.69 | 0.40 |
| 1:A2:1384:A:C8 | 1:A2:1385:G:C8 | 3.09 | 0.40 |
| 1:A2:1457:C:C2 | 21:BS:132:ARG:O | 2.74 | 0.40 |
| 1:A2:1719:A:H2' | 9:BG:65:GLN:HB3 | 2.04 | 0.40 |
| 2:AZ:6213:A:H2' | 2:AZ:6214:C:O4' | 2.21 | 0.40 |
| 3:BA:70:PRO:HB2 | 3:BA:94:GLY:HA3 | 2.03 | 0.40 |
| 3:BA:103:THR:HB | 3:BA:106:SER:CB | 2.51 | 0.40 |
| 3:BA:139:VAL:O | 3:BA:140:ASN:CG | 2.65 | 0.40 |
| 5:BC:128:GLY:O | 5:BC:131:ILE:N | 2.54 | 0.40 |
| 8:BF:59:VAL:O | 8:BF:60:ASP:HB2 | 2.21 | 0.40 |
| 8:BF:83:ARG:O | 8:BF:84:LYS:C | 2.64 | 0.40 |
| 9:BG:102:VAL:HG23 | 9:BG:103:GLY:N | 2.36 | 0.40 |
| 12:BJ:2:PRO:C | 12:BJ:3:ARG:HG2 | 2.45 | 0.40 |
| 12:BJ:160:PRO:O | 12:BJ:161:THR:C | 2.64 | 0.40 |
| 15:BM:58:LEU:HD23 | 15:BM:123:VAL:O | 2.21 | 0.40 |
| 16:BN:89:TYR:O | 16:BN:89:TYR:CG | 2.75 | 0.40 |
| 17:BO:30:VAL:HG13 | 17:BO:39:ILE:HG13 | 2.03 | 0.40 |
| 17:BO:31:THR:HG22 | 17:BO:38:THR:HA | 2.03 | 0.40 |
| 23:BU:78:THR:O | 23:BU:79:TRP:N | 2.55 | 0.40 |
| 24:BV:23:ILE:CG2 | 24:BV:24:ILE:N | 2.85 | 0.40 |
| 26:BX:9:LEU:HD13 | 26:BX:9:LEU:C | 2.46 | 0.40 |
| 27:BY:74:LEU:HD23 | 27:BY:74:LEU:HA | 1.93 | 0.40 |
| 29:Ba:35:ALA:CB | 29:Ba:36:ILE:N | 2.84 | 0.40 |
| 30:Bb:52:THR:HA | 30:Bb:53:ALA:N | 2.36 | 0.40 |
| 33:Be:22:GLU:HA | 33:Be:23:LYS:N | 2.36 | 0.40 |
| 35:Bg:262:VAL:HG12 | 35:Bg:262:VAL:O | 2.21 | 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 | |
|---|---|---|---|---|---|---|---|
| 3 | BA | 129/206 (63%) | 60 (46%) | 39 (30%) | 30 (23%) | 0 | 0 |
| 4 | BB | 118/213 (55%) | 88 (75%) | 17 (14%) | 13 (11%) | 0 | 5 |
| 5 | BC | 136/216 (63%) | 84 (62%) | 31 (23%) | 21 (15%) | 0 | 2 |
| 6 | BD | 116/222 (52%) | 83 (72%) | 17 (15%) | 16 (14%) | 0 | 3 |
| 7 | BE | 143/260 (55%) | 100 (70%) | 26 (18%) | 17 (12%) | 0 | 4 |
| 8 | BF | 116/206 (56%) | 81 (70%) | 20 (17%) | 15 (13%) | 0 | 3 |
| 9 | BG | 141/226 (62%) | 88 (62%) | 32 (23%) | 21 (15%) | 0 | 2 |
| 10 | BH | 100/184 (54%) | 61 (61%) | 22 (22%) | 17 (17%) | 0 | 2 |
| 11 | BI | 87/187 (46%) | 51 (59%) | 22 (25%) | 14 (16%) | 0 | 2 |
| 12 | BJ | 101/179 (56%) | 58 (57%) | 27 (27%) | 16 (16%) | 0 | 2 |
| 13 | BK | 48/93 (52%) | 29 (60%) | 9 (19%) | 10 (21%) | 0 | 1 |
| 14 | BL | 85/142 (60%) | 53 (62%) | 25 (29%) | 7 (8%) | 0 | 9 |
| 15 | BM | 63/120 (52%) | 36 (57%) | 20 (32%) | 7 (11%) | 0 | 5 |
| 16 | BN | 97/150 (65%) | 62 (64%) | 22 (23%) | 13 (13%) | 0 | 3 |
| 17 | BO | 84/127 (66%) | 58 (69%) | 16 (19%) | 10 (12%) | 0 | 4 |
| 18 | BP | 60/115 (52%) | 40 (67%) | 14 (23%) | 6 (10%) | 0 | 6 |
| 19 | BQ | 85/140 (61%) | 56 (66%) | 19 (22%) | 10 (12%) | 0 | 4 |
| 20 | BR | 59/121 (49%) | 45 (76%) | 9 (15%) | 5 (8%) | 0 | 8 |
| 21 | BS | 89/140 (64%) | 61 (68%) | 13 (15%) | 15 (17%) | 0 | 2 |
| 22 | BT | 72/142 (51%) | 47 (65%) | 14 (19%) | 11 (15%) | 0 | 2 |
| 23 | BU | 57/104 (55%) | 38 (67%) | 12 (21%) | 7 (12%) | 0 | 4 |
| 24 | BV | 53/87 (61%) | 38 (72%) | 10 (19%) | 5 (9%) | 0 | 7 |
| 25 | BW | 58/129 (45%) | 41 (71%) | 11 (19%) | 6 (10%) | 0 | 6 |
| 26 | BX | 70/142 (49%) | 49 (70%) | 12 (17%) | 9 (13%) | 0 | 3 |
| 27 | BY | 77/134 (58%) | 55 (71%) | 15 (20%) | 7 (9%) | 0 | 8 |
| 28 | BZ | 37/64 (58%) | 22 (60%) | 9 (24%) | 6 (16%) | 0 | 2 |
| 29 | Ba | 51/97 (53%) | 29 (57%) | 12 (24%) | 10 (20%) | 0 | 1 |
| 30 | Bb | 38/81 (47%) | 24 (63%) | 11 (29%) | 3 (8%) | 1 | 10 |
| 31 | Bc | 38/63 (60%) | 29 (76%) | 7 (18%) | 2 (5%) | 1 | 16 |
| 32 | Bd | 25/52 (48%) | 15 (60%) | 8 (32%) | 2 (8%) | 1 | 9 |
| 33 | Be | 33/55 (60%) | 16 (48%) | 12 (36%) | 5 (15%) | 0 | 2 |
| 34 | Bf | 45/64 (70%) | 18 (40%) | 14 (31%) | 13 (29%) | 0 | 0 |

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| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles |
|---|---|---|---|---|---|---|
| 35 | Bg | 170/315 (54%) | 115 (68%) | 38 (22%) | 17 (10%) | 0 6 |
| All | All | 2681/4776 (56%) | 1730 (64%) | 585 (22%) | 366 (14%) | 0 3 |

All (366) Ramachandran outliers are listed below:

| Mol | Chain | Res | Type |
|---|---|---|---|
| 3 | BA | 27 | ARG |
| 3 | BA | 43 | ASP |
| 3 | BA | 50 | VAL |
| 3 | BA | 121 | VAL |
| 3 | BA | 122 | ILE |
| 3 | BA | 129 | ASP |
| 3 | BA | 140 | ASN |
| 3 | BA | 150 | ASP |
| 3 | BA | 175 | TYR |
| 3 | BA | 194 | PRO |
| 3 | BA | 195 | TRP |
| 4 | BB | 30 | PHE |
| 4 | BB | 91 | VAL |
| 4 | BB | 92 | GLN |
| 4 | BB | 158 | SER |
| 4 | BB | 225 | VAL |
| 5 | BC | 37 | PRO |
| 5 | BC | 91 | ARG |
| 5 | BC | 109 | GLY |
| 5 | BC | 126 | ARG |
| 5 | BC | 150 | GLN |
| 5 | BC | 174 | ARG |
| 5 | BC | 179 | VAL |
| 5 | BC | 196 | VAL |
| 5 | BC | 220 | ASN |
| 5 | BC | 236 | PRO |
| 6 | BD | 123 | VAL |
| 6 | BD | 163 | PRO |
| 6 | BD | 178 | ARG |
| 6 | BD | 179 | GLN |
| 6 | BD | 211 | PRO |
| 6 | BD | 217 | ILE |
| 6 | BD | 220 | PRO |
| 7 | BE | 22 | LYS |
| 7 | BE | 76 | VAL |
| 7 | BE | 120 | SER |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 7 | BE | 177 | ALA |
| 7 | BE | 205 | PHE |
| 8 | BF | 62 | VAL |
| 8 | BF | 67 | PRO |
| 8 | BF | 144 | GLU |
| 8 | BF | 206 | SER |
| 9 | BG | 8 | PRO |
| 9 | BG | 80 | ASN |
| 9 | BG | 88 | ARG |
| 9 | BG | 102 | VAL |
| 9 | BG | 133 | LEU |
| 9 | BG | 135 | PRO |
| 9 | BG | 177 | ARG |
| 9 | BG | 189 | HIS |
| 10 | BH | 12 | ALA |
| 10 | BH | 58 | LEU |
| 10 | BH | 64 | VAL |
| 10 | BH | 114 | ARG |
| 10 | BH | 131 | PHE |
| 10 | BH | 152 | VAL |
| 11 | BI | 10 | LYS |
| 11 | BI | 32 | GLN |
| 11 | BI | 61 | GLU |
| 11 | BI | 86 | SER |
| 11 | BI | 186 | GLY |
| 11 | BI | 197 | THR |
| 12 | BJ | 18 | PRO |
| 12 | BJ | 37 | LYS |
| 12 | BJ | 91 | LYS |
| 12 | BJ | 118 | LEU |
| 12 | BJ | 150 | LEU |
| 13 | BK | 68 | LEU |
| 13 | BK | 81 | ASN |
| 13 | BK | 83 | PRO |
| 14 | BL | 30 | ARG |
| 14 | BL | 53 | TYR |
| 14 | BL | 55 | ASP |
| 14 | BL | 135 | VAL |
| 15 | BM | 106 | ILE |
| 16 | BN | 3 | ARG |
| 16 | BN | 22 | ALA |
| 16 | BN | 43 | LYS |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 16 | BN | 71 | ILE |
| 16 | BN | 131 | THR |
| 17 | BO | 114 | ARG |
| 17 | BO | 125 | SER |
| 18 | BP | 39 | ALA |
| 19 | BQ | 45 | ALA |
| 19 | BQ | 113 | ASP |
| 20 | BR | 88 | VAL |
| 20 | BR | 99 | VAL |
| 21 | BS | 29 | VAL |
| 21 | BS | 40 | ARG |
| 21 | BS | 60 | GLU |
| 21 | BS | 76 | PRO |
| 21 | BS | 80 | LYS |
| 21 | BS | 139 | LYS |
| 22 | BT | 69 | LYS |
| 22 | BT | 83 | ALA |
| 23 | BU | 95 | ALA |
| 23 | BU | 96 | PRO |
| 24 | BV | 58 | TYR |
| 24 | BV | 64 | GLU |
| 25 | BW | 8 | ALA |
| 25 | BW | 28 | ARG |
| 25 | BW | 33 | VAL |
| 26 | BX | 3 | LYS |
| 26 | BX | 27 | ASN |
| 26 | BX | 98 | GLU |
| 28 | BZ | 75 | LEU |
| 29 | Ba | 11 | ASN |
| 29 | Ba | 34 | LYS |
| 29 | Ba | 44 | ILE |
| 29 | Ba | 63 | ALA |
| 29 | Ba | 65 | PRO |
| 29 | Ba | 66 | LYS |
| 30 | Bb | 63 | LEU |
| 32 | Bd | 34 | TYR |
| 33 | Be | 13 | LYS |
| 33 | Be | 48 | THR |
| 34 | Bf | 94 | ALA |
| 34 | Bf | 101 | ALA |
| 34 | Bf | 121 | CYS |
| 34 | Bf | 130 | VAL |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 34 | Bf | 137 | ASP |
| 34 | Bf | 145 | HIS |
| 34 | Bf | 147 | VAL |
| 34 | Bf | 151 | ASN |
| 35 | Bg | 5 | GLU |
| 35 | Bg | 84 | SER |
| 35 | Bg | 165 | ASP |
| 35 | Bg | 186 | PHE |
| 35 | Bg | 195 | HIS |
| 35 | Bg | 197 | SER |
| 35 | Bg | 267 | PRO |
| 35 | Bg | 283 | LYS |
| 3 | BA | 62 | ARG |
| 3 | BA | 63 | ILE |
| 3 | BA | 94 | GLY |
| 3 | BA | 113 | ARG |
| 3 | BA | 157 | ASP |
| 3 | BA | 169 | SER |
| 3 | BA | 185 | ARG |
| 5 | BC | 68 | ILE |
| 5 | BC | 76 | LEU |
| 5 | BC | 146 | THR |
| 5 | BC | 147 | ASN |
| 5 | BC | 175 | GLY |
| 5 | BC | 234 | PRO |
| 6 | BD | 9 | ARG |
| 6 | BD | 26 | THR |
| 6 | BD | 44 | THR |
| 6 | BD | 130 | GLY |
| 6 | BD | 167 | PHE |
| 7 | BE | 21 | ASP |
| 7 | BE | 32 | SER |
| 7 | BE | 53 | LYS |
| 7 | BE | 102 | VAL |
| 7 | BE | 248 | ILE |
| 8 | BF | 30 | PRO |
| 8 | BF | 60 | ASP |
| 8 | BF | 98 | MET |
| 8 | BF | 104 | ASN |
| 8 | BF | 196 | GLU |
| 9 | BG | 71 | THR |
| 9 | BG | 158 | ILE |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 9 | BG | 167 | LYS |
| 9 | BG | 178 | LEU |
| 9 | BG | 183 | ARG |
| 9 | BG | 185 | GLN |
| 9 | BG | 215 | ARG |
| 10 | BH | 126 | LEU |
| 11 | BI | 41 | LYS |
| 11 | BI | 106 | ALA |
| 11 | BI | 115 | ALA |
| 12 | BJ | 59 | LEU |
| 12 | BJ | 128 | LEU |
| 12 | BJ | 171 | ARG |
| 13 | BK | 3 | MET |
| 13 | BK | 42 | VAL |
| 13 | BK | 43 | ILE |
| 13 | BK | 64 | TYR |
| 15 | BM | 69 | ALA |
| 15 | BM | 131 | ASP |
| 16 | BN | 12 | SER |
| 16 | BN | 32 | SER |
| 16 | BN | 44 | GLY |
| 16 | BN | 59 | GLY |
| 16 | BN | 93 | LYS |
| 17 | BO | 40 | ALA |
| 17 | BO | 48 | VAL |
| 17 | BO | 124 | ASP |
| 19 | BQ | 99 | GLU |
| 19 | BQ | 109 | PHE |
| 19 | BQ | 111 | SER |
| 21 | BS | 28 | ILE |
| 21 | BS | 37 | GLY |
| 21 | BS | 78 | HIS |
| 21 | BS | 101 | LEU |
| 22 | BT | 26 | GLY |
| 22 | BT | 125 | SER |
| 22 | BT | 128 | GLY |
| 24 | BV | 3 | ASN |
| 24 | BV | 28 | ASP |
| 25 | BW | 19 | LYS |
| 25 | BW | 107 | SER |
| 26 | BX | 24 | TRP |
| 26 | BX | 67 | ALA |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 27 | BY | 53 | ASP |
| 31 | Bc | 42 | ARG |
| 33 | Be | 11 | ALA |
| 35 | Bg | 6 | VAL |
| 3 | BA | 139 | VAL |
| 3 | BA | 142 | PRO |
| 3 | BA | 148 | ASP |
| 4 | BB | 51 | SER |
| 4 | BB | 201 | THR |
| 5 | BC | 217 | ALA |
| 5 | BC | 231 | ALA |
| 6 | BD | 218 | LEU |
| 7 | BE | 43 | PRO |
| 7 | BE | 170 | THR |
| 7 | BE | 223 | ASN |
| 7 | BE | 245 | LYS |
| 8 | BF | 84 | LYS |
| 9 | BG | 21 | GLU |
| 9 | BG | 35 | GLU |
| 9 | BG | 188 | ARG |
| 10 | BH | 44 | LYS |
| 10 | BH | 115 | SER |
| 10 | BH | 169 | PHE |
| 11 | BI | 67 | TRP |
| 12 | BJ | 110 | GLN |
| 12 | BJ | 165 | GLY |
| 13 | BK | 40 | LEU |
| 13 | BK | 67 | THR |
| 15 | BM | 31 | VAL |
| 15 | BM | 46 | ARG |
| 15 | BM | 108 | ARG |
| 16 | BN | 137 | PRO |
| 17 | BO | 52 | ARG |
| 18 | BP | 29 | SER |
| 18 | BP | 32 | ASP |
| 19 | BQ | 40 | GLU |
| 19 | BQ | 112 | TYR |
| 21 | BS | 91 | ASP |
| 21 | BS | 140 | THR |
| 22 | BT | 31 | PRO |
| 23 | BU | 55 | PRO |
| 24 | BV | 77 | GLY |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 27 | BY | 33 | ALA |
| 28 | BZ | 55 | PRO |
| 28 | BZ | 95 | HIS |
| 29 | Ba | 7 | SER |
| 29 | Ba | 33 | ASP |
| 29 | Ba | 93 | LYS |
| 30 | Bb | 10 | PRO |
| 35 | Bg | 298 | GLY |
| 3 | BA | 134 | LYS |
| 4 | BB | 55 | LYS |
| 5 | BC | 235 | LEU |
| 6 | BD | 174 | HIS |
| 7 | BE | 164 | LEU |
| 8 | BF | 65 | ALA |
| 8 | BF | 126 | ASP |
| 8 | BF | 165 | LEU |
| 10 | BH | 134 | GLU |
| 10 | BH | 158 | ASP |
| 10 | BH | 174 | ASN |
| 11 | BI | 24 | LYS |
| 12 | BJ | 85 | VAL |
| 14 | BL | 132 | SER |
| 14 | BL | 134 | THR |
| 16 | BN | 123 | HIS |
| 17 | BO | 17 | ALA |
| 17 | BO | 74 | VAL |
| 18 | BP | 80 | MET |
| 19 | BQ | 15 | SER |
| 20 | BR | 10 | LYS |
| 20 | BR | 96 | SER |
| 20 | BR | 116 | LYS |
| 23 | BU | 92 | ASP |
| 26 | BX | 94 | ASN |
| 27 | BY | 54 | ALA |
| 28 | BZ | 61 | SER |
| 28 | BZ | 87 | GLY |
| 28 | BZ | 88 | ILE |
| 34 | Bf | 111 | GLU |
| 34 | Bf | 122 | SER |
| 35 | Bg | 82 | SER |
| 35 | Bg | 83 | ALA |
| 35 | Bg | 158 | PRO |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 35 | Bg | 163 | ASP |
| 35 | Bg | 317 | THR |
| 3 | BA | 10 | THR |
| 3 | BA | 35 | PRO |
| 3 | BA | 68 | PRO |
| 3 | BA | 78 | SER |
| 3 | BA | 162 | CYS |
| 3 | BA | 172 | LEU |
| 4 | BB | 35 | PRO |
| 4 | BB | 54 | LEU |
| 4 | BB | 82 | ARG |
| 5 | BC | 36 | VAL |
| 5 | BC | 163 | GLY |
| 6 | BD | 219 | ALA |
| 7 | BE | 178 | GLY |
| 8 | BF | 36 | ALA |
| 9 | BG | 155 | ASP |
| 10 | BH | 127 | GLU |
| 11 | BI | 156 | VAL |
| 12 | BJ | 119 | ALA |
| 13 | BK | 28 | ASN |
| 15 | BM | 109 | GLU |
| 16 | BN | 40 | TYR |
| 17 | BO | 20 | TYR |
| 17 | BO | 96 | PRO |
| 18 | BP | 125 | PRO |
| 19 | BQ | 34 | SER |
| 19 | BQ | 39 | VAL |
| 21 | BS | 97 | ASP |
| 22 | BT | 46 | PRO |
| 22 | BT | 65 | ILE |
| 26 | BX | 95 | PHE |
| 27 | BY | 105 | ARG |
| 30 | Bb | 16 | ALA |
| 31 | Bc | 36 | THR |
| 4 | BB | 22 | ASP |
| 8 | BF | 42 | LEU |
| 12 | BJ | 4 | ALA |
| 12 | BJ | 65 | LYS |
| 14 | BL | 81 | HIS |
| 21 | BS | 82 | PRO |
| 22 | BT | 81 | GLY |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 22 | BT | 91 | TYR |
| 27 | BY | 67 | GLY |
| 27 | BY | 78 | SER |
| 29 | Ba | 69 | ASN |
| 32 | Bd | 49 | ASP |
| 33 | Be | 60 | PRO |
| 34 | Bf | 102 | VAL |
| 34 | Bf | 146 | SER |
| 3 | BA | 98 | ILE |
| 7 | BE | 195 | ILE |
| 9 | BG | 130 | PRO |
| 11 | BI | 107 | THR |
| 21 | BS | 92 | ILE |
| 23 | BU | 91 | ILE |
| 23 | BU | 117 | VAL |
| 35 | Bg | 30 | PRO |
| 3 | BA | 111 | ILE |
| 6 | BD | 210 | GLU |
| 12 | BJ | 101 | VAL |
| 18 | BP | 52 | LYS |
| 23 | BU | 59 | PRO |
| 25 | BW | 29 | PRO |
| 27 | BY | 30 | PRO |
| 33 | Be | 27 | PRO |
| 10 | BH | 73 | VAL |
| 26 | BX | 42 | PRO |
| 10 | BH | 54 | GLY |
| 10 | BH | 130 | VAL |
| 11 | BI | 85 | PRO |
| 12 | BJ | 73 | GLY |
| 22 | BT | 112 | GLY |
| 34 | Bf | 129 | GLY |
| 35 | Bg | 167 | VAL |
| 4 | BB | 48 | VAL |
| 9 | BG | 173 | PRO |
| 26 | BX | 64 | PRO |

### 5.3.2 Protein sidechains (i)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all 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 |
|---|---|---|---|---|---|
| 3 | BA | 164/173 (95%) | 123 (75%) | 41 (25%) | 0 4 |
| 4 | BB | 187/187 (100%) | 135 (72%) | 52 (28%) | 0 3 |
| 5 | BC | 175/175 (100%) | 146 (83%) | 29 (17%) | 2 14 |
| 6 | BD | 182/182 (100%) | 146 (80%) | 36 (20%) | 1 9 |
| 7 | BE | 221/221 (100%) | 174 (79%) | 47 (21%) | 1 7 |
| 8 | BF | 172/172 (100%) | 130 (76%) | 42 (24%) | 1 5 |
| 9 | BG | 185/191 (97%) | 135 (73%) | 50 (27%) | 0 3 |
| 10 | BH | 165/165 (100%) | 138 (84%) | 27 (16%) | 2 14 |
| 11 | BI | 149/149 (100%) | 100 (67%) | 49 (33%) | 0 1 |
| 12 | BJ | 154/154 (100%) | 127 (82%) | 27 (18%) | 2 12 |
| 13 | BK | 80/84 (95%) | 61 (76%) | 19 (24%) | 1 6 |
| 14 | BL | 127/127 (100%) | 99 (78%) | 28 (22%) | 1 7 |
| 15 | BM | 88/97 (91%) | 67 (76%) | 21 (24%) | 1 5 |
| 16 | BN | 127/127 (100%) | 102 (80%) | 25 (20%) | 1 9 |
| 17 | BO | 84/96 (88%) | 63 (75%) | 21 (25%) | 0 4 |
| 18 | BP | 97/97 (100%) | 80 (82%) | 17 (18%) | 2 12 |
| 19 | BQ | 114/114 (100%) | 83 (73%) | 31 (27%) | 0 3 |
| 20 | BR | 94/109 (86%) | 69 (73%) | 25 (27%) | 0 4 |
| 21 | BS | 125/125 (100%) | 94 (75%) | 31 (25%) | 1 5 |
| 22 | BT | 114/114 (100%) | 89 (78%) | 25 (22%) | 1 7 |
| 23 | BU | 97/97 (100%) | 73 (75%) | 24 (25%) | 1 5 |
| 24 | BV | 74/74 (100%) | 63 (85%) | 11 (15%) | 3 16 |
| 25 | BW | 110/110 (100%) | 93 (84%) | 17 (16%) | 2 15 |
| 26 | BX | 116/116 (100%) | 102 (88%) | 14 (12%) | 5 22 |
| 27 | BY | 112/112 (100%) | 93 (83%) | 19 (17%) | 2 13 |
| 28 | BZ | 57/57 (100%) | 39 (68%) | 18 (32%) | 0 2 |
| 29 | Ba | 83/83 (100%) | 68 (82%) | 15 (18%) | 2 12 |
| 30 | Bb | 70/70 (100%) | 57 (81%) | 13 (19%) | 1 10 |
| 31 | Bc | 56/56 (100%) | 43 (77%) | 13 (23%) | 1 6 |
| 32 | Bd | 46/46 (100%) | 33 (72%) | 13 (28%) | 0 3 |

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| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles |
|---|---|---|---|---|---|
| 33 | Be | 48/48 (100%) | 41 (85%) | 7 (15%) | 3 17 |
| 34 | Bf | 43/43 (100%) | 31 (72%) | 12 (28%) | 0 3 |
| 35 | Bg | 257/259 (99%) | 205 (80%) | 52 (20%) | 1 8 |
| All | All | 3973/4030 (99%) | 3102 (78%) | 871 (22%) | 2 7 |

All (871) residues with a non-rotameric sidechain are listed below:

| Mol | Chain | Res | Type |
|---|---|---|---|
| 3 | BA | 6 | THR |
| 3 | BA | 8 | ASP |
| 3 | BA | 12 | GLU |
| 3 | BA | 24 | LEU |
| 3 | BA | 28 | ASN |
| 3 | BA | 29 | VAL |
| 3 | BA | 32 | HIS |
| 3 | BA | 37 | VAL |
| 3 | BA | 38 | PHE |
| 3 | BA | 45 | VAL |
| 3 | BA | 57 | LEU |
| 3 | BA | 74 | VAL |
| 3 | BA | 84 | ARG |
| 3 | BA | 88 | LYS |
| 3 | BA | 93 | THR |
| 3 | BA | 96 | THR |
| 3 | BA | 98 | ILE |
| 3 | BA | 101 | ARG |
| 3 | BA | 106 | SER |
| 3 | BA | 110 | TYR |
| 3 | BA | 111 | ILE |
| 3 | BA | 112 | THR |
| 3 | BA | 119 | ARG |
| 3 | BA | 120 | LEU |
| 3 | BA | 121 | VAL |
| 3 | BA | 129 | ASP |
| 3 | BA | 133 | ILE |
| 3 | BA | 137 | SER |
| 3 | BA | 139 | VAL |
| 3 | BA | 146 | LEU |
| 3 | BA | 150 | ASP |
| 3 | BA | 154 | GLU |
| 3 | BA | 158 | VAL |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 3 | BA | 164 | ASN |
| 3 | BA | 170 | ILE |
| 3 | BA | 172 | LEU |
| 3 | BA | 173 | ILE |
| 3 | BA | 184 | LEU |
| 3 | BA | 185 | ARG |
| 3 | BA | 188 | LEU |
| 3 | BA | 197 | ILE |
| 4 | BB | 21 | VAL |
| 4 | BB | 25 | THR |
| 4 | BB | 26 | ARG |
| 4 | BB | 27 | LYS |
| 4 | BB | 39 | GLU |
| 4 | BB | 52 | THR |
| 4 | BB | 62 | LYS |
| 4 | BB | 70 | LEU |
| 4 | BB | 74 | GLN |
| 4 | BB | 77 | GLU |
| 4 | BB | 78 | ASP |
| 4 | BB | 82 | ARG |
| 4 | BB | 92 | GLN |
| 4 | BB | 96 | LEU |
| 4 | BB | 97 | LEU |
| 4 | BB | 103 | MET |
| 4 | BB | 106 | THR |
| 4 | BB | 107 | THR |
| 4 | BB | 108 | ASP |
| 4 | BB | 109 | LYS |
| 4 | BB | 116 | LYS |
| 4 | BB | 117 | TRP |
| 4 | BB | 118 | GLN |
| 4 | BB | 119 | THR |
| 4 | BB | 126 | THR |
| 4 | BB | 127 | VAL |
| 4 | BB | 128 | LYS |
| 4 | BB | 129 | THR |
| 4 | BB | 131 | ASP |
| 4 | BB | 137 | ILE |
| 4 | BB | 148 | ASN |
| 4 | BB | 153 | HIS |
| 4 | BB | 166 | LYS |
| 4 | BB | 167 | VAL |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 4 | BB | 171 | ILE |
| 4 | BB | 180 | THR |
| 4 | BB | 181 | LEU |
| 4 | BB | 184 | LEU |
| 4 | BB | 191 | GLU |
| 4 | BB | 195 | LYS |
| 4 | BB | 196 | GLU |
| 4 | BB | 198 | GLU |
| 4 | BB | 202 | LYS |
| 4 | BB | 204 | ILE |
| 4 | BB | 207 | LEU |
| 4 | BB | 212 | VAL |
| 4 | BB | 214 | LYS |
| 4 | BB | 215 | VAL |
| 4 | BB | 219 | LYS |
| 4 | BB | 222 | LYS |
| 4 | BB | 224 | ASP |
| 4 | BB | 228 | LEU |
| 5 | BC | 38 | VAL |
| 5 | BC | 41 | LEU |
| 5 | BC | 53 | ILE |
| 5 | BC | 55 | GLU |
| 5 | BC | 56 | ILE |
| 5 | BC | 60 | SER |
| 5 | BC | 64 | LYS |
| 5 | BC | 68 | ILE |
| 5 | BC | 71 | THR |
| 5 | BC | 76 | LEU |
| 5 | BC | 86 | VAL |
| 5 | BC | 97 | ARG |
| 5 | BC | 104 | VAL |
| 5 | BC | 113 | LEU |
| 5 | BC | 115 | ILE |
| 5 | BC | 117 | THR |
| 5 | BC | 131 | ILE |
| 5 | BC | 148 | LEU |
| 5 | BC | 159 | THR |
| 5 | BC | 164 | SER |
| 5 | BC | 187 | LEU |
| 5 | BC | 188 | LEU |
| 5 | BC | 195 | ASP |
| 5 | BC | 196 | VAL |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 5 | BC | 207 | LEU |
| 5 | BC | 237 | VAL |
| 5 | BC | 240 | LEU |
| 5 | BC | 241 | ASP |
| 5 | BC | 242 | ILE |
| 6 | BD | 4 | LEU |
| 6 | BD | 5 | ILE |
| 6 | BD | 7 | LYS |
| 6 | BD | 20 | GLU |
| 6 | BD | 21 | LEU |
| 6 | BD | 23 | GLU |
| 6 | BD | 35 | SER |
| 6 | BD | 37 | VAL |
| 6 | BD | 48 | VAL |
| 6 | BD | 51 | ARG |
| 6 | BD | 53 | THR |
| 6 | BD | 59 | LEU |
| 6 | BD | 65 | ARG |
| 6 | BD | 72 | LEU |
| 6 | BD | 84 | ILE |
| 6 | BD | 86 | LEU |
| 6 | BD | 94 | ARG |
| 6 | BD | 96 | LEU |
| 6 | BD | 103 | GLU |
| 6 | BD | 107 | PHE |
| 6 | BD | 111 | ASN |
| 6 | BD | 113 | LEU |
| 6 | BD | 120 | TYR |
| 6 | BD | 123 | VAL |
| 6 | BD | 128 | GLU |
| 6 | BD | 142 | LEU |
| 6 | BD | 156 | PHE |
| 6 | BD | 164 | VAL |
| 6 | BD | 170 | THR |
| 6 | BD | 178 | ARG |
| 6 | BD | 194 | LYS |
| 6 | BD | 196 | ARG |
| 6 | BD | 200 | LYS |
| 6 | BD | 202 | LEU |
| 6 | BD | 206 | VAL |
| 6 | BD | 223 | LYS |
| 7 | BE | 7 | LYS |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 7 | BE | 8 | HIS |
| 7 | BE | 9 | LEU |
| 7 | BE | 17 | HIS |
| 7 | BE | 19 | LEU |
| 7 | BE | 21 | ASP |
| 7 | BE | 23 | LEU |
| 7 | BE | 30 | ARG |
| 7 | BE | 48 | LEU |
| 7 | BE | 51 | ARG |
| 7 | BE | 52 | LEU |
| 7 | BE | 60 | GLU |
| 7 | BE | 69 | HIS |
| 7 | BE | 70 | VAL |
| 7 | BE | 75 | LYS |
| 7 | BE | 97 | GLU |
| 7 | BE | 104 | ASP |
| 7 | BE | 123 | LEU |
| 7 | BE | 126 | VAL |
| 7 | BE | 133 | LYS |
| 7 | BE | 136 | VAL |
| 7 | BE | 141 | THR |
| 7 | BE | 151 | ASP |
| 7 | BE | 155 | LYS |
| 7 | BE | 156 | VAL |
| 7 | BE | 164 | LEU |
| 7 | BE | 184 | THR |
| 7 | BE | 187 | ARG |
| 7 | BE | 189 | LEU |
| 7 | BE | 197 | HIS |
| 7 | BE | 202 | ASP |
| 7 | BE | 208 | VAL |
| 7 | BE | 210 | ILE |
| 7 | BE | 211 | LYS |
| 7 | BE | 213 | SER |
| 7 | BE | 217 | THR |
| 7 | BE | 219 | VAL |
| 7 | BE | 220 | THR |
| 7 | BE | 222 | LEU |
| 7 | BE | 223 | ASN |
| 7 | BE | 228 | ILE |
| 7 | BE | 230 | GLU |
| 7 | BE | 233 | LYS |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 7 | BE | 236 | ILE |
| 7 | BE | 242 | LYS |
| 7 | BE | 258 | GLN |
| 7 | BE | 261 | LEU |
| 8 | BF | 23 | VAL |
| 8 | BF | 35 | GLN |
| 8 | BF | 37 | GLN |
| 8 | BF | 38 | THR |
| 8 | BF | 40 | ILE |
| 8 | BF | 41 | LYS |
| 8 | BF | 42 | LEU |
| 8 | BF | 45 | LYS |
| 8 | BF | 51 | VAL |
| 8 | BF | 54 | LYS |
| 8 | BF | 57 | SER |
| 8 | BF | 62 | VAL |
| 8 | BF | 63 | GLN |
| 8 | BF | 66 | GLN |
| 8 | BF | 70 | VAL |
| 8 | BF | 73 | THR |
| 8 | BF | 84 | LYS |
| 8 | BF | 86 | GLN |
| 8 | BF | 89 | ILE |
| 8 | BF | 94 | THR |
| 8 | BF | 99 | MET |
| 8 | BF | 106 | LYS |
| 8 | BF | 107 | LYS |
| 8 | BF | 108 | LEU |
| 8 | BF | 112 | ARG |
| 8 | BF | 115 | LYS |
| 8 | BF | 118 | LEU |
| 8 | BF | 119 | ASP |
| 8 | BF | 126 | ASP |
| 8 | BF | 130 | ILE |
| 8 | BF | 143 | ARG |
| 8 | BF | 147 | THR |
| 8 | BF | 149 | VAL |
| 8 | BF | 161 | ASP |
| 8 | BF | 165 | LEU |
| 8 | BF | 186 | ASN |
| 8 | BF | 190 | ILE |
| 8 | BF | 208 | SER |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 8 | BF | 211 | ILE |
| 8 | BF | 212 | LYS |
| 8 | BF | 213 | LYS |
| 8 | BF | 224 | ASN |
| 9 | BG | 13 | GLN |
| 9 | BG | 14 | LYS |
| 9 | BG | 15 | THR |
| 9 | BG | 18 | ILE |
| 9 | BG | 21 | GLU |
| 9 | BG | 22 | HIS |
| 9 | BG | 23 | ARG |
| 9 | BG | 24 | ILE |
| 9 | BG | 29 | ASP |
| 9 | BG | 36 | VAL |
| 9 | BG | 37 | ASP |
| 9 | BG | 39 | GLU |
| 9 | BG | 45 | PHE |
| 9 | BG | 48 | TYR |
| 9 | BG | 52 | ILE |
| 9 | BG | 56 | ASN |
| 9 | BG | 57 | ASP |
| 9 | BG | 68 | LEU |
| 9 | BG | 71 | THR |
| 9 | BG | 75 | LEU |
| 9 | BG | 76 | LEU |
| 9 | BG | 78 | THR |
| 9 | BG | 80 | ASN |
| 9 | BG | 81 | VAL |
| 9 | BG | 98 | ARG |
| 9 | BG | 102 | VAL |
| 9 | BG | 108 | VAL |
| 9 | BG | 124 | LEU |
| 9 | BG | 133 | LEU |
| 9 | BG | 142 | ARG |
| 9 | BG | 143 | LYS |
| 9 | BG | 148 | SER |
| 9 | BG | 154 | ARG |
| 9 | BG | 158 | ILE |
| 9 | BG | 159 | ARG |
| 9 | BG | 168 | THR |
| 9 | BG | 174 | LYS |
| 9 | BG | 176 | GLN |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 9 | BG | 178 | LEU |
| 9 | BG | 183 | ARG |
| 9 | BG | 185 | GLN |
| 9 | BG | 193 | LEU |
| 9 | BG | 196 | ARG |
| 9 | BG | 203 | GLU |
| 9 | BG | 211 | LEU |
| 9 | BG | 212 | LEU |
| 9 | BG | 214 | LYS |
| 9 | BG | 216 | LEU |
| 9 | BG | 218 | GLU |
| 9 | BG | 223 | LYS |
| 10 | BH | 7 | LYS |
| 10 | BH | 15 | GLU |
| 10 | BH | 38 | LEU |
| 10 | BH | 39 | ARG |
| 10 | BH | 49 | ILE |
| 10 | BH | 51 | VAL |
| 10 | BH | 56 | LYS |
| 10 | BH | 60 | ILE |
| 10 | BH | 64 | VAL |
| 10 | BH | 66 | SER |
| 10 | BH | 67 | LEU |
| 10 | BH | 75 | THR |
| 10 | BH | 78 | THR |
| 10 | BH | 83 | LYS |
| 10 | BH | 91 | ILE |
| 10 | BH | 93 | LEU |
| 10 | BH | 95 | GLU |
| 10 | BH | 111 | LYS |
| 10 | BH | 129 | LEU |
| 10 | BH | 136 | VAL |
| 10 | BH | 147 | ASN |
| 10 | BH | 154 | LEU |
| 10 | BH | 158 | ASP |
| 10 | BH | 162 | ILE |
| 10 | BH | 175 | LYS |
| 10 | BH | 176 | LEU |
| 10 | BH | 180 | GLN |
| 11 | BI | 3 | ILE |
| 11 | BI | 6 | ASP |
| 11 | BI | 17 | LYS |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 11 | BI | 20 | GLN |
| 11 | BI | 21 | PHE |
| 11 | BI | 27 | PHE |
| 11 | BI | 28 | GLU |
| 11 | BI | 29 | LEU |
| 11 | BI | 32 | GLN |
| 11 | BI | 35 | ASN |
| 11 | BI | 37 | LYS |
| 11 | BI | 38 | ILE |
| 11 | BI | 42 | ARG |
| 11 | BI | 47 | ARG |
| 11 | BI | 48 | THR |
| 11 | BI | 53 | LYS |
| 11 | BI | 56 | ARG |
| 11 | BI | 58 | LEU |
| 11 | BI | 70 | GLU |
| 11 | BI | 73 | SER |
| 11 | BI | 77 | ARG |
| 11 | BI | 81 | VAL |
| 11 | BI | 88 | ASN |
| 11 | BI | 92 | ARG |
| 11 | BI | 95 | THR |
| 11 | BI | 96 | LEU |
| 11 | BI | 98 | LYS |
| 11 | BI | 105 | ASP |
| 11 | BI | 107 | THR |
| 11 | BI | 111 | GLN |
| 11 | BI | 119 | GLN |
| 11 | BI | 120 | THR |
| 11 | BI | 143 | TRP |
| 11 | BI | 146 | ARG |
| 11 | BI | 152 | ILE |
| 11 | BI | 155 | SER |
| 11 | BI | 158 | SER |
| 11 | BI | 161 | SER |
| 11 | BI | 165 | LEU |
| 11 | BI | 166 | TYR |
| 11 | BI | 168 | CYS |
| 11 | BI | 171 | SER |
| 11 | BI | 178 | ARG |
| 11 | BI | 182 | TYR |
| 11 | BI | 183 | ILE |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 11 | BI | 184 | LEU |
| 11 | BI | 194 | ARG |
| 11 | BI | 195 | ARG |
| 11 | BI | 197 | THR |
| 12 | BJ | 10 | LYS |
| 12 | BJ | 28 | LEU |
| 12 | BJ | 46 | SER |
| 12 | BJ | 53 | ARG |
| 12 | BJ | 54 | ARG |
| 12 | BJ | 60 | LEU |
| 12 | BJ | 77 | ILE |
| 12 | BJ | 83 | VAL |
| 12 | BJ | 90 | LYS |
| 12 | BJ | 91 | LYS |
| 12 | BJ | 94 | ASP |
| 12 | BJ | 96 | VAL |
| 12 | BJ | 100 | LYS |
| 12 | BJ | 102 | GLU |
| 12 | BJ | 106 | GLU |
| 12 | BJ | 116 | LEU |
| 12 | BJ | 118 | LEU |
| 12 | BJ | 122 | VAL |
| 12 | BJ | 130 | THR |
| 12 | BJ | 134 | ILE |
| 12 | BJ | 138 | LYS |
| 12 | BJ | 139 | GLN |
| 12 | BJ | 143 | ILE |
| 12 | BJ | 148 | VAL |
| 12 | BJ | 149 | ARG |
| 12 | BJ | 161 | THR |
| 12 | BJ | 172 | VAL |
| 13 | BK | 5 | LYS |
| 13 | BK | 10 | LYS |
| 13 | BK | 15 | LEU |
| 13 | BK | 22 | VAL |
| 13 | BK | 24 | LYS |
| 13 | BK | 27 | PHE |
| 13 | BK | 35 | ILE |
| 13 | BK | 37 | THR |
| 13 | BK | 42 | VAL |
| 13 | BK | 52 | LYS |
| 13 | BK | 55 | VAL |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 13 | BK | 68 | LEU |
| 13 | BK | 71 | GLU |
| 13 | BK | 74 | GLU |
| 13 | BK | 75 | TYR |
| 13 | BK | 80 | LEU |
| 13 | BK | 81 | ASN |
| 13 | BK | 86 | ILE |
| 13 | BK | 87 | VAL |
| 14 | BL | 5 | LEU |
| 14 | BL | 7 | VAL |
| 14 | BL | 10 | GLU |
| 14 | BL | 27 | THR |
| 14 | BL | 28 | SER |
| 14 | BL | 30 | ARG |
| 14 | BL | 31 | THR |
| 14 | BL | 34 | TRP |
| 14 | BL | 36 | LYS |
| 14 | BL | 40 | LEU |
| 14 | BL | 50 | GLU |
| 14 | BL | 63 | LEU |
| 14 | BL | 66 | ILE |
| 14 | BL | 67 | ARG |
| 14 | BL | 69 | LYS |
| 14 | BL | 71 | LEU |
| 14 | BL | 74 | THR |
| 14 | BL | 78 | THR |
| 14 | BL | 83 | THR |
| 14 | BL | 87 | ARG |
| 14 | BL | 98 | ASN |
| 14 | BL | 102 | LYS |
| 14 | BL | 107 | VAL |
| 14 | BL | 121 | ASP |
| 14 | BL | 124 | THR |
| 14 | BL | 134 | THR |
| 14 | BL | 135 | VAL |
| 14 | BL | 140 | VAL |
| 15 | BM | 29 | LYS |
| 15 | BM | 46 | ARG |
| 15 | BM | 52 | LEU |
| 15 | BM | 58 | LEU |
| 15 | BM | 59 | LEU |
| 15 | BM | 62 | LEU |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 15 | BM | 64 | SER |
| 15 | BM | 67 | THR |
| 15 | BM | 71 | ILE |
| 15 | BM | 72 | ILE |
| 15 | BM | 74 | LEU |
| 15 | BM | 81 | ASP |
| 15 | BM | 83 | GLU |
| 15 | BM | 86 | VAL |
| 15 | BM | 88 | LEU |
| 15 | BM | 97 | LEU |
| 15 | BM | 99 | GLU |
| 15 | BM | 103 | LEU |
| 15 | BM | 123 | VAL |
| 15 | BM | 125 | ASN |
| 15 | BM | 141 | SER |
| 16 | BN | 3 | ARG |
| 16 | BN | 4 | MET |
| 16 | BN | 11 | ILE |
| 16 | BN | 27 | LYS |
| 16 | BN | 29 | SER |
| 16 | BN | 31 | GLU |
| 16 | BN | 39 | LYS |
| 16 | BN | 46 | THR |
| 16 | BN | 50 | ILE |
| 16 | BN | 56 | ASP |
| 16 | BN | 66 | ILE |
| 16 | BN | 76 | LYS |
| 16 | BN | 77 | SER |
| 16 | BN | 80 | LEU |
| 16 | BN | 84 | ILE |
| 16 | BN | 92 | ILE |
| 16 | BN | 97 | SER |
| 16 | BN | 105 | ASN |
| 16 | BN | 109 | LYS |
| 16 | BN | 118 | ILE |
| 16 | BN | 125 | LEU |
| 16 | BN | 131 | THR |
| 16 | BN | 140 | LYS |
| 16 | BN | 142 | GLU |
| 16 | BN | 150 | VAL |
| 17 | BO | 12 | GLN |
| 17 | BO | 19 | ILE |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 17 | BO | 25 | ASP |
| 17 | BO | 38 | THR |
| 17 | BO | 39 | ILE |
| 17 | BO | 43 | THR |
| 17 | BO | 49 | LYS |
| 17 | BO | 51 | ASP |
| 17 | BO | 53 | ASP |
| 17 | BO | 56 | SER |
| 17 | BO | 77 | THR |
| 17 | BO | 81 | VAL |
| 17 | BO | 83 | ILE |
| 17 | BO | 86 | THR |
| 17 | BO | 92 | LYS |
| 17 | BO | 102 | LEU |
| 17 | BO | 105 | LEU |
| 17 | BO | 107 | ARG |
| 17 | BO | 114 | ARG |
| 17 | BO | 115 | ILE |
| 17 | BO | 133 | ARG |
| 18 | BP | 23 | GLU |
| 18 | BP | 24 | LYS |
| 18 | BP | 31 | GLU |
| 18 | BP | 34 | VAL |
| 18 | BP | 36 | LEU |
| 18 | BP | 52 | LYS |
| 18 | BP | 60 | LEU |
| 18 | BP | 78 | THR |
| 18 | BP | 82 | ASN |
| 18 | BP | 86 | VAL |
| 18 | BP | 90 | ILE |
| 18 | BP | 97 | TYR |
| 18 | BP | 102 | PHE |
| 18 | BP | 110 | GLU |
| 18 | BP | 112 | LEU |
| 18 | BP | 116 | LEU |
| 18 | BP | 121 | ILE |
| 19 | BQ | 4 | VAL |
| 19 | BQ | 13 | LYS |
| 19 | BQ | 14 | LYS |
| 19 | BQ | 15 | SER |
| 19 | BQ | 17 | THR |
| 19 | BQ | 28 | LEU |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 19 | BQ | 30 | LYS |
| 19 | BQ | 37 | THR |
| 19 | BQ | 39 | VAL |
| 19 | BQ | 40 | GLU |
| 19 | BQ | 42 | GLU |
| 19 | BQ | 43 | ILE |
| 19 | BQ | 54 | LEU |
| 19 | BQ | 55 | VAL |
| 19 | BQ | 63 | ILE |
| 19 | BQ | 65 | ILE |
| 19 | BQ | 69 | VAL |
| 19 | BQ | 70 | THR |
| 19 | BQ | 74 | HIS |
| 19 | BQ | 77 | GLN |
| 19 | BQ | 81 | ILE |
| 19 | BQ | 92 | TYR |
| 19 | BQ | 94 | GLN |
| 19 | BQ | 95 | LYS |
| 19 | BQ | 106 | LYS |
| 19 | BQ | 107 | LYS |
| 19 | BQ | 112 | TYR |
| 19 | BQ | 118 | ILE |
| 19 | BQ | 123 | ARG |
| 19 | BQ | 137 | ARG |
| 19 | BQ | 141 | SER |
| 20 | BR | 7 | LYS |
| 20 | BR | 23 | LYS |
| 20 | BR | 26 | LEU |
| 20 | BR | 38 | ILE |
| 20 | BR | 40 | THR |
| 20 | BR | 43 | SER |
| 20 | BR | 49 | LYS |
| 20 | BR | 59 | LYS |
| 20 | BR | 62 | GLN |
| 20 | BR | 66 | VAL |
| 20 | BR | 69 | ILE |
| 20 | BR | 71 | PHE |
| 20 | BR | 72 | LYS |
| 20 | BR | 73 | LEU |
| 20 | BR | 75 | GLU |
| 20 | BR | 79 | GLU |
| 20 | BR | 81 | LYS |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 20 | BR | 83 | GLN |
| 20 | BR | 87 | GLU |
| 20 | BR | 101 | ASN |
| 20 | BR | 106 | THR |
| 20 | BR | 110 | VAL |
| 20 | BR | 113 | LEU |
| 20 | BR | 115 | LEU |
| 20 | BR | 119 | LEU |
| 21 | BS | 3 | LEU |
| 21 | BS | 5 | VAL |
| 21 | BS | 7 | GLU |
| 21 | BS | 12 | GLN |
| 21 | BS | 14 | ILE |
| 21 | BS | 17 | LEU |
| 21 | BS | 19 | ASN |
| 21 | BS | 25 | ASN |
| 21 | BS | 40 | ARG |
| 21 | BS | 41 | ARG |
| 21 | BS | 52 | VAL |
| 21 | BS | 62 | THR |
| 21 | BS | 66 | LEU |
| 21 | BS | 69 | ILE |
| 21 | BS | 71 | GLN |
| 21 | BS | 74 | GLN |
| 21 | BS | 81 | ILE |
| 21 | BS | 85 | PHE |
| 21 | BS | 91 | ASP |
| 21 | BS | 92 | ILE |
| 21 | BS | 98 | TYR |
| 21 | BS | 99 | HIS |
| 21 | BS | 100 | THR |
| 21 | BS | 101 | LEU |
| 21 | BS | 103 | ASN |
| 21 | BS | 105 | VAL |
| 21 | BS | 109 | LEU |
| 21 | BS | 110 | ARG |
| 21 | BS | 125 | ILE |
| 21 | BS | 132 | ARG |
| 21 | BS | 141 | THR |
| 22 | BT | 6 | VAL |
| 22 | BT | 15 | ILE |
| 22 | BT | 25 | GLN |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 22 | BT | 30 | VAL |
| 22 | BT | 34 | VAL |
| 22 | BT | 37 | VAL |
| 22 | BT | 40 | SER |
| 22 | BT | 41 | SER |
| 22 | BT | 45 | MET |
| 22 | BT | 51 | GLU |
| 22 | BT | 57 | ARG |
| 22 | BT | 61 | VAL |
| 22 | BT | 69 | LYS |
| 22 | BT | 79 | LEU |
| 22 | BT | 85 | SER |
| 22 | BT | 94 | ILE |
| 22 | BT | 101 | ASN |
| 22 | BT | 104 | VAL |
| 22 | BT | 113 | ILE |
| 22 | BT | 114 | VAL |
| 22 | BT | 126 | GLU |
| 22 | BT | 127 | ASN |
| 22 | BT | 130 | ARG |
| 22 | BT | 135 | ILE |
| 22 | BT | 143 | ASP |
| 23 | BU | 21 | LYS |
| 23 | BU | 24 | ILE |
| 23 | BU | 27 | THR |
| 23 | BU | 29 | THR |
| 23 | BU | 30 | LYS |
| 23 | BU | 31 | VAL |
| 23 | BU | 36 | ASN |
| 23 | BU | 46 | GLU |
| 23 | BU | 50 | LEU |
| 23 | BU | 51 | VAL |
| 23 | BU | 52 | LYS |
| 23 | BU | 63 | LEU |
| 23 | BU | 64 | LYS |
| 23 | BU | 70 | THR |
| 23 | BU | 74 | GLU |
| 23 | BU | 84 | MET |
| 23 | BU | 85 | ARG |
| 23 | BU | 89 | ARG |
| 23 | BU | 91 | ILE |
| 23 | BU | 93 | LEU |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 23 | BU | 98 | GLN |
| 23 | BU | 103 | ILE |
| 23 | BU | 113 | ASP |
| 23 | BU | 115 | GLU |
| 24 | BV | 1 | MET |
| 24 | BV | 3 | ASN |
| 24 | BV | 20 | THR |
| 24 | BV | 50 | TYR |
| 24 | BV | 59 | VAL |
| 24 | BV | 64 | GLU |
| 24 | BV | 67 | ASP |
| 24 | BV | 75 | ASN |
| 24 | BV | 79 | LEU |
| 24 | BV | 81 | ASN |
| 24 | BV | 82 | VAL |
| 25 | BW | 12 | ASN |
| 25 | BW | 24 | GLN |
| 25 | BW | 36 | LYS |
| 25 | BW | 39 | GLN |
| 25 | BW | 43 | LYS |
| 25 | BW | 47 | ILE |
| 25 | BW | 65 | LEU |
| 25 | BW | 69 | LEU |
| 25 | BW | 83 | ILE |
| 25 | BW | 87 | GLU |
| 25 | BW | 93 | LEU |
| 25 | BW | 98 | GLN |
| 25 | BW | 103 | ILE |
| 25 | BW | 112 | ASP |
| 25 | BW | 117 | ARG |
| 25 | BW | 126 | LEU |
| 25 | BW | 130 | TYR |
| 26 | BX | 3 | LYS |
| 26 | BX | 7 | ARG |
| 26 | BX | 13 | ARG |
| 26 | BX | 19 | ARG |
| 26 | BX | 27 | ASN |
| 26 | BX | 46 | SER |
| 26 | BX | 56 | LYS |
| 26 | BX | 57 | LEU |
| 26 | BX | 93 | LEU |
| 26 | BX | 112 | LYS |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 26 | BX | 114 | LYS |
| 26 | BX | 132 | LEU |
| 26 | BX | 133 | LEU |
| 26 | BX | 141 | GLU |
| 27 | BY | 7 | ILE |
| 27 | BY | 9 | THR |
| 27 | BY | 11 | LYS |
| 27 | BY | 13 | ILE |
| 27 | BY | 26 | ASP |
| 27 | BY | 34 | ASN |
| 27 | BY | 40 | LEU |
| 27 | BY | 42 | GLU |
| 27 | BY | 55 | VAL |
| 27 | BY | 62 | THR |
| 27 | BY | 84 | LYS |
| 27 | BY | 88 | THR |
| 27 | BY | 99 | LYS |
| 27 | BY | 101 | GLU |
| 27 | BY | 102 | LYS |
| 27 | BY | 121 | THR |
| 27 | BY | 129 | VAL |
| 27 | BY | 132 | ARG |
| 27 | BY | 135 | ASP |
| 28 | BZ | 42 | LEU |
| 28 | BZ | 44 | GLN |
| 28 | BZ | 49 | ARG |
| 28 | BZ | 57 | TYR |
| 28 | BZ | 58 | ARG |
| 28 | BZ | 63 | SER |
| 28 | BZ | 64 | VAL |
| 28 | BZ | 69 | LEU |
| 28 | BZ | 70 | LYS |
| 28 | BZ | 80 | LEU |
| 28 | BZ | 82 | HIS |
| 28 | BZ | 83 | LEU |
| 28 | BZ | 89 | ILE |
| 28 | BZ | 90 | LYS |
| 28 | BZ | 95 | HIS |
| 28 | BZ | 97 | LYS |
| 28 | BZ | 100 | ILE |
| 28 | BZ | 102 | THR |
| 29 | Ba | 3 | LYS |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | Ba | 12 | LYS |
| 29 | Ba | 18 | VAL |
| 29 | Ba | 25 | ASN |
| 29 | Ba | 26 | CYS |
| 29 | Ba | 41 | ILE |
| 29 | Ba | 44 | ILE |
| 29 | Ba | 67 | THR |
| 29 | Ba | 69 | ASN |
| 29 | Ba | 71 | LEU |
| 29 | Ba | 72 | HIS |
| 29 | Ba | 76 | SER |
| 29 | Ba | 82 | ARG |
| 29 | Ba | 84 | VAL |
| 29 | Ba | 85 | ARG |
| 30 | Bb | 3 | LEU |
| 30 | Bb | 4 | VAL |
| 30 | Bb | 14 | SER |
| 30 | Bb | 18 | LYS |
| 30 | Bb | 20 | LYS |
| 30 | Bb | 31 | TYR |
| 30 | Bb | 33 | LEU |
| 30 | Bb | 41 | LEU |
| 30 | Bb | 43 | ILE |
| 30 | Bb | 44 | THR |
| 30 | Bb | 52 | THR |
| 30 | Bb | 77 | THR |
| 30 | Bb | 79 | PHE |
| 31 | Bc | 9 | LEU |
| 31 | Bc | 13 | ILE |
| 31 | Bc | 14 | LYS |
| 31 | Bc | 21 | SER |
| 31 | Bc | 29 | ARG |
| 31 | Bc | 33 | LEU |
| 31 | Bc | 35 | ASP |
| 31 | Bc | 36 | THR |
| 31 | Bc | 38 | ARG |
| 31 | Bc | 42 | ARG |
| 31 | Bc | 43 | ASN |
| 31 | Bc | 55 | VAL |
| 31 | Bc | 56 | LEU |
| 32 | Bd | 7 | TRP |
| 32 | Bd | 10 | HIS |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 32 | Bd | 19 | ARG |
| 32 | Bd | 24 | CYS |
| 32 | Bd | 27 | HIS |
| 32 | Bd | 28 | THR |
| 32 | Bd | 30 | LEU |
| 32 | Bd | 38 | ILE |
| 32 | Bd | 40 | ARG |
| 32 | Bd | 41 | GLN |
| 32 | Bd | 48 | ASN |
| 32 | Bd | 50 | ILE |
| 32 | Bd | 55 | PHE |
| 33 | Be | 20 | LYS |
| 33 | Be | 22 | GLU |
| 33 | Be | 26 | LYS |
| 33 | Be | 28 | LYS |
| 33 | Be | 43 | ARG |
| 33 | Be | 44 | PHE |
| 33 | Be | 54 | ARG |
| 34 | Bf | 98 | LYS |
| 34 | Bf | 102 | VAL |
| 34 | Bf | 103 | LEU |
| 34 | Bf | 108 | VAL |
| 34 | Bf | 113 | LYS |
| 34 | Bf | 117 | LEU |
| 34 | Bf | 125 | THR |
| 34 | Bf | 132 | LEU |
| 34 | Bf | 140 | TYR |
| 34 | Bf | 146 | SER |
| 34 | Bf | 150 | VAL |
| 34 | Bf | 151 | ASN |
| 35 | Bg | 4 | ASN |
| 35 | Bg | 7 | LEU |
| 35 | Bg | 9 | LEU |
| 35 | Bg | 10 | ARG |
| 35 | Bg | 14 | GLU |
| 35 | Bg | 19 | TRP |
| 35 | Bg | 23 | LEU |
| 35 | Bg | 34 | LEU |
| 35 | Bg | 37 | SER |
| 35 | Bg | 43 | ILE |
| 35 | Bg | 48 | THR |
| 35 | Bg | 52 | GLN |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 35 | Bg | 53 | LYS |
| 35 | Bg | 58 | VAL |
| 35 | Bg | 59 | ARG |
| 35 | Bg | 64 | HIS |
| 35 | Bg | 66 | HIS |
| 35 | Bg | 72 | THR |
| 35 | Bg | 74 | THR |
| 35 | Bg | 81 | LEU |
| 35 | Bg | 89 | LEU |
| 35 | Bg | 98 | GLU |
| 35 | Bg | 100 | TYR |
| 35 | Bg | 118 | LYS |
| 35 | Bg | 123 | ILE |
| 35 | Bg | 131 | ILE |
| 35 | Bg | 132 | LYS |
| 35 | Bg | 136 | ILE |
| 35 | Bg | 137 | LYS |
| 35 | Bg | 145 | LEU |
| 35 | Bg | 152 | SER |
| 35 | Bg | 167 | VAL |
| 35 | Bg | 170 | ILE |
| 35 | Bg | 182 | ASN |
| 35 | Bg | 188 | ILE |
| 35 | Bg | 195 | HIS |
| 35 | Bg | 196 | ASN |
| 35 | Bg | 205 | SER |
| 35 | Bg | 210 | LEU |
| 35 | Bg | 216 | LYS |
| 35 | Bg | 229 | LYS |
| 35 | Bg | 237 | GLN |
| 35 | Bg | 243 | LEU |
| 35 | Bg | 258 | THR |
| 35 | Bg | 260 | ILE |
| 35 | Bg | 268 | GLN |
| 35 | Bg | 269 | TYR |
| 35 | Bg | 270 | LEU |
| 35 | Bg | 273 | ASP |
| 35 | Bg | 310 | ILE |
| 35 | Bg | 312 | VAL |
| 35 | Bg | 315 | VAL |

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (119) such sidechains are listed below:

| Mol | Chain | Res | Type |
|---|---|---|---|
| 3 | BA | 21 | ASN |
| 3 | BA | 28 | ASN |
| 3 | BA | 33 | GLN |
| 3 | BA | 83 | GLN |
| 3 | BA | 131 | GLN |
| 4 | BB | 95 | ASN |
| 4 | BB | 148 | ASN |
| 4 | BB | 149 | GLN |
| 4 | BB | 177 | GLN |
| 4 | BB | 220 | GLN |
| 5 | BC | 89 | GLN |
| 5 | BC | 147 | ASN |
| 5 | BC | 152 | HIS |
| 5 | BC | 228 | ASN |
| 6 | BD | 74 | GLN |
| 6 | BD | 165 | ASN |
| 6 | BD | 174 | HIS |
| 7 | BE | 17 | HIS |
| 7 | BE | 36 | HIS |
| 7 | BE | 67 | GLN |
| 7 | BE | 69 | HIS |
| 7 | BE | 98 | ASN |
| 7 | BE | 112 | HIS |
| 7 | BE | 223 | ASN |
| 7 | BE | 258 | GLN |
| 7 | BE | 259 | GLN |
| 8 | BF | 34 | GLN |
| 8 | BF | 35 | GLN |
| 8 | BF | 44 | ASN |
| 8 | BF | 63 | GLN |
| 8 | BF | 95 | ASN |
| 8 | BF | 100 | ASN |
| 8 | BF | 139 | ASN |
| 8 | BF | 170 | GLN |
| 8 | BF | 186 | ASN |
| 9 | BG | 13 | GLN |
| 9 | BG | 34 | GLN |
| 9 | BG | 56 | ASN |
| 9 | BG | 80 | ASN |
| 10 | BH | 19 | GLN |
| 10 | BH | 22 | GLN |
| 10 | BH | 147 | ASN |
| 10 | BH | 180 | GLN |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 11 | BI | 20 | GLN |
| 11 | BI | 52 | ASN |
| 11 | BI | 64 | ASN |
| 11 | BI | 111 | GLN |
| 11 | BI | 116 | HIS |
| 11 | BI | 175 | GLN |
| 12 | BJ | 38 | ASN |
| 12 | BJ | 131 | GLN |
| 12 | BJ | 176 | ASN |
| 13 | BK | 17 | GLN |
| 13 | BK | 28 | ASN |
| 13 | BK | 62 | GLN |
| 13 | BK | 81 | ASN |
| 14 | BL | 21 | ASN |
| 14 | BL | 92 | HIS |
| 14 | BL | 98 | ASN |
| 14 | BL | 104 | HIS |
| 15 | BM | 139 | HIS |
| 16 | BN | 105 | ASN |
| 16 | BN | 123 | HIS |
| 16 | BN | 151 | ASN |
| 18 | BP | 79 | HIS |
| 18 | BP | 114 | HIS |
| 19 | BQ | 8 | GLN |
| 19 | BQ | 32 | ASN |
| 19 | BQ | 74 | HIS |
| 20 | BR | 83 | GLN |
| 21 | BS | 6 | GLN |
| 21 | BS | 12 | GLN |
| 21 | BS | 74 | GLN |
| 21 | BS | 136 | GLN |
| 21 | BS | 137 | HIS |
| 22 | BT | 16 | ASN |
| 22 | BT | 23 | GLN |
| 22 | BT | 70 | GLN |
| 22 | BT | 77 | ASN |
| 22 | BT | 127 | ASN |
| 22 | BT | 138 | GLN |
| 23 | BU | 18 | GLN |
| 23 | BU | 44 | ASN |
| 23 | BU | 48 | HIS |
| 23 | BU | 49 | ASN |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 24 | BV | 21 | ASN |
| 24 | BV | 35 | ASN |
| 24 | BV | 70 | ASN |
| 24 | BV | 75 | ASN |
| 25 | BW | 24 | GLN |
| 25 | BW | 39 | GLN |
| 25 | BW | 42 | GLN |
| 25 | BW | 56 | HIS |
| 25 | BW | 64 | GLN |
| 25 | BW | 70 | ASN |
| 26 | BX | 27 | ASN |
| 26 | BX | 28 | ASN |
| 27 | BY | 34 | ASN |
| 27 | BY | 107 | GLN |
| 27 | BY | 133 | ASN |
| 29 | Ba | 25 | ASN |
| 29 | Ba | 69 | ASN |
| 29 | Ba | 72 | HIS |
| 30 | Bb | 42 | ASN |
| 31 | Bc | 27 | GLN |
| 32 | Bd | 27 | HIS |
| 32 | Bd | 48 | ASN |
| 34 | Bf | 123 | ASN |
| 34 | Bf | 145 | HIS |
| 35 | Bg | 17 | ASN |
| 35 | Bg | 29 | GLN |
| 35 | Bg | 64 | HIS |
| 35 | Bg | 66 | HIS |
| 35 | Bg | 159 | ASN |
| 35 | Bg | 185 | GLN |
| 35 | Bg | 196 | ASN |
| 35 | Bg | 288 | HIS |
| 35 | Bg | 308 | ASN |
| 35 | Bg | 314 | GLN |

### 5.3.3 RNA (i)

| Mol | Chain | Analysed | Backbone Outliers | Pucker Outliers |
|---|---|---|---|---|
| 1 | A2 | 1659/1767 (93%) | 1115 (67%) | 14 (0%) |
| 2 | AZ | 169/190 (88%) | 145 (85%) | 0 |
| All | All | 1828/1957 (93%) | 1260 (68%) | 14 (0%) |

All (1260) RNA backbone outliers are listed below:

| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A2 | 2 | A |
| 1 | A2 | 3 | U |
| 1 | A2 | 4 | C |
| 1 | A2 | 5 | U |
| 1 | A2 | 6 | G |
| 1 | A2 | 7 | G |
| 1 | A2 | 8 | U |
| 1 | A2 | 9 | U |
| 1 | A2 | 10 | G |
| 1 | A2 | 11 | A |
| 1 | A2 | 13 | C |
| 1 | A2 | 14 | C |
| 1 | A2 | 16 | G |
| 1 | A2 | 17 | C |
| 1 | A2 | 18 | C |
| 1 | A2 | 23 | G |
| 1 | A2 | 25 | C |
| 1 | A2 | 26 | A |
| 1 | A2 | 27 | U |
| 1 | A2 | 32 | U |
| 1 | A2 | 33 | U |
| 1 | A2 | 34 | G |
| 1 | A2 | 38 | C |
| 1 | A2 | 39 | A |
| 1 | A2 | 40 | A |
| 1 | A2 | 41 | A |
| 1 | A2 | 42 | G |
| 1 | A2 | 43 | A |
| 1 | A2 | 44 | U |
| 1 | A2 | 45 | U |
| 1 | A2 | 46 | A |
| 1 | A2 | 47 | A |
| 1 | A2 | 48 | G |
| 1 | A2 | 50 | C |
| 1 | A2 | 51 | A |
| 1 | A2 | 52 | U |
| 1 | A2 | 57 | G |
| 1 | A2 | 61 | A |
| 1 | A2 | 62 | A |
| 1 | A2 | 63 | G |
| 1 | A2 | 65 | A |
| 1 | A2 | 66 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A2 | 67 | A |
| 1 | A2 | 68 | A |
| 1 | A2 | 69 | G |
| 1 | A2 | 73 | U |
| 1 | A2 | 74 | U |
| 1 | A2 | 75 | U |
| 1 | A2 | 78 | A |
| 1 | A2 | 79 | C |
| 1 | A2 | 80 | A |
| 1 | A2 | 81 | G |
| 1 | A2 | 82 | U |
| 1 | A2 | 84 | A |
| 1 | A2 | 87 | C |
| 1 | A2 | 88 | U |
| 1 | A2 | 90 | C |
| 1 | A2 | 91 | G |
| 1 | A2 | 94 | U |
| 1 | A2 | 96 | G |
| 1 | A2 | 97 | C |
| 1 | A2 | 98 | U |
| 1 | A2 | 99 | C |
| 1 | A2 | 100 | A |
| 1 | A2 | 101 | U |
| 1 | A2 | 102 | U |
| 1 | A2 | 103 | A |
| 1 | A2 | 104 | A |
| 1 | A2 | 105 | A |
| 1 | A2 | 110 | U |
| 1 | A2 | 111 | U |
| 1 | A2 | 112 | A |
| 1 | A2 | 113 | U |
| 1 | A2 | 114 | C |
| 1 | A2 | 115 | G |
| 1 | A2 | 116 | U |
| 1 | A2 | 117 | U |
| 1 | A2 | 119 | A |
| 1 | A2 | 120 | U |
| 1 | A2 | 123 | G |
| 1 | A2 | 125 | U |
| 1 | A2 | 126 | A |
| 1 | A2 | 127 | G |
| 1 | A2 | 128 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A2 | 129 | U |
| 1 | A2 | 130 | C |
| 1 | A2 | 131 | C |
| 1 | A2 | 133 | U |
| 1 | A2 | 134 | U |
| 1 | A2 | 136 | C |
| 1 | A2 | 137 | U |
| 1 | A2 | 138 | A |
| 1 | A2 | 139 | C |
| 1 | A2 | 140 | A |
| 1 | A2 | 141 | U |
| 1 | A2 | 142 | G |
| 1 | A2 | 143 | G |
| 1 | A2 | 144 | U |
| 1 | A2 | 145 | A |
| 1 | A2 | 147 | A |
| 1 | A2 | 149 | C |
| 1 | A2 | 150 | U |
| 1 | A2 | 156 | A |
| 1 | A2 | 158 | U |
| 1 | A2 | 159 | U |
| 1 | A2 | 160 | C |
| 1 | A2 | 161 | U |
| 1 | A2 | 162 | A |
| 1 | A2 | 165 | G |
| 1 | A2 | 166 | C |
| 1 | A2 | 167 | U |
| 1 | A2 | 169 | A |
| 1 | A2 | 171 | A |
| 1 | A2 | 173 | A |
| 1 | A2 | 174 | U |
| 1 | A2 | 177 | U |
| 1 | A2 | 178 | U |
| 1 | A2 | 179 | A |
| 1 | A2 | 181 | A |
| 1 | A2 | 182 | A |
| 1 | A2 | 184 | C |
| 1 | A2 | 185 | U |
| 1 | A2 | 187 | G |
| 1 | A2 | 188 | A |
| 1 | A2 | 189 | C |
| 1 | A2 | 190 | C |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A2 | 191 | C |
| 1 | A2 | 192 | U |
| 1 | A2 | 197 | A |
| 1 | A2 | 199 | G |
| 1 | A2 | 200 | A |
| 1 | A2 | 201 | G |
| 1 | A2 | 202 | A |
| 1 | A2 | 204 | G |
| 1 | A2 | 205 | U |
| 1 | A2 | 209 | U |
| 1 | A2 | 212 | U |
| 1 | A2 | 213 | A |
| 1 | A2 | 217 | A |
| 1 | A2 | 218 | A |
| 1 | A2 | 219 | A |
| 1 | A2 | 221 | A |
| 1 | A2 | 222 | A |
| 1 | A2 | 223 | U |
| 1 | A2 | 224 | C |
| 1 | A2 | 225 | A |
| 1 | A2 | 226 | A |
| 1 | A2 | 227 | U |
| 1 | A2 | 228 | G |
| 1 | A2 | 229 | U |
| 1 | A2 | 230 | C |
| 1 | A2 | 231 | U |
| 1 | A2 | 232 | U |
| 1 | A2 | 233 | C |
| 1 | A2 | 236 | A |
| 1 | A2 | 237 | C |
| 1 | A2 | 238 | U |
| 1 | A2 | 240 | U |
| 1 | A2 | 241 | U |
| 1 | A2 | 246 | G |
| 1 | A2 | 249 | U |
| 1 | A2 | 250 | C |
| 1 | A2 | 253 | A |
| 1 | A2 | 254 | A |
| 1 | A2 | 255 | U |
| 1 | A2 | 257 | A |
| 1 | A2 | 258 | C |
| 1 | A2 | 260 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A2 | 261 | U |
| 1 | A2 | 264 | G |
| 1 | A2 | 265 | A |
| 1 | A2 | 266 | A |
| 1 | A2 | 267 | U |
| 1 | A2 | 270 | C |
| 1 | A2 | 271 | A |
| 1 | A2 | 272 | U |
| 1 | A2 | 275 | C |
| 1 | A2 | 276 | C |
| 1 | A2 | 277 | U |
| 1 | A2 | 278 | U |
| 1 | A2 | 280 | U |
| 1 | A2 | 283 | U |
| 1 | A2 | 286 | C |
| 1 | A2 | 287 | G |
| 1 | A2 | 288 | A |
| 1 | A2 | 293 | U |
| 1 | A2 | 295 | A |
| 1 | A2 | 296 | U |
| 1 | A2 | 299 | A |
| 1 | A2 | 300 | A |
| 1 | A2 | 304 | U |
| 1 | A2 | 305 | C |
| 1 | A2 | 307 | G |
| 1 | A2 | 311 | U |
| 1 | A2 | 312 | A |
| 1 | A2 | 313 | U |
| 1 | A2 | 314 | C |
| 1 | A2 | 315 | A |
| 1 | A2 | 316 | A |
| 1 | A2 | 318 | U |
| 1 | A2 | 319 | U |
| 1 | A2 | 320 | U |
| 1 | A2 | 321 | C |
| 1 | A2 | 322 | G |
| 1 | A2 | 323 | A |
| 1 | A2 | 329 | G |
| 1 | A2 | 330 | G |
| 1 | A2 | 331 | A |
| 1 | A2 | 333 | A |
| 1 | A2 | 334 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A2 | 335 | U |
| 1 | A2 | 337 | G |
| 1 | A2 | 338 | C |
| 1 | A2 | 342 | C |
| 1 | A2 | 343 | C |
| 1 | A2 | 350 | U |
| 1 | A2 | 351 | C |
| 1 | A2 | 352 | A |
| 1 | A2 | 355 | G |
| 1 | A2 | 359 | A |
| 1 | A2 | 360 | A |
| 1 | A2 | 361 | C |
| 1 | A2 | 362 | G |
| 1 | A2 | 363 | G |
| 1 | A2 | 367 | A |
| 1 | A2 | 368 | U |
| 1 | A2 | 372 | G |
| 1 | A2 | 373 | G |
| 1 | A2 | 374 | U |
| 1 | A2 | 375 | U |
| 1 | A2 | 376 | C |
| 1 | A2 | 377 | G |
| 1 | A2 | 378 | A |
| 1 | A2 | 380 | U |
| 1 | A2 | 381 | C |
| 1 | A2 | 386 | G |
| 1 | A2 | 388 | G |
| 1 | A2 | 390 | G |
| 1 | A2 | 391 | A |
| 1 | A2 | 394 | C |
| 1 | A2 | 395 | U |
| 1 | A2 | 396 | G |
| 1 | A2 | 400 | A |
| 1 | A2 | 401 | A |
| 1 | A2 | 402 | C |
| 1 | A2 | 403 | G |
| 1 | A2 | 404 | G |
| 1 | A2 | 405 | C |
| 1 | A2 | 406 | U |
| 1 | A2 | 407 | A |
| 1 | A2 | 410 | A |
| 1 | A2 | 414 | C |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A2 | 416 | A |
| 1 | A2 | 417 | A |
| 1 | A2 | 418 | G |
| 1 | A2 | 419 | G |
| 1 | A2 | 420 | A |
| 1 | A2 | 421 | A |
| 1 | A2 | 423 | G |
| 1 | A2 | 424 | C |
| 1 | A2 | 425 | A |
| 1 | A2 | 426 | G |
| 1 | A2 | 427 | C |
| 1 | A2 | 428 | A |
| 1 | A2 | 429 | G |
| 1 | A2 | 430 | G |
| 1 | A2 | 431 | C |
| 1 | A2 | 432 | G |
| 1 | A2 | 434 | G |
| 1 | A2 | 435 | C |
| 1 | A2 | 436 | A |
| 1 | A2 | 438 | A |
| 1 | A2 | 439 | U |
| 1 | A2 | 440 | U |
| 1 | A2 | 441 | A |
| 1 | A2 | 443 | C |
| 1 | A2 | 444 | C |
| 1 | A2 | 446 | A |
| 1 | A2 | 447 | U |
| 1 | A2 | 450 | U |
| 1 | A2 | 452 | A |
| 1 | A2 | 453 | U |
| 1 | A2 | 454 | U |
| 1 | A2 | 455 | C |
| 1 | A2 | 456 | A |
| 1 | A2 | 457 | G |
| 1 | A2 | 459 | G |
| 1 | A2 | 460 | A |
| 1 | A2 | 461 | G |
| 1 | A2 | 462 | G |
| 1 | A2 | 464 | A |
| 1 | A2 | 468 | A |
| 1 | A2 | 469 | C |
| 1 | A2 | 470 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A2 | 471 | A |
| 1 | A2 | 473 | A |
| 1 | A2 | 475 | A |
| 1 | A2 | 477 | A |
| 1 | A2 | 478 | A |
| 1 | A2 | 480 | G |
| 1 | A2 | 481 | A |
| 1 | A2 | 482 | U |
| 1 | A2 | 483 | A |
| 1 | A2 | 484 | C |
| 1 | A2 | 485 | A |
| 1 | A2 | 486 | G |
| 1 | A2 | 489 | C |
| 1 | A2 | 491 | C |
| 1 | A2 | 492 | A |
| 1 | A2 | 494 | U |
| 1 | A2 | 495 | C |
| 1 | A2 | 496 | G |
| 1 | A2 | 497 | G |
| 1 | A2 | 498 | G |
| 1 | A2 | 499 | U |
| 1 | A2 | 500 | C |
| 1 | A2 | 503 | G |
| 1 | A2 | 504 | U |
| 1 | A2 | 505 | A |
| 1 | A2 | 506 | A |
| 1 | A2 | 507 | U |
| 1 | A2 | 508 | U |
| 1 | A2 | 509 | G |
| 1 | A2 | 510 | G |
| 1 | A2 | 511 | A |
| 1 | A2 | 512 | A |
| 1 | A2 | 513 | U |
| 1 | A2 | 515 | A |
| 1 | A2 | 516 | G |
| 1 | A2 | 518 | A |
| 1 | A2 | 519 | C |
| 1 | A2 | 520 | A |
| 1 | A2 | 522 | U |
| 1 | A2 | 525 | A |
| 1 | A2 | 528 | U |
| 1 | A2 | 529 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A2 | 532 | U |
| 1 | A2 | 533 | U |
| 1 | A2 | 534 | A |
| 1 | A2 | 535 | A |
| 1 | A2 | 536 | C |
| 1 | A2 | 538 | A |
| 1 | A2 | 539 | G |
| 1 | A2 | 540 | G |
| 1 | A2 | 541 | A |
| 1 | A2 | 542 | A |
| 1 | A2 | 543 | C |
| 1 | A2 | 544 | A |
| 1 | A2 | 548 | G |
| 1 | A2 | 551 | G |
| 1 | A2 | 555 | A |
| 1 | A2 | 558 | U |
| 1 | A2 | 559 | C |
| 1 | A2 | 560 | U |
| 1 | A2 | 561 | G |
| 1 | A2 | 562 | G |
| 1 | A2 | 563 | U |
| 1 | A2 | 564 | G |
| 1 | A2 | 565 | C |
| 1 | A2 | 567 | A |
| 1 | A2 | 568 | G |
| 1 | A2 | 571 | G |
| 1 | A2 | 572 | C |
| 1 | A2 | 573 | C |
| 1 | A2 | 574 | G |
| 1 | A2 | 575 | C |
| 1 | A2 | 577 | G |
| 1 | A2 | 578 | U |
| 1 | A2 | 579 | A |
| 1 | A2 | 580 | A |
| 1 | A2 | 582 | U |
| 1 | A2 | 586 | G |
| 1 | A2 | 589 | C |
| 1 | A2 | 591 | A |
| 1 | A2 | 593 | U |
| 1 | A2 | 594 | A |
| 1 | A2 | 595 | G |
| 1 | A2 | 597 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A2 | 598 | U |
| 1 | A2 | 599 | A |
| 1 | A2 | 600 | U |
| 1 | A2 | 601 | A |
| 1 | A2 | 603 | U |
| 1 | A2 | 604 | A |
| 1 | A2 | 606 | A |
| 1 | A2 | 607 | G |
| 1 | A2 | 608 | U |
| 1 | A2 | 609 | U |
| 1 | A2 | 610 | G |
| 1 | A2 | 611 | U |
| 1 | A2 | 613 | G |
| 1 | A2 | 614 | C |
| 1 | A2 | 617 | U |
| 1 | A2 | 618 | U |
| 1 | A2 | 619 | A |
| 1 | A2 | 620 | A |
| 1 | A2 | 622 | A |
| 1 | A2 | 623 | A |
| 1 | A2 | 624 | G |
| 1 | A2 | 626 | U |
| 1 | A2 | 628 | G |
| 1 | A2 | 629 | U |
| 1 | A2 | 634 | G |
| 1 | A2 | 635 | A |
| 1 | A2 | 637 | C |
| 1 | A2 | 638 | U |
| 1 | A2 | 639 | U |
| 1 | A2 | 640 | U |
| 1 | A2 | 641 | G |
| 1 | A2 | 644 | C |
| 1 | A2 | 646 | C |
| 1 | A2 | 647 | G |
| 1 | A2 | 648 | G |
| 1 | A2 | 650 | U |
| 1 | A2 | 652 | G |
| 1 | A2 | 653 | C |
| 1 | A2 | 656 | G |
| 1 | A2 | 657 | U |
| 1 | A2 | 658 | C |
| 1 | A2 | 677 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A2 | 681 | U |
| 1 | A2 | 682 | C |
| 1 | A2 | 684 | A |
| 1 | A2 | 687 | G |
| 1 | A2 | 688 | G |
| 1 | A2 | 689 | G |
| 1 | A2 | 690 | G |
| 1 | A2 | 691 | C |
| 1 | A2 | 694 | U |
| 1 | A2 | 695 | U |
| 1 | A2 | 696 | C |
| 1 | A2 | 698 | U |
| 1 | A2 | 703 | G |
| 1 | A2 | 704 | C |
| 1 | A2 | 706 | A |
| 1 | A2 | 707 | A |
| 1 | A2 | 708 | C |
| 1 | A2 | 709 | C |
| 1 | A2 | 710 | U |
| 1 | A2 | 712 | G |
| 1 | A2 | 714 | G |
| 1 | A2 | 715 | U |
| 1 | A2 | 716 | C |
| 1 | A2 | 717 | C |
| 1 | A2 | 718 | U |
| 1 | A2 | 719 | U |
| 1 | A2 | 721 | U |
| 1 | A2 | 722 | G |
| 1 | A2 | 723 | G |
| 1 | A2 | 725 | U |
| 1 | A2 | 726 | C |
| 1 | A2 | 727 | U |
| 1 | A2 | 729 | G |
| 1 | A2 | 730 | G |
| 1 | A2 | 731 | C |
| 1 | A2 | 732 | G |
| 1 | A2 | 733 | A |
| 1 | A2 | 734 | A |
| 1 | A2 | 736 | C |
| 1 | A2 | 737 | A |
| 1 | A2 | 738 | G |
| 1 | A2 | 739 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A2 | 741 | C |
| 1 | A2 | 742 | U |
| 1 | A2 | 743 | U |
| 1 | A2 | 745 | U |
| 1 | A2 | 746 | A |
| 1 | A2 | 749 | U |
| 1 | A2 | 750 | U |
| 1 | A2 | 753 | A |
| 1 | A2 | 754 | A |
| 1 | A2 | 755 | A |
| 1 | A2 | 756 | A |
| 1 | A2 | 758 | U |
| 1 | A2 | 759 | U |
| 1 | A2 | 760 | A |
| 1 | A2 | 761 | G |
| 1 | A2 | 762 | A |
| 1 | A2 | 764 | U |
| 1 | A2 | 765 | G |
| 1 | A2 | 766 | U |
| 1 | A2 | 767 | U |
| 1 | A2 | 768 | C |
| 1 | A2 | 773 | C |
| 1 | A2 | 774 | A |
| 1 | A2 | 775 | G |
| 1 | A2 | 776 | G |
| 1 | A2 | 777 | C |
| 1 | A2 | 778 | G |
| 1 | A2 | 779 | U |
| 1 | A2 | 780 | A |
| 1 | A2 | 781 | U |
| 1 | A2 | 782 | U |
| 1 | A2 | 783 | G |
| 1 | A2 | 785 | U |
| 1 | A2 | 787 | G |
| 1 | A2 | 788 | A |
| 1 | A2 | 789 | A |
| 1 | A2 | 790 | U |
| 1 | A2 | 792 | U |
| 1 | A2 | 794 | U |
| 1 | A2 | 795 | U |
| 1 | A2 | 798 | C |
| 1 | A2 | 802 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A2 | 803 | A |
| 1 | A2 | 804 | A |
| 1 | A2 | 807 | A |
| 1 | A2 | 809 | A |
| 1 | A2 | 810 | G |
| 1 | A2 | 811 | A |
| 1 | A2 | 812 | A |
| 1 | A2 | 813 | U |
| 1 | A2 | 814 | A |
| 1 | A2 | 817 | A |
| 1 | A2 | 818 | C |
| 1 | A2 | 819 | G |
| 1 | A2 | 820 | U |
| 1 | A2 | 821 | U |
| 1 | A2 | 822 | U |
| 1 | A2 | 823 | G |
| 1 | A2 | 824 | G |
| 1 | A2 | 828 | U |
| 1 | A2 | 831 | U |
| 1 | A2 | 833 | U |
| 1 | A2 | 836 | U |
| 1 | A2 | 841 | U |
| 1 | A2 | 843 | U |
| 1 | A2 | 845 | G |
| 1 | A2 | 846 | G |
| 1 | A2 | 848 | C |
| 1 | A2 | 849 | C |
| 1 | A2 | 850 | A |
| 1 | A2 | 851 | U |
| 1 | A2 | 852 | C |
| 1 | A2 | 853 | G |
| 1 | A2 | 854 | U |
| 1 | A2 | 855 | A |
| 1 | A2 | 856 | A |
| 1 | A2 | 857 | U |
| 1 | A2 | 860 | U |
| 1 | A2 | 863 | A |
| 1 | A2 | 864 | U |
| 1 | A2 | 865 | A |
| 1 | A2 | 866 | G |
| 1 | A2 | 867 | G |
| 1 | A2 | 868 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A2 | 870 | C |
| 1 | A2 | 873 | U |
| 1 | A2 | 874 | C |
| 1 | A2 | 876 | G |
| 1 | A2 | 877 | G |
| 1 | A2 | 880 | C |
| 1 | A2 | 881 | A |
| 1 | A2 | 882 | U |
| 1 | A2 | 883 | C |
| 1 | A2 | 884 | A |
| 1 | A2 | 885 | G |
| 1 | A2 | 887 | A |
| 1 | A2 | 892 | A |
| 1 | A2 | 894 | U |
| 1 | A2 | 896 | U |
| 1 | A2 | 898 | A |
| 1 | A2 | 899 | G |
| 1 | A2 | 903 | U |
| 1 | A2 | 904 | G |
| 1 | A2 | 909 | U |
| 1 | A2 | 912 | U |
| 1 | A2 | 913 | G |
| 1 | A2 | 915 | A |
| 1 | A2 | 916 | U |
| 1 | A2 | 917 | U |
| 1 | A2 | 918 | U |
| 1 | A2 | 919 | A |
| 1 | A2 | 921 | U |
| 1 | A2 | 922 | G |
| 1 | A2 | 927 | C |
| 1 | A2 | 928 | U |
| 1 | A2 | 929 | A |
| 1 | A2 | 930 | A |
| 1 | A2 | 931 | C |
| 1 | A2 | 933 | A |
| 1 | A2 | 935 | U |
| 1 | A2 | 938 | G |
| 1 | A2 | 939 | A |
| 1 | A2 | 940 | A |
| 1 | A2 | 941 | A |
| 1 | A2 | 942 | G |
| 1 | A2 | 943 | C |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A2 | 944 | A |
| 1 | A2 | 945 | U |
| 1 | A2 | 946 | U |
| 1 | A2 | 949 | C |
| 1 | A2 | 950 | C |
| 1 | A2 | 953 | G |
| 1 | A2 | 956 | C |
| 1 | A2 | 959 | U |
| 1 | A2 | 960 | U |
| 1 | A2 | 961 | U |
| 1 | A2 | 966 | A |
| 1 | A2 | 969 | C |
| 1 | A2 | 970 | A |
| 1 | A2 | 971 | A |
| 1 | A2 | 972 | G |
| 1 | A2 | 981 | U |
| 1 | A2 | 982 | U |
| 1 | A2 | 987 | G |
| 1 | A2 | 988 | A |
| 1 | A2 | 989 | U |
| 1 | A2 | 990 | C |
| 1 | A2 | 991 | G |
| 1 | A2 | 992 | A |
| 1 | A2 | 993 | A |
| 1 | A2 | 996 | U |
| 1 | A2 | 998 | A |
| 1 | A2 | 1002 | G |
| 1 | A2 | 1003 | A |
| 1 | A2 | 1004 | U |
| 1 | A2 | 1005 | A |
| 1 | A2 | 1006 | C |
| 1 | A2 | 1007 | C |
| 1 | A2 | 1011 | G |
| 1 | A2 | 1012 | U |
| 1 | A2 | 1013 | A |
| 1 | A2 | 1015 | U |
| 1 | A2 | 1020 | A |
| 1 | A2 | 1021 | C |
| 1 | A2 | 1022 | C |
| 1 | A2 | 1023 | A |
| 1 | A2 | 1024 | U |
| 1 | A2 | 1025 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A2 | 1026 | A |
| 1 | A2 | 1027 | A |
| 1 | A2 | 1028 | C |
| 1 | A2 | 1029 | U |
| 1 | A2 | 1031 | U |
| 1 | A2 | 1032 | G |
| 1 | A2 | 1033 | C |
| 1 | A2 | 1034 | C |
| 1 | A2 | 1035 | G |
| 1 | A2 | 1039 | A |
| 1 | A2 | 1040 | G |
| 1 | A2 | 1041 | G |
| 1 | A2 | 1042 | G |
| 1 | A2 | 1045 | C |
| 1 | A2 | 1047 | G |
| 1 | A2 | 1048 | G |
| 1 | A2 | 1052 | U |
| 1 | A2 | 1053 | G |
| 1 | A2 | 1054 | U |
| 1 | A2 | 1056 | U |
| 1 | A2 | 1057 | U |
| 1 | A2 | 1058 | U |
| 1 | A2 | 1059 | U |
| 1 | A2 | 1060 | U |
| 1 | A2 | 1061 | A |
| 1 | A2 | 1062 | A |
| 1 | A2 | 1063 | U |
| 1 | A2 | 1066 | C |
| 1 | A2 | 1071 | U |
| 1 | A2 | 1074 | G |
| 1 | A2 | 1075 | C |
| 1 | A2 | 1078 | C |
| 1 | A2 | 1079 | U |
| 1 | A2 | 1082 | C |
| 1 | A2 | 1087 | A |
| 1 | A2 | 1089 | U |
| 1 | A2 | 1091 | A |
| 1 | A2 | 1092 | A |
| 1 | A2 | 1095 | U |
| 1 | A2 | 1096 | C |
| 1 | A2 | 1097 | U |
| 1 | A2 | 1098 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A2 | 1100 | G |
| 1 | A2 | 1101 | G |
| 1 | A2 | 1103 | U |
| 1 | A2 | 1104 | U |
| 1 | A2 | 1105 | C |
| 1 | A2 | 1106 | U |
| 1 | A2 | 1107 | G |
| 1 | A2 | 1108 | G |
| 1 | A2 | 1109 | G |
| 1 | A2 | 1111 | G |
| 1 | A2 | 1113 | A |
| 1 | A2 | 1114 | G |
| 1 | A2 | 1117 | U |
| 1 | A2 | 1118 | G |
| 1 | A2 | 1120 | U |
| 1 | A2 | 1121 | C |
| 1 | A2 | 1122 | G |
| 1 | A2 | 1124 | A |
| 1 | A2 | 1125 | A |
| 1 | A2 | 1126 | G |
| 1 | A2 | 1131 | A |
| 1 | A2 | 1132 | A |
| 1 | A2 | 1137 | A |
| 1 | A2 | 1138 | A |
| 1 | A2 | 1140 | G |
| 1 | A2 | 1142 | A |
| 1 | A2 | 1145 | U |
| 1 | A2 | 1146 | G |
| 1 | A2 | 1147 | A |
| 1 | A2 | 1148 | C |
| 1 | A2 | 1150 | G |
| 1 | A2 | 1151 | A |
| 1 | A2 | 1152 | A |
| 1 | A2 | 1154 | G |
| 1 | A2 | 1155 | G |
| 1 | A2 | 1157 | A |
| 1 | A2 | 1158 | C |
| 1 | A2 | 1159 | C |
| 1 | A2 | 1160 | A |
| 1 | A2 | 1161 | C |
| 1 | A2 | 1162 | C |
| 1 | A2 | 1164 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A2 | 1167 | G |
| 1 | A2 | 1168 | U |
| 1 | A2 | 1170 | G |
| 1 | A2 | 1171 | A |
| 1 | A2 | 1172 | G |
| 1 | A2 | 1175 | U |
| 1 | A2 | 1176 | G |
| 1 | A2 | 1177 | C |
| 1 | A2 | 1180 | C |
| 1 | A2 | 1182 | U |
| 1 | A2 | 1183 | A |
| 1 | A2 | 1184 | A |
| 1 | A2 | 1185 | U |
| 1 | A2 | 1186 | U |
| 1 | A2 | 1187 | U |
| 1 | A2 | 1189 | A |
| 1 | A2 | 1190 | C |
| 1 | A2 | 1191 | U |
| 1 | A2 | 1192 | C |
| 1 | A2 | 1194 | A |
| 1 | A2 | 1195 | C |
| 1 | A2 | 1196 | A |
| 1 | A2 | 1197 | C |
| 1 | A2 | 1198 | G |
| 1 | A2 | 1200 | G |
| 1 | A2 | 1201 | G |
| 1 | A2 | 1205 | C |
| 1 | A2 | 1206 | U |
| 1 | A2 | 1207 | C |
| 1 | A2 | 1208 | A |
| 1 | A2 | 1209 | C |
| 1 | A2 | 1210 | C |
| 1 | A2 | 1213 | G |
| 1 | A2 | 1214 | U |
| 1 | A2 | 1215 | C |
| 1 | A2 | 1217 | A |
| 1 | A2 | 1218 | G |
| 1 | A2 | 1219 | A |
| 1 | A2 | 1220 | C |
| 1 | A2 | 1221 | A |
| 1 | A2 | 1226 | A |
| 1 | A2 | 1227 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A2 | 1228 | G |
| 1 | A2 | 1229 | G |
| 1 | A2 | 1230 | A |
| 1 | A2 | 1232 | U |
| 1 | A2 | 1233 | G |
| 1 | A2 | 1234 | A |
| 1 | A2 | 1236 | A |
| 1 | A2 | 1237 | G |
| 1 | A2 | 1238 | A |
| 1 | A2 | 1239 | U |
| 1 | A2 | 1240 | U |
| 1 | A2 | 1241 | G |
| 1 | A2 | 1243 | G |
| 1 | A2 | 1244 | A |
| 1 | A2 | 1245 | G |
| 1 | A2 | 1246 | C |
| 1 | A2 | 1247 | U |
| 1 | A2 | 1248 | C |
| 1 | A2 | 1250 | U |
| 1 | A2 | 1251 | U |
| 1 | A2 | 1252 | C |
| 1 | A2 | 1256 | A |
| 1 | A2 | 1257 | U |
| 1 | A2 | 1258 | U |
| 1 | A2 | 1259 | U |
| 1 | A2 | 1260 | U |
| 1 | A2 | 1261 | G |
| 1 | A2 | 1262 | U |
| 1 | A2 | 1266 | U |
| 1 | A2 | 1267 | G |
| 1 | A2 | 1271 | G |
| 1 | A2 | 1273 | G |
| 1 | A2 | 1276 | U |
| 1 | A2 | 1279 | C |
| 1 | A2 | 1281 | G |
| 1 | A2 | 1282 | U |
| 1 | A2 | 1283 | U |
| 1 | A2 | 1284 | C |
| 1 | A2 | 1286 | U |
| 1 | A2 | 1287 | A |
| 1 | A2 | 1288 | G |
| 1 | A2 | 1291 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A2 | 1292 | G |
| 1 | A2 | 1293 | U |
| 1 | A2 | 1294 | G |
| 1 | A2 | 1296 | A |
| 1 | A2 | 1300 | A |
| 1 | A2 | 1301 | U |
| 1 | A2 | 1303 | U |
| 1 | A2 | 1304 | G |
| 1 | A2 | 1305 | U |
| 1 | A2 | 1307 | U |
| 1 | A2 | 1310 | U |
| 1 | A2 | 1312 | A |
| 1 | A2 | 1314 | U |
| 1 | A2 | 1315 | U |
| 1 | A2 | 1317 | C |
| 1 | A2 | 1318 | G |
| 1 | A2 | 1319 | A |
| 1 | A2 | 1320 | U |
| 1 | A2 | 1321 | A |
| 1 | A2 | 1322 | A |
| 1 | A2 | 1323 | C |
| 1 | A2 | 1325 | A |
| 1 | A2 | 1326 | A |
| 1 | A2 | 1332 | C |
| 1 | A2 | 1333 | C |
| 1 | A2 | 1334 | U |
| 1 | A2 | 1337 | A |
| 1 | A2 | 1338 | C |
| 1 | A2 | 1339 | C |
| 1 | A2 | 1340 | U |
| 1 | A2 | 1341 | A |
| 1 | A2 | 1343 | U |
| 1 | A2 | 1344 | A |
| 1 | A2 | 1345 | A |
| 1 | A2 | 1346 | A |
| 1 | A2 | 1347 | U |
| 1 | A2 | 1348 | A |
| 1 | A2 | 1349 | G |
| 1 | A2 | 1353 | U |
| 1 | A2 | 1356 | U |
| 1 | A2 | 1357 | A |
| 1 | A2 | 1358 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A2 | 1361 | U |
| 1 | A2 | 1362 | U |
| 1 | A2 | 1363 | U |
| 1 | A2 | 1364 | G |
| 1 | A2 | 1365 | C |
| 1 | A2 | 1370 | U |
| 1 | A2 | 1372 | U |
| 1 | A2 | 1373 | C |
| 1 | A2 | 1375 | A |
| 1 | A2 | 1376 | C |
| 1 | A2 | 1377 | U |
| 1 | A2 | 1379 | C |
| 1 | A2 | 1380 | U |
| 1 | A2 | 1381 | U |
| 1 | A2 | 1382 | A |
| 1 | A2 | 1383 | G |
| 1 | A2 | 1384 | A |
| 1 | A2 | 1385 | G |
| 1 | A2 | 1388 | A |
| 1 | A2 | 1389 | C |
| 1 | A2 | 1390 | U |
| 1 | A2 | 1391 | A |
| 1 | A2 | 1393 | C |
| 1 | A2 | 1395 | G |
| 1 | A2 | 1397 | U |
| 1 | A2 | 1398 | U |
| 1 | A2 | 1399 | C |
| 1 | A2 | 1400 | A |
| 1 | A2 | 1401 | A |
| 1 | A2 | 1404 | C |
| 1 | A2 | 1407 | U |
| 1 | A2 | 1408 | G |
| 1 | A2 | 1409 | G |
| 1 | A2 | 1415 | U |
| 1 | A2 | 1416 | G |
| 1 | A2 | 1417 | A |
| 1 | A2 | 1418 | G |
| 1 | A2 | 1420 | C |
| 1 | A2 | 1421 | A |
| 1 | A2 | 1422 | A |
| 1 | A2 | 1424 | A |
| 1 | A2 | 1426 | C |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A2 | 1427 | A |
| 1 | A2 | 1428 | G |
| 1 | A2 | 1430 | U |
| 1 | A2 | 1431 | C |
| 1 | A2 | 1432 | U |
| 1 | A2 | 1433 | G |
| 1 | A2 | 1434 | U |
| 1 | A2 | 1435 | G |
| 1 | A2 | 1438 | G |
| 1 | A2 | 1439 | C |
| 1 | A2 | 1440 | C |
| 1 | A2 | 1441 | C |
| 1 | A2 | 1442 | U |
| 1 | A2 | 1443 | U |
| 1 | A2 | 1444 | A |
| 1 | A2 | 1445 | G |
| 1 | A2 | 1446 | A |
| 1 | A2 | 1448 | G |
| 1 | A2 | 1449 | U |
| 1 | A2 | 1451 | C |
| 1 | A2 | 1452 | U |
| 1 | A2 | 1453 | G |
| 1 | A2 | 1454 | G |
| 1 | A2 | 1456 | C |
| 1 | A2 | 1457 | C |
| 1 | A2 | 1458 | G |
| 1 | A2 | 1459 | C |
| 1 | A2 | 1460 | A |
| 1 | A2 | 1464 | G |
| 1 | A2 | 1467 | C |
| 1 | A2 | 1468 | U |
| 1 | A2 | 1470 | C |
| 1 | A2 | 1471 | A |
| 1 | A2 | 1472 | C |
| 1 | A2 | 1473 | U |
| 1 | A2 | 1474 | G |
| 1 | A2 | 1475 | A |
| 1 | A2 | 1478 | G |
| 1 | A2 | 1479 | A |
| 1 | A2 | 1480 | G |
| 1 | A2 | 1481 | C |
| 1 | A2 | 1482 | C |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A2 | 1483 | A |
| 1 | A2 | 1485 | C |
| 1 | A2 | 1486 | G |
| 1 | A2 | 1488 | G |
| 1 | A2 | 1489 | U |
| 1 | A2 | 1490 | C |
| 1 | A2 | 1491 | U |
| 1 | A2 | 1492 | A |
| 1 | A2 | 1493 | A |
| 1 | A2 | 1494 | C |
| 1 | A2 | 1495 | C |
| 1 | A2 | 1496 | U |
| 1 | A2 | 1499 | G |
| 1 | A2 | 1500 | C |
| 1 | A2 | 1505 | A |
| 1 | A2 | 1507 | G |
| 1 | A2 | 1509 | C |
| 1 | A2 | 1511 | U |
| 1 | A2 | 1512 | G |
| 1 | A2 | 1514 | U |
| 1 | A2 | 1517 | U |
| 1 | A2 | 1518 | C |
| 1 | A2 | 1519 | U |
| 1 | A2 | 1520 | U |
| 1 | A2 | 1521 | G |
| 1 | A2 | 1524 | A |
| 1 | A2 | 1525 | A |
| 1 | A2 | 1526 | A |
| 1 | A2 | 1527 | C |
| 1 | A2 | 1528 | U |
| 1 | A2 | 1529 | C |
| 1 | A2 | 1530 | C |
| 1 | A2 | 1532 | U |
| 1 | A2 | 1533 | C |
| 1 | A2 | 1535 | U |
| 1 | A2 | 1537 | C |
| 1 | A2 | 1538 | U |
| 1 | A2 | 1539 | G |
| 1 | A2 | 1540 | G |
| 1 | A2 | 1545 | A |
| 1 | A2 | 1547 | A |
| 1 | A2 | 1548 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A2 | 1551 | U |
| 1 | A2 | 1553 | G |
| 1 | A2 | 1555 | A |
| 1 | A2 | 1557 | U |
| 1 | A2 | 1558 | U |
| 1 | A2 | 1559 | A |
| 1 | A2 | 1560 | U |
| 1 | A2 | 1562 | G |
| 1 | A2 | 1563 | C |
| 1 | A2 | 1569 | A |
| 1 | A2 | 1571 | C |
| 1 | A2 | 1573 | A |
| 1 | A2 | 1574 | G |
| 1 | A2 | 1575 | G |
| 1 | A2 | 1577 | A |
| 1 | A2 | 1580 | C |
| 1 | A2 | 1582 | U |
| 1 | A2 | 1583 | A |
| 1 | A2 | 1584 | G |
| 1 | A2 | 1585 | U |
| 1 | A2 | 1586 | A |
| 1 | A2 | 1587 | A |
| 1 | A2 | 1588 | G |
| 1 | A2 | 1590 | G |
| 1 | A2 | 1591 | C |
| 1 | A2 | 1592 | A |
| 1 | A2 | 1594 | G |
| 1 | A2 | 1595 | U |
| 1 | A2 | 1596 | C |
| 1 | A2 | 1597 | A |
| 1 | A2 | 1598 | U |
| 1 | A2 | 1600 | A |
| 1 | A2 | 1601 | G |
| 1 | A2 | 1602 | C |
| 1 | A2 | 1604 | U |
| 1 | A2 | 1606 | C |
| 1 | A2 | 1607 | G |
| 1 | A2 | 1608 | U |
| 1 | A2 | 1609 | U |
| 1 | A2 | 1611 | A |
| 1 | A2 | 1612 | U |
| 1 | A2 | 1614 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A2 | 1615 | C |
| 1 | A2 | 1616 | G |
| 1 | A2 | 1618 | C |
| 1 | A2 | 1621 | U |
| 1 | A2 | 1625 | C |
| 1 | A2 | 1626 | U |
| 1 | A2 | 1629 | G |
| 1 | A2 | 1630 | U |
| 1 | A2 | 1631 | A |
| 1 | A2 | 1632 | C |
| 1 | A2 | 1634 | C |
| 1 | A2 | 1635 | A |
| 1 | A2 | 1638 | G |
| 1 | A2 | 1639 | C |
| 1 | A2 | 1642 | G |
| 1 | A2 | 1643 | U |
| 1 | A2 | 1644 | C |
| 1 | A2 | 1647 | U |
| 1 | A2 | 1648 | A |
| 1 | A2 | 1654 | G |
| 1 | A2 | 1656 | U |
| 1 | A2 | 1657 | U |
| 1 | A2 | 1658 | G |
| 1 | A2 | 1660 | A |
| 1 | A2 | 1662 | G |
| 1 | A2 | 1663 | G |
| 1 | A2 | 1664 | C |
| 1 | A2 | 1665 | U |
| 1 | A2 | 1666 | U |
| 1 | A2 | 1667 | A |
| 1 | A2 | 1670 | G |
| 1 | A2 | 1671 | A |
| 1 | A2 | 1672 | G |
| 1 | A2 | 1678 | A |
| 1 | A2 | 1680 | G |
| 1 | A2 | 1681 | A |
| 1 | A2 | 1682 | U |
| 1 | A2 | 1683 | C |
| 1 | A2 | 1684 | U |
| 1 | A2 | 1685 | G |
| 1 | A2 | 1688 | U |
| 1 | A2 | 1689 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A2 | 1690 | G |
| 1 | A2 | 1691 | A |
| 1 | A2 | 1692 | G |
| 1 | A2 | 1693 | A |
| 1 | A2 | 1709 | C |
| 1 | A2 | 1710 | U |
| 1 | A2 | 1711 | C |
| 1 | A2 | 1712 | A |
| 1 | A2 | 1713 | G |
| 1 | A2 | 1716 | C |
| 1 | A2 | 1717 | G |
| 1 | A2 | 1719 | A |
| 1 | A2 | 1720 | G |
| 1 | A2 | 1721 | A |
| 1 | A2 | 1722 | A |
| 1 | A2 | 1727 | G |
| 1 | A2 | 1730 | A |
| 1 | A2 | 1732 | A |
| 1 | A2 | 1733 | C |
| 1 | A2 | 1736 | G |
| 1 | A2 | 1737 | G |
| 1 | A2 | 1739 | C |
| 1 | A2 | 1740 | A |
| 1 | A2 | 1741 | U |
| 1 | A2 | 1742 | U |
| 1 | A2 | 1743 | U |
| 1 | A2 | 1744 | A |
| 1 | A2 | 1746 | A |
| 1 | A2 | 1747 | G |
| 1 | A2 | 1748 | G |
| 1 | A2 | 1749 | A |
| 1 | A2 | 1750 | A |
| 1 | A2 | 1752 | U |
| 1 | A2 | 1753 | A |
| 1 | A2 | 1754 | A |
| 1 | A2 | 1755 | A |
| 1 | A2 | 1756 | A |
| 1 | A2 | 1758 | U |
| 1 | A2 | 1759 | C |
| 1 | A2 | 1760 | G |
| 1 | A2 | 1761 | U |
| 1 | A2 | 1762 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A2 | 1766 | A |
| 1 | A2 | 1767 | G |
| 1 | A2 | 1768 | G |
| 1 | A2 | 1769 | U |
| 1 | A2 | 1770 | U |
| 1 | A2 | 1771 | U |
| 1 | A2 | 1772 | C |
| 1 | A2 | 1777 | G |
| 1 | A2 | 1778 | G |
| 1 | A2 | 1779 | U |
| 1 | A2 | 1780 | G |
| 1 | A2 | 1781 | A |
| 1 | A2 | 1782 | A |
| 1 | A2 | 1783 | C |
| 1 | A2 | 1790 | A |
| 1 | A2 | 1791 | A |
| 1 | A2 | 1792 | G |
| 1 | A2 | 1793 | G |
| 1 | A2 | 1794 | A |
| 1 | A2 | 1795 | U |
| 1 | A2 | 1796 | C |
| 1 | A2 | 1797 | A |
| 1 | A2 | 1798 | U |
| 2 | AZ | 6026 | A |
| 2 | AZ | 6029 | A |
| 2 | AZ | 6031 | G |
| 2 | AZ | 6032 | U |
| 2 | AZ | 6033 | G |
| 2 | AZ | 6036 | C |
| 2 | AZ | 6037 | U |
| 2 | AZ | 6038 | U |
| 2 | AZ | 6040 | C |
| 2 | AZ | 6041 | U |
| 2 | AZ | 6042 | U |
| 2 | AZ | 6044 | U |
| 2 | AZ | 6045 | A |
| 2 | AZ | 6046 | A |
| 2 | AZ | 6048 | U |
| 2 | AZ | 6049 | A |
| 2 | AZ | 6050 | C |
| 2 | AZ | 6051 | A |
| 2 | AZ | 6053 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | AZ | 6054 | U |
| 2 | AZ | 6055 | U |
| 2 | AZ | 6060 | A |
| 2 | AZ | 6061 | G |
| 2 | AZ | 6063 | U |
| 2 | AZ | 6064 | U |
| 2 | AZ | 6065 | A |
| 2 | AZ | 6067 | U |
| 2 | AZ | 6070 | A |
| 2 | AZ | 6071 | U |
| 2 | AZ | 6072 | U |
| 2 | AZ | 6073 | A |
| 2 | AZ | 6074 | C |
| 2 | AZ | 6076 | A |
| 2 | AZ | 6077 | G |
| 2 | AZ | 6078 | U |
| 2 | AZ | 6079 | A |
| 2 | AZ | 6080 | G |
| 2 | AZ | 6081 | U |
| 2 | AZ | 6082 | G |
| 2 | AZ | 6086 | U |
| 2 | AZ | 6087 | U |
| 2 | AZ | 6088 | U |
| 2 | AZ | 6089 | U |
| 2 | AZ | 6091 | G |
| 2 | AZ | 6092 | U |
| 2 | AZ | 6094 | U |
| 2 | AZ | 6095 | U |
| 2 | AZ | 6096 | U |
| 2 | AZ | 6097 | A |
| 2 | AZ | 6099 | G |
| 2 | AZ | 6101 | U |
| 2 | AZ | 6102 | A |
| 2 | AZ | 6103 | G |
| 2 | AZ | 6104 | C |
| 2 | AZ | 6105 | U |
| 2 | AZ | 6106 | A |
| 2 | AZ | 6107 | U |
| 2 | AZ | 6108 | U |
| 2 | AZ | 6109 | U |
| 2 | AZ | 6111 | G |
| 2 | AZ | 6113 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | AZ | 6115 | U |
| 2 | AZ | 6116 | A |
| 2 | AZ | 6117 | C |
| 2 | AZ | 6118 | G |
| 2 | AZ | 6119 | U |
| 2 | AZ | 6120 | U |
| 2 | AZ | 6121 | C |
| 2 | AZ | 6122 | C |
| 2 | AZ | 6123 | A |
| 2 | AZ | 6124 | G |
| 2 | AZ | 6125 | G |
| 2 | AZ | 6126 | A |
| 2 | AZ | 6127 | U |
| 2 | AZ | 6128 | G |
| 2 | AZ | 6129 | C |
| 2 | AZ | 6130 | C |
| 2 | AZ | 6131 | U |
| 2 | AZ | 6132 | A |
| 2 | AZ | 6133 | G |
| 2 | AZ | 6134 | U |
| 2 | AZ | 6135 | G |
| 2 | AZ | 6136 | G |
| 2 | AZ | 6137 | C |
| 2 | AZ | 6138 | A |
| 2 | AZ | 6139 | G |
| 2 | AZ | 6141 | C |
| 2 | AZ | 6142 | C |
| 2 | AZ | 6145 | C |
| 2 | AZ | 6146 | A |
| 2 | AZ | 6147 | A |
| 2 | AZ | 6148 | U |
| 2 | AZ | 6149 | A |
| 2 | AZ | 6150 | U |
| 2 | AZ | 6151 | C |
| 2 | AZ | 6152 | C |
| 2 | AZ | 6154 | G |
| 2 | AZ | 6156 | A |
| 2 | AZ | 6157 | A |
| 2 | AZ | 6158 | G |
| 2 | AZ | 6159 | C |
| 2 | AZ | 6160 | C |
| 2 | AZ | 6161 | C |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | AZ | 6162 | U |
| 2 | AZ | 6163 | C |
| 2 | AZ | 6164 | U |
| 2 | AZ | 6165 | C |
| 2 | AZ | 6166 | U |
| 2 | AZ | 6167 | G |
| 2 | AZ | 6168 | C |
| 2 | AZ | 6171 | U |
| 2 | AZ | 6174 | G |
| 2 | AZ | 6175 | A |
| 2 | AZ | 6176 | A |
| 2 | AZ | 6180 | C |
| 2 | AZ | 6181 | C |
| 2 | AZ | 6186 | U |
| 2 | AZ | 6187 | A |
| 2 | AZ | 6189 | G |
| 2 | AZ | 6190 | U |
| 2 | AZ | 6196 | G |
| 2 | AZ | 6197 | U |
| 2 | AZ | 6198 | U |
| 2 | AZ | 6199 | U |
| 2 | AZ | 6200 | U |
| 2 | AZ | 6202 | C |
| 2 | AZ | 6203 | U |
| 2 | AZ | 6204 | A |
| 2 | AZ | 6205 | A |
| 2 | AZ | 6206 | G |
| 2 | AZ | 6207 | A |
| 2 | AZ | 6208 | A |
| 2 | AZ | 6209 | A |
| 2 | AZ | 6210 | U |
| 2 | AZ | 6211 | U |
| 2 | AZ | 6213 | A |
| 2 | AZ | 6214 | C |
| 2 | AZ | 6215 | C |
| 2 | AZ | 6216 | U |
| 2 | AZ | 6217 | A |
| 2 | AZ | 6218 | U |
| 2 | AZ | 6219 | U |
| 2 | AZ | 6220 | U |
| 2 | AZ | 6221 | U |
| 2 | AZ | 6222 | U |

All (14) RNA pucker outliers are listed below:

| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A2 | 299 | A |
| 1 | A2 | 312 | A |
| 1 | A2 | 315 | A |
| 1 | A2 | 320 | U |
| 1 | A2 | 322 | G |
| 1 | A2 | 326 | G |
| 1 | A2 | 330 | G |
| 1 | A2 | 835 | U |
| 1 | A2 | 836 | U |
| 1 | A2 | 1688 | U |
| 1 | A2 | 1708 | U |
| 1 | A2 | 1710 | U |
| 1 | A2 | 1712 | A |
| 1 | A2 | 1716 | C |

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

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

## 5.5 Carbohydrates

There are no oligosaccharides in this entry.

## 5.6 Ligand geometry

There are no ligands in this entry.

## 5.7 Other polymers

There are no such residues in this entry.

## 5.8 Polymer linkage issues

The following chains have linkage breaks:

| Mol | Chain | Number of breaks |
|---|---|---|
| 1 | A2 | 393 |
| 35 | Bg | 80 |

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| Mol | Chain | Number of breaks |
|---|---|---|
| 7 | BE | 64 |
| 6 | BD | 62 |
| 11 | BI | 58 |
| 8 | BF | 52 |
| 10 | BH | 51 |
| 4 | BB | 51 |
| 9 | BG | 47 |
| 5 | BC | 46 |
| 3 | BA | 43 |
| 12 | BJ | 42 |
| 2 | AZ | 40 |
| 26 | BX | 40 |
| 22 | BT | 39 |
| 25 | BW | 39 |
| 20 | BR | 36 |
| 15 | BM | 33 |
| 14 | BL | 32 |
| 18 | BP | 31 |
| 27 | BY | 31 |
| 19 | BQ | 30 |
| 21 | BS | 29 |
| 16 | BN | 29 |
| 23 | BU | 27 |
| 13 | BK | 25 |
| 30 | Bb | 24 |
| 29 | Ba | 24 |
| 17 | BO | 23 |
| 24 | BV | 18 |
| 32 | Bd | 16 |
| 28 | BZ | 14 |
| 31 | Bc | 14 |
| 33 | Be | 11 |
| 34 | Bf | 9 |

All chain breaks are listed below:

| Model | Chain | Residue-1 | Atom-1 | Residue-2 | Atom-2 | Distance (Å) |
|---|---|---|---|---|---|---|
| 1 | A2 | 1693:A | O3' | 1708:U | P | 22.38 |
| 1 | A2 | 658:C | O3' | 676:G | P | 18.27 |
| 1 | BI | 123:LYS | C | 135:LYS | N | 16.74 |
| 1 | BA | 190:ASP | C | 191:ARG | N | 10.15 |
| 1 | BR | 124:VAL | C | 125:SER | N | 8.71 |
| 1 | BR | 91:ALA | C | 95:ARG | N | 8.21 |

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| Model | Chain | Residue-1 | Atom-1 | Residue-2 | Atom-2 | Distance (Å) |
|---|---|---|---|---|---|---|
| 1 | BZ | 84:GLU | C | 85:LYS | N | 7.70 |
| 1 | BT | 66:TYR | C | 67:MET | N | 7.45 |
| 1 | BP | 19:GLY | C | 20:VAL | N | 7.22 |
| 1 | AZ | 6089:U | O3' | 6090:U | P | 6.99 |
| 1 | A2 | 712:G | O3' | 713:A | P | 6.85 |
| 1 | BM | 141:SER | C | 142:GLN | N | 6.82 |
| 1 | A2 | 1564:U | O3' | 1565:C | P | 6.79 |
| 1 | BA | 66:ALA | C | 67:ILE | N | 6.70 |
| 1 | BF | 25:LEU | C | 26:ALA | N | 6.70 |
| 1 | BA | 58:VAL | C | 59:LEU | N | 6.64 |
| 1 | A2 | 719:U | O3' | 720:G | P | 6.52 |
| 1 | A2 | 492:A | O3' | 493:U | P | 6.40 |
| 1 | A2 | 833:U | O3' | 834:G | P | 6.33 |
| 1 | BP | 18:ARG | C | 19:GLY | N | 6.32 |
| 1 | BA | 37:VAL | C | 38:PHE | N | 6.29 |
| 1 | BQ | 72:GLY | C | 73:GLY | N | 6.22 |
| 1 | BM | 80:ASN | C | 81:ASP | N | 6.21 |
| 1 | A2 | 1267:G | O3' | 1268:G | P | 6.06 |
| 1 | AZ | 6061:G | O3' | 6062:G | P | 6.03 |
| 1 | BF | 34:GLN | C | 35:GLN | N | 6.00 |
| 1 | BA | 127:ARG | C | 128:SER | N | 5.96 |
| 1 | BS | 6:GLN | C | 7:GLU | N | 5.95 |
| 1 | BA | 200:ASP | C | 201:LEU | N | 5.91 |
| 1 | BU | 107:THR | C | 108:ILE | N | 5.88 |
| 1 | AZ | 6056:U | O3' | 6057:G | P | 5.84 |
| 1 | BG | 142:ARG | C | 143:LYS | N | 5.82 |
| 1 | Bf | 106:TYR | C | 107:LYS | N | 5.82 |
| 1 | BM | 111:ASN | C | 112:ALA | N | 5.81 |
| 1 | BA | 106:SER | C | 107:PHE | N | 5.80 |
| 1 | BA | 36:TYR | C | 37:VAL | N | 5.79 |
| 1 | A2 | 234:G | O3' | 235:G | P | 5.76 |
| 1 | BF | 68:ILE | C | 69:PHE | N | 5.76 |
| 1 | A2 | 194:U | O3' | 195:G | P | 5.73 |
| 1 | BM | 25:GLU | C | 26:ASP | N | 5.72 |
| 1 | BP | 20:VAL | C | 21:ASP | N | 5.70 |
| 1 | A2 | 1563:C | O3' | 1564:U | P | 5.69 |
| 1 | A2 | 489:C | O3' | 490:C | P | 5.67 |
| 1 | BM | 82:PRO | C | 83:GLU | N | 5.65 |
| 1 | AZ | 6067:U | O3' | 6068:A | P | 5.62 |
| 1 | BA | 65:ALA | C | 66:ALA | N | 5.61 |
| 1 | BA | 47:VAL | C | 48:ILE | N | 5.60 |
| 1 | A2 | 682:C | O3' | 683:C | P | 5.59 |

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| Model | Chain | Residue-1 | Atom-1 | Residue-2 | Atom-2 | Distance (Å) |
|---|---|---|---|---|---|---|
| 1 | BA | 126:PRO | C | 127:ARG | N | 5.53 |
| 1 | BA | 32:HIS | C | 33:GLN | N | 5.52 |
| 1 | BG | 146:GLY | C | 147:LEU | N | 5.49 |
| 1 | BQ | 53:LEU | C | 54:LEU | N | 5.49 |
| 1 | A2 | 1234:A | O3' | 1235:C | P | 5.48 |
| 1 | AZ | 6171:U | O3' | 6173:C | P | 5.48 |
| 1 | A2 | 1054:U | O3' | 1055:U | P | 5.45 |
| 1 | A2 | 1571:C | O3' | 1572:G | P | 5.41 |
| 1 | BA | 170:ILE | C | 171:GLY | N | 5.41 |
| 1 | BZ | 96:SER | C | 97:LYS | N | 5.41 |
| 1 | Bg | 156:VAL | C | 157:VAL | N | 5.40 |
| 1 | BZ | 82:HIS | C | 83:LEU | N | 5.39 |
| 1 | BM | 26:ASP | C | 27:ALA | N | 5.38 |
| 1 | A2 | 654:C | O3' | 655:G | P | 5.37 |
| 1 | BZ | 69:LEU | C | 70:LYS | N | 5.37 |
| 1 | BG | 165:GLY | C | 166:GLU | N | 5.35 |
| 1 | Bg | 48:THR | C | 49:GLY | N | 5.34 |
| 1 | Bf | 107:LYS | C | 108:VAL | N | 5.30 |
| 1 | Bg | 160:GLU | C | 161:LYS | N | 5.29 |
| 1 | A2 | 841:U | O3' | 842:C | P | 5.26 |
| 1 | A2 | 696:C | O3' | 697:C | P | 5.25 |
| 1 | BS | 74:GLN | C | 75:ASN | N | 5.25 |
| 1 | BA | 4:PRO | C | 5:ALA | N | 5.22 |
| 1 | BM | 137:MET | C | 138:GLU | N | 5.21 |
| 1 | BU | 49:ASN | C | 50:LEU | N | 5.16 |
| 1 | BA | 6:THR | C | 7:PHE | N | 5.15 |
| 1 | BT | 54:PHE | C | 55:TYR | N | 5.15 |
| 1 | Bd | 5:ASN | C | 6:VAL | N | 5.14 |
| 1 | BR | 76:GLU | C | 77:GLU | N | 5.12 |
| 1 | Bg | 284:ALA | C | 285:ALA | N | 5.12 |
| 1 | AZ | 6152:C | O3' | 6153:A | P | 5.11 |
| 1 | BM | 142:GLN | C | 143:GLN | N | 5.10 |
| 1 | BP | 21:ASP | C | 22:LEU | N | 5.10 |
| 1 | Bb | 58:SER | C | 59:CYS | N | 5.09 |
| 1 | BT | 40:SER | C | 41:SER | N | 5.06 |
| 1 | A2 | 698:U | O3' | 699:U | P | 5.01 |
| 1 | BA | 46:HIS | C | 47:VAL | N | 5.01 |
| 1 | BH | 6:ALA | C | 7:LYS | N | 5.01 |
| 1 | BH | 13:PRO | C | 14:THR | N | 5.01 |
| 1 | BM | 72:ILE | C | 73:LYS | N | 4.99 |
| 1 | AZ | 6082:G | O3' | 6083:C | P | 4.96 |
| 1 | BD | 59:LEU | C | 60:GLY | N | 4.96 |

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| Model | Chain | Residue-1 | Atom-1 | Residue-2 | Atom-2 | Distance (Å) |
|---|---|---|---|---|---|---|
| 1 | A2 | 1449:U | O3' | 1450:U | P | 4.91 |
| 1 | A2 | 1713:G | O3' | 1714:A | P | 4.90 |
| 1 | BA | 81:PHE | C | 82:GLY | N | 4.90 |
| 1 | AZ | 6139:G | O3' | 6140:C | P | 4.89 |
| 1 | BG | 131:LYS | C | 132:ARG | N | 4.88 |
| 1 | BK | 70:GLU | C | 71:GLU | N | 4.86 |
| 1 | BP | 77:ARG | C | 78:THR | N | 4.81 |
| 1 | BS | 31:ALA | C | 32:LEU | N | 4.81 |
| 1 | A2 | 386:G | O3' | 387:A | P | 4.80 |
| 1 | A2 | 1555:A | O3' | 1556:A | P | 4.80 |
| 1 | BG | 147:LEU | C | 148:SER | N | 4.80 |
| 1 | A2 | 838:G | O3' | 839:U | P | 4.79 |
| 1 | BF | 100:ASN | C | 101:GLY | N | 4.78 |
| 1 | BU | 77:LYS | C | 78:THR | N | 4.78 |
| 1 | BC | 122:ALA | C | 123:GLY | N | 4.77 |
| 1 | A2 | 1540:G | O3' | 1541:G | P | 4.75 |
| 1 | Bg | 172:ALA | C | 173:GLY | N | 4.75 |
| 1 | BA | 189:VAL | C | 190:ASP | N | 4.73 |
| 1 | A2 | 1496:U | O3' | 1497:U | P | 4.71 |
| 1 | BF | 71:ALA | C | 72:HIS | N | 4.71 |
| 1 | BI | 150:ALA | C | 151:LYS | N | 4.71 |
| 1 | BM | 136:ILE | C | 137:MET | N | 4.71 |
| 1 | BG | 198:ALA | C | 199:GLN | N | 4.70 |
| 1 | BT | 62:ALA | C | 63:ARG | N | 4.70 |
| 1 | AZ | 6027:A | O3' | 6028:A | P | 4.69 |
| 1 | BM | 39:ASP | C | 40:GLY | N | 4.68 |
| 1 | BM | 76:GLU | C | 77:GLY | N | 4.68 |
| 1 | BS | 7:GLU | C | 8:GLN | N | 4.68 |
| 1 | BB | 36:SER | C | 37:THR | N | 4.67 |
| 1 | BD | 121:GLY | C | 122:VAL | N | 4.67 |
| 1 | BS | 16:ARG | C | 17:LEU | N | 4.67 |
| 1 | A2 | 76:A | O3' | 77:U | P | 4.66 |
| 1 | A2 | 1201:G | O3' | 1202:A | P | 4.66 |
| 1 | AZ | 6084:U | O3' | 6085:A | P | 4.66 |
| 1 | BF | 194:LEU | C | 195:ALA | N | 4.66 |
| 1 | A2 | 894:U | O3' | 895:G | P | 4.65 |
| 1 | Bg | 296:ALA | C | 297:ASP | N | 4.64 |
| 1 | BR | 22:PRO | C | 23:LYS | N | 4.63 |
| 1 | Bc | 34:GLU | C | 35:ASP | N | 4.63 |
| 1 | BR | 97:ASN | C | 98:GLY | N | 4.62 |
| 1 | Bg | 31:ASN | C | 32:LEU | N | 4.62 |
| 1 | BM | 117:GLY | C | 118:ALA | N | 4.61 |

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| Model | Chain | Residue-1 | Atom-1 | Residue-2 | Atom-2 | Distance (Å) |
|---|---|---|---|---|---|---|
| 1 | Bg | 276:PRO | C | 277:GLU | N | 4.61 |
| 1 | BH | 32:PRO | C | 33:GLU | N | 4.60 |
| 1 | BA | 115:PHE | C | 116:LYS | N | 4.59 |
| 1 | Bg | 301:LEU | C | 302:PHE | N | 4.57 |
| 1 | A2 | 648:G | O3' | 649:U | P | 4.55 |
| 1 | BR | 23:LYS | C | 24:LEU | N | 4.55 |
| 1 | BT | 27:LYS | C | 28:LEU | N | 4.55 |
| 1 | A2 | 278:U | O3' | 279:G | P | 4.54 |
| 1 | BA | 56:LYS | C | 57:LEU | N | 4.52 |
| 1 | BK | 60:SER | C | 61:TRP | N | 4.52 |
| 1 | BQ | 57:LEU | C | 58:ASP | N | 4.52 |
| 1 | A2 | 1305:U | O3' | 1306:C | P | 4.51 |
| 1 | BT | 52:GLY | C | 53:TRP | N | 4.51 |
| 1 | BH | 108:GLN | C | 109:VAL | N | 4.50 |
| 1 | BB | 93:GLY | C | 94:LYS | N | 4.49 |
| 1 | BQ | 5:PRO | C | 6:SER | N | 4.49 |
| 1 | BP | 92:SER | C | 93:VAL | N | 4.48 |
| 1 | BV | 19:ALA | C | 20:THR | N | 4.48 |
| 1 | BM | 50:LYS | C | 51:ALA | N | 4.46 |
| 1 | Bg | 159:ASN | C | 160:GLU | N | 4.46 |
| 1 | A2 | 1230:A | O3' | 1231:U | P | 4.44 |
| 1 | BT | 72:GLY | C | 73:VAL | N | 4.44 |
| 1 | Bg | 26:SER | C | 27:ALA | N | 4.43 |
| 1 | BG | 225:GLU | C | 226:ILE | N | 4.42 |
| 1 | BK | 30:ALA | C | 31:ALA | N | 4.42 |
| 1 | BJ | 71:PHE | C | 72:GLU | N | 4.41 |
| 1 | BR | 106:THR | C | 107:SER | N | 4.41 |
| 1 | A2 | 834:G | O3' | 835:U | P | 4.40 |
| 1 | A2 | 1535:U | O3' | 1536:G | P | 4.36 |
| 1 | BL | 5:LEU | C | 6:THR | N | 4.35 |
| 1 | Bf | 90:ALA | C | 91:LYS | N | 4.35 |
| 1 | A2 | 238:U | O3' | 239:C | P | 4.34 |
| 1 | A2 | 516:G | O3' | 517:U | P | 4.34 |
| 1 | Bg | 63:GLY | C | 64:HIS | N | 4.34 |
| 1 | BG | 138:ALA | C | 139:ASN | N | 4.33 |
| 1 | BT | 5:SER | C | 6:VAL | N | 4.32 |
| 1 | Bg | 148:ASN | C | 149:ASP | N | 4.32 |
| 1 | A2 | 145:A | O3' | 146:U | P | 4.31 |
| 1 | AZ | 6033:G | O3' | 6034:A | P | 4.31 |
| 1 | BV | 29:HIS | C | 30:ALA | N | 4.30 |
| 1 | BF | 199:ILE | C | 200:ASN | N | 4.29 |
| 1 | BG | 148:SER | C | 149:LYS | N | 4.29 |

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| Model | Chain | Residue-1 | Atom-1 | Residue-2 | Atom-2 | Distance (Å) |
|---|---|---|---|---|---|---|
| 1 | BG | 161:GLU | C | 162:VAL | N | 4.29 |
| 1 | Bd | 6:VAL | C | 7:TRP | N | 4.28 |
| 1 | Bg | 285:ALA | C | 286:GLU | N | 4.28 |
| 1 | BD | 35:SER | C | 36:GLY | N | 4.27 |
| 1 | BF | 203:LYS | C | 204:GLY | N | 4.27 |
| 1 | BK | 5:LYS | C | 6:GLU | N | 4.27 |
| 1 | BU | 74:GLU | C | 75:GLY | N | 4.27 |
| 1 | BZ | 103:ARG | C | 104:ALA | N | 4.27 |
| 1 | BD | 34:TYR | C | 35:SER | N | 4.26 |
| 1 | Bd | 11:PRO | C | 12:ARG | N | 4.26 |
| 1 | Bg | 136:ILE | C | 137:LYS | N | 4.26 |
| 1 | BH | 153:LEU | C | 154:LEU | N | 4.25 |
| 1 | BA | 33:GLN | C | 34:GLU | N | 4.24 |
| 1 | BP | 23:GLU | C | 24:LYS | N | 4.24 |
| 1 | Bg | 95:ALA | C | 96:THR | N | 4.24 |
| 1 | A2 | 233:C | O3' | 234:G | P | 4.23 |
| 1 | A2 | 1198:G | O3' | 1199:G | P | 4.23 |
| 1 | BI | 118:GLY | C | 119:GLN | N | 4.23 |
| 1 | Ba | 2:PRO | C | 3:LYS | N | 4.23 |
| 1 | BI | 181:GLY | C | 182:TYR | N | 4.22 |
| 1 | BM | 28:LEU | C | 29:LYS | N | 4.22 |
| 1 | BN | 60:VAL | C | 61:THR | N | 4.22 |
| 1 | Bg | 248:ASN | C | 249:ARG | N | 4.22 |
| 1 | A2 | 71:A | O3' | 72:A | P | 4.21 |
| 1 | BE | 236:ILE | C | 237:SER | N | 4.20 |
| 1 | A2 | 501:U | O3' | 502:U | P | 4.19 |
| 1 | BI | 162:ALA | C | 163:GLY | N | 4.19 |
| 1 | Bd | 9:SER | C | 10:HIS | N | 4.19 |
| 1 | A2 | 913:G | O3' | 914:G | P | 4.18 |
| 1 | A2 | 1178:G | O3' | 1179:G | P | 4.18 |
| 1 | Bg | 223:TRP | C | 224:ASN | N | 4.18 |
| 1 | A2 | 487:G | O3' | 488:G | P | 4.17 |
| 1 | BF | 94:THR | C | 95:ASN | N | 4.17 |
| 1 | BH | 160:GLN | C | 161:GLN | N | 4.17 |
| 1 | BA | 72:ASP | C | 73:VAL | N | 4.16 |
| 1 | Bb | 2:VAL | C | 3:LEU | N | 4.16 |
| 1 | A2 | 1353:U | O3' | 1354:G | P | 4.15 |
| 1 | BP | 115:TYR | C | 116:LEU | N | 4.15 |
| 1 | A2 | 1284:C | O3' | 1285:U | P | 4.14 |
| 1 | BK | 17:GLN | C | 18:GLU | N | 4.14 |
| 1 | AZ | 6055:U | O3' | 6056:U | P | 4.13 |
| 1 | Bc | 61:ARG | C | 62:GLU | N | 4.13 |

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| Model | Chain | Residue-1 | Atom-1 | Residue-2 | Atom-2 | Distance (Å) |
|---|---|---|---|---|---|---|
| 1 | A2 | 839:U | O3' | 840:U | P | 4.12 |
| 1 | A2 | 1609:U | O3' | 1610:G | P | 4.12 |
| 1 | BF | 191:ALA | C | 192:GLU | N | 4.12 |
| 1 | Bg | 262:VAL | C | 263:PHE | N | 4.12 |
| 1 | Bg | 258:THR | C | 259:GLY | N | 4.11 |
| 1 | A2 | 1298:U | O3' | 1299:G | P | 4.10 |
| 1 | BG | 37:ASP | C | 38:GLY | N | 4.10 |
| 1 | A2 | 1350:U | O3' | 1351:G | P | 4.09 |
| 1 | BS | 126:ARG | C | 127:HIS | N | 4.09 |
| 1 | Bf | 114:VAL | C | 115:THR | N | 4.09 |
| 1 | Bg | 7:LEU | C | 8:VAL | N | 4.09 |
| 1 | BQ | 132:LYS | C | 133:GLY | N | 4.08 |
| 1 | BY | 41:ARG | C | 42:GLU | N | 4.07 |
| 1 | A2 | 57:G | O3' | 58:U | P | 4.06 |
| 1 | A2 | 710:U | O3' | 711:U | P | 4.06 |
| 1 | A2 | 1569:A | O3' | 1570:A | P | 4.06 |
| 1 | BA | 31:VAL | C | 32:HIS | N | 4.06 |
| 1 | BH | 86:GLN | C | 87:ASP | N | 4.06 |
| 1 | AZ | 6178:A | O3' | 6179:A | P | 4.04 |
| 1 | BI | 92:ARG | C | 93:THR | N | 4.04 |
| 1 | BM | 93:ASP | C | 94:ALA | N | 4.04 |
| 1 | A2 | 280:U | O3' | 281:G | P | 4.03 |
| 1 | BT | 122:ARG | C | 123:ARG | N | 4.03 |
| 1 | BW | 24:GLN | C | 25:VAL | N | 4.03 |
| 1 | Bg | 289:ALA | C | 290:VAL | N | 4.02 |
| 1 | BF | 202:ALA | C | 203:LYS | N | 4.01 |
| 1 | BM | 100:TRP | C | 101:ALA | N | 4.01 |
| 1 | A2 | 473:A | O3' | 474:A | P | 4.00 |
| 1 | A2 | 861:U | O3' | 862:A | P | 4.00 |
| 1 | A2 | 831:U | O3' | 832:U | P | 3.99 |
| 1 | Bd | 50:ILE | C | 51:GLY | N | 3.99 |
| 1 | A2 | 1644:C | O3' | 1645:G | P | 3.98 |
| 1 | BR | 54:THR | C | 55:THR | N | 3.98 |
| 1 | A2 | 1580:C | O3' | 1581:C | P | 3.97 |
| 1 | BB | 227:ALA | C | 228:LEU | N | 3.97 |
| 1 | BK | 29:GLN | C | 30:ALA | N | 3.96 |
| 1 | BR | 27:ASP | C | 28:PHE | N | 3.96 |
| 1 | A2 | 182:A | O3' | 183:U | P | 3.95 |
| 1 | BI | 120:THR | C | 121:LEU | N | 3.95 |
| 1 | A2 | 828:U | O3' | 829:A | P | 3.94 |
| 1 | BB | 96:LEU | C | 97:LEU | N | 3.94 |
| 1 | BO | 97:GLY | C | 98:GLY | N | 3.94 |

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| Model | Chain | Residue-1 | Atom-1 | Residue-2 | Atom-2 | Distance (Å) |
|---|---|---|---|---|---|---|
| 1 | Bg | 99:THR | C | 100:TYR | N | 3.94 |
| 1 | BA | 100:GLY | C | 101:ARG | N | 3.93 |
| 1 | BR | 102:VAL | C | 103:ASP | N | 3.93 |
| 1 | BS | 71:GLN | C | 72:ILE | N | 3.93 |
| 1 | Be | 43:ARG | C | 44:PHE | N | 3.93 |
| 1 | BB | 73:LEU | C | 74:GLN | N | 3.92 |
| 1 | Bb | 42:ASN | C | 43:ILE | N | 3.92 |
| 1 | Bg | 206:PRO | C | 207:ASP | N | 3.92 |
| 1 | A2 | 131:C | O3' | 132:U | P | 3.91 |
| 1 | A2 | 478:A | O3' | 479:C | P | 3.91 |
| 1 | A2 | 885:G | O3' | 886:U | P | 3.91 |
| 1 | BQ | 71:GLY | C | 72:GLY | N | 3.91 |
| 1 | BX | 36:THR | C | 37:ALA | N | 3.91 |
| 1 | A2 | 471:A | O3' | 472:U | P | 3.90 |
| 1 | BC | 89:GLN | C | 90:THR | N | 3.90 |
| 1 | BT | 104:VAL | C | 105:LEU | N | 3.90 |
| 1 | BH | 146:GLY | C | 147:ASN | N | 3.89 |
| 1 | BS | 120:ARG | C | 121:ALA | N | 3.89 |
| 1 | A2 | 1560:U | O3' | 1561:U | P | 3.88 |
| 1 | BA | 179:ARG | C | 180:GLU | N | 3.88 |
| 1 | BF | 212:LYS | C | 213:LYS | N | 3.88 |
| 1 | BI | 144:ALA | C | 145:ALA | N | 3.88 |
| 1 | A2 | 644:C | O3' | 645:C | P | 3.87 |
| 1 | BQ | 36:ILE | C | 37:THR | N | 3.86 |
| 1 | BQ | 51:PRO | C | 52:LEU | N | 3.86 |
| 1 | BZ | 49:ARG | C | 50:ILE | N | 3.86 |
| 1 | Bf | 148:TYR | C | 149:LYS | N | 3.86 |
| 1 | BA | 48:ILE | C | 49:ASN | N | 3.85 |
| 1 | BB | 151:LYS | C | 152:ALA | N | 3.85 |
| 1 | Bc | 65:ARG | C | 66:LEU | N | 3.85 |
| 1 | Bd | 55:PHE | C | 56:ARG | N | 3.85 |
| 1 | BB | 71:ALA | C | 72:ASP | N | 3.83 |
| 1 | BE | 126:VAL | C | 127:LYS | N | 3.83 |
| 1 | BG | 112:VAL | C | 113:ILE | N | 3.82 |
| 1 | BR | 2:GLY | C | 3:ARG | N | 3.82 |
| 1 | BS | 26:ILE | C | 27:LYS | N | 3.82 |
| 1 | A2 | 704:C | O3' | 705:U | P | 3.81 |
| 1 | A2 | 1294:G | O3' | 1295:G | P | 3.81 |
| 1 | AZ | 6200:U | O3' | 6201:U | P | 3.81 |
| 1 | BA | 45:VAL | C | 46:HIS | N | 3.81 |
| 1 | BK | 91:TYR | C | 92:ILE | N | 3.81 |
| 1 | Bd | 7:TRP | C | 8:PHE | N | 3.81 |

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| Model | Chain | Residue-1 | Atom-1 | Residue-2 | Atom-2 | Distance (Å) |
|---|---|---|---|---|---|---|
| 1 | Bg | 227:ALA | C | 228:LYS | N | 3.81 |
| 1 | BU | 102:ARG | C | 103:ILE | N | 3.80 |
| 1 | A2 | 195:G | O3' | 196:G | P | 3.79 |
| 1 | A2 | 1042:G | O3' | 1043:A | P | 3.79 |
| 1 | A2 | 82:U | O3' | 83:G | P | 3.78 |
| 1 | BD | 55:THR | C | 56:GLN | N | 3.78 |
| 1 | BP | 59:LYS | C | 60:LEU | N | 3.78 |
| 1 | A2 | 1069:A | O3' | 1070:C | P | 3.77 |
| 1 | A2 | 1180:C | O3' | 1181:U | P | 3.77 |
| 1 | BA | 123:VAL | C | 124:THR | N | 3.77 |
| 1 | BB | 204:ILE | C | 205:PHE | N | 3.77 |
| 1 | BH | 5:GLN | C | 6:ALA | N | 3.77 |
| 1 | BM | 103:LEU | C | 104:GLY | N | 3.77 |
| 1 | BT | 28:LEU | C | 29:GLU | N | 3.77 |
| 1 | BF | 47:SER | C | 48:PHE | N | 3.76 |
| 1 | BH | 106:SER | C | 107:ARG | N | 3.76 |
| 1 | Bg | 97:GLY | C | 98:GLU | N | 3.76 |
| 1 | BF | 38:THR | C | 39:GLU | N | 3.75 |
| 1 | BO | 82:LYS | C | 83:ILE | N | 3.75 |
| 1 | BW | 98:GLN | C | 99:PHE | N | 3.75 |
| 1 | Bg | 151:VAL | C | 152:SER | N | 3.75 |
| 1 | BA | 146:LEU | C | 147:THR | N | 3.74 |
| 1 | BI | 111:GLN | C | 112:TRP | N | 3.74 |
| 1 | BV | 51:VAL | C | 52:THR | N | 3.74 |
| 1 | A2 | 1409:G | O3' | 1410:A | P | 3.73 |
| 1 | BT | 22:LEU | C | 23:GLN | N | 3.73 |
| 1 | A2 | 1373:C | O3' | 1374:C | P | 3.72 |
| 1 | AZ | 6038:U | O3' | 6039:G | P | 3.72 |
| 1 | BE | 78:THR | C | 79:ASP | N | 3.72 |
| 1 | BU | 101:LYS | C | 102:ARG | N | 3.72 |
| 1 | A2 | 414:C | O3' | 415:C | P | 3.71 |
| 1 | A2 | 734:A | O3' | 735:C | P | 3.71 |
| 1 | BU | 87:HIS | C | 88:LYS | N | 3.71 |
| 1 | A2 | 1297:G | O3' | 1298:U | P | 3.70 |
| 1 | BF | 69:PHE | C | 70:VAL | N | 3.69 |
| 1 | BF | 112:ARG | C | 113:ILE | N | 3.69 |
| 1 | BQ | 70:THR | C | 71:GLY | N | 3.69 |
| 1 | BY | 64:PHE | C | 65:GLY | N | 3.69 |
| 1 | A2 | 88:U | O3' | 89:G | P | 3.68 |
| 1 | A2 | 1788:G | O3' | 1789:G | P | 3.68 |
| 1 | BJ | 28:LEU | C | 29:LYS | N | 3.68 |
| 1 | Bd | 35:GLY | C | 36:LEU | N | 3.68 |

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| Model | Chain | Residue-1 | Atom-1 | Residue-2 | Atom-2 | Distance (Å) |
|---|---|---|---|---|---|---|
| 1 | A2 | 743:U | O3' | 744:U | P | 3.67 |
| 1 | BE | 260:GLY | C | 261:LEU | N | 3.67 |
| 1 | BQ | 128:LYS | C | 129:PHE | N | 3.67 |
| 1 | A2 | 197:A | O3' | 198:A | P | 3.66 |
| 1 | A2 | 1327:C | O3' | 1328:G | P | 3.66 |
| 1 | AZ | 6177:A | O3' | 6178:A | P | 3.66 |
| 1 | BI | 55:TYR | C | 56:ARG | N | 3.66 |
| 1 | A2 | 783:G | O3' | 784:C | P | 3.65 |
| 1 | A2 | 889:U | O3' | 890:C | P | 3.65 |
| 1 | BE | 201:HIS | C | 202:ASP | N | 3.65 |
| 1 | BT | 75:LYS | C | 76:LEU | N | 3.65 |
| 1 | A2 | 629:U | O3' | 630:A | P | 3.64 |
| 1 | A2 | 1509:C | O3' | 1510:U | P | 3.64 |
| 1 | BE | 130:GLN | C | 131:LEU | N | 3.64 |
| 1 | BF | 58:LEU | C | 59:VAL | N | 3.64 |
| 1 | BZ | 93:SER | C | 94:LYS | N | 3.64 |
| 1 | A2 | 544:A | O3' | 545:A | P | 3.63 |
| 1 | A2 | 843:U | O3' | 844:A | P | 3.63 |
| 1 | BD | 196:ARG | C | 197:THR | N | 3.63 |
| 1 | BI | 39:GLY | C | 40:ALA | N | 3.63 |
| 1 | BS | 17:LEU | C | 18:LEU | N | 3.63 |
| 1 | BT | 39:THR | C | 40:SER | N | 3.63 |
| 1 | BV | 72:LEU | C | 73:ALA | N | 3.63 |
| 1 | BT | 14:PHE | C | 15:ILE | N | 3.62 |
| 1 | BM | 118:ALA | C | 119:SER | N | 3.61 |
| 1 | Be | 19:PRO | C | 20:LYS | N | 3.61 |
| 1 | A2 | 369:A | O3' | 370:A | P | 3.60 |
| 1 | AZ | 6111:G | O3' | 6112:C | P | 3.60 |
| 1 | AZ | 6191:A | O3' | 6195:G | P | 3.60 |
| 1 | BA | 8:ASP | C | 9:LEU | N | 3.60 |
| 1 | BC | 98:PHE | C | 99:LYS | N | 3.60 |
| 1 | BI | 93:THR | C | 94:ASN | N | 3.60 |
| 1 | BK | 37:THR | C | 38:LYS | N | 3.60 |
| 1 | Bg | 254:ALA | C | 255:ALA | N | 3.60 |
| 1 | A2 | 370:A | O3' | 371:G | P | 3.59 |
| 1 | A2 | 829:A | O3' | 830:U | P | 3.59 |
| 1 | BA | 144:ILE | C | 145:ALA | N | 3.59 |
| 1 | BD | 39:VAL | C | 40:ARG | N | 3.59 |
| 1 | BZ | 102:THR | C | 103:ARG | N | 3.59 |
| 1 | Bb | 54:VAL | C | 55:THR | N | 3.59 |
| 1 | A2 | 1370:U | O3' | 1371:A | P | 3.58 |
| 1 | BA | 70:PRO | C | 71:GLU | N | 3.58 |

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| Model | Chain | Residue-1 | Atom-1 | Residue-2 | Atom-2 | Distance (Å) |
|---|---|---|---|---|---|---|
| 1 | BH | 56:LYS | C | 57:ALA | N | 3.58 |
| 1 | BI | 80:GLY | C | 81:VAL | N | 3.58 |
| 1 | BF | 40:ILE | C | 41:LYS | N | 3.57 |
| 1 | BS | 69:ILE | C | 70:VAL | N | 3.57 |
| 1 | Be | 36:LYS | C | 37:ARG | N | 3.57 |
| 1 | BL | 26:LYS | C | 27:THR | N | 3.56 |
| 1 | BY | 114:ARG | C | 115:ASP | N | 3.56 |
| 1 | Bd | 37:ASN | C | 38:ILE | N | 3.56 |
| 1 | Bg | 103:PHE | C | 104:VAL | N | 3.56 |
| 1 | A2 | 396:G | O3' | 397:A | P | 3.55 |
| 1 | A2 | 1224:A | O3' | 1225:U | P | 3.55 |
| 1 | BU | 31:VAL | C | 32:LYS | N | 3.55 |
| 1 | BW | 17:ALA | C | 18:GLU | N | 3.55 |
| 1 | Bc | 66:LEU | C | 67:ARG | N | 3.55 |
| 1 | A2 | 241:U | O3' | 242:U | P | 3.54 |
| 1 | A2 | 1578:U | O3' | 1579:U | P | 3.54 |
| 1 | AZ | 6058:A | O3' | 6059:G | P | 3.54 |
| 1 | BH | 111:LYS | C | 112:ARG | N | 3.54 |
| 1 | BI | 89:GLU | C | 90:LEU | N | 3.54 |
| 1 | BM | 121:VAL | C | 122:VAL | N | 3.54 |
| 1 | BP | 30:THR | C | 31:GLU | N | 3.54 |
| 1 | BT | 19:ALA | C | 20:SER | N | 3.54 |
| 1 | A2 | 1667:A | O3' | 1668:G | P | 3.53 |
| 1 | AZ | 6211:U | O3' | 6212:U | P | 3.53 |
| 1 | BF | 149:VAL | C | 150:GLY | N | 3.53 |
| 1 | BI | 43:ILE | C | 44:HIS | N | 3.53 |
| 1 | BU | 65:ILE | C | 66:SER | N | 3.53 |
| 1 | BU | 108:ILE | C | 109:GLU | N | 3.53 |
| 1 | BY | 65:GLY | C | 66:GLY | N | 3.53 |
| 1 | Bg | 57:PRO | C | 58:VAL | N | 3.53 |
| 1 | Bg | 183:LEU | C | 184:ASN | N | 3.53 |
| 1 | BA | 13:ASP | C | 14:ALA | N | 3.52 |
| 1 | BB | 129:THR | C | 130:SER | N | 3.52 |
| 1 | BF | 73:THR | C | 74:ALA | N | 3.52 |
| 1 | BH | 107:ARG | C | 108:GLN | N | 3.52 |
| 1 | BM | 41:LEU | C | 42:ALA | N | 3.52 |
| 1 | BS | 64:GLU | C | 65:GLU | N | 3.52 |
| 1 | A2 | 1202:A | O3' | 1203:A | P | 3.51 |
| 1 | BN | 72:MET | C | 73:ARG | N | 3.51 |
| 1 | A2 | 525:A | O3' | 526:A | P | 3.50 |
| 1 | A2 | 1536:G | O3' | 1537:C | P | 3.50 |
| 1 | BA | 86:VAL | C | 87:LEU | N | 3.50 |

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| Model | Chain | Residue-1 | Atom-1 | Residue-2 | Atom-2 | Distance (Å) |
|---|---|---|---|---|---|---|
| 1 | BF | 148:ARG | C | 149:VAL | N | 3.50 |
| 1 | A2 | 1451:C | O3' | 1452:U | P | 3.49 |
| 1 | A2 | 1680:G | O3' | 1681:A | P | 3.49 |
| 1 | BT | 133:ASP | C | 134:ARG | N | 3.49 |
| 1 | A2 | 676:G | O3' | 677:G | P | 3.48 |
| 1 | AZ | 6149:A | O3' | 6150:U | P | 3.48 |
| 1 | BG | 220:LYS | C | 221:ALA | N | 3.48 |
| 1 | BJ | 77:ILE | C | 78:ARG | N | 3.48 |
| 1 | BM | 104:GLY | C | 105:LYS | N | 3.48 |
| 1 | BM | 119:SER | C | 120:VAL | N | 3.48 |
| 1 | BW | 51:GLU | C | 52:TYR | N | 3.48 |
| 1 | BW | 83:ILE | C | 84:GLY | N | 3.48 |
| 1 | Bb | 61:THR | C | 62:ILE | N | 3.48 |
| 1 | A2 | 1645:G | O3' | 1646:C | P | 3.47 |
| 1 | BA | 202:TYR | C | 203:PHE | N | 3.47 |
| 1 | BB | 153:HIS | C | 154:SER | N | 3.47 |
| 1 | BI | 110:ARG | C | 111:GLN | N | 3.47 |
| 1 | BP | 58:LYS | C | 59:LYS | N | 3.47 |
| 1 | BW | 3:ARG | C | 4:SER | N | 3.47 |
| 1 | Bg | 278:PHE | C | 279:ALA | N | 3.47 |
| 1 | A2 | 66:U | O3' | 67:A | P | 3.46 |
| 1 | BA | 40:ALA | C | 41:ARG | N | 3.46 |
| 1 | BB | 199:ASN | C | 200:ALA | N | 3.46 |
| 1 | BE | 217:THR | C | 218:PHE | N | 3.46 |
| 1 | BG | 12:SER | C | 13:GLN | N | 3.46 |
| 1 | BQ | 12:LYS | C | 13:LYS | N | 3.46 |
| 1 | BR | 78:ARG | C | 79:GLU | N | 3.46 |
| 1 | Bg | 101:GLN | C | 102:ARG | N | 3.46 |
| 1 | BI | 15:GLY | C | 16:ALA | N | 3.45 |
| 1 | Bg | 32:LEU | C | 33:LEU | N | 3.45 |
| 1 | A2 | 867:G | O3' | 868:G | P | 3.44 |
| 1 | BJ | 161:THR | C | 162:SER | N | 3.44 |
| 1 | BZ | 53:GLU | C | 54:VAL | N | 3.44 |
| 1 | Bg | 55:GLY | C | 56:VAL | N | 3.44 |
| 1 | Bg | 108:SER | C | 109:ASP | N | 3.44 |
| 1 | Bg | 215:GLY | C | 216:LYS | N | 3.44 |
| 1 | BE | 241:GLY | C | 242:LYS | N | 3.43 |
| 1 | BG | 160:ARG | C | 161:GLU | N | 3.43 |
| 1 | BP | 78:THR | C | 79:HIS | N | 3.43 |
| 1 | BP | 123:TYR | C | 124:THR | N | 3.43 |
| 1 | Ba | 61:GLU | C | 62:TYR | N | 3.43 |
| 1 | A2 | 397:A | O3' | 398:G | P | 3.42 |

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| Model | Chain | Residue-1 | Atom-1 | Residue-2 | Atom-2 | Distance (Å) |
|---|---|---|---|---|---|---|
| 1 | BC | 86:VAL | C | 87:GLN | N | 3.42 |
| 1 | BM | 29:LYS | C | 30:VAL | N | 3.42 |
| 1 | A2 | 792:U | O3' | 793:A | P | 3.41 |
| 1 | A2 | 1246:C | O3' | 1247:U | P | 3.41 |
| 1 | BF | 39:GLU | C | 40:ILE | N | 3.41 |
| 1 | BF | 48:PHE | C | 49:GLU | N | 3.41 |
| 1 | BG | 153:VAL | C | 154:ARG | N | 3.41 |
| 1 | A2 | 257:A | O3' | 258:C | P | 3.40 |
| 1 | A2 | 371:G | O3' | 372:G | P | 3.40 |
| 1 | A2 | 781:U | O3' | 782:U | P | 3.40 |
| 1 | A2 | 1787:C | O3' | 1788:G | P | 3.40 |
| 1 | AZ | 6174:G | O3' | 6175:A | P | 3.40 |
| 1 | BF | 211:ILE | C | 212:LYS | N | 3.40 |
| 1 | BG | 141:ILE | C | 142:ARG | N | 3.40 |
| 1 | BQ | 68:ARG | C | 69:VAL | N | 3.40 |
| 1 | BU | 40:ASN | C | 41:ILE | N | 3.40 |
| 1 | A2 | 1492:A | O3' | 1493:A | P | 3.39 |
| 1 | BB | 72:ASP | C | 73:LEU | N | 3.39 |
| 1 | BB | 123:ALA | C | 124:ASN | N | 3.39 |
| 1 | BB | 130:SER | C | 131:ASP | N | 3.39 |
| 1 | BD | 119:ALA | C | 120:TYR | N | 3.39 |
| 1 | BE | 131:LEU | C | 132:GLY | N | 3.39 |
| 1 | BS | 30:TYR | C | 31:ALA | N | 3.39 |
| 1 | A2 | 461:G | O3' | 462:G | P | 3.38 |
| 1 | A2 | 1061:A | O3' | 1062:A | P | 3.38 |
| 1 | A2 | 1362:U | O3' | 1363:U | P | 3.38 |
| 1 | A2 | 1406:A | O3' | 1407:U | P | 3.38 |
| 1 | BL | 75:VAL | C | 76:VAL | N | 3.38 |
| 1 | BO | 85:ALA | C | 86:THR | N | 3.38 |
| 1 | Bb | 6:ASP | C | 7:LEU | N | 3.38 |
| 1 | A2 | 1672:G | O3' | 1673:G | P | 3.37 |
| 1 | AZ | 6132:A | O3' | 6133:G | P | 3.37 |
| 1 | BJ | 81:VAL | C | 82:ARG | N | 3.37 |
| 1 | BL | 42:PHE | C | 43:LYS | N | 3.37 |
| 1 | BR | 26:LEU | C | 27:ASP | N | 3.37 |
| 1 | Bb | 34:ASP | C | 35:VAL | N | 3.37 |
| 1 | Bd | 36:LEU | C | 37:ASN | N | 3.37 |
| 1 | BG | 181:PRO | C | 182:GLN | N | 3.36 |
| 1 | BH | 155:ASP | C | 156:SER | N | 3.36 |
| 1 | Bg | 300:THR | C | 301:LEU | N | 3.36 |
| 1 | A2 | 1266:U | O3' | 1267:G | P | 3.35 |
| 1 | A2 | 1308:G | O3' | 1309:C | P | 3.35 |

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| Model | Chain | Residue-1 | Atom-1 | Residue-2 | Atom-2 | Distance (Å) |
|---|---|---|---|---|---|---|
| 1 | BJ | 20:GLU | C | 21:SER | N | 3.35 |
| 1 | A2 | 1434:U | O3' | 1435:G | P | 3.34 |
| 1 | A2 | 1474:G | O3' | 1475:A | P | 3.34 |
| 1 | A2 | 1499:G | O3' | 1500:C | P | 3.34 |
| 1 | A2 | 1576:A | O3' | 1577:A | P | 3.34 |
| 1 | AZ | 6181:C | O3' | 6186:U | P | 3.34 |
| 1 | BP | 71:GLU | C | 72:LYS | N | 3.34 |
| 1 | A2 | 850:A | O3' | 851:U | P | 3.33 |
| 1 | A2 | 1321:A | O3' | 1322:A | P | 3.33 |
| 1 | BD | 61:GLU | C | 62:ASN | N | 3.33 |
| 1 | BG | 27:PHE | C | 28:PHE | N | 3.33 |
| 1 | BT | 21:PHE | C | 22:LEU | N | 3.33 |
| 1 | A2 | 500:C | O3' | 501:U | P | 3.32 |
| 1 | A2 | 1001:A | O3' | 1002:G | P | 3.32 |
| 1 | A2 | 1366:U | O3' | 1367:G | P | 3.32 |
| 1 | A2 | 1711:C | O3' | 1712:A | P | 3.32 |
| 1 | AZ | 6101:U | O3' | 6102:A | P | 3.32 |
| 1 | BA | 95:ALA | C | 96:THR | N | 3.32 |
| 1 | BB | 229:MET | C | 230:ALA | N | 3.32 |
| 1 | BF | 22:PRO | C | 23:VAL | N | 3.32 |
| 1 | BI | 83:TYR | C | 84:HIS | N | 3.32 |
| 1 | Bg | 294:TRP | C | 295:SER | N | 3.32 |
| 1 | A2 | 505:A | O3' | 506:A | P | 3.31 |
| 1 | A2 | 538:A | O3' | 539:G | P | 3.31 |
| 1 | A2 | 555:A | O3' | 556:A | P | 3.31 |
| 1 | A2 | 745:U | O3' | 746:A | P | 3.31 |
| 1 | A2 | 762:A | O3' | 763:G | P | 3.31 |
| 1 | A2 | 1163:A | O3' | 1164:G | P | 3.31 |
| 1 | A2 | 1346:A | O3' | 1347:U | P | 3.31 |
| 1 | BG | 139:ASN | C | 140:ASN | N | 3.31 |
| 1 | BJ | 83:VAL | C | 84:GLY | N | 3.31 |
| 1 | BK | 19:GLY | C | 20:VAL | N | 3.31 |
| 1 | BX | 22:ASN | C | 23:ARG | N | 3.31 |
| 1 | Bg | 222:LEU | C | 223:TRP | N | 3.31 |
| 1 | A2 | 479:C | O3' | 480:G | P | 3.30 |
| 1 | AZ | 6122:C | O3' | 6123:A | P | 3.30 |
| 1 | BD | 91:VAL | C | 92:GLN | N | 3.30 |
| 1 | BG | 24:ILE | C | 25:ARG | N | 3.30 |
| 1 | BG | 36:VAL | C | 37:ASP | N | 3.30 |
| 1 | BI | 8:ARG | C | 9:HIS | N | 3.30 |
| 1 | BI | 64:ASN | C | 65:PHE | N | 3.30 |
| 1 | BP | 41:VAL | C | 42:ARG | N | 3.30 |

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| Model | Chain | Residue-1 | Atom-1 | Residue-2 | Atom-2 | Distance (Å) |
|---|---|---|---|---|---|---|
| 1 | BS | 87:ASN | C | 88:ARG | N | 3.30 |
| 1 | Bb | 52:THR | C | 53:ALA | N | 3.30 |
| 1 | Bg | 231:MET | C | 232:TYR | N | 3.30 |
| 1 | A2 | 638:U | O3' | 639:U | P | 3.29 |
| 1 | A2 | 882:U | O3' | 883:C | P | 3.29 |
| 1 | A2 | 1456:C | O3' | 1457:C | P | 3.29 |
| 1 | A2 | 1494:C | O3' | 1495:C | P | 3.29 |
| 1 | BB | 40:ASN | C | 41:ALA | N | 3.29 |
| 1 | BD | 117:ARG | C | 118:ALA | N | 3.29 |
| 1 | BF | 138:THR | C | 139:ASN | N | 3.29 |
| 1 | BF | 182:ALA | C | 183:ALA | N | 3.29 |
| 1 | BS | 61:LEU | C | 62:THR | N | 3.29 |
| 1 | BS | 93:THR | C | 94:ASP | N | 3.29 |
| 1 | BS | 114:GLU | C | 115:ARG | N | 3.29 |
| 1 | BX | 82:LYS | C | 83:VAL | N | 3.29 |
| 1 | Ba | 51:ARG | C | 52:ASP | N | 3.29 |
| 1 | Bg | 141:LEU | C | 142:ALA | N | 3.29 |
| 1 | Bg | 226:ALA | C | 227:ALA | N | 3.29 |
| 1 | Bg | 242:SER | C | 243:LEU | N | 3.29 |
| 1 | A2 | 914:G | O3' | 915:A | P | 3.28 |
| 1 | A2 | 1365:C | O3' | 1366:U | P | 3.28 |
| 1 | AZ | 6059:G | O3' | 6060:A | P | 3.28 |
| 1 | AZ | 6107:U | O3' | 6108:U | P | 3.28 |
| 1 | BE | 189:LEU | C | 190:GLY | N | 3.28 |
| 1 | BI | 38:ILE | C | 39:GLY | N | 3.28 |
| 1 | BI | 97:THR | C | 98:LYS | N | 3.28 |
| 1 | BP | 47:ARG | C | 48:GLY | N | 3.28 |
| 1 | BS | 10:SER | C | 11:PHE | N | 3.28 |
| 1 | BS | 94:ASP | C | 95:GLY | N | 3.28 |
| 1 | BX | 75:GLN | C | 76:LEU | N | 3.28 |
| 1 | BZ | 68:ARG | C | 69:LEU | N | 3.28 |
| 1 | A2 | 110:U | O3' | 111:U | P | 3.27 |
| 1 | A2 | 252:U | O3' | 253:A | P | 3.27 |
| 1 | A2 | 1302:U | O3' | 1303:U | P | 3.27 |
| 1 | BD | 224:ASP | C | 225:TYR | N | 3.27 |
| 1 | BE | 95:THR | C | 96:ASN | N | 3.27 |
| 1 | BG | 104:PRO | C | 105:ASP | N | 3.27 |
| 1 | BH | 175:LYS | C | 176:LEU | N | 3.27 |
| 1 | BQ | 56:GLY | C | 57:LEU | N | 3.27 |
| 1 | BS | 72:ILE | C | 73:MET | N | 3.27 |
| 1 | BS | 109:LEU | C | 110:ARG | N | 3.27 |
| 1 | BT | 126:GLU | C | 127:ASN | N | 3.27 |

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| Model | Chain | Residue-1 | Atom-1 | Residue-2 | Atom-2 | Distance (Å) |
|---|---|---|---|---|---|---|
| 1 | Ba | 12:LYS | C | 13:LYS | N | 3.27 |
| 1 | Bc | 29:ARG | C | 30:VAL | N | 3.27 |
| 1 | Bg | 15:GLY | C | 16:HIS | N | 3.27 |
| 1 | A2 | 1117:U | O3' | 1118:G | P | 3.26 |
| 1 | BB | 195:LYS | C | 196:GLU | N | 3.26 |
| 1 | BE | 110:ALA | C | 111:VAL | N | 3.26 |
| 1 | BE | 175:PHE | C | 176:ASP | N | 3.26 |
| 1 | BH | 89:HIS | C | 90:VAL | N | 3.26 |
| 1 | BI | 91:VAL | C | 92:ARG | N | 3.26 |
| 1 | BI | 99:ALA | C | 100:ALA | N | 3.26 |
| 1 | BQ | 80:ALA | C | 81:ILE | N | 3.26 |
| 1 | BW | 48:GLY | C | 49:GLU | N | 3.26 |
| 1 | Bd | 54:LYS | C | 55:PHE | N | 3.26 |
| 1 | A2 | 389:G | O3' | 390:G | P | 3.25 |
| 1 | A2 | 1254:U | O3' | 1255:G | P | 3.25 |
| 1 | A2 | 1332:C | O3' | 1333:C | P | 3.25 |
| 1 | AZ | 6163:C | O3' | 6164:U | P | 3.25 |
| 1 | BA | 197:ILE | C | 198:MET | N | 3.25 |
| 1 | BB | 202:LYS | C | 203:ASP | N | 3.25 |
| 1 | BE | 40:GLU | C | 41:SER | N | 3.25 |
| 1 | BF | 215:ASP | C | 216:GLU | N | 3.25 |
| 1 | BG | 32:ILE | C | 33:GLY | N | 3.25 |
| 1 | BH | 8:ILE | C | 9:LEU | N | 3.25 |
| 1 | BI | 119:GLN | C | 120:THR | N | 3.25 |
| 1 | BI | 158:SER | C | 159:GLN | N | 3.25 |
| 1 | BK | 88:PRO | C | 89:GLY | N | 3.25 |
| 1 | BU | 104:THR | C | 105:GLN | N | 3.25 |
| 1 | Bg | 245:PHE | C | 246:SER | N | 3.25 |
| 1 | Bg | 271:VAL | C | 272:ASP | N | 3.25 |
| 1 | A2 | 750:U | O3' | 751:G | P | 3.24 |
| 1 | BD | 51:ARG | C | 52:ALA | N | 3.24 |
| 1 | BD | 172:THR | C | 173:ARG | N | 3.24 |
| 1 | BD | 176:LEU | C | 177:MET | N | 3.24 |
| 1 | BF | 95:ASN | C | 96:SER | N | 3.24 |
| 1 | BF | 189:THR | C | 190:ILE | N | 3.24 |
| 1 | BL | 143:SER | C | 144:ALA | N | 3.24 |
| 1 | BQ | 83:GLN | C | 84:ALA | N | 3.24 |
| 1 | BR | 7:LYS | C | 8:THR | N | 3.24 |
| 1 | BU | 61:LYS | C | 62:VAL | N | 3.24 |
| 1 | Bb | 12:ALA | C | 13:ALA | N | 3.24 |
| 1 | Be | 9:ALA | C | 10:ARG | N | 3.24 |
| 1 | Be | 35:TYR | C | 36:LYS | N | 3.24 |

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| Model | Chain | Residue-1 | Atom-1 | Residue-2 | Atom-2 | Distance (Å) |
|---|---|---|---|---|---|---|
| 1 | A2 | 643:G | O3' | 644:C | P | 3.23 |
| 1 | A2 | 987:G | O3' | 988:A | P | 3.23 |
| 1 | A2 | 1735:U | O3' | 1736:G | P | 3.23 |
| 1 | AZ | 6053:U | O3' | 6054:U | P | 3.23 |
| 1 | BD | 56:GLN | C | 57:ASP | N | 3.23 |
| 1 | BD | 120:TYR | C | 121:GLY | N | 3.23 |
| 1 | BF | 99:MET | C | 100:ASN | N | 3.23 |
| 1 | BQ | 3:ALA | C | 4:VAL | N | 3.23 |
| 1 | BU | 37:VAL | C | 38:SER | N | 3.23 |
| 1 | BX | 34:LEU | C | 35:GLY | N | 3.23 |
| 1 | BY | 130:ALA | C | 131:ARG | N | 3.23 |
| 1 | Bb | 36:LYS | C | 37:CYS | N | 3.23 |
| 1 | Bg | 111:MET | C | 112:SER | N | 3.23 |
| 1 | A2 | 1156:C | O3' | 1157:A | P | 3.22 |
| 1 | AZ | 6031:G | O3' | 6032:U | P | 3.22 |
| 1 | BB | 212:VAL | C | 213:ARG | N | 3.22 |
| 1 | BC | 119:LYS | C | 120:GLU | N | 3.22 |
| 1 | BD | 38:GLU | C | 39:VAL | N | 3.22 |
| 1 | BD | 111:ASN | C | 112:GLY | N | 3.22 |
| 1 | BG | 57:ASP | C | 58:LYS | N | 3.22 |
| 1 | BK | 15:LEU | C | 16:PHE | N | 3.22 |
| 1 | BM | 36:LEU | C | 37:VAL | N | 3.22 |
| 1 | BQ | 106:LYS | C | 107:LYS | N | 3.22 |
| 1 | BY | 97:ALA | C | 98:GLU | N | 3.22 |
| 1 | Bb | 13:ALA | C | 14:SER | N | 3.22 |
| 1 | Bg | 147:HIS | C | 148:ASN | N | 3.22 |
| 1 | A2 | 1189:A | O3' | 1190:C | P | 3.21 |
| 1 | A2 | 1579:U | O3' | 1580:C | P | 3.21 |
| 1 | BC | 246:GLU | C | 247:ALA | N | 3.21 |
| 1 | BD | 84:ILE | C | 85:VAL | N | 3.21 |
| 1 | BD | 85:VAL | C | 86:LEU | N | 3.21 |
| 1 | BD | 142:LEU | C | 143:ARG | N | 3.21 |
| 1 | BE | 197:HIS | C | 198:LYS | N | 3.21 |
| 1 | BE | 256:ARG | C | 257:ALA | N | 3.21 |
| 1 | BI | 154:SER | C | 155:SER | N | 3.21 |
| 1 | BP | 17:TYR | C | 18:ARG | N | 3.21 |
| 1 | Bg | 59:ARG | C | 60:SER | N | 3.21 |
| 1 | Bg | 212:ALA | C | 213:SER | N | 3.21 |
| 1 | A2 | 97:C | O3' | 98:U | P | 3.20 |
| 1 | A2 | 186:C | O3' | 187:G | P | 3.20 |
| 1 | BC | 123:GLY | C | 124:ALA | N | 3.20 |
| 1 | BG | 84:TYR | C | 85:ARG | N | 3.20 |

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| Model | Chain | Residue-1 | Atom-1 | Residue-2 | Atom-2 | Distance (Å) |
|---|---|---|---|---|---|---|
| 1 | BI | 4:SER | C | 5:ARG | N | 3.20 |
| 1 | BT | 3:GLY | C | 4:VAL | N | 3.20 |
| 1 | BU | 51:VAL | C | 52:LYS | N | 3.20 |
| 1 | BX | 118:PRO | C | 119:GLY | N | 3.20 |
| 1 | BY | 19:ALA | C | 20:ARG | N | 3.20 |
| 1 | A2 | 204:G | O3' | 205:U | P | 3.19 |
| 1 | A2 | 451:A | O3' | 452:A | P | 3.19 |
| 1 | A2 | 906:A | O3' | 907:A | P | 3.19 |
| 1 | BH | 4:PRO | C | 5:GLN | N | 3.19 |
| 1 | BO | 110:LEU | C | 111:ARG | N | 3.19 |
| 1 | BP | 68:PRO | C | 69:GLU | N | 3.19 |
| 1 | BY | 103:ALA | C | 104:SER | N | 3.19 |
| 1 | Bb | 75:GLU | C | 76:GLY | N | 3.19 |
| 1 | Bc | 62:GLU | C | 63:ALA | N | 3.19 |
| 1 | Be | 46:ASN | C | 47:VAL | N | 3.19 |
| 1 | A2 | 84:A | O3' | 85:A | P | 3.18 |
| 1 | BC | 70:ASP | C | 71:THR | N | 3.18 |
| 1 | BC | 124:ALA | C | 125:ILE | N | 3.18 |
| 1 | BE | 203:GLY | C | 204:GLY | N | 3.18 |
| 1 | BI | 161:SER | C | 162:ALA | N | 3.18 |
| 1 | BL | 98:ASN | C | 99:ARG | N | 3.18 |
| 1 | BO | 79:VAL | C | 80:HIS | N | 3.18 |
| 1 | BR | 90:ALA | C | 91:ALA | N | 3.18 |
| 1 | BT | 92:LYS | C | 93:HIS | N | 3.18 |
| 1 | BX | 46:SER | C | 47:SER | N | 3.18 |
| 1 | Bb | 71:ALA | C | 72:LYS | N | 3.18 |
| 1 | A2 | 178:U | O3' | 179:A | P | 3.17 |
| 1 | A2 | 272:U | O3' | 273:G | P | 3.17 |
| 1 | A2 | 812:A | O3' | 813:U | P | 3.17 |
| 1 | A2 | 1610:G | O3' | 1611:A | P | 3.17 |
| 1 | BB | 174:LYS | C | 175:GLU | N | 3.17 |
| 1 | BE | 56:LEU | C | 57:ASN | N | 3.17 |
| 1 | BM | 57:ALA | C | 58:LEU | N | 3.17 |
| 1 | BQ | 28:LEU | C | 29:ILE | N | 3.17 |
| 1 | BU | 62:VAL | C | 63:LEU | N | 3.17 |
| 1 | Bg | 170:ILE | C | 171:SER | N | 3.17 |
| 1 | Bg | 241:PHE | C | 242:SER | N | 3.17 |
| 1 | A2 | 169:A | O3' | 170:U | P | 3.16 |
| 1 | A2 | 319:U | O3' | 320:U | P | 3.16 |
| 1 | BF | 157:ARG | C | 158:GLN | N | 3.16 |
| 1 | BH | 150:GLN | C | 151:LYS | N | 3.16 |
| 1 | BK | 6:GLU | C | 7:ASP | N | 3.16 |

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| Model | Chain | Residue-1 | Atom-1 | Residue-2 | Atom-2 | Distance (Å) |
|---|---|---|---|---|---|---|
| 1 | BN | 143:SER | C | 144:ALA | N | 3.16 |
| 1 | BP | 13:LYS | C | 14:THR | N | 3.16 |
| 1 | BT | 108:LEU | C | 109:GLU | N | 3.16 |
| 1 | BW | 45:GLY | C | 46:TYR | N | 3.16 |
| 1 | BX | 61:SER | C | 62:LYS | N | 3.16 |
| 1 | Bg | 14:GLU | C | 15:GLY | N | 3.16 |
| 1 | Bg | 237:GLN | C | 238:ASP | N | 3.16 |
| 1 | A2 | 137:U | O3' | 138:A | P | 3.15 |
| 1 | A2 | 845:G | O3' | 846:G | P | 3.15 |
| 1 | AZ | 6092:U | O3' | 6093:A | P | 3.15 |
| 1 | BD | 194:LYS | C | 195:SER | N | 3.15 |
| 1 | BE | 36:HIS | C | 37:LYS | N | 3.15 |
| 1 | BG | 55:GLY | C | 56:ASN | N | 3.15 |
| 1 | BL | 25:VAL | C | 26:LYS | N | 3.15 |
| 1 | BO | 61:MET | C | 62:LEU | N | 3.15 |
| 1 | BT | 36:ILE | C | 37:VAL | N | 3.15 |
| 1 | BW | 99:PHE | C | 100:GLY | N | 3.15 |
| 1 | BY | 61:ARG | C | 62:THR | N | 3.15 |
| 1 | AZ | 6035:U | O3' | 6036:C | P | 3.14 |
| 1 | BC | 121:VAL | C | 122:ALA | N | 3.14 |
| 1 | BC | 168:ARG | C | 169:LEU | N | 3.14 |
| 1 | BD | 7:LYS | C | 8:LYS | N | 3.14 |
| 1 | BD | 147:ALA | C | 148:LYS | N | 3.14 |
| 1 | BF | 79:ASN | C | 80:LYS | N | 3.14 |
| 1 | BH | 140:VAL | C | 141:ARG | N | 3.14 |
| 1 | BI | 194:ARG | C | 195:ARG | N | 3.14 |
| 1 | BJ | 19:TYR | C | 20:GLU | N | 3.14 |
| 1 | BJ | 115:LYS | C | 116:LEU | N | 3.14 |
| 1 | BJ | 166:GLY | C | 167:ALA | N | 3.14 |
| 1 | BL | 18:HIS | C | 19:ILE | N | 3.14 |
| 1 | BM | 67:THR | C | 68:GLU | N | 3.14 |
| 1 | BN | 121:ARG | C | 122:ILE | N | 3.14 |
| 1 | BV | 60:ARG | C | 61:SER | N | 3.14 |
| 1 | BX | 91:GLY | C | 92:CYS | N | 3.14 |
| 1 | Bg | 256:THR | C | 257:ALA | N | 3.14 |
| 1 | A2 | 404:G | O3' | 405:C | P | 3.13 |
| 1 | AZ | 6080:G | O3' | 6081:U | P | 3.13 |
| 1 | BB | 49:ASN | C | 50:LYS | N | 3.13 |
| 1 | BB | 218:LEU | C | 219:LYS | N | 3.13 |
| 1 | BJ | 114:TYR | C | 115:LYS | N | 3.13 |
| 1 | BS | 20:THR | C | 21:ASN | N | 3.13 |
| 1 | BU | 103:ILE | C | 104:THR | N | 3.13 |

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| Model | Chain | Residue-1 | Atom-1 | Residue-2 | Atom-2 | Distance (Å) |
|---|---|---|---|---|---|---|
| 1 | Bg | 259:GLY | C | 260:ILE | N | 3.13 |
| 1 | A2 | 61:A | O3' | 62:A | P | 3.12 |
| 1 | A2 | 163:G | O3' | 164:A | P | 3.12 |
| 1 | A2 | 269:G | O3' | 270:C | P | 3.12 |
| 1 | A2 | 561:G | O3' | 562:G | P | 3.12 |
| 1 | A2 | 613:G | O3' | 614:C | P | 3.12 |
| 1 | A2 | 1458:G | O3' | 1459:C | P | 3.12 |
| 1 | A2 | 1533:C | O3' | 1534:G | P | 3.12 |
| 1 | AZ | 6220:U | O3' | 6221:U | P | 3.12 |
| 1 | BF | 223:SER | C | 224:ASN | N | 3.12 |
| 1 | BI | 47:ARG | C | 48:THR | N | 3.12 |
| 1 | BM | 92:ALA | C | 93:ASP | N | 3.12 |
| 1 | BQ | 104:GLU | C | 105:LEU | N | 3.12 |
| 1 | BV | 42:GLU | C | 43:GLY | N | 3.12 |
| 1 | A2 | 64:U | O3' | 65:A | P | 3.11 |
| 1 | A2 | 1116:A | O3' | 1117:U | P | 3.11 |
| 1 | BB | 211:HIS | C | 212:VAL | N | 3.11 |
| 1 | BD | 92:GLN | C | 93:ASP | N | 3.11 |
| 1 | BD | 102:ALA | C | 103:GLU | N | 3.11 |
| 1 | BG | 9:VAL | C | 10:ASN | N | 3.11 |
| 1 | BI | 163:GLY | C | 164:ARG | N | 3.11 |
| 1 | BP | 63:ALA | C | 64:LYS | N | 3.11 |
| 1 | BS | 32:LEU | C | 33:THR | N | 3.11 |
| 1 | BY | 71:GLY | C | 72:PHE | N | 3.11 |
| 1 | Bc | 25:VAL | C | 26:THR | N | 3.11 |
| 1 | A2 | 78:A | O3' | 79:C | P | 3.10 |
| 1 | A2 | 892:A | O3' | 893:U | P | 3.10 |
| 1 | BB | 171:ILE | C | 172:LEU | N | 3.10 |
| 1 | BD | 63:GLY | C | 64:ARG | N | 3.10 |
| 1 | BD | 83:THR | C | 84:ILE | N | 3.10 |
| 1 | BH | 74:GLN | C | 75:THR | N | 3.10 |
| 1 | BU | 80:GLU | C | 81:THR | N | 3.10 |
| 1 | BW | 31:SER | C | 32:LYS | N | 3.10 |
| 1 | Bf | 99:ALA | C | 100:ALA | N | 3.10 |
| 1 | A2 | 1238:A | O3' | 1239:U | P | 3.09 |
| 1 | BB | 121:ILE | C | 122:GLU | N | 3.09 |
| 1 | BC | 43:ARG | C | 44:LEU | N | 3.09 |
| 1 | BG | 179:VAL | C | 180:THR | N | 3.09 |
| 1 | BH | 55:LYS | C | 56:LYS | N | 3.09 |
| 1 | BK | 69:THR | C | 70:GLU | N | 3.09 |
| 1 | BN | 80:LEU | C | 81:ALA | N | 3.09 |
| 1 | BR | 38:ILE | C | 39:ALA | N | 3.09 |

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| Model | Chain | Residue-1 | Atom-1 | Residue-2 | Atom-2 | Distance (Å) |
|---|---|---|---|---|---|---|
| 1 | BY | 26:ASP | C | 27:VAL | N | 3.09 |
| 1 | Ba | 53:LEU | C | 54:SER | N | 3.09 |
| 1 | Bb | 33:LEU | C | 34:ASP | N | 3.09 |
| 1 | Bg | 130:THR | C | 131:ILE | N | 3.09 |
| 1 | A2 | 48:G | O3' | 49:C | P | 3.08 |
| 1 | A2 | 119:A | O3' | 120:U | P | 3.08 |
| 1 | A2 | 1423:U | O3' | 1424:A | P | 3.08 |
| 1 | BA | 101:ARG | C | 102:PHE | N | 3.08 |
| 1 | BE | 57:ASN | C | 58:GLY | N | 3.08 |
| 1 | BO | 80:HIS | C | 81:VAL | N | 3.08 |
| 1 | BQ | 7:VAL | C | 8:GLN | N | 3.08 |
| 1 | BQ | 115:THR | C | 116:LEU | N | 3.08 |
| 1 | BX | 128:SER | C | 129:GLY | N | 3.08 |
| 1 | Bg | 181:TRP | C | 182:ASN | N | 3.08 |
| 1 | A2 | 1052:U | O3' | 1053:G | P | 3.07 |
| 1 | BB | 23:PRO | C | 24:PHE | N | 3.07 |
| 1 | BD | 182:LEU | C | 183:GLY | N | 3.07 |
| 1 | BF | 85:ALA | C | 86:GLN | N | 3.07 |
| 1 | BF | 91:GLU | C | 92:ARG | N | 3.07 |
| 1 | BI | 136:SER | C | 137:LYS | N | 3.07 |
| 1 | BK | 44:LYS | C | 45:ALA | N | 3.07 |
| 1 | BL | 45:PRO | C | 46:LYS | N | 3.07 |
| 1 | BN | 105:ASN | C | 106:ARG | N | 3.07 |
| 1 | BN | 110:ASP | C | 111:ALA | N | 3.07 |
| 1 | BN | 118:ILE | C | 119:GLU | N | 3.07 |
| 1 | BO | 89:THR | C | 90:ARG | N | 3.07 |
| 1 | BO | 135:ARG | C | 136:ARG | N | 3.07 |
| 1 | BP | 122:THR | C | 123:TYR | N | 3.07 |
| 1 | BQ | 88:GLY | C | 89:LEU | N | 3.07 |
| 1 | A2 | 1281:G | O3' | 1282:U | P | 3.06 |
| 1 | A2 | 1659:A | O3' | 1660:A | P | 3.06 |
| 1 | A2 | 1744:A | O3' | 1745:G | P | 3.06 |
| 1 | BB | 80:SER | C | 81:PHE | N | 3.06 |
| 1 | BD | 106:LYS | C | 107:PHE | N | 3.06 |
| 1 | BE | 18:TRP | C | 19:LEU | N | 3.06 |
| 1 | BE | 67:GLN | C | 68:ARG | N | 3.06 |
| 1 | BE | 93:ASP | C | 94:ALA | N | 3.06 |
| 1 | BJ | 42:ILE | C | 43:TYR | N | 3.06 |
| 1 | BK | 75:TYR | C | 76:LEU | N | 3.06 |
| 1 | BS | 95:GLY | C | 96:LYS | N | 3.06 |
| 1 | BT | 74:GLY | C | 75:LYS | N | 3.06 |
| 1 | BU | 60:THR | C | 61:LYS | N | 3.06 |

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| Model | Chain | Residue-1 | Atom-1 | Residue-2 | Atom-2 | Distance (Å) |
|---|---|---|---|---|---|---|
| 1 | BY | 102:LYS | C | 103:ALA | N | 3.06 |
| 1 | Bg | 96:THR | C | 97:GLY | N | 3.06 |
| 1 | A2 | 794:U | O3' | 795:U | P | 3.05 |
| 1 | BB | 62:LYS | C | 63:GLY | N | 3.05 |
| 1 | BB | 198:GLU | C | 199:ASN | N | 3.05 |
| 1 | BC | 140:ARG | C | 141:ARG | N | 3.05 |
| 1 | BD | 161:GLY | C | 162:GLN | N | 3.05 |
| 1 | BE | 193:GLY | C | 194:THR | N | 3.05 |
| 1 | BF | 63:GLN | C | 64:VAL | N | 3.05 |
| 1 | BG | 30:ALA | C | 31:ARG | N | 3.05 |
| 1 | BJ | 15:PRO | C | 16:LYS | N | 3.05 |
| 1 | BL | 33:ARG | C | 34:TRP | N | 3.05 |
| 1 | BN | 63:ALA | C | 64:ARG | N | 3.05 |
| 1 | BO | 136:ARG | C | 137:LEU | N | 3.05 |
| 1 | BR | 62:GLN | C | 63:LYS | N | 3.05 |
| 1 | BS | 131:LEU | C | 132:ARG | N | 3.05 |
| 1 | BU | 72:ASN | C | 73:GLY | N | 3.05 |
| 1 | BY | 75:VAL | C | 76:TYR | N | 3.05 |
| 1 | BZ | 77:ARG | C | 78:ILE | N | 3.05 |
| 1 | A2 | 767:U | O3' | 768:C | P | 3.04 |
| 1 | A2 | 786:C | O3' | 787:G | P | 3.04 |
| 1 | A2 | 1756:A | O3' | 1757:G | P | 3.04 |
| 1 | BD | 31:GLU | C | 32:GLU | N | 3.04 |
| 1 | BR | 43:SER | C | 44:LYS | N | 3.04 |
| 1 | BR | 66:VAL | C | 67:ARG | N | 3.04 |
| 1 | BR | 101:ASN | C | 102:VAL | N | 3.04 |
| 1 | BW | 108:ALA | C | 109:GLY | N | 3.04 |
| 1 | BX | 65:ASN | C | 66:SER | N | 3.04 |
| 1 | Ba | 45:VAL | C | 46:GLU | N | 3.04 |
| 1 | Bb | 60:SER | C | 61:THR | N | 3.04 |
| 1 | Bc | 28:VAL | C | 29:ARG | N | 3.04 |
| 1 | Bf | 141:CYS | C | 142:GLY | N | 3.04 |
| 1 | A2 | 853:G | O3' | 854:U | P | 3.03 |
| 1 | A2 | 893:U | O3' | 894:U | P | 3.03 |
| 1 | BD | 79:TYR | C | 80:ALA | N | 3.03 |
| 1 | BH | 93:LEU | C | 94:ALA | N | 3.03 |
| 1 | BJ | 139:GLN | C | 140:ILE | N | 3.03 |
| 1 | BP | 112:LEU | C | 113:GLY | N | 3.03 |
| 1 | BT | 42:GLY | C | 43:ASN | N | 3.03 |
| 1 | BT | 60:SER | C | 61:VAL | N | 3.03 |
| 1 | Bb | 56:CYS | C | 57:GLU | N | 3.03 |
| 1 | Bg | 88:THR | C | 89:LEU | N | 3.03 |

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| Model | Chain | Residue-1 | Atom-1 | Residue-2 | Atom-2 | Distance (Å) |
|---|---|---|---|---|---|---|
| 1 | Bg | 306:THR | C | 307:ASP | N | 3.03 |
| 1 | A2 | 521:A | O3' | 522:U | P | 3.02 |
| 1 | A2 | 597:G | O3' | 598:U | P | 3.02 |
| 1 | A2 | 735:C | O3' | 736:C | P | 3.02 |
| 1 | A2 | 808:U | O3' | 809:A | P | 3.02 |
| 1 | A2 | 1322:A | O3' | 1323:C | P | 3.02 |
| 1 | A2 | 1741:U | O3' | 1742:U | P | 3.02 |
| 1 | BB | 147:ALA | C | 148:ASN | N | 3.02 |
| 1 | BB | 214:LYS | C | 215:VAL | N | 3.02 |
| 1 | BE | 123:LEU | C | 124:GLY | N | 3.02 |
| 1 | BH | 7:LYS | C | 8:ILE | N | 3.02 |
| 1 | BH | 103:SER | C | 104:ARG | N | 3.02 |
| 1 | BJ | 31:ALA | C | 32:GLY | N | 3.02 |
| 1 | BL | 32:LYS | C | 33:ARG | N | 3.02 |
| 1 | BR | 24:LEU | C | 25:THR | N | 3.02 |
| 1 | BW | 30:SER | C | 31:SER | N | 3.02 |
| 1 | A2 | 406:U | O3' | 407:A | P | 3.01 |
| 1 | BF | 124:LEU | C | 125:THR | N | 3.01 |
| 1 | BF | 156:ARG | C | 157:ARG | N | 3.01 |
| 1 | BL | 9:SER | C | 10:GLU | N | 3.01 |
| 1 | BM | 40:GLY | C | 41:LEU | N | 3.01 |
| 1 | BO | 22:SER | C | 23:PHE | N | 3.01 |
| 1 | BO | 49:LYS | C | 50:ALA | N | 3.01 |
| 1 | BY | 89:TYR | C | 90:ARG | N | 3.01 |
| 1 | Bb | 32:PHE | C | 33:LEU | N | 3.01 |
| 1 | Bg | 104:VAL | C | 105:GLY | N | 3.01 |
| 1 | Bg | 127:ARG | C | 128:ASP | N | 3.01 |
| 1 | A2 | 23:G | O3' | 24:U | P | 3.00 |
| 1 | A2 | 782:U | O3' | 783:G | P | 3.00 |
| 1 | A2 | 1003:A | O3' | 1004:U | P | 3.00 |
| 1 | A2 | 1519:U | O3' | 1520:U | P | 3.00 |
| 1 | BF | 80:LYS | C | 81:ARG | N | 3.00 |
| 1 | BG | 73:ILE | C | 74:ALA | N | 3.00 |
| 1 | BI | 45:SER | C | 46:VAL | N | 3.00 |
| 1 | BJ | 21:SER | C | 22:SER | N | 3.00 |
| 1 | BK | 71:GLU | C | 72:GLY | N | 3.00 |
| 1 | BL | 10:GLU | C | 11:ARG | N | 3.00 |
| 1 | BM | 63:VAL | C | 64:SER | N | 3.00 |
| 1 | BP | 117:GLY | C | 118:GLU | N | 3.00 |
| 1 | BU | 50:LEU | C | 51:VAL | N | 3.00 |
| 1 | A2 | 526:A | O3' | 527:A | P | 2.99 |
| 1 | BD | 37:VAL | C | 38:GLU | N | 2.99 |

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| Model | Chain | Residue-1 | Atom-1 | Residue-2 | Atom-2 | Distance (Å) |
|---|---|---|---|---|---|---|
| 1 | BJ | 152:SER | C | 153:GLU | N | 2.99 |
| 1 | BN | 91:LEU | C | 92:ILE | N | 2.99 |
| 1 | BO | 44:GLY | C | 45:GLY | N | 2.99 |
| 1 | BQ | 54:LEU | C | 55:VAL | N | 2.99 |
| 1 | BQ | 91:ALA | C | 92:TYR | N | 2.99 |
| 1 | BR | 41:ILE | C | 42:GLN | N | 2.99 |
| 1 | BS | 108:LYS | C | 109:LEU | N | 2.99 |
| 1 | BT | 129:GLN | C | 130:ARG | N | 2.99 |
| 1 | A2 | 117:U | O3' | 118:U | P | 2.98 |
| 1 | A2 | 535:A | O3' | 536:C | P | 2.98 |
| 1 | A2 | 1309:C | O3' | 1310:U | P | 2.98 |
| 1 | A2 | 1746:A | O3' | 1747:G | P | 2.98 |
| 1 | BD | 32:GLU | C | 33:GLY | N | 2.98 |
| 1 | BD | 96:LEU | C | 97:SER | N | 2.98 |
| 1 | BE | 77:ARG | C | 78:THR | N | 2.98 |
| 1 | BF | 216:GLU | C | 217:LEU | N | 2.98 |
| 1 | BG | 186:ARG | C | 187:LYS | N | 2.98 |
| 1 | BM | 32:LEU | C | 33:ARG | N | 2.98 |
| 1 | BN | 34:ILE | C | 35:GLU | N | 2.98 |
| 1 | BV | 83:TRP | C | 84:SER | N | 2.98 |
| 1 | BW | 55:ASP | C | 56:HIS | N | 2.98 |
| 1 | Bg | 24:ALA | C | 25:THR | N | 2.98 |
| 1 | A2 | 393:C | O3' | 394:C | P | 2.97 |
| 1 | BA | 135:GLU | C | 136:ALA | N | 2.97 |
| 1 | BC | 62:PRO | C | 63:VAL | N | 2.97 |
| 1 | BD | 40:ARG | C | 41:VAL | N | 2.97 |
| 1 | BD | 114:ALA | C | 115:ILE | N | 2.97 |
| 1 | BG | 59:GLN | C | 60:GLY | N | 2.97 |
| 1 | BK | 11:ILE | C | 12:HIS | N | 2.97 |
| 1 | BV | 70:ASN | C | 71:ARG | N | 2.97 |
| 1 | BY | 2:SER | C | 3:ASP | N | 2.97 |
| 1 | Be | 32:GLY | C | 33:ARG | N | 2.97 |
| 1 | A2 | 81:G | O3' | 82:U | P | 2.96 |
| 1 | A2 | 87:C | O3' | 88:U | P | 2.96 |
| 1 | A2 | 456:A | O3' | 457:G | P | 2.96 |
| 1 | A2 | 470:A | O3' | 471:A | P | 2.96 |
| 1 | A2 | 1185:U | O3' | 1186:U | P | 2.96 |
| 1 | BB | 137:ILE | C | 138:PHE | N | 2.96 |
| 1 | BC | 34:GLY | C | 35:TRP | N | 2.96 |
| 1 | BC | 247:ALA | C | 248:SER | N | 2.96 |
| 1 | BH | 42:GLN | C | 43:PHE | N | 2.96 |
| 1 | BI | 12:SER | C | 13:ALA | N | 2.96 |

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| Model | Chain | Residue-1 | Atom-1 | Residue-2 | Atom-2 | Distance (Å) |
|---|---|---|---|---|---|---|
| 1 | BP | 62:ALA | C | 63:ALA | N | 2.96 |
| 1 | BV | 36:VAL | C | 37:ALA | N | 2.96 |
| 1 | BX | 49:ALA | C | 50:LYS | N | 2.96 |
| 1 | A2 | 339:C | O3' | 340:U | P | 2.95 |
| 1 | BA | 20:ALA | C | 21:ASN | N | 2.95 |
| 1 | BA | 196:SER | C | 197:ILE | N | 2.95 |
| 1 | BC | 131:ILE | C | 132:ALA | N | 2.95 |
| 1 | BC | 186:LYS | C | 187:LEU | N | 2.95 |
| 1 | BF | 160:VAL | C | 161:ASP | N | 2.95 |
| 1 | BH | 120:ALA | C | 121:VAL | N | 2.95 |
| 1 | BH | 166:LEU | C | 167:GLU | N | 2.95 |
| 1 | BJ | 61:THR | C | 62:ARG | N | 2.95 |
| 1 | BK | 4:PRO | C | 5:LYS | N | 2.95 |
| 1 | BN | 76:LYS | C | 77:SER | N | 2.95 |
| 1 | BN | 104:ARG | C | 105:ASN | N | 2.95 |
| 1 | BN | 139:TRP | C | 140:LYS | N | 2.95 |
| 1 | BT | 95:ASP | C | 96:ALA | N | 2.95 |
| 1 | BU | 89:ARG | C | 90:TYR | N | 2.95 |
| 1 | BX | 29:TYR | C | 30:LYS | N | 2.95 |
| 1 | Bc | 40:ILE | C | 41:VAL | N | 2.95 |
| 1 | Bc | 52:ASP | C | 53:ILE | N | 2.95 |
| 1 | A2 | 249:U | O3' | 250:C | P | 2.94 |
| 1 | A2 | 262:U | O3' | 263:C | P | 2.94 |
| 1 | A2 | 1625:C | O3' | 1626:U | P | 2.94 |
| 1 | BC | 53:ILE | C | 54:GLU | N | 2.94 |
| 1 | BC | 63:VAL | C | 64:LYS | N | 2.94 |
| 1 | BC | 193:VAL | C | 194:GLU | N | 2.94 |
| 1 | BE | 61:VAL | C | 62:LYS | N | 2.94 |
| 1 | BE | 124:GLY | C | 125:LYS | N | 2.94 |
| 1 | BF | 121:ILE | C | 122:ASN | N | 2.94 |
| 1 | BG | 81:VAL | C | 82:SER | N | 2.94 |
| 1 | BH | 167:GLU | C | 168:SER | N | 2.94 |
| 1 | BR | 83:GLN | C | 84:TYR | N | 2.94 |
| 1 | BY | 70:VAL | C | 71:GLY | N | 2.94 |
| 1 | BY | 83:LYS | C | 84:LYS | N | 2.94 |
| 1 | Bc | 21:SER | C | 22:ARG | N | 2.94 |
| 1 | A2 | 260:U | O3' | 261:U | P | 2.93 |
| 1 | A2 | 321:C | O3' | 322:G | P | 2.93 |
| 1 | A2 | 458:G | O3' | 459:G | P | 2.93 |
| 1 | A2 | 903:U | O3' | 904:G | P | 2.93 |
| 1 | BC | 207:LEU | C | 208:GLU | N | 2.93 |
| 1 | BD | 195:SER | C | 196:ARG | N | 2.93 |

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| Model | Chain | Residue-1 | Atom-1 | Residue-2 | Atom-2 | Distance (Å) |
|---|---|---|---|---|---|---|
| 1 | BH | 9:LEU | C | 10:SER | N | 2.93 |
| 1 | BJ | 178:ALA | C | 179:ARG | N | 2.93 |
| 1 | BP | 107:ILE | C | 108:ARG | N | 2.93 |
| 1 | BR | 3:ARG | C | 4:VAL | N | 2.93 |
| 1 | Bg | 232:TYR | C | 233:THR | N | 2.93 |
| 1 | A2 | 994:G | O3' | 995:A | P | 2.92 |
| 1 | A2 | 1326:A | O3' | 1327:C | P | 2.92 |
| 1 | A2 | 1413:U | O3' | 1414:U | P | 2.92 |
| 1 | A2 | 1791:A | O3' | 1792:G | P | 2.92 |
| 1 | BD | 66:ILE | C | 67:ASN | N | 2.92 |
| 1 | BD | 89:GLU | C | 90:ARG | N | 2.92 |
| 1 | BD | 221:SER | C | 222:VAL | N | 2.92 |
| 1 | BE | 133:LYS | C | 134:LYS | N | 2.92 |
| 1 | BI | 195:ARG | C | 196:LEU | N | 2.92 |
| 1 | BJ | 93:LEU | C | 94:ASP | N | 2.92 |
| 1 | BJ | 95:TYR | C | 96:VAL | N | 2.92 |
| 1 | BL | 92:HIS | C | 93:TYR | N | 2.92 |
| 1 | BL | 142:VAL | C | 143:SER | N | 2.92 |
| 1 | BO | 18:ARG | C | 19:ILE | N | 2.92 |
| 1 | BR | 52:GLY | C | 53:TYR | N | 2.92 |
| 1 | BR | 121:VAL | C | 122:ILE | N | 2.92 |
| 1 | BT | 88:VAL | C | 89:ARG | N | 2.92 |
| 1 | BT | 119:LYS | C | 120:GLY | N | 2.92 |
| 1 | BX | 81:LYS | C | 82:LYS | N | 2.92 |
| 1 | Ba | 60:PRO | C | 61:GLU | N | 2.92 |
| 1 | Be | 22:GLU | C | 23:LYS | N | 2.92 |
| 1 | Be | 42:ARG | C | 43:ARG | N | 2.92 |
| 1 | A2 | 757:A | O3' | 758:U | P | 2.91 |
| 1 | A2 | 1214:U | O3' | 1215:C | P | 2.91 |
| 1 | BC | 182:PRO | C | 183:ALA | N | 2.91 |
| 1 | BY | 34:ASN | C | 35:VAL | N | 2.91 |
| 1 | BY | 88:THR | C | 89:TYR | N | 2.91 |
| 1 | Ba | 73:TYR | C | 74:CYS | N | 2.91 |
| 1 | Bc | 59:SER | C | 60:GLU | N | 2.91 |
| 1 | A2 | 911:U | O3' | 912:U | P | 2.90 |
| 1 | A2 | 985:G | O3' | 986:G | P | 2.90 |
| 1 | AZ | 6114:U | O3' | 6115:U | P | 2.90 |
| 1 | BD | 24:PHE | C | 25:PHE | N | 2.90 |
| 1 | BE | 97:GLU | C | 98:ASN | N | 2.90 |
| 1 | BG | 50:PHE | C | 51:LYS | N | 2.90 |
| 1 | BH | 95:GLU | C | 96:ARG | N | 2.90 |
| 1 | BH | 118:LEU | C | 119:THR | N | 2.90 |

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| Model | Chain | Residue-1 | Atom-1 | Residue-2 | Atom-2 | Distance (Å) |
|---|---|---|---|---|---|---|
| 1 | BI | 167:ALA | C | 168:CYS | N | 2.90 |
| 1 | BJ | 175:ARG | C | 176:ASN | N | 2.90 |
| 1 | BT | 17:ALA | C | 18:TYR | N | 2.90 |
| 1 | BV | 15:ARG | C | 16:LYS | N | 2.90 |
| 1 | BX | 31:LYS | C | 32:ARG | N | 2.90 |
| 1 | BY | 7:ILE | C | 8:ARG | N | 2.90 |
| 1 | BB | 105:PHE | C | 106:THR | N | 2.89 |
| 1 | BF | 217:LEU | C | 218:GLU | N | 2.89 |
| 1 | BL | 38:ALA | C | 39:GLY | N | 2.89 |
| 1 | BN | 41:ALA | C | 42:ARG | N | 2.89 |
| 1 | BO | 31:THR | C | 32:ASP | N | 2.89 |
| 1 | A2 | 749:U | O3' | 750:U | P | 2.88 |
| 1 | A2 | 898:A | O3' | 899:G | P | 2.88 |
| 1 | A2 | 1292:G | O3' | 1293:U | P | 2.88 |
| 1 | A2 | 1657:U | O3' | 1658:G | P | 2.88 |
| 1 | BE | 185:GLY | C | 186:GLY | N | 2.88 |
| 1 | Bg | 180:ALA | C | 181:TRP | N | 2.88 |
| 1 | A2 | 1655:A | O3' | 1656:U | P | 2.87 |
| 1 | BB | 138:PHE | C | 139:ALA | N | 2.87 |
| 1 | BD | 71:LEU | C | 72:LEU | N | 2.87 |
| 1 | BD | 160:SER | C | 161:GLY | N | 2.87 |
| 1 | BE | 103:TYR | C | 104:ASP | N | 2.87 |
| 1 | BG | 1:MET | C | 2:LYS | N | 2.87 |
| 1 | BP | 49:MET | C | 50:THR | N | 2.87 |
| 1 | BW | 5:SER | C | 6:VAL | N | 2.87 |
| 1 | BW | 44:HIS | C | 45:GLY | N | 2.87 |
| 1 | BW | 50:PHE | C | 51:GLU | N | 2.87 |
| 1 | Bb | 51:GLN | C | 52:THR | N | 2.87 |
| 1 | A2 | 334:G | O3' | 335:U | P | 2.86 |
| 1 | A2 | 432:G | O3' | 433:C | P | 2.86 |
| 1 | A2 | 993:A | O3' | 994:G | P | 2.86 |
| 1 | A2 | 998:A | O3' | 999:U | P | 2.86 |
| 1 | A2 | 1035:G | O3' | 1036:A | P | 2.86 |
| 1 | A2 | 1438:G | O3' | 1439:C | P | 2.86 |
| 1 | BC | 223:GLY | C | 224:PHE | N | 2.86 |
| 1 | BE | 5:PRO | C | 6:LYS | N | 2.86 |
| 1 | BG | 192:ALA | C | 193:LEU | N | 2.86 |
| 1 | BI | 58:LEU | C | 59:ARG | N | 2.86 |
| 1 | BR | 79:GLU | C | 80:ARG | N | 2.86 |
| 1 | BT | 102:ARG | C | 103:LYS | N | 2.86 |
| 1 | BU | 57:ARG | C | 58:LEU | N | 2.86 |
| 1 | BW | 9:ASP | C | 10:ALA | N | 2.86 |

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| Model | Chain | Residue-1 | Atom-1 | Residue-2 | Atom-2 | Distance (Å) |
|---|---|---|---|---|---|---|
| 1 | A2 | 1282:U | O3' | 1283:U | P | 2.85 |
| 1 | A2 | 1778:G | O3' | 1779:U | P | 2.85 |
| 1 | BB | 43:VAL | C | 44:GLY | N | 2.85 |
| 1 | BC | 64:LYS | C | 65:GLU | N | 2.85 |
| 1 | BD | 12:VAL | C | 13:ALA | N | 2.85 |
| 1 | BE | 26:CYS | C | 27:TYR | N | 2.85 |
| 1 | BE | 114:ILE | C | 115:THR | N | 2.85 |
| 1 | BE | 143:ASP | C | 144:GLY | N | 2.85 |
| 1 | BE | 192:ILE | C | 193:GLY | N | 2.85 |
| 1 | BG | 213:ALA | C | 214:LYS | N | 2.85 |
| 1 | BH | 20:VAL | C | 21:ALA | N | 2.85 |
| 1 | BH | 79:ARG | C | 80:GLU | N | 2.85 |
| 1 | BH | 186:PRO | C | 187:SER | N | 2.85 |
| 1 | BK | 13:GLN | C | 14:TYR | N | 2.85 |
| 1 | BL | 21:ASN | C | 22:ASN | N | 2.85 |
| 1 | BN | 120:SER | C | 121:ARG | N | 2.85 |
| 1 | BX | 131:SER | C | 132:LEU | N | 2.85 |
| 1 | Bf | 125:THR | C | 126:CYS | N | 2.85 |
| 1 | Bg | 199:ILE | C | 200:ASN | N | 2.85 |
| 1 | A2 | 636:A | O3' | 637:C | P | 2.84 |
| 1 | A2 | 789:A | O3' | 790:U | P | 2.84 |
| 1 | A2 | 1191:U | O3' | 1192:C | P | 2.84 |
| 1 | A2 | 1334:U | O3' | 1335:U | P | 2.84 |
| 1 | A2 | 1379:C | O3' | 1380:U | P | 2.84 |
| 1 | BH | 164:TYR | C | 165:LYS | N | 2.84 |
| 1 | BJ | 35:GLY | C | 36:LEU | N | 2.84 |
| 1 | BQ | 17:THR | C | 18:ALA | N | 2.84 |
| 1 | BS | 66:LEU | C | 67:GLU | N | 2.84 |
| 1 | BT | 101:ASN | C | 102:ARG | N | 2.84 |
| 1 | BU | 67:THR | C | 68:ARG | N | 2.84 |
| 1 | Ba | 29:SER | C | 30:ILE | N | 2.84 |
| 1 | A2 | 1429:G | O3' | 1430:U | P | 2.83 |
| 1 | A2 | 1473:U | O3' | 1474:G | P | 2.83 |
| 1 | A2 | 1727:G | O3' | 1728:A | P | 2.83 |
| 1 | BH | 109:VAL | C | 110:GLN | N | 2.83 |
| 1 | BH | 135:ILE | C | 136:VAL | N | 2.83 |
| 1 | BJ | 96:VAL | C | 97:LEU | N | 2.83 |
| 1 | BJ | 122:VAL | C | 123:HIS | N | 2.83 |
| 1 | BR | 8:THR | C | 9:VAL | N | 2.83 |
| 1 | BV | 18:SER | C | 19:ALA | N | 2.83 |
| 1 | BV | 21:ASN | C | 22:ARG | N | 2.83 |
| 1 | BX | 25:ALA | C | 26:GLU | N | 2.83 |

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| Model | Chain | Residue-1 | Atom-1 | Residue-2 | Atom-2 | Distance (Å) |
|---|---|---|---|---|---|---|
| 1 | BX | 133:LEU | C | 134:ALA | N | 2.83 |
| 1 | Bg | 312:VAL | C | 313:TRP | N | 2.83 |
| 1 | A2 | 106:U | O3' | 107:C | P | 2.82 |
| 1 | A2 | 977:A | O3' | 978:A | P | 2.82 |
| 1 | A2 | 1024:U | O3' | 1025:A | P | 2.82 |
| 1 | BE | 160:VAL | C | 161:LYS | N | 2.82 |
| 1 | BH | 68:ALA | C | 69:GLY | N | 2.82 |
| 1 | BN | 116:ILE | C | 117:LEU | N | 2.82 |
| 1 | BQ | 129:PHE | C | 130:GLY | N | 2.82 |
| 1 | BY | 101:GLU | C | 102:LYS | N | 2.82 |
| 1 | BZ | 80:LEU | C | 81:ARG | N | 2.82 |
| 1 | Ba | 4:LYS | C | 5:ARG | N | 2.82 |
| 1 | Ba | 87:ARG | C | 88:SER | N | 2.82 |
| 1 | A2 | 304:U | O3' | 305:C | P | 2.81 |
| 1 | A2 | 598:U | O3' | 599:A | P | 2.81 |
| 1 | A2 | 1276:U | O3' | 1277:G | P | 2.81 |
| 1 | BF | 88:PRO | C | 89:ILE | N | 2.81 |
| 1 | BH | 67:LEU | C | 68:ALA | N | 2.81 |
| 1 | BI | 176:SER | C | 177:GLY | N | 2.81 |
| 1 | BO | 77:THR | C | 78:ALA | N | 2.81 |
| 1 | BY | 14:SER | C | 15:ASN | N | 2.81 |
| 1 | Ba | 39:MET | C | 40:ALA | N | 2.81 |
| 1 | Ba | 94:ASN | C | 95:ARG | N | 2.81 |
| 1 | A2 | 351:C | O3' | 352:A | P | 2.80 |
| 1 | A2 | 811:A | O3' | 812:A | P | 2.80 |
| 1 | A2 | 1782:A | O3' | 1783:C | P | 2.80 |
| 1 | BB | 112:SER | C | 113:MET | N | 2.80 |
| 1 | BG | 193:LEU | C | 194:LYS | N | 2.80 |
| 1 | BH | 137:GLY | C | 138:LYS | N | 2.80 |
| 1 | BI | 11:ARG | C | 12:SER | N | 2.80 |
| 1 | BI | 101:ILE | C | 102:VAL | N | 2.80 |
| 1 | Bb | 23:THR | C | 24:LEU | N | 2.80 |
| 1 | Bg | 153:GLN | C | 154:VAL | N | 2.80 |
| 1 | A2 | 18:C | O3' | 19:A | P | 2.79 |
| 1 | A2 | 617:U | O3' | 618:U | P | 2.79 |
| 1 | A2 | 880:C | O3' | 881:A | P | 2.79 |
| 1 | A2 | 1220:C | O3' | 1221:A | P | 2.79 |
| 1 | A2 | 1558:U | O3' | 1559:A | P | 2.79 |
| 1 | AZ | 6216:U | O3' | 6217:A | P | 2.79 |
| 1 | BC | 203:LYS | C | 204:THR | N | 2.79 |
| 1 | BD | 87:TYR | C | 88:ALA | N | 2.79 |
| 1 | BD | 175:VAL | C | 176:LEU | N | 2.79 |

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| Model | Chain | Residue-1 | Atom-1 | Residue-2 | Atom-2 | Distance (Å) |
|---|---|---|---|---|---|---|
| 1 | BE | 54:TYR | C | 55:ALA | N | 2.79 |
| 1 | BF | 162:VAL | C | 163:SER | N | 2.79 |
| 1 | BH | 34:LEU | C | 35:LYS | N | 2.79 |
| 1 | BL | 111:VAL | C | 112:SER | N | 2.79 |
| 1 | BO | 102:LEU | C | 103:ARG | N | 2.79 |
| 1 | A2 | 27:U | O3' | 28:A | P | 2.78 |
| 1 | A2 | 30:G | O3' | 31:C | P | 2.78 |
| 1 | A2 | 398:G | O3' | 399:A | P | 2.78 |
| 1 | A2 | 1034:C | O3' | 1035:G | P | 2.78 |
| 1 | BC | 54:GLU | C | 55:GLU | N | 2.78 |
| 1 | BE | 3:ARG | C | 4:GLY | N | 2.78 |
| 1 | BL | 68:GLY | C | 69:LYS | N | 2.78 |
| 1 | BL | 137:PHE | C | 138:ASN | N | 2.78 |
| 1 | BP | 95:GLY | C | 96:ILE | N | 2.78 |
| 1 | BS | 33:THR | C | 34:THR | N | 2.78 |
| 1 | BW | 60:LYS | C | 61:ILE | N | 2.78 |
| 1 | BY | 76:TYR | C | 77:ASN | N | 2.78 |
| 1 | Ba | 31:PRO | C | 32:LYS | N | 2.78 |
| 1 | BI | 180:ASP | C | 181:GLY | N | 2.77 |
| 1 | BK | 23:ALA | C | 24:LYS | N | 2.77 |
| 1 | BK | 61:TRP | C | 62:GLN | N | 2.77 |
| 1 | BT | 6:VAL | C | 7:ARG | N | 2.77 |
| 1 | BV | 20:THR | C | 21:ASN | N | 2.77 |
| 1 | BW | 35:ILE | C | 36:LYS | N | 2.77 |
| 1 | Ba | 85:ARG | C | 86:VAL | N | 2.77 |
| 1 | A2 | 1795:U | O3' | 1796:C | P | 2.76 |
| 1 | BC | 169:LEU | C | 170:ILE | N | 2.76 |
| 1 | BE | 234:PRO | C | 235:TYR | N | 2.76 |
| 1 | BH | 36:ALA | C | 37:GLU | N | 2.76 |
| 1 | BI | 34:ALA | C | 35:ASN | N | 2.76 |
| 1 | BO | 90:ARG | C | 91:THR | N | 2.76 |
| 1 | BO | 120:PRO | C | 121:VAL | N | 2.76 |
| 1 | BT | 123:ARG | C | 124:ILE | N | 2.76 |
| 1 | Bg | 40:LYS | C | 41:THR | N | 2.76 |
| 1 | A2 | 80:A | O3' | 81:G | P | 2.75 |
| 1 | A2 | 1279:C | O3' | 1280:C | P | 2.75 |
| 1 | A2 | 1518:C | O3' | 1519:U | P | 2.75 |
| 1 | BB | 94:LYS | C | 95:ASN | N | 2.75 |
| 1 | BB | 107:THR | C | 108:ASP | N | 2.75 |
| 1 | BB | 118:GLN | C | 119:THR | N | 2.75 |
| 1 | BJ | 25:ASP | C | 26:ALA | N | 2.75 |
| 1 | BL | 59:PRO | C | 60:PHE | N | 2.75 |

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| Model | Chain | Residue-1 | Atom-1 | Residue-2 | Atom-2 | Distance (Å) |
|---|---|---|---|---|---|---|
| 1 | BN | 56:ASP | C | 57:ALA | N | 2.75 |
| 1 | BN | 129:TYR | C | 130:ARG | N | 2.75 |
| 1 | BR | 12:ALA | C | 13:SER | N | 2.75 |
| 1 | BR | 70:SER | C | 71:PHE | N | 2.75 |
| 1 | BW | 92:ASN | C | 93:LEU | N | 2.75 |
| 1 | BW | 129:VAL | C | 130:TYR | N | 2.75 |
| 1 | BX | 80:GLY | C | 81:LYS | N | 2.75 |
| 1 | Bg | 150:TRP | C | 151:VAL | N | 2.75 |
| 1 | A2 | 557:G | O3' | 558:U | P | 2.74 |
| 1 | AZ | 6042:U | O3' | 6043:G | P | 2.74 |
| 1 | BB | 64:ARG | C | 65:VAL | N | 2.74 |
| 1 | BE | 48:LEU | C | 49:ARG | N | 2.74 |
| 1 | BE | 208:VAL | C | 209:HIS | N | 2.74 |
| 1 | BI | 116:HIS | C | 117:TYR | N | 2.74 |
| 1 | BJ | 111:THR | C | 112:GLN | N | 2.74 |
| 1 | BJ | 141:VAL | C | 142:ASN | N | 2.74 |
| 1 | BP | 70:ASN | C | 71:GLU | N | 2.74 |
| 1 | BU | 24:ILE | C | 25:THR | N | 2.74 |
| 1 | BX | 11:SER | C | 12:ALA | N | 2.74 |
| 1 | BX | 111:GLY | C | 112:LYS | N | 2.74 |
| 1 | A2 | 449:C | O3' | 450:U | P | 2.73 |
| 1 | A2 | 631:G | O3' | 632:U | P | 2.73 |
| 1 | BB | 132:ASP | C | 133:TYR | N | 2.73 |
| 1 | BE | 232:GLY | C | 233:LYS | N | 2.73 |
| 1 | BJ | 2:PRO | C | 3:ARG | N | 2.73 |
| 1 | BN | 15:ALA | C | 16:ILE | N | 2.73 |
| 1 | BN | 119:GLU | C | 120:SER | N | 2.73 |
| 1 | BO | 91:THR | C | 92:LYS | N | 2.73 |
| 1 | BR | 75:GLU | C | 76:GLU | N | 2.73 |
| 1 | BV | 26:ALA | C | 27:ASP | N | 2.73 |
| 1 | BX | 77:ILE | C | 78:LYS | N | 2.73 |
| 1 | BX | 88:PRO | C | 89:ASN | N | 2.73 |
| 1 | BX | 90:ALA | C | 91:GLY | N | 2.73 |
| 1 | Ba | 90:GLU | C | 91:ASP | N | 2.73 |
| 1 | Bg | 21:THR | C | 22:SER | N | 2.73 |
| 1 | A2 | 560:U | O3' | 561:G | P | 2.72 |
| 1 | A2 | 1126:G | O3' | 1127:G | P | 2.72 |
| 1 | A2 | 1176:G | O3' | 1177:C | P | 2.72 |
| 1 | A2 | 1758:U | O3' | 1759:C | P | 2.72 |
| 1 | AZ | 6075:A | O3' | 6076:A | P | 2.72 |
| 1 | BH | 136:VAL | C | 137:GLY | N | 2.72 |
| 1 | BJ | 75:ALA | C | 76:LEU | N | 2.72 |

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| Model | Chain | Residue-1 | Atom-1 | Residue-2 | Atom-2 | Distance (Å) |
|---|---|---|---|---|---|---|
| 1 | BR | 58:MET | C | 59:LYS | N | 2.72 |
| 1 | BV | 38:LYS | C | 39:VAL | N | 2.72 |
| 1 | BW | 75:ILE | C | 76:SER | N | 2.72 |
| 1 | BZ | 76:ALA | C | 77:ARG | N | 2.72 |
| 1 | A2 | 21:U | O3' | 22:A | P | 2.71 |
| 1 | BG | 113:ILE | C | 114:VAL | N | 2.71 |
| 1 | BI | 142:LYS | C | 143:TRP | N | 2.71 |
| 1 | BJ | 33:GLU | C | 34:PHE | N | 2.71 |
| 1 | BJ | 173:ALA | C | 174:ARG | N | 2.71 |
| 1 | BL | 72:THR | C | 73:GLY | N | 2.71 |
| 1 | BX | 30:LYS | C | 31:LYS | N | 2.71 |
| 1 | BX | 122:PHE | C | 123:LYS | N | 2.71 |
| 1 | Bc | 26:THR | C | 27:GLN | N | 2.71 |
| 1 | Bd | 52:PHE | C | 53:ASN | N | 2.71 |
| 1 | A2 | 1488:G | O3' | 1489:U | P | 2.70 |
| 1 | A2 | 1729:C | O3' | 1730:A | P | 2.70 |
| 1 | BC | 72:LEU | C | 73:LEU | N | 2.70 |
| 1 | BC | 191:ALA | C | 192:GLY | N | 2.70 |
| 1 | BD | 23:GLU | C | 24:PHE | N | 2.70 |
| 1 | BD | 170:THR | C | 171:ALA | N | 2.70 |
| 1 | BE | 84:ALA | C | 85:GLY | N | 2.70 |
| 1 | BE | 221:ARG | C | 222:LEU | N | 2.70 |
| 1 | BE | 251:GLU | C | 252:ARG | N | 2.70 |
| 1 | BI | 49:ARG | C | 50:GLY | N | 2.70 |
| 1 | BQ | 13:LYS | C | 14:LYS | N | 2.70 |
| 1 | BT | 70:GLN | C | 71:VAL | N | 2.70 |
| 1 | Be | 25:GLU | C | 26:LYS | N | 2.70 |
| 1 | A2 | 425:A | O3' | 426:G | P | 2.69 |
| 1 | A2 | 594:A | O3' | 595:G | P | 2.69 |
| 1 | A2 | 1140:G | O3' | 1141:G | P | 2.69 |
| 1 | BH | 90:VAL | C | 91:ILE | N | 2.69 |
| 1 | BI | 170:SER | C | 171:SER | N | 2.69 |
| 1 | BO | 58:TYR | C | 59:ALA | N | 2.69 |
| 1 | BQ | 140:LYS | C | 141:SER | N | 2.69 |
| 1 | BT | 138:GLN | C | 139:THR | N | 2.69 |
| 1 | BX | 107:PHE | C | 108:GLY | N | 2.69 |
| 1 | Bd | 46:LYS | C | 47:ALA | N | 2.69 |
| 1 | Bg | 52:GLN | C | 53:LYS | N | 2.69 |
| 1 | BC | 157:LYS | C | 158:THR | N | 2.68 |
| 1 | BD | 109:LEU | C | 110:LEU | N | 2.68 |
| 1 | BE | 243:GLY | C | 244:ILE | N | 2.68 |
| 1 | BP | 85:ILE | C | 86:VAL | N | 2.68 |

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| Model | Chain | Residue-1 | Atom-1 | Residue-2 | Atom-2 | Distance (Å) |
|---|---|---|---|---|---|---|
| 1 | Bb | 70:LYS | C | 71:ALA | N | 2.68 |
| 1 | BC | 201:ASN | C | 202:GLY | N | 2.67 |
| 1 | BC | 204:THR | C | 205:ARG | N | 2.67 |
| 1 | BL | 110:HIS | C | 111:VAL | N | 2.67 |
| 1 | BT | 43:ASN | C | 44:GLU | N | 2.67 |
| 1 | BY | 59:GLY | C | 60:PHE | N | 2.67 |
| 1 | BY | 68:LYS | C | 69:SER | N | 2.67 |
| 1 | A2 | 952:A | O3' | 953:G | P | 2.66 |
| 1 | BC | 139:ILE | C | 140:ARG | N | 2.66 |
| 1 | BD | 197:THR | C | 198:GLY | N | 2.66 |
| 1 | BE | 27:TYR | C | 28:ALA | N | 2.66 |
| 1 | BE | 29:PRO | C | 30:ARG | N | 2.66 |
| 1 | BF | 57:SER | C | 58:LEU | N | 2.66 |
| 1 | BN | 128:TYR | C | 129:TYR | N | 2.66 |
| 1 | Bf | 95:ALA | C | 96:ALA | N | 2.66 |
| 1 | Bg | 287:PRO | C | 288:HIS | N | 2.66 |
| 1 | A2 | 848:C | O3' | 849:C | P | 2.65 |
| 1 | A2 | 876:G | O3' | 877:G | P | 2.65 |
| 1 | A2 | 1113:A | O3' | 1114:G | P | 2.65 |
| 1 | A2 | 1237:G | O3' | 1238:A | P | 2.65 |
| 1 | A2 | 1517:U | O3' | 1518:C | P | 2.65 |
| 1 | BC | 138:PRO | C | 139:ILE | N | 2.65 |
| 1 | BM | 34:THR | C | 35:ALA | N | 2.65 |
| 1 | BN | 96:VAL | C | 97:SER | N | 2.65 |
| 1 | BS | 83:ALA | C | 84:TRP | N | 2.65 |
| 1 | Bd | 43:PHE | C | 44:ARG | N | 2.65 |
| 1 | A2 | 353:A | O3' | 354:C | P | 2.64 |
| 1 | BC | 161:LYS | C | 162:CYS | N | 2.64 |
| 1 | BE | 235:TYR | C | 236:ILE | N | 2.64 |
| 1 | BH | 21:ALA | C | 22:GLN | N | 2.64 |
| 1 | BJ | 62:ARG | C | 63:ASP | N | 2.64 |
| 1 | BL | 96:LYS | C | 97:TYR | N | 2.64 |
| 1 | BN | 18:TYR | C | 19:SER | N | 2.64 |
| 1 | BQ | 20:ALA | C | 21:HIS | N | 2.64 |
| 1 | BQ | 86:ALA | C | 87:LYS | N | 2.64 |
| 1 | BX | 37:ALA | C | 38:PHE | N | 2.64 |
| 1 | A2 | 156:A | O3' | 157:A | P | 2.63 |
| 1 | A2 | 755:A | O3' | 756:A | P | 2.63 |
| 1 | A2 | 1621:U | O3' | 1622:G | P | 2.63 |
| 1 | BA | 108:THR | C | 109:ASN | N | 2.63 |
| 1 | BC | 47:ALA | C | 48:GLY | N | 2.63 |
| 1 | BI | 7:SER | C | 8:ARG | N | 2.63 |

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| Model | Chain | Residue-1 | Atom-1 | Residue-2 | Atom-2 | Distance (Å) |
|---|---|---|---|---|---|---|
| 1 | BI | 96:LEU | C | 97:THR | N | 2.63 |
| 1 | BJ | 89:ASP | C | 90:LYS | N | 2.63 |
| 1 | BL | 128:CYS | C | 129:ARG | N | 2.63 |
| 1 | BR | 56:HIS | C | 57:LEU | N | 2.63 |
| 1 | BW | 6:VAL | C | 7:LEU | N | 2.63 |
| 1 | BW | 14:ILE | C | 15:ASN | N | 2.63 |
| 1 | A2 | 1720:G | O3' | 1721:A | P | 2.62 |
| 1 | BB | 222:LYS | C | 223:PHE | N | 2.62 |
| 1 | BC | 133:LYS | C | 134:LEU | N | 2.62 |
| 1 | BI | 112:TRP | C | 113:PHE | N | 2.62 |
| 1 | BJ | 97:LEU | C | 98:ALA | N | 2.62 |
| 1 | BK | 50:THR | C | 51:SER | N | 2.62 |
| 1 | BN | 61:THR | C | 62:GLN | N | 2.62 |
| 1 | Bg | 65:SER | C | 66:HIS | N | 2.62 |
| 1 | A2 | 89:G | O3' | 90:C | P | 2.61 |
| 1 | BD | 148:LYS | C | 149:ALA | N | 2.61 |
| 1 | BG | 75:LEU | C | 76:LEU | N | 2.61 |
| 1 | BI | 169:ILE | C | 170:SER | N | 2.61 |
| 1 | BR | 113:LEU | C | 114:GLY | N | 2.61 |
| 1 | BX | 120:VAL | C | 121:ARG | N | 2.61 |
| 1 | BY | 9:THR | C | 10:ARG | N | 2.61 |
| 1 | Bd | 23:VAL | C | 24:CYS | N | 2.61 |
| 1 | Bg | 70:ASP | C | 71:CYS | N | 2.61 |
| 1 | A2 | 566:C | O3' | 567:A | P | 2.60 |
| 1 | A2 | 1748:G | O3' | 1749:A | P | 2.60 |
| 1 | BB | 167:VAL | C | 168:ILE | N | 2.60 |
| 1 | BC | 199:GLN | C | 200:SER | N | 2.60 |
| 1 | BE | 140:VAL | C | 141:THR | N | 2.60 |
| 1 | BG | 19:ASP | C | 20:ASP | N | 2.60 |
| 1 | BH | 97:ARG | C | 98:ILE | N | 2.60 |
| 1 | BN | 64:ARG | C | 65:VAL | N | 2.60 |
| 1 | BU | 78:THR | C | 79:TRP | N | 2.60 |
| 1 | BW | 79:PHE | C | 80:ASN | N | 2.60 |
| 1 | Ba | 23:CYS | C | 24:VAL | N | 2.60 |
| 1 | A2 | 341:A | O3' | 342:C | P | 2.59 |
| 1 | A2 | 1036:A | O3' | 1037:C | P | 2.59 |
| 1 | A2 | 1673:G | O3' | 1674:C | P | 2.59 |
| 1 | BC | 211:LEU | C | 212:LYS | N | 2.59 |
| 1 | BD | 68:GLU | C | 69:LEU | N | 2.59 |
| 1 | BD | 152:PHE | C | 153:ALA | N | 2.59 |
| 1 | BG | 125:THR | C | 126:ASP | N | 2.59 |
| 1 | BL | 97:TYR | C | 98:ASN | N | 2.59 |

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| Model | Chain | Residue-1 | Atom-1 | Residue-2 | Atom-2 | Distance (Å) |
|---|---|---|---|---|---|---|
| 1 | BX | 83:VAL | C | 84:THR | N | 2.59 |
| 1 | BB | 126:THR | C | 127:VAL | N | 2.58 |
| 1 | BD | 101:GLN | C | 102:ALA | N | 2.58 |
| 1 | BW | 58:SER | C | 59:GLY | N | 2.58 |
| 1 | BX | 7:ARG | C | 8:GLY | N | 2.58 |
| 1 | Ba | 27:SER | C | 28:LYS | N | 2.58 |
| 1 | A2 | 554:C | O3' | 555:A | P | 2.57 |
| 1 | A2 | 1160:A | O3' | 1161:C | P | 2.57 |
| 1 | BM | 44:GLY | C | 45:LEU | N | 2.57 |
| 1 | BV | 35:ASN | C | 36:VAL | N | 2.57 |
| 1 | BX | 113:ALA | C | 114:LYS | N | 2.57 |
| 1 | Bb | 19:HIS | C | 20:LYS | N | 2.57 |
| 1 | A2 | 936:G | O3' | 937:C | P | 2.56 |
| 1 | BE | 11:ARG | C | 12:LEU | N | 2.56 |
| 1 | BU | 93:LEU | C | 94:GLU | N | 2.56 |
| 1 | BW | 124:LYS | C | 125:ILE | N | 2.56 |
| 1 | A2 | 410:A | O3' | 411:C | P | 2.55 |
| 1 | A2 | 887:A | O3' | 888:U | P | 2.55 |
| 1 | BE | 200:ARG | C | 201:HIS | N | 2.55 |
| 1 | BL | 56:LYS | C | 57:LYS | N | 2.55 |
| 1 | BW | 112:ASP | C | 113:HIS | N | 2.55 |
| 1 | Ba | 35:ALA | C | 36:ILE | N | 2.55 |
| 1 | Bd | 40:ARG | C | 41:GLN | N | 2.55 |
| 1 | A2 | 44:U | O3' | 45:U | P | 2.54 |
| 1 | A2 | 365:G | O3' | 366:A | P | 2.54 |
| 1 | A2 | 1023:A | O3' | 1024:U | P | 2.54 |
| 1 | A2 | 1637:C | O3' | 1638:G | P | 2.54 |
| 1 | BC | 99:LYS | C | 100:ALA | N | 2.54 |
| 1 | BE | 108:ARG | C | 109:PHE | N | 2.54 |
| 1 | BK | 26:ASP | C | 27:PHE | N | 2.54 |
| 1 | Bg | 309:VAL | C | 310:ILE | N | 2.54 |
| 1 | A2 | 1205:C | O3' | 1206:U | P | 2.53 |
| 1 | A2 | 1269:U | O3' | 1270:G | P | 2.53 |
| 1 | BC | 116:LYS | C | 117:THR | N | 2.53 |
| 1 | BE | 159:THR | C | 160:VAL | N | 2.53 |
| 1 | BG | 175:ILE | C | 176:GLN | N | 2.53 |
| 1 | BH | 16:LEU | C | 17:GLU | N | 2.53 |
| 1 | BI | 81:VAL | C | 82:VAL | N | 2.53 |
| 1 | BJ | 60:LEU | C | 61:THR | N | 2.53 |
| 1 | BV | 53:TYR | C | 54:ALA | N | 2.53 |
| 1 | Ba | 3:LYS | C | 4:LYS | N | 2.53 |
| 1 | A2 | 49:C | O3' | 50:C | P | 2.52 |

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| Model | Chain | Residue-1 | Atom-1 | Residue-2 | Atom-2 | Distance (Å) |
|---|---|---|---|---|---|---|
| 1 | A2 | 1315:U | O3' | 1316:G | P | 2.52 |
| 1 | A2 | 1425:A | O3' | 1426:C | P | 2.52 |
| 1 | A2 | 1316:G | O3' | 1317:C | P | 2.51 |
| 1 | A2 | 1636:C | O3' | 1637:C | P | 2.51 |
| 1 | BF | 96:SER | C | 97:LEU | N | 2.51 |
| 1 | BF | 120:ILE | C | 121:ILE | N | 2.51 |
| 1 | BX | 74:VAL | C | 75:GLN | N | 2.51 |
| 1 | Ba | 8:ASN | C | 9:GLY | N | 2.51 |
| 1 | A2 | 802:G | O3' | 803:A | P | 2.50 |
| 1 | BE | 150:PRO | C | 151:ASP | N | 2.50 |
| 1 | BL | 43:LYS | C | 44:THR | N | 2.50 |
| 1 | Bb | 8:LEU | C | 9:HIS | N | 2.50 |
| 1 | Bg | 299:GLN | C | 300:THR | N | 2.50 |
| 1 | A2 | 599:A | O3' | 600:U | P | 2.49 |
| 1 | A2 | 1136:U | O3' | 1137:A | P | 2.49 |
| 1 | BB | 142:PHE | C | 143:THR | N | 2.49 |
| 1 | BB | 149:GLN | C | 150:VAL | N | 2.49 |
| 1 | BC | 127:ALA | C | 128:GLY | N | 2.49 |
| 1 | BE | 158:ASP | C | 159:THR | N | 2.49 |
| 1 | BY | 109:LYS | C | 110:GLN | N | 2.49 |
| 1 | A2 | 942:G | O3' | 943:C | P | 2.48 |
| 1 | BB | 228:LEU | C | 229:MET | N | 2.48 |
| 1 | BC | 184:VAL | C | 185:LYS | N | 2.48 |
| 1 | BD | 19:ALA | C | 20:GLU | N | 2.48 |
| 1 | BJ | 134:ILE | C | 135:ALA | N | 2.48 |
| 1 | BL | 17:PRO | C | 18:HIS | N | 2.48 |
| 1 | A2 | 1068:C | O3' | 1069:A | P | 2.47 |
| 1 | A2 | 1453:G | O3' | 1454:G | P | 2.47 |
| 1 | BB | 155:TYR | C | 156:ALA | N | 2.47 |
| 1 | BH | 163:ASP | C | 164:TYR | N | 2.47 |
| 1 | BI | 30:GLY | C | 31:ARG | N | 2.47 |
| 1 | BJ | 45:ILE | C | 46:SER | N | 2.47 |
| 1 | BJ | 157:ASP | C | 158:PHE | N | 2.47 |
| 1 | BK | 51:SER | C | 52:LYS | N | 2.47 |
| 1 | BK | 84:GLU | C | 85:HIS | N | 2.47 |
| 1 | BZ | 100:ILE | C | 101:TYR | N | 2.47 |
| 1 | Bb | 73:LEU | C | 74:SER | N | 2.47 |
| 1 | A2 | 611:U | O3' | 612:U | P | 2.46 |
| 1 | BG | 28:PHE | C | 29:ASP | N | 2.46 |
| 1 | BR | 118:PRO | C | 119:LEU | N | 2.46 |
| 1 | A2 | 565:C | O3' | 566:C | P | 2.45 |
| 1 | A2 | 965:U | O3' | 966:A | P | 2.45 |

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| Model | Chain | Residue-1 | Atom-1 | Residue-2 | Atom-2 | Distance (Å) |
|---|---|---|---|---|---|---|
| 1 | A2 | 1344:A | O3' | 1345:A | P | 2.45 |
| 1 | BI | 42:ARG | C | 43:ILE | N | 2.45 |
| 1 | BL | 123:VAL | C | 124:THR | N | 2.45 |
| 1 | BT | 96:ALA | C | 97:SER | N | 2.45 |
| 1 | BY | 37:LYS | C | 38:ASP | N | 2.45 |
| 1 | A2 | 590:C | O3' | 591:A | P | 2.44 |
| 1 | A2 | 1588:G | O3' | 1589:C | P | 2.44 |
| 1 | BD | 164:VAL | C | 165:ASN | N | 2.44 |
| 1 | BJ | 87:SER | C | 88:GLU | N | 2.44 |
| 1 | BW | 77:PRO | C | 78:ARG | N | 2.44 |
| 1 | BX | 68:ILE | C | 69:ARG | N | 2.44 |
| 1 | BY | 4:ALA | C | 5:VAL | N | 2.44 |
| 1 | A2 | 452:A | O3' | 453:U | P | 2.43 |
| 1 | BC | 96:THR | C | 97:ARG | N | 2.43 |
| 1 | BF | 166:ARG | C | 167:ARG | N | 2.43 |
| 1 | BH | 181:ILE | C | 182:VAL | N | 2.43 |
| 1 | BJ | 9:SER | C | 10:LYS | N | 2.43 |
| 1 | BR | 11:ARG | C | 12:ALA | N | 2.43 |
| 1 | A2 | 20:G | O3' | 21:U | P | 2.42 |
| 1 | A2 | 552:G | O3' | 553:G | P | 2.42 |
| 1 | A2 | 622:A | O3' | 623:A | P | 2.42 |
| 1 | Ba | 17:HIS | C | 18:VAL | N | 2.42 |
| 1 | Ba | 78:ALA | C | 79:ILE | N | 2.42 |
| 1 | Be | 15:LYS | C | 16:SER | N | 2.42 |
| 1 | A2 | 1731:A | O3' | 1732:A | P | 2.41 |
| 1 | BF | 173:ALA | C | 174:LEU | N | 2.41 |
| 1 | BN | 38:VAL | C | 39:LYS | N | 2.41 |
| 1 | BW | 89:TRP | C | 90:THR | N | 2.41 |
| 1 | BX | 73:ARG | C | 74:VAL | N | 2.41 |
| 1 | A2 | 1084:A | O3' | 1085:G | P | 2.40 |
| 1 | A2 | 1124:A | O3' | 1125:A | P | 2.40 |
| 1 | BI | 152:ILE | C | 153:GLU | N | 2.40 |
| 1 | BW | 68:ARG | C | 69:LEU | N | 2.40 |
| 1 | BW | 104:LEU | C | 105:THR | N | 2.40 |
| 1 | Ba | 25:ASN | C | 26:CYS | N | 2.40 |
| 1 | A2 | 577:G | O3' | 578:U | P | 2.39 |
| 1 | A2 | 800:U | O3' | 801:G | P | 2.39 |
| 1 | A2 | 872:G | O3' | 873:U | P | 2.39 |
| 1 | BE | 145:ARG | C | 146:THR | N | 2.39 |
| 1 | BL | 65:SER | C | 66:ILE | N | 2.39 |
| 1 | BO | 122:PRO | C | 123:SER | N | 2.39 |
| 1 | Bb | 21:LEU | C | 22:LYS | N | 2.39 |

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| Model | Chain | Residue-1 | Atom-1 | Residue-2 | Atom-2 | Distance (Å) |
|---|---|---|---|---|---|---|
| 1 | Bc | 47:PRO | C | 48:VAL | N | 2.39 |
| 1 | A2 | 1785:U | O3' | 1786:G | P | 2.38 |
| 1 | A2 | 1433:G | O3' | 1434:U | P | 2.37 |
| 1 | A2 | 1790:A | O3' | 1791:A | P | 2.37 |
| 1 | BB | 67:GLU | C | 68:VAL | N | 2.37 |
| 1 | BL | 7:VAL | C | 8:GLN | N | 2.37 |
| 1 | BX | 135:LEU | C | 136:TRP | N | 2.37 |
| 1 | A2 | 19:A | O3' | 20:G | P | 2.36 |
| 1 | A2 | 522:U | O3' | 523:G | P | 2.36 |
| 1 | BI | 3:ILE | C | 4:SER | N | 2.36 |
| 1 | BI | 104:ILE | C | 105:ASP | N | 2.36 |
| 1 | BJ | 126:ARG | C | 127:VAL | N | 2.36 |
| 1 | BD | 135:GLU | C | 136:VAL | N | 2.35 |
| 1 | BW | 110:ILE | C | 111:MET | N | 2.35 |
| 1 | BY | 56:SER | C | 57:VAL | N | 2.35 |
| 1 | Bg | 61:PHE | C | 62:LYS | N | 2.35 |
| 1 | A2 | 65:A | O3' | 66:U | P | 2.34 |
| 1 | A2 | 468:A | O3' | 469:C | P | 2.34 |
| 1 | BV | 56:SER | C | 57:GLY | N | 2.34 |
| 1 | BW | 102:VAL | C | 103:ILE | N | 2.34 |
| 1 | A2 | 424:C | O3' | 425:A | P | 2.33 |
| 1 | A2 | 439:U | O3' | 440:U | P | 2.33 |
| 1 | BC | 44:LEU | C | 45:VAL | N | 2.33 |
| 1 | BD | 201:ALA | C | 202:LEU | N | 2.33 |
| 1 | BW | 25:VAL | C | 26:LEU | N | 2.33 |
| 1 | BY | 39:GLU | C | 40:LEU | N | 2.33 |
| 1 | A2 | 4:C | O3' | 5:U | P | 2.32 |
| 1 | BD | 208:ILE | C | 209:ILE | N | 2.32 |
| 1 | BG | 123:GLY | C | 124:LEU | N | 2.31 |
| 1 | BI | 87:ASN | C | 88:ASN | N | 2.31 |
| 1 | BP | 103:ASN | C | 104:GLN | N | 2.31 |
| 1 | BW | 23:ARG | C | 24:GLN | N | 2.31 |
| 1 | A2 | 624:G | O3' | 625:C | P | 2.30 |
| 1 | BB | 209:ASN | C | 210:ILE | N | 2.30 |
| 1 | A2 | 459:G | O3' | 460:A | P | 2.29 |
| 1 | A2 | 818:C | O3' | 819:G | P | 2.29 |
| 1 | A2 | 988:A | O3' | 989:U | P | 2.29 |
| 1 | A2 | 1437:U | O3' | 1438:G | P | 2.29 |
| 1 | BX | 125:VAL | C | 126:LYS | N | 2.28 |
| 1 | A2 | 40:A | O3' | 41:A | P | 2.27 |
| 1 | BX | 18:HIS | C | 19:ARG | N | 2.27 |
| 1 | BX | 130:VAL | C | 131:SER | N | 2.27 |

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| Model | Chain | Residue-1 | Atom-1 | Residue-2 | Atom-2 | Distance (Å) |
|---|---|---|---|---|---|---|
| 1 | A2 | 1583:A | O3' | 1584:G | P | 2.26 |
| 1 | BW | 34:ILE | C | 35:ILE | N | 2.26 |
| 1 | A2 | 975:C | O3' | 976:G | P | 2.25 |
| 1 | BE | 16:HIS | C | 17:HIS | N | 2.25 |
| 1 | BG | 96:SER | C | 97:VAL | N | 2.25 |
| 1 | BW | 71:LYS | C | 72:CYS | N | 2.25 |
| 1 | A2 | 354:C | O3' | 355:G | P | 2.24 |
| 1 | A2 | 1037:C | O3' | 1038:U | P | 2.24 |
| 1 | BE | 65:LEU | C | 66:MET | N | 2.24 |
| 1 | BO | 54:GLU | C | 55:SER | N | 2.23 |
| 1 | A2 | 101:U | O3' | 102:U | P | 2.22 |
| 1 | BN | 5:HIS | C | 6:SER | N | 2.22 |
| 1 | BN | 112:LYS | C | 113:PHE | N | 2.21 |
| 1 | BX | 54:LEU | C | 55:GLU | N | 2.21 |
| 1 | A2 | 633:U | O3' | 634:G | P | 2.19 |
| 1 | A2 | 897:C | O3' | 898:A | P | 2.19 |
| 1 | BE | 137:PRO | C | 138:TYR | N | 2.19 |
| 1 | BH | 110:GLN | C | 111:LYS | N | 2.19 |
| 1 | A2 | 1797:A | O3' | 1798:U | P | 2.18 |
| 1 | BF | 110:ALA | C | 111:VAL | N | 2.18 |
| 1 | BB | 100:PHE | C | 101:HIS | N | 2.17 |
| 1 | BW | 65:LEU | C | 66:ASN | N | 2.17 |
| 1 | A2 | 388:G | O3' | 389:G | P | 2.16 |
| 1 | A2 | 1388:A | O3' | 1389:C | P | 2.16 |
| 1 | A2 | 56:U | O3' | 57:G | P | 2.15 |
| 1 | A2 | 935:U | O3' | 936:G | P | 2.15 |
| 1 | A2 | 419:G | O3' | 420:A | P | 2.14 |
| 1 | A2 | 1377:U | O3' | 1378:U | P | 2.14 |
| 1 | AZ | 6106:A | O3' | 6107:U | P | 2.14 |
| 1 | BE | 106:LYS | C | 107:GLY | N | 2.14 |
| 1 | BP | 105:VAL | C | 106:GLU | N | 2.14 |
| 1 | A2 | 47:A | O3' | 48:G | P | 2.12 |
| 1 | BE | 60:GLU | C | 61:VAL | N | 2.12 |
| 1 | A2 | 1732:A | O3' | 1733:C | P | 2.09 |
| 1 | A2 | 862:A | O3' | 863:A | P | 2.08 |
| 1 | A2 | 464:A | O3' | 465:G | P | 2.07 |
| 1 | A2 | 399:A | O3' | 400:A | P | 2.06 |
| 1 | A2 | 997:G | O3' | 998:A | P | 2.06 |
| 1 | A2 | 352:A | O3' | 353:A | P | 2.03 |
| 1 | A2 | 1030:A | O3' | 1031:U | P | 1.98 |
| 1 | A2 | 960:U | O3' | 961:U | P | 1.97 |
| 1 | A2 | 1417:A | O3' | 1418:G | P | 1.90 |

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| Model | Chain | Residue-1 | Atom-1 | Residue-2 | Atom-2 | Distance (Å) |
|---|---|---|---|---|---|---|
| 1 | A2 | 104:A | O3' | 105:A | P | 1.89 |

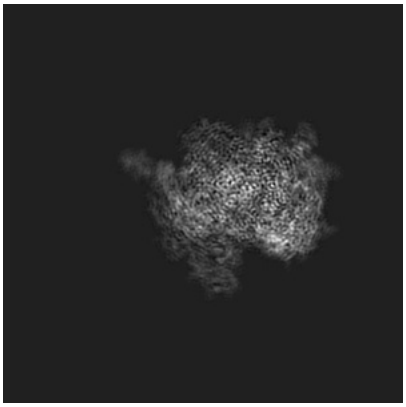
# 6 Map visualisation

This section contains visualisations of the EMDB entry EMD-2604. These allow visual inspection of the internal detail of the map and identification of artifacts.

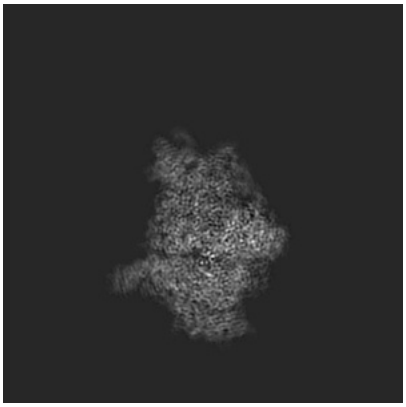
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

## 6.1 Orthogonal projections

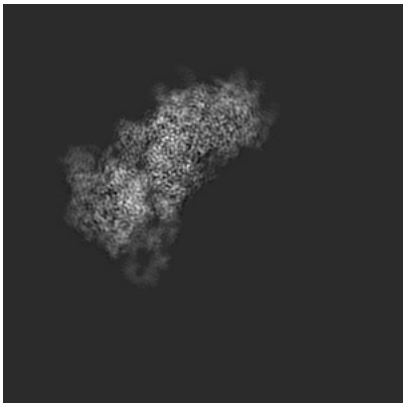
### 6.1.1 Primary map



X



Y



Z

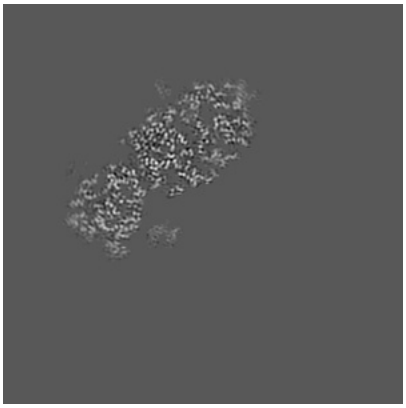
The images above show the map projected in three orthogonal directions.

## 6.2 Central slices

### 6.2.1 Primary map

X Index: 160

Y Index: 160

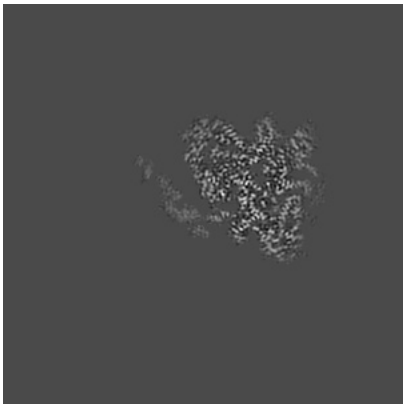


Z Index: 160

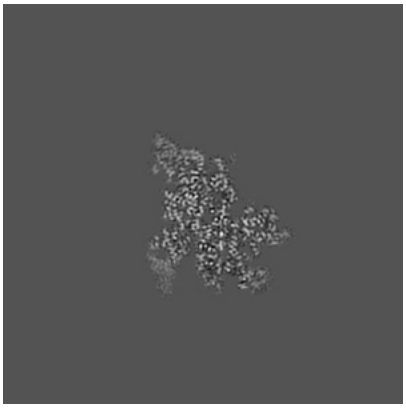
The images above show central slices of the map in three orthogonal directions.

## 6.3 Largest variance slices (i)

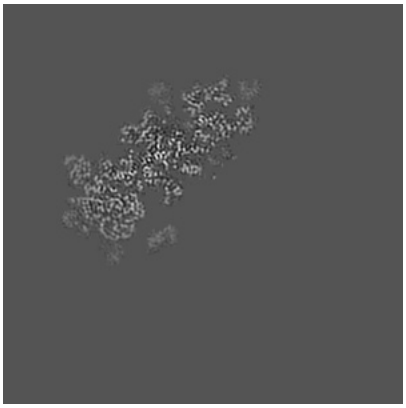
### 6.3.1 Primary map



X Index: 132



Y Index: 215

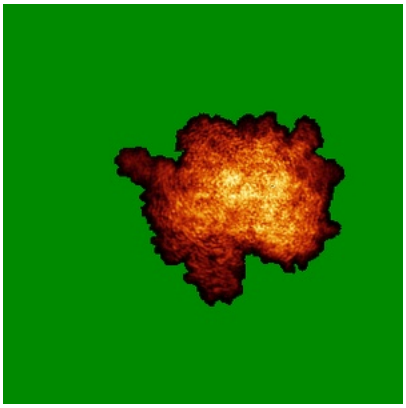


Z Index: 166

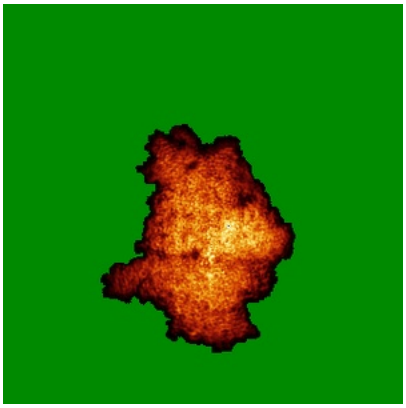
The images above show the largest variance slices of the map in three orthogonal directions.

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

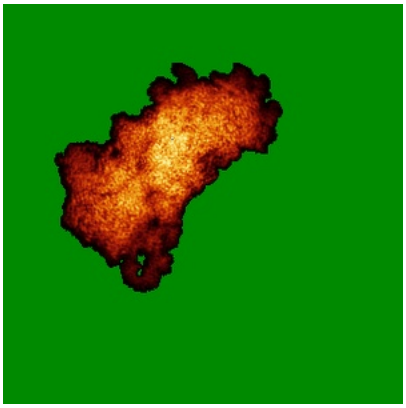
### 6.4.1 Primary map



X



Y



Z

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

## 6.5 Orthogonal surface views (i)

This section was not generated.

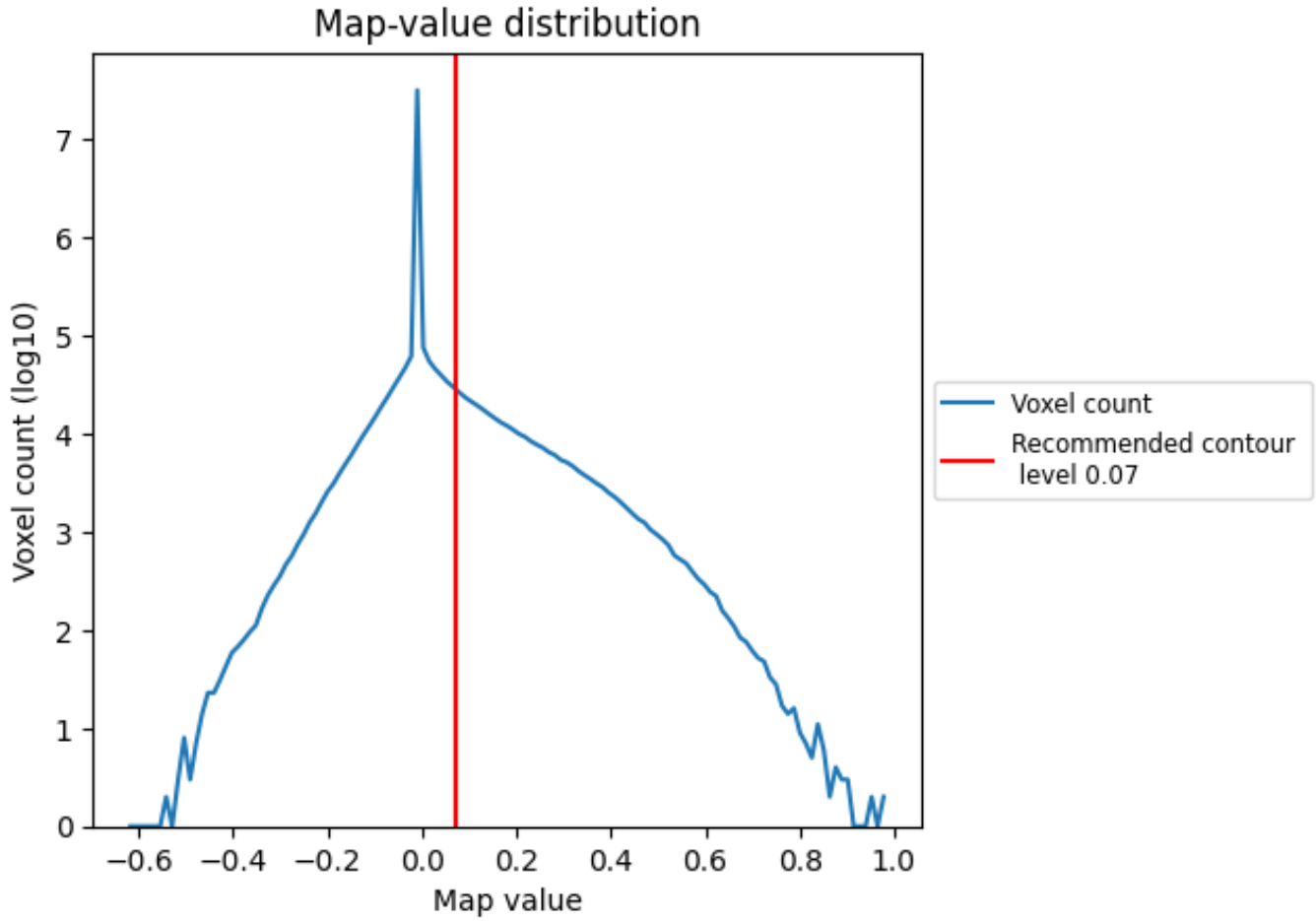
## 6.6 Mask visualisation (i)

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

# 7 Map analysis

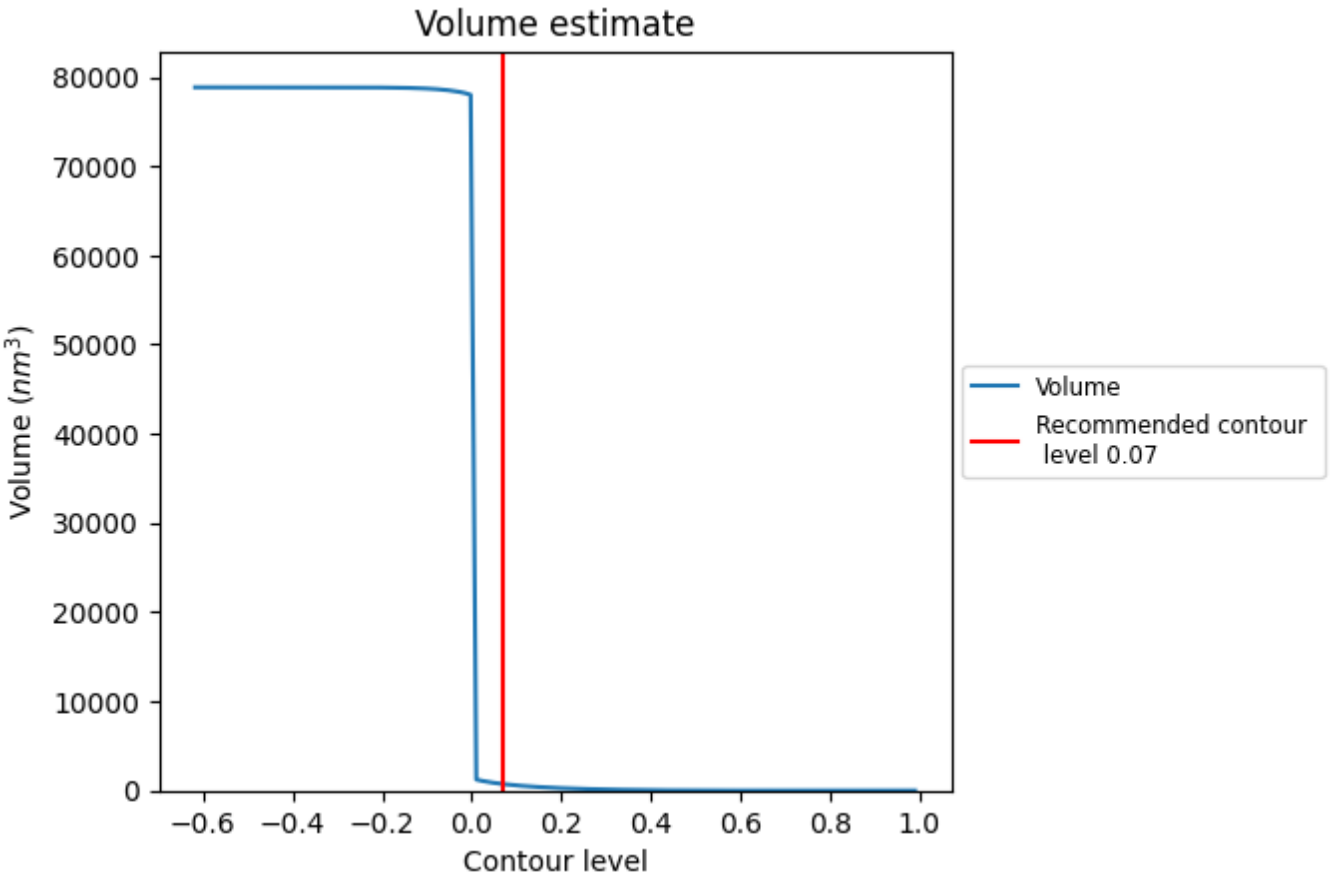
This section contains the results of statistical analysis of the map.

## 7.1 Map-value distribution




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

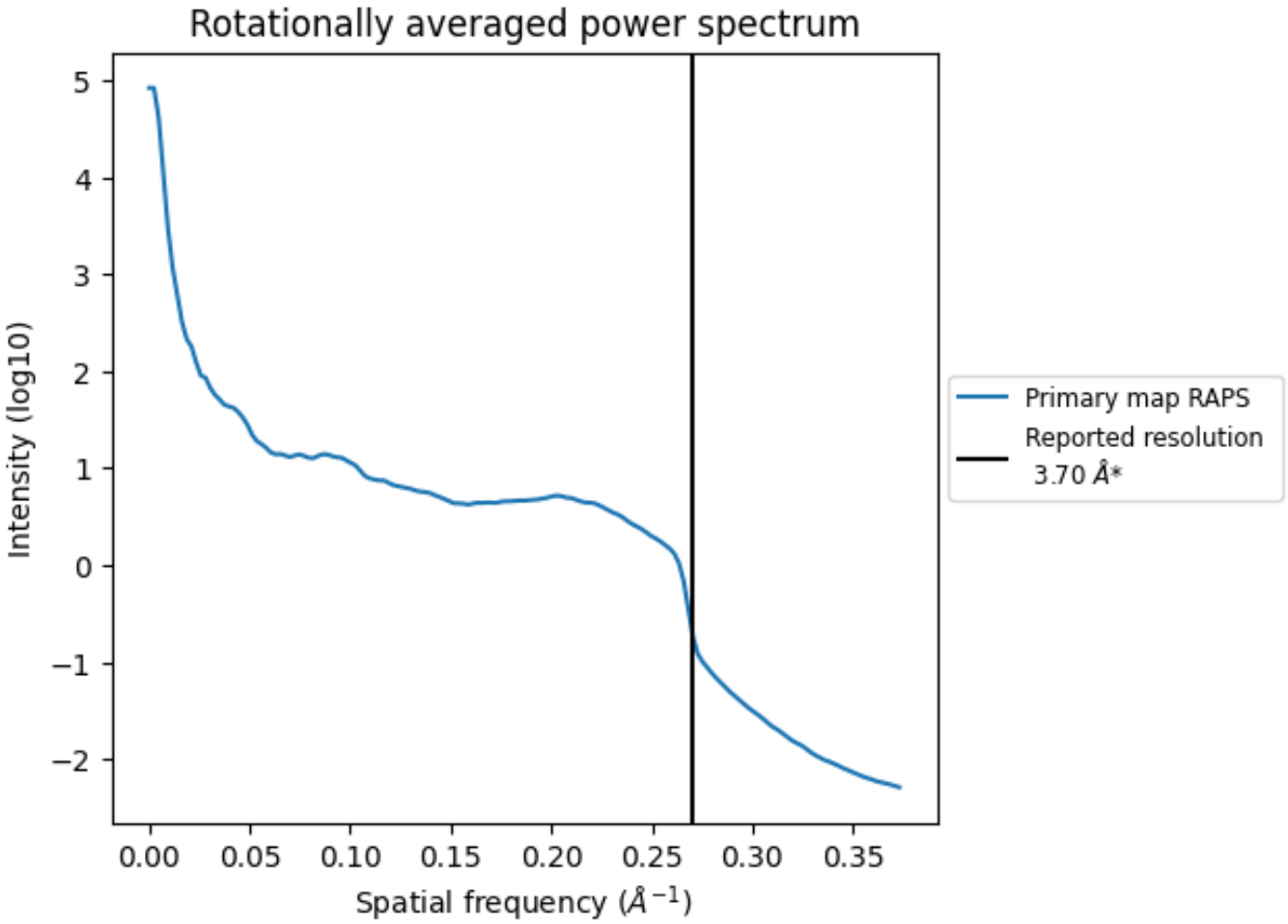
## 7.2 Volume estimate




The volume at the recommended contour level is 732 $nm^3$; this corresponds to an approximate mass of 661 kDa.

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

## 7.3 Rotationally averaged power spectrum (i)




*Reported resolution corresponds to spatial frequency of 0.270 Å$^{-1}$

# 8 Fourier-Shell correlation (i)

This section was not generated. No FSC curve or half-maps provided.

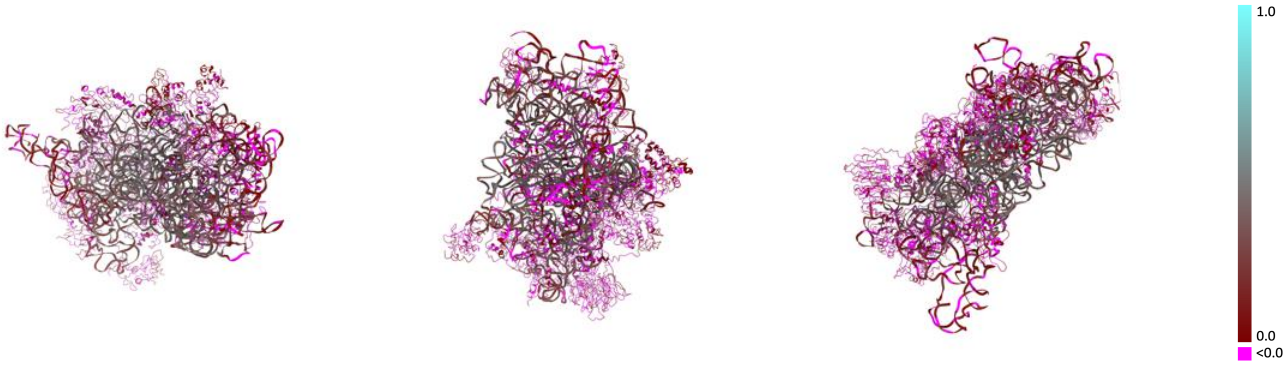
# 9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-2604 and PDB model 4V92. Per-residue inclusion information can be found in section 3 on page 11.

## 9.1 Map-model overlay

This section was not generated.

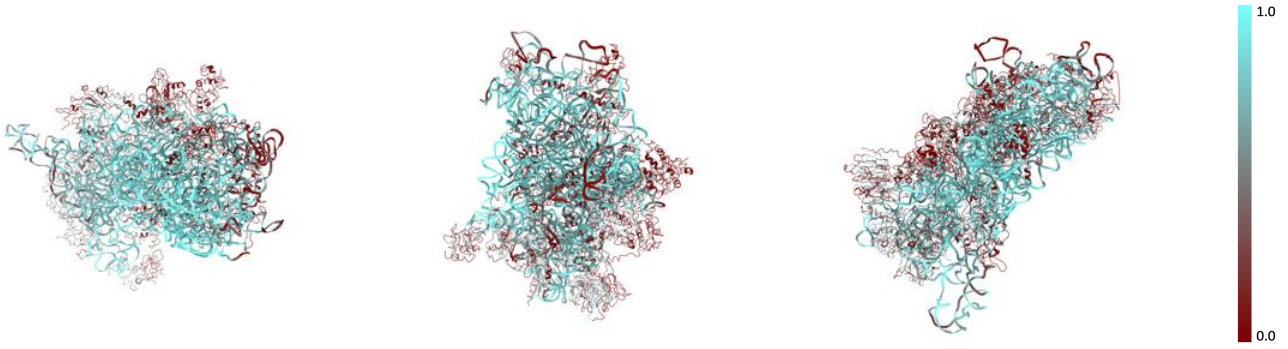
## 9.2 Q-score mapped to coordinate model




X Y Z

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

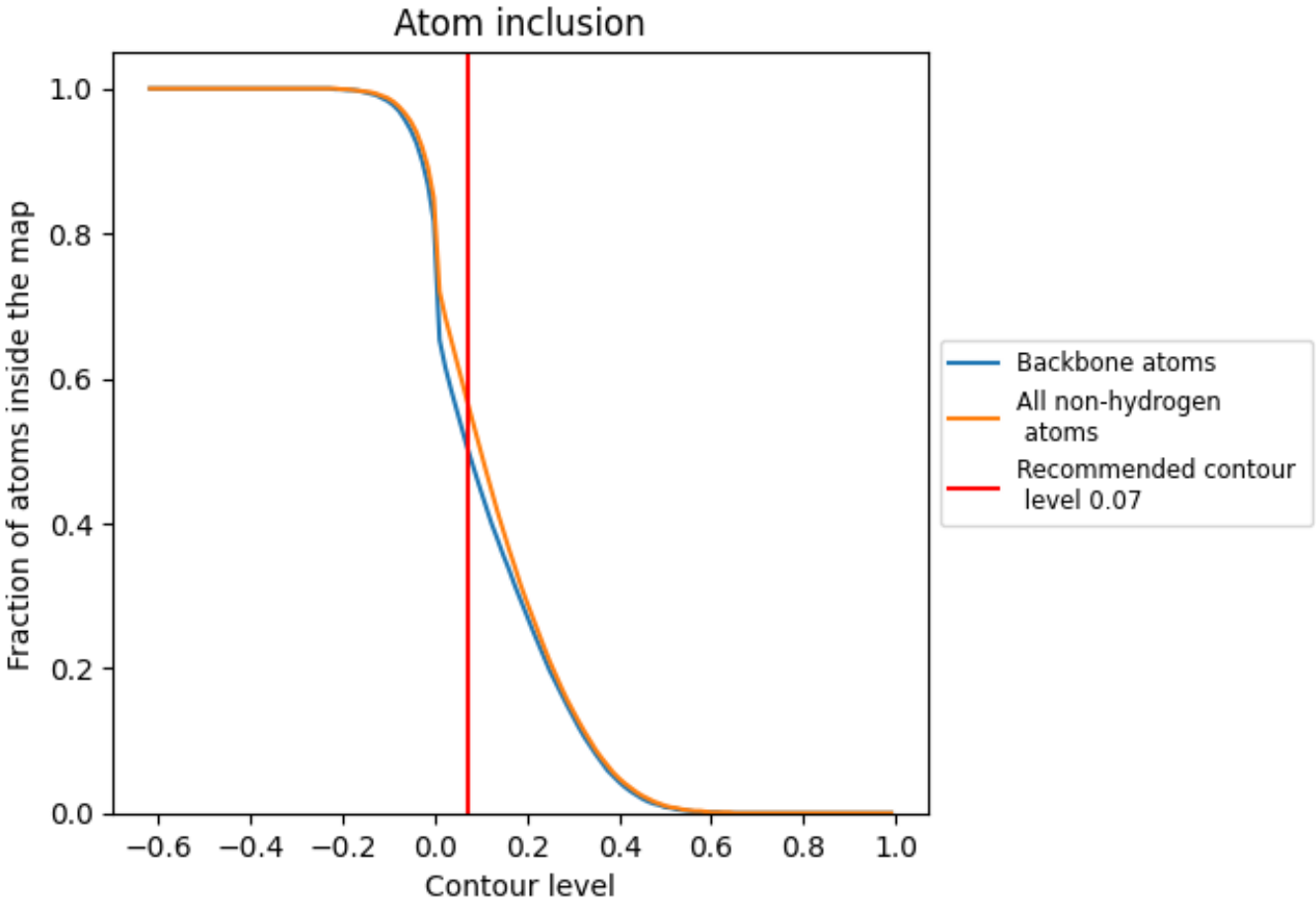
## 9.3 Atom inclusion mapped to coordinate model




X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.07).

## 9.4 Atom inclusion (i)




At the recommended contour level, 50% of all backbone atoms, 57% of all non-hydrogen atoms, are inside the map.

## 9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.07) and Q-score for the entire model and for each chain.

| Chain | Atom inclusion | Q-score |
|---|---|---|
| All | 0.5690 | 0.1590 |
| A2 | 0.8410 | 0.3170 |
| AZ | 0.6810 | 0.1240 |
| BA | 0.1470 | -0.0090 |
| BB | 0.3000 | 0.0170 |
| BC | 0.2880 | 0.0070 |
| BD | 0.2120 | -0.0100 |
| BE | 0.2780 | 0.0090 |
| BF | 0.3500 | -0.0310 |
| BG | 0.2790 | 0.0230 |
| BH | 0.1180 | 0.0010 |
| BI | 0.2240 | -0.0070 |
| BJ | 0.2530 | 0.0090 |
| BK | 0.3050 | -0.0060 |
| BL | 0.1120 | 0.0110 |
| BM | 0.1190 | -0.0310 |
| BN | 0.1840 | 0.0090 |
| BO | 0.3120 | 0.0220 |
| BP | 0.3540 | 0.0130 |
| BQ | 0.4810 | 0.0470 |
| BR | 0.1720 | -0.0170 |
| BS | 0.3780 | 0.0120 |
| BT | 0.4070 | -0.0030 |
| BU | 0.2490 | -0.0000 |
| BV | 0.2350 | 0.0060 |
| BW | 0.3910 | 0.0410 |
| BX | 0.3360 | 0.0340 |
| BY | 0.3310 | 0.0280 |
| BZ | 0.3330 | -0.0250 |
| Ba | 0.3710 | 0.0150 |
| Bb | 0.1850 | 0.0230 |
| Bc | 0.2330 | -0.0630 |
| Bd | 0.2990 | -0.0060 |
| Be | 0.1890 | 0.0040 |
| Bf | 0.3940 | -0.0040 |
| Bg | 0.3250 | -0.0060 |