



wwPDB EM Map/Model Validation Report

Apr 10, 2016 – 03:24 PM BST

PDB ID : 4V5X
EMDB ID: : EMD-2210
Title : The cryo-EM structure of a 3D DNA-origami object
Authors : Bai, X.C.; Martin, T.G.; Scheres, S.H.W.; Dietz, H.
Deposited on : 2012-10-09
Resolution : 11.50 Å(reported)

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

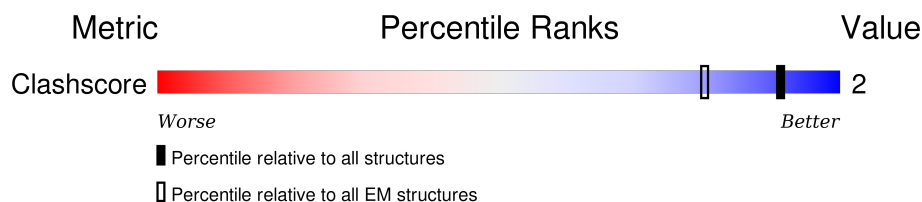
MolProbity : 4.02b-467
Mogul : unknown
Percentile statistics : 20151230.v01 (using entries in the PDB archive December 30th 2015)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et. al. (1996)
Validation Pipeline (wwPDB-VP) : trunk27241

1 Overall quality at a glance

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

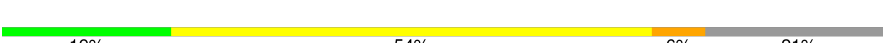
The reported resolution of this entry is 11.50 Å.

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



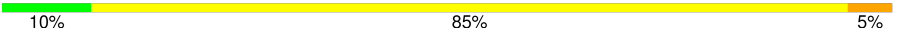
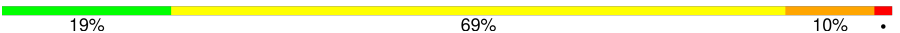
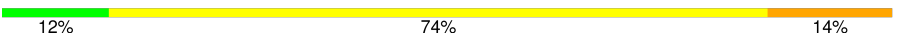


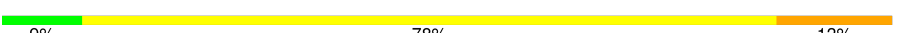
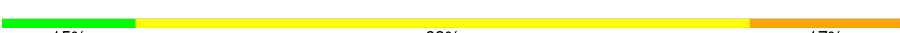




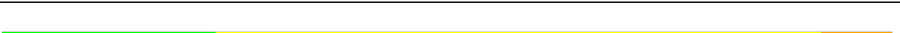




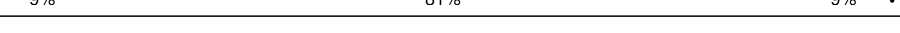


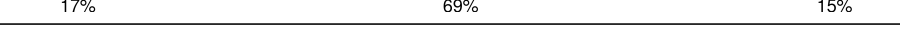
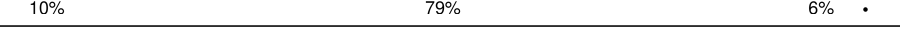
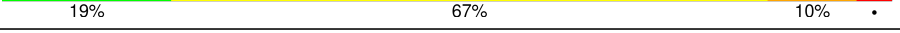

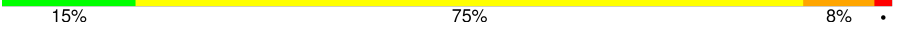

| Metric | Whole archive (#Entries) | EM structures (#Entries) |
|------------|-----------------------------|-----------------------------|
| Clashscore | 114402 | 924 |

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

| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|---|
| 1 | AA | 4896 |  27% 64% 8% |
| 2 | BA | 2353 |  29% 61% 10% |
| 3 | A0 | 55 |  18% 69% 13% |
| 4 | A1 | 44 |  18% 64% 18% |
| 5 | A2 | 50 |  12% 78% 10% |
| 6 | A3 | 40 |  23% 63% 15% |
| 7 | A4 | 48 |  19% 54% 6% 21% |
| 8 | A5 | 48 |  13% 77% 10% |
| 9 | A6 | 50 |  22% 66% 12% |
| 10 | A7 | 48 |  . 79% 8% 10% |
| 11 | A8 | 48 |  31% 54% 15% |


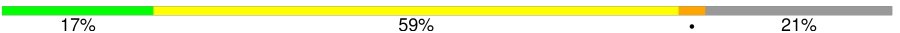
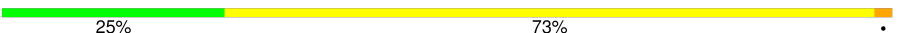


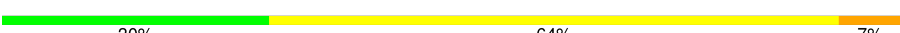
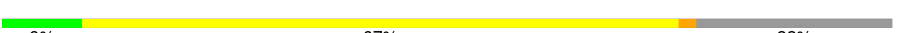




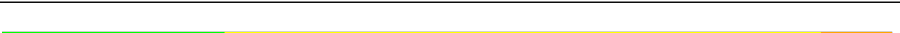




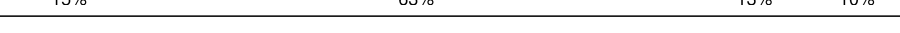

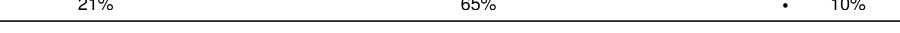


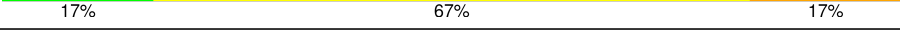

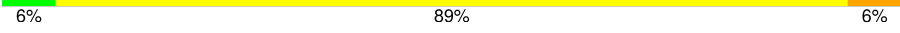

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| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|--|
| 12 | AB | 40 |  |
| 13 | AC | 48 |  |
| 14 | AD | 50 |  |
| 15 | AE | 46 |  |
| 16 | AF | 48 |  |
| 17 | AG | 46 |  |
| 18 | AH | 48 |  |
| 19 | AI | 48 |  |
| 20 | AJ | 52 |  |
| 21 | AK | 60 |  |
| 22 | AL | 48 |  |
| 23 | AM | 50 |  |
| 24 | AN | 48 |  |
| 25 | AO | 48 |  |
| 26 | AP | 40 |  |
| 27 | AQ | 57 |  |
| 28 | AR | 63 |  |
| 29 | AS | 64 |  |
| 30 | AT | 48 |  |
| 31 | AU | 48 |  |
| 32 | AV | 52 |  |
| 33 | AW | 50 |  |
| 34 | AX | 48 |  |
| 35 | AY | 42 |  |
| 36 | AZ | 54 |  |


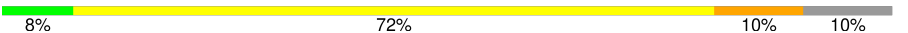
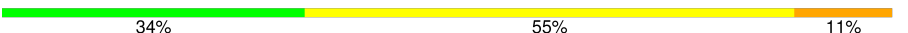



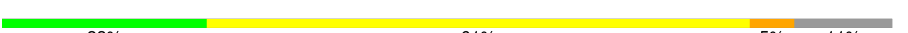




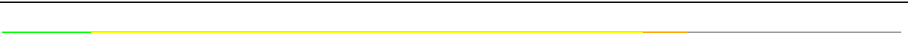



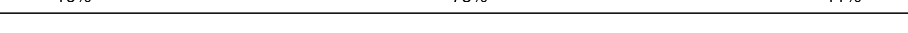
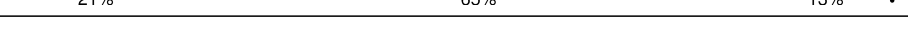
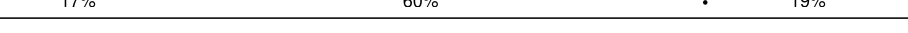

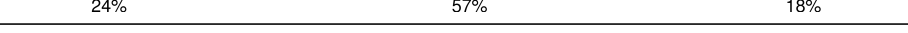



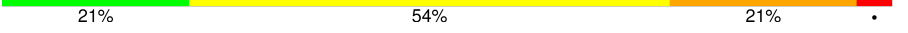

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| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|--|
| 37 | Ab | 45 |  |
| 38 | Ac | 70 |  |
| 39 | Ad | 48 |  |
| 40 | Af | 48 |  |
| 41 | Ag | 48 |  |
| 42 | Ah | 44 |  |
| 43 | Ai | 46 |  |
| 44 | Aj | 62 |  |
| 45 | Ak | 46 |  |
| 46 | Al | 48 |  |
| 47 | Am | 48 |  |
| 48 | An | 48 |  |
| 49 | Ao | 36 |  |
| 50 | As | 48 |  |
| 51 | Au | 48 |  |
| 52 | Av | 48 |  |
| 53 | Aw | 48 |  |
| 54 | Ax | 52 |  |
| 55 | Ay | 38 |  |
| 56 | Az | 51 |  |
| 57 | B0 | 48 |  |
| 58 | B1 | 59 |  |
| 59 | B2 | 36 |  |
| 60 | B3 | 48 |  |
| 61 | B4 | 48 |  |


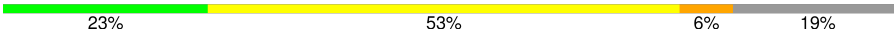
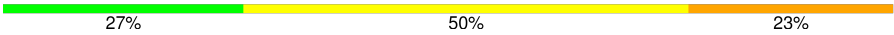
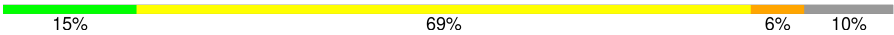
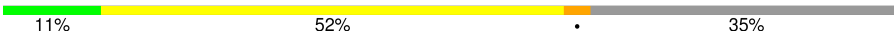
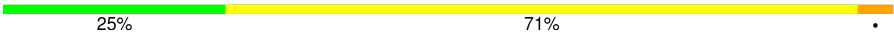
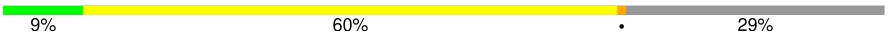
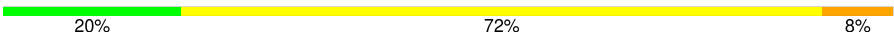
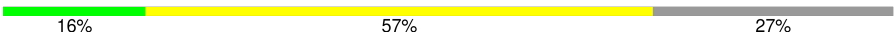
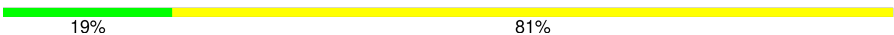
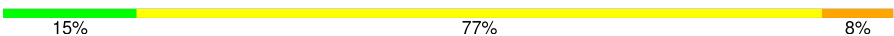
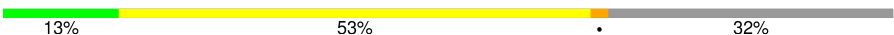

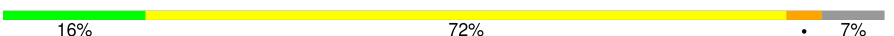


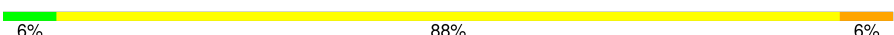



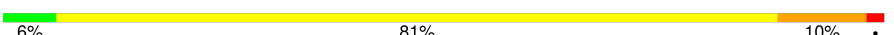




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| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|--|
| 62 | B5 | 40 |  |
| 63 | B6 | 50 |  |
| 64 | B7 | 44 |  |
| 65 | B8 | 40 |  |
| 66 | B9 | 55 |  |
| 67 | BB | 48 |  |
| 68 | BC | 44 |  |
| 69 | BD | 35 |  |
| 70 | BE | 68 |  |
| 71 | BF | 40 |  |
| 72 | BG | 49 |  |
| 73 | BH | 42 |  |
| 74 | BI | 42 |  |
| 75 | BJ | 58 |  |
| 76 | BK | 44 |  |
| 77 | BL | 48 |  |
| 78 | BM | 52 |  |
| 79 | BN | 63 |  |
| 80 | BO | 49 |  |
| 81 | BP | 66 |  |
| 82 | BQ | 48 |  |
| 83 | BR | 64 |  |
| 84 | BS | 48 |  |
| 85 | BT | 52 |  |
| 86 | BU | 55 |  |



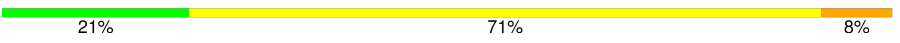
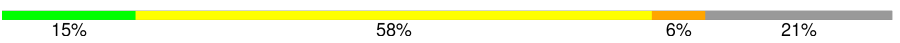
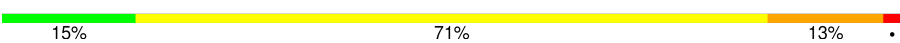

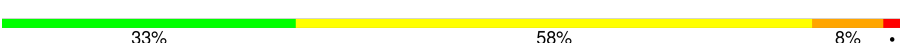
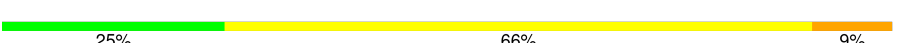
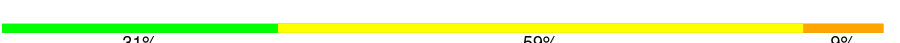
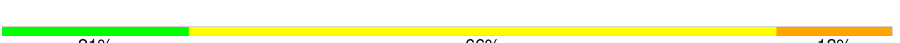
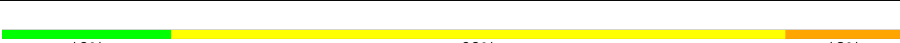
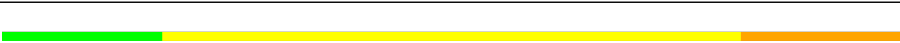
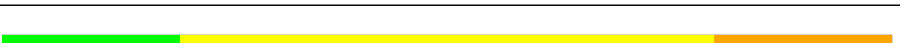
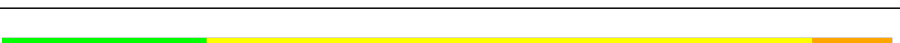
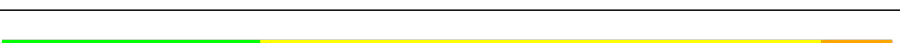

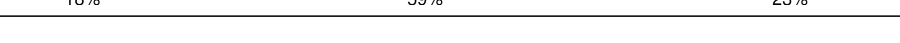
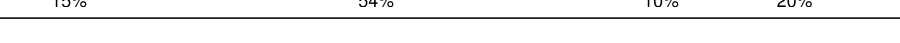

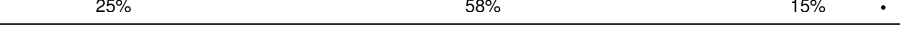


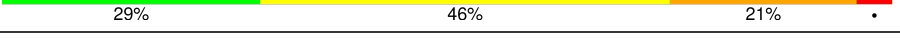
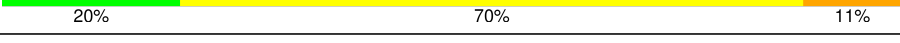

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| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|--|
| 87 | BV | 44 |  |
| 88 | BW | 53 |  |
| 89 | BX | 48 |  |
| 90 | BY | 48 |  |
| 91 | BZ | 66 |  |
| 92 | Ba | 48 |  |
| 93 | Bb | 68 |  |
| 94 | Bc | 50 |  |
| 95 | Bd | 56 |  |
| 96 | Be | 48 |  |
| 97 | Bf | 48 |  |
| 98 | Bg | 47 |  |
| 99 | Bh | 48 |  |
| 100 | Bi | 67 |  |
| 101 | Bj | 45 |  |
| 102 | Bk | 67 |  |
| 103 | Bl | 48 |  |
| 104 | Bm | 48 |  |
| 105 | Bn | 67 |  |
| 106 | Bo | 67 |  |
| 107 | Bp | 48 |  |
| 108 | Bq | 58 |  |
| 109 | Br | 51 |  |
| 110 | Bs | 54 |  |
| 111 | C0 | 41 |  |


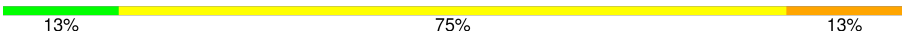
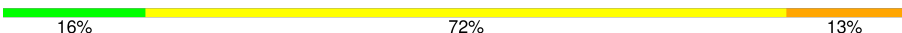


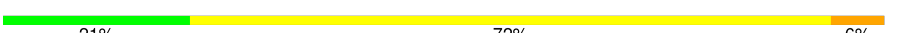
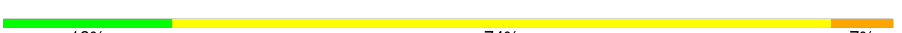




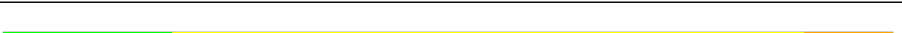








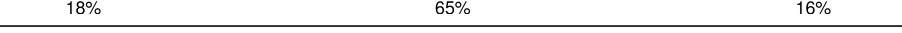




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| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|--|
| 112 | C1 | 51 |  |
| 113 | C2 | 56 |  |
| 114 | C3 | 48 |  |
| 115 | C4 | 71 |  |
| 116 | C5 | 62 |  |
| 117 | C6 | 48 |  |
| 118 | C7 | 52 |  |
| 119 | C8 | 44 |  |
| 120 | CB | 54 |  |
| 121 | CC | 47 |  |
| 122 | CD | 48 |  |
| 123 | CE | 40 |  |
| 124 | CF | 40 |  |
| 125 | CG | 44 |  |
| 126 | CH | 48 |  |
| 127 | CI | 44 |  |
| 128 | CJ | 59 |  |
| 129 | CK | 48 |  |
| 130 | CL | 48 |  |
| 131 | CM | 54 |  |
| 132 | CN | 41 |  |
| 133 | CO | 48 |  |
| 134 | CP | 56 |  |
| 135 | CQ | 38 |  |
| 136 | CR | 48 |  |

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| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|--|
| 137 | CS | 48 |  |
| 138 | CT | 48 |  |
| 139 | CU | 32 |  |
| 140 | CV | 53 |  |
| 141 | CW | 38 |  |
| 142 | CX | 47 |  |
| 143 | CY | 43 |  |
| 144 | CZ | 48 |  |
| 145 | Cb | 44 |  |
| 146 | Cc | 62 |  |
| 147 | Cd | 42 |  |
| 148 | Ce | 52 |  |
| 149 | Cf | 48 |  |
| 150 | Cg | 46 |  |
| 151 | Ch | 47 |  |
| 152 | Ck | 29 |  |
| 153 | Cp | 48 |  |
| 154 | Cq | 40 |  |
| 155 | Cr | 46 |  |
| 156 | Cs | 49 |  |
| 157 | Ct | 44 |  |
| 158 | Cu | 60 |  |
| 159 | Cv | 46 |  |
| 160 | Cw | 54 |  |
| 161 | Cx | 46 |  |

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| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|--|
| 162 | Cy | 66 | <div><div></div><div>23%59%15%</div></div> |
| 163 | Cz | 48 | <div><div></div><div>8%81%10%</div></div> |

2 Entry composition

There are 163 unique types of molecules in this entry. The entry contains 294953 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 DNA chain called SCAFFOLD STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-------|-------|-------|------|---------|-------|
| 1 | AA | 4896 | Total | C | N | O | P | 0 | 0 |
| | | | 99989 | 47888 | 17575 | 29685 | 4841 | | |

- Molecule 2 is a DNA chain called SCAFFOLD STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-------|------|-------|------|---------|-------|
| 2 | BA | 2353 | Total | C | N | O | P | 0 | 0 |
| | | | 47974 | 23072 | 8353 | 14248 | 2301 | | |

- Molecule 3 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 3 | A0 | 55 | Total | C | N | O | P | 0 | 0 |
| | | | 1116 | 543 | 222 | 303 | 48 | | |

- Molecule 4 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 4 | A1 | 44 | Total | C | N | O | P | 0 | 0 |
| | | | 884 | 433 | 167 | 247 | 37 | | |

- Molecule 5 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 5 | A2 | 50 | Total | C | N | O | P | 0 | 0 |
| | | | 1019 | 494 | 214 | 267 | 44 | | |

- Molecule 6 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 6 | A3 | 40 | Total | C | N | O | P | 0 | 0 |
| | | | 796 | 390 | 144 | 228 | 34 | | |

- Molecule 7 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 7 | A4 | 38 | Total | C | N | O | P | 0 | 0 |
| | | | 780 | 377 | 151 | 216 | 36 | | |

- Molecule 8 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 8 | A5 | 48 | Total | C | N | O | P | 0 | 0 |
| | | | 971 | 469 | 194 | 265 | 43 | | |

- Molecule 9 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 9 | A6 | 50 | Total | C | N | O | P | 0 | 0 |
| | | | 1016 | 493 | 194 | 284 | 45 | | |

- Molecule 10 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 10 | A7 | 43 | Total | C | N | O | P | 0 | 0 |
| | | | 863 | 412 | 176 | 236 | 39 | | |

- Molecule 11 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 11 | A8 | 48 | Total | C | N | O | P | 0 | 0 |
| | | | 976 | 476 | 181 | 277 | 42 | | |

- Molecule 12 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 12 | AB | 40 | Total | C | N | O | P | 0 | 0 |
| | | | 799 | 382 | 152 | 228 | 37 | | |

- Molecule 13 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 13 | AC | 48 | Total | C | N | O | P | 0 | 0 |
| | | | 993 | 475 | 200 | 274 | 44 | | |

- Molecule 14 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 14 | AD | 50 | Total | C | N | O | P | 0 | 0 |
| | | | 1018 | 485 | 202 | 284 | 47 | | |

- Molecule 15 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 15 | AE | 36 | Total | C | N | O | P | 0 | 0 |
| | | | 734 | 354 | 135 | 211 | 34 | | |

- Molecule 16 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 16 | AF | 48 | Total | C | N | O | P | 0 | 0 |
| | | | 969 | 467 | 169 | 287 | 46 | | |

- Molecule 17 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 17 | AG | 46 | Total | C | N | O | P | 0 | 0 |
| | | | 939 | 447 | 192 | 257 | 43 | | |

- Molecule 18 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 18 | AH | 48 | Total | C | N | O | P | 0 | 0 |
| | | | 964 | 463 | 179 | 277 | 45 | | |

- Molecule 19 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 19 | AI | 48 | Total | C | N | O | P | 0 | 0 |
| | | | 967 | 470 | 193 | 263 | 41 | | |

- Molecule 20 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 20 | AJ | 52 | Total | C | N | O | P | 0 | 0 |
| | | | 1059 | 512 | 202 | 297 | 48 | | |

- Molecule 21 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 21 | AK | 60 | Total | C | N | O | P | 0 | 0 |
| | | | 1202 | 588 | 219 | 344 | 51 | | |

- Molecule 22 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 22 | AL | 48 | Total | C | N | O | P | 0 | 0 |
| | | | 971 | 470 | 169 | 287 | 45 | | |

- Molecule 23 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 23 | AM | 50 | Total | C | N | O | P | 0 | 0 |
| | | | 993 | 486 | 177 | 287 | 43 | | |

- Molecule 24 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 24 | AN | 48 | Total | C | N | O | P | 0 | 0 |
| | | | 968 | 465 | 183 | 276 | 44 | | |

- Molecule 25 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 25 | AO | 48 | Total | C | N | O | P | 0 | 0 |
| | | | 962 | 466 | 173 | 279 | 44 | | |

- Molecule 26 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 26 | AP | 40 | Total | C | N | O | P | 0 | 0 |
| | | | 802 | 388 | 149 | 229 | 36 | | |

- Molecule 27 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 27 | AQ | 57 | Total | C | N | O | P | 0 | 0 |
| | | | 1160 | 556 | 233 | 321 | 50 | | |

- Molecule 28 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 28 | AR | 48 | Total | C | N | O | P | 0 | 0 |
| | | | 975 | 470 | 187 | 274 | 44 | | |

- Molecule 29 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 29 | AS | 39 | Total | C | N | O | P | 0 | 0 |
| | | | 794 | 383 | 169 | 208 | 34 | | |

- Molecule 30 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 30 | AT | 48 | Total | C | N | O | P | 0 | 0 |
| | | | 973 | 470 | 190 | 271 | 42 | | |

- Molecule 31 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 31 | AU | 48 | Total | C | N | O | P | 0 | 0 |
| | | | 967 | 470 | 193 | 263 | 41 | | |

- Molecule 32 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 32 | AV | 52 | Total | C | N | O | P | 0 | 0 |
| | | | 1051 | 510 | 201 | 294 | 46 | | |

- Molecule 33 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 33 | AW | 35 | Total | C | N | O | P | 0 | 0 |
| | | | 701 | 342 | 120 | 206 | 33 | | |

- Molecule 34 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 34 | AX | 48 | Total | C | N | O | P | 0 | 0 |
| | | | 959 | 465 | 186 | 266 | 42 | | |

- Molecule 35 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 35 | AY | 32 | Total | C | N | O | P | 0 | 0 |
| | | | 645 | 309 | 126 | 181 | 29 | | |

- Molecule 36 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 36 | AZ | 54 | Total | C | N | O | P | 0 | 0 |
| | | | 1082 | 524 | 208 | 303 | 47 | | |

- Molecule 37 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 37 | Ab | 45 | Total | C | N | O | P | 0 | 0 |
| | | | 907 | 440 | 169 | 258 | 40 | | |

- Molecule 38 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 38 | Ac | 55 | Total | C | N | O | P | 0 | 0 |
| | | | 1115 | 542 | 220 | 305 | 48 | | |

- Molecule 39 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 39 | Ad | 48 | Total | C | N | O | P | 0 | 0 |
| | | | 958 | 468 | 171 | 277 | 42 | | |

- Molecule 40 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 40 | Af | 48 | Total | C | N | O | P | 0 | 0 |
| | | | 964 | 468 | 192 | 262 | 42 | | |

- Molecule 41 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 41 | Ag | 48 | Total | C | N | O | P | 0 | 0 |
| | | | 979 | 470 | 187 | 278 | 44 | | |

- Molecule 42 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 42 | Ah | 44 | Total | C | N | O | P | 0 | 0 |
| | | | 872 | 427 | 149 | 257 | 39 | | |

- Molecule 43 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 43 | Ai | 36 | Total | C | N | O | P | 0 | 0 |
| | | | 722 | 348 | 141 | 201 | 32 | | |

- Molecule 44 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 44 | Aj | 62 | Total | C | N | O | P | 0 | 0 |
| | | | 1257 | 610 | 248 | 344 | 55 | | |

- Molecule 45 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 45 | Ak | 46 | Total | C | N | O | P | 0 | 0 |
| | | | 946 | 454 | 197 | 255 | 40 | | |

- Molecule 46 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 46 | Al | 48 | Total | C | N | O | P | 0 | 0 |
| | | | 949 | 467 | 163 | 278 | 41 | | |

- Molecule 47 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 47 | Am | 48 | Total | C | N | O | P | 0 | 0 |
| | | | 963 | 466 | 182 | 273 | 42 | | |

- Molecule 48 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 48 | An | 48 | Total | C | N | O | P | 0 | 0 |
| | | | 972 | 469 | 179 | 280 | 44 | | |

- Molecule 49 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 49 | Ao | 36 | Total | C | N | O | P | 0 | 0 |
| | | | 724 | 349 | 140 | 204 | 31 | | |

- Molecule 50 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 50 | As | 48 | Total | C | N | O | P | 0 | 0 |
| | | | 971 | 476 | 172 | 281 | 42 | | |

- Molecule 51 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 51 | Au | 48 | Total | C | N | O | P | 0 | 0 |
| | | | 963 | 468 | 168 | 283 | 44 | | |

- Molecule 52 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 52 | Av | 43 | Total | C | N | O | P | 0 | 0 |
| | | | 869 | 419 | 172 | 240 | 38 | | |

- Molecule 53 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 53 | Aw | 48 | Total | C | N | O | P | 0 | 0 |
| | | | 960 | 470 | 172 | 276 | 42 | | |

- Molecule 54 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 54 | Ax | 47 | Total | C | N | O | P | 0 | 0 |
| | | | 953 | 460 | 176 | 274 | 43 | | |

- Molecule 55 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 55 | Ay | 28 | Total | C | N | O | P | 0 | 0 |
| | | | 568 | 275 | 112 | 156 | 25 | | |

- Molecule 56 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 56 | Az | 36 | Total | C | N | O | P | 0 | 0 |
| | | | 737 | 355 | 146 | 204 | 32 | | |

- Molecule 57 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 57 | B0 | 48 | Total | C | N | O | P | 0 | 0 |
| | | | 977 | 467 | 184 | 282 | 44 | | |

- Molecule 58 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 58 | B1 | 44 | Total | C | N | O | P | 0 | 0 |
| | | | 900 | 434 | 181 | 245 | 40 | | |

- Molecule 59 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 59 | B2 | 36 | Total | C | N | O | P | 0 | 0 |
| | | | 734 | 350 | 148 | 203 | 33 | | |

- Molecule 60 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 60 | B3 | 48 | Total | C | N | O | P | 0 | 0 |
| | | | 976 | 469 | 182 | 280 | 45 | | |

- Molecule 61 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 61 | B4 | 33 | Total | C | N | O | P | 0 | 0 |
| | | | 664 | 320 | 130 | 184 | 30 | | |

- Molecule 62 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 62 | B5 | 40 | Total | C | N | O | P | 0 | 0 |
| | | | 816 | 392 | 160 | 227 | 37 | | |

- Molecule 63 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 63 | B6 | 45 | Total | C | N | O | P | 0 | 0 |
| | | | 929 | 443 | 187 | 256 | 43 | | |

- Molecule 64 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 64 | B7 | 44 | Total | C | N | O | P | 0 | 0 |
| | | | 892 | 432 | 153 | 266 | 41 | | |

- Molecule 65 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 65 | B8 | 33 | Total | C | N | O | P | 0 | 0 |
| | | | 653 | 315 | 120 | 187 | 31 | | |

- Molecule 66 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 66 | B9 | 40 | Total | C | N | O | P | 0 | 0 |
| | | | 810 | 393 | 150 | 231 | 36 | | |

- Molecule 67 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 67 | BB | 48 | Total | C | N | O | P | 0 | 0 |
| | | | 982 | 469 | 191 | 276 | 46 | | |

- Molecule 68 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 68 | BC | 39 | Total | C | N | O | P | 0 | 0 |
| | | | 798 | 385 | 152 | 224 | 37 | | |

- Molecule 69 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 69 | BD | 35 | Total | C | N | O | P | 0 | 0 |
| | | | 727 | 344 | 151 | 199 | 33 | | |

- Molecule 70 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 70 | BE | 58 | Total | C | N | O | P | 0 | 0 |
| | | | 1183 | 569 | 229 | 331 | 54 | | |

- Molecule 71 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 71 | BF | 40 | Total | C | N | O | P | 0 | 0 |
| | | | 810 | 395 | 142 | 236 | 37 | | |

- Molecule 72 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 72 | BG | 49 | Total | C | N | O | P | 0 | 0 |
| | | | 1007 | 481 | 203 | 277 | 46 | | |

- Molecule 73 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 73 | BH | 32 | Total | C | N | O | P | 0 | 0 |
| | | | 644 | 312 | 123 | 180 | 29 | | |

- Molecule 74 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|----|-----|----|---------|-------|
| 74 | BI | 27 | Total | C | N | O | P | 0 | 0 |
| | | | 544 | 265 | 98 | 156 | 25 | | |

- Molecule 75 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 75 | BJ | 53 | Total | C | N | O | P | 0 | 0 |
| | | | 1076 | 517 | 200 | 310 | 49 | | |

- Molecule 76 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 76 | BK | 44 | Total | C | N | O | P | 0 | 0 |
| | | | 894 | 433 | 176 | 245 | 40 | | |

- Molecule 77 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 77 | BL | 48 | Total | C | N | O | P | 0 | 0 |
| | | | 966 | 467 | 172 | 283 | 44 | | |

- Molecule 78 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 78 | BM | 42 | Total | C | N | O | P | 0 | 0 |
| | | | 855 | 413 | 160 | 243 | 39 | | |

- Molecule 79 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 79 | BN | 48 | Total | C | N | O | P | 0 | 0 |
| | | | 970 | 468 | 177 | 280 | 45 | | |

- Molecule 80 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 80 | BO | 49 | Total | C | N | O | P | 0 | 0 |
| | | | 984 | 477 | 168 | 293 | 46 | | |

- Molecule 81 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 81 | BP | 41 | Total | C | N | O | P | 0 | 0 |
| | | | 824 | 399 | 147 | 240 | 38 | | |

- Molecule 82 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 82 | BQ | 48 | Total | C | N | O | P | 0 | 0 |
| | | | 971 | 467 | 175 | 283 | 46 | | |

- Molecule 83 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 83 | BR | 36 | Total | C | N | O | P | 0 | 0 |
| | | | 733 | 356 | 139 | 206 | 32 | | |

- Molecule 84 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 84 | BS | 48 | Total | C | N | O | P | 0 | 0 |
| | | | 967 | 465 | 177 | 281 | 44 | | |

- Molecule 85 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 85 | BT | 37 | Total | C | N | O | P | 0 | 0 |
| | | | 753 | 361 | 137 | 220 | 35 | | |

- Molecule 86 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 86 | BU | 40 | Total | C | N | O | P | 0 | 0 |
| | | | 813 | 395 | 145 | 237 | 36 | | |

- Molecule 87 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 87 | BV | 44 | Total | C | N | O | P | 0 | 0 |
| | | | 895 | 430 | 161 | 261 | 43 | | |

- Molecule 88 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 88 | BW | 43 | Total | C | N | O | P | 0 | 0 |
| | | | 874 | 421 | 158 | 254 | 41 | | |

- Molecule 89 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 89 | BX | 48 | Total | C | N | O | P | 0 | 0 |
| | | | 991 | 478 | 191 | 278 | 44 | | |

- Molecule 90 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 90 | BY | 43 | Total | C | N | O | P | 0 | 0 |
| | | | 871 | 421 | 161 | 249 | 40 | | |

- Molecule 91 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 91 | BZ | 43 | Total | C | N | O | P | 0 | 0 |
| | | | 870 | 419 | 166 | 245 | 40 | | |

- Molecule 92 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 92 | Ba | 48 | Total | C | N | O | P | 0 | 0 |
| | | | 972 | 469 | 173 | 286 | 44 | | |

- Molecule 93 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 93 | Bb | 48 | Total | C | N | O | P | 0 | 0 |
| | | | 974 | 466 | 191 | 273 | 44 | | |

- Molecule 94 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 94 | Bc | 50 | Total | C | N | O | P | 0 | 0 |
| | | | 1015 | 487 | 185 | 297 | 46 | | |

- Molecule 95 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 95 | Bd | 41 | Total | C | N | O | P | 0 | 0 |
| | | | 836 | 400 | 155 | 242 | 39 | | |

- Molecule 96 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 96 | Be | 48 | Total | C | N | O | P | 0 | 0 |
| | | | 978 | 468 | 183 | 282 | 45 | | |

- Molecule 97 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 97 | Bf | 48 | Total | C | N | O | P | 0 | 0 |
| | | | 981 | 468 | 192 | 277 | 44 | | |

- Molecule 98 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 98 | Bg | 32 | Total | C | N | O | P | 0 | 0 |
| | | | 646 | 312 | 120 | 185 | 29 | | |

- Molecule 99 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 99 | Bh | 38 | Total | C | N | O | P | 0 | 0 |
| | | | 784 | 375 | 147 | 226 | 36 | | |

- Molecule 100 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 100 | Bi | 62 | Total | C | N | O | P | 0 | 0 |
| | | | 1255 | 604 | 233 | 360 | 58 | | |

- Molecule 101 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 101 | Bj | 45 | Total | C | N | O | P | 0 | 0 |
| | | | 907 | 436 | 170 | 259 | 42 | | |

- Molecule 102 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 102 | Bk | 47 | Total | C | N | O | P | 0 | 0 |
| | | | 964 | 461 | 193 | 266 | 44 | | |

- Molecule 103 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 103 | Bl | 48 | Total | C | N | O | P | 0 | 0 |
| | | | 986 | 468 | 201 | 272 | 45 | | |

- Molecule 104 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 104 | Bm | 48 | Total | C | N | O | P | 0 | 0 |
| | | | 964 | 466 | 176 | 278 | 44 | | |

- Molecule 105 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 105 | Bn | 47 | Total | C | N | O | P | 0 | 0 |
| | | | 975 | 461 | 190 | 279 | 45 | | |

- Molecule 106 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 106 | Bo | 57 | Total | C | N | O | P | 0 | 0 |
| | | | 1154 | 553 | 215 | 333 | 53 | | |

- Molecule 107 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 107 | Bp | 48 | Total | C | N | O | P | 0 | 0 |
| | | | 985 | 468 | 198 | 274 | 45 | | |

- Molecule 108 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 108 | Bq | 38 | Total | C | N | O | P | 0 | 0 |
| | | | 784 | 377 | 154 | 219 | 34 | | |

- Molecule 109 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 109 | Br | 36 | Total | C | N | O | P | 0 | 0 |
| | | | 732 | 352 | 131 | 216 | 33 | | |

- Molecule 110 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 110 | Bs | 39 | Total | C | N | O | P | 0 | 0 |
| | | | 800 | 380 | 166 | 218 | 36 | | |

- Molecule 111 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 111 | C0 | 31 | Total | C | N | O | P | 0 | 0 |
| | | | 632 | 303 | 120 | 180 | 29 | | |

- Molecule 112 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 112 | C1 | 36 | Total | C | N | O | P | 0 | 0 |
| | | | 732 | 354 | 147 | 198 | 33 | | |

- Molecule 113 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 113 | C2 | 56 | Total | C | N | O | P | 0 | 0 |
| | | | 1125 | 549 | 207 | 319 | 50 | | |

- Molecule 114 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 114 | C3 | 48 | Total | C | N | O | P | 0 | 0 |
| | | | 962 | 466 | 179 | 273 | 44 | | |

- Molecule 115 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 115 | C4 | 56 | Total | C | N | O | P | 0 | 0 |
| | | | 1133 | 548 | 208 | 325 | 52 | | |

- Molecule 116 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 116 | C5 | 62 | Total | C | N | O | P | 0 | 0 |
| | | | 1275 | 610 | 245 | 361 | 59 | | |

- Molecule 117 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 117 | C6 | 48 | Total | C | N | O | P | 0 | 0 |
| | | | 977 | 472 | 191 | 271 | 43 | | |

- Molecule 118 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 118 | C7 | 52 | Total | C | N | O | P | 0 | 0 |
| | | | 1056 | 515 | 184 | 309 | 48 | | |

- Molecule 119 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 119 | C8 | 44 | Total | C | N | O | P | 0 | 0 |
| | | | 892 | 433 | 164 | 256 | 39 | | |

- Molecule 120 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 120 | CB | 54 | Total | C | N | O | P | 0 | 0 |
| | | | 1088 | 528 | 189 | 321 | 50 | | |

- Molecule 121 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 121 | CC | 47 | Total | C | N | O | P | 0 | 0 |
| | | | 963 | 462 | 186 | 271 | 44 | | |

- Molecule 122 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 122 | CD | 48 | Total | C | N | O | P | 0 | 0 |
| | | | 984 | 473 | 193 | 274 | 44 | | |

- Molecule 123 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 123 | CE | 40 | Total | C | N | O | P | 0 | 0 |
| | | | 816 | 395 | 160 | 225 | 36 | | |

- Molecule 124 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 124 | CF | 40 | Total | C | N | O | P | 0 | 0 |
| | | | 811 | 393 | 150 | 232 | 36 | | |

- Molecule 125 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 125 | CG | 44 | Total | C | N | O | P | 0 | 0 |
| | | | 904 | 433 | 167 | 263 | 41 | | |

- Molecule 126 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 126 | CH | 48 | Total | C | N | O | P | 0 | 0 |
| | | | 987 | 474 | 183 | 285 | 45 | | |

- Molecule 127 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 127 | CI | 44 | Total | C | N | O | P | 0 | 0 |
| | | | 889 | 430 | 170 | 250 | 39 | | |

- Molecule 128 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 128 | CJ | 47 | Total | C | N | O | P | 0 | 0 |
| | | | 946 | 459 | 183 | 262 | 42 | | |

- Molecule 129 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 129 | CK | 48 | Total | C | N | O | P | 0 | 0 |
| | | | 981 | 473 | 196 | 269 | 43 | | |

- Molecule 130 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 130 | CL | 48 | Total | C | N | O | P | 0 | 0 |
| | | | 967 | 472 | 179 | 274 | 42 | | |

- Molecule 131 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 131 | CM | 39 | Total | C | N | O | P | 0 | 0 |
| | | | 801 | 383 | 163 | 218 | 37 | | |

- Molecule 132 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 132 | CN | 41 | Total | C | N | O | P | 0 | 0 |
| | | | 848 | 406 | 164 | 238 | 40 | | |

- Molecule 133 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 133 | CO | 48 | Total | C | N | O | P | 0 | 0 |
| | | | 975 | 474 | 180 | 278 | 43 | | |

- Molecule 134 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 134 | CP | 56 | Total | C | N | O | P | 0 | 0 |
| | | | 1140 | 546 | 213 | 327 | 54 | | |

- Molecule 135 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 135 | CQ | 28 | Total | C | N | O | P | 0 | 0 |
| | | | 557 | 273 | 105 | 155 | 24 | | |

- Molecule 136 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 136 | CR | 48 | Total | C | N | O | P | 0 | 0 |
| | | | 969 | 469 | 170 | 284 | 46 | | |

- Molecule 137 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 137 | CS | 38 | Total | C | N | O | P | 0 | 0 |
| | | | 773 | 374 | 145 | 219 | 35 | | |

- Molecule 138 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 138 | CT | 48 | Total | C | N | O | P | 0 | 0 |
| | | | 982 | 474 | 189 | 276 | 43 | | |

- Molecule 139 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 139 | CU | 32 | Total | C | N | O | P | 0 | 0 |
| | | | 648 | 312 | 123 | 182 | 31 | | |

- Molecule 140 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 140 | CV | 53 | Total | C | N | O | P | 0 | 0 |
| | | | 1067 | 520 | 188 | 311 | 48 | | |

- Molecule 141 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|----|-----|----|---------|-------|
| 141 | CW | 28 | Total | C | N | O | P | 0 | 0 |
| | | | 564 | 276 | 99 | 165 | 24 | | |

- Molecule 142 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 142 | CX | 47 | Total | C | N | O | P | 0 | 0 |
| | | | 944 | 455 | 175 | 272 | 42 | | |

- Molecule 143 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 143 | CY | 43 | Total | C | N | O | P | 0 | 0 |
| | | | 870 | 422 | 175 | 234 | 39 | | |

- Molecule 144 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 144 | CZ | 48 | Total | C | N | O | P | 0 | 0 |
| | | | 987 | 474 | 201 | 267 | 45 | | |

- Molecule 145 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 145 | Cb | 44 | Total | C | N | O | P | 0 | 0 |
| | | | 891 | 435 | 171 | 247 | 38 | | |

- Molecule 146 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 146 | Cc | 52 | Total | C | N | O | P | 0 | 0 |
| | | | 1048 | 508 | 200 | 294 | 46 | | |

- Molecule 147 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 147 | Cd | 42 | Total | C | N | O | P | 0 | 0 |
| | | | 859 | 417 | 159 | 243 | 40 | | |

- Molecule 148 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 148 | Ce | 52 | Total | C | N | O | P | 0 | 0 |
| | | | 1049 | 509 | 199 | 295 | 46 | | |

- Molecule 149 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 149 | Cf | 38 | Total | C | N | O | P | 0 | 0 |
| | | | 768 | 373 | 152 | 210 | 33 | | |

- Molecule 150 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 150 | Cg | 36 | Total | C | N | O | P | 0 | 0 |
| | | | 735 | 354 | 150 | 199 | 32 | | |

- Molecule 151 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 151 | Ch | 47 | Total | C | N | O | P | 0 | 0 |
| | | | 938 | 453 | 174 | 269 | 42 | | |

- Molecule 152 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 152 | Ck | 29 | Total | C | N | O | P | 0 | 0 |
| | | | 585 | 284 | 100 | 174 | 27 | | |

- Molecule 153 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 153 | Cp | 48 | Total | C | N | O | P | 0 | 0 |
| | | | 976 | 471 | 189 | 273 | 43 | | |

- Molecule 154 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 154 | Cq | 40 | Total | C | N | O | P | 0 | 0 |
| | | | 827 | 395 | 157 | 236 | 39 | | |

- Molecule 155 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 155 | Cr | 36 | Total | C | N | O | P | 0 | 0 |
| | | | 727 | 350 | 145 | 200 | 32 | | |

- Molecule 156 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 156 | Cs | 49 | Total | C | N | O | P | 0 | 0 |
| | | | 1012 | 486 | 204 | 277 | 45 | | |

- Molecule 157 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 157 | Ct | 44 | Total | C | N | O | P | 0 | 0 |
| | | | 886 | 432 | 159 | 255 | 40 | | |

- Molecule 158 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 158 | Cu | 60 | Total | C | N | O | P | 0 | 0 |
| | | | 1216 | 589 | 239 | 334 | 54 | | |

- Molecule 159 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 159 | Cv | 41 | Total | C | N | O | P | 0 | 0 |
| | | | 823 | 402 | 141 | 243 | 37 | | |

- Molecule 160 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 160 | Cw | 54 | Total | C | N | O | P | 0 | 0 |
| | | | 1098 | 528 | 213 | 308 | 49 | | |

- Molecule 161 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 161 | Cx | 36 | Total | C | N | O | P | 0 | 0 |
| | | | 730 | 353 | 145 | 200 | 32 | | |

- Molecule 162 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 162 | Cy | 56 | Total | C | N | O | P | 0 | 0 |
| | | | 1145 | 554 | 223 | 318 | 50 | | |

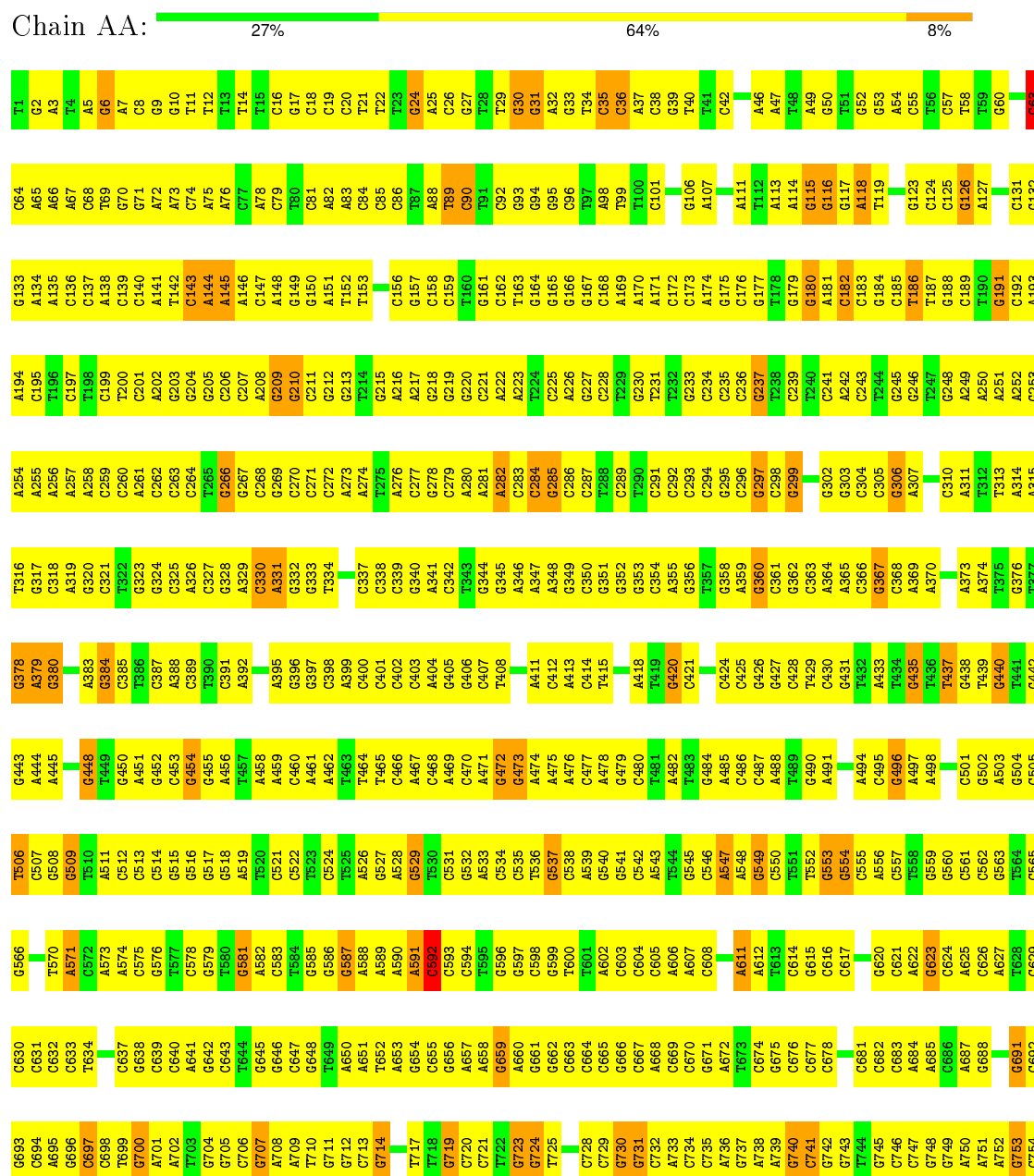
- Molecule 163 is a DNA chain called STAPLE STRAND.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 163 | Cz | 48 | Total | C | N | O | P | 0 | 0 |
| | | | 970 | 465 | 195 | 266 | 44 | | |

3 Residue-property plots

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

• Molecule 1: SCAFFOLD STRAND




WORLDWIDE PDB
 PROTEIN DATA BANK

EMDataBank
 Unified Data Resource for 3DEM

| | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| A2816 | G2745 | C2675 | G2611 | T2546 | G2484 | G2419 | C2354 | T2288 | A2152 | G2081 | A2015 | C1947 | A1811 |
| T2817 | G2746 | C2676 | G2612 | C2547 | T2485 | T2420 | C2355 | A2289 | G2153 | C2082 | T2016 | C1948 | C1812 |
| G2818 | C2747 | T2677 | G2613 | A2548 | T2486 | A2421 | A2356 | G2290 | T2154 | A2083 | A2017 | T1949 | C1813 |
| T2748 | T2748 | T2678 | G2614 | C2550 | T2487 | A2422 | C2357 | A2291 | G2155 | A2084 | T2018 | T1950 | T1814 |
| C2749 | T2749 | T2679 | G2615 | T2551 | T2488 | G2423 | A2358 | T2292 | G2158 | A2085 | A2021 | T1951 | G1815 |
| A2821 | G2750 | T2680 | A2616 | G2552 | T2489 | A2424 | T2359 | T2293 | C2159 | A2086 | T2022 | T1952 | |
| A2822 | C2751 | T2681 | G2617 | T2553 | T2490 | G2425 | G2360 | T2296 | T2160 | C2087 | G2023 | T1953 | G1818 |
| G2823 | G2752 | A2682 | G2618 | C2554 | T2491 | A2426 | A2361 | C2297 | C2161 | C2090 | A2024 | G1957 | G1819 |
| T2825 | T2753 | T2683 | T2619 | C2555 | A2492 | A2427 | T2362 | T2298 | T2162 | T2091 | G2025 | T1890 | A1820 |
| C2826 | G2754 | T2684 | A2620 | T2556 | A2493 | A2428 | T2363 | T2299 | T2163 | G2095 | G2026 | T1959 | G1821 |
| A2759 | A2759 | T2685 | A2621 | T2557 | A2494 | G2429 | A2364 | A2231 | A2164 | C2096 | A2027 | T1960 | G1825 |
| G2760 | G2760 | T2686 | G2622 | T2558 | G2495 | A2430 | A2365 | A2232 | A2165 | A2097 | | T1961 | G1826 |
| G2761 | T2761 | T2687 | A2623 | T2559 | A2496 | C2431 | A2366 | C2233 | T2166 | A2098 | C2030 | A1962 | |
| A2830 | | T2688 | T2624 | | | A2434 | G2367 | T2234 | A2167 | A2099 | G2032 | T1963 | A1894 |
| G2831 | G2764 | C2692 | G2625 | C2561 | A2499 | | G2370 | T2235 | G2168 | C2031 | A2037 | T1969 | A1895 |
| T2832 | G2765 | T2693 | G2626 | A2562 | C2500 | C2437 | A2371 | T2241 | A2169 | G2032 | G2038 | T1970 | C1829 |
| C2833 | T2766 | G2694 | A2627 | A2563 | T2501 | A2442 | T2375 | C2242 | G2170 | G2033 | T2039 | T1971 | C1830 |
| G2834 | G2767 | T2695 | G2628 | A2564 | C2502 | A2443 | A2376 | | C2171 | A2100 | G2040 | T1972 | G1831 |
| C2835 | C2768 | C2696 | C2629 | G2565 | | G2444 | A2377 | | G2172 | G2101 | G2041 | T1973 | G1832 |
| G2836 | C2769 | | A2630 | G2566 | G2505 | T2445 | A2378 | C2314 | A2177 | C2102 | G2042 | G1974 | T1833 |
| A2837 | | G2698 | G2631 | G2568 | A2506 | G2446 | C2379 | G2315 | | C2103 | T2036 | A1968 | T1834 |
| G2838 | | T2699 | A2632 | G2569 | T2507 | T2447 | A2380 | G2316 | C2180 | T2104 | A2037 | T1969 | T1835 |
| C2839 | C2772 | T2700 | G2633 | T2570 | G2508 | A2448 | A2381 | T2317 | C2181 | T2105 | G2043 | T1970 | C1829 |
| G2840 | T2773 | A2701 | T2633 | T2571 | G2509 | A2449 | T2382 | G2318 | G2182 | C2106 | G2044 | T1971 | G1836 |
| C2841 | T2774 | G2702 | G2634 | C2572 | A2510 | G2450 | A2383 | G2319 | A2192 | G2107 | G2045 | T1972 | G1837 |
| G2842 | A2775 | A2703 | G2635 | G2573 | G2511 | A2451 | T2384 | G2320 | G2193 | C2108 | C2046 | T1973 | C1840 |
| T2843 | T2776 | T2704 | C2636 | G2574 | G2512 | C2452 | T2385 | G2321 | G2194 | T2110 | G2047 | T1974 | G1841 |
| C2844 | T2777 | G2705 | G2637 | T2575 | G2513 | G2453 | A2386 | G2322 | T2195 | T2111 | C2048 | T1975 | G1842 |
| T2845 | G2778 | T2706 | G2638 | C2576 | A2514 | A2454 | A2387 | G2323 | T2196 | G2112 | T2049 | T1976 | T1843 |
| G2846 | G2779 | G2707 | A2639 | G2577 | G2515 | G2455 | A2388 | A2324 | G2200 | G2113 | G2049 | T1977 | G1844 |
| T2847 | C2780 | T2708 | | G2578 | G2516 | G2456 | T2389 | G2325 | G2201 | C2125 | C2050 | T1978 | C1845 |
| A2848 | A2781 | T2709 | G2643 | G2579 | G2517 | C2457 | C2390 | G2326 | G2202 | G2126 | G2051 | T1979 | G1852 |
| G2849 | | G2710 | G2644 | A2580 | C2518 | T2458 | C2391 | G2327 | G2203 | C2127 | T2053 | G1985 | A1854 |
| C2850 | A2784 | T2711 | A2645 | G2581 | G2519 | G2459 | A2392 | A2328 | G2204 | C2128 | C2054 | G1986 | A1855 |
| G2851 | C2785 | G2712 | G2646 | C2582 | G2520 | T2460 | A2393 | G2329 | G2205 | G2129 | A2055 | A1990 | |
| G2852 | G2786 | T2713 | A2647 | G2583 | A2521 | T2461 | C2401 | A2330 | T2197 | C2130 | A2056 | A1991 | A1858 |
| T2787 | T2787 | G2714 | C2648 | A2584 | C2522 | T2462 | T2402 | A2331 | T2198 | C2131 | A2057 | A1992 | A1859 |
| A2788 | G2788 | T2715 | A2649 | G2585 | G2523 | T2463 | G2403 | A2332 | T2199 | C2132 | A2058 | A1993 | A1860 |
| | | C2716 | A2650 | T2587 | T2524 | T2464 | G2404 | A2333 | G2200 | G2133 | C2059 | T1928 | A1861 |
| | | A2717 | | G2588 | A2525 | G2465 | A2405 | A2334 | G2201 | T2134 | A2060 | A1994 | C1862 |
| | | T2718 | | A2589 | G2526 | T2466 | T2406 | A2335 | G2202 | A2136 | A2065 | A1995 | G1863 |
| | | G2719 | A2654 | G2590 | G2527 | T2467 | T2407 | A2336 | G2203 | A2137 | C2066 | A2000 | C1864 |
| | | A2720 | G2655 | G2591 | C2528 | T2468 | T2408 | A2337 | G2204 | A2138 | G2067 | G2001 | C1865 |
| | | G2721 | G2656 | G2592 | G2529 | T2469 | G2409 | A2338 | G2205 | C2139 | G2002 | T1935 | A1866 |
| | | T2722 | G2657 | C2593 | C2530 | T2470 | A2410 | A2339 | G2206 | G2140 | G2003 | A1937 | T1867 |
| | | A2723 | G2658 | G2594 | G2531 | T2471 | T2403 | A2340 | G2207 | A2141 | G2004 | G1938 | A1868 |
| | | G2724 | G2659 | C2595 | G2532 | T2472 | G2404 | A2341 | G2208 | G2142 | C2072 | G1939 | T1869 |
| | | T2725 | G2660 | G2596 | T2533 | T2473 | G2405 | A2342 | G2209 | G2143 | C2073 | G1940 | |
| | | G2726 | A2661 | T2597 | G2534 | T2474 | T2406 | A2343 | G2210 | C2144 | C2074 | T1941 | G1872 |
| | | T2727 | G2662 | T2598 | T2535 | T2475 | G2407 | A2344 | G2211 | G2145 | C2075 | T1942 | A1873 |
| | | G2727 | G2663 | T2599 | G2536 | T2476 | T2411 | A2345 | G2212 | G2146 | C2076 | T1943 | A1874 |
| | | A2732 | G2664 | G2600 | T2537 | T2477 | G2412 | A2346 | G2213 | A2147 | C2077 | A1943 | G1875 |
| | | T2733 | A2665 | C2601 | G2538 | T2478 | T2413 | A2347 | G2214 | G2148 | C2078 | T2012 | T1876 |
| | | G2734 | T2666 | G2602 | T2539 | T2479 | G2414 | A2348 | G2215 | G2149 | G2080 | A1944 | G1877 |
| | | T2735 | A2667 | C2603 | A2540 | T2480 | T2415 | A2349 | G2216 | G2150 | | A1945 | C1877 |
| | | G2736 | G2668 | T2605 | A2541 | T2481 | T2416 | A2350 | G2217 | T2151 | | | T1878 |
| | | A2737 | A2669 | G2606 | C2542 | T2482 | G2417 | A2351 | G2218 | | | | |
| | | G2738 | G2670 | G2607 | C2543 | T2483 | T2418 | A2352 | G2219 | | | | |
| | | T2739 | A2671 | T2608 | G2544 | T2484 | T2419 | A2353 | G2220 | | | | |
| | | C2740 | G2672 | G2609 | G2545 | T2485 | T2420 | A2354 | G2221 | | | | |
| | | T2741 | C2673 | T2610 | | T2486 | T2421 | A2355 | G2222 | | | | |
| | | G2742 | T2674 | | | T2487 | T2422 | A2356 | G2223 | | | | |
| | | | | | | T2488 | T2423 | A2357 | G2224 | | | | |
| | | | | | | T2489 | T2424 | A2358 | G2225 | | | | |
| | | | | | | T2490 | T2425 | A2359 | G2226 | | | | |
| | | | | | | T2491 | T2426 | A2360 | G2227 | | | | |
| | | | | | | T2492 | T2427 | A2361 | G2228 | | | | |
| | | | | | | T2493 | T2428 | A2362 | G2229 | | | | |
| | | | | | | T2494 | T2429 | A2363 | G2230 | | | | |
| | | | | | | T2495 | T2430 | A2364 | G2231 | | | | |
| | | | | | | T2496 | T2431 | A2365 | G2232 | | | | |
| | | | | | | T2497 | T2432 | A2366 | G2233 | | | | |
| | | | | | | T2498 | T2433 | A2367 | G2234 | | | | |
| | | | | | | T2499 | T2434 | A2368 | G2235 | | | | |
| | | | | | | T2500 | T2435 | A2369 | G2236 | | | | |
| | | | | | | T2501 | T2436 | A2370 | G2237 | | | | |
| | | | | | | T2502 | T2437 | A2371 | G2238 | | | | |
| | | | | | | T2503 | T2438 | A2372 | G2239 | | | | |
| | | | | | | T2504 | T2439 | A2373 | G2240 | | | | |
| | | | | | | T2505 | T2440 | A2374 | G2241 | | | | |
| | | | | | | T2506 | T2441 | A2375 | G2242 | | | | |
| | | | | | | T2507 | T2442 | A2376 | G2243 | | | | |
| | | | | | | T2508 | T2443 | A2377 | G2244 | | | | |
| | | | | | | T2509 | T2444 | A2378 | G2245 | | | | |
| | | | | | | T2510 | T2445 | A2379 | G2246 | | | | |
| | | | | | | T2511 | T2446 | A2380 | G2247 | | | | |
| | | | | | | T2512 | T2447 | A2381 | G2248 | | | | |
| | | | | | | T2513 | T2448 | A2382 | G2249 | | | | |
| | | | | | | T2514 | T2449 | A2383 | G2250 | | | | |
| | | | | | | T2515 | T2450 | A2384 | G2251 | | | | |
| | | | | | | T2516 | T2451 | A2385 | G2252 | | | | |
| | | | | | | T2517 | T2452 | A2386 | G2253 | | | | |
| | | | | | | T2518 | T2453 | A2387 | G2254 | | | | |
| | | | | | | T2519 | T2454 | A2388 | G2255 | | | | |
| | | | | | | T2520 | T2455 | A2389 | G2256 | | | | |
| | | | | | | T2521 | T2456 | A2390 | G2257 | | | | |
| | | | | | | T2522 | T2457 | A2391 | G2258 | | | | |
| | | | | | | T2523 | T2458 | A2392 | G2259 | | | | |
| | | | | | | T2524 | T2459 | A2393 | G2260 | | | | |
| | | | | | | T2525 | T2460 | A2394 | G2261 | | | | |
| | | | | | | T2526 | T2461 | A2395 | G2262 | | | | |
| | | | | | | T2527 | T2462 | A2396 | G2263 | | | | |
| | | | | | | T2528 | T2463 | A2397 | G2264 | | | | |
| | | | | | | T2529 | T2464 | A2398 | G2265 | | | | |
| | | | | | | T2530 | T2465 | A2399 | G2266 | | | | |
| | | | | | | T2531 | T2466 | A2400 | G2267 | | | | |
| | | | | | | T2532 | T2467 | A2401 | G2268 | | | | |
| | | | | | | T2533 | T2468 | A2402 | G2269 | | | | |
| | | | | | | T2534 | T2469 | A2403 | G2270 | | | | |
| | | | | | | T2535 | T2470 | A2404 | G2271 | | | | |
| | | | | | | T2536 | T2471 | A2405 | G2272 | | | | |
| | | | | | | T2537 | T2472 | A2406 | G2273 | | | | |
| | | | | | | T2538 | T2473 | A2407 | G2274 | | | | |
| | | | | | | T2539 | T2474 | A2408 | G2275 | | | | |
| | | | | | | T2540 | T2475 | A2409 | G2276 | | | | |
| | | | | | | T2541 | T2476 | A2410 | G2277 | | | | |
| | | | | | | T2542 | T2477 | A2411 | G2278 | | | | |
| | | | | | | T2543 | T2478 | A2412 | G2279 | | | | |
| | | | | | | T2544 | T2479 | A2413 | G2280 | | | | |
| | | | | | | T2545 | T2480 | A2414 | G2281 | | | | |
| | | | | | | T2546 | T2481 | | | | | | |

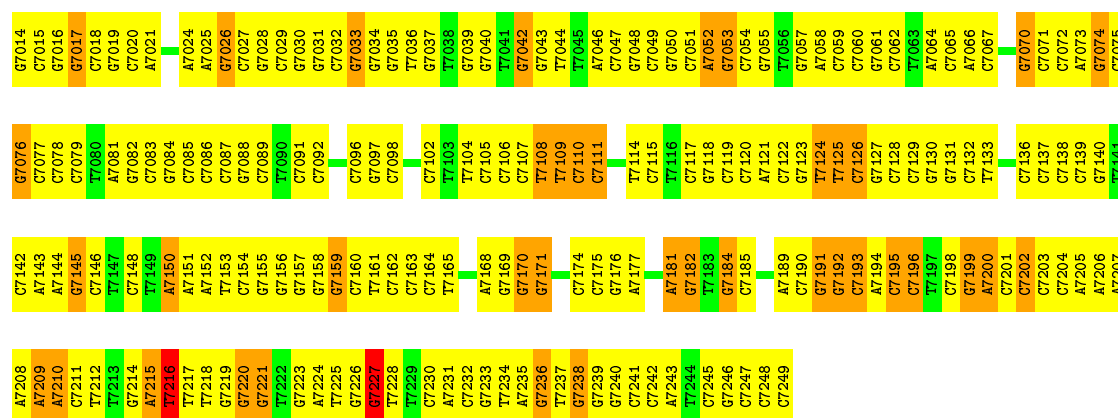





| Response | Percentage |
|------------|------------|
| Yes | 29% |
| No | 61% |
| Don't know | 10% |

| | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| A5896 | C5827 | A5756 | A5690 | A5498 | G5429 | G5361 | A5295 | A5231 | G5161 | T5098 | T5029 | G4965 | C4897 |
| C5897 | G5828 | T5797 | T5691 | G5499 | A5430 | T5364 | C5296 | A5233 | A5162 | T5099 | T5030 | T4966 | T4898 |
| C5898 | C5829 | T5798 | A5692 | C5500 | T5431 | A5365 | T5297 | C5232 | A5163 | G5100 | A5031 | T4967 | A4899 |
| C5899 | C5830 | T5799 | T5693 | A5501 | A5432 | G5368 | G5298 | G5233 | A5166 | T5101 | G5034 | T4968 | A4901 |
| A5902 | A5831 | G5762 | T5694 | T5502 | A5433 | T5369 | G5299 | T5234 | A5167 | G5103 | A5035 | T4969 | T4902 |
| C5903 | G5836 | T5763 | T5695 | T5504 | A5434 | T5370 | A5301 | T5235 | A5168 | G5104 | G5038 | C4970 | C4903 |
| T5904 | T5837 | T5764 | A5696 | A5505 | A5435 | T5371 | A5302 | T5236 | T5169 | T5105 | G5039 | C4971 | T4904 |
| G5905 | A5838 | T5765 | T5506 | A5506 | A5438 | A5371 | G5303 | G5238 | T5170 | A5106 | G5043 | A4972 | C4905 |
| T5906 | C5839 | C5766 | T5507 | A5507 | A5439 | T5372 | A5304 | G5239 | A5171 | A5107 | C5043 | T4973 | A4906 |
| A5907 | C5840 | A5702 | T5508 | A5508 | A5440 | T5373 | A5305 | C5240 | C5172 | A5108 | C5044 | G4974 | |
| T5908 | | T5703 | G5571 | A5509 | T5441 | T5374 | G5309 | G5241 | C5173 | C5109 | T5044 | A4975 | G4910 |
| A5909 | G5843 | T5704 | A5572 | T5510 | A5442 | A5375 | T5310 | T5242 | A5184 | C5110 | A5045 | G4976 | C4911 |
| G5912 | G5844 | T5705 | T5573 | A5511 | A5443 | A5376 | T5311 | T5243 | G5178 | G5112 | C5046 | T4977 | |
| A5913 | T5845 | A5706 | A5574 | G5512 | A5444 | C5377 | A5312 | G5244 | T5179 | C5113 | A5047 | C4978 | G4914 |
| T5914 | G5776 | C5707 | A5575 | T5513 | A5445 | G5378 | A5313 | A5247 | G5180 | G5114 | T5048 | C4979 | C4915 |
| C5915 | T5708 | A5643 | A5576 | T5514 | T5446 | C5379 | A5314 | A5248 | G5181 | G5115 | G5049 | G4980 | T4916 |
| T5916 | T5709 | A5644 | T5577 | A5515 | A5447 | C5380 | A5315 | A5249 | G5182 | G5116 | T5051 | G4981 | A4917 |
| G5917 | T5710 | A5645 | T5578 | T5516 | T5448 | | C5316 | T5250 | T5183 | G5117 | T5052 | T4982 | |
| A5918 | A5781 | | C5579 | A5517 | A5449 | A5383 | G5317 | T5251 | A5185 | C5119 | C5052 | A4983 | G4920 |
| T5919 | T5712 | A5648 | A5580 | T5518 | | T5384 | C5318 | A5252 | A5186 | G5120 | G5053 | C4984 | G4921 |
| C5920 | C5713 | A5649 | C5581 | A5519 | G5453 | T5385 | A5319 | T5253 | A5189 | T5121 | T5054 | G4987 | G4922 |
| G5921 | C5714 | T5650 | T5582 | A5520 | A5454 | T5386 | T5320 | G5254 | T5190 | G5122 | A5055 | G4988 | G4923 |
| A5922 | A5715 | T5651 | A5583 | C5521 | A5455 | A5387 | A5321 | G5255 | T5191 | C5123 | A5056 | | G4924 |
| C5923 | | A5652 | A5584 | C5522 | A5456 | T5388 | T5322 | G5256 | T5192 | | A4992 | G4926 | C4925 |
| A5924 | A5718 | A5653 | G5586 | C5523 | A5457 | C5389 | G5323 | A5257 | T5193 | A5126 | G5060 | A4927 | |
| G5925 | A5719 | T5654 | A5587 | A5524 | A5458 | A5390 | A5324 | A5258 | C5194 | G5127 | G5061 | T4928 | C4928 |
| C5926 | A5720 | T5655 | C5588 | A5525 | G5459 | C5391 | T5325 | G5260 | T5195 | C5128 | G5062 | A4929 | C4929 |
| G5927 | A5721 | C5656 | T5589 | C5526 | A5460 | C5392 | A5326 | T5261 | C5196 | G5130 | A5063 | A4930 | C4930 |
| A5928 | A5722 | T5657 | C5590 | C5527 | C5461 | C5393 | C5327 | G5262 | | T5135 | T5069 | T4931 | |
| G5929 | A5723 | G5658 | T5592 | T5528 | T5465 | G5394 | T5327 | A5263 | A5199 | A5131 | G5065 | G4932 | |
| A5930 | G5724 | A5659 | C5593 | A5529 | C5466 | G5395 | A5328 | A5264 | | A5132 | G5066 | C4933 | |
| C5931 | G5725 | C5660 | T5594 | A5530 | G5467 | T5396 | A5329 | A5265 | A5202 | C5133 | G5067 | | |
| A5932 | T5726 | G5661 | A5595 | G5531 | A5468 | C5397 | A5330 | T5266 | A5203 | C5134 | A5068 | | |
| C5933 | A5727 | A5662 | A5596 | C5532 | G5469 | G5398 | C5331 | G5267 | G5205 | G5136 | A5070 | | |
| T5934 | T5728 | T5663 | G5597 | C5533 | T5470 | G5399 | A5332 | A5268 | G5206 | T5137 | | | |
| C5935 | A5729 | T5664 | C5598 | G5534 | T5471 | T5400 | G5333 | A5269 | C5207 | G5138 | | | |
| T5936 | T5730 | T5665 | G5599 | G5535 | C5472 | A5401 | G5334 | G5270 | T5208 | G5139 | | | |
| A5937 | C5731 | A5666 | T5600 | A5536 | T5473 | | C5335 | C5271 | C5209 | A5142 | | | |
| C5938 | A5732 | C5667 | C5601 | G5537 | T5474 | | T5336 | T5272 | G5210 | A5143 | | | |
| G5939 | A5733 | A5668 | | G5538 | T5475 | | C5341 | T5273 | A5211 | T5144 | | | |
| A5941 | T5735 | A5670 | A5605 | A5541 | T5476 | | T5342 | A5274 | A5212 | G5145 | | | |
| A5942 | G5736 | A5671 | T5606 | A5542 | T5477 | | A5343 | C5275 | A5213 | T5146 | | | |
| C5946 | A5737 | G5672 | C5607 | A5543 | T5478 | | T5344 | G5276 | A5214 | G5147 | | | |
| A5950 | A5738 | A5673 | A5608 | A5544 | T5480 | | A5345 | | T5215 | T5147 | | | |
| T5951 | A5739 | A5674 | A5609 | A5545 | G5481 | | A5346 | G5280 | G5216 | T5148 | | | |
| T5952 | A5740 | A5675 | A5610 | A5546 | C5482 | | A5347 | A5281 | A5086 | G5149 | | | |
| C5953 | G5742 | G5676 | G5611 | G5547 | G5483 | | | G5282 | A5087 | T5150 | | | |
| T5954 | | G5677 | C5612 | T5548 | A5484 | | A5350 | C5283 | G5088 | A5018 | | | |
| G5955 | A5745 | | T5613 | A5549 | | | T5351 | C5284 | C5151 | A5019 | | | |
| C5956 | A5746 | A5680 | A5614 | G5550 | G5487 | | G5352 | G5285 | A5089 | G5020 | | | |
| T5957 | A5747 | | T5615 | T5551 | G5488 | | A5353 | | T5153 | A5021 | | | |
| A5958 | T5748 | | C5683 | C5552 | A5489 | | T5354 | G5287 | C5154 | C5022 | | | |
| C5959 | G5749 | A5684 | G5617 | A5553 | | | T5355 | C5288 | G5155 | T5092 | | | |
| T5960 | T5750 | C5685 | C5618 | C5554 | G5483 | | T5356 | C5289 | G5156 | A5024 | | | |
| G5968 | A5751 | T5686 | T5619 | T5555 | G5494 | | C5357 | T5225 | G5157 | C5025 | | | |
| A5961 | A5752 | C5687 | A5620 | C5556 | A5495 | | G5358 | A5226 | A5158 | C5026 | | | |
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| | | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| A6953 | T8891 | A6760 | A6694 | T8630 | A6562 | G6498 | T8429 | A6359 | T8288 | T8221 | G6155 | C6092 | A6029 | T8964 |
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| C6957 | T8893 | G6765 | T6696 | G6632 | C6564 | T8500 | A6431 | G6361 | G6289 | G6225 | G6157 | G6094 | G6031 | C5966 |
| A6958 | T8894 | A6766 | A6697 | T6633 | C6565 | A6501 | G6432 | G6362 | A6291 | G6226 | A6158 | G6095 | A6032 | A5967 |
| A6959 | G6896 | G6767 | C6698 | G6634 | C6569 | T6503 | G6433 | T8363 | C6294 | T6226 | A6159 | T6096 | T6033 | A5968 |
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| A6962 | T8896 | | C6706 | T6637 | G6572 | | T6436 | T8366 | C6299 | A6229 | G6162 | T6101 | T6036 | A5971 |
| G6963 | T8897 | C6773 | T6707 | G6638 | G6573 | C6508 | A6437 | G6367 | C6300 | G6232 | A6163 | C6102 | A6037 | A5972 |
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| A6967 | G6903 | T6777 | T6711 | A6642 | A6577 | C6512 | T6442 | A6374 | G6304 | G6236 | G6170 | G6106 | G6043 | A5980 |
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| T6970 | T6908 | G6780 | A6714 | G6646 | G6580 | A6516 | G6445 | G6385 | | G6240 | G6173 | G6111 | G6048 | G5983 |
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| G6972 | T6910 | C6782 | T6716 | A6648 | A6584 | A6518 | T6448 | T8387 | G6312 | A6242 | G6175 | C6113 | G6050 | G5986 |
| T6973 | T6849 | A6783 | G6717 | A6649 | C6585 | G6519 | T6449 | C6386 | G6313 | G6243 | | A6114 | G6051 | |
| T6974 | T6850 | A6784 | G6718 | A6650 | T6585 | A6520 | A6450 | C6387 | G6314 | G6244 | G6178 | A6115 | T6052 | C5990 |
| A6975 | T6851 | G6785 | C6719 | T6651 | A6586 | C6521 | T6451 | G6388 | C6315 | C6245 | G6179 | A6116 | C6053 | |
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| C6987 | C6864 | A6799 | G6734 | G6666 | G6600 | A6535 | | G6401 | A6327 | C6260 | A6194 | C6128 | A6065 | T6002 |
| G6988 | A6801 | T6735 | T6736 | A6667 | A6601 | A6536 | C6467 | T8402 | T6328 | T6261 | G6195 | G6129 | G6066 | T6003 |
| A6989 | C6802 | G6736 | C6736 | T6668 | A6602 | A6537 | G6468 | G6403 | T6329 | C6262 | G6196 | C6130 | G6067 | A6004 |
| G6990 | T6865 | | | T6669 | T6603 | A6538 | | G6404 | G6330 | C6263 | C6197 | A6131 | A6068 | |
| C6991 | G6866 | A6803 | T6737 | G6670 | G6604 | T6539 | C6471 | C6405 | A6331 | T6264 | G6199 | A6132 | A6069 | |
| T6992 | A6867 | A6804 | G6738 | A6671 | T6605 | A6540 | G6472 | A6406 | | A6265 | A6199 | A6133 | T6070 | C6007 |
| A6993 | T6867 | A6805 | G6739 | G6672 | C6606 | T6541 | G6473 | G6334 | G6342 | A6271 | G6207 | A6139 | G6076 | A6008 |
| C6994 | A6872 | G6806 | A6740 | C6673 | C6607 | T6542 | T6474 | C6407 | A6343 | T6272 | A6208 | A6140 | A6077 | G6009 |
| G6995 | T6873 | A6807 | T6741 | G6674 | C6608 | G6543 | A6475 | T8408 | A6345 | T6273 | A6209 | A6141 | A6016 | A6010 |
| C6996 | C6868 | A6808 | A6742 | T6675 | | T6544 | | G6409 | A6346 | A6276 | G6202 | A6142 | A6017 | A6011 |
| A6997 | G6869 | G8809 | | C6676 | A6613 | C6545 | T6480 | G6412 | G6336 | | C6203 | T6137 | A6074 | G6012 |
| T6998 | A6874 | | | A6677 | A6616 | T6546 | A6481 | G6413 | G6337 | T6270 | G6206 | T6136 | T6075 | T6013 |
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| T6999 | T6811 | A6811 | C6746 | A6679 | A6618 | T6548 | T6483 | G6415 | G6342 | T6272 | A6208 | A6140 | A6077 | T6015 |
| A6999 | G6814 | | A6747 | A6680 | T6617 | G6549 | G6484 | G6416 | A6343 | A6273 | A6208 | A6141 | A6078 | A6016 |
| C7000 | C6815 | G6814 | A6748 | T6681 | T6618 | C6550 | G6485 | C6417 | T6344 | A6276 | A6210 | A6142 | A6079 | A6017 |
| T7001 | T6816 | T6816 | C6750 | G6682 | G6620 | C6551 | A6486 | G6418 | A6345 | | | T6144 | A6080 | T6018 |
| C7002 | T6817 | A6817 | A6751 | T6683 | T6621 | A6552 | G6487 | G6419 | T6211 | G6277 | | T6145 | T6081 | C6019 |
| C7003 | T6818 | C6818 | A6752 | A6684 | C6622 | C6553 | T6420 | T6420 | C6212 | G6278 | | A6145 | T6082 | C6020 |
| T7004 | T6819 | A6819 | G6753 | G6685 | G6623 | G6554 | T6439 | T6421 | C6213 | T6279 | | A6146 | C6083 | A6021 |
| C7005 | C6820 | T6820 | T6624 | T6555 | T6555 | T6555 | G6490 | G6352 | T6214 | A6280 | | A6147 | C6084 | A6022 |
| G7006 | G6821 | C6821 | G6755 | T6625 | T6625 | A6556 | T6491 | G6352 | G6215 | A6281 | | A6148 | G6085 | A6023 |
| C7007 | A6822 | G6822 | C6756 | T6626 | T6626 | T6557 | | C6355 | A6216 | C6282 | | C6150 | G6086 | C6024 |
| T7008 | G6823 | G6823 | G6757 | G6627 | T6558 | T6557 | A6425 | C6355 | A6217 | C6283 | | G6151 | T6087 | A6025 |
| C7009 | T6824 | | A6758 | C6628 | C6559 | | T6426 | A6356 | T6218 | | | | C6089 | A6026 |
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• Molecule 3: STAPLE STRAND



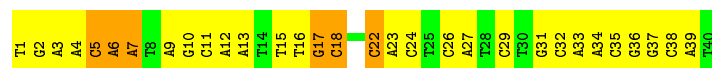
• Molecule 4: STAPLE STRAND



• Molecule 5: STAPLE STRAND



• Molecule 6: STAPLE STRAND

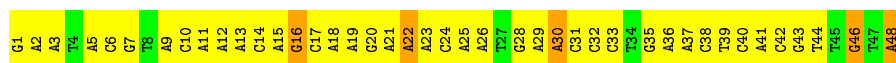


• Molecule 7: STAPLE STRAND



• Molecule 8: STAPLE STRAND





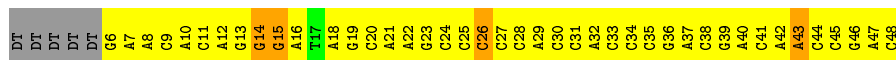
- Molecule 9: STAPLE STRAND

Chain A6: 22% 66% 12%



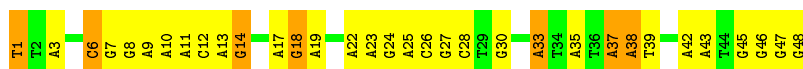
- Molecule 10: STAPLE STRAND

Chain A7: 79% 8% 10%



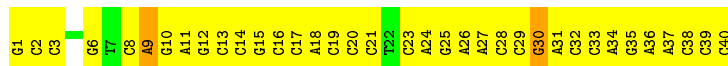
- Molecule 11: STAPLE STRAND

Chain A8: 31% 54% 15%



- Molecule 12: STAPLE STRAND

Chain AB: 10% 85% 5%



- Molecule 13: STAPLE STRAND

Chain AC: 19% 69% 10%



- Molecule 14: STAPLE STRAND

Chain AD: 12% 74% 14%



- Molecule 15: STAPLE STRAND

Chain AE: 15% 48% 15% 22%



- Molecule 16: STAPLE STRAND

Chain AF: 



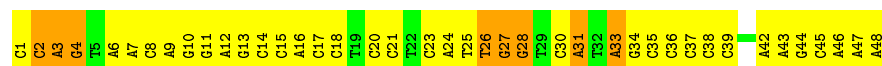
- Molecule 17: STAPLE STRAND

Chain AG: 



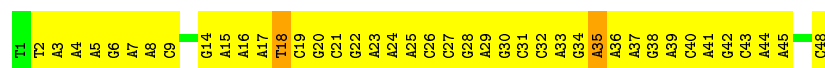
- Molecule 18: STAPLE STRAND

Chain AH: 



- Molecule 19: STAPLE STRAND

Chain AI: 



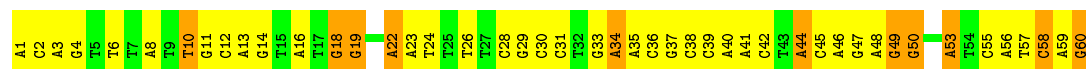
- Molecule 20: STAPLE STRAND

Chain AJ: 




- Molecule 21: STAPLE STRAND

Chain AK: 



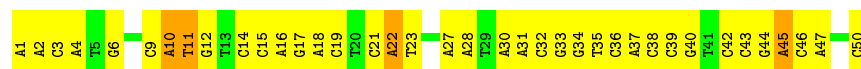
- Molecule 22: STAPLE STRAND

Chain AL: 



- Molecule 23: STAPLE STRAND

Chain AM: 




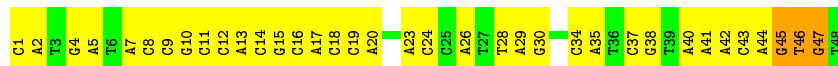
- Molecule 24: STAPLE STRAND

Chain AN: 



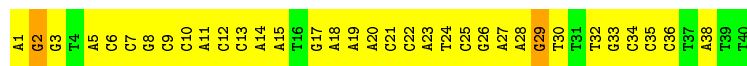
- Molecule 25: STAPLE STRAND

Chain AO: 



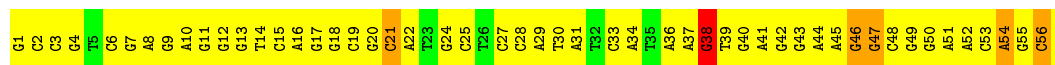
- Molecule 26: STAPLE STRAND

Chain AP: 




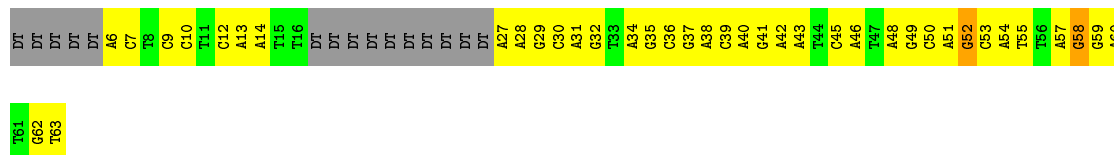
- Molecule 27: STAPLE STRAND

Chain AQ: 



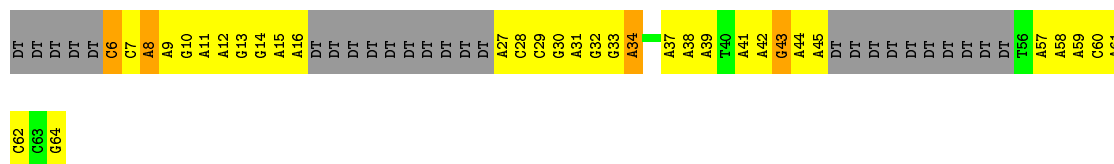
- Molecule 28: STAPLE STRAND

Chain AR: 



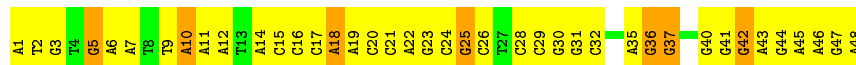
- Molecule 29: STAPLE STRAND

Chain AS: 



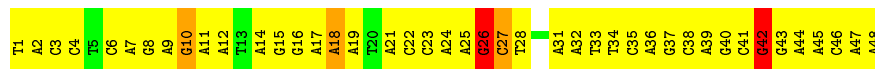
- Molecule 30: STAPLE STRAND

Chain AT: 

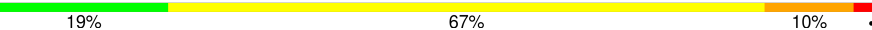


- Molecule 31: STAPLE STRAND

Chain AU:  10% 79% 6% •



- Molecule 32: STAPLE STRAND

Chain AV:  19% 67% 10% •



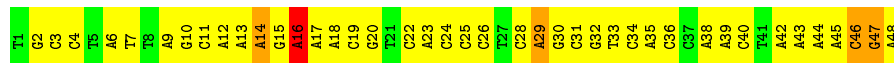
- Molecule 33: STAPLE STRAND

Chain AW:  24% 44% 30%



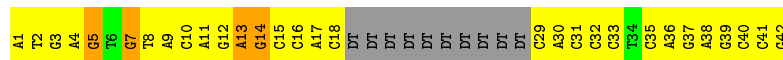
- Molecule 34: STAPLE STRAND

Chain AX:  15% 75% 8% •



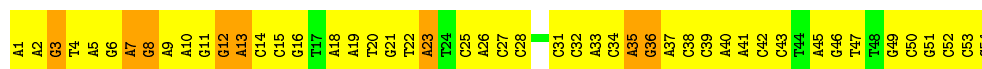
- Molecule 35: STAPLE STRAND

Chain AY:  5% 62% 10% 24%



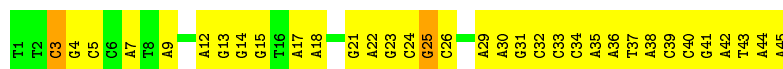
- Molecule 36: STAPLE STRAND

Chain AZ:  11% 74% 15%



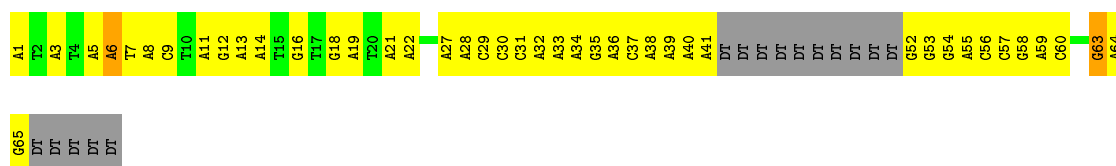
- Molecule 37: STAPLE STRAND

Chain Ab:  24% 71% •



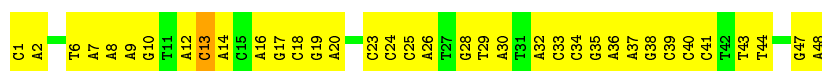
- Molecule 38: STAPLE STRAND

Chain Ac:  17% 59% 21%



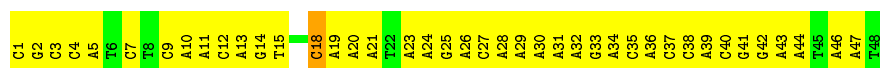
- Molecule 39: STAPLE STRAND

Chain Ad: 25% 73%



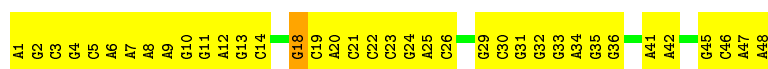
- Molecule 40: STAPLE STRAND

Chain Af: 15% 83%



- Molecule 41: STAPLE STRAND

Chain Ag: 23% 75%



- Molecule 42: STAPLE STRAND

Chain Ah: 30% 64% 7%



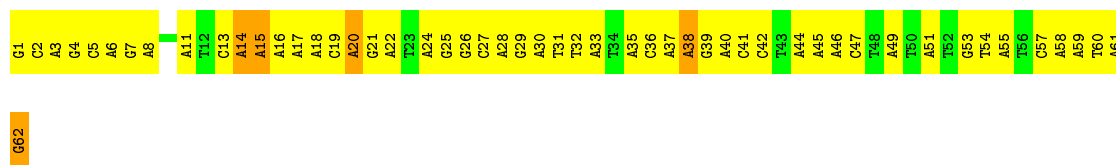
- Molecule 43: STAPLE STRAND

Chain Ai: 9% 67% 22%



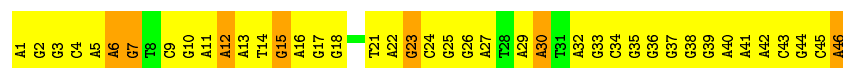
- Molecule 44: STAPLE STRAND

Chain Aj: 16% 76% 8%



- Molecule 45: STAPLE STRAND

Chain Ak:  11% 74% 15%



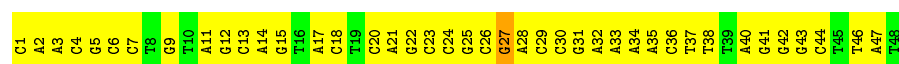
- Molecule 46: STAPLE STRAND

Chain Al:  29% 63% 8%



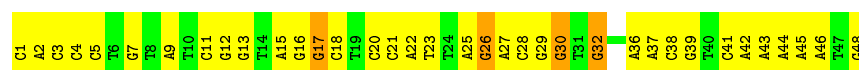
- Molecule 47: STAPLE STRAND

Chain Am:  15% 83% 2%

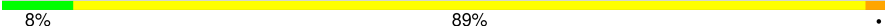


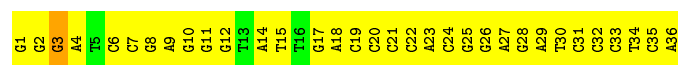
- Molecule 48: STAPLE STRAND

Chain An:  25% 67% 8%



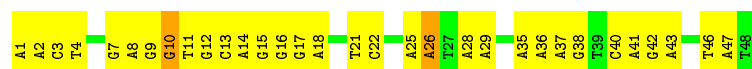
- Molecule 49: STAPLE STRAND

Chain Ao:  8% 89% 3%



- Molecule 50: STAPLE STRAND

Chain As:  33% 63% 4%



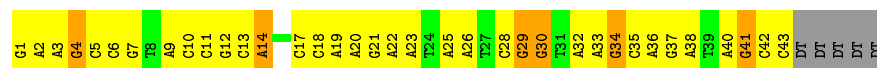
- Molecule 51: STAPLE STRAND

Chain Au:  27% 73% 0%



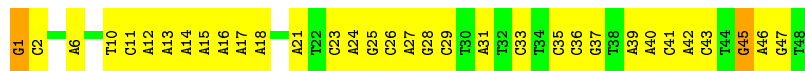
- Molecule 52: STAPLE STRAND

Chain Av:  15% 63% 13% 10%

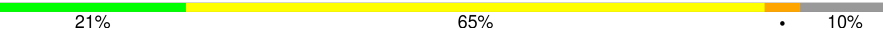


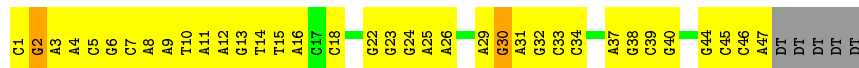
- Molecule 53: STAPLE STRAND

Chain Aw: 




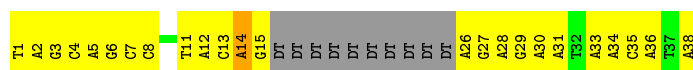
- Molecule 54: STAPLE STRAND

Chain Ax: 




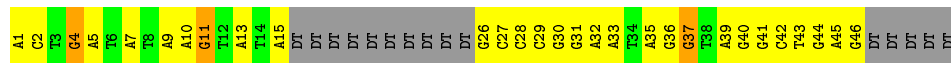
- Molecule 55: STAPLE STRAND

Chain Ay: 

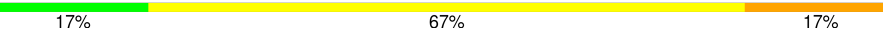


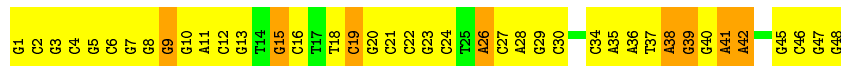
- Molecule 56: STAPLE STRAND

Chain Az: 

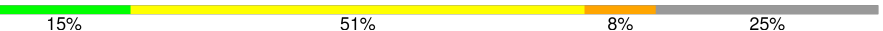


- Molecule 57: STAPLE STRAND

Chain B0: 



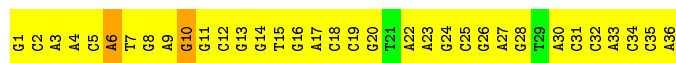
- Molecule 58: STAPLE STRAND

Chain B1: 



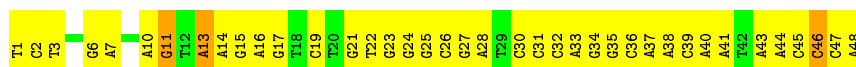
- Molecule 59: STAPLE STRAND

Chain B2: 

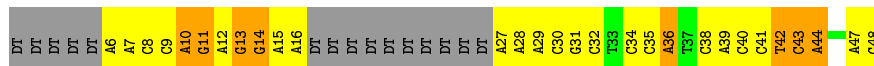


- Molecule 60: STAPLE STRAND

Chain B3: 



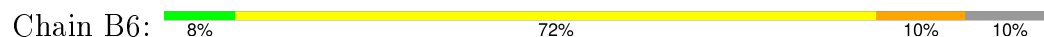
- Molecule 61: STAPLE STRAND



- Molecule 62: STAPLE STRAND



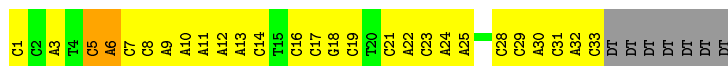
- Molecule 63: STAPLE STRAND



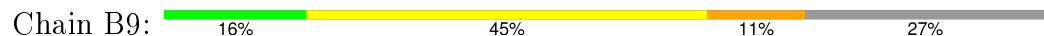
- Molecule 64: STAPLE STRAND



- Molecule 65: STAPLE STRAND



- Molecule 66: STAPLE STRAND



- Molecule 67: STAPLE STRAND



- Molecule 68: STAPLE STRAND

Chain BC:  23% 61% 5% 11%




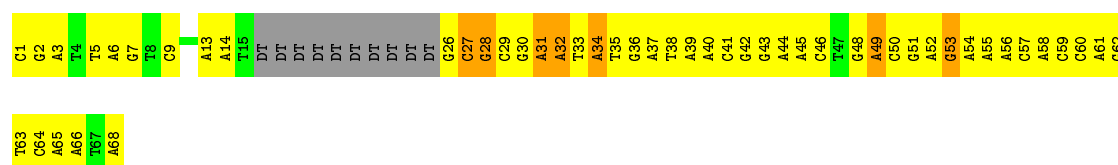
- Molecule 69: STAPLE STRAND

Chain BD:  11% 69% 14% 6%



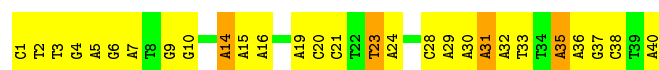
- Molecule 70: STAPLE STRAND

Chain BE:  12% 63% 10% 15%

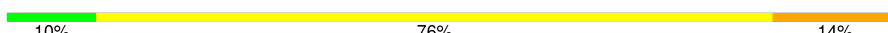


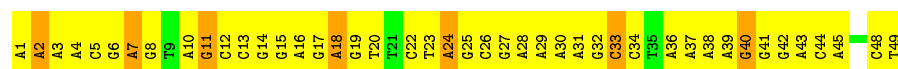
- Molecule 71: STAPLE STRAND

Chain BF:  30% 60% 10%




- Molecule 72: STAPLE STRAND

Chain BG:  10% 76% 14%




- Molecule 73: STAPLE STRAND

Chain BH:  10% 62% 5% 24%

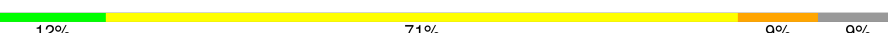


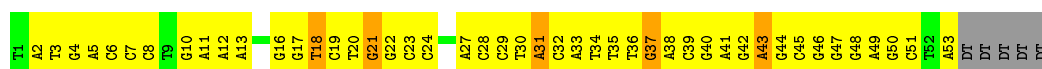
- Molecule 74: STAPLE STRAND

Chain BI:  17% 43% 5% 36%

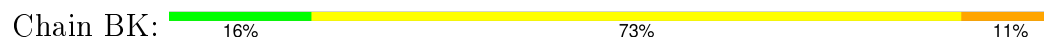


- Molecule 75: STAPLE STRAND

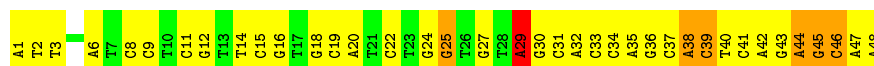
Chain BJ:  12% 71% 9% 9%



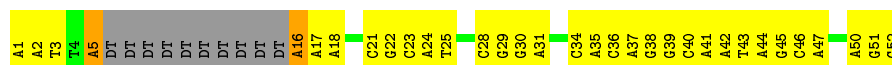
- Molecule 76: STAPLE STRAND



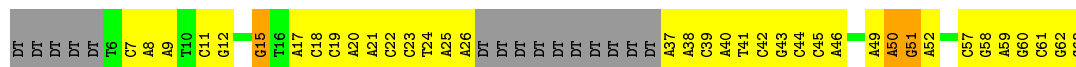
- Molecule 77: STAPLE STRAND



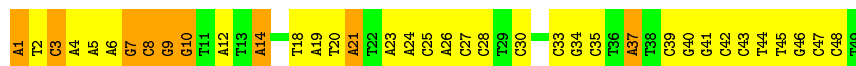
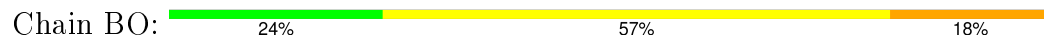
- Molecule 78: STAPLE STRAND



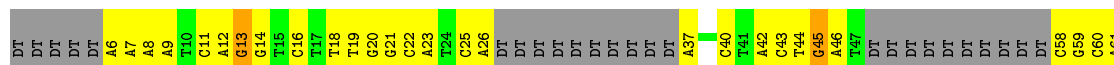
- Molecule 79: STAPLE STRAND



- Molecule 80: STAPLE STRAND

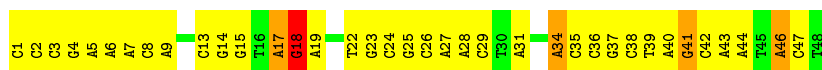


- Molecule 81: STAPLE STRAND

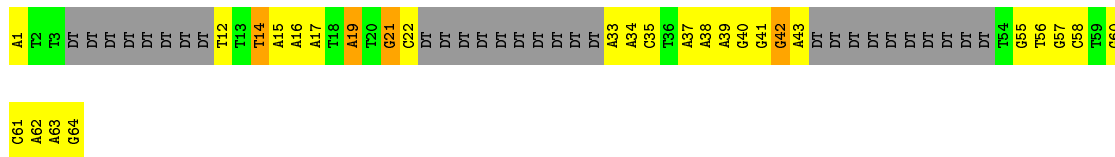
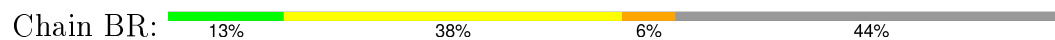


- Molecule 82: STAPLE STRAND

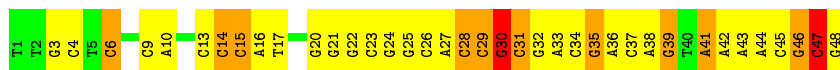




- Molecule 83: STAPLE STRAND



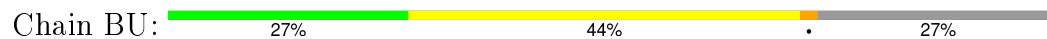
- Molecule 84: STAPLE STRAND



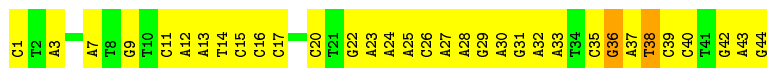
- Molecule 85: STAPLE STRAND



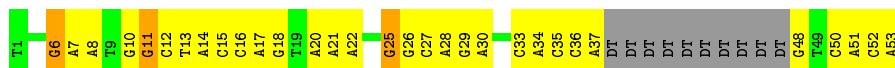
- Molecule 86: STAPLE STRAND



- Molecule 87: STAPLE STRAND

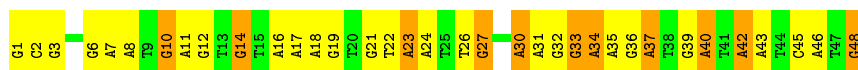


- Molecule 88: STAPLE STRAND



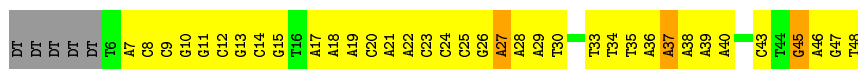
- Molecule 89: STAPLE STRAND





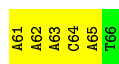
- Molecule 90: STAPLE STRAND

Chain BY: 15% 69% 6% 10%



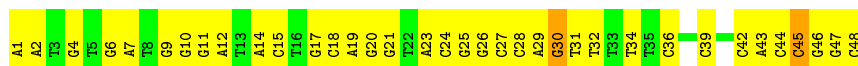
- Molecule 91: STAPLE STRAND

Chain BZ: 11% 52% 35%



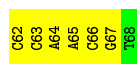
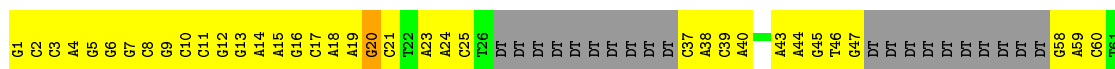
- Molecule 92: STAPLE STRAND

Chain Ba: 25% 71%



- Molecule 93: STAPLE STRAND

Chain Bb: 9% 60% 29%



- Molecule 94: STAPLE STRAND

Chain Bc: 20% 72% 8%



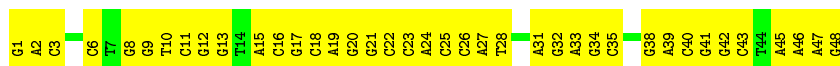
- Molecule 95: STAPLE STRAND

Chain Bd: 16% 57% 27%



- Molecule 96: STAPLE STRAND

Chain Be:  19% 81%

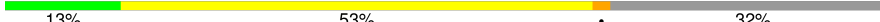


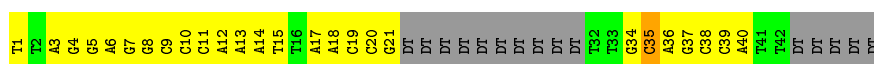
• Molecule 97: STAPLE STRAND

Chain Bf:  15% 77% 8%



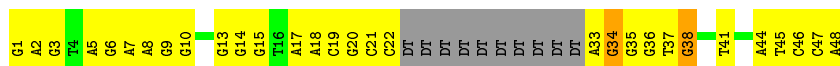
• Molecule 98: STAPLE STRAND

Chain Bg:  13% 53% 32%



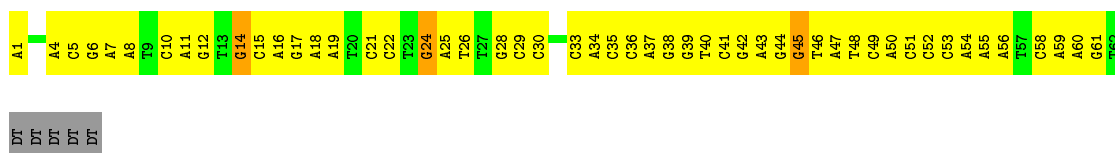
• Molecule 99: STAPLE STRAND

Chain Bh:  17% 58% 21%



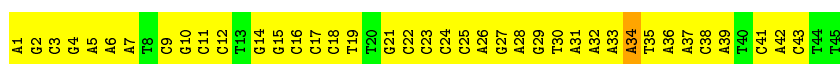
• Molecule 100: STAPLE STRAND

Chain Bi:  16% 72% 7%

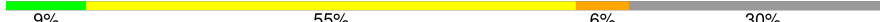


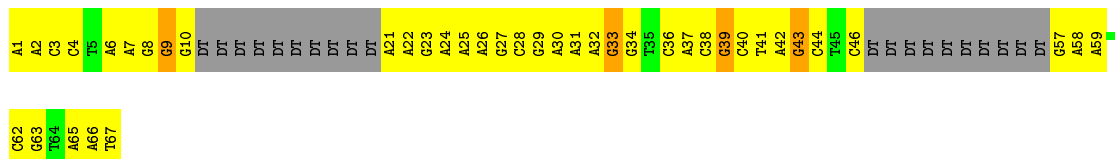
• Molecule 101: STAPLE STRAND

Chain Bj:  13% 84%




• Molecule 102: STAPLE STRAND

Chain Bk:  9% 55% 6% 30%




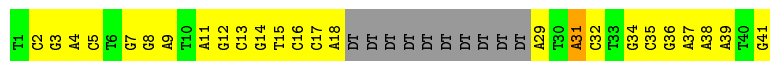
- Molecule 110: STAPLE STRAND

Chain Bs:  6% 65% 28%

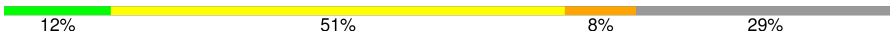


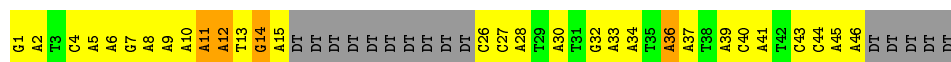
- Molecule 111: STAPLE STRAND

Chain C0:  15% 59% 24%



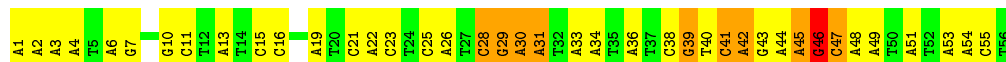
- Molecule 112: STAPLE STRAND

Chain C1:  12% 51% 8% 29%



- Molecule 113: STAPLE STRAND

Chain C2:  29% 54% 16%

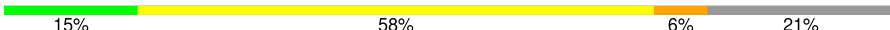


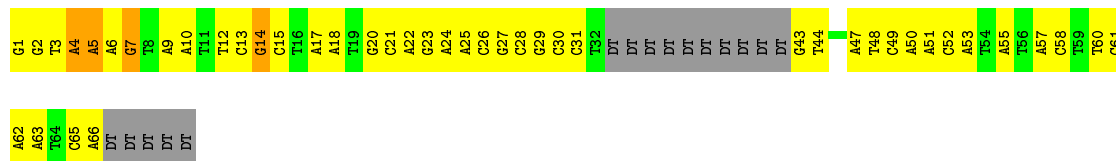
- Molecule 114: STAPLE STRAND

Chain C3:  21% 71% 8%



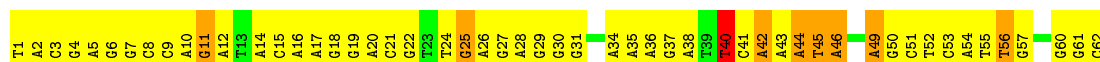
- Molecule 115: STAPLE STRAND

Chain C4:  15% 58% 6% 21%



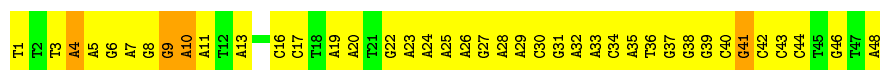
- Molecule 116: STAPLE STRAND

Chain C5:  15% 71% 13%



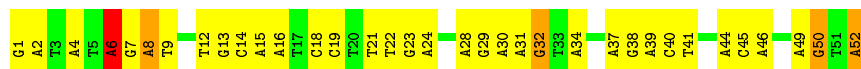
- Molecule 117: STAPLE STRAND

Chain C6: 



- Molecule 118: STAPLE STRAND

Chain C7: 



- Molecule 119: STAPLE STRAND

Chain C8: 




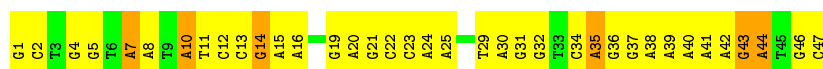
- Molecule 120: STAPLE STRAND

Chain CB: 



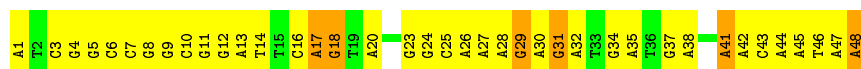
- Molecule 121: STAPLE STRAND

Chain CC: 



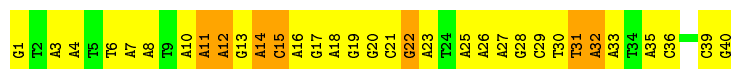
- Molecule 122: STAPLE STRAND

Chain CD: 



- Molecule 123: STAPLE STRAND

Chain CE: 



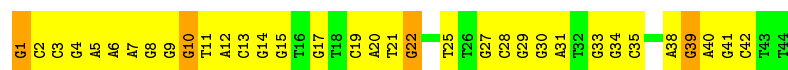
- Molecule 124: STAPLE STRAND

Chain CF: 



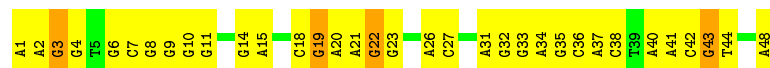
- Molecule 125: STAPLE STRAND

Chain CG:  23% 68% 9%



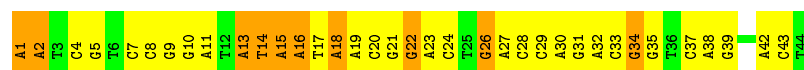
- Molecule 126: STAPLE STRAND

Chain CH:




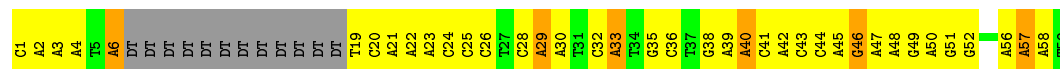
- Molecule 127: STAPLE STRAND

Chain CI: 

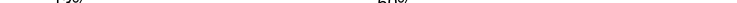


- Molecule 128: STAPLE STRAND

Chain CJ: 



- Molecule 129: STAPLE STRAND

Chain CK:  13% 60% 23% 4%




- Molecule 130: STAPLE STRAND

Chain CL:  25% 58% 15%



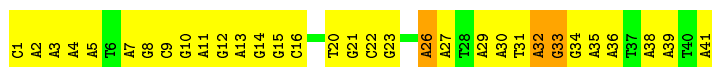
- Molecule 131: STAPLE STRAND

Chain CM:  9% 61% 1% 28%

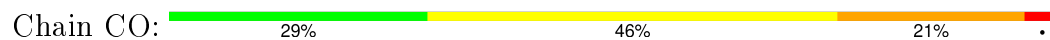


- Molecule 132: STAPLE STRAND

Chain CN:  22% 71% 7%



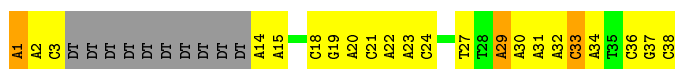
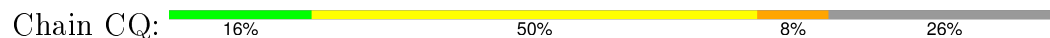
• Molecule 133: STAPLE STRAND



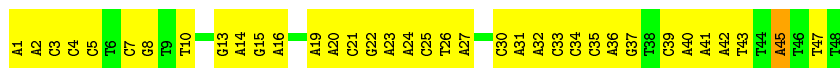
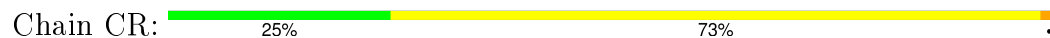
• Molecule 134: STAPLE STRAND



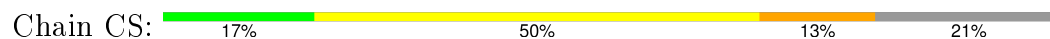
• Molecule 135: STAPLE STRAND



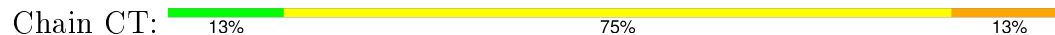
• Molecule 136: STAPLE STRAND



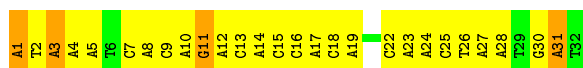
• Molecule 137: STAPLE STRAND



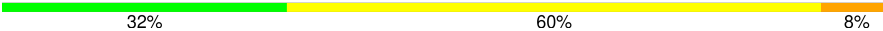
• Molecule 138: STAPLE STRAND

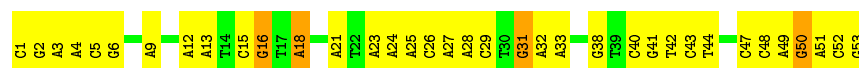


• Molecule 139: STAPLE STRAND

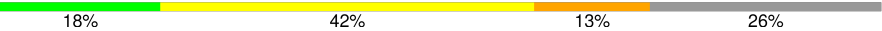


• Molecule 140: STAPLE STRAND

Chain CV: 



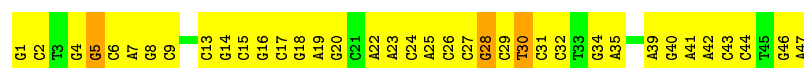
- Molecule 141: STAPLE STRAND

Chain CW: 



- Molecule 142: STAPLE STRAND

Chain CX: 

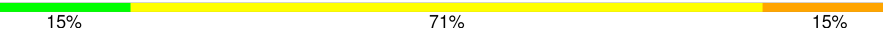


- Molecule 143: STAPLE STRAND

Chain CY: 



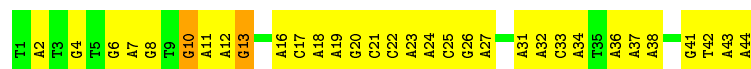
- Molecule 144: STAPLE STRAND

Chain CZ: 




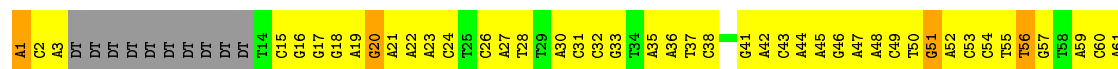
- Molecule 145: STAPLE STRAND

Chain Cb: 



- Molecule 146: STAPLE STRAND

Chain Cc: 



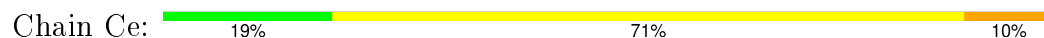
G62

- Molecule 147: STAPLE STRAND

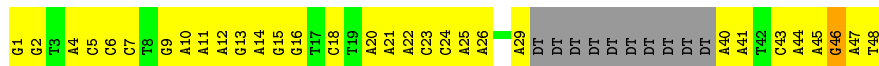
Chain Cd: 



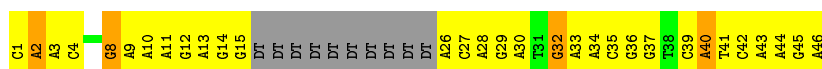
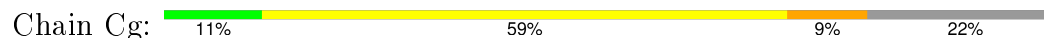
- Molecule 148: STAPLE STRAND



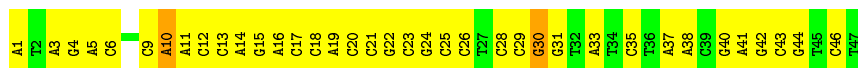
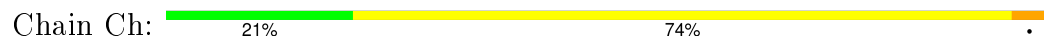
- Molecule 149: STAPLE STRAND



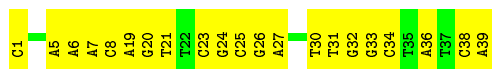
- Molecule 150: STAPLE STRAND



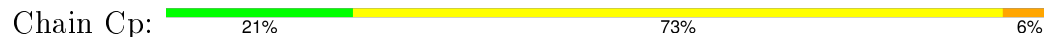
- Molecule 151: STAPLE STRAND



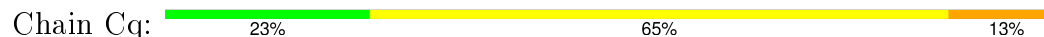
- Molecule 152: STAPLE STRAND



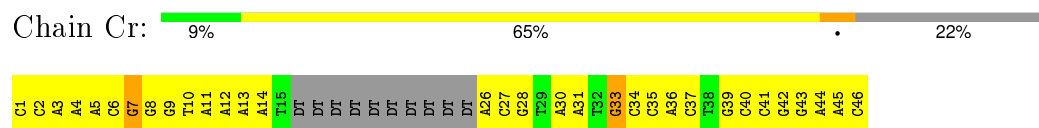
- Molecule 153: STAPLE STRAND



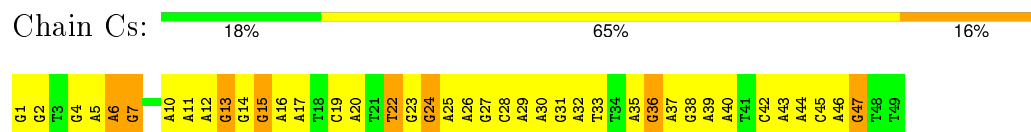
- Molecule 154: STAPLE STRAND



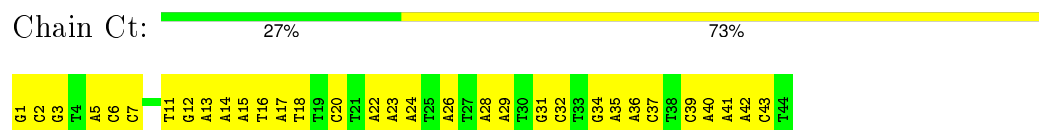
- Molecule 155: STAPLE STRAND



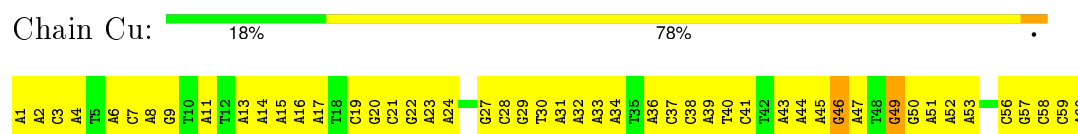
- Molecule 156: STAPLE STRAND



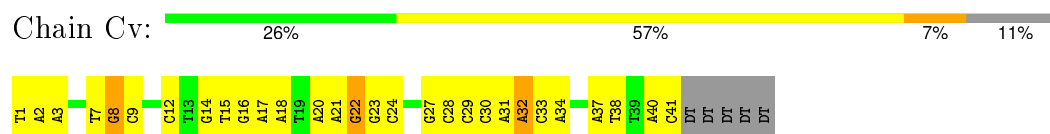
- Molecule 157: STAPLE STRAND



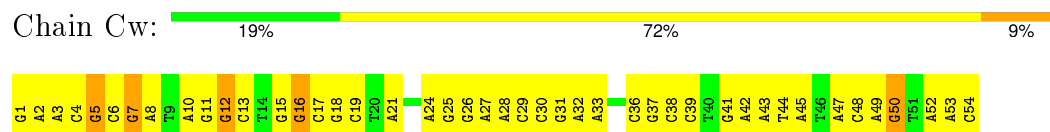
- Molecule 158: STAPLE STRAND



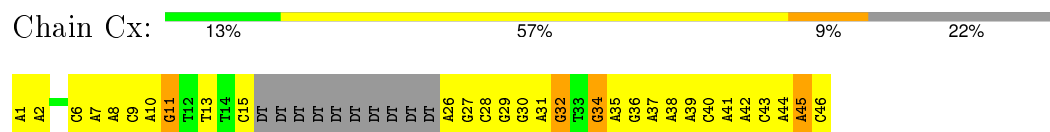
- Molecule 159: STAPLE STRAND



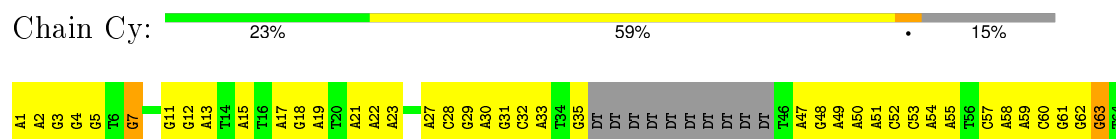
- Molecule 160: STAPLE STRAND



- Molecule 161: STAPLE STRAND

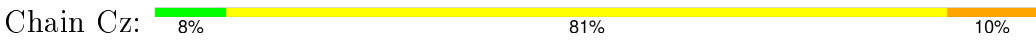


- Molecule 162: STAPLE STRAND



| |
|-----|
| A65 |
| T66 |

● Molecule 163: STAPLE STRAND



| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| C1 | C2 | A3 | A4 | C5 | G6 | T7 | C8 | T9 | A10 | A11 | G12 | A13 | A14 | C15 | G16 | C17 | G18 | A19 | G20 | G21 | C22 | A23 | A24 | C25 | T26 | A27 | A28 | T29 | A30 | A31 | C32 | T33 | C34 | C35 | A36 | A37 | C38 | G39 | C40 | G41 | A42 | A43 | C44 | G45 | A46 | C47 | A48 |
|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|

4 Experimental information

| Property | Value | Source |
|--------------------------------------|--------------------------|-----------|
| Reconstruction method | SINGLE PARTICLE | Depositor |
| Imposed symmetry | POINT, Not provided | Depositor |
| Number of images | Not provided | Depositor |
| Resolution determination method | Not provided | Depositor |
| CTF correction method | WIENER FILTER (RELION) | Depositor |
| Microscope | OTHER | Depositor |
| Voltage (kV) | 300 | Depositor |
| Electron dose ($e^-/\text{\AA}^2$) | 10 | Depositor |
| Minimum defocus (nm) | 890 | Depositor |
| Maximum defocus (nm) | 4460 | Depositor |
| Magnification | 31000 | Depositor |
| Image detector | FEI FALCON (BACKTHINNED) | Depositor |

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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

| Mol | Chain | Bond lengths | | Bond angles | |
|-----|-------|--------------|------------------|-------------|--------------------|
| | | RMSZ | # $ Z > 2$ | RMSZ | # $ Z > 2$ |
| 1 | AA | 1.64 | 49/111956 (0.0%) | 2.36 | 9166/172701 (5.3%) |
| 10 | A7 | 1.67 | 0/969 | 2.69 | 121/1484 (8.2%) |
| 100 | Bi | 1.63 | 1/1406 (0.1%) | 2.47 | 142/2161 (6.6%) |
| 101 | Bj | 1.60 | 0/1016 | 2.46 | 107/1560 (6.9%) |
| 102 | Bk | 1.63 | 0/1085 | 2.53 | 120/1670 (7.2%) |
| 103 | Bl | 1.67 | 0/1110 | 2.55 | 113/1709 (6.6%) |
| 104 | Bm | 1.60 | 0/1078 | 2.40 | 101/1654 (6.1%) |
| 105 | Bn | 1.67 | 0/1096 | 2.38 | 95/1693 (5.6%) |
| 106 | Bo | 1.63 | 0/1292 | 2.37 | 117/1986 (5.9%) |
| 107 | Bp | 1.67 | 1/1108 (0.1%) | 2.59 | 118/1706 (6.9%) |
| 108 | Bq | 1.64 | 0/881 | 2.43 | 88/1357 (6.5%) |
| 109 | Br | 1.62 | 0/818 | 2.31 | 71/1259 (5.6%) |
| 11 | A8 | 1.61 | 1/1093 (0.1%) | 2.47 | 99/1679 (5.9%) |
| 110 | Bs | 1.66 | 1/901 (0.1%) | 2.51 | 93/1386 (6.7%) |
| 111 | C0 | 1.63 | 0/709 | 2.41 | 65/1091 (6.0%) |
| 112 | C1 | 1.58 | 0/824 | 2.57 | 98/1265 (7.7%) |
| 113 | C2 | 1.57 | 0/1259 | 2.39 | 110/1930 (5.7%) |
| 114 | C3 | 1.58 | 0/1077 | 2.44 | 99/1651 (6.0%) |
| 115 | C4 | 1.56 | 0/1269 | 2.39 | 122/1950 (6.3%) |
| 116 | C5 | 1.62 | 0/1433 | 2.43 | 130/2209 (5.9%) |
| 117 | C6 | 1.61 | 0/1097 | 2.58 | 116/1685 (6.9%) |
| 118 | C7 | 1.57 | 1/1181 (0.1%) | 2.35 | 94/1817 (5.2%) |
| 119 | C8 | 1.61 | 1/998 (0.1%) | 2.37 | 85/1533 (5.5%) |
| 12 | AB | 1.62 | 0/894 | 2.41 | 87/1370 (6.4%) |
| 120 | CB | 1.55 | 2/1215 (0.2%) | 2.26 | 93/1867 (5.0%) |
| 121 | CC | 1.62 | 0/1082 | 2.50 | 97/1666 (5.8%) |
| 122 | CD | 1.65 | 2/1106 (0.2%) | 2.52 | 107/1702 (6.3%) |
| 123 | CE | 1.61 | 0/917 | 2.61 | 89/1409 (6.3%) |
| 124 | CF | 1.59 | 0/908 | 2.44 | 81/1395 (5.8%) |
| 125 | CG | 1.62 | 0/1013 | 2.35 | 84/1562 (5.4%) |
| 126 | CH | 1.59 | 0/1107 | 2.37 | 99/1707 (5.8%) |
| 127 | CI | 1.61 | 0/996 | 2.45 | 97/1528 (6.3%) |
| 128 | CJ | 1.61 | 0/1061 | 2.53 | 113/1626 (6.9%) |
| 129 | CK | 1.63 | 0/1103 | 2.55 | 111/1695 (6.5%) |

| Mol | Chain | Bond lengths | | Bond angles | |
|-----|-------|--------------|-----------------|-------------|-------------------|
| | | RMSZ | # Z >2 | RMSZ | # Z >2 |
| 13 | AC | 1.65 | 0/1118 | 2.52 | 112/1723 (6.5%) |
| 130 | CL | 1.59 | 0/1082 | 2.49 | 108/1659 (6.5%) |
| 131 | CM | 1.65 | 0/903 | 2.62 | 104/1390 (7.5%) |
| 132 | CN | 1.62 | 0/955 | 2.48 | 89/1474 (6.0%) |
| 133 | CO | 1.60 | 1/1092 (0.1%) | 2.46 | 105/1678 (6.3%) |
| 134 | CP | 1.60 | 0/1279 | 2.41 | 123/1969 (6.2%) |
| 135 | CQ | 1.65 | 0/623 | 2.53 | 68/952 (7.1%) |
| 136 | CR | 1.56 | 0/1084 | 2.36 | 98/1667 (5.9%) |
| 137 | CS | 1.60 | 0/867 | 2.43 | 75/1333 (5.6%) |
| 138 | CT | 1.61 | 0/1102 | 2.48 | 110/1695 (6.5%) |
| 139 | CU | 1.61 | 0/728 | 2.57 | 81/1119 (7.2%) |
| 14 | AD | 1.65 | 0/1144 | 2.55 | 123/1759 (7.0%) |
| 140 | CV | 1.59 | 0/1192 | 2.38 | 95/1830 (5.2%) |
| 141 | CW | 1.62 | 0/629 | 2.35 | 60/965 (6.2%) |
| 142 | CX | 1.61 | 1/1055 (0.1%) | 2.36 | 90/1618 (5.6%) |
| 143 | CY | 1.60 | 0/979 | 2.67 | 122/1501 (8.1%) |
| 144 | CZ | 1.62 | 0/1113 | 2.58 | 125/1713 (7.3%) |
| 145 | Cb | 1.60 | 3/999 (0.3%) | 2.62 | 112/1532 (7.3%) |
| 146 | Cc | 1.62 | 0/1174 | 2.45 | 122/1800 (6.8%) |
| 147 | Cd | 1.58 | 0/965 | 2.48 | 92/1486 (6.2%) |
| 148 | Ce | 1.60 | 1/1175 (0.1%) | 2.48 | 124/1802 (6.9%) |
| 149 | Cf | 1.60 | 0/862 | 2.50 | 86/1321 (6.5%) |
| 15 | AE | 1.61 | 0/823 | 2.38 | 76/1267 (6.0%) |
| 150 | Cg | 1.64 | 0/827 | 2.53 | 88/1270 (6.9%) |
| 151 | Ch | 1.62 | 0/1048 | 2.47 | 106/1605 (6.6%) |
| 152 | Ck | 1.56 | 0/653 | 2.24 | 53/1004 (5.3%) |
| 153 | Cp | 1.62 | 0/1095 | 2.48 | 106/1682 (6.3%) |
| 154 | Cq | 1.62 | 0/930 | 2.46 | 84/1436 (5.8%) |
| 155 | Cr | 1.64 | 1/816 (0.1%) | 2.61 | 101/1251 (8.1%) |
| 156 | Cs | 1.63 | 0/1140 | 2.59 | 110/1756 (6.3%) |
| 157 | Ct | 1.58 | 1/991 (0.1%) | 2.39 | 90/1521 (5.9%) |
| 158 | Cu | 1.59 | 1/1366 (0.1%) | 2.50 | 145/2096 (6.9%) |
| 159 | Cv | 1.57 | 0/918 | 2.33 | 77/1409 (5.5%) |
| 16 | AF | 1.60 | 0/1082 | 2.32 | 88/1662 (5.3%) |
| 160 | Cw | 1.64 | 0/1232 | 2.53 | 133/1893 (7.0%) |
| 161 | Cx | 1.66 | 0/820 | 2.63 | 94/1258 (7.5%) |
| 162 | Cy | 1.60 | 0/1286 | 2.48 | 119/1977 (6.0%) |
| 163 | Cz | 1.63 | 0/1090 | 2.57 | 123/1672 (7.4%) |
| 17 | AG | 1.66 | 0/1057 | 2.57 | 118/1625 (7.3%) |
| 18 | AH | 1.62 | 1/1079 (0.1%) | 2.42 | 108/1656 (6.5%) |
| 19 | AI | 1.67 | 1/1085 (0.1%) | 2.65 | 129/1661 (7.8%) |
| 2 | BA | 1.58 | 11/53689 (0.0%) | 2.33 | 4398/82781 (5.3%) |
| 20 | AJ | 1.60 | 0/1189 | 2.52 | 111/1828 (6.1%) |

| Mol | Chain | Bond lengths | | Bond angles | |
|-----|-------|--------------|---------------|-------------|-----------------|
| | | RMSZ | # Z >2 | RMSZ | # Z >2 |
| 21 | AK | 1.58 | 3/1342 (0.2%) | 2.44 | 127/2055 (6.2%) |
| 22 | AL | 1.59 | 0/1085 | 2.33 | 85/1669 (5.1%) |
| 23 | AM | 1.53 | 0/1107 | 2.30 | 94/1693 (5.6%) |
| 24 | AN | 1.62 | 0/1084 | 2.46 | 107/1664 (6.4%) |
| 25 | AO | 1.61 | 0/1075 | 2.43 | 106/1649 (6.4%) |
| 26 | AP | 1.60 | 2/897 (0.2%) | 2.40 | 82/1375 (6.0%) |
| 27 | AQ | 1.69 | 1/1302 (0.1%) | 2.64 | 151/1999 (7.6%) |
| 28 | AR | 1.62 | 0/1094 | 2.47 | 105/1681 (6.2%) |
| 29 | AS | 1.69 | 0/895 | 2.73 | 121/1372 (8.8%) |
| 3 | A0 | 1.60 | 1/1254 (0.1%) | 2.59 | 132/1923 (6.9%) |
| 30 | AT | 1.64 | 1/1091 (0.1%) | 2.50 | 119/1674 (7.1%) |
| 31 | AU | 1.63 | 1/1085 (0.1%) | 2.64 | 123/1661 (7.4%) |
| 32 | AV | 1.58 | 3/1178 (0.3%) | 2.45 | 116/1807 (6.4%) |
| 33 | AW | 1.60 | 0/783 | 2.42 | 70/1202 (5.8%) |
| 34 | AX | 1.64 | 1/1074 (0.1%) | 2.57 | 111/1643 (6.8%) |
| 35 | AY | 1.68 | 0/723 | 2.61 | 86/1109 (7.8%) |
| 36 | AZ | 1.64 | 0/1211 | 2.48 | 123/1854 (6.6%) |
| 37 | Ab | 1.60 | 0/1015 | 2.42 | 94/1557 (6.0%) |
| 38 | Ac | 1.62 | 0/1252 | 2.57 | 137/1920 (7.1%) |
| 39 | Ad | 1.55 | 0/1069 | 2.35 | 92/1637 (5.6%) |
| 4 | A1 | 1.63 | 0/989 | 2.63 | 120/1514 (7.9%) |
| 40 | Af | 1.64 | 0/1082 | 2.62 | 128/1656 (7.7%) |
| 41 | Ag | 1.65 | 1/1098 (0.1%) | 2.48 | 115/1689 (6.8%) |
| 42 | Ah | 1.54 | 1/971 (0.1%) | 2.31 | 76/1486 (5.1%) |
| 43 | Ai | 1.65 | 0/809 | 2.55 | 99/1239 (8.0%) |
| 44 | Aj | 1.64 | 0/1412 | 2.66 | 147/2166 (6.8%) |
| 45 | Ak | 1.70 | 2/1065 (0.2%) | 2.69 | 119/1637 (7.3%) |
| 46 | Al | 1.55 | 1/1056 (0.1%) | 2.37 | 96/1614 (5.9%) |
| 47 | Am | 1.62 | 1/1077 (0.1%) | 2.49 | 114/1650 (6.9%) |
| 48 | An | 1.59 | 0/1088 | 2.34 | 93/1672 (5.6%) |
| 49 | Ao | 1.64 | 1/810 (0.1%) | 2.45 | 67/1241 (5.4%) |
| 5 | A2 | 1.68 | 0/1149 | 2.81 | 162/1762 (9.2%) |
| 50 | As | 1.58 | 1/1085 (0.1%) | 2.35 | 87/1666 (5.2%) |
| 51 | Au | 1.56 | 0/1075 | 2.32 | 87/1650 (5.3%) |
| 52 | Av | 1.61 | 0/975 | 2.47 | 100/1495 (6.7%) |
| 53 | Aw | 1.59 | 0/1072 | 2.47 | 99/1642 (6.0%) |
| 54 | Ax | 1.60 | 1/1067 (0.1%) | 2.35 | 98/1640 (6.0%) |
| 55 | Ay | 1.63 | 0/638 | 2.48 | 67/979 (6.8%) |
| 56 | Az | 1.64 | 0/828 | 2.47 | 83/1273 (6.5%) |
| 57 | B0 | 1.61 | 2/1094 (0.2%) | 2.33 | 99/1683 (5.9%) |
| 58 | B1 | 1.62 | 0/1013 | 2.52 | 106/1557 (6.8%) |
| 59 | B2 | 1.69 | 1/825 (0.1%) | 2.62 | 91/1268 (7.2%) |
| 6 | A3 | 1.61 | 0/888 | 2.61 | 93/1358 (6.8%) |

| Mol | Chain | Bond lengths | | Bond angles | |
|-----|-------|--------------|---------------|-------------|-----------------|
| | | RMSZ | # Z >2 | RMSZ | # Z >2 |
| 60 | B3 | 1.57 | 0/1094 | 2.36 | 99/1683 (5.9%) |
| 61 | B4 | 1.62 | 0/745 | 2.57 | 87/1142 (7.6%) |
| 62 | B5 | 1.61 | 0/917 | 2.49 | 93/1410 (6.6%) |
| 63 | B6 | 1.66 | 1/1047 (0.1%) | 2.57 | 110/1614 (6.8%) |
| 64 | B7 | 1.59 | 1/996 (0.1%) | 2.27 | 73/1533 (4.8%) |
| 65 | B8 | 1.56 | 0/730 | 2.41 | 68/1117 (6.1%) |
| 66 | B9 | 1.61 | 0/907 | 2.47 | 92/1393 (6.6%) |
| 67 | BB | 1.63 | 0/1104 | 2.47 | 107/1700 (6.3%) |
| 68 | BC | 1.59 | 0/897 | 2.48 | 86/1381 (6.2%) |
| 69 | BD | 1.66 | 0/820 | 2.57 | 87/1265 (6.9%) |
| 7 | A4 | 1.60 | 0/878 | 2.53 | 87/1352 (6.4%) |
| 70 | BE | 1.62 | 0/1329 | 2.46 | 132/2044 (6.5%) |
| 71 | BF | 1.56 | 0/906 | 2.34 | 67/1393 (4.8%) |
| 72 | BG | 1.65 | 0/1134 | 2.65 | 127/1746 (7.3%) |
| 73 | BH | 1.63 | 0/722 | 2.52 | 79/1107 (7.1%) |
| 74 | BI | 1.56 | 0/609 | 2.41 | 57/935 (6.1%) |
| 75 | BJ | 1.63 | 0/1205 | 2.40 | 110/1853 (5.9%) |
| 76 | BK | 1.63 | 2/1005 (0.2%) | 2.66 | 104/1543 (6.7%) |
| 77 | BL | 1.60 | 0/1079 | 2.38 | 94/1657 (5.7%) |
| 78 | BM | 1.60 | 1/959 (0.1%) | 2.39 | 90/1475 (6.1%) |
| 79 | BN | 1.62 | 0/1086 | 2.45 | 112/1669 (6.7%) |
| 8 | A5 | 1.63 | 0/1091 | 2.61 | 121/1673 (7.2%) |
| 80 | BO | 1.57 | 1/1098 (0.1%) | 2.34 | 97/1687 (5.7%) |
| 81 | BP | 1.56 | 0/921 | 2.33 | 78/1414 (5.5%) |
| 82 | BQ | 1.60 | 0/1087 | 2.41 | 100/1672 (6.0%) |
| 83 | BR | 1.58 | 0/822 | 2.38 | 71/1263 (5.6%) |
| 84 | BS | 1.59 | 0/1081 | 2.37 | 95/1660 (5.7%) |
| 85 | BT | 1.63 | 0/843 | 2.32 | 68/1298 (5.2%) |
| 86 | BU | 1.61 | 2/909 (0.2%) | 2.32 | 69/1398 (4.9%) |
| 87 | BV | 1.60 | 0/1003 | 2.42 | 97/1545 (6.3%) |
| 88 | BW | 1.59 | 0/979 | 2.32 | 87/1507 (5.8%) |
| 89 | BX | 1.61 | 0/1114 | 2.46 | 101/1717 (5.9%) |
| 9 | A6 | 1.60 | 1/1140 (0.1%) | 2.51 | 114/1751 (6.5%) |
| 90 | BY | 1.60 | 0/976 | 2.42 | 89/1500 (5.9%) |
| 91 | BZ | 1.61 | 0/976 | 2.44 | 98/1499 (6.5%) |
| 92 | Ba | 1.61 | 0/1086 | 2.35 | 91/1670 (5.4%) |
| 93 | Bb | 1.68 | 1/1093 (0.1%) | 2.53 | 122/1679 (7.3%) |
| 94 | Bc | 1.60 | 0/1135 | 2.31 | 93/1746 (5.3%) |
| 95 | Bd | 1.62 | 0/937 | 2.34 | 81/1443 (5.6%) |
| 96 | Be | 1.62 | 0/1096 | 2.39 | 96/1687 (5.7%) |
| 97 | Bf | 1.69 | 0/1101 | 2.54 | 115/1694 (6.8%) |
| 98 | Bg | 1.60 | 1/723 (0.1%) | 2.37 | 67/1110 (6.0%) |
| 99 | Bh | 1.63 | 0/880 | 2.33 | 78/1358 (5.7%) |

| Mol | Chain | Bond lengths | | Bond angles | |
|-----|-------|--------------|-------------------|-------------|---------------------|
| | | RMSZ | $\# Z > 2$ | RMSZ | $\# Z > 2$ |
| All | All | 1.62 | 117/330436 (0.0%) | 2.41 | 29725/508623 (5.8%) |

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 | AA | 22 | 300 |
| 10 | A7 | 0 | 3 |
| 100 | Bi | 0 | 3 |
| 101 | Bj | 0 | 1 |
| 102 | Bk | 0 | 4 |
| 103 | Bl | 0 | 3 |
| 104 | Bm | 1 | 3 |
| 105 | Bn | 0 | 5 |
| 106 | Bo | 1 | 5 |
| 107 | Bp | 2 | 7 |
| 108 | Bq | 0 | 3 |
| 109 | Br | 0 | 1 |
| 11 | A8 | 0 | 5 |
| 110 | Bs | 0 | 1 |
| 112 | C1 | 0 | 1 |
| 113 | C2 | 1 | 2 |
| 114 | C3 | 1 | 4 |
| 115 | C4 | 0 | 2 |
| 116 | C5 | 3 | 3 |
| 117 | C6 | 0 | 3 |
| 118 | C7 | 0 | 4 |
| 119 | C8 | 0 | 3 |
| 12 | AB | 0 | 1 |
| 120 | CB | 0 | 3 |
| 121 | CC | 2 | 3 |
| 122 | CD | 2 | 3 |
| 123 | CE | 1 | 2 |
| 124 | CF | 0 | 2 |
| 125 | CG | 0 | 4 |
| 126 | CH | 0 | 4 |
| 127 | CI | 1 | 4 |
| 128 | CJ | 0 | 5 |
| 129 | CK | 1 | 5 |
| 13 | AC | 0 | 3 |

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| Mol | Chain | #Chirality outliers | #Planarity outliers |
|-----|-------|---------------------|---------------------|
| 130 | CL | 1 | 5 |
| 132 | CN | 0 | 1 |
| 133 | CO | 1 | 7 |
| 134 | CP | 0 | 5 |
| 135 | CQ | 0 | 1 |
| 136 | CR | 2 | 0 |
| 137 | CS | 0 | 4 |
| 138 | CT | 2 | 5 |
| 139 | CU | 0 | 1 |
| 14 | AD | 0 | 2 |
| 140 | CV | 0 | 3 |
| 141 | CW | 4 | 2 |
| 142 | CX | 0 | 3 |
| 143 | CY | 1 | 0 |
| 144 | CZ | 0 | 4 |
| 145 | Cb | 1 | 2 |
| 146 | Cc | 1 | 5 |
| 147 | Cd | 0 | 3 |
| 148 | Ce | 4 | 4 |
| 149 | Cf | 0 | 1 |
| 150 | Cg | 0 | 4 |
| 151 | Ch | 0 | 2 |
| 153 | Cp | 0 | 3 |
| 154 | Cq | 0 | 5 |
| 155 | Cr | 0 | 2 |
| 156 | Cs | 1 | 8 |
| 157 | Ct | 1 | 0 |
| 158 | Cu | 1 | 2 |
| 159 | Cv | 0 | 3 |
| 16 | AF | 1 | 4 |
| 160 | Cw | 0 | 5 |
| 161 | Cx | 0 | 4 |
| 162 | Cy | 0 | 2 |
| 163 | Cz | 0 | 6 |
| 17 | AG | 0 | 3 |
| 18 | AH | 1 | 2 |
| 19 | AI | 1 | 2 |
| 2 | BA | 18 | 148 |
| 20 | AJ | 0 | 4 |
| 21 | AK | 0 | 8 |
| 22 | AL | 0 | 4 |
| 23 | AM | 0 | 1 |

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| Mol | Chain | #Chirality outliers | #Planarity outliers |
|-----|-------|---------------------|---------------------|
| 24 | AN | 1 | 3 |
| 25 | AO | 2 | 3 |
| 26 | AP | 0 | 1 |
| 27 | AQ | 2 | 6 |
| 28 | AR | 0 | 2 |
| 29 | AS | 0 | 4 |
| 3 | A0 | 0 | 6 |
| 30 | AT | 1 | 4 |
| 31 | AU | 1 | 4 |
| 32 | AV | 1 | 5 |
| 34 | AX | 0 | 3 |
| 35 | AY | 1 | 4 |
| 36 | AZ | 2 | 4 |
| 37 | Ab | 2 | 2 |
| 38 | Ac | 0 | 2 |
| 39 | Ad | 0 | 2 |
| 4 | A1 | 1 | 4 |
| 40 | Af | 0 | 1 |
| 41 | Ag | 0 | 1 |
| 42 | Ah | 1 | 3 |
| 43 | Ai | 0 | 1 |
| 44 | Aj | 1 | 5 |
| 45 | Ak | 0 | 7 |
| 46 | Al | 1 | 4 |
| 47 | Am | 0 | 2 |
| 48 | An | 1 | 4 |
| 49 | Ao | 1 | 2 |
| 5 | A2 | 0 | 2 |
| 50 | As | 0 | 3 |
| 51 | Au | 1 | 0 |
| 52 | Av | 0 | 6 |
| 53 | Aw | 1 | 2 |
| 54 | Ax | 0 | 2 |
| 55 | Ay | 0 | 1 |
| 56 | Az | 0 | 3 |
| 57 | B0 | 0 | 6 |
| 58 | B1 | 0 | 1 |
| 59 | B2 | 0 | 2 |
| 60 | B3 | 1 | 1 |
| 61 | B4 | 1 | 5 |
| 62 | B5 | 1 | 2 |
| 63 | B6 | 1 | 5 |

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| Mol | Chain | #Chirality outliers | #Planarity outliers |
|-----|-------|---------------------|---------------------|
| 64 | B7 | 0 | 5 |
| 66 | B9 | 1 | 3 |
| 67 | BB | 1 | 3 |
| 68 | BC | 0 | 1 |
| 69 | BD | 0 | 4 |
| 7 | A4 | 0 | 2 |
| 70 | BE | 0 | 3 |
| 71 | BF | 1 | 2 |
| 72 | BG | 0 | 7 |
| 73 | BH | 0 | 2 |
| 74 | BI | 0 | 2 |
| 75 | BJ | 3 | 2 |
| 76 | BK | 0 | 1 |
| 77 | BL | 1 | 5 |
| 78 | BM | 0 | 1 |
| 79 | BN | 0 | 1 |
| 8 | A5 | 0 | 4 |
| 80 | BO | 0 | 6 |
| 81 | BP | 0 | 2 |
| 82 | BQ | 1 | 2 |
| 83 | BR | 0 | 3 |
| 84 | BS | 0 | 5 |
| 85 | BT | 0 | 3 |
| 86 | BU | 0 | 1 |
| 87 | BV | 2 | 1 |
| 88 | BW | 1 | 3 |
| 89 | BX | 0 | 7 |
| 9 | A6 | 0 | 4 |
| 90 | BY | 1 | 2 |
| 91 | BZ | 0 | 1 |
| 92 | Ba | 0 | 3 |
| 93 | Bb | 0 | 2 |
| 94 | Bc | 1 | 4 |
| 95 | Bd | 1 | 0 |
| 96 | Be | 1 | 0 |
| 97 | Bf | 1 | 4 |
| 98 | Bg | 1 | 1 |
| 99 | Bh | 0 | 2 |
| All | All | 121 | 919 |

The worst 5 of 117 bond length outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|-------|--------|-------------|----------|
| 1 | AA | 3933 | DA | O3'-P | -78.44 | 0.67 | 1.61 |
| 1 | AA | 437 | DT | O3'-P | -54.86 | 0.95 | 1.61 |
| 1 | AA | 186 | DT | O3'-P | -51.03 | 0.99 | 1.61 |
| 1 | AA | 4125 | DG | O3'-P | 41.42 | 2.10 | 1.61 |
| 1 | AA | 955 | DG | O3'-P | 38.46 | 2.07 | 1.61 |

The worst 5 of 29725 bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-----------|--------|-------------|----------|
| 1 | AA | 378 | DG | P-O3'-C3' | -68.56 | 37.43 | 119.70 |
| 1 | AA | 35 | DC | P-O3'-C3' | -58.73 | 49.22 | 119.70 |
| 1 | AA | 511 | DA | P-O3'-C3' | -52.67 | 56.49 | 119.70 |
| 1 | AA | 35 | DC | O3'-P-O5' | -46.83 | 15.02 | 104.00 |
| 1 | AA | 378 | DG | O3'-P-O5' | -45.16 | 18.19 | 104.00 |

5 of 121 chirality outliers are listed below:

| Mol | Chain | Res | Type | Atom |
|-----|-------|-----|------|------|
| 1 | AA | 89 | DT | C3' |
| 1 | AA | 186 | DT | C3' |
| 1 | AA | 437 | DT | C3' |
| 1 | AA | 506 | DT | C3' |
| 1 | AA | 826 | DT | C3' |

5 of 919 planarity outliers are listed below:

| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 1 | AA | 24 | DG | Sidechain |
| 1 | AA | 30 | DG | Sidechain |
| 1 | AA | 31 | DG | Sidechain |
| 1 | AA | 6 | DG | Sidechain |
| 1 | AA | 63 | DC | Sidechain |

5.2 Too-close contacts [i](#)

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

| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 1 | AA | 99989 | 0 | 55560 | 270 | 0 |

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| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 2 | BA | 47974 | 0 | 26820 | 220 | 0 |
| 3 | A0 | 1116 | 0 | 632 | 2 | 0 |
| 4 | A1 | 884 | 0 | 511 | 17 | 0 |
| 5 | A2 | 1019 | 0 | 570 | 5 | 0 |
| 6 | A3 | 796 | 0 | 464 | 7 | 0 |
| 7 | A4 | 780 | 0 | 433 | 2 | 0 |
| 8 | A5 | 971 | 0 | 546 | 3 | 0 |
| 9 | A6 | 1016 | 0 | 574 | 3 | 0 |
| 10 | A7 | 863 | 0 | 482 | 1 | 0 |
| 11 | A8 | 976 | 0 | 557 | 2 | 0 |
| 12 | AB | 799 | 0 | 450 | 1 | 0 |
| 13 | AC | 993 | 0 | 546 | 5 | 0 |
| 14 | AD | 1018 | 0 | 562 | 4 | 0 |
| 15 | AE | 734 | 0 | 411 | 28 | 0 |
| 16 | AF | 969 | 0 | 548 | 1 | 0 |
| 17 | AG | 939 | 0 | 516 | 3 | 0 |
| 18 | AH | 964 | 0 | 543 | 7 | 0 |
| 19 | AI | 967 | 0 | 551 | 2 | 0 |
| 20 | AJ | 1059 | 0 | 594 | 13 | 0 |
| 21 | AK | 1202 | 0 | 697 | 5 | 0 |
| 22 | AL | 971 | 0 | 551 | 11 | 0 |
| 23 | AM | 993 | 0 | 579 | 4 | 0 |
| 24 | AN | 968 | 0 | 545 | 10 | 0 |
| 25 | AO | 962 | 0 | 549 | 0 | 0 |
| 26 | AP | 802 | 0 | 457 | 1 | 0 |
| 27 | AQ | 1160 | 0 | 649 | 9 | 0 |
| 28 | AR | 975 | 0 | 547 | 0 | 0 |
| 29 | AS | 794 | 0 | 443 | 0 | 0 |
| 30 | AT | 973 | 0 | 550 | 4 | 0 |
| 31 | AU | 967 | 0 | 551 | 10 | 0 |
| 32 | AV | 1051 | 0 | 597 | 15 | 0 |
| 33 | AW | 701 | 0 | 402 | 1 | 0 |
| 34 | AX | 959 | 0 | 548 | 7 | 0 |
| 35 | AY | 645 | 0 | 362 | 0 | 0 |
| 36 | AZ | 1082 | 0 | 618 | 7 | 0 |
| 37 | Ab | 907 | 0 | 517 | 0 | 0 |
| 38 | Ac | 1115 | 0 | 632 | 0 | 0 |
| 39 | Ad | 958 | 0 | 555 | 0 | 0 |
| 40 | Af | 964 | 0 | 547 | 0 | 0 |
| 41 | Ag | 979 | 0 | 547 | 0 | 0 |
| 42 | Ah | 872 | 0 | 509 | 0 | 0 |
| 43 | Ai | 722 | 0 | 409 | 0 | 0 |

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| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 44 | Aj | 1257 | 0 | 710 | 0 | 0 |
| 45 | Ak | 946 | 0 | 525 | 0 | 0 |
| 46 | Al | 949 | 0 | 559 | 0 | 0 |
| 47 | Am | 963 | 0 | 550 | 0 | 0 |
| 48 | An | 972 | 0 | 549 | 0 | 0 |
| 49 | Ao | 724 | 0 | 412 | 0 | 0 |
| 50 | As | 971 | 0 | 560 | 0 | 0 |
| 51 | Au | 963 | 0 | 552 | 0 | 0 |
| 52 | Av | 869 | 0 | 490 | 0 | 0 |
| 53 | Aw | 960 | 0 | 556 | 0 | 0 |
| 54 | Ax | 953 | 0 | 538 | 0 | 0 |
| 55 | Ay | 568 | 0 | 320 | 0 | 0 |
| 56 | Az | 737 | 0 | 412 | 0 | 0 |
| 57 | B0 | 977 | 0 | 545 | 2 | 0 |
| 58 | B1 | 900 | 0 | 501 | 2 | 0 |
| 59 | B2 | 734 | 0 | 406 | 0 | 0 |
| 60 | B3 | 976 | 0 | 546 | 3 | 0 |
| 61 | B4 | 664 | 0 | 374 | 2 | 0 |
| 62 | B5 | 816 | 0 | 454 | 3 | 0 |
| 63 | B6 | 929 | 0 | 507 | 1 | 0 |
| 64 | B7 | 892 | 0 | 507 | 1 | 0 |
| 65 | B8 | 653 | 0 | 372 | 1 | 0 |
| 66 | B9 | 810 | 0 | 460 | 5 | 0 |
| 67 | BB | 982 | 0 | 541 | 2 | 0 |
| 68 | BC | 798 | 0 | 444 | 1 | 0 |
| 69 | BD | 727 | 0 | 393 | 11 | 0 |
| 70 | BE | 1183 | 0 | 659 | 5 | 0 |
| 71 | BF | 810 | 0 | 462 | 12 | 0 |
| 72 | BG | 1007 | 0 | 553 | 1 | 0 |
| 73 | BH | 644 | 0 | 365 | 0 | 0 |
| 74 | BI | 544 | 0 | 310 | 0 | 0 |
| 75 | BJ | 1076 | 0 | 604 | 3 | 0 |
| 76 | BK | 894 | 0 | 502 | 14 | 0 |
| 77 | BL | 966 | 0 | 550 | 4 | 0 |
| 78 | BM | 855 | 0 | 480 | 4 | 0 |
| 79 | BN | 970 | 0 | 547 | 4 | 0 |
| 80 | BO | 984 | 0 | 562 | 15 | 0 |
| 81 | BP | 824 | 0 | 469 | 0 | 0 |
| 82 | BQ | 971 | 0 | 545 | 4 | 0 |
| 83 | BR | 733 | 0 | 415 | 2 | 0 |
| 84 | BS | 967 | 0 | 547 | 18 | 0 |
| 85 | BT | 753 | 0 | 421 | 4 | 0 |

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| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 86 | BU | 813 | 0 | 463 | 0 | 0 |
| 87 | BV | 895 | 0 | 499 | 0 | 0 |
| 88 | BW | 874 | 0 | 490 | 0 | 0 |
| 89 | BX | 991 | 0 | 551 | 7 | 0 |
| 90 | BY | 871 | 0 | 491 | 1 | 0 |
| 91 | BZ | 870 | 0 | 488 | 2 | 0 |
| 92 | Ba | 972 | 0 | 551 | 0 | 0 |
| 93 | Bb | 974 | 0 | 543 | 0 | 0 |
| 94 | Bc | 1015 | 0 | 571 | 0 | 0 |
| 95 | Bd | 836 | 0 | 465 | 0 | 0 |
| 96 | Be | 978 | 0 | 545 | 0 | 0 |
| 97 | Bf | 981 | 0 | 543 | 0 | 0 |
| 98 | Bg | 646 | 0 | 366 | 0 | 0 |
| 99 | Bh | 784 | 0 | 433 | 0 | 0 |
| 100 | Bi | 1255 | 0 | 704 | 0 | 0 |
| 101 | Bj | 907 | 0 | 510 | 0 | 0 |
| 102 | Bk | 964 | 0 | 531 | 0 | 0 |
| 103 | Bl | 986 | 0 | 539 | 0 | 0 |
| 104 | Bm | 964 | 0 | 548 | 0 | 0 |
| 105 | Bn | 975 | 0 | 530 | 0 | 0 |
| 106 | Bo | 1154 | 0 | 647 | 0 | 0 |
| 107 | Bp | 985 | 0 | 540 | 0 | 0 |
| 108 | Bq | 784 | 0 | 434 | 0 | 0 |
| 109 | Br | 732 | 0 | 413 | 0 | 0 |
| 110 | Bs | 800 | 0 | 438 | 0 | 0 |
| 111 | C0 | 632 | 0 | 352 | 1 | 0 |
| 112 | C1 | 732 | 0 | 409 | 2 | 0 |
| 113 | C2 | 1125 | 0 | 645 | 17 | 0 |
| 114 | C3 | 962 | 0 | 547 | 0 | 0 |
| 115 | C4 | 1133 | 0 | 640 | 1 | 0 |
| 116 | C5 | 1275 | 0 | 703 | 16 | 0 |
| 117 | C6 | 977 | 0 | 549 | 1 | 0 |
| 118 | C7 | 1056 | 0 | 602 | 4 | 0 |
| 119 | C8 | 892 | 0 | 508 | 1 | 0 |
| 120 | CB | 1088 | 0 | 621 | 3 | 0 |
| 121 | CC | 963 | 0 | 534 | 3 | 0 |
| 122 | CD | 984 | 0 | 547 | 2 | 0 |
| 123 | CE | 816 | 0 | 458 | 5 | 0 |
| 124 | CF | 811 | 0 | 460 | 11 | 0 |
| 125 | CG | 904 | 0 | 503 | 1 | 0 |
| 126 | CH | 987 | 0 | 549 | 0 | 0 |
| 127 | CI | 889 | 0 | 504 | 7 | 0 |

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| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|--------|----------|----------|---------|--------------|
| 128 | CJ | 946 | 0 | 537 | 2 | 0 |
| 129 | CK | 981 | 0 | 548 | 7 | 0 |
| 130 | CL | 967 | 0 | 555 | 14 | 0 |
| 131 | CM | 801 | 0 | 439 | 1 | 0 |
| 132 | CN | 848 | 0 | 464 | 2 | 0 |
| 133 | CO | 975 | 0 | 554 | 9 | 0 |
| 134 | CP | 1140 | 0 | 633 | 5 | 0 |
| 135 | CQ | 557 | 0 | 323 | 2 | 0 |
| 136 | CR | 969 | 0 | 548 | 2 | 0 |
| 137 | CS | 773 | 0 | 435 | 6 | 0 |
| 138 | CT | 982 | 0 | 551 | 3 | 0 |
| 139 | CU | 648 | 0 | 361 | 3 | 0 |
| 140 | CV | 1067 | 0 | 612 | 1 | 0 |
| 141 | CW | 564 | 0 | 327 | 8 | 0 |
| 142 | CX | 944 | 0 | 537 | 0 | 0 |
| 143 | CY | 870 | 0 | 489 | 2 | 0 |
| 144 | CZ | 987 | 0 | 543 | 6 | 0 |
| 145 | Cb | 891 | 0 | 509 | 0 | 0 |
| 146 | Cc | 1048 | 0 | 595 | 0 | 0 |
| 147 | Cd | 859 | 0 | 481 | 0 | 0 |
| 148 | Ce | 1049 | 0 | 597 | 0 | 0 |
| 149 | Cf | 768 | 0 | 436 | 0 | 0 |
| 150 | Cg | 735 | 0 | 410 | 0 | 0 |
| 151 | Ch | 938 | 0 | 536 | 0 | 0 |
| 152 | Ck | 585 | 0 | 334 | 0 | 0 |
| 153 | Cp | 976 | 0 | 549 | 0 | 0 |
| 154 | Cq | 827 | 0 | 453 | 0 | 0 |
| 155 | Cr | 727 | 0 | 409 | 0 | 0 |
| 156 | Cs | 1012 | 0 | 558 | 0 | 0 |
| 157 | Ct | 886 | 0 | 507 | 0 | 0 |
| 158 | Cu | 1216 | 0 | 685 | 0 | 0 |
| 159 | Cv | 823 | 0 | 475 | 0 | 0 |
| 160 | Cw | 1098 | 0 | 615 | 0 | 0 |
| 161 | Cx | 730 | 0 | 411 | 0 | 0 |
| 162 | Cy | 1145 | 0 | 643 | 0 | 0 |
| 163 | Cz | 970 | 0 | 541 | 0 | 0 |
| All | All | 294953 | 0 | 165169 | 725 | 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 2.

The worst 5 of 725 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) |
|------------------|-----------------|--------------------------|-------------------|
| 4:A1:18:DT:C5' | 4:A1:19:DA:H2'' | 1.16 | 1.61 |
| 1:AA:378:DG:H5'' | 1:AA:379:DA:C2' | 1.33 | 1.57 |
| 4:A1:18:DT:H5'' | 4:A1:19:DA:C2' | 1.32 | 1.57 |
| 1:AA:3666:DA:C5' | 15:AE:7:DT:C7 | 1.81 | 1.54 |
| 1:AA:3666:DA:C5' | 15:AE:7:DT:H72 | 1.02 | 1.48 |

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

There are no protein molecules in this entry.

5.3.2 Protein sidechains [i](#)

There are no protein molecules in this entry.

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no carbohydrates in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues

The following chains have linkage breaks:

| Mol | Chain | Number of breaks |
|-----|-------|------------------|
| 1 | AA | 16 |
| 2 | BA | 1 |
| 16 | AF | 1 |

The worst 5 of 18 chain breaks are listed below:

| Model | Chain | Residue-1 | Atom-1 | Residue-2 | Atom-2 | Distance (Å) |
|-------|-------|-----------|--------|-----------|--------|--------------|
| 1 | AA | 2465:DT | O3' | 2466:DT | P | 5.78 |
| 1 | BA | 6158:DC | O3' | 6159:DA | P | 3.30 |
| 1 | AA | 62:DT | O3' | 63:DC | P | 3.28 |
| 1 | AA | 590:DA | O3' | 591:DA | P | 3.28 |
| 1 | AA | 4430:DT | O3' | 4431:DT | P | 3.28 |