



# Full wwPDB X-ray Structure Validation Report ⓘ

Jun 23, 2024 – 12:39 AM EDT

PDB ID : 5MU8  
Title : HUMAN TNF-ALPHA IN COMPLEX WITH JNJ525  
Authors : Blevitt, J.M.; Hack, M.D.; Herman, K.L.; Jackson, P.F.; Krawczuk, P.J.; Lebsack, A.D.; Liu, A.X.; Mirzadegan, T.; Nelen, M.I.; Patrick, A.P.; Steinbacher, S.; Milla, M.E.; Lumb, K.J.  
Deposited on : 2017-01-12  
Resolution : 3.00 Å(reported)

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

We welcome your comments at [validation@mail.wwpdb.org](mailto:validation@mail.wwpdb.org)

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

MolProbity : 4.02b-467  
Mogul : 1.8.5 (274361), CSD as541be (2020)  
Xtriage (Phenix) : 1.13  
EDS : 2.37.1  
buster-report : 1.1.7 (2018)  
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)  
Refmac : 5.8.0158  
CCP4 : 7.0.044 (Gargrove)  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.37.1

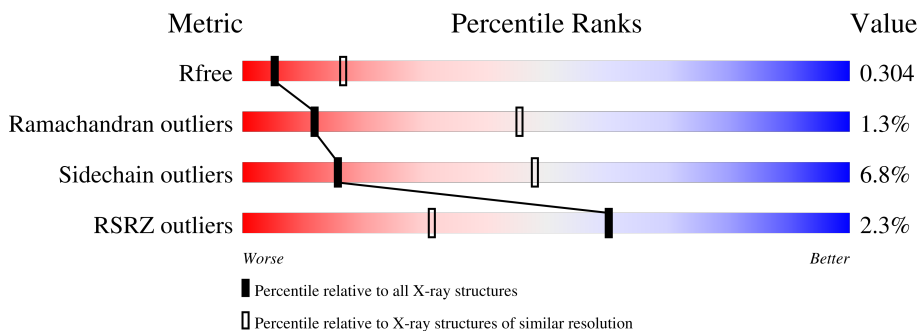
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 3.00 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<br>(#Entries) | Similar resolution<br>(#Entries, resolution range(Å)) |
|-----------------------|-----------------------------|---|
| $R_{free}$            | 130704                      | 2092 (3.00-3.00)                                      |
| Ramachandran outliers | 138981                      | 2333 (3.00-3.00)                                      |
| Sidechain outliers    | 138945                      | 2336 (3.00-3.00)                                      |
| RSRZ outliers         | 127900                      | 1990 (3.00-3.00)                                      |

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

| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|------------------|
| 1   | A     | 159    |                  |
| 1   | B     | 159    |                  |
| 1   | C     | 159    |                  |
| 1   | D     | 159    |                  |
| 1   | F     | 159    |                  |
| 1   | G     | 159    |                  |







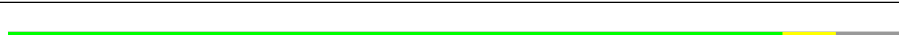
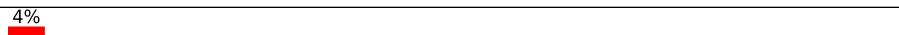
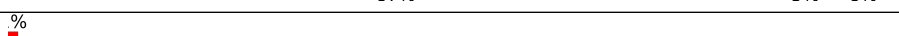
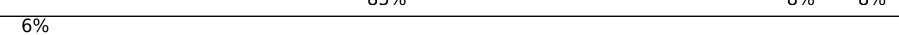
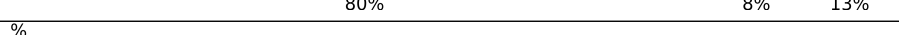






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| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|------------------|
| 1   | H     | 159    | 2% 87% 7% 6%     |
| 1   | I     | 159    | 84% 5% 11%       |
| 1   | J     | 159    | 5% 81% 6% 13%    |
| 1   | K     | 159    | 4% 82% 11% 6%    |
| 1   | L     | 159    | 5% 86% 0% 11%    |
| 1   | M     | 159    | 86% 8% 6%        |
| 1   | N     | 159    | 5% 82% 8% 10%    |
| 1   | O     | 159    | 85% 6% 9%        |
| 1   | P     | 159    | 2% 86% 5% 9%     |
| 1   | Q     | 159    | 87% 6% 6%        |
| 1   | R     | 159    | 82% 5% 13%       |
| 1   | S     | 159    | 3% 88% 6% 6%     |
| 1   | T     | 159    | 84% 8% 8%        |
| 1   | U     | 159    | 89% 5% 6%        |
| 1   | V     | 159    | 5% 82% 5% 13%    |
| 1   | W     | 159    | 82% 8% 10%       |
| 1   | X     | 159    | 89% 5% 6%        |
| 1   | Y     | 159    | 85% 9% 6%        |
| 1   | Z     | 159    | 3% 83% 7% 10%    |
| 1   | a     | 159    | 4% 86% 8% 6%     |
| 1   | b     | 159    | 89% 0% 9%        |
| 1   | c     | 159    | 83% 8% 9%        |
| 1   | d     | 159    | 82% 0% 13%       |
| 1   | e     | 159    | 88% 0% 6%        |
| 1   | f     | 159    | 2% 86% 0% 10%    |

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| Mol | Chain | Length | Quality of chain  |
|-----|-------|--------|---|
| 1   | g     | 159    |  84% 8% 9%    |
| 1   | h     | 159    |  79% 7% 14%   |
| 1   | i     | 159    |  86% 6% 9%    |
| 1   | j     | 159    |  87% 6% 6%    |
| 1   | k     | 159    |  85% 11%      |
| 1   | l     | 159    |  81% 9% 10%   |
| 1   | m     | 159    |  87% 6% 8%    |
| 1   | n     | 159    |  87% 5% 8%    |
| 1   | o     | 159    |  85% 8% 8%    |
| 1   | p     | 159    |  80% 8% 13%   |
| 1   | q     | 159    |  87% 6% 6%    |
| 1   | r     | 159    |  85% 5% 9%    |
| 1   | s     | 159    |  84% 10% 6%  |
| 1   | t     | 159    |  85% 5% 10% |
| 1   | u     | 159    |  86% 6% 9%  |
| 1   | v     | 159    |  86% 5% 9%  |
| 1   | w     | 159    |  84% 6% 9%  |

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

| Mol | Type | Chain | Res | Chirality | Geometry | Clashes | Electron density |
|-----|------|-------|-----|-----------|----------|---------|------------------|
| 2   | JNI  | f     | 202 | -         | -        | -       | X                |

## 2 Entry composition [i](#)

There are 2 unique types of molecules in this entry. The entry contains 56305 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called Tumor necrosis factor.

| Mol | Chain | Residues | Atoms |     |     |     |   | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
|     |       |          | Total | C   | N   | O   | S |         |         |       |
| 1   | A     | 141      | 1105  | 709 | 186 | 208 | 2 | 0       | 0       | 0     |
| 1   | B     | 145      | 1139  | 728 | 197 | 212 | 2 | 0       | 0       | 0     |
| 1   | C     | 146      | 1145  | 733 | 198 | 212 | 2 | 0       | 0       | 0     |
| 1   | D     | 149      | 1165  | 743 | 201 | 219 | 2 | 0       | 0       | 0     |
| 1   | F     | 140      | 1099  | 707 | 184 | 206 | 2 | 0       | 0       | 0     |
| 1   | G     | 149      | 1165  | 743 | 201 | 219 | 2 | 0       | 0       | 0     |
| 1   | H     | 150      | 1172  | 748 | 202 | 220 | 2 | 0       | 0       | 0     |
| 1   | I     | 141      | 1104  | 708 | 190 | 204 | 2 | 0       | 0       | 0     |
| 1   | J     | 138      | 1085  | 699 | 182 | 202 | 2 | 0       | 0       | 0     |
| 1   | K     | 149      | 1165  | 743 | 201 | 219 | 2 | 0       | 0       | 0     |
| 1   | L     | 142      | 1111  | 713 | 191 | 205 | 2 | 0       | 0       | 0     |
| 1   | M     | 149      | 1165  | 743 | 201 | 219 | 2 | 0       | 0       | 0     |
| 1   | N     | 143      | 1117  | 717 | 187 | 211 | 2 | 0       | 0       | 0     |
| 1   | O     | 145      | 1140  | 728 | 197 | 213 | 2 | 0       | 0       | 0     |
| 1   | P     | 145      | 1140  | 729 | 196 | 213 | 2 | 0       | 0       | 0     |
| 1   | Q     | 149      | 1165  | 743 | 201 | 219 | 2 | 0       | 0       | 0     |

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| Mol | Chain | Residues | Atoms |     |     |     |   | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
|     |       |          | Total | C   | N   | O   | S |         |         |       |
| 1   | R     | 138      | 1083  | 697 | 182 | 202 | 2 | 0       | 0       | 0     |
| 1   | S     | 149      | 1165  | 743 | 201 | 219 | 2 | 0       | 0       | 0     |
| 1   | T     | 146      | 1145  | 733 | 198 | 212 | 2 | 0       | 0       | 0     |
| 1   | U     | 149      | 1165  | 743 | 201 | 219 | 2 | 0       | 0       | 0     |
| 1   | V     | 138      | 1085  | 699 | 182 | 202 | 2 | 0       | 0       | 0     |
| 1   | W     | 143      | 1126  | 720 | 195 | 209 | 2 | 0       | 0       | 0     |
| 1   | X     | 150      | 1172  | 748 | 202 | 220 | 2 | 0       | 0       | 0     |
| 1   | Y     | 149      | 1165  | 743 | 201 | 219 | 2 | 0       | 0       | 0     |
| 1   | Z     | 143      | 1117  | 717 | 187 | 211 | 2 | 0       | 0       | 0     |
| 1   | a     | 149      | 1165  | 743 | 201 | 219 | 2 | 0       | 0       | 0     |
| 1   | b     | 144      | 1133  | 725 | 196 | 210 | 2 | 0       | 0       | 0     |
| 1   | c     | 145      | 1140  | 728 | 197 | 213 | 2 | 0       | 0       | 0     |
| 1   | d     | 138      | 1085  | 699 | 182 | 202 | 2 | 0       | 0       | 0     |
| 1   | e     | 149      | 1165  | 743 | 201 | 219 | 2 | 0       | 0       | 0     |
| 1   | f     | 143      | 1124  | 719 | 194 | 209 | 2 | 0       | 0       | 0     |
| 1   | g     | 145      | 1138  | 728 | 197 | 211 | 2 | 0       | 0       | 0     |
| 1   | h     | 137      | 1078  | 694 | 181 | 201 | 2 | 0       | 0       | 0     |
| 1   | i     | 145      | 1138  | 728 | 197 | 211 | 2 | 0       | 0       | 0     |
| 1   | j     | 150      | 1172  | 748 | 202 | 220 | 2 | 0       | 0       | 0     |
| 1   | k     | 142      | 1119  | 716 | 194 | 207 | 2 | 0       | 0       | 0     |
| 1   | l     | 143      | 1117  | 717 | 187 | 211 | 2 | 0       | 0       | 0     |

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| Mol | Chain | Residues | Atoms |     |     |     |   | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
|     |       |          | Total | C   | N   | O   | S |         |         |       |
| 1   | m     | 147      | 1152  | 736 | 199 | 215 | 2 | 0       | 0       | 0     |
| 1   | n     | 147      | 1154  | 738 | 199 | 215 | 2 | 0       | 0       | 0     |
| 1   | o     | 147      | 1151  | 735 | 199 | 215 | 2 | 0       | 0       | 0     |
| 1   | p     | 139      | 1090  | 702 | 183 | 203 | 2 | 0       | 0       | 0     |
| 1   | q     | 149      | 1165  | 743 | 201 | 219 | 2 | 0       | 0       | 0     |
| 1   | r     | 144      | 1131  | 724 | 195 | 210 | 2 | 0       | 0       | 0     |
| 1   | s     | 149      | 1165  | 743 | 201 | 219 | 2 | 0       | 0       | 0     |
| 1   | t     | 143      | 1117  | 717 | 187 | 211 | 2 | 0       | 0       | 0     |
| 1   | u     | 145      | 1138  | 728 | 197 | 211 | 2 | 0       | 0       | 0     |
| 1   | v     | 144      | 1131  | 724 | 195 | 210 | 2 | 0       | 0       | 0     |
| 1   | w     | 145      | 1138  | 728 | 197 | 211 | 2 | 0       | 0       | 0     |

There are 96 discrepancies between the modelled and reference sequences:

| Chain | Residue | Modelled | Actual | Comment        | Reference  |
|-------|---------|----------|--------|----------------|------------|
| A     | -1      | ALA      | -      | expression tag | UNP P01375 |
| A     | 0       | MET      | -      | expression tag | UNP P01375 |
| B     | -1      | ALA      | -      | expression tag | UNP P01375 |
| B     | 0       | MET      | -      | expression tag | UNP P01375 |
| C     | -1      | ALA      | -      | expression tag | UNP P01375 |
| C     | 0       | MET      | -      | expression tag | UNP P01375 |
| D     | -1      | ALA      | -      | expression tag | UNP P01375 |
| D     | 0       | MET      | -      | expression tag | UNP P01375 |
| F     | -1      | ALA      | -      | expression tag | UNP P01375 |
| F     | 0       | MET      | -      | expression tag | UNP P01375 |
| G     | -1      | ALA      | -      | expression tag | UNP P01375 |
| G     | 0       | MET      | -      | expression tag | UNP P01375 |
| H     | -1      | ALA      | -      | expression tag | UNP P01375 |
| H     | 0       | MET      | -      | expression tag | UNP P01375 |
| I     | -1      | ALA      | -      | expression tag | UNP P01375 |
| I     | 0       | MET      | -      | expression tag | UNP P01375 |
| J     | -1      | ALA      | -      | expression tag | UNP P01375 |

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| Chain | Residue | Modelled | Actual | Comment        | Reference  |
|-------|---------|----------|--------|----------------|------------|
| J     | 0       | MET      | -      | expression tag | UNP P01375 |
| K     | -1      | ALA      | -      | expression tag | UNP P01375 |
| K     | 0       | MET      | -      | expression tag | UNP P01375 |
| L     | -1      | ALA      | -      | expression tag | UNP P01375 |
| L     | 0       | MET      | -      | expression tag | UNP P01375 |
| M     | -1      | ALA      | -      | expression tag | UNP P01375 |
| M     | 0       | MET      | -      | expression tag | UNP P01375 |
| N     | -1      | ALA      | -      | expression tag | UNP P01375 |
| N     | 0       | MET      | -      | expression tag | UNP P01375 |
| O     | -1      | ALA      | -      | expression tag | UNP P01375 |
| O     | 0       | MET      | -      | expression tag | UNP P01375 |
| P     | -1      | ALA      | -      | expression tag | UNP P01375 |
| P     | 0       | MET      | -      | expression tag | UNP P01375 |
| Q     | -1      | ALA      | -      | expression tag | UNP P01375 |
| Q     | 0       | MET      | -      | expression tag | UNP P01375 |
| R     | -1      | ALA      | -      | expression tag | UNP P01375 |
| R     | 0       | MET      | -      | expression tag | UNP P01375 |
| S     | -1      | ALA      | -      | expression tag | UNP P01375 |
| S     | 0       | MET      | -      | expression tag | UNP P01375 |
| T     | -1      | ALA      | -      | expression tag | UNP P01375 |
| T     | 0       | MET      | -      | expression tag | UNP P01375 |
| U     | -1      | ALA      | -      | expression tag | UNP P01375 |
| U     | 0       | MET      | -      | expression tag | UNP P01375 |
| V     | -1      | ALA      | -      | expression tag | UNP P01375 |
| V     | 0       | MET      | -      | expression tag | UNP P01375 |
| W     | -1      | ALA      | -      | expression tag | UNP P01375 |
| W     | 0       | MET      | -      | expression tag | UNP P01375 |
| X     | -1      | ALA      | -      | expression tag | UNP P01375 |
| X     | 0       | MET      | -      | expression tag | UNP P01375 |
| Y     | -1      | ALA      | -      | expression tag | UNP P01375 |
| Y     | 0       | MET      | -      | expression tag | UNP P01375 |
| Z     | -1      | ALA      | -      | expression tag | UNP P01375 |
| Z     | 0       | MET      | -      | expression tag | UNP P01375 |
| a     | -1      | ALA      | -      | expression tag | UNP P01375 |
| a     | 0       | MET      | -      | expression tag | UNP P01375 |
| b     | -1      | ALA      | -      | expression tag | UNP P01375 |
| b     | 0       | MET      | -      | expression tag | UNP P01375 |
| c     | -1      | ALA      | -      | expression tag | UNP P01375 |
| c     | 0       | MET      | -      | expression tag | UNP P01375 |
| d     | -1      | ALA      | -      | expression tag | UNP P01375 |
| d     | 0       | MET      | -      | expression tag | UNP P01375 |
| e     | -1      | ALA      | -      | expression tag | UNP P01375 |

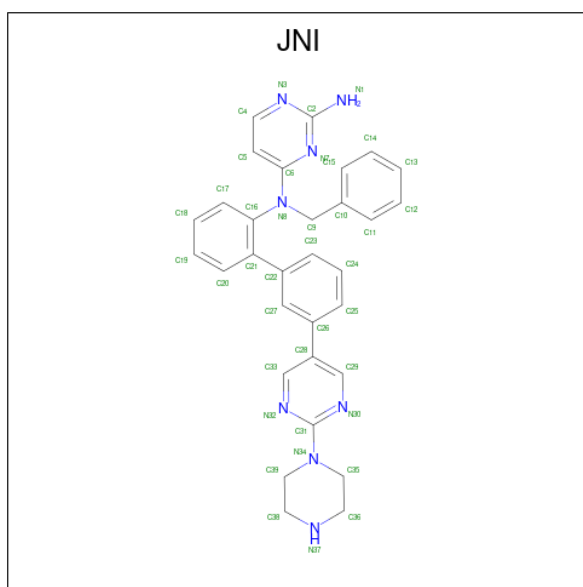
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| Chain | Residue | Modelled | Actual | Comment        | Reference  |
|-------|---------|----------|--------|----------------|------------|
| e     | 0       | MET      | -      | expression tag | UNP P01375 |
| f     | -1      | ALA      | -      | expression tag | UNP P01375 |
| f     | 0       | MET      | -      | expression tag | UNP P01375 |
| g     | -1      | ALA      | -      | expression tag | UNP P01375 |
| g     | 0       | MET      | -      | expression tag | UNP P01375 |
| h     | -1      | ALA      | -      | expression tag | UNP P01375 |
| h     | 0       | MET      | -      | expression tag | UNP P01375 |
| i     | -1      | ALA      | -      | expression tag | UNP P01375 |
| i     | 0       | MET      | -      | expression tag | UNP P01375 |
| j     | -1      | ALA      | -      | expression tag | UNP P01375 |
| j     | 0       | MET      | -      | expression tag | UNP P01375 |
| k     | -1      | ALA      | -      | expression tag | UNP P01375 |
| k     | 0       | MET      | -      | expression tag | UNP P01375 |
| l     | -1      | ALA      | -      | expression tag | UNP P01375 |
| l     | 0       | MET      | -      | expression tag | UNP P01375 |
| m     | -1      | ALA      | -      | expression tag | UNP P01375 |
| m     | 0       | MET      | -      | expression tag | UNP P01375 |
| n     | -1      | ALA      | -      | expression tag | UNP P01375 |
| n     | 0       | MET      | -      | expression tag | UNP P01375 |
| o     | -1      | ALA      | -      | expression tag | UNP P01375 |
| o     | 0       | MET      | -      | expression tag | UNP P01375 |
| p     | -1      | ALA      | -      | expression tag | UNP P01375 |
| p     | 0       | MET      | -      | expression tag | UNP P01375 |
| q     | -1      | ALA      | -      | expression tag | UNP P01375 |
| q     | 0       | MET      | -      | expression tag | UNP P01375 |
| r     | -1      | ALA      | -      | expression tag | UNP P01375 |
| r     | 0       | MET      | -      | expression tag | UNP P01375 |
| s     | -1      | ALA      | -      | expression tag | UNP P01375 |
| s     | 0       | MET      | -      | expression tag | UNP P01375 |
| t     | -1      | ALA      | -      | expression tag | UNP P01375 |
| t     | 0       | MET      | -      | expression tag | UNP P01375 |
| u     | -1      | ALA      | -      | expression tag | UNP P01375 |
| u     | 0       | MET      | -      | expression tag | UNP P01375 |
| v     | -1      | ALA      | -      | expression tag | UNP P01375 |
| v     | 0       | MET      | -      | expression tag | UNP P01375 |
| w     | -1      | ALA      | -      | expression tag | UNP P01375 |
| w     | 0       | MET      | -      | expression tag | UNP P01375 |

- Molecule 2 is {N}4-(phenylmethyl)- {N}4-[2-[3-(2-piperazin-1-ylpyrimidin-5-yl)phenyl]phenyl]pyrimidine-2,4-diamine (three-letter code: JN1) (formula: C<sub>31</sub>H<sub>30</sub>N<sub>8</sub>).



| Mol | Chain | Residues | Atoms |    |   | ZeroOcc | AltConf |
|-----|-------|----------|-------|----|---|---------|---------|
| 2   | A     | 1        | Total | C  | N | 0       | 0       |
|     |       |          | 39    | 31 | 8 |         |         |
| 2   | A     | 1        | Total | C  | N | 0       | 0       |
|     |       |          | 39    | 31 | 8 |         |         |
| 2   | C     | 1        | Total | C  | N | 0       | 0       |
|     |       |          | 39    | 31 | 8 |         |         |
| 2   | C     | 1        | Total | C  | N | 0       | 0       |
|     |       |          | 39    | 31 | 8 |         |         |
| 2   | D     | 1        | Total | C  | N | 0       | 0       |
|     |       |          | 39    | 31 | 8 |         |         |
| 2   | F     | 1        | Total | C  | N | 0       | 0       |
|     |       |          | 39    | 31 | 8 |         |         |
| 2   | F     | 1        | Total | C  | N | 0       | 0       |
|     |       |          | 39    | 31 | 8 |         |         |
| 2   | H     | 1        | Total | C  | N | 0       | 0       |
|     |       |          | 39    | 31 | 8 |         |         |
| 2   | H     | 1        | Total | C  | N | 0       | 0       |
|     |       |          | 39    | 31 | 8 |         |         |
| 2   | J     | 1        | Total | C  | N | 0       | 0       |
|     |       |          | 39    | 31 | 8 |         |         |
| 2   | J     | 1        | Total | C  | N | 0       | 0       |
|     |       |          | 39    | 31 | 8 |         |         |
| 2   | L     | 1        | Total | C  | N | 0       | 0       |
|     |       |          | 39    | 31 | 8 |         |         |
| 2   | M     | 1        | Total | C  | N | 0       | 0       |
|     |       |          | 39    | 31 | 8 |         |         |
| 2   | N     | 1        | Total | C  | N | 0       | 0       |
|     |       |          | 39    | 31 | 8 |         |         |

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| Mol | Chain | Residues | Atoms |    |   | ZeroOcc | AltConf |
|-----|-------|----------|-------|----|---|---------|---------|
|     |       |          | Total | C  | N |         |         |
| 2   | P     | 1        | 39    | 31 | 8 | 0       | 0       |
| 2   | P     | 1        | 39    | 31 | 8 | 0       | 0       |
| 2   | Q     | 1        | 39    | 31 | 8 | 0       | 0       |
| 2   | R     | 1        | 39    | 31 | 8 | 0       | 0       |
| 2   | U     | 1        | 39    | 31 | 8 | 0       | 0       |
| 2   | V     | 1        | 39    | 31 | 8 | 0       | 0       |
| 2   | V     | 1        | 39    | 31 | 8 | 0       | 0       |
| 2   | X     | 1        | 39    | 31 | 8 | 0       | 0       |
| 2   | X     | 1        | 39    | 31 | 8 | 0       | 0       |
| 2   | Z     | 1        | 39    | 31 | 8 | 0       | 0       |
| 2   | Z     | 1        | 39    | 31 | 8 | 0       | 0       |
| 2   | b     | 1        | 39    | 31 | 8 | 0       | 0       |
| 2   | b     | 1        | 39    | 31 | 8 | 0       | 0       |
| 2   | d     | 1        | 39    | 31 | 8 | 0       | 0       |
| 2   | f     | 1        | 39    | 31 | 8 | 0       | 0       |
| 2   | f     | 1        | 39    | 31 | 8 | 0       | 0       |
| 2   | h     | 1        | 39    | 31 | 8 | 0       | 0       |
| 2   | h     | 1        | 39    | 31 | 8 | 0       | 0       |
| 2   | j     | 1        | 39    | 31 | 8 | 0       | 0       |
| 2   | j     | 1        | 39    | 31 | 8 | 0       | 0       |
| 2   | l     | 1        | 39    | 31 | 8 | 0       | 0       |

*Continued on next page...*


*Continued from previous page...*

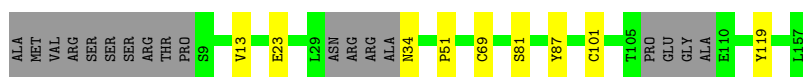
| Mol | Chain | Residues | Atoms       |         |        | ZeroOcc | AltConf |
|-----|-------|----------|-------------|---------|--------|---------|---------|
|     |       |          | Total       | C       | N      |         |         |
| 2   | n     | 1        | Total<br>39 | C<br>31 | N<br>8 | 0       | 0       |
| 2   | n     | 1        | Total<br>39 | C<br>31 | N<br>8 | 0       | 0       |
| 2   | o     | 1        | Total<br>39 | C<br>31 | N<br>8 | 0       | 0       |
| 2   | p     | 1        | Total<br>39 | C<br>31 | N<br>8 | 0       | 0       |
| 2   | p     | 1        | Total<br>39 | C<br>31 | N<br>8 | 0       | 0       |
| 2   | r     | 1        | Total<br>39 | C<br>31 | N<br>8 | 0       | 0       |
| 2   | r     | 1        | Total<br>39 | C<br>31 | N<br>8 | 0       | 0       |
| 2   | t     | 1        | Total<br>39 | C<br>31 | N<br>8 | 0       | 0       |
| 2   | t     | 1        | Total<br>39 | C<br>31 | N<br>8 | 0       | 0       |
| 2   | v     | 1        | Total<br>39 | C<br>31 | N<br>8 | 0       | 0       |
| 2   | v     | 1        | Total<br>39 | C<br>31 | N<br>8 | 0       | 0       |

### 3 Residue-property plots [i](#)


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

- Molecule 1: Tumor necrosis factor

Chain A: 




- Molecule 1: Tumor necrosis factor

Chain B: 




- Molecule 1: Tumor necrosis factor

Chain C: 




- Molecule 1: Tumor necrosis factor

Chain D: 




- Molecule 1: Tumor necrosis factor

Chain F: 

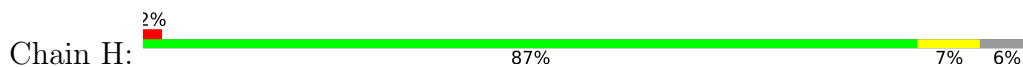


- Molecule 1: Tumor necrosis factor

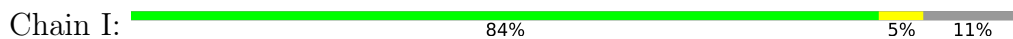
Chain G: 



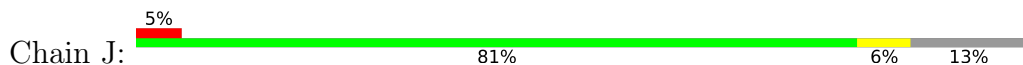
• Molecule 1: Tumor necrosis factor



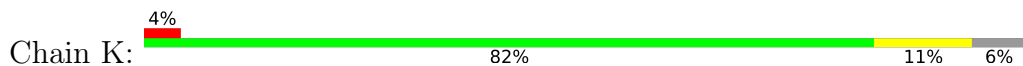
• Molecule 1: Tumor necrosis factor



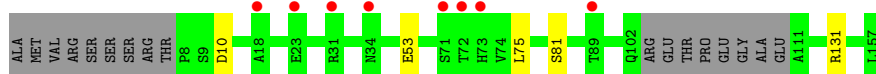
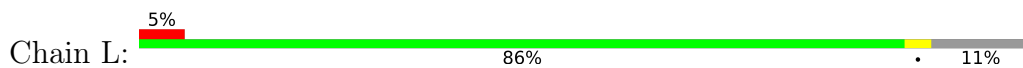
• Molecule 1: Tumor necrosis factor



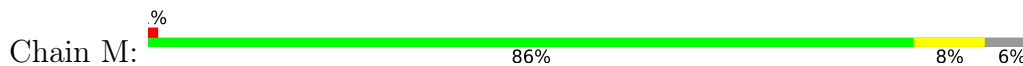
• Molecule 1: Tumor necrosis factor



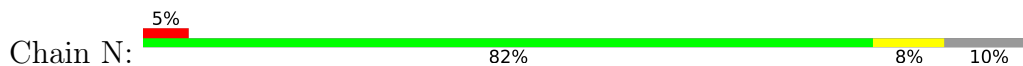
• Molecule 1: Tumor necrosis factor

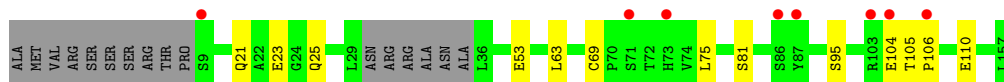


• Molecule 1: Tumor necrosis factor

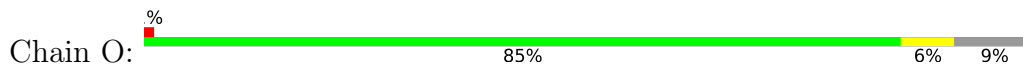


• Molecule 1: Tumor necrosis factor

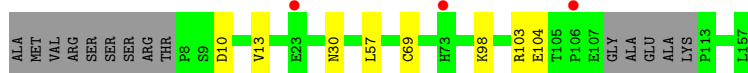
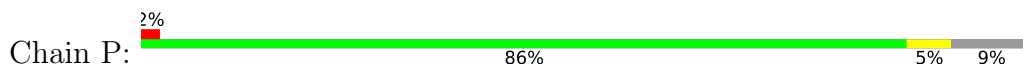




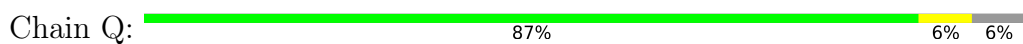
- Molecule 1: Tumor necrosis factor



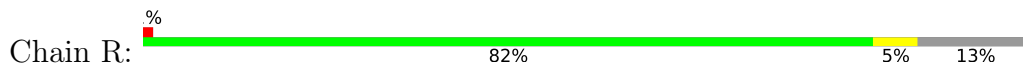
- Molecule 1: Tumor necrosis factor



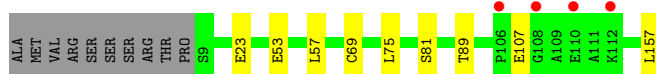
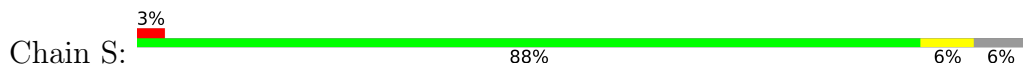
- Molecule 1: Tumor necrosis factor



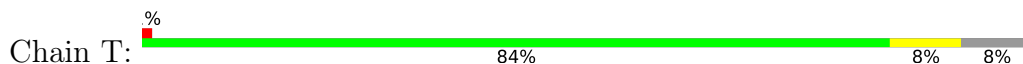
- Molecule 1: Tumor necrosis factor



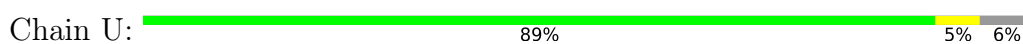
- Molecule 1: Tumor necrosis factor



- Molecule 1: Tumor necrosis factor

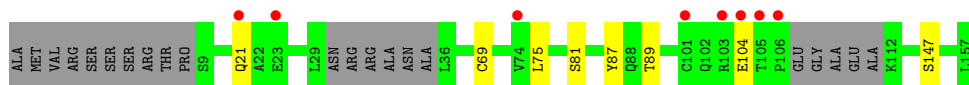
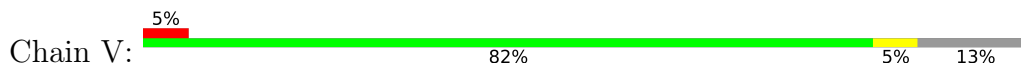


- Molecule 1: Tumor necrosis factor

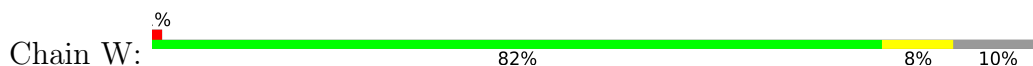




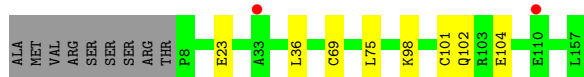
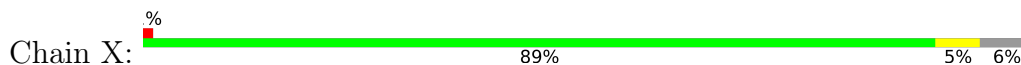
- Molecule 1: Tumor necrosis factor



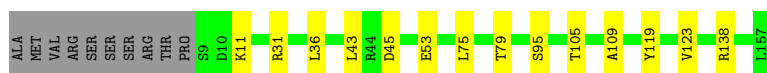
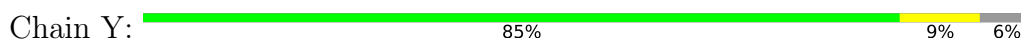
- Molecule 1: Tumor necrosis factor



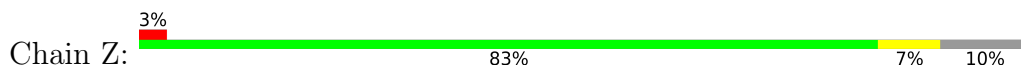
- Molecule 1: Tumor necrosis factor



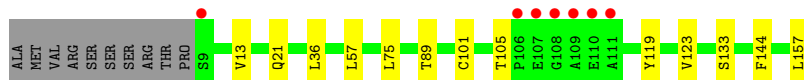
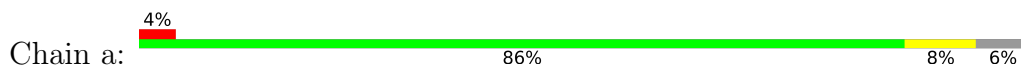
- Molecule 1: Tumor necrosis factor



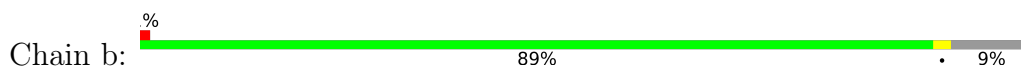
- Molecule 1: Tumor necrosis factor



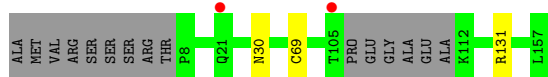
- Molecule 1: Tumor necrosis factor



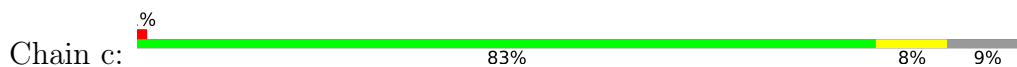
- Molecule 1: Tumor necrosis factor



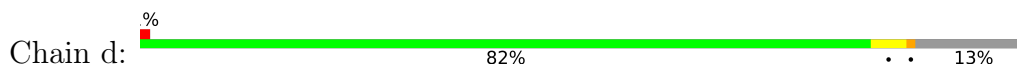




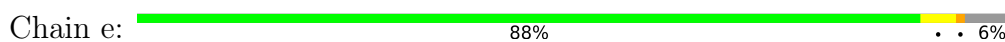
• Molecule 1: Tumor necrosis factor



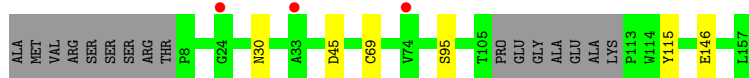
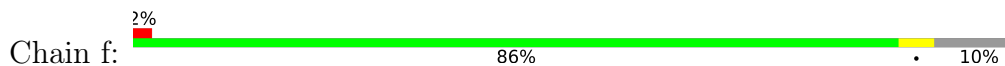
• Molecule 1: Tumor necrosis factor



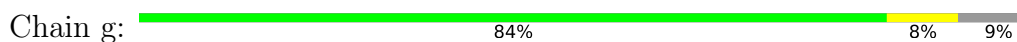
• Molecule 1: Tumor necrosis factor



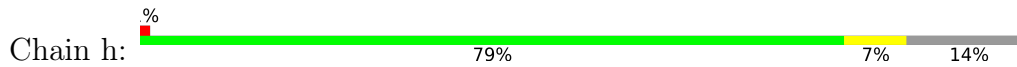
• Molecule 1: Tumor necrosis factor



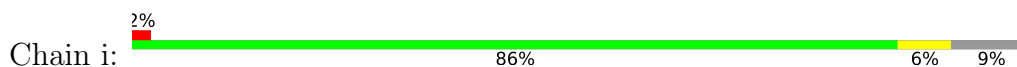
• Molecule 1: Tumor necrosis factor

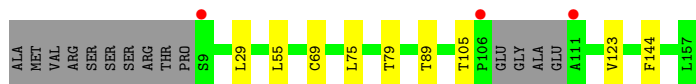


• Molecule 1: Tumor necrosis factor

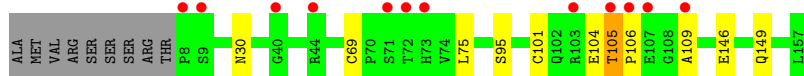
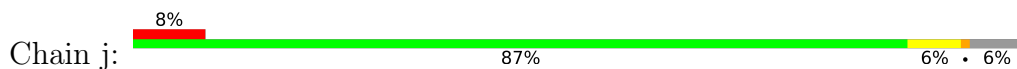


• Molecule 1: Tumor necrosis factor

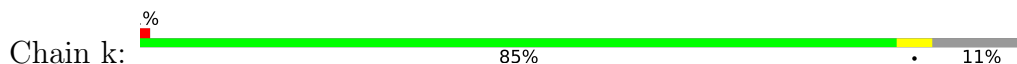




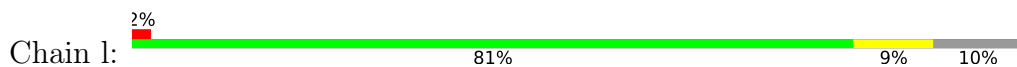
- Molecule 1: Tumor necrosis factor



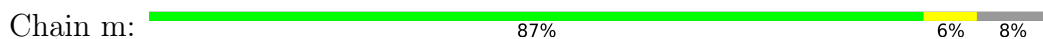
- Molecule 1: Tumor necrosis factor



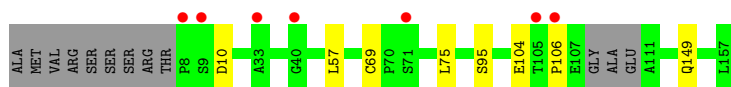
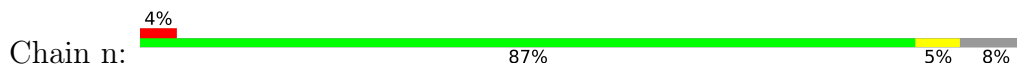
- Molecule 1: Tumor necrosis factor



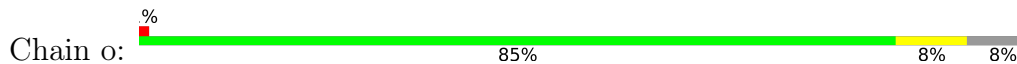
- Molecule 1: Tumor necrosis factor



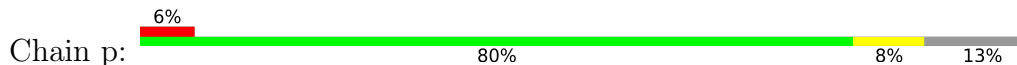
- Molecule 1: Tumor necrosis factor



- Molecule 1: Tumor necrosis factor



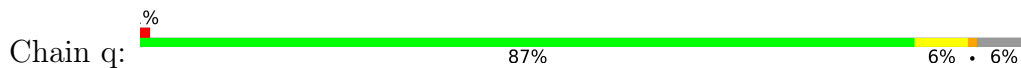
- Molecule 1: Tumor necrosis factor



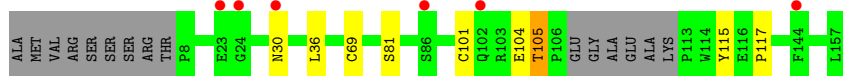
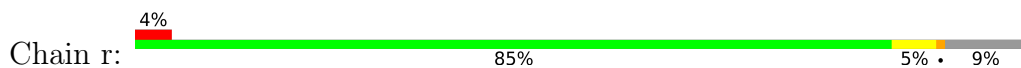


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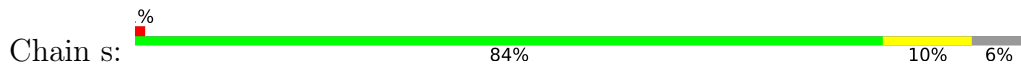
• Molecule 1: Tumor necrosis factor



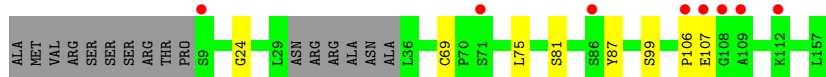
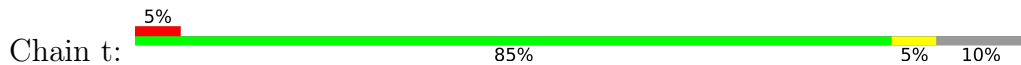
• Molecule 1: Tumor necrosis factor



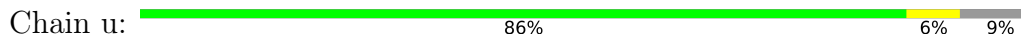
• Molecule 1: Tumor necrosis factor



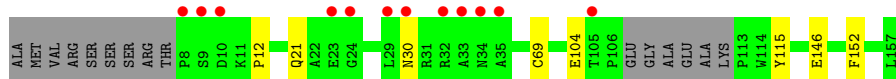
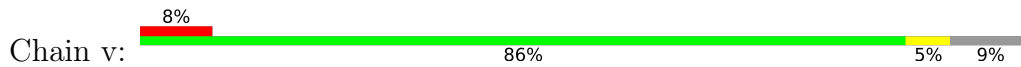
• Molecule 1: Tumor necrosis factor




• Molecule 1: Tumor necrosis factor



• Molecule 1: Tumor necrosis factor



## ● Molecule 1: Tumor necrosis factor

Chain w: 



## 4 Data and refinement statistics

| Property  | Value   | Source           |
|---|---|------------------|
| Space group   | P 1   | Depositor        |
| Cell constants<br>a, b, c, $\alpha$ , $\beta$ , $\gamma$                | 104.89Å 118.35Å 186.75Å<br>97.57° 94.31° 98.75°             | Depositor        |
| Resolution (Å)  | 184.24 – 3.00<br>48.90 – 3.00                               | Depositor<br>EDS |
| % Data completeness<br>(in resolution range)                            | 90.6 (184.24-3.00)<br>90.6 (48.90-3.00)                     | Depositor<br>EDS |
| $R_{merge}$   | 0.07  | Depositor        |
| $R_{sym}$   | (Not available)   | Depositor        |
| $\langle I/\sigma(I) \rangle$ <sup>1</sup>                              | 1.39 (at 3.01Å)   | Xtrriage         |
| Refinement program  | REFMAC 5.8.0049   | Depositor        |
| R, $R_{free}$   | 0.211 , 0.300<br>0.213 , 0.304                              | Depositor<br>DCC |
| $R_{free}$ test set   | 445 reflections (0.28%)                                     | wwPDB-VP         |
| Wilson B-factor (Å <sup>2</sup> )                                       | 93.9  | Xtrriage         |
| Anisotropy  | 0.288   | Xtrriage         |
| Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> ) | 0.27 , 63.8   | EDS              |
| L-test for twinning <sup>2</sup>  | $\langle  L  \rangle = 0.49$ , $\langle L^2 \rangle = 0.32$ | Xtrriage         |
| Estimated twinning fraction   | No twinning to report.                                      | Xtrriage         |
| $F_o, F_c$ correlation  | 0.95  | EDS              |
| Total number of atoms   | 56305   | wwPDB-VP         |
| Average B, all atoms (Å <sup>2</sup> )                                  | 114.0   | wwPDB-VP         |

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 16.62% of the height of the origin peak. No significant pseudotranslation is detected.*

<sup>1</sup>Intensities estimated from amplitudes.

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

## 5 Model quality [i](#)

### 5.1 Standard geometry [i](#)

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

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

| Mol | Chain | Bond lengths |         | Bond angles |               |
|-----|-------|--------------|---------|-------------|---------------|
|     |       | RMSZ         | # Z  >5 | RMSZ        | # Z  >5       |
| 1   | A     | 0.47         | 0/1128  | 0.69        | 0/1532        |
| 1   | B     | 0.51         | 0/1163  | 0.77        | 0/1580        |
| 1   | C     | 0.44         | 0/1171  | 0.67        | 0/1592        |
| 1   | D     | 0.50         | 0/1191  | 0.76        | 1/1620 (0.1%) |
| 1   | F     | 0.44         | 0/1123  | 0.66        | 0/1526        |
| 1   | G     | 0.47         | 0/1191  | 0.74        | 0/1620        |
| 1   | H     | 0.41         | 0/1199  | 0.66        | 0/1631        |
| 1   | I     | 0.44         | 0/1128  | 0.71        | 0/1533        |
| 1   | J     | 0.44         | 0/1109  | 0.64        | 0/1507        |
| 1   | K     | 0.47         | 0/1191  | 0.74        | 0/1620        |
| 1   | L     | 0.42         | 0/1136  | 0.64        | 0/1544        |
| 1   | M     | 0.46         | 0/1191  | 0.72        | 0/1620        |
| 1   | N     | 0.46         | 0/1142  | 0.71        | 1/1553 (0.1%) |
| 1   | O     | 0.45         | 0/1164  | 0.72        | 0/1581        |
| 1   | P     | 0.42         | 0/1166  | 0.66        | 0/1585        |
| 1   | Q     | 0.45         | 0/1191  | 0.74        | 0/1620        |
| 1   | R     | 0.43         | 0/1106  | 0.69        | 0/1502        |
| 1   | S     | 0.50         | 0/1191  | 0.79        | 0/1620        |
| 1   | T     | 0.48         | 0/1171  | 0.74        | 0/1592        |
| 1   | U     | 0.48         | 0/1191  | 0.76        | 0/1620        |
| 1   | V     | 0.43         | 0/1109  | 0.62        | 0/1507        |
| 1   | W     | 0.49         | 0/1150  | 0.77        | 0/1562        |
| 1   | X     | 0.45         | 0/1199  | 0.71        | 0/1631        |
| 1   | Y     | 0.53         | 0/1191  | 0.80        | 1/1620 (0.1%) |
| 1   | Z     | 0.44         | 0/1142  | 0.67        | 0/1553        |
| 1   | a     | 0.48         | 0/1191  | 0.74        | 0/1620        |
| 1   | b     | 0.45         | 0/1158  | 0.71        | 0/1573        |
| 1   | c     | 0.45         | 0/1164  | 0.72        | 0/1581        |
| 1   | d     | 0.44         | 0/1109  | 0.68        | 0/1507        |
| 1   | e     | 0.47         | 0/1191  | 0.75        | 0/1620        |
| 1   | f     | 0.45         | 0/1149  | 0.64        | 0/1561        |
| 1   | g     | 0.48         | 0/1163  | 0.72        | 0/1581        |

| Mol | Chain | Bond lengths |         | Bond angles |                |
|-----|-------|--------------|---------|-------------|----------------|
|     |       | RMSZ         | # Z  >5 | RMSZ        | # Z  >5        |
| 1   | h     | 0.46         | 0/1101  | 0.68        | 0/1495         |
| 1   | i     | 0.47         | 0/1163  | 0.76        | 0/1581         |
| 1   | j     | 0.45         | 0/1199  | 0.65        | 0/1631         |
| 1   | k     | 0.45         | 0/1143  | 0.72        | 0/1552         |
| 1   | l     | 0.45         | 0/1142  | 0.72        | 0/1553         |
| 1   | m     | 0.45         | 0/1177  | 0.72        | 0/1600         |
| 1   | n     | 0.44         | 0/1180  | 0.64        | 0/1604         |
| 1   | o     | 0.46         | 0/1176  | 0.69        | 0/1598         |
| 1   | p     | 0.46         | 0/1114  | 0.70        | 0/1514         |
| 1   | q     | 0.47         | 0/1191  | 0.70        | 0/1620         |
| 1   | r     | 0.43         | 0/1157  | 0.64        | 0/1573         |
| 1   | s     | 0.50         | 0/1191  | 0.73        | 0/1620         |
| 1   | t     | 0.45         | 0/1142  | 0.65        | 0/1553         |
| 1   | u     | 0.45         | 0/1163  | 0.71        | 0/1581         |
| 1   | v     | 0.44         | 0/1157  | 0.65        | 0/1573         |
| 1   | w     | 0.42         | 0/1163  | 0.67        | 0/1581         |
| All | All   | 0.46         | 0/55718 | 0.71        | 3/75743 (0.0%) |

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

| Mol | Chain | #Chirality outliers | #Planarity outliers |
|-----|-------|---------------------|---------------------|
| 1   | W     | 0                   | 1                   |
| 1   | e     | 0                   | 1                   |
| All | All   | 0                   | 2                   |

There are no bond length outliers.

All (3) bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms     | Z    | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-----------|------|-------------|----------|
| 1   | Y     | 138 | ARG  | NE-CZ-NH1 | 5.36 | 122.98      | 120.30   |
| 1   | D     | 131 | ARG  | NE-CZ-NH1 | 5.16 | 122.88      | 120.30   |
| 1   | N     | 63  | LEU  | CA-CB-CG  | 5.00 | 126.80      | 115.30   |

There are no chirality outliers.

All (2) planarity outliers are listed below:

| Mol | Chain | Res | Type | Group   |
|-----|-------|-----|------|---------|
| 1   | W     | 100 | PRO  | Peptide |

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| Mol | Chain | Res | Type | Group   |
|-----|-------|-----|------|---------|
| 1   | e     | 100 | PRO  | Peptide |

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

Due to software issues we are unable to calculate clashes - this section is therefore empty.

## 5.3 Torsion angles [i](#)

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

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

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

| Mol | Chain | Analysed      | Favoured  | Allowed  | Outliers | Percentiles |     |
|-----|-------|---------------|-----------|----------|----------|-------------|-----|
| 1   | A     | 135/159 (85%) | 118 (87%) | 15 (11%) | 2 (2%)   | 10          | 42  |
| 1   | B     | 141/159 (89%) | 126 (89%) | 14 (10%) | 1 (1%)   | 22          | 60  |
| 1   | C     | 142/159 (89%) | 130 (92%) | 10 (7%)  | 2 (1%)   | 11          | 43  |
| 1   | D     | 147/159 (92%) | 122 (83%) | 21 (14%) | 4 (3%)   | 5           | 26  |
| 1   | F     | 134/159 (84%) | 116 (87%) | 18 (13%) | 0        | 100         | 100 |
| 1   | G     | 147/159 (92%) | 136 (92%) | 9 (6%)   | 2 (1%)   | 11          | 43  |
| 1   | H     | 148/159 (93%) | 136 (92%) | 9 (6%)   | 3 (2%)   | 7           | 34  |
| 1   | I     | 137/159 (86%) | 126 (92%) | 10 (7%)  | 1 (1%)   | 22          | 60  |
| 1   | J     | 132/159 (83%) | 121 (92%) | 9 (7%)   | 2 (2%)   | 10          | 42  |
| 1   | K     | 147/159 (92%) | 128 (87%) | 17 (12%) | 2 (1%)   | 11          | 43  |
| 1   | L     | 138/159 (87%) | 131 (95%) | 7 (5%)   | 0        | 100         | 100 |
| 1   | M     | 147/159 (92%) | 134 (91%) | 10 (7%)  | 3 (2%)   | 7           | 34  |
| 1   | N     | 139/159 (87%) | 121 (87%) | 16 (12%) | 2 (1%)   | 11          | 43  |
| 1   | O     | 141/159 (89%) | 132 (94%) | 9 (6%)   | 0        | 100         | 100 |
| 1   | P     | 141/159 (89%) | 129 (92%) | 12 (8%)  | 0        | 100         | 100 |
| 1   | Q     | 147/159 (92%) | 131 (89%) | 11 (8%)  | 5 (3%)   | 3           | 20  |
| 1   | R     | 132/159 (83%) | 123 (93%) | 6 (4%)   | 3 (2%)   | 6           | 30  |

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| Mol | Chain | Analysed      | Favoured  | Allowed  | Outliers | Percentiles |     |
|-----|-------|---------------|-----------|----------|----------|-------------|-----|
| 1   | S     | 147/159 (92%) | 137 (93%) | 9 (6%)   | 1 (1%)   | 22          | 60  |
| 1   | T     | 142/159 (89%) | 135 (95%) | 7 (5%)   | 0        | 100         | 100 |
| 1   | U     | 147/159 (92%) | 134 (91%) | 12 (8%)  | 1 (1%)   | 22          | 60  |
| 1   | V     | 132/159 (83%) | 117 (89%) | 15 (11%) | 0        | 100         | 100 |
| 1   | W     | 139/159 (87%) | 133 (96%) | 5 (4%)   | 1 (1%)   | 22          | 60  |
| 1   | X     | 148/159 (93%) | 140 (95%) | 8 (5%)   | 0        | 100         | 100 |
| 1   | Y     | 147/159 (92%) | 131 (89%) | 12 (8%)  | 4 (3%)   | 5           | 26  |
| 1   | Z     | 139/159 (87%) | 124 (89%) | 12 (9%)  | 3 (2%)   | 6           | 31  |
| 1   | a     | 147/159 (92%) | 134 (91%) | 13 (9%)  | 0        | 100         | 100 |
| 1   | b     | 140/159 (88%) | 129 (92%) | 11 (8%)  | 0        | 100         | 100 |
| 1   | c     | 141/159 (89%) | 125 (89%) | 13 (9%)  | 3 (2%)   | 7           | 33  |
| 1   | d     | 132/159 (83%) | 122 (92%) | 9 (7%)   | 1 (1%)   | 19          | 57  |
| 1   | e     | 147/159 (92%) | 132 (90%) | 12 (8%)  | 3 (2%)   | 7           | 34  |
| 1   | f     | 139/159 (87%) | 129 (93%) | 10 (7%)  | 0        | 100         | 100 |
| 1   | g     | 141/159 (89%) | 132 (94%) | 6 (4%)   | 3 (2%)   | 7           | 33  |
| 1   | h     | 131/159 (82%) | 121 (92%) | 8 (6%)   | 2 (2%)   | 10          | 42  |
| 1   | i     | 141/159 (89%) | 130 (92%) | 11 (8%)  | 0        | 100         | 100 |
| 1   | j     | 148/159 (93%) | 134 (90%) | 11 (7%)  | 3 (2%)   | 7           | 34  |
| 1   | k     | 138/159 (87%) | 127 (92%) | 9 (6%)   | 2 (1%)   | 11          | 43  |
| 1   | l     | 139/159 (87%) | 122 (88%) | 12 (9%)  | 5 (4%)   | 3           | 19  |
| 1   | m     | 143/159 (90%) | 134 (94%) | 8 (6%)   | 1 (1%)   | 22          | 60  |
| 1   | n     | 143/159 (90%) | 133 (93%) | 9 (6%)   | 1 (1%)   | 22          | 60  |
| 1   | o     | 143/159 (90%) | 131 (92%) | 8 (6%)   | 4 (3%)   | 5           | 25  |
| 1   | p     | 133/159 (84%) | 113 (85%) | 18 (14%) | 2 (2%)   | 10          | 42  |
| 1   | q     | 147/159 (92%) | 134 (91%) | 10 (7%)  | 3 (2%)   | 7           | 34  |
| 1   | r     | 140/159 (88%) | 124 (89%) | 14 (10%) | 2 (1%)   | 11          | 43  |
| 1   | s     | 147/159 (92%) | 132 (90%) | 9 (6%)   | 6 (4%)   | 3           | 16  |
| 1   | t     | 139/159 (87%) | 125 (90%) | 12 (9%)  | 2 (1%)   | 11          | 43  |
| 1   | u     | 141/159 (89%) | 126 (89%) | 15 (11%) | 0        | 100         | 100 |
| 1   | v     | 140/159 (88%) | 126 (90%) | 12 (9%)  | 2 (1%)   | 11          | 43  |
| 1   | w     | 141/159 (89%) | 124 (88%) | 15 (11%) | 2 (1%)   | 11          | 43  |

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| Mol | Chain | Analysed        | Favoured   | Allowed  | Outliers | Percentiles |
|-----|-------|-----------------|------------|----------|----------|-------------|
| All | All   | 6777/7632 (89%) | 6150 (91%) | 538 (8%) | 89 (1%)  | 12 45       |

All (89) Ramachandran outliers are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1   | D     | 110 | GLU  |
| 1   | M     | 105 | THR  |
| 1   | Q     | 105 | THR  |
| 1   | R     | 23  | GLU  |
| 1   | R     | 88  | GLN  |
| 1   | Y     | 105 | THR  |
| 1   | Y     | 109 | ALA  |
| 1   | e     | 107 | GLU  |
| 1   | e     | 145 | ALA  |
| 1   | h     | 21  | GLN  |
| 1   | k     | 145 | ALA  |
| 1   | l     | 147 | SER  |
| 1   | o     | 145 | ALA  |
| 1   | r     | 105 | THR  |
| 1   | t     | 24  | GLY  |
| 1   | t     | 106 | PRO  |
| 1   | C     | 144 | PHE  |
| 1   | J     | 22  | ALA  |
| 1   | J     | 51  | PRO  |
| 1   | M     | 104 | GLU  |
| 1   | S     | 23  | GLU  |
| 1   | U     | 109 | ALA  |
| 1   | Z     | 51  | PRO  |
| 1   | o     | 45  | ASP  |
| 1   | A     | 23  | GLU  |
| 1   | C     | 146 | GLU  |
| 1   | K     | 70  | PRO  |
| 1   | Y     | 11  | LYS  |
| 1   | c     | 11  | LYS  |
| 1   | e     | 110 | GLU  |
| 1   | j     | 105 | THR  |
| 1   | l     | 106 | PRO  |
| 1   | m     | 110 | GLU  |
| 1   | o     | 11  | LYS  |
| 1   | q     | 110 | GLU  |
| 1   | s     | 106 | PRO  |
| 1   | D     | 21  | GLN  |

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| <b>Mol</b> | <b>Chain</b> | <b>Res</b> | <b>Type</b> |
|------------|--------------|------------|-------------|
| 1          | D            | 105        | THR         |
| 1          | H            | 106        | PRO         |
| 1          | Y            | 45         | ASP         |
| 1          | Z            | 107        | GLU         |
| 1          | c            | 51         | PRO         |
| 1          | g            | 11         | LYS         |
| 1          | g            | 105        | THR         |
| 1          | j            | 106        | PRO         |
| 1          | j            | 109        | ALA         |
| 1          | k            | 11         | LYS         |
| 1          | l            | 107        | GLU         |
| 1          | o            | 105        | THR         |
| 1          | q            | 107        | GLU         |
| 1          | s            | 11         | LYS         |
| 1          | s            | 109        | ALA         |
| 1          | s            | 111        | ALA         |
| 1          | w            | 11         | LYS         |
| 1          | w            | 23         | GLU         |
| 1          | G            | 105        | THR         |
| 1          | G            | 142        | LEU         |
| 1          | H            | 108        | GLY         |
| 1          | I            | 11         | LYS         |
| 1          | M            | 11         | LYS         |
| 1          | N            | 110        | GLU         |
| 1          | Q            | 11         | LYS         |
| 1          | Q            | 106        | PRO         |
| 1          | c            | 60         | SER         |
| 1          | g            | 34         | ASN         |
| 1          | h            | 22         | ALA         |
| 1          | p            | 22         | ALA         |
| 1          | q            | 109        | ALA         |
| 1          | s            | 88         | GLN         |
| 1          | v            | 12         | PRO         |
| 1          | A            | 51         | PRO         |
| 1          | B            | 112        | LYS         |
| 1          | Q            | 88         | GLN         |
| 1          | W            | 74         | VAL         |
| 1          | v            | 146        | GLU         |
| 1          | N            | 106        | PRO         |
| 1          | d            | 105        | THR         |
| 1          | Z            | 24         | GLY         |
| 1          | n            | 106        | PRO         |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1   | p     | 117 | PRO  |
| 1   | D     | 85  | VAL  |
| 1   | R     | 51  | PRO  |
| 1   | l     | 70  | PRO  |
| 1   | l     | 108 | GLY  |
| 1   | r     | 117 | PRO  |
| 1   | H     | 100 | PRO  |
| 1   | K     | 108 | GLY  |
| 1   | Q     | 113 | PRO  |
| 1   | s     | 108 | GLY  |

### 5.3.2 Protein sidechains [i](#)

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

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

| Mol | Chain | Analysed      | Rotameric | Outliers | Percentiles |
|-----|-------|---------------|-----------|----------|-------------|
| 1   | A     | 120/134 (90%) | 113 (94%) | 7 (6%)   | 20 55       |
| 1   | B     | 122/134 (91%) | 115 (94%) | 7 (6%)   | 20 56       |
| 1   | C     | 124/134 (92%) | 111 (90%) | 13 (10%) | 7 27        |
| 1   | D     | 125/134 (93%) | 122 (98%) | 3 (2%)   | 49 79       |
| 1   | F     | 120/134 (90%) | 111 (92%) | 9 (8%)   | 13 43       |
| 1   | G     | 125/134 (93%) | 112 (90%) | 13 (10%) | 7 27        |
| 1   | H     | 126/134 (94%) | 118 (94%) | 8 (6%)   | 18 51       |
| 1   | I     | 119/134 (89%) | 112 (94%) | 7 (6%)   | 19 54       |
| 1   | J     | 119/134 (89%) | 111 (93%) | 8 (7%)   | 16 49       |
| 1   | K     | 125/134 (93%) | 109 (87%) | 16 (13%) | 4 19        |
| 1   | L     | 120/134 (90%) | 115 (96%) | 5 (4%)   | 30 66       |
| 1   | M     | 125/134 (93%) | 115 (92%) | 10 (8%)  | 12 40       |
| 1   | N     | 121/134 (90%) | 111 (92%) | 10 (8%)  | 11 39       |
| 1   | O     | 123/134 (92%) | 113 (92%) | 10 (8%)  | 11 40       |
| 1   | P     | 124/134 (92%) | 116 (94%) | 8 (6%)   | 17 50       |
| 1   | Q     | 125/134 (93%) | 120 (96%) | 5 (4%)   | 31 68       |

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| Mol | Chain | Analysed      | Rotameric | Outliers | Percentiles |    |
|-----|-------|---------------|-----------|----------|-------------|----|
| 1   | R     | 118/134 (88%) | 113 (96%) | 5 (4%)   | 30          | 66 |
| 1   | S     | 125/134 (93%) | 117 (94%) | 8 (6%)   | 17          | 51 |
| 1   | T     | 124/134 (92%) | 112 (90%) | 12 (10%) | 8           | 31 |
| 1   | U     | 125/134 (93%) | 118 (94%) | 7 (6%)   | 21          | 56 |
| 1   | V     | 119/134 (89%) | 111 (93%) | 8 (7%)   | 16          | 49 |
| 1   | W     | 122/134 (91%) | 112 (92%) | 10 (8%)  | 11          | 39 |
| 1   | X     | 126/134 (94%) | 118 (94%) | 8 (6%)   | 18          | 51 |
| 1   | Y     | 125/134 (93%) | 116 (93%) | 9 (7%)   | 14          | 45 |
| 1   | Z     | 121/134 (90%) | 113 (93%) | 8 (7%)   | 16          | 49 |
| 1   | a     | 125/134 (93%) | 112 (90%) | 13 (10%) | 7           | 27 |
| 1   | b     | 123/134 (92%) | 120 (98%) | 3 (2%)   | 49          | 79 |
| 1   | c     | 123/134 (92%) | 113 (92%) | 10 (8%)  | 11          | 40 |
| 1   | d     | 119/134 (89%) | 112 (94%) | 7 (6%)   | 19          | 54 |
| 1   | e     | 125/134 (93%) | 118 (94%) | 7 (6%)   | 21          | 56 |
| 1   | f     | 122/134 (91%) | 116 (95%) | 6 (5%)   | 25          | 61 |
| 1   | g     | 123/134 (92%) | 114 (93%) | 9 (7%)   | 14          | 44 |
| 1   | h     | 118/134 (88%) | 109 (92%) | 9 (8%)   | 13          | 43 |
| 1   | i     | 123/134 (92%) | 114 (93%) | 9 (7%)   | 14          | 44 |
| 1   | j     | 126/134 (94%) | 117 (93%) | 9 (7%)   | 14          | 46 |
| 1   | k     | 121/134 (90%) | 116 (96%) | 5 (4%)   | 30          | 67 |
| 1   | l     | 121/134 (90%) | 111 (92%) | 10 (8%)  | 11          | 39 |
| 1   | m     | 124/134 (92%) | 116 (94%) | 8 (6%)   | 17          | 50 |
| 1   | n     | 125/134 (93%) | 118 (94%) | 7 (6%)   | 21          | 56 |
| 1   | o     | 124/134 (92%) | 116 (94%) | 8 (6%)   | 17          | 50 |
| 1   | p     | 119/134 (89%) | 109 (92%) | 10 (8%)  | 11          | 38 |
| 1   | q     | 125/134 (93%) | 117 (94%) | 8 (6%)   | 17          | 51 |
| 1   | r     | 123/134 (92%) | 115 (94%) | 8 (6%)   | 17          | 50 |
| 1   | s     | 125/134 (93%) | 116 (93%) | 9 (7%)   | 14          | 45 |
| 1   | t     | 121/134 (90%) | 115 (95%) | 6 (5%)   | 24          | 60 |
| 1   | u     | 123/134 (92%) | 114 (93%) | 9 (7%)   | 14          | 44 |
| 1   | v     | 123/134 (92%) | 117 (95%) | 6 (5%)   | 25          | 61 |

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| Mol | Chain | Analysed        | Rotameric  | Outliers | Percentiles |    |
|-----|-------|-----------------|------------|----------|-------------|----|
| 1   | w     | 123/134 (92%)   | 113 (92%)  | 10 (8%)  | 11          | 40 |
| All | All   | 5892/6432 (92%) | 5492 (93%) | 400 (7%) | 16          | 48 |

All (400) residues with a non-rotameric sidechain are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1   | A     | 13  | VAL  |
| 1   | A     | 34  | ASN  |
| 1   | A     | 69  | CYS  |
| 1   | A     | 81  | SER  |
| 1   | A     | 87  | TYR  |
| 1   | A     | 101 | CYS  |
| 1   | A     | 119 | TYR  |
| 1   | B     | 39  | ASN  |
| 1   | B     | 57  | LEU  |
| 1   | B     | 104 | GLU  |
| 1   | B     | 119 | TYR  |
| 1   | B     | 133 | SER  |
| 1   | B     | 151 | TYR  |
| 1   | B     | 157 | LEU  |
| 1   | C     | 17  | VAL  |
| 1   | C     | 30  | ASN  |
| 1   | C     | 55  | LEU  |
| 1   | C     | 67  | GLN  |
| 1   | C     | 69  | CYS  |
| 1   | C     | 86  | SER  |
| 1   | C     | 89  | THR  |
| 1   | C     | 99  | SER  |
| 1   | C     | 102 | GLN  |
| 1   | C     | 104 | GLU  |
| 1   | C     | 144 | PHE  |
| 1   | C     | 147 | SER  |
| 1   | C     | 149 | GLN  |
| 1   | D     | 53  | GLU  |
| 1   | D     | 81  | SER  |
| 1   | D     | 83  | ILE  |
| 1   | F     | 21  | GLN  |
| 1   | F     | 36  | LEU  |
| 1   | F     | 63  | LEU  |
| 1   | F     | 69  | CYS  |
| 1   | F     | 75  | LEU  |
| 1   | F     | 81  | SER  |

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| <b>Mol</b> | <b>Chain</b> | <b>Res</b> | <b>Type</b> |
|------------|--------------|------------|-------------|
| 1          | F            | 101        | CYS         |
| 1          | F            | 104        | GLU         |
| 1          | F            | 110        | GLU         |
| 1          | G            | 10         | ASP         |
| 1          | G            | 55         | LEU         |
| 1          | G            | 57         | LEU         |
| 1          | G            | 69         | CYS         |
| 1          | G            | 75         | LEU         |
| 1          | G            | 79         | THR         |
| 1          | G            | 81         | SER         |
| 1          | G            | 89         | THR         |
| 1          | G            | 104        | GLU         |
| 1          | G            | 123        | VAL         |
| 1          | G            | 133        | SER         |
| 1          | G            | 135        | GLU         |
| 1          | G            | 144        | PHE         |
| 1          | H            | 53         | GLU         |
| 1          | H            | 57         | LEU         |
| 1          | H            | 69         | CYS         |
| 1          | H            | 73         | HIS         |
| 1          | H            | 86         | SER         |
| 1          | H            | 88         | GLN         |
| 1          | H            | 107        | GLU         |
| 1          | H            | 115        | TYR         |
| 1          | I            | 23         | GLU         |
| 1          | I            | 32         | ARG         |
| 1          | I            | 53         | GLU         |
| 1          | I            | 81         | SER         |
| 1          | I            | 119        | TYR         |
| 1          | I            | 123        | VAL         |
| 1          | I            | 144        | PHE         |
| 1          | J            | 36         | LEU         |
| 1          | J            | 53         | GLU         |
| 1          | J            | 69         | CYS         |
| 1          | J            | 75         | LEU         |
| 1          | J            | 87         | TYR         |
| 1          | J            | 89         | THR         |
| 1          | J            | 105        | THR         |
| 1          | J            | 147        | SER         |
| 1          | K            | 17         | VAL         |
| 1          | K            | 29         | LEU         |
| 1          | K            | 32         | ARG         |

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| <b>Mol</b> | <b>Chain</b> | <b>Res</b> | <b>Type</b> |
|------------|--------------|------------|-------------|
| 1          | K            | 36         | LEU         |
| 1          | K            | 53         | GLU         |
| 1          | K            | 55         | LEU         |
| 1          | K            | 57         | LEU         |
| 1          | K            | 69         | CYS         |
| 1          | K            | 75         | LEU         |
| 1          | K            | 81         | SER         |
| 1          | K            | 86         | SER         |
| 1          | K            | 101        | CYS         |
| 1          | K            | 103        | ARG         |
| 1          | K            | 123        | VAL         |
| 1          | K            | 133        | SER         |
| 1          | K            | 154        | ILE         |
| 1          | L            | 10         | ASP         |
| 1          | L            | 53         | GLU         |
| 1          | L            | 75         | LEU         |
| 1          | L            | 81         | SER         |
| 1          | L            | 131        | ARG         |
| 1          | M            | 19         | ASN         |
| 1          | M            | 29         | LEU         |
| 1          | M            | 32         | ARG         |
| 1          | M            | 53         | GLU         |
| 1          | M            | 79         | THR         |
| 1          | M            | 83         | ILE         |
| 1          | M            | 95         | SER         |
| 1          | M            | 123        | VAL         |
| 1          | M            | 142        | LEU         |
| 1          | M            | 144        | PHE         |
| 1          | N            | 21         | GLN         |
| 1          | N            | 23         | GLU         |
| 1          | N            | 25         | GLN         |
| 1          | N            | 53         | GLU         |
| 1          | N            | 69         | CYS         |
| 1          | N            | 75         | LEU         |
| 1          | N            | 81         | SER         |
| 1          | N            | 95         | SER         |
| 1          | N            | 104        | GLU         |
| 1          | N            | 105        | THR         |
| 1          | O            | 53         | GLU         |
| 1          | O            | 57         | LEU         |
| 1          | O            | 69         | CYS         |
| 1          | O            | 75         | LEU         |

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| <b>Mol</b> | <b>Chain</b> | <b>Res</b> | <b>Type</b> |
|------------|--------------|------------|-------------|
| 1          | O            | 79         | THR         |
| 1          | O            | 89         | THR         |
| 1          | O            | 95         | SER         |
| 1          | O            | 143        | ASP         |
| 1          | O            | 144        | PHE         |
| 1          | O            | 157        | LEU         |
| 1          | P            | 10         | ASP         |
| 1          | P            | 13         | VAL         |
| 1          | P            | 30         | ASN         |
| 1          | P            | 57         | LEU         |
| 1          | P            | 69         | CYS         |
| 1          | P            | 98         | LYS         |
| 1          | P            | 103        | ARG         |
| 1          | P            | 104        | GLU         |
| 1          | Q            | 9          | SER         |
| 1          | Q            | 32         | ARG         |
| 1          | Q            | 79         | THR         |
| 1          | Q            | 86         | SER         |
| 1          | Q            | 144        | PHE         |
| 1          | R            | 44         | ARG         |
| 1          | R            | 63         | LEU         |
| 1          | R            | 69         | CYS         |
| 1          | R            | 75         | LEU         |
| 1          | R            | 147        | SER         |
| 1          | S            | 53         | GLU         |
| 1          | S            | 57         | LEU         |
| 1          | S            | 69         | CYS         |
| 1          | S            | 75         | LEU         |
| 1          | S            | 81         | SER         |
| 1          | S            | 89         | THR         |
| 1          | S            | 107        | GLU         |
| 1          | S            | 157        | LEU         |
| 1          | T            | 30         | ASN         |
| 1          | T            | 34         | ASN         |
| 1          | T            | 36         | LEU         |
| 1          | T            | 63         | LEU         |
| 1          | T            | 69         | CYS         |
| 1          | T            | 75         | LEU         |
| 1          | T            | 87         | TYR         |
| 1          | T            | 98         | LYS         |
| 1          | T            | 101        | CYS         |
| 1          | T            | 104        | GLU         |

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| <b>Mol</b> | <b>Chain</b> | <b>Res</b> | <b>Type</b> |
|------------|--------------|------------|-------------|
| 1          | T            | 130        | ASP         |
| 1          | T            | 131        | ARG         |
| 1          | U            | 45         | ASP         |
| 1          | U            | 53         | GLU         |
| 1          | U            | 57         | LEU         |
| 1          | U            | 79         | THR         |
| 1          | U            | 95         | SER         |
| 1          | U            | 123        | VAL         |
| 1          | U            | 144        | PHE         |
| 1          | V            | 21         | GLN         |
| 1          | V            | 69         | CYS         |
| 1          | V            | 75         | LEU         |
| 1          | V            | 81         | SER         |
| 1          | V            | 87         | TYR         |
| 1          | V            | 89         | THR         |
| 1          | V            | 104        | GLU         |
| 1          | V            | 147        | SER         |
| 1          | W            | 17         | VAL         |
| 1          | W            | 21         | GLN         |
| 1          | W            | 36         | LEU         |
| 1          | W            | 53         | GLU         |
| 1          | W            | 57         | LEU         |
| 1          | W            | 72         | THR         |
| 1          | W            | 88         | GLN         |
| 1          | W            | 89         | THR         |
| 1          | W            | 133        | SER         |
| 1          | W            | 157        | LEU         |
| 1          | X            | 23         | GLU         |
| 1          | X            | 36         | LEU         |
| 1          | X            | 69         | CYS         |
| 1          | X            | 75         | LEU         |
| 1          | X            | 98         | LYS         |
| 1          | X            | 101        | CYS         |
| 1          | X            | 102        | GLN         |
| 1          | X            | 104        | GLU         |
| 1          | Y            | 31         | ARG         |
| 1          | Y            | 36         | LEU         |
| 1          | Y            | 43         | LEU         |
| 1          | Y            | 53         | GLU         |
| 1          | Y            | 75         | LEU         |
| 1          | Y            | 79         | THR         |
| 1          | Y            | 95         | SER         |

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| <b>Mol</b> | <b>Chain</b> | <b>Res</b> | <b>Type</b> |
|------------|--------------|------------|-------------|
| 1          | Y            | 119        | TYR         |
| 1          | Y            | 123        | VAL         |
| 1          | Z            | 16         | VAL         |
| 1          | Z            | 21         | GLN         |
| 1          | Z            | 36         | LEU         |
| 1          | Z            | 69         | CYS         |
| 1          | Z            | 86         | SER         |
| 1          | Z            | 89         | THR         |
| 1          | Z            | 99         | SER         |
| 1          | Z            | 104        | GLU         |
| 1          | a            | 13         | VAL         |
| 1          | a            | 21         | GLN         |
| 1          | a            | 36         | LEU         |
| 1          | a            | 57         | LEU         |
| 1          | a            | 75         | LEU         |
| 1          | a            | 89         | THR         |
| 1          | a            | 101        | CYS         |
| 1          | a            | 105        | THR         |
| 1          | a            | 119        | TYR         |
| 1          | a            | 123        | VAL         |
| 1          | a            | 133        | SER         |
| 1          | a            | 144        | PHE         |
| 1          | a            | 157        | LEU         |
| 1          | b            | 30         | ASN         |
| 1          | b            | 69         | CYS         |
| 1          | b            | 131        | ARG         |
| 1          | c            | 13         | VAL         |
| 1          | c            | 21         | GLN         |
| 1          | c            | 30         | ASN         |
| 1          | c            | 36         | LEU         |
| 1          | c            | 53         | GLU         |
| 1          | c            | 86         | SER         |
| 1          | c            | 88         | GLN         |
| 1          | c            | 95         | SER         |
| 1          | c            | 133        | SER         |
| 1          | c            | 144        | PHE         |
| 1          | d            | 53         | GLU         |
| 1          | d            | 65         | LYS         |
| 1          | d            | 69         | CYS         |
| 1          | d            | 75         | LEU         |
| 1          | d            | 81         | SER         |
| 1          | d            | 88         | GLN         |

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| <b>Mol</b> | <b>Chain</b> | <b>Res</b> | <b>Type</b> |
|------------|--------------|------------|-------------|
| 1          | d            | 105        | THR         |
| 1          | e            | 17         | VAL         |
| 1          | e            | 53         | GLU         |
| 1          | e            | 75         | LEU         |
| 1          | e            | 79         | THR         |
| 1          | e            | 89         | THR         |
| 1          | e            | 107        | GLU         |
| 1          | e            | 110        | GLU         |
| 1          | f            | 30         | ASN         |
| 1          | f            | 45         | ASP         |
| 1          | f            | 69         | CYS         |
| 1          | f            | 95         | SER         |
| 1          | f            | 115        | TYR         |
| 1          | f            | 146        | GLU         |
| 1          | g            | 31         | ARG         |
| 1          | g            | 53         | GLU         |
| 1          | g            | 57         | LEU         |
| 1          | g            | 75         | LEU         |
| 1          | g            | 79         | THR         |
| 1          | g            | 95         | SER         |
| 1          | g            | 123        | VAL         |
| 1          | g            | 144        | PHE         |
| 1          | g            | 147        | SER         |
| 1          | h            | 23         | GLU         |
| 1          | h            | 53         | GLU         |
| 1          | h            | 55         | LEU         |
| 1          | h            | 69         | CYS         |
| 1          | h            | 86         | SER         |
| 1          | h            | 101        | CYS         |
| 1          | h            | 102        | GLN         |
| 1          | h            | 104        | GLU         |
| 1          | h            | 135        | GLU         |
| 1          | i            | 29         | LEU         |
| 1          | i            | 55         | LEU         |
| 1          | i            | 69         | CYS         |
| 1          | i            | 75         | LEU         |
| 1          | i            | 79         | THR         |
| 1          | i            | 89         | THR         |
| 1          | i            | 105        | THR         |
| 1          | i            | 123        | VAL         |
| 1          | i            | 144        | PHE         |
| 1          | j            | 30         | ASN         |

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| <b>Mol</b> | <b>Chain</b> | <b>Res</b> | <b>Type</b> |
|------------|--------------|------------|-------------|
| 1          | j            | 69         | CYS         |
| 1          | j            | 75         | LEU         |
| 1          | j            | 95         | SER         |
| 1          | j            | 101        | CYS         |
| 1          | j            | 104        | GLU         |
| 1          | j            | 105        | THR         |
| 1          | j            | 146        | GLU         |
| 1          | j            | 149        | GLN         |
| 1          | k            | 17         | VAL         |
| 1          | k            | 31         | ARG         |
| 1          | k            | 79         | THR         |
| 1          | k            | 95         | SER         |
| 1          | k            | 119        | TYR         |
| 1          | l            | 23         | GLU         |
| 1          | l            | 36         | LEU         |
| 1          | l            | 63         | LEU         |
| 1          | l            | 75         | LEU         |
| 1          | l            | 89         | THR         |
| 1          | l            | 95         | SER         |
| 1          | l            | 99         | SER         |
| 1          | l            | 102        | GLN         |
| 1          | l            | 104        | GLU         |
| 1          | l            | 144        | PHE         |
| 1          | m            | 17         | VAL         |
| 1          | m            | 32         | ARG         |
| 1          | m            | 57         | LEU         |
| 1          | m            | 75         | LEU         |
| 1          | m            | 89         | THR         |
| 1          | m            | 101        | CYS         |
| 1          | m            | 104        | GLU         |
| 1          | m            | 123        | VAL         |
| 1          | n            | 10         | ASP         |
| 1          | n            | 57         | LEU         |
| 1          | n            | 69         | CYS         |
| 1          | n            | 75         | LEU         |
| 1          | n            | 95         | SER         |
| 1          | n            | 104        | GLU         |
| 1          | n            | 149        | GLN         |
| 1          | o            | 23         | GLU         |
| 1          | o            | 31         | ARG         |
| 1          | o            | 53         | GLU         |
| 1          | o            | 79         | THR         |

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| <b>Mol</b> | <b>Chain</b> | <b>Res</b> | <b>Type</b> |
|------------|--------------|------------|-------------|
| 1          | o            | 89         | THR         |
| 1          | o            | 107        | GLU         |
| 1          | o            | 119        | TYR         |
| 1          | o            | 125        | GLN         |
| 1          | p            | 53         | GLU         |
| 1          | p            | 67         | GLN         |
| 1          | p            | 69         | CYS         |
| 1          | p            | 75         | LEU         |
| 1          | p            | 88         | GLN         |
| 1          | p            | 89         | THR         |
| 1          | p            | 101        | CYS         |
| 1          | p            | 102        | GLN         |
| 1          | p            | 104        | GLU         |
| 1          | p            | 119        | TYR         |
| 1          | q            | 17         | VAL         |
| 1          | q            | 53         | GLU         |
| 1          | q            | 69         | CYS         |
| 1          | q            | 75         | LEU         |
| 1          | q            | 82         | ARG         |
| 1          | q            | 89         | THR         |
| 1          | q            | 104        | GLU         |
| 1          | q            | 107        | GLU         |
| 1          | r            | 30         | ASN         |
| 1          | r            | 36         | LEU         |
| 1          | r            | 69         | CYS         |
| 1          | r            | 81         | SER         |
| 1          | r            | 101        | CYS         |
| 1          | r            | 104        | GLU         |
| 1          | r            | 105        | THR         |
| 1          | r            | 115        | TYR         |
| 1          | s            | 10         | ASP         |
| 1          | s            | 17         | VAL         |
| 1          | s            | 27         | GLN         |
| 1          | s            | 30         | ASN         |
| 1          | s            | 57         | LEU         |
| 1          | s            | 95         | SER         |
| 1          | s            | 105        | THR         |
| 1          | s            | 112        | LYS         |
| 1          | s            | 144        | PHE         |
| 1          | t            | 69         | CYS         |
| 1          | t            | 75         | LEU         |
| 1          | t            | 81         | SER         |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1   | t     | 87  | TYR  |
| 1   | t     | 99  | SER  |
| 1   | t     | 107 | GLU  |
| 1   | u     | 36  | LEU  |
| 1   | u     | 53  | GLU  |
| 1   | u     | 69  | CYS  |
| 1   | u     | 75  | LEU  |
| 1   | u     | 79  | THR  |
| 1   | u     | 103 | ARG  |
| 1   | u     | 105 | THR  |
| 1   | u     | 123 | VAL  |
| 1   | u     | 133 | SER  |
| 1   | v     | 21  | GLN  |
| 1   | v     | 30  | ASN  |
| 1   | v     | 69  | CYS  |
| 1   | v     | 104 | GLU  |
| 1   | v     | 115 | TYR  |
| 1   | v     | 152 | PHE  |
| 1   | w     | 23  | GLU  |
| 1   | w     | 31  | ARG  |
| 1   | w     | 53  | GLU  |
| 1   | w     | 55  | LEU  |
| 1   | w     | 57  | LEU  |
| 1   | w     | 79  | THR  |
| 1   | w     | 88  | GLN  |
| 1   | w     | 95  | SER  |
| 1   | w     | 119 | TYR  |
| 1   | w     | 157 | LEU  |

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (2) such sidechains are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1   | L     | 125 | GLN  |
| 1   | T     | 39  | ASN  |

### 5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

## 5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

## 5.6 Ligand geometry [i](#)

46 ligands are modelled in this entry.

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

| Mol | Type | Chain | Res | Link | Bond lengths |      |          | Bond angles |      |          |
|-----|------|-------|-----|------|--------------|------|----------|-------------|------|----------|
|     |      |       |     |      | Counts       | RMSZ | # Z  > 2 | Counts      | RMSZ | # Z  > 2 |
| 2   | JNI  | j     | 202 | -    | 44,44,44     | 1.13 | 2 (4%)   | 58,60,60    | 3.00 | 25 (43%) |
| 2   | JNI  | F     | 202 | -    | 44,44,44     | 0.86 | 2 (4%)   | 58,60,60    | 2.39 | 19 (32%) |
| 2   | JNI  | U     | 201 | -    | 44,44,44     | 1.15 | 5 (11%)  | 58,60,60    | 2.94 | 21 (36%) |
| 2   | JNI  | X     | 201 | -    | 44,44,44     | 1.02 | 4 (9%)   | 58,60,60    | 2.94 | 22 (37%) |
| 2   | JNI  | b     | 201 | -    | 44,44,44     | 1.09 | 5 (11%)  | 58,60,60    | 2.90 | 22 (37%) |
| 2   | JNI  | J     | 202 | -    | 44,44,44     | 0.86 | 2 (4%)   | 58,60,60    | 2.41 | 17 (29%) |
| 2   | JNI  | p     | 202 | -    | 44,44,44     | 0.91 | 2 (4%)   | 58,60,60    | 2.65 | 25 (43%) |
| 2   | JNI  | H     | 201 | -    | 44,44,44     | 0.96 | 2 (4%)   | 58,60,60    | 2.58 | 15 (25%) |
| 2   | JNI  | X     | 202 | -    | 44,44,44     | 1.23 | 4 (9%)   | 58,60,60    | 2.96 | 26 (44%) |
| 2   | JNI  | t     | 202 | -    | 44,44,44     | 0.98 | 2 (4%)   | 58,60,60    | 2.71 | 22 (37%) |
| 2   | JNI  | V     | 201 | -    | 44,44,44     | 0.99 | 3 (6%)   | 58,60,60    | 2.41 | 17 (29%) |
| 2   | JNI  | r     | 202 | -    | 44,44,44     | 1.25 | 5 (11%)  | 58,60,60    | 2.91 | 28 (48%) |
| 2   | JNI  | L     | 201 | -    | 44,44,44     | 1.42 | 8 (18%)  | 58,60,60    | 3.33 | 28 (48%) |
| 2   | JNI  | f     | 202 | -    | 44,44,44     | 0.91 | 2 (4%)   | 58,60,60    | 2.40 | 16 (27%) |
| 2   | JNI  | r     | 201 | -    | 44,44,44     | 0.91 | 2 (4%)   | 58,60,60    | 2.53 | 21 (36%) |
| 2   | JNI  | C     | 202 | -    | 44,44,44     | 0.80 | 2 (4%)   | 58,60,60    | 2.68 | 19 (32%) |
| 2   | JNI  | P     | 201 | -    | 44,44,44     | 0.81 | 1 (2%)   | 58,60,60    | 2.37 | 18 (31%) |
| 2   | JNI  | t     | 201 | -    | 44,44,44     | 1.01 | 2 (4%)   | 58,60,60    | 2.61 | 20 (34%) |



| Mol | Type | Chain | Res | Link | Bond lengths |      |          | Bond angles |      |          |
|-----|------|-------|-----|------|--------------|------|----------|-------------|------|----------|
|     |      |       |     |      | Counts       | RMSZ | # Z  > 2 | Counts      | RMSZ | # Z  > 2 |
| 2   | JNI  | l     | 201 | -    | 44,44,44     | 1.10 | 4 (9%)   | 58,60,60    | 2.61 | 23 (39%) |
| 2   | JNI  | Z     | 201 | -    | 44,44,44     | 0.92 | 2 (4%)   | 58,60,60    | 2.46 | 18 (31%) |
| 2   | JNI  | J     | 201 | -    | 44,44,44     | 0.90 | 2 (4%)   | 58,60,60    | 2.41 | 16 (27%) |
| 2   | JNI  | P     | 202 | -    | 44,44,44     | 0.79 | 2 (4%)   | 58,60,60    | 2.37 | 16 (27%) |
| 2   | JNI  | N     | 201 | -    | 44,44,44     | 0.78 | 2 (4%)   | 58,60,60    | 2.29 | 17 (29%) |
| 2   | JNI  | o     | 201 | -    | 44,44,44     | 0.90 | 3 (6%)   | 58,60,60    | 2.77 | 18 (31%) |
| 2   | JNI  | b     | 202 | -    | 44,44,44     | 1.41 | 8 (18%)  | 58,60,60    | 2.91 | 26 (44%) |
| 2   | JNI  | h     | 202 | -    | 44,44,44     | 1.11 | 4 (9%)   | 58,60,60    | 2.73 | 19 (32%) |
| 2   | JNI  | n     | 202 | -    | 44,44,44     | 1.09 | 4 (9%)   | 58,60,60    | 2.89 | 25 (43%) |
| 2   | JNI  | v     | 202 | -    | 44,44,44     | 1.15 | 3 (6%)   | 58,60,60    | 2.85 | 21 (36%) |
| 2   | JNI  | C     | 201 | -    | 44,44,44     | 0.83 | 2 (4%)   | 58,60,60    | 2.67 | 24 (41%) |
| 2   | JNI  | n     | 201 | -    | 44,44,44     | 1.03 | 2 (4%)   | 58,60,60    | 2.76 | 23 (39%) |
| 2   | JNI  | h     | 201 | -    | 44,44,44     | 1.15 | 5 (11%)  | 58,60,60    | 2.93 | 23 (39%) |
| 2   | JNI  | Q     | 201 | -    | 44,44,44     | 0.84 | 2 (4%)   | 58,60,60    | 2.62 | 16 (27%) |
| 2   | JNI  | A     | 202 | -    | 44,44,44     | 0.86 | 2 (4%)   | 58,60,60    | 2.48 | 20 (34%) |
| 2   | JNI  | f     | 201 | -    | 44,44,44     | 1.04 | 4 (9%)   | 58,60,60    | 2.89 | 22 (37%) |
| 2   | JNI  | A     | 201 | -    | 44,44,44     | 0.85 | 2 (4%)   | 58,60,60    | 2.42 | 17 (29%) |
| 2   | JNI  | H     | 202 | -    | 44,44,44     | 1.36 | 6 (13%)  | 58,60,60    | 3.27 | 26 (44%) |
| 2   | JNI  | Z     | 202 | -    | 44,44,44     | 0.96 | 2 (4%)   | 58,60,60    | 2.52 | 22 (37%) |
| 2   | JNI  | M     | 201 | -    | 44,44,44     | 0.91 | 2 (4%)   | 58,60,60    | 2.77 | 18 (31%) |
| 2   | JNI  | R     | 201 | -    | 44,44,44     | 1.14 | 2 (4%)   | 58,60,60    | 2.80 | 22 (37%) |
| 2   | JNI  | V     | 202 | -    | 44,44,44     | 1.00 | 2 (4%)   | 58,60,60    | 2.77 | 18 (31%) |
| 2   | JNI  | v     | 201 | -    | 44,44,44     | 0.91 | 2 (4%)   | 58,60,60    | 2.69 | 21 (36%) |
| 2   | JNI  | j     | 201 | -    | 44,44,44     | 1.08 | 3 (6%)   | 58,60,60    | 3.02 | 22 (37%) |
| 2   | JNI  | p     | 201 | -    | 44,44,44     | 0.94 | 2 (4%)   | 58,60,60    | 2.46 | 15 (25%) |
| 2   | JNI  | d     | 201 | -    | 44,44,44     | 0.94 | 2 (4%)   | 58,60,60    | 2.63 | 21 (36%) |
| 2   | JNI  | F     | 201 | -    | 44,44,44     | 0.96 | 1 (2%)   | 58,60,60    | 2.44 | 18 (31%) |
| 2   | JNI  | D     | 201 | -    | 44,44,44     | 0.83 | 2 (4%)   | 58,60,60    | 2.57 | 17 (29%) |

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

| Mol | Type | Chain | Res | Link | Chirals | Torsions    | Rings   |
|-----|------|-------|-----|------|---------|-------------|---------|
| 2   | JNI  | j     | 202 | -    | -       | 18/24/32/32 | 0/6/6/6 |

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| Mol | Type | Chain | Res | Link | Chirals | Torsions    | Rings   |
|-----|------|-------|-----|------|---------|-------------|---------|
| 2   | JNI  | F     | 202 | -    | -       | 11/24/32/32 | 0/6/6/6 |
| 2   | JNI  | U     | 201 | -    | -       | 6/24/32/32  | 0/6/6/6 |
| 2   | JNI  | X     | 201 | -    | -       | 5/24/32/32  | 0/6/6/6 |
| 2   | JNI  | b     | 201 | -    | -       | 4/24/32/32  | 0/6/6/6 |
| 2   | JNI  | J     | 202 | -    | -       | 11/24/32/32 | 0/6/6/6 |
| 2   | JNI  | p     | 202 | -    | -       | 13/24/32/32 | 0/6/6/6 |
| 2   | JNI  | H     | 201 | -    | -       | 6/24/32/32  | 0/6/6/6 |
| 2   | JNI  | X     | 202 | -    | -       | 11/24/32/32 | 0/6/6/6 |
| 2   | JNI  | t     | 202 | -    | -       | 10/24/32/32 | 0/6/6/6 |
| 2   | JNI  | V     | 201 | -    | -       | 7/24/32/32  | 0/6/6/6 |
| 2   | JNI  | r     | 202 | -    | -       | 12/24/32/32 | 0/6/6/6 |
| 2   | JNI  | L     | 201 | -    | -       | 4/24/32/32  | 0/6/6/6 |
| 2   | JNI  | f     | 202 | -    | -       | 8/24/32/32  | 0/6/6/6 |
| 2   | JNI  | r     | 201 | -    | -       | 8/24/32/32  | 0/6/6/6 |
| 2   | JNI  | C     | 202 | -    | -       | 10/24/32/32 | 0/6/6/6 |
| 2   | JNI  | P     | 201 | -    | -       | 6/24/32/32  | 0/6/6/6 |
| 2   | JNI  | t     | 201 | -    | -       | 2/24/32/32  | 0/6/6/6 |
| 2   | JNI  | l     | 201 | -    | -       | 4/24/32/32  | 0/6/6/6 |
| 2   | JNI  | Z     | 201 | -    | -       | 2/24/32/32  | 0/6/6/6 |
| 2   | JNI  | J     | 201 | -    | -       | 2/24/32/32  | 0/6/6/6 |
| 2   | JNI  | P     | 202 | -    | -       | 14/24/32/32 | 0/6/6/6 |
| 2   | JNI  | N     | 201 | -    | -       | 1/24/32/32  | 0/6/6/6 |
| 2   | JNI  | o     | 201 | -    | -       | 8/24/32/32  | 0/6/6/6 |
| 2   | JNI  | b     | 202 | -    | -       | 12/24/32/32 | 0/6/6/6 |
| 2   | JNI  | h     | 202 | -    | -       | 8/24/32/32  | 0/6/6/6 |
| 2   | JNI  | n     | 202 | -    | -       | 16/24/32/32 | 0/6/6/6 |
| 2   | JNI  | v     | 202 | -    | -       | 9/24/32/32  | 1/6/6/6 |
| 2   | JNI  | C     | 201 | -    | -       | 11/24/32/32 | 0/6/6/6 |
| 2   | JNI  | n     | 201 | -    | -       | 10/24/32/32 | 0/6/6/6 |
| 2   | JNI  | h     | 201 | -    | -       | 2/24/32/32  | 0/6/6/6 |
| 2   | JNI  | Q     | 201 | -    | -       | 5/24/32/32  | 0/6/6/6 |
| 2   | JNI  | A     | 202 | -    | -       | 8/24/32/32  | 0/6/6/6 |
| 2   | JNI  | f     | 201 | -    | -       | 6/24/32/32  | 0/6/6/6 |
| 2   | JNI  | A     | 201 | -    | -       | 2/24/32/32  | 0/6/6/6 |

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| Mol | Type | Chain | Res | Link | Chirals | Torsions    | Rings   |
|-----|------|-------|-----|------|---------|-------------|---------|
| 2   | JNI  | H     | 202 | -    | -       | 4/24/32/32  | 0/6/6/6 |
| 2   | JNI  | Z     | 202 | -    | -       | 10/24/32/32 | 0/6/6/6 |
| 2   | JNI  | M     | 201 | -    | -       | 5/24/32/32  | 0/6/6/6 |
| 2   | JNI  | R     | 201 | -    | -       | 2/24/32/32  | 0/6/6/6 |
| 2   | JNI  | V     | 202 | -    | -       | 10/24/32/32 | 0/6/6/6 |
| 2   | JNI  | v     | 201 | -    | -       | 8/24/32/32  | 0/6/6/6 |
| 2   | JNI  | j     | 201 | -    | -       | 3/24/32/32  | 0/6/6/6 |
| 2   | JNI  | p     | 201 | -    | -       | 6/24/32/32  | 0/6/6/6 |
| 2   | JNI  | d     | 201 | -    | -       | 4/24/32/32  | 0/6/6/6 |
| 2   | JNI  | F     | 201 | -    | -       | 4/24/32/32  | 0/6/6/6 |
| 2   | JNI  | D     | 201 | -    | -       | 2/24/32/32  | 0/6/6/6 |

All (134) bond length outliers are listed below:

| Mol | Chain | Res | Type | Atoms   | Z    | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|------|-------------|----------|
| 2   | L     | 201 | JNI  | C31-N34 | 4.08 | 1.43        | 1.35     |
| 2   | j     | 202 | JNI  | C2-N1   | 3.57 | 1.41        | 1.33     |
| 2   | V     | 202 | JNI  | C31-N34 | 3.44 | 1.42        | 1.35     |
| 2   | t     | 202 | JNI  | C31-N34 | 3.34 | 1.41        | 1.35     |
| 2   | r     | 202 | JNI  | C2-N1   | 3.31 | 1.40        | 1.33     |
| 2   | b     | 202 | JNI  | C21-C16 | 3.30 | 1.45        | 1.41     |
| 2   | H     | 202 | JNI  | C31-N34 | 3.27 | 1.41        | 1.35     |
| 2   | j     | 202 | JNI  | C21-C16 | 3.25 | 1.45        | 1.41     |
| 2   | h     | 202 | JNI  | C31-N34 | 3.21 | 1.41        | 1.35     |
| 2   | b     | 202 | JNI  | C2-N1   | 3.17 | 1.40        | 1.33     |
| 2   | n     | 201 | JNI  | C31-N34 | 3.13 | 1.41        | 1.35     |
| 2   | Z     | 202 | JNI  | C31-N34 | 3.11 | 1.41        | 1.35     |
| 2   | H     | 202 | JNI  | C21-C16 | 3.10 | 1.45        | 1.41     |
| 2   | f     | 201 | JNI  | C31-N34 | 3.10 | 1.41        | 1.35     |
| 2   | v     | 202 | JNI  | C31-N34 | 3.06 | 1.41        | 1.35     |
| 2   | b     | 202 | JNI  | C21-C22 | 3.04 | 1.54        | 1.49     |
| 2   | o     | 201 | JNI  | C2-N1   | 3.00 | 1.39        | 1.33     |
| 2   | H     | 202 | JNI  | C2-N1   | 3.00 | 1.39        | 1.33     |
| 2   | n     | 201 | JNI  | C2-N1   | 2.97 | 1.39        | 1.33     |
| 2   | j     | 201 | JNI  | C21-C16 | 2.96 | 1.44        | 1.41     |
| 2   | U     | 201 | JNI  | C31-N34 | 2.95 | 1.41        | 1.35     |
| 2   | r     | 202 | JNI  | C21-C16 | 2.94 | 1.44        | 1.41     |
| 2   | H     | 201 | JNI  | C31-N34 | 2.90 | 1.41        | 1.35     |
| 2   | X     | 202 | JNI  | C2-N1   | 2.88 | 1.39        | 1.33     |
| 2   | j     | 201 | JNI  | C2-N1   | 2.88 | 1.39        | 1.33     |

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| Mol | Chain | Res | Type | Atoms   | Z    | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|------|-------------|----------|
| 2   | b     | 202 | JNI  | C31-N34 | 2.87 | 1.41        | 1.35     |
| 2   | b     | 201 | JNI  | C2-N1   | 2.86 | 1.39        | 1.33     |
| 2   | b     | 201 | JNI  | C21-C16 | 2.82 | 1.44        | 1.41     |
| 2   | h     | 201 | JNI  | C31-N34 | 2.81 | 1.41        | 1.35     |
| 2   | U     | 201 | JNI  | C39-N34 | 2.81 | 1.51        | 1.46     |
| 2   | M     | 201 | JNI  | C2-N1   | 2.78 | 1.39        | 1.33     |
| 2   | l     | 201 | JNI  | C31-N34 | 2.78 | 1.40        | 1.35     |
| 2   | n     | 202 | JNI  | C2-N1   | 2.77 | 1.39        | 1.33     |
| 2   | L     | 201 | JNI  | C21-C22 | 2.77 | 1.54        | 1.49     |
| 2   | L     | 201 | JNI  | C21-C16 | 2.76 | 1.44        | 1.41     |
| 2   | X     | 201 | JNI  | C2-N1   | 2.73 | 1.39        | 1.33     |
| 2   | Q     | 201 | JNI  | C2-N1   | 2.72 | 1.39        | 1.33     |
| 2   | v     | 202 | JNI  | C21-C16 | 2.69 | 1.44        | 1.41     |
| 2   | X     | 202 | JNI  | C31-N34 | 2.69 | 1.40        | 1.35     |
| 2   | v     | 202 | JNI  | C2-N1   | 2.68 | 1.39        | 1.33     |
| 2   | h     | 201 | JNI  | C21-C16 | 2.68 | 1.44        | 1.41     |
| 2   | t     | 201 | JNI  | C31-N34 | 2.66 | 1.40        | 1.35     |
| 2   | p     | 202 | JNI  | C2-N1   | 2.64 | 1.39        | 1.33     |
| 2   | h     | 202 | JNI  | C2-N1   | 2.63 | 1.39        | 1.33     |
| 2   | p     | 201 | JNI  | C31-N34 | 2.63 | 1.40        | 1.35     |
| 2   | J     | 201 | JNI  | C31-N34 | 2.62 | 1.40        | 1.35     |
| 2   | U     | 201 | JNI  | C33-C28 | 2.58 | 1.44        | 1.39     |
| 2   | F     | 202 | JNI  | C31-N34 | 2.58 | 1.40        | 1.35     |
| 2   | R     | 201 | JNI  | C31-N34 | 2.58 | 1.40        | 1.35     |
| 2   | b     | 201 | JNI  | C31-N34 | 2.57 | 1.40        | 1.35     |
| 2   | l     | 201 | JNI  | C27-C22 | 2.56 | 1.44        | 1.39     |
| 2   | d     | 201 | JNI  | C2-N1   | 2.55 | 1.39        | 1.33     |
| 2   | D     | 201 | JNI  | C2-N1   | 2.55 | 1.39        | 1.33     |
| 2   | X     | 202 | JNI  | C21-C16 | 2.54 | 1.44        | 1.41     |
| 2   | X     | 201 | JNI  | C31-N34 | 2.53 | 1.40        | 1.35     |
| 2   | Z     | 202 | JNI  | C2-N1   | 2.52 | 1.38        | 1.33     |
| 2   | p     | 202 | JNI  | C31-N34 | 2.52 | 1.40        | 1.35     |
| 2   | v     | 201 | JNI  | C2-N1   | 2.52 | 1.38        | 1.33     |
| 2   | t     | 202 | JNI  | C2-N1   | 2.51 | 1.38        | 1.33     |
| 2   | n     | 202 | JNI  | C21-C16 | 2.51 | 1.44        | 1.41     |
| 2   | L     | 201 | JNI  | C27-C22 | 2.51 | 1.44        | 1.39     |
| 2   | r     | 201 | JNI  | C2-N1   | 2.48 | 1.38        | 1.33     |
| 2   | r     | 202 | JNI  | C31-N34 | 2.48 | 1.40        | 1.35     |
| 2   | H     | 202 | JNI  | C27-C22 | 2.47 | 1.44        | 1.39     |
| 2   | V     | 202 | JNI  | C2-N1   | 2.46 | 1.38        | 1.33     |
| 2   | J     | 202 | JNI  | C2-N1   | 2.46 | 1.38        | 1.33     |
| 2   | h     | 202 | JNI  | C21-C16 | 2.46 | 1.44        | 1.41     |

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| Mol | Chain | Res | Type | Atoms   | Z     | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|-------|-------------|----------|
| 2   | C     | 202 | JNI  | C31-N34 | 2.46  | 1.40        | 1.35     |
| 2   | r     | 202 | JNI  | C21-C22 | 2.45  | 1.53        | 1.49     |
| 2   | t     | 201 | JNI  | C39-N34 | 2.45  | 1.50        | 1.46     |
| 2   | f     | 202 | JNI  | C2-N1   | 2.44  | 1.38        | 1.33     |
| 2   | C     | 201 | JNI  | C2-N1   | 2.42  | 1.38        | 1.33     |
| 2   | L     | 201 | JNI  | C27-C26 | 2.40  | 1.43        | 1.39     |
| 2   | f     | 202 | JNI  | C31-N34 | 2.39  | 1.40        | 1.35     |
| 2   | h     | 201 | JNI  | C39-N34 | 2.39  | 1.50        | 1.46     |
| 2   | H     | 201 | JNI  | C2-N1   | 2.38  | 1.38        | 1.33     |
| 2   | j     | 201 | JNI  | C31-N34 | 2.38  | 1.40        | 1.35     |
| 2   | P     | 201 | JNI  | C2-N1   | 2.38  | 1.38        | 1.33     |
| 2   | f     | 201 | JNI  | C21-C16 | 2.37  | 1.44        | 1.41     |
| 2   | X     | 201 | JNI  | C39-N34 | 2.37  | 1.50        | 1.46     |
| 2   | v     | 201 | JNI  | C21-C16 | 2.34  | 1.44        | 1.41     |
| 2   | L     | 201 | JNI  | C2-N1   | 2.33  | 1.38        | 1.33     |
| 2   | J     | 201 | JNI  | C2-N1   | 2.33  | 1.38        | 1.33     |
| 2   | M     | 201 | JNI  | C31-N34 | 2.32  | 1.40        | 1.35     |
| 2   | b     | 202 | JNI  | C27-C22 | 2.32  | 1.43        | 1.39     |
| 2   | P     | 202 | JNI  | C2-N1   | 2.31  | 1.38        | 1.33     |
| 2   | C     | 202 | JNI  | C2-N1   | 2.29  | 1.38        | 1.33     |
| 2   | X     | 202 | JNI  | C27-C26 | 2.29  | 1.43        | 1.39     |
| 2   | b     | 202 | JNI  | C20-C21 | 2.28  | 1.43        | 1.40     |
| 2   | H     | 202 | JNI  | C27-C26 | 2.28  | 1.43        | 1.39     |
| 2   | A     | 202 | JNI  | C2-N3   | -2.28 | 1.32        | 1.35     |
| 2   | P     | 202 | JNI  | C2-N3   | -2.28 | 1.32        | 1.35     |
| 2   | r     | 201 | JNI  | C31-N34 | 2.28  | 1.40        | 1.35     |
| 2   | A     | 202 | JNI  | C2-N1   | 2.28  | 1.38        | 1.33     |
| 2   | L     | 201 | JNI  | C35-C36 | 2.28  | 1.56        | 1.51     |
| 2   | N     | 201 | JNI  | C2-N3   | -2.28 | 1.32        | 1.35     |
| 2   | J     | 202 | JNI  | C31-N34 | 2.27  | 1.40        | 1.35     |
| 2   | U     | 201 | JNI  | C2-N1   | 2.26  | 1.38        | 1.33     |
| 2   | R     | 201 | JNI  | C2-N1   | 2.25  | 1.38        | 1.33     |
| 2   | V     | 201 | JNI  | C2-N1   | 2.24  | 1.38        | 1.33     |
| 2   | V     | 201 | JNI  | C21-C16 | 2.23  | 1.43        | 1.41     |
| 2   | A     | 201 | JNI  | C2-N1   | 2.22  | 1.38        | 1.33     |
| 2   | h     | 201 | JNI  | C2-N1   | 2.21  | 1.38        | 1.33     |
| 2   | p     | 201 | JNI  | C2-N1   | 2.19  | 1.38        | 1.33     |
| 2   | h     | 201 | JNI  | C27-C22 | 2.17  | 1.43        | 1.39     |
| 2   | r     | 202 | JNI  | C20-C21 | 2.16  | 1.43        | 1.40     |
| 2   | n     | 202 | JNI  | C21-C22 | 2.16  | 1.53        | 1.49     |
| 2   | A     | 201 | JNI  | C2-N3   | -2.15 | 1.32        | 1.35     |
| 2   | o     | 201 | JNI  | C31-N34 | 2.15  | 1.39        | 1.35     |

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| Mol | Chain | Res | Type | Atoms   | Z     | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|-------|-------------|----------|
| 2   | F     | 202 | JNI  | C2-N1   | 2.13  | 1.38        | 1.33     |
| 2   | h     | 202 | JNI  | C35-N34 | 2.13  | 1.50        | 1.46     |
| 2   | l     | 201 | JNI  | C2-N1   | 2.12  | 1.38        | 1.33     |
| 2   | C     | 201 | JNI  | C2-N3   | -2.12 | 1.32        | 1.35     |
| 2   | b     | 202 | JNI  | C33-C28 | 2.11  | 1.43        | 1.39     |
| 2   | b     | 201 | JNI  | C33-C28 | 2.11  | 1.43        | 1.39     |
| 2   | L     | 201 | JNI  | C20-C21 | 2.10  | 1.43        | 1.40     |
| 2   | n     | 202 | JNI  | C27-C26 | 2.09  | 1.43        | 1.39     |
| 2   | b     | 201 | JNI  | C27-C26 | 2.09  | 1.43        | 1.39     |
| 2   | Z     | 201 | JNI  | C2-N1   | 2.09  | 1.38        | 1.33     |
| 2   | U     | 201 | JNI  | C21-C16 | 2.09  | 1.43        | 1.41     |
| 2   | D     | 201 | JNI  | C2-N3   | -2.07 | 1.32        | 1.35     |
| 2   | o     | 201 | JNI  | C21-C16 | 2.07  | 1.43        | 1.41     |
| 2   | H     | 202 | JNI  | C9-N8   | 2.07  | 1.50        | 1.47     |
| 2   | b     | 202 | JNI  | C27-C26 | 2.06  | 1.43        | 1.39     |
| 2   | f     | 201 | JNI  | C2-N1   | 2.06  | 1.38        | 1.33     |
| 2   | V     | 201 | JNI  | C31-N34 | 2.06  | 1.39        | 1.35     |
| 2   | d     | 201 | JNI  | C31-N34 | 2.06  | 1.39        | 1.35     |
| 2   | F     | 201 | JNI  | C31-N34 | 2.05  | 1.39        | 1.35     |
| 2   | X     | 201 | JNI  | C33-C28 | 2.04  | 1.43        | 1.39     |
| 2   | Z     | 201 | JNI  | C31-N34 | 2.03  | 1.39        | 1.35     |
| 2   | f     | 201 | JNI  | C2-N7   | -2.03 | 1.31        | 1.35     |
| 2   | l     | 201 | JNI  | C21-C22 | 2.02  | 1.53        | 1.49     |
| 2   | N     | 201 | JNI  | C2-N1   | 2.01  | 1.37        | 1.33     |
| 2   | Q     | 201 | JNI  | C2-N3   | -2.01 | 1.32        | 1.35     |

All (945) bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 2   | M     | 201 | JNI  | C2-N7-C6    | 10.33 | 124.05      | 116.73   |
| 2   | U     | 201 | JNI  | C2-N7-C6    | 10.29 | 124.02      | 116.73   |
| 2   | j     | 201 | JNI  | C2-N7-C6    | 10.28 | 124.01      | 116.73   |
| 2   | X     | 201 | JNI  | C2-N7-C6    | 9.84  | 123.70      | 116.73   |
| 2   | b     | 201 | JNI  | C2-N7-C6    | 9.83  | 123.69      | 116.73   |
| 2   | L     | 201 | JNI  | C33-N32-C31 | 9.77  | 124.30      | 115.64   |
| 2   | v     | 201 | JNI  | C2-N7-C6    | 9.64  | 123.56      | 116.73   |
| 2   | h     | 202 | JNI  | C2-N7-C6    | 9.63  | 123.55      | 116.73   |
| 2   | o     | 201 | JNI  | C2-N7-C6    | 9.48  | 123.44      | 116.73   |
| 2   | X     | 202 | JNI  | C2-N7-C6    | 9.01  | 123.11      | 116.73   |
| 2   | H     | 202 | JNI  | C33-N32-C31 | 8.86  | 123.49      | 115.64   |
| 2   | b     | 201 | JNI  | C29-N30-C31 | 8.83  | 123.47      | 115.64   |
| 2   | U     | 201 | JNI  | C29-N30-C31 | 8.75  | 123.39      | 115.64   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 2   | L     | 201 | JNI  | C2-N7-C6    | 8.71  | 122.90      | 116.73   |
| 2   | f     | 201 | JNI  | C2-N7-C6    | 8.65  | 122.86      | 116.73   |
| 2   | t     | 201 | JNI  | C33-N32-C31 | 8.56  | 123.23      | 115.64   |
| 2   | J     | 201 | JNI  | C33-N32-C31 | 8.51  | 123.19      | 115.64   |
| 2   | h     | 201 | JNI  | C39-N34-C31 | -8.42 | 107.73      | 121.69   |
| 2   | v     | 202 | JNI  | C33-N32-C31 | 8.36  | 123.05      | 115.64   |
| 2   | n     | 202 | JNI  | C2-N7-C6    | 8.34  | 122.64      | 116.73   |
| 2   | F     | 201 | JNI  | C2-N7-C6    | 8.30  | 122.61      | 116.73   |
| 2   | L     | 201 | JNI  | C29-N30-C31 | 8.19  | 122.90      | 115.64   |
| 2   | X     | 201 | JNI  | C29-N30-C31 | 8.17  | 122.88      | 115.64   |
| 2   | t     | 202 | JNI  | C29-N30-C31 | 8.15  | 122.86      | 115.64   |
| 2   | r     | 201 | JNI  | C2-N7-C6    | 8.15  | 122.50      | 116.73   |
| 2   | j     | 202 | JNI  | N7-C6-N8    | 8.13  | 123.51      | 115.77   |
| 2   | v     | 202 | JNI  | C2-N7-C6    | 8.11  | 122.47      | 116.73   |
| 2   | f     | 201 | JNI  | C29-N30-C31 | 8.10  | 122.82      | 115.64   |
| 2   | R     | 201 | JNI  | C33-N32-C31 | 8.09  | 122.81      | 115.64   |
| 2   | H     | 202 | JNI  | C29-N30-C31 | 8.08  | 122.80      | 115.64   |
| 2   | d     | 201 | JNI  | C33-N32-C31 | 8.07  | 122.79      | 115.64   |
| 2   | Q     | 201 | JNI  | C39-N34-C31 | -8.06 | 108.33      | 121.69   |
| 2   | H     | 201 | JNI  | C29-N30-C31 | 8.06  | 122.78      | 115.64   |
| 2   | V     | 202 | JNI  | C29-N30-C31 | 8.03  | 122.75      | 115.64   |
| 2   | h     | 201 | JNI  | C29-N30-C31 | 8.02  | 122.75      | 115.64   |
| 2   | Z     | 202 | JNI  | C33-N32-C31 | 7.99  | 122.73      | 115.64   |
| 2   | H     | 202 | JNI  | C2-N7-C6    | 7.90  | 122.33      | 116.73   |
| 2   | V     | 202 | JNI  | C33-N32-C31 | 7.88  | 122.62      | 115.64   |
| 2   | v     | 202 | JNI  | C29-N30-C31 | 7.86  | 122.61      | 115.64   |
| 2   | h     | 202 | JNI  | C29-N30-C31 | 7.82  | 122.57      | 115.64   |
| 2   | p     | 201 | JNI  | C2-N7-C6    | 7.82  | 122.27      | 116.73   |
| 2   | r     | 202 | JNI  | C2-N7-C6    | 7.81  | 122.26      | 116.73   |
| 2   | j     | 202 | JNI  | C2-N7-C6    | 7.80  | 122.25      | 116.73   |
| 2   | Q     | 201 | JNI  | C29-N30-C31 | 7.79  | 122.54      | 115.64   |
| 2   | n     | 201 | JNI  | C29-N30-C31 | 7.77  | 122.53      | 115.64   |
| 2   | t     | 202 | JNI  | C33-N32-C31 | 7.76  | 122.52      | 115.64   |
| 2   | F     | 201 | JNI  | C33-N32-C31 | 7.73  | 122.49      | 115.64   |
| 2   | H     | 202 | JNI  | N30-C31-N34 | 7.72  | 125.26      | 116.90   |
| 2   | D     | 201 | JNI  | C39-N34-C31 | -7.69 | 108.95      | 121.69   |
| 2   | n     | 201 | JNI  | C33-N32-C31 | 7.65  | 122.42      | 115.64   |
| 2   | o     | 201 | JNI  | C29-N30-C31 | 7.65  | 122.42      | 115.64   |
| 2   | Z     | 201 | JNI  | C2-N7-C6    | 7.60  | 122.11      | 116.73   |
| 2   | b     | 202 | JNI  | C29-N30-C31 | 7.59  | 122.36      | 115.64   |
| 2   | b     | 202 | JNI  | C2-N7-C6    | 7.57  | 122.09      | 116.73   |
| 2   | C     | 202 | JNI  | C33-N32-C31 | 7.55  | 122.33      | 115.64   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 2   | j     | 201 | JNI  | C33-N32-C31 | 7.55  | 122.33      | 115.64   |
| 2   | f     | 201 | JNI  | C33-N32-C31 | 7.54  | 122.33      | 115.64   |
| 2   | p     | 202 | JNI  | C29-N30-C31 | 7.54  | 122.33      | 115.64   |
| 2   | V     | 201 | JNI  | C33-N32-C31 | 7.46  | 122.25      | 115.64   |
| 2   | h     | 201 | JNI  | C2-N7-C6    | 7.46  | 122.01      | 116.73   |
| 2   | H     | 202 | JNI  | C39-N34-C31 | -7.45 | 109.34      | 121.69   |
| 2   | h     | 202 | JNI  | C33-N32-C31 | 7.41  | 122.21      | 115.64   |
| 2   | M     | 201 | JNI  | C29-N30-C31 | 7.39  | 122.19      | 115.64   |
| 2   | H     | 201 | JNI  | C33-N32-C31 | 7.37  | 122.17      | 115.64   |
| 2   | h     | 201 | JNI  | C33-N32-C31 | 7.35  | 122.16      | 115.64   |
| 2   | V     | 202 | JNI  | N32-C31-N34 | 7.35  | 124.86      | 116.90   |
| 2   | p     | 201 | JNI  | C33-N32-C31 | 7.34  | 122.15      | 115.64   |
| 2   | J     | 201 | JNI  | C2-N7-C6    | 7.34  | 121.93      | 116.73   |
| 2   | l     | 201 | JNI  | C33-N32-C31 | 7.34  | 122.14      | 115.64   |
| 2   | Z     | 202 | JNI  | C29-N30-C31 | 7.33  | 122.14      | 115.64   |
| 2   | L     | 201 | JNI  | N30-C31-N34 | 7.29  | 124.80      | 116.90   |
| 2   | f     | 202 | JNI  | C33-N32-C31 | 7.29  | 122.10      | 115.64   |
| 2   | l     | 201 | JNI  | C29-N30-C31 | 7.29  | 122.10      | 115.64   |
| 2   | R     | 201 | JNI  | C2-N7-C6    | 7.28  | 121.89      | 116.73   |
| 2   | F     | 202 | JNI  | C29-N30-C31 | 7.27  | 122.08      | 115.64   |
| 2   | U     | 201 | JNI  | N32-C31-N34 | 7.27  | 124.77      | 116.90   |
| 2   | r     | 202 | JNI  | C29-N30-C31 | 7.25  | 122.07      | 115.64   |
| 2   | Z     | 201 | JNI  | C33-N32-C31 | 7.15  | 121.97      | 115.64   |
| 2   | r     | 202 | JNI  | N7-C6-N8    | 7.09  | 122.52      | 115.77   |
| 2   | X     | 202 | JNI  | C33-N32-C31 | 7.09  | 121.92      | 115.64   |
| 2   | j     | 201 | JNI  | C29-N30-C31 | 7.09  | 121.92      | 115.64   |
| 2   | Q     | 201 | JNI  | C2-N7-C6    | 7.05  | 121.73      | 116.73   |
| 2   | A     | 201 | JNI  | C29-N30-C31 | 7.05  | 121.89      | 115.64   |
| 2   | n     | 201 | JNI  | C2-N7-C6    | 7.04  | 121.72      | 116.73   |
| 2   | C     | 201 | JNI  | C29-N30-C31 | 7.02  | 121.86      | 115.64   |
| 2   | v     | 201 | JNI  | N32-C31-N34 | 7.02  | 124.50      | 116.90   |
| 2   | d     | 201 | JNI  | C2-N7-C6    | 7.02  | 121.70      | 116.73   |
| 2   | b     | 202 | JNI  | C33-N32-C31 | 7.01  | 121.86      | 115.64   |
| 2   | X     | 202 | JNI  | C29-N30-C31 | 6.97  | 121.82      | 115.64   |
| 2   | C     | 202 | JNI  | C29-N30-C31 | 6.92  | 121.77      | 115.64   |
| 2   | D     | 201 | JNI  | C2-N7-C6    | 6.89  | 121.61      | 116.73   |
| 2   | V     | 201 | JNI  | C2-N7-C6    | 6.89  | 121.61      | 116.73   |
| 2   | v     | 201 | JNI  | C29-N30-C31 | 6.88  | 121.73      | 115.64   |
| 2   | D     | 201 | JNI  | C29-N30-C31 | 6.86  | 121.72      | 115.64   |
| 2   | J     | 202 | JNI  | C33-N32-C31 | 6.85  | 121.71      | 115.64   |
| 2   | t     | 201 | JNI  | C2-N7-C6    | 6.81  | 121.55      | 116.73   |
| 2   | l     | 201 | JNI  | C2-N7-C6    | 6.81  | 121.55      | 116.73   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 2   | X     | 202 | JNI  | N32-C31-N34 | 6.79  | 124.25      | 116.90   |
| 2   | N     | 201 | JNI  | C33-N32-C31 | 6.78  | 121.65      | 115.64   |
| 2   | f     | 201 | JNI  | N1-C2-N3    | 6.75  | 124.29      | 117.44   |
| 2   | f     | 202 | JNI  | C29-N30-C31 | 6.74  | 121.61      | 115.64   |
| 2   | J     | 202 | JNI  | C29-N30-C31 | 6.73  | 121.61      | 115.64   |
| 2   | R     | 201 | JNI  | C29-N30-C31 | 6.70  | 121.58      | 115.64   |
| 2   | t     | 201 | JNI  | C29-N30-C31 | 6.65  | 121.53      | 115.64   |
| 2   | P     | 201 | JNI  | C29-N30-C31 | 6.65  | 121.53      | 115.64   |
| 2   | C     | 202 | JNI  | C39-N34-C31 | -6.63 | 110.70      | 121.69   |
| 2   | F     | 202 | JNI  | C33-N32-C31 | 6.62  | 121.51      | 115.64   |
| 2   | P     | 202 | JNI  | C29-N30-C31 | 6.62  | 121.50      | 115.64   |
| 2   | r     | 201 | JNI  | C29-N30-C31 | 6.61  | 121.50      | 115.64   |
| 2   | v     | 202 | JNI  | N7-C6-N8    | 6.56  | 122.01      | 115.77   |
| 2   | j     | 201 | JNI  | N32-C31-N34 | 6.55  | 123.99      | 116.90   |
| 2   | P     | 202 | JNI  | C35-N34-C31 | -6.54 | 110.84      | 121.69   |
| 2   | p     | 201 | JNI  | C29-N30-C31 | 6.54  | 121.44      | 115.64   |
| 2   | r     | 201 | JNI  | C33-N32-C31 | 6.54  | 121.44      | 115.64   |
| 2   | A     | 201 | JNI  | C33-N32-C31 | 6.54  | 121.43      | 115.64   |
| 2   | V     | 202 | JNI  | N7-C6-N8    | 6.50  | 121.96      | 115.77   |
| 2   | p     | 202 | JNI  | C33-N32-C31 | 6.50  | 121.40      | 115.64   |
| 2   | J     | 202 | JNI  | C2-N7-C6    | 6.47  | 121.31      | 116.73   |
| 2   | D     | 201 | JNI  | C33-N32-C31 | 6.44  | 121.34      | 115.64   |
| 2   | C     | 202 | JNI  | N7-C6-N8    | 6.43  | 121.89      | 115.77   |
| 2   | Z     | 201 | JNI  | C29-N30-C31 | 6.42  | 121.33      | 115.64   |
| 2   | t     | 202 | JNI  | C2-N7-C6    | 6.39  | 121.26      | 116.73   |
| 2   | n     | 202 | JNI  | C33-N32-C31 | 6.38  | 121.29      | 115.64   |
| 2   | n     | 202 | JNI  | C29-N30-C31 | 6.36  | 121.28      | 115.64   |
| 2   | C     | 201 | JNI  | C33-N32-C31 | 6.31  | 121.23      | 115.64   |
| 2   | A     | 202 | JNI  | C33-N32-C31 | 6.31  | 121.23      | 115.64   |
| 2   | P     | 201 | JNI  | C33-N32-C31 | 6.30  | 121.22      | 115.64   |
| 2   | V     | 201 | JNI  | C29-N30-C31 | 6.29  | 121.21      | 115.64   |
| 2   | o     | 201 | JNI  | C33-N32-C31 | 6.28  | 121.21      | 115.64   |
| 2   | o     | 201 | JNI  | C39-N34-C31 | -6.27 | 111.29      | 121.69   |
| 2   | H     | 201 | JNI  | C2-N7-C6    | 6.21  | 121.13      | 116.73   |
| 2   | Z     | 202 | JNI  | C2-N7-C6    | 6.20  | 121.12      | 116.73   |
| 2   | j     | 202 | JNI  | C29-N30-C31 | 6.17  | 121.11      | 115.64   |
| 2   | d     | 201 | JNI  | N30-C31-N34 | 6.16  | 123.57      | 116.90   |
| 2   | L     | 201 | JNI  | N32-C31-N30 | -6.14 | 116.69      | 127.06   |
| 2   | A     | 201 | JNI  | C35-N34-C31 | -6.13 | 111.52      | 121.69   |
| 2   | A     | 202 | JNI  | C29-N30-C31 | 6.13  | 121.07      | 115.64   |
| 2   | M     | 201 | JNI  | C33-N32-C31 | 6.13  | 121.07      | 115.64   |
| 2   | r     | 202 | JNI  | C33-N32-C31 | 6.13  | 121.07      | 115.64   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 2   | U     | 201 | JNI  | C33-N32-C31 | 6.11  | 121.05      | 115.64   |
| 2   | p     | 202 | JNI  | C2-N7-C6    | 6.11  | 121.06      | 116.73   |
| 2   | H     | 201 | JNI  | N7-C6-N8    | 6.09  | 121.57      | 115.77   |
| 2   | N     | 201 | JNI  | C29-N30-C31 | 6.09  | 121.03      | 115.64   |
| 2   | M     | 201 | JNI  | C39-N34-C31 | -6.08 | 111.60      | 121.69   |
| 2   | X     | 201 | JNI  | C39-N34-C31 | -6.02 | 111.71      | 121.69   |
| 2   | V     | 202 | JNI  | C2-N7-C6    | 5.97  | 120.96      | 116.73   |
| 2   | j     | 202 | JNI  | C33-N32-C31 | 5.96  | 120.93      | 115.64   |
| 2   | J     | 201 | JNI  | C29-N30-C31 | 5.95  | 120.91      | 115.64   |
| 2   | R     | 201 | JNI  | N30-C31-N34 | 5.94  | 123.33      | 116.90   |
| 2   | R     | 201 | JNI  | C4-N3-C2    | 5.88  | 122.26      | 116.24   |
| 2   | t     | 201 | JNI  | C35-N34-C31 | -5.87 | 111.96      | 121.69   |
| 2   | f     | 202 | JNI  | C2-N7-C6    | 5.85  | 120.88      | 116.73   |
| 2   | V     | 201 | JNI  | C39-N34-C31 | -5.83 | 112.02      | 121.69   |
| 2   | P     | 202 | JNI  | C2-N7-C6    | 5.81  | 120.85      | 116.73   |
| 2   | F     | 201 | JNI  | C29-N30-C31 | 5.78  | 120.76      | 115.64   |
| 2   | X     | 201 | JNI  | C33-N32-C31 | 5.74  | 120.73      | 115.64   |
| 2   | b     | 201 | JNI  | C33-N32-C31 | 5.73  | 120.72      | 115.64   |
| 2   | d     | 201 | JNI  | C29-N30-C31 | 5.71  | 120.70      | 115.64   |
| 2   | Q     | 201 | JNI  | C33-N32-C31 | 5.68  | 120.67      | 115.64   |
| 2   | H     | 202 | JNI  | N32-C31-N30 | -5.62 | 117.58      | 127.06   |
| 2   | Q     | 201 | JNI  | N32-C31-N34 | 5.61  | 122.97      | 116.90   |
| 2   | v     | 201 | JNI  | C33-N32-C31 | 5.61  | 120.61      | 115.64   |
| 2   | b     | 201 | JNI  | C4-N3-C2    | 5.59  | 121.96      | 116.24   |
| 2   | A     | 201 | JNI  | C2-N7-C6    | 5.58  | 120.69      | 116.73   |
| 2   | L     | 201 | JNI  | C27-C22-C21 | 5.56  | 129.81      | 120.61   |
| 2   | P     | 202 | JNI  | C39-N34-C31 | -5.50 | 112.56      | 121.69   |
| 2   | h     | 201 | JNI  | N30-C31-N34 | 5.46  | 122.81      | 116.90   |
| 2   | j     | 202 | JNI  | C4-N3-C2    | 5.45  | 121.82      | 116.24   |
| 2   | P     | 202 | JNI  | C33-N32-C31 | 5.45  | 120.47      | 115.64   |
| 2   | j     | 202 | JNI  | N32-C31-N34 | 5.45  | 122.79      | 116.90   |
| 2   | U     | 201 | JNI  | C39-N34-C31 | -5.44 | 112.67      | 121.69   |
| 2   | n     | 201 | JNI  | C35-N34-C31 | -5.42 | 112.70      | 121.69   |
| 2   | b     | 201 | JNI  | N3-C2-N7    | -5.39 | 119.14      | 125.70   |
| 2   | F     | 201 | JNI  | N30-C31-N34 | 5.38  | 122.73      | 116.90   |
| 2   | p     | 202 | JNI  | N7-C6-N8    | 5.37  | 120.89      | 115.77   |
| 2   | L     | 201 | JNI  | C17-C16-N8  | -5.37 | 109.55      | 119.23   |
| 2   | C     | 201 | JNI  | C2-N7-C6    | 5.35  | 120.52      | 116.73   |
| 2   | b     | 202 | JNI  | C4-N3-C2    | 5.35  | 121.72      | 116.24   |
| 2   | h     | 201 | JNI  | C35-N34-C31 | -5.34 | 112.84      | 121.69   |
| 2   | N     | 201 | JNI  | N7-C6-N8    | 5.33  | 120.85      | 115.77   |
| 2   | C     | 201 | JNI  | C4-N3-C2    | 5.33  | 121.69      | 116.24   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 2   | t     | 202 | JNI  | N7-C6-N8    | 5.29  | 120.81      | 115.77   |
| 2   | H     | 201 | JNI  | N32-C31-N34 | 5.29  | 122.62      | 116.90   |
| 2   | L     | 201 | JNI  | C16-N8-C6   | 5.27  | 127.07      | 121.20   |
| 2   | A     | 202 | JNI  | C2-N7-C6    | 5.26  | 120.46      | 116.73   |
| 2   | v     | 202 | JNI  | N32-C31-N34 | 5.25  | 122.58      | 116.90   |
| 2   | N     | 201 | JNI  | C2-N7-C6    | 5.24  | 120.44      | 116.73   |
| 2   | F     | 202 | JNI  | C2-N7-C6    | 5.22  | 120.43      | 116.73   |
| 2   | X     | 202 | JNI  | C17-C16-N8  | -5.22 | 109.83      | 119.23   |
| 2   | X     | 201 | JNI  | N3-C2-N7    | -5.21 | 119.36      | 125.70   |
| 2   | n     | 202 | JNI  | C17-C16-N8  | -5.18 | 109.90      | 119.23   |
| 2   | P     | 201 | JNI  | C2-N7-C6    | 5.18  | 120.40      | 116.73   |
| 2   | A     | 202 | JNI  | C39-N34-C31 | -5.17 | 113.11      | 121.69   |
| 2   | v     | 202 | JNI  | N32-C31-N30 | -5.17 | 118.33      | 127.06   |
| 2   | X     | 202 | JNI  | C4-N3-C2    | 5.16  | 121.52      | 116.24   |
| 2   | p     | 202 | JNI  | C35-N34-C31 | -5.16 | 113.14      | 121.69   |
| 2   | t     | 202 | JNI  | N32-C31-N30 | -5.11 | 118.42      | 127.06   |
| 2   | J     | 202 | JNI  | C35-N34-C31 | -5.10 | 113.23      | 121.69   |
| 2   | n     | 202 | JNI  | C35-N34-C31 | -5.10 | 113.23      | 121.69   |
| 2   | j     | 202 | JNI  | C16-N8-C6   | 5.10  | 126.88      | 121.20   |
| 2   | r     | 202 | JNI  | C4-N3-C2    | 5.09  | 121.45      | 116.24   |
| 2   | t     | 202 | JNI  | C35-N34-C31 | -5.09 | 113.25      | 121.69   |
| 2   | X     | 202 | JNI  | N7-C6-N8    | 5.07  | 120.60      | 115.77   |
| 2   | X     | 201 | JNI  | C35-N34-C31 | -5.07 | 113.28      | 121.69   |
| 2   | j     | 201 | JNI  | N3-C2-N7    | -5.06 | 119.54      | 125.70   |
| 2   | X     | 201 | JNI  | C4-N3-C2    | 5.05  | 121.40      | 116.24   |
| 2   | f     | 201 | JNI  | N32-C31-N30 | -5.04 | 118.55      | 127.06   |
| 2   | A     | 202 | JNI  | C4-N3-C2    | 5.02  | 121.38      | 116.24   |
| 2   | n     | 201 | JNI  | C4-N3-C2    | 5.02  | 121.38      | 116.24   |
| 2   | C     | 202 | JNI  | N32-C31-N34 | 5.01  | 122.32      | 116.90   |
| 2   | V     | 202 | JNI  | N32-C31-N30 | -5.00 | 118.62      | 127.06   |
| 2   | f     | 202 | JNI  | C35-N34-C31 | -4.97 | 113.45      | 121.69   |
| 2   | o     | 201 | JNI  | N32-C31-N34 | 4.94  | 122.25      | 116.90   |
| 2   | o     | 201 | JNI  | N3-C2-N7    | -4.93 | 119.69      | 125.70   |
| 2   | n     | 202 | JNI  | C39-N34-C31 | -4.93 | 113.51      | 121.69   |
| 2   | L     | 201 | JNI  | C22-C21-C16 | 4.92  | 130.69      | 123.19   |
| 2   | o     | 201 | JNI  | C4-N3-C2    | 4.90  | 121.26      | 116.24   |
| 2   | Z     | 202 | JNI  | N32-C31-N30 | -4.88 | 118.81      | 127.06   |
| 2   | h     | 201 | JNI  | N32-C31-N30 | -4.88 | 118.82      | 127.06   |
| 2   | X     | 202 | JNI  | N3-C2-N7    | -4.88 | 119.76      | 125.70   |
| 2   | h     | 202 | JNI  | N32-C31-N30 | -4.88 | 118.82      | 127.06   |
| 2   | b     | 202 | JNI  | N32-C31-N34 | 4.88  | 122.18      | 116.90   |
| 2   | H     | 202 | JNI  | C4-N3-C2    | 4.88  | 121.23      | 116.24   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 2   | r     | 202 | JNI  | N32-C31-N34 | 4.85  | 122.15      | 116.90   |
| 2   | H     | 201 | JNI  | C4-N3-C2    | 4.84  | 121.19      | 116.24   |
| 2   | H     | 202 | JNI  | C27-C22-C21 | 4.83  | 128.61      | 120.61   |
| 2   | n     | 201 | JNI  | N32-C31-N30 | -4.83 | 118.90      | 127.06   |
| 2   | b     | 201 | JNI  | N32-C31-N34 | 4.83  | 122.13      | 116.90   |
| 2   | r     | 202 | JNI  | C17-C16-N8  | -4.83 | 110.53      | 119.23   |
| 2   | b     | 202 | JNI  | N3-C2-N7    | -4.83 | 119.82      | 125.70   |
| 2   | n     | 202 | JNI  | C25-C26-C28 | -4.82 | 113.00      | 121.36   |
| 2   | M     | 201 | JNI  | N3-C2-N7    | -4.82 | 119.84      | 125.70   |
| 2   | j     | 201 | JNI  | C35-N34-C31 | -4.80 | 113.73      | 121.69   |
| 2   | F     | 202 | JNI  | C4-N3-C2    | 4.79  | 121.14      | 116.24   |
| 2   | p     | 202 | JNI  | C4-N3-C2    | 4.79  | 121.14      | 116.24   |
| 2   | R     | 201 | JNI  | N3-C2-N7    | -4.78 | 119.88      | 125.70   |
| 2   | H     | 201 | JNI  | N32-C31-N30 | -4.78 | 118.99      | 127.06   |
| 2   | P     | 201 | JNI  | C4-N3-C2    | 4.77  | 121.12      | 116.24   |
| 2   | b     | 202 | JNI  | C17-C16-N8  | -4.76 | 110.64      | 119.23   |
| 2   | j     | 201 | JNI  | C4-N3-C2    | 4.76  | 121.11      | 116.24   |
| 2   | j     | 202 | JNI  | N3-C2-N7    | -4.75 | 119.92      | 125.70   |
| 2   | b     | 202 | JNI  | C20-C21-C16 | -4.73 | 113.33      | 117.86   |
| 2   | P     | 202 | JNI  | N7-C6-N8    | 4.73  | 120.27      | 115.77   |
| 2   | b     | 201 | JNI  | N32-C31-N30 | -4.72 | 119.08      | 127.06   |
| 2   | r     | 201 | JNI  | C4-N3-C2    | 4.72  | 121.07      | 116.24   |
| 2   | d     | 201 | JNI  | C4-N3-C2    | 4.71  | 121.06      | 116.24   |
| 2   | f     | 202 | JNI  | C4-N3-C2    | 4.69  | 121.04      | 116.24   |
| 2   | R     | 201 | JNI  | C39-N34-C31 | -4.69 | 113.91      | 121.69   |
| 2   | X     | 201 | JNI  | N32-C31-N34 | 4.69  | 121.97      | 116.90   |
| 2   | n     | 201 | JNI  | N3-C2-N7    | -4.67 | 120.02      | 125.70   |
| 2   | Z     | 202 | JNI  | C10-C9-N8   | -4.67 | 106.44      | 113.98   |
| 2   | L     | 201 | JNI  | C20-C21-C16 | -4.65 | 113.41      | 117.86   |
| 2   | b     | 202 | JNI  | N32-C31-N30 | -4.65 | 119.22      | 127.06   |
| 2   | H     | 202 | JNI  | C23-C22-C21 | -4.63 | 113.41      | 120.91   |
| 2   | l     | 201 | JNI  | C27-C22-C21 | 4.63  | 128.28      | 120.61   |
| 2   | U     | 201 | JNI  | N3-C2-N7    | -4.62 | 120.08      | 125.70   |
| 2   | f     | 202 | JNI  | N32-C31-N34 | 4.61  | 121.89      | 116.90   |
| 2   | l     | 201 | JNI  | N32-C31-N30 | -4.61 | 119.28      | 127.06   |
| 2   | t     | 201 | JNI  | N32-C31-N30 | -4.60 | 119.29      | 127.06   |
| 2   | Q     | 201 | JNI  | C35-N34-C31 | -4.60 | 114.06      | 121.69   |
| 2   | p     | 201 | JNI  | C4-N3-C2    | 4.59  | 120.94      | 116.24   |
| 2   | C     | 202 | JNI  | C4-N3-C2    | 4.59  | 120.94      | 116.24   |
| 2   | n     | 202 | JNI  | C4-N3-C2    | 4.58  | 120.92      | 116.24   |
| 2   | j     | 202 | JNI  | C35-N34-C31 | -4.57 | 114.10      | 121.69   |
| 2   | L     | 201 | JNI  | N3-C2-N7    | -4.57 | 120.14      | 125.70   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 2   | n     | 201 | JNI  | N32-C31-N34 | 4.57  | 121.84      | 116.90   |
| 2   | D     | 201 | JNI  | N32-C31-N34 | 4.57  | 121.84      | 116.90   |
| 2   | b     | 201 | JNI  | C39-N34-C31 | -4.56 | 114.12      | 121.69   |
| 2   | d     | 201 | JNI  | C39-N34-C31 | -4.54 | 114.17      | 121.69   |
| 2   | j     | 201 | JNI  | N32-C31-N30 | -4.53 | 119.41      | 127.06   |
| 2   | p     | 202 | JNI  | C39-N34-C31 | -4.53 | 114.18      | 121.69   |
| 2   | P     | 201 | JNI  | N7-C6-N8    | 4.52  | 120.08      | 115.77   |
| 2   | v     | 202 | JNI  | C4-N3-C2    | 4.52  | 120.86      | 116.24   |
| 2   | b     | 202 | JNI  | N7-C6-N8    | 4.52  | 120.07      | 115.77   |
| 2   | J     | 202 | JNI  | C4-N3-C2    | 4.51  | 120.85      | 116.24   |
| 2   | X     | 201 | JNI  | C16-N8-C6   | 4.50  | 126.22      | 121.20   |
| 2   | U     | 201 | JNI  | N32-C31-N30 | -4.49 | 119.48      | 127.06   |
| 2   | C     | 201 | JNI  | C23-C22-C21 | -4.47 | 113.66      | 120.91   |
| 2   | r     | 202 | JNI  | N3-C2-N7    | -4.46 | 120.27      | 125.70   |
| 2   | D     | 201 | JNI  | C35-N34-C31 | -4.46 | 114.30      | 121.69   |
| 2   | Z     | 202 | JNI  | N30-C31-N34 | 4.45  | 121.72      | 116.90   |
| 2   | H     | 202 | JNI  | N3-C2-N7    | -4.44 | 120.29      | 125.70   |
| 2   | f     | 201 | JNI  | C16-N8-C6   | -4.44 | 116.26      | 121.20   |
| 2   | U     | 201 | JNI  | C35-N34-C31 | -4.42 | 114.37      | 121.69   |
| 2   | C     | 201 | JNI  | N7-C6-N8    | 4.40  | 119.96      | 115.77   |
| 2   | H     | 202 | JNI  | N7-C6-N8    | 4.39  | 119.95      | 115.77   |
| 2   | R     | 201 | JNI  | N32-C31-N30 | -4.38 | 119.66      | 127.06   |
| 2   | A     | 202 | JNI  | C16-N8-C6   | -4.38 | 116.32      | 121.20   |
| 2   | j     | 201 | JNI  | N1-C2-N3    | 4.37  | 121.87      | 117.44   |
| 2   | Z     | 202 | JNI  | C4-N3-C2    | 4.37  | 120.71      | 116.24   |
| 2   | J     | 201 | JNI  | C4-N3-C2    | 4.36  | 120.70      | 116.24   |
| 2   | o     | 201 | JNI  | N1-C2-N3    | 4.35  | 121.86      | 117.44   |
| 2   | M     | 201 | JNI  | C4-N3-C2    | 4.35  | 120.69      | 116.24   |
| 2   | r     | 202 | JNI  | C5-C6-N7    | -4.35 | 116.44      | 123.53   |
| 2   | o     | 201 | JNI  | C10-C9-N8   | -4.34 | 106.96      | 113.98   |
| 2   | C     | 202 | JNI  | C2-N7-C6    | 4.34  | 119.81      | 116.73   |
| 2   | h     | 201 | JNI  | C4-N3-C2    | 4.32  | 120.66      | 116.24   |
| 2   | v     | 202 | JNI  | C5-C6-N7    | -4.32 | 116.48      | 123.53   |
| 2   | p     | 201 | JNI  | C39-N34-C31 | -4.32 | 114.53      | 121.69   |
| 2   | t     | 202 | JNI  | C4-N3-C2    | 4.32  | 120.66      | 116.24   |
| 2   | h     | 202 | JNI  | N3-C2-N7    | -4.31 | 120.45      | 125.70   |
| 2   | F     | 202 | JNI  | N30-C31-N34 | 4.31  | 121.56      | 116.90   |
| 2   | A     | 201 | JNI  | C4-N3-C2    | 4.31  | 120.65      | 116.24   |
| 2   | C     | 202 | JNI  | N32-C31-N30 | -4.31 | 119.79      | 127.06   |
| 2   | D     | 201 | JNI  | C4-N3-C2    | 4.28  | 120.62      | 116.24   |
| 2   | X     | 202 | JNI  | N32-C31-N30 | -4.28 | 119.84      | 127.06   |
| 2   | j     | 202 | JNI  | C17-C16-N8  | -4.27 | 111.53      | 119.23   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 2   | A     | 201 | JNI  | C39-N34-C31 | -4.27 | 114.61      | 121.69   |
| 2   | f     | 202 | JNI  | C39-N34-C31 | -4.27 | 114.61      | 121.69   |
| 2   | f     | 202 | JNI  | N32-C31-N30 | -4.26 | 119.87      | 127.06   |
| 2   | v     | 201 | JNI  | N3-C2-N7    | -4.26 | 120.51      | 125.70   |
| 2   | t     | 202 | JNI  | N32-C31-N34 | 4.25  | 121.50      | 116.90   |
| 2   | C     | 201 | JNI  | C27-C22-C21 | 4.25  | 127.65      | 120.61   |
| 2   | V     | 201 | JNI  | C4-N3-C2    | 4.23  | 120.57      | 116.24   |
| 2   | J     | 201 | JNI  | N32-C31-N30 | -4.23 | 119.92      | 127.06   |
| 2   | n     | 202 | JNI  | N7-C6-N8    | 4.22  | 119.79      | 115.77   |
| 2   | A     | 202 | JNI  | N30-C31-N34 | 4.22  | 121.47      | 116.90   |
| 2   | J     | 202 | JNI  | C39-N34-C31 | -4.21 | 114.70      | 121.69   |
| 2   | X     | 201 | JNI  | N32-C31-N30 | -4.21 | 119.95      | 127.06   |
| 2   | P     | 201 | JNI  | C16-N8-C6   | -4.21 | 116.51      | 121.20   |
| 2   | M     | 201 | JNI  | N32-C31-N34 | 4.20  | 121.45      | 116.90   |
| 2   | A     | 202 | JNI  | C10-C9-N8   | -4.19 | 107.20      | 113.98   |
| 2   | V     | 202 | JNI  | C4-N3-C2    | 4.19  | 120.52      | 116.24   |
| 2   | C     | 202 | JNI  | C5-C4-N3    | -4.18 | 118.76      | 123.96   |
| 2   | Z     | 201 | JNI  | N32-C31-N34 | 4.18  | 121.42      | 116.90   |
| 2   | V     | 202 | JNI  | C29-C28-C26 | -4.18 | 114.41      | 121.69   |
| 2   | t     | 201 | JNI  | C23-C22-C21 | -4.16 | 114.18      | 120.91   |
| 2   | n     | 202 | JNI  | N3-C2-N7    | -4.14 | 120.66      | 125.70   |
| 2   | v     | 201 | JNI  | C5-C6-N7    | -4.14 | 116.78      | 123.53   |
| 2   | L     | 201 | JNI  | C4-N3-C2    | 4.13  | 120.47      | 116.24   |
| 2   | F     | 202 | JNI  | N32-C31-N30 | -4.13 | 120.08      | 127.06   |
| 2   | o     | 201 | JNI  | N32-C31-N30 | -4.13 | 120.08      | 127.06   |
| 2   | A     | 201 | JNI  | N32-C31-N34 | 4.13  | 121.37      | 116.90   |
| 2   | n     | 202 | JNI  | C20-C21-C16 | -4.13 | 113.91      | 117.86   |
| 2   | r     | 201 | JNI  | N3-C2-N7    | -4.12 | 120.68      | 125.70   |
| 2   | j     | 202 | JNI  | C5-C6-N7    | -4.12 | 116.82      | 123.53   |
| 2   | M     | 201 | JNI  | C35-N34-C31 | -4.11 | 114.87      | 121.69   |
| 2   | X     | 202 | JNI  | C20-C21-C16 | -4.10 | 113.93      | 117.86   |
| 2   | p     | 201 | JNI  | N32-C31-N30 | -4.09 | 120.16      | 127.06   |
| 2   | h     | 202 | JNI  | C35-N34-C31 | -4.09 | 114.91      | 121.69   |
| 2   | X     | 202 | JNI  | C5-C6-N7    | -4.08 | 116.87      | 123.53   |
| 2   | M     | 201 | JNI  | C5-C6-N7    | -4.08 | 116.87      | 123.53   |
| 2   | b     | 202 | JNI  | C27-C22-C21 | 4.08  | 127.36      | 120.61   |
| 2   | U     | 201 | JNI  | N1-C2-N3    | 4.08  | 121.58      | 117.44   |
| 2   | P     | 202 | JNI  | C4-N3-C2    | 4.07  | 120.41      | 116.24   |
| 2   | N     | 201 | JNI  | C4-N3-C2    | 4.07  | 120.41      | 116.24   |
| 2   | M     | 201 | JNI  | N1-C2-N3    | 4.07  | 121.57      | 117.44   |
| 2   | Q     | 201 | JNI  | C4-N3-C2    | 4.07  | 120.40      | 116.24   |
| 2   | t     | 201 | JNI  | C27-C22-C21 | 4.06  | 127.33      | 120.61   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 2   | Z     | 201 | JNI  | C9-N8-C6    | 4.05  | 124.55      | 118.17   |
| 2   | M     | 201 | JNI  | N32-C31-N30 | -4.05 | 120.22      | 127.06   |
| 2   | V     | 202 | JNI  | C28-C33-N32 | -4.05 | 117.65      | 124.32   |
| 2   | J     | 202 | JNI  | N32-C31-N30 | -4.05 | 120.23      | 127.06   |
| 2   | Q     | 201 | JNI  | N32-C31-N30 | -4.05 | 120.23      | 127.06   |
| 2   | p     | 202 | JNI  | N32-C31-N30 | -4.05 | 120.23      | 127.06   |
| 2   | d     | 201 | JNI  | C10-C9-N8   | 4.05  | 120.51      | 113.98   |
| 2   | n     | 201 | JNI  | N7-C6-N8    | 4.04  | 119.62      | 115.77   |
| 2   | r     | 202 | JNI  | N32-C31-N30 | -4.04 | 120.23      | 127.06   |
| 2   | N     | 201 | JNI  | C39-N34-C31 | -4.04 | 115.00      | 121.69   |
| 2   | C     | 201 | JNI  | N3-C2-N7    | -4.04 | 120.79      | 125.70   |
| 2   | D     | 201 | JNI  | C10-C9-N8   | -4.03 | 107.46      | 113.98   |
| 2   | C     | 202 | JNI  | C35-N34-C31 | -4.03 | 115.00      | 121.69   |
| 2   | h     | 202 | JNI  | C5-C6-N7    | -4.03 | 116.95      | 123.53   |
| 2   | v     | 201 | JNI  | C4-N3-C2    | 4.03  | 120.36      | 116.24   |
| 2   | n     | 201 | JNI  | C39-N34-C31 | -4.03 | 115.01      | 121.69   |
| 2   | r     | 201 | JNI  | C10-C9-N8   | -4.02 | 107.49      | 113.98   |
| 2   | d     | 201 | JNI  | N32-C31-N30 | -4.01 | 120.29      | 127.06   |
| 2   | p     | 201 | JNI  | N3-C2-N7    | -4.00 | 120.83      | 125.70   |
| 2   | n     | 202 | JNI  | C5-C6-N7    | -4.00 | 117.01      | 123.53   |
| 2   | X     | 201 | JNI  | N1-C2-N3    | 4.00  | 121.49      | 117.44   |
| 2   | h     | 202 | JNI  | C4-N3-C2    | 3.99  | 120.33      | 116.24   |
| 2   | U     | 201 | JNI  | C4-N3-C2    | 3.99  | 120.32      | 116.24   |
| 2   | j     | 201 | JNI  | C23-C22-C21 | -3.98 | 114.45      | 120.91   |
| 2   | f     | 201 | JNI  | C39-N34-C31 | -3.98 | 115.08      | 121.69   |
| 2   | f     | 201 | JNI  | C5-C6-N7    | -3.97 | 117.05      | 123.53   |
| 2   | v     | 202 | JNI  | N3-C2-N7    | -3.97 | 120.86      | 125.70   |
| 2   | j     | 201 | JNI  | C5-C6-N7    | -3.97 | 117.05      | 123.53   |
| 2   | H     | 201 | JNI  | C5-C4-N3    | -3.96 | 119.04      | 123.96   |
| 2   | Q     | 201 | JNI  | N7-C6-N8    | 3.95  | 119.53      | 115.77   |
| 2   | D     | 201 | JNI  | N32-C31-N30 | -3.93 | 120.42      | 127.06   |
| 2   | C     | 201 | JNI  | C35-N34-C31 | -3.93 | 115.17      | 121.69   |
| 2   | C     | 202 | JNI  | C16-N8-C6   | -3.93 | 116.83      | 121.20   |
| 2   | l     | 201 | JNI  | C4-N3-C2    | 3.92  | 120.26      | 116.24   |
| 2   | Z     | 201 | JNI  | C23-C22-C21 | -3.91 | 114.57      | 120.91   |
| 2   | d     | 201 | JNI  | N7-C6-N8    | 3.90  | 119.48      | 115.77   |
| 2   | d     | 201 | JNI  | N3-C2-N7    | -3.88 | 120.98      | 125.70   |
| 2   | b     | 201 | JNI  | C5-C6-N7    | -3.87 | 117.21      | 123.53   |
| 2   | h     | 202 | JNI  | C39-N34-C31 | -3.87 | 115.27      | 121.69   |
| 2   | Z     | 201 | JNI  | C4-N3-C2    | 3.87  | 120.20      | 116.24   |
| 2   | r     | 202 | JNI  | C20-C21-C16 | -3.87 | 114.15      | 117.86   |
| 2   | V     | 201 | JNI  | N32-C31-N30 | -3.87 | 120.53      | 127.06   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 2   | p     | 202 | JNI  | N3-C2-N7    | -3.86 | 121.00      | 125.70   |
| 2   | r     | 201 | JNI  | N32-C31-N30 | -3.85 | 120.56      | 127.06   |
| 2   | J     | 201 | JNI  | C28-C33-N32 | -3.85 | 117.98      | 124.32   |
| 2   | F     | 202 | JNI  | C39-N34-C31 | -3.84 | 115.32      | 121.69   |
| 2   | P     | 202 | JNI  | N3-C2-N7    | -3.84 | 121.03      | 125.70   |
| 2   | J     | 202 | JNI  | N3-C2-N7    | -3.83 | 121.03      | 125.70   |
| 2   | Z     | 201 | JNI  | N32-C31-N30 | -3.82 | 120.61      | 127.06   |
| 2   | Z     | 202 | JNI  | N3-C2-N7    | -3.82 | 121.05      | 125.70   |
| 2   | A     | 201 | JNI  | N32-C31-N30 | -3.81 | 120.62      | 127.06   |
| 2   | P     | 201 | JNI  | C39-N34-C31 | -3.81 | 115.37      | 121.69   |
| 2   | U     | 201 | JNI  | C5-C6-N7    | -3.80 | 117.33      | 123.53   |
| 2   | j     | 201 | JNI  | C27-C26-C28 | 3.80  | 127.14      | 120.86   |
| 2   | F     | 201 | JNI  | N32-C31-N30 | -3.79 | 120.66      | 127.06   |
| 2   | j     | 202 | JNI  | N1-C2-N7    | 3.79  | 123.15      | 117.25   |
| 2   | D     | 201 | JNI  | N3-C2-N7    | -3.79 | 121.09      | 125.70   |
| 2   | j     | 201 | JNI  | C25-C26-C28 | -3.79 | 114.80      | 121.36   |
| 2   | Q     | 201 | JNI  | N3-C2-N7    | -3.78 | 121.09      | 125.70   |
| 2   | C     | 201 | JNI  | C25-C26-C28 | -3.78 | 114.81      | 121.36   |
| 2   | l     | 201 | JNI  | C23-C22-C21 | -3.77 | 114.80      | 120.91   |
| 2   | f     | 202 | JNI  | C5-C4-N3    | -3.77 | 119.28      | 123.96   |
| 2   | R     | 201 | JNI  | N1-C2-N3    | 3.77  | 121.26      | 117.44   |
| 2   | N     | 201 | JNI  | C5-C4-N3    | -3.77 | 119.28      | 123.96   |
| 2   | h     | 201 | JNI  | N3-C2-N7    | -3.76 | 121.12      | 125.70   |
| 2   | Z     | 201 | JNI  | C16-N8-C6   | -3.76 | 117.02      | 121.20   |
| 2   | n     | 202 | JNI  | C27-C22-C21 | 3.76  | 126.83      | 120.61   |
| 2   | t     | 202 | JNI  | C39-N34-C31 | -3.74 | 115.48      | 121.69   |
| 2   | F     | 201 | JNI  | C4-N3-C2    | 3.74  | 120.06      | 116.24   |
| 2   | P     | 201 | JNI  | C5-C4-N3    | -3.74 | 119.32      | 123.96   |
| 2   | C     | 201 | JNI  | N32-C31-N30 | -3.73 | 120.75      | 127.06   |
| 2   | p     | 202 | JNI  | C22-C21-C16 | 3.73  | 128.88      | 123.19   |
| 2   | J     | 201 | JNI  | N3-C2-N7    | -3.72 | 121.17      | 125.70   |
| 2   | r     | 202 | JNI  | N1-C2-N7    | 3.71  | 123.02      | 117.25   |
| 2   | A     | 202 | JNI  | N3-C2-N7    | -3.71 | 121.19      | 125.70   |
| 2   | H     | 202 | JNI  | C36-C35-N34 | 3.71  | 118.51      | 110.48   |
| 2   | F     | 201 | JNI  | C9-N8-C6    | 3.70  | 123.99      | 118.17   |
| 2   | t     | 201 | JNI  | C39-N34-C31 | -3.69 | 115.56      | 121.69   |
| 2   | b     | 202 | JNI  | C22-C21-C16 | 3.69  | 128.82      | 123.19   |
| 2   | n     | 202 | JNI  | C27-C26-C28 | 3.69  | 126.96      | 120.86   |
| 2   | N     | 201 | JNI  | C35-N34-C31 | -3.68 | 115.58      | 121.69   |
| 2   | t     | 202 | JNI  | N3-C2-N7    | -3.67 | 121.23      | 125.70   |
| 2   | j     | 201 | JNI  | C39-N34-C31 | -3.67 | 115.61      | 121.69   |
| 2   | J     | 201 | JNI  | C5-C6-N7    | -3.66 | 117.56      | 123.53   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 2   | l     | 201 | JNI  | C27-C26-C28 | 3.66  | 126.91      | 120.86   |
| 2   | n     | 202 | JNI  | N32-C31-N30 | -3.65 | 120.90      | 127.06   |
| 2   | Z     | 201 | JNI  | C27-C22-C21 | 3.65  | 126.65      | 120.61   |
| 2   | F     | 201 | JNI  | N3-C2-N7    | -3.65 | 121.26      | 125.70   |
| 2   | F     | 202 | JNI  | N3-C2-N7    | -3.64 | 121.26      | 125.70   |
| 2   | p     | 201 | JNI  | N30-C31-N34 | 3.64  | 120.83      | 116.90   |
| 2   | o     | 201 | JNI  | C5-C6-N7    | -3.63 | 117.60      | 123.53   |
| 2   | F     | 202 | JNI  | C5-C4-N3    | -3.63 | 119.44      | 123.96   |
| 2   | d     | 201 | JNI  | C5-C4-N3    | -3.63 | 119.44      | 123.96   |
| 2   | C     | 201 | JNI  | C5-C4-N3    | -3.63 | 119.45      | 123.96   |
| 2   | Z     | 201 | JNI  | N3-C2-N7    | -3.63 | 121.28      | 125.70   |
| 2   | t     | 201 | JNI  | N30-C31-N34 | 3.63  | 120.83      | 116.90   |
| 2   | C     | 201 | JNI  | N32-C31-N34 | 3.63  | 120.82      | 116.90   |
| 2   | f     | 201 | JNI  | C35-N34-C31 | -3.62 | 115.68      | 121.69   |
| 2   | p     | 201 | JNI  | C35-N34-C31 | -3.62 | 115.69      | 121.69   |
| 2   | C     | 201 | JNI  | C22-C21-C16 | 3.62  | 128.70      | 123.19   |
| 2   | t     | 202 | JNI  | C23-C22-C21 | -3.61 | 115.06      | 120.91   |
| 2   | t     | 201 | JNI  | C4-N3-C2    | 3.61  | 119.94      | 116.24   |
| 2   | v     | 201 | JNI  | N7-C6-N8    | 3.61  | 119.21      | 115.77   |
| 2   | A     | 202 | JNI  | C5-C4-N3    | -3.61 | 119.47      | 123.96   |
| 2   | A     | 201 | JNI  | N7-C6-N8    | 3.61  | 119.20      | 115.77   |
| 2   | R     | 201 | JNI  | C5-C4-N3    | -3.61 | 119.48      | 123.96   |
| 2   | d     | 201 | JNI  | C5-C6-N7    | -3.60 | 117.65      | 123.53   |
| 2   | h     | 201 | JNI  | C25-C26-C28 | -3.60 | 115.12      | 121.36   |
| 2   | P     | 201 | JNI  | N32-C31-N30 | -3.60 | 120.98      | 127.06   |
| 2   | l     | 201 | JNI  | C5-C6-N7    | -3.60 | 117.66      | 123.53   |
| 2   | o     | 201 | JNI  | C35-N34-C31 | -3.59 | 115.73      | 121.69   |
| 2   | r     | 201 | JNI  | C5-C4-N3    | -3.59 | 119.49      | 123.96   |
| 2   | f     | 201 | JNI  | C17-C16-N8  | -3.59 | 112.76      | 119.23   |
| 2   | H     | 202 | JNI  | C5-C6-N7    | -3.59 | 117.67      | 123.53   |
| 2   | V     | 202 | JNI  | C5-C4-N3    | -3.59 | 119.50      | 123.96   |
| 2   | F     | 202 | JNI  | C28-C29-N30 | -3.58 | 118.41      | 124.32   |
| 2   | X     | 201 | JNI  | C5-C6-N7    | -3.58 | 117.69      | 123.53   |
| 2   | f     | 202 | JNI  | N7-C6-N8    | 3.57  | 119.17      | 115.77   |
| 2   | H     | 202 | JNI  | C27-C26-C28 | 3.57  | 126.76      | 120.86   |
| 2   | A     | 202 | JNI  | C35-N34-C31 | -3.56 | 115.78      | 121.69   |
| 2   | J     | 201 | JNI  | N7-C6-N8    | 3.56  | 119.16      | 115.77   |
| 2   | F     | 202 | JNI  | N7-C6-N8    | 3.56  | 119.16      | 115.77   |
| 2   | D     | 201 | JNI  | N7-C6-N8    | 3.56  | 119.16      | 115.77   |
| 2   | R     | 201 | JNI  | C16-N8-C6   | -3.56 | 117.24      | 121.20   |
| 2   | R     | 201 | JNI  | C10-C9-N8   | 3.55  | 119.71      | 113.98   |
| 2   | H     | 202 | JNI  | C22-C21-C16 | 3.54  | 128.59      | 123.19   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 2   | N     | 201 | JNI  | N32-C31-N30 | -3.54 | 121.08      | 127.06   |
| 2   | j     | 202 | JNI  | C22-C21-C16 | 3.54  | 128.59      | 123.19   |
| 2   | r     | 201 | JNI  | N1-C2-N3    | 3.53  | 121.02      | 117.44   |
| 2   | f     | 201 | JNI  | N30-C31-N34 | 3.53  | 120.72      | 116.90   |
| 2   | f     | 202 | JNI  | N3-C2-N7    | -3.53 | 121.40      | 125.70   |
| 2   | X     | 202 | JNI  | C22-C21-C16 | 3.53  | 128.57      | 123.19   |
| 2   | f     | 201 | JNI  | N32-C31-N34 | 3.53  | 120.72      | 116.90   |
| 2   | R     | 201 | JNI  | C35-N34-C31 | -3.52 | 115.85      | 121.69   |
| 2   | v     | 201 | JNI  | C39-N34-C31 | -3.52 | 115.85      | 121.69   |
| 2   | L     | 201 | JNI  | C36-C35-N34 | 3.52  | 118.11      | 110.48   |
| 2   | A     | 202 | JNI  | N7-C6-N8    | 3.52  | 119.12      | 115.77   |
| 2   | V     | 201 | JNI  | C5-C6-N7    | -3.51 | 117.80      | 123.53   |
| 2   | f     | 201 | JNI  | C22-C21-C16 | 3.51  | 128.54      | 123.19   |
| 2   | F     | 201 | JNI  | C5-C6-N7    | -3.51 | 117.81      | 123.53   |
| 2   | Q     | 201 | JNI  | C10-C9-N8   | -3.50 | 108.32      | 113.98   |
| 2   | r     | 201 | JNI  | C5-C6-N7    | -3.49 | 117.83      | 123.53   |
| 2   | j     | 202 | JNI  | C5-C4-N3    | -3.49 | 119.62      | 123.96   |
| 2   | h     | 201 | JNI  | C22-C21-C16 | 3.49  | 128.51      | 123.19   |
| 2   | P     | 201 | JNI  | N3-C2-N7    | -3.49 | 121.45      | 125.70   |
| 2   | v     | 201 | JNI  | N32-C31-N30 | -3.48 | 121.19      | 127.06   |
| 2   | Z     | 202 | JNI  | N7-C6-N8    | 3.47  | 119.08      | 115.77   |
| 2   | P     | 201 | JNI  | C28-C29-N30 | -3.47 | 118.59      | 124.32   |
| 2   | p     | 202 | JNI  | C28-C29-N30 | -3.47 | 118.60      | 124.32   |
| 2   | C     | 201 | JNI  | C28-C29-N30 | -3.47 | 118.60      | 124.32   |
| 2   | l     | 201 | JNI  | C25-C26-C28 | -3.47 | 115.35      | 121.36   |
| 2   | h     | 202 | JNI  | N30-C31-N34 | 3.47  | 120.65      | 116.90   |
| 2   | P     | 202 | JNI  | C28-C29-N30 | -3.47 | 118.60      | 124.32   |
| 2   | H     | 202 | JNI  | C38-N37-C36 | 3.47  | 120.30      | 110.34   |
| 2   | p     | 202 | JNI  | C5-C4-N3    | -3.46 | 119.66      | 123.96   |
| 2   | A     | 201 | JNI  | C10-C9-N8   | -3.45 | 108.40      | 113.98   |
| 2   | H     | 201 | JNI  | C39-N34-C31 | -3.45 | 115.97      | 121.69   |
| 2   | f     | 201 | JNI  | C5-C4-N3    | -3.45 | 119.68      | 123.96   |
| 2   | J     | 202 | JNI  | C5-C4-N3    | -3.44 | 119.68      | 123.96   |
| 2   | n     | 202 | JNI  | C5-C4-N3    | -3.44 | 119.69      | 123.96   |
| 2   | p     | 201 | JNI  | C5-C4-N3    | -3.44 | 119.69      | 123.96   |
| 2   | b     | 202 | JNI  | C5-C6-N7    | -3.43 | 117.93      | 123.53   |
| 2   | n     | 202 | JNI  | C22-C21-C16 | 3.43  | 128.42      | 123.19   |
| 2   | h     | 201 | JNI  | C9-N8-C6    | 3.43  | 123.56      | 118.17   |
| 2   | A     | 202 | JNI  | C28-C29-N30 | -3.42 | 118.68      | 124.32   |
| 2   | H     | 201 | JNI  | N3-C2-N7    | -3.42 | 121.53      | 125.70   |
| 2   | r     | 202 | JNI  | C25-C26-C28 | -3.42 | 115.43      | 121.36   |
| 2   | V     | 201 | JNI  | C9-N8-C6    | 3.42  | 123.55      | 118.17   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 2   | l     | 201 | JNI  | N30-C31-N34 | 3.41  | 120.59      | 116.90   |
| 2   | j     | 202 | JNI  | C25-C26-C28 | -3.41 | 115.45      | 121.36   |
| 2   | V     | 201 | JNI  | N3-C2-N7    | -3.40 | 121.56      | 125.70   |
| 2   | H     | 201 | JNI  | C5-C6-N7    | -3.39 | 118.00      | 123.53   |
| 2   | L     | 201 | JNI  | N1-C2-N3    | 3.39  | 120.88      | 117.44   |
| 2   | J     | 202 | JNI  | N32-C31-N34 | 3.39  | 120.57      | 116.90   |
| 2   | R     | 201 | JNI  | C23-C22-C21 | -3.38 | 115.43      | 120.91   |
| 2   | F     | 202 | JNI  | C35-N34-C31 | -3.38 | 116.08      | 121.69   |
| 2   | R     | 201 | JNI  | C27-C22-C21 | 3.38  | 126.20      | 120.61   |
| 2   | j     | 202 | JNI  | N32-C31-N30 | -3.37 | 121.37      | 127.06   |
| 2   | N     | 201 | JNI  | C28-C33-N32 | -3.37 | 118.77      | 124.32   |
| 2   | A     | 201 | JNI  | N3-C2-N7    | -3.37 | 121.60      | 125.70   |
| 2   | t     | 201 | JNI  | C5-C6-N7    | -3.37 | 118.04      | 123.53   |
| 2   | H     | 201 | JNI  | C35-N34-C31 | -3.36 | 116.11      | 121.69   |
| 2   | b     | 201 | JNI  | C5-C4-N3    | -3.36 | 119.78      | 123.96   |
| 2   | h     | 201 | JNI  | C5-C6-N7    | -3.35 | 118.06      | 123.53   |
| 2   | Z     | 201 | JNI  | C5-C6-N7    | -3.35 | 118.06      | 123.53   |
| 2   | r     | 201 | JNI  | N7-C6-N8    | 3.35  | 118.96      | 115.77   |
| 2   | h     | 202 | JNI  | N32-C31-N34 | 3.35  | 120.52      | 116.90   |
| 2   | b     | 201 | JNI  | N1-C2-N3    | 3.34  | 120.83      | 117.44   |
| 2   | b     | 202 | JNI  | C25-C26-C28 | -3.34 | 115.56      | 121.36   |
| 2   | L     | 201 | JNI  | C23-C22-C21 | -3.34 | 115.50      | 120.91   |
| 2   | b     | 202 | JNI  | C39-N34-C31 | -3.34 | 116.15      | 121.69   |
| 2   | A     | 201 | JNI  | C5-C4-N3    | -3.34 | 119.81      | 123.96   |
| 2   | Q     | 201 | JNI  | C5-C4-N3    | -3.33 | 119.82      | 123.96   |
| 2   | U     | 201 | JNI  | C10-C9-N8   | -3.33 | 108.59      | 113.98   |
| 2   | R     | 201 | JNI  | C9-N8-C6    | 3.33  | 123.40      | 118.17   |
| 2   | r     | 202 | JNI  | C5-C4-N3    | -3.32 | 119.84      | 123.96   |
| 2   | A     | 202 | JNI  | N32-C31-N30 | -3.32 | 121.46      | 127.06   |
| 2   | V     | 201 | JNI  | C5-C4-N3    | -3.31 | 119.85      | 123.96   |
| 2   | V     | 202 | JNI  | N3-C2-N7    | -3.31 | 121.67      | 125.70   |
| 2   | J     | 202 | JNI  | N1-C2-N3    | 3.30  | 120.79      | 117.44   |
| 2   | l     | 201 | JNI  | C5-C4-N3    | -3.30 | 119.86      | 123.96   |
| 2   | C     | 201 | JNI  | C39-N34-C31 | -3.30 | 116.21      | 121.69   |
| 2   | A     | 202 | JNI  | C28-C33-N32 | -3.30 | 118.89      | 124.32   |
| 2   | f     | 201 | JNI  | C5-C6-N8    | 3.30  | 127.56      | 121.24   |
| 2   | L     | 201 | JNI  | C5-C6-N7    | -3.29 | 118.16      | 123.53   |
| 2   | P     | 202 | JNI  | N32-C31-N30 | -3.29 | 121.51      | 127.06   |
| 2   | C     | 202 | JNI  | C28-C33-N32 | -3.29 | 118.90      | 124.32   |
| 2   | A     | 201 | JNI  | C28-C29-N30 | -3.29 | 118.90      | 124.32   |
| 2   | j     | 202 | JNI  | C28-C33-N32 | -3.28 | 118.92      | 124.32   |
| 2   | o     | 201 | JNI  | C5-C4-N3    | -3.28 | 119.89      | 123.96   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 2   | t     | 202 | JNI  | C5-C4-N3    | -3.27 | 119.89      | 123.96   |
| 2   | d     | 201 | JNI  | C9-C10-C11  | -3.27 | 114.62      | 120.77   |
| 2   | v     | 202 | JNI  | C5-C4-N3    | -3.27 | 119.89      | 123.96   |
| 2   | Q     | 201 | JNI  | C5-C6-N7    | -3.27 | 118.20      | 123.53   |
| 2   | p     | 201 | JNI  | C5-C6-N7    | -3.26 | 118.21      | 123.53   |
| 2   | V     | 202 | JNI  | C33-C28-C26 | 3.26  | 127.38      | 121.69   |
| 2   | b     | 201 | JNI  | C16-N8-C6   | 3.26  | 124.83      | 121.20   |
| 2   | b     | 202 | JNI  | C10-C9-N8   | 3.26  | 119.24      | 113.98   |
| 2   | h     | 202 | JNI  | N7-C6-N8    | 3.26  | 118.87      | 115.77   |
| 2   | r     | 201 | JNI  | C35-N34-C31 | -3.25 | 116.29      | 121.69   |
| 2   | r     | 201 | JNI  | C39-N34-C31 | -3.25 | 116.30      | 121.69   |
| 2   | D     | 201 | JNI  | C5-C4-N3    | -3.25 | 119.92      | 123.96   |
| 2   | j     | 201 | JNI  | C27-C22-C21 | 3.25  | 125.99      | 120.61   |
| 2   | p     | 202 | JNI  | N32-C31-N34 | 3.24  | 120.41      | 116.90   |
| 2   | C     | 201 | JNI  | C16-N8-C6   | -3.24 | 117.59      | 121.20   |
| 2   | p     | 201 | JNI  | C28-C33-N32 | -3.24 | 118.98      | 124.32   |
| 2   | X     | 202 | JNI  | C28-C33-N32 | -3.23 | 118.99      | 124.32   |
| 2   | M     | 201 | JNI  | C28-C29-N30 | -3.23 | 118.99      | 124.32   |
| 2   | N     | 201 | JNI  | C5-C6-N7    | -3.22 | 118.27      | 123.53   |
| 2   | P     | 201 | JNI  | C35-N34-C31 | -3.22 | 116.35      | 121.69   |
| 2   | Q     | 201 | JNI  | C28-C29-N30 | -3.22 | 119.02      | 124.32   |
| 2   | N     | 201 | JNI  | C28-C29-N30 | -3.22 | 119.02      | 124.32   |
| 2   | Z     | 202 | JNI  | C5-C4-N3    | -3.21 | 119.97      | 123.96   |
| 2   | t     | 201 | JNI  | N1-C2-N3    | 3.21  | 120.70      | 117.44   |
| 2   | t     | 201 | JNI  | C5-C4-N3    | -3.21 | 119.97      | 123.96   |
| 2   | r     | 202 | JNI  | C35-N34-C31 | -3.20 | 116.39      | 121.69   |
| 2   | v     | 201 | JNI  | C28-C33-N32 | -3.20 | 119.05      | 124.32   |
| 2   | b     | 201 | JNI  | C23-C22-C21 | -3.20 | 115.73      | 120.91   |
| 2   | V     | 202 | JNI  | C5-C6-N7    | -3.19 | 118.32      | 123.53   |
| 2   | n     | 201 | JNI  | C23-C22-C21 | -3.18 | 115.76      | 120.91   |
| 2   | V     | 201 | JNI  | N32-C31-N34 | 3.18  | 120.34      | 116.90   |
| 2   | r     | 202 | JNI  | C27-C22-C21 | 3.18  | 125.88      | 120.61   |
| 2   | P     | 201 | JNI  | N30-C31-N34 | 3.17  | 120.33      | 116.90   |
| 2   | D     | 201 | JNI  | C28-C29-N30 | -3.17 | 119.09      | 124.32   |
| 2   | h     | 201 | JNI  | C5-C4-N3    | -3.17 | 120.02      | 123.96   |
| 2   | d     | 201 | JNI  | C9-N8-C6    | 3.16  | 123.15      | 118.17   |
| 2   | H     | 202 | JNI  | C5-C4-N3    | -3.16 | 120.04      | 123.96   |
| 2   | j     | 201 | JNI  | C5-C4-N3    | -3.16 | 120.04      | 123.96   |
| 2   | n     | 201 | JNI  | C5-C4-N3    | -3.15 | 120.04      | 123.96   |
| 2   | h     | 202 | JNI  | N1-C2-N3    | 3.15  | 120.64      | 117.44   |
| 2   | p     | 201 | JNI  | N1-C2-N3    | 3.14  | 120.63      | 117.44   |
| 2   | r     | 202 | JNI  | C9-N8-C6    | 3.14  | 123.11      | 118.17   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 2   | A     | 201 | JNI  | C28-C33-N32 | -3.14 | 119.14      | 124.32   |
| 2   | v     | 201 | JNI  | N1-C2-N3    | 3.12  | 120.60      | 117.44   |
| 2   | v     | 202 | JNI  | C17-C16-N8  | -3.11 | 113.62      | 119.23   |
| 2   | b     | 201 | JNI  | C10-C9-N8   | -3.11 | 108.95      | 113.98   |
| 2   | f     | 201 | JNI  | C4-N3-C2    | 3.11  | 119.42      | 116.24   |
| 2   | H     | 202 | JNI  | C17-C16-N8  | -3.11 | 113.63      | 119.23   |
| 2   | P     | 201 | JNI  | C28-C33-N32 | -3.09 | 119.23      | 124.32   |
| 2   | b     | 202 | JNI  | C5-C4-N3    | -3.08 | 120.13      | 123.96   |
| 2   | V     | 202 | JNI  | C25-C26-C28 | -3.08 | 116.02      | 121.36   |
| 2   | F     | 201 | JNI  | C28-C33-N32 | -3.06 | 119.28      | 124.32   |
| 2   | b     | 201 | JNI  | C17-C16-N8  | -3.06 | 113.72      | 119.23   |
| 2   | l     | 201 | JNI  | N3-C2-N7    | -3.04 | 121.99      | 125.70   |
| 2   | t     | 201 | JNI  | C28-C33-N32 | -3.04 | 119.31      | 124.32   |
| 2   | C     | 201 | JNI  | C28-C33-N32 | -3.03 | 119.32      | 124.32   |
| 2   | H     | 201 | JNI  | C10-C9-N8   | -3.03 | 109.08      | 113.98   |
| 2   | N     | 201 | JNI  | C10-C9-N8   | -3.03 | 109.09      | 113.98   |
| 2   | D     | 201 | JNI  | C5-C6-N7    | -3.02 | 118.60      | 123.53   |
| 2   | v     | 202 | JNI  | C35-N34-C31 | -3.02 | 116.68      | 121.69   |
| 2   | h     | 202 | JNI  | C17-C16-N8  | -3.02 | 113.79      | 119.23   |
| 2   | J     | 201 | JNI  | C5-C4-N3    | -3.02 | 120.21      | 123.96   |
| 2   | t     | 202 | JNI  | C5-C6-N7    | -3.02 | 118.61      | 123.53   |
| 2   | A     | 202 | JNI  | C9-N8-C16   | 3.01  | 123.31      | 117.78   |
| 2   | F     | 202 | JNI  | C39-N34-C35 | 3.01  | 118.15      | 111.52   |
| 2   | r     | 201 | JNI  | C28-C33-N32 | -3.00 | 119.37      | 124.32   |
| 2   | M     | 201 | JNI  | C5-C4-N3    | -3.00 | 120.23      | 123.96   |
| 2   | r     | 201 | JNI  | N32-C31-N34 | 2.99  | 120.14      | 116.90   |
| 2   | V     | 201 | JNI  | C28-C33-N32 | -2.99 | 119.39      | 124.32   |
| 2   | J     | 201 | JNI  | N30-C31-N34 | 2.99  | 120.13      | 116.90   |
| 2   | b     | 201 | JNI  | C27-C22-C21 | 2.98  | 125.54      | 120.61   |
| 2   | F     | 202 | JNI  | C28-C33-N32 | -2.97 | 119.42      | 124.32   |
| 2   | l     | 201 | JNI  | N32-C31-N34 | 2.97  | 120.12      | 116.90   |
| 2   | J     | 202 | JNI  | C28-C29-N30 | -2.97 | 119.42      | 124.32   |
| 2   | n     | 202 | JNI  | N30-C31-N34 | 2.97  | 120.11      | 116.90   |
| 2   | Z     | 201 | JNI  | C28-C33-N32 | -2.97 | 119.43      | 124.32   |
| 2   | Z     | 201 | JNI  | N1-C2-N3    | 2.97  | 120.45      | 117.44   |
| 2   | X     | 201 | JNI  | C5-C4-N3    | -2.96 | 120.28      | 123.96   |
| 2   | X     | 202 | JNI  | C5-C4-N3    | -2.96 | 120.28      | 123.96   |
| 2   | p     | 202 | JNI  | C28-C33-N32 | -2.96 | 119.44      | 124.32   |
| 2   | v     | 201 | JNI  | C5-C4-N3    | -2.96 | 120.28      | 123.96   |
| 2   | H     | 202 | JNI  | C38-C39-N34 | 2.95  | 116.87      | 110.48   |
| 2   | n     | 201 | JNI  | C28-C29-N30 | -2.94 | 119.47      | 124.32   |
| 2   | o     | 201 | JNI  | C28-C29-N30 | -2.94 | 119.48      | 124.32   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 2   | F     | 201 | JNI  | C27-C22-C21 | 2.93  | 125.47      | 120.61   |
| 2   | X     | 201 | JNI  | C28-C29-N30 | -2.93 | 119.48      | 124.32   |
| 2   | t     | 202 | JNI  | N30-C31-N34 | 2.93  | 120.07      | 116.90   |
| 2   | h     | 201 | JNI  | C27-C26-C28 | 2.93  | 125.70      | 120.86   |
| 2   | j     | 201 | JNI  | C28-C33-N32 | -2.92 | 119.50      | 124.32   |
| 2   | v     | 202 | JNI  | C28-C33-N32 | -2.92 | 119.50      | 124.32   |
| 2   | n     | 201 | JNI  | C28-C33-N32 | -2.92 | 119.51      | 124.32   |
| 2   | n     | 201 | JNI  | C25-C26-C28 | -2.91 | 116.31      | 121.36   |
| 2   | r     | 201 | JNI  | C25-C26-C28 | -2.91 | 116.32      | 121.36   |
| 2   | v     | 202 | JNI  | C25-C26-C28 | -2.90 | 116.32      | 121.36   |
| 2   | V     | 202 | JNI  | C35-N34-C31 | -2.90 | 116.88      | 121.69   |
| 2   | t     | 201 | JNI  | N3-C2-N7    | -2.90 | 122.17      | 125.70   |
| 2   | h     | 201 | JNI  | C28-C29-N30 | -2.90 | 119.54      | 124.32   |
| 2   | H     | 202 | JNI  | C25-C26-C28 | -2.89 | 116.34      | 121.36   |
| 2   | C     | 202 | JNI  | N3-C2-N7    | -2.89 | 122.18      | 125.70   |
| 2   | r     | 202 | JNI  | C28-C29-N30 | -2.89 | 119.56      | 124.32   |
| 2   | p     | 202 | JNI  | C5-C6-N7    | -2.89 | 118.82      | 123.53   |
| 2   | f     | 201 | JNI  | N3-C2-N7    | -2.88 | 122.19      | 125.70   |
| 2   | h     | 202 | JNI  | C5-C4-N3    | -2.88 | 120.38      | 123.96   |
| 2   | b     | 202 | JNI  | N1-C2-N7    | 2.87  | 121.72      | 117.25   |
| 2   | Z     | 202 | JNI  | C28-C29-N30 | -2.87 | 119.59      | 124.32   |
| 2   | t     | 202 | JNI  | C28-C29-N30 | -2.86 | 119.60      | 124.32   |
| 2   | v     | 201 | JNI  | C25-C26-C28 | -2.86 | 116.40      | 121.36   |
| 2   | p     | 202 | JNI  | C23-C22-C21 | -2.86 | 116.28      | 120.91   |
| 2   | r     | 202 | JNI  | C22-C21-C16 | 2.86  | 127.55      | 123.19   |
| 2   | p     | 202 | JNI  | C20-C21-C22 | -2.85 | 113.05      | 118.68   |
| 2   | b     | 201 | JNI  | C35-N34-C31 | -2.85 | 116.97      | 121.69   |
| 2   | v     | 201 | JNI  | C29-C28-C26 | -2.84 | 116.74      | 121.69   |
| 2   | j     | 202 | JNI  | C28-C29-N30 | -2.84 | 119.64      | 124.32   |
| 2   | C     | 201 | JNI  | C17-C16-N8  | -2.84 | 114.12      | 119.23   |
| 2   | j     | 202 | JNI  | C20-C21-C16 | -2.83 | 115.15      | 117.86   |
| 2   | X     | 202 | JNI  | C19-C20-C21 | 2.82  | 125.09      | 120.33   |
| 2   | n     | 202 | JNI  | C28-C33-N32 | -2.81 | 119.68      | 124.32   |
| 2   | J     | 201 | JNI  | N32-C31-N34 | 2.81  | 119.94      | 116.90   |
| 2   | h     | 202 | JNI  | C28-C33-N32 | -2.81 | 119.69      | 124.32   |
| 2   | n     | 201 | JNI  | C27-C22-C21 | 2.81  | 125.26      | 120.61   |
| 2   | D     | 201 | JNI  | C28-C33-N32 | -2.81 | 119.69      | 124.32   |
| 2   | Z     | 201 | JNI  | C5-C4-N3    | -2.79 | 120.49      | 123.96   |
| 2   | l     | 201 | JNI  | C39-N34-C31 | -2.79 | 117.06      | 121.69   |
| 2   | n     | 201 | JNI  | C22-C21-C16 | 2.79  | 127.44      | 123.19   |
| 2   | X     | 202 | JNI  | N1-C2-N7    | 2.78  | 121.58      | 117.25   |
| 2   | v     | 202 | JNI  | C27-C22-C21 | 2.78  | 125.22      | 120.61   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 2   | X     | 201 | JNI  | C10-C9-N8   | -2.78 | 109.49      | 113.98   |
| 2   | f     | 201 | JNI  | C9-N8-C6    | 2.77  | 122.53      | 118.17   |
| 2   | H     | 201 | JNI  | C28-C33-N32 | -2.77 | 119.75      | 124.32   |
| 2   | d     | 201 | JNI  | C28-C33-N32 | -2.77 | 119.75      | 124.32   |
| 2   | v     | 202 | JNI  | C39-N34-C31 | -2.76 | 117.11      | 121.69   |
| 2   | p     | 201 | JNI  | C28-C29-N30 | -2.76 | 119.77      | 124.32   |
| 2   | f     | 202 | JNI  | C5-C6-N7    | -2.76 | 119.03      | 123.53   |
| 2   | P     | 202 | JNI  | C28-C33-N32 | -2.76 | 119.78      | 124.32   |
| 2   | J     | 202 | JNI  | C25-C26-C28 | -2.76 | 116.58      | 121.36   |
| 2   | t     | 201 | JNI  | N32-C31-N34 | 2.75  | 119.88      | 116.90   |
| 2   | H     | 202 | JNI  | C35-C36-N37 | 2.75  | 118.24      | 111.12   |
| 2   | J     | 202 | JNI  | C28-C33-N32 | -2.75 | 119.79      | 124.32   |
| 2   | Z     | 202 | JNI  | C16-N8-C6   | 2.74  | 124.26      | 121.20   |
| 2   | V     | 201 | JNI  | N7-C6-N8    | 2.74  | 118.38      | 115.77   |
| 2   | j     | 201 | JNI  | C9-N8-C16   | 2.74  | 122.82      | 117.78   |
| 2   | X     | 201 | JNI  | C39-N34-C35 | 2.74  | 117.57      | 111.52   |
| 2   | C     | 202 | JNI  | C28-C29-N30 | -2.74 | 119.80      | 124.32   |
| 2   | n     | 202 | JNI  | C19-C20-C21 | 2.73  | 124.95      | 120.33   |
| 2   | t     | 202 | JNI  | C16-N8-C6   | -2.72 | 118.17      | 121.20   |
| 2   | l     | 201 | JNI  | N7-C6-N8    | 2.71  | 118.35      | 115.77   |
| 2   | C     | 202 | JNI  | C5-C6-N7    | -2.71 | 119.11      | 123.53   |
| 2   | b     | 201 | JNI  | C28-C29-N30 | -2.70 | 119.86      | 124.32   |
| 2   | f     | 201 | JNI  | C28-C33-N32 | -2.69 | 119.88      | 124.32   |
| 2   | r     | 202 | JNI  | C28-C33-N32 | -2.69 | 119.88      | 124.32   |
| 2   | M     | 201 | JNI  | C5-C6-N8    | 2.69  | 126.40      | 121.24   |
| 2   | n     | 202 | JNI  | C28-C29-N30 | -2.68 | 119.90      | 124.32   |
| 2   | h     | 201 | JNI  | N7-C6-N8    | 2.68  | 118.32      | 115.77   |
| 2   | X     | 201 | JNI  | C5-C6-N8    | 2.67  | 126.36      | 121.24   |
| 2   | v     | 201 | JNI  | C28-C29-N30 | -2.67 | 119.92      | 124.32   |
| 2   | X     | 202 | JNI  | C9-N8-C6    | 2.67  | 122.37      | 118.17   |
| 2   | b     | 202 | JNI  | C23-C22-C27 | -2.66 | 114.40      | 118.16   |
| 2   | b     | 201 | JNI  | C27-C26-C28 | 2.66  | 125.26      | 120.86   |
| 2   | R     | 201 | JNI  | C28-C33-N32 | -2.66 | 119.94      | 124.32   |
| 2   | j     | 202 | JNI  | C39-N34-C31 | -2.66 | 117.28      | 121.69   |
| 2   | p     | 202 | JNI  | C25-C26-C28 | -2.65 | 116.77      | 121.36   |
| 2   | d     | 201 | JNI  | C27-C22-C21 | 2.64  | 124.99      | 120.61   |
| 2   | N     | 201 | JNI  | N3-C2-N7    | -2.64 | 122.48      | 125.70   |
| 2   | l     | 201 | JNI  | C10-C9-N8   | -2.64 | 109.71      | 113.98   |
| 2   | b     | 202 | JNI  | C16-N8-C6   | 2.64  | 124.14      | 121.20   |
| 2   | U     | 201 | JNI  | C5-C4-N3    | -2.64 | 120.68      | 123.96   |
| 2   | h     | 202 | JNI  | C28-C29-N30 | -2.64 | 119.97      | 124.32   |
| 2   | b     | 202 | JNI  | C19-C20-C21 | 2.63  | 124.77      | 120.33   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 2   | h     | 202 | JNI  | C22-C21-C16 | 2.63  | 127.19      | 123.19   |
| 2   | L     | 201 | JNI  | C29-C28-C26 | 2.62  | 126.27      | 121.69   |
| 2   | n     | 202 | JNI  | N1-C2-N3    | 2.62  | 120.10      | 117.44   |
| 2   | b     | 202 | JNI  | C24-C23-C22 | 2.62  | 123.85      | 120.56   |
| 2   | R     | 201 | JNI  | C28-C29-N30 | -2.61 | 120.01      | 124.32   |
| 2   | A     | 201 | JNI  | C5-C6-N7    | -2.61 | 119.27      | 123.53   |
| 2   | f     | 202 | JNI  | C28-C33-N32 | -2.60 | 120.03      | 124.32   |
| 2   | t     | 201 | JNI  | C28-C29-N30 | -2.60 | 120.04      | 124.32   |
| 2   | U     | 201 | JNI  | C5-C6-N8    | 2.59  | 126.21      | 121.24   |
| 2   | X     | 202 | JNI  | C25-C26-C28 | -2.59 | 116.87      | 121.36   |
| 2   | J     | 201 | JNI  | C28-C29-N30 | -2.59 | 120.05      | 124.32   |
| 2   | n     | 201 | JNI  | C5-C6-N7    | -2.59 | 119.31      | 123.53   |
| 2   | M     | 201 | JNI  | C28-C33-N32 | -2.58 | 120.07      | 124.32   |
| 2   | F     | 201 | JNI  | C39-N34-C31 | -2.58 | 117.41      | 121.69   |
| 2   | H     | 202 | JNI  | C16-N8-C6   | 2.58  | 124.07      | 121.20   |
| 2   | f     | 201 | JNI  | C28-C29-N30 | -2.58 | 120.07      | 124.32   |
| 2   | r     | 201 | JNI  | C28-C29-N30 | -2.57 | 120.08      | 124.32   |
| 2   | A     | 202 | JNI  | C29-C28-C33 | 2.57  | 118.67      | 114.66   |
| 2   | v     | 201 | JNI  | C17-C16-N8  | -2.56 | 114.62      | 119.23   |
| 2   | U     | 201 | JNI  | C16-N8-C6   | 2.56  | 124.05      | 121.20   |
| 2   | L     | 201 | JNI  | C9-N8-C16   | -2.56 | 113.08      | 117.78   |
| 2   | H     | 201 | JNI  | C28-C29-N30 | -2.55 | 120.11      | 124.32   |
| 2   | Z     | 202 | JNI  | C5-C6-N7    | -2.55 | 119.37      | 123.53   |
| 2   | N     | 201 | JNI  | N30-C31-N34 | 2.54  | 119.65      | 116.90   |
| 2   | Z     | 202 | JNI  | N1-C2-N3    | 2.53  | 120.01      | 117.44   |
| 2   | d     | 201 | JNI  | C23-C22-C21 | -2.53 | 116.81      | 120.91   |
| 2   | t     | 201 | JNI  | C9-N8-C6    | 2.53  | 122.15      | 118.17   |
| 2   | V     | 202 | JNI  | C28-C29-N30 | -2.53 | 120.15      | 124.32   |
| 2   | U     | 201 | JNI  | C28-C33-N32 | -2.53 | 120.15      | 124.32   |
| 2   | X     | 201 | JNI  | C25-C26-C28 | -2.52 | 116.99      | 121.36   |
| 2   | l     | 201 | JNI  | C9-N8-C6    | 2.52  | 122.14      | 118.17   |
| 2   | b     | 202 | JNI  | C27-C26-C28 | 2.52  | 125.03      | 120.86   |
| 2   | R     | 201 | JNI  | C25-C26-C28 | -2.52 | 117.00      | 121.36   |
| 2   | F     | 202 | JNI  | N1-C2-N3    | 2.51  | 119.99      | 117.44   |
| 2   | C     | 202 | JNI  | C22-C21-C16 | -2.50 | 119.37      | 123.19   |
| 2   | R     | 201 | JNI  | C5-C6-N7    | -2.50 | 119.45      | 123.53   |
| 2   | t     | 202 | JNI  | C28-C33-N32 | -2.50 | 120.20      | 124.32   |
| 2   | d     | 201 | JNI  | C9-C10-C15  | 2.50  | 125.46      | 120.77   |
| 2   | F     | 201 | JNI  | C28-C29-N30 | -2.49 | 120.21      | 124.32   |
| 2   | U     | 201 | JNI  | C22-C21-C16 | 2.49  | 126.99      | 123.19   |
| 2   | L     | 201 | JNI  | C5-C4-N3    | -2.49 | 120.86      | 123.96   |
| 2   | l     | 201 | JNI  | C28-C29-N30 | -2.49 | 120.22      | 124.32   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 2   | X     | 201 | JNI  | C28-C33-N32 | -2.48 | 120.22      | 124.32   |
| 2   | C     | 202 | JNI  | C10-C9-N8   | -2.48 | 109.97      | 113.98   |
| 2   | t     | 201 | JNI  | C25-C26-C28 | -2.48 | 117.06      | 121.36   |
| 2   | f     | 201 | JNI  | C20-C21-C22 | -2.48 | 113.79      | 118.68   |
| 2   | J     | 202 | JNI  | C5-C6-N7    | -2.48 | 119.49      | 123.53   |
| 2   | Z     | 202 | JNI  | C28-C33-N32 | -2.47 | 120.24      | 124.32   |
| 2   | L     | 201 | JNI  | C23-C22-C27 | -2.47 | 114.67      | 118.16   |
| 2   | F     | 201 | JNI  | N1-C2-N3    | 2.47  | 119.94      | 117.44   |
| 2   | b     | 202 | JNI  | C28-C29-N30 | -2.47 | 120.25      | 124.32   |
| 2   | t     | 202 | JNI  | C27-C22-C21 | 2.47  | 124.70      | 120.61   |
| 2   | h     | 201 | JNI  | C27-C22-C21 | 2.46  | 124.69      | 120.61   |
| 2   | J     | 201 | JNI  | C20-C21-C16 | 2.46  | 120.21      | 117.86   |
| 2   | X     | 202 | JNI  | C9-N8-C16   | -2.45 | 113.27      | 117.78   |
| 2   | F     | 202 | JNI  | C29-C28-C33 | 2.45  | 118.48      | 114.66   |
| 2   | j     | 202 | JNI  | C27-C22-C21 | 2.45  | 124.67      | 120.61   |
| 2   | b     | 201 | JNI  | C22-C21-C16 | 2.45  | 126.92      | 123.19   |
| 2   | p     | 202 | JNI  | C17-C16-N8  | -2.44 | 114.83      | 119.23   |
| 2   | v     | 202 | JNI  | C10-C9-N8   | 2.44  | 117.92      | 113.98   |
| 2   | D     | 201 | JNI  | N1-C2-N3    | 2.44  | 119.91      | 117.44   |
| 2   | v     | 202 | JNI  | N1-C2-N7    | 2.43  | 121.04      | 117.25   |
| 2   | o     | 201 | JNI  | C28-C33-N32 | -2.43 | 120.31      | 124.32   |
| 2   | X     | 202 | JNI  | C29-C28-C26 | -2.43 | 117.46      | 121.69   |
| 2   | h     | 201 | JNI  | C28-C33-N32 | -2.43 | 120.32      | 124.32   |
| 2   | r     | 202 | JNI  | C18-C17-C16 | 2.43  | 123.35      | 118.26   |
| 2   | X     | 202 | JNI  | C33-C28-C26 | 2.43  | 125.92      | 121.69   |
| 2   | b     | 201 | JNI  | C25-C26-C28 | -2.42 | 117.16      | 121.36   |
| 2   | Z     | 202 | JNI  | C39-N34-C31 | -2.42 | 117.67      | 121.69   |
| 2   | N     | 201 | JNI  | C29-C28-C33 | 2.42  | 118.43      | 114.66   |
| 2   | C     | 201 | JNI  | C20-C21-C22 | -2.42 | 113.90      | 118.68   |
| 2   | P     | 201 | JNI  | C29-C28-C33 | 2.41  | 118.43      | 114.66   |
| 2   | X     | 202 | JNI  | C16-N8-C6   | 2.41  | 123.89      | 121.20   |
| 2   | Z     | 202 | JNI  | C35-N34-C31 | -2.41 | 117.69      | 121.69   |
| 2   | V     | 201 | JNI  | C28-C29-N30 | -2.41 | 120.34      | 124.32   |
| 2   | P     | 201 | JNI  | C5-C6-N7    | -2.41 | 119.59      | 123.53   |
| 2   | l     | 201 | JNI  | C36-C35-N34 | 2.40  | 115.69      | 110.48   |
| 2   | p     | 202 | JNI  | C16-N8-C6   | -2.40 | 118.52      | 121.20   |
| 2   | f     | 201 | JNI  | N1-C2-N7    | -2.40 | 113.52      | 117.25   |
| 2   | Z     | 202 | JNI  | C25-C26-C28 | -2.40 | 117.20      | 121.36   |
| 2   | U     | 201 | JNI  | C28-C29-N30 | -2.40 | 120.37      | 124.32   |
| 2   | J     | 201 | JNI  | C9-N8-C6    | 2.39  | 121.94      | 118.17   |
| 2   | X     | 201 | JNI  | C23-C22-C21 | -2.39 | 117.03      | 120.91   |
| 2   | P     | 201 | JNI  | C9-N8-C16   | 2.39  | 122.18      | 117.78   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 2   | b     | 202 | JNI  | C28-C33-N32 | -2.39 | 120.38      | 124.32   |
| 2   | v     | 201 | JNI  | N30-C31-N34 | -2.38 | 114.31      | 116.90   |
| 2   | r     | 201 | JNI  | C27-C26-C28 | 2.38  | 124.80      | 120.86   |
| 2   | h     | 201 | JNI  | N1-C2-N3    | 2.37  | 119.85      | 117.44   |
| 2   | X     | 202 | JNI  | C18-C17-C16 | 2.37  | 123.22      | 118.26   |
| 2   | r     | 202 | JNI  | C16-N8-C6   | -2.37 | 118.56      | 121.20   |
| 2   | f     | 202 | JNI  | N1-C2-N3    | 2.36  | 119.83      | 117.44   |
| 2   | R     | 201 | JNI  | C27-C26-C28 | 2.36  | 124.76      | 120.86   |
| 2   | Z     | 202 | JNI  | N32-C31-N34 | 2.36  | 119.45      | 116.90   |
| 2   | v     | 202 | JNI  | C28-C29-N30 | -2.36 | 120.44      | 124.32   |
| 2   | P     | 202 | JNI  | C5-C6-N7    | -2.35 | 119.69      | 123.53   |
| 2   | F     | 201 | JNI  | C23-C22-C21 | -2.35 | 117.10      | 120.91   |
| 2   | j     | 202 | JNI  | C38-N37-C36 | 2.35  | 117.09      | 110.34   |
| 2   | d     | 201 | JNI  | C35-N34-C31 | -2.35 | 117.80      | 121.69   |
| 2   | P     | 202 | JNI  | N32-C31-N34 | 2.34  | 119.44      | 116.90   |
| 2   | A     | 201 | JNI  | C9-N8-C6    | 2.34  | 121.86      | 118.17   |
| 2   | L     | 201 | JNI  | C24-C23-C22 | 2.34  | 123.50      | 120.56   |
| 2   | M     | 201 | JNI  | C16-N8-C6   | 2.34  | 123.81      | 121.20   |
| 2   | Q     | 201 | JNI  | N1-C2-N3    | 2.33  | 119.81      | 117.44   |
| 2   | F     | 202 | JNI  | C33-C28-C26 | -2.33 | 117.63      | 121.69   |
| 2   | X     | 202 | JNI  | C27-C22-C21 | 2.33  | 124.46      | 120.61   |
| 2   | L     | 201 | JNI  | C35-C36-N37 | 2.32  | 117.14      | 111.12   |
| 2   | r     | 202 | JNI  | C39-N34-C31 | -2.32 | 117.84      | 121.69   |
| 2   | r     | 201 | JNI  | C17-C16-N8  | -2.32 | 115.05      | 119.23   |
| 2   | M     | 201 | JNI  | C18-C17-C16 | 2.32  | 123.12      | 118.26   |
| 2   | v     | 201 | JNI  | C33-C28-C26 | 2.32  | 125.74      | 121.69   |
| 2   | r     | 202 | JNI  | C19-C20-C21 | 2.31  | 124.23      | 120.33   |
| 2   | Q     | 201 | JNI  | C28-C33-N32 | -2.31 | 120.52      | 124.32   |
| 2   | Z     | 201 | JNI  | C28-C29-N30 | -2.31 | 120.52      | 124.32   |
| 2   | H     | 202 | JNI  | N1-C2-N7    | 2.30  | 120.83      | 117.25   |
| 2   | h     | 201 | JNI  | C16-N8-C6   | -2.30 | 118.64      | 121.20   |
| 2   | L     | 201 | JNI  | C25-C26-C28 | -2.30 | 117.38      | 121.36   |
| 2   | L     | 201 | JNI  | C19-C20-C21 | 2.29  | 124.19      | 120.33   |
| 2   | F     | 201 | JNI  | C5-C4-N3    | -2.28 | 121.12      | 123.96   |
| 2   | n     | 201 | JNI  | N1-C2-N3    | 2.28  | 119.75      | 117.44   |
| 2   | C     | 201 | JNI  | C29-C28-C33 | 2.28  | 118.21      | 114.66   |
| 2   | p     | 202 | JNI  | N30-C31-N34 | 2.28  | 119.36      | 116.90   |
| 2   | V     | 202 | JNI  | C39-N34-C31 | -2.27 | 117.92      | 121.69   |
| 2   | Z     | 201 | JNI  | C38-N37-C36 | 2.27  | 116.87      | 110.34   |
| 2   | V     | 202 | JNI  | C29-C28-C33 | 2.27  | 118.20      | 114.66   |
| 2   | L     | 201 | JNI  | C18-C17-C16 | 2.26  | 123.00      | 118.26   |
| 2   | L     | 201 | JNI  | C28-C29-N30 | -2.26 | 120.60      | 124.32   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 2   | b     | 201 | JNI  | C5-C6-N8    | 2.26  | 125.57      | 121.24   |
| 2   | Z     | 202 | JNI  | C23-C22-C21 | -2.26 | 117.25      | 120.91   |
| 2   | C     | 202 | JNI  | C9-N8-C16   | 2.25  | 121.92      | 117.78   |
| 2   | L     | 201 | JNI  | C38-N37-C36 | 2.25  | 116.81      | 110.34   |
| 2   | H     | 202 | JNI  | C20-C21-C22 | -2.25 | 114.24      | 118.68   |
| 2   | f     | 202 | JNI  | C22-C21-C16 | 2.25  | 126.62      | 123.19   |
| 2   | M     | 201 | JNI  | C25-C26-C28 | -2.25 | 117.47      | 121.36   |
| 2   | C     | 201 | JNI  | C5-C6-N7    | -2.24 | 119.87      | 123.53   |
| 2   | A     | 202 | JNI  | C5-C6-N7    | -2.24 | 119.87      | 123.53   |
| 2   | v     | 202 | JNI  | C22-C21-C16 | 2.24  | 126.61      | 123.19   |
| 2   | n     | 202 | JNI  | C24-C23-C22 | 2.24  | 123.37      | 120.56   |
| 2   | U     | 201 | JNI  | C17-C16-N8  | -2.23 | 115.20      | 119.23   |
| 2   | P     | 202 | JNI  | C29-C28-C33 | 2.23  | 118.14      | 114.66   |
| 2   | r     | 201 | JNI  | N30-C31-N34 | 2.23  | 119.31      | 116.90   |
| 2   | U     | 201 | JNI  | C20-C21-C22 | -2.23 | 114.28      | 118.68   |
| 2   | P     | 202 | JNI  | C5-C4-N3    | -2.22 | 121.20      | 123.96   |
| 2   | C     | 202 | JNI  | C20-C21-C16 | 2.22  | 119.99      | 117.86   |
| 2   | t     | 202 | JNI  | C25-C26-C28 | -2.22 | 117.50      | 121.36   |
| 2   | d     | 201 | JNI  | C28-C29-N30 | -2.22 | 120.66      | 124.32   |
| 2   | l     | 201 | JNI  | N1-C2-N3    | 2.21  | 119.68      | 117.44   |
| 2   | h     | 201 | JNI  | C38-C39-N34 | 2.21  | 115.26      | 110.48   |
| 2   | l     | 201 | JNI  | C39-N34-C35 | 2.20  | 116.38      | 111.52   |
| 2   | p     | 202 | JNI  | N1-C2-N7    | 2.20  | 120.67      | 117.25   |
| 2   | F     | 201 | JNI  | N7-C6-N8    | 2.20  | 117.86      | 115.77   |
| 2   | H     | 202 | JNI  | C28-C29-N30 | -2.19 | 120.71      | 124.32   |
| 2   | n     | 202 | JNI  | C23-C22-C21 | -2.19 | 117.36      | 120.91   |
| 2   | j     | 202 | JNI  | C36-C35-N34 | -2.19 | 105.75      | 110.48   |
| 2   | X     | 201 | JNI  | C27-C26-C28 | 2.18  | 124.47      | 120.86   |
| 2   | v     | 201 | JNI  | C35-N34-C31 | -2.18 | 118.07      | 121.69   |
| 2   | r     | 202 | JNI  | C27-C26-C28 | 2.18  | 124.47      | 120.86   |
| 2   | n     | 201 | JNI  | N30-C31-N34 | 2.17  | 119.25      | 116.90   |
| 2   | H     | 202 | JNI  | C18-C17-C16 | 2.17  | 122.81      | 118.26   |
| 2   | N     | 201 | JNI  | N32-C31-N34 | 2.17  | 119.24      | 116.90   |
| 2   | X     | 202 | JNI  | C24-C23-C22 | 2.17  | 123.28      | 120.56   |
| 2   | L     | 201 | JNI  | C27-C26-C28 | 2.16  | 124.44      | 120.86   |
| 2   | Z     | 201 | JNI  | C39-N34-C35 | 2.16  | 116.29      | 111.52   |
| 2   | b     | 202 | JNI  | C18-C17-C16 | 2.16  | 122.79      | 118.26   |
| 2   | t     | 202 | JNI  | C9-N8-C6    | 2.16  | 121.56      | 118.17   |
| 2   | Z     | 202 | JNI  | C29-C28-C26 | 2.15  | 125.45      | 121.69   |
| 2   | J     | 202 | JNI  | N7-C6-N8    | 2.15  | 117.82      | 115.77   |
| 2   | j     | 202 | JNI  | C19-C20-C21 | 2.15  | 123.96      | 120.33   |
| 2   | R     | 201 | JNI  | C38-N37-C36 | 2.15  | 116.51      | 110.34   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 2   | o     | 201 | JNI  | C20-C21-C22 | -2.15 | 114.44      | 118.68   |
| 2   | p     | 202 | JNI  | C27-C22-C21 | 2.15  | 124.17      | 120.61   |
| 2   | j     | 202 | JNI  | C29-C28-C33 | 2.15  | 118.01      | 114.66   |
| 2   | A     | 201 | JNI  | C29-C28-C33 | 2.14  | 118.00      | 114.66   |
| 2   | p     | 202 | JNI  | C29-C28-C33 | 2.14  | 118.00      | 114.66   |
| 2   | t     | 201 | JNI  | C27-C26-C28 | 2.14  | 124.39      | 120.86   |
| 2   | n     | 201 | JNI  | C16-N8-C6   | -2.13 | 118.83      | 121.20   |
| 2   | J     | 202 | JNI  | N30-C31-N34 | 2.13  | 119.20      | 116.90   |
| 2   | l     | 201 | JNI  | C28-C33-N32 | -2.13 | 120.81      | 124.32   |
| 2   | o     | 201 | JNI  | C22-C21-C16 | 2.13  | 126.43      | 123.19   |
| 2   | j     | 201 | JNI  | C5-C6-N8    | 2.13  | 125.32      | 121.24   |
| 2   | h     | 201 | JNI  | C17-C16-N8  | -2.12 | 115.41      | 119.23   |
| 2   | C     | 201 | JNI  | N1-C2-N7    | 2.12  | 120.55      | 117.25   |
| 2   | p     | 202 | JNI  | C9-N8-C6    | 2.12  | 121.50      | 118.17   |
| 2   | d     | 201 | JNI  | N1-C2-N3    | 2.11  | 119.58      | 117.44   |
| 2   | n     | 202 | JNI  | C18-C17-C16 | 2.11  | 122.69      | 118.26   |
| 2   | J     | 201 | JNI  | C29-C28-C33 | 2.11  | 117.95      | 114.66   |
| 2   | r     | 202 | JNI  | C23-C22-C27 | -2.10 | 115.19      | 118.16   |
| 2   | A     | 202 | JNI  | C25-C26-C28 | -2.10 | 117.72      | 121.36   |
| 2   | p     | 201 | JNI  | N7-C6-N8    | 2.09  | 117.76      | 115.77   |
| 2   | j     | 201 | JNI  | C18-C17-C16 | 2.09  | 122.64      | 118.26   |
| 2   | X     | 201 | JNI  | C38-C39-N34 | 2.09  | 115.00      | 110.48   |
| 2   | t     | 202 | JNI  | C20-C21-C22 | -2.09 | 114.56      | 118.68   |
| 2   | F     | 202 | JNI  | C20-C21-C16 | 2.08  | 119.85      | 117.86   |
| 2   | V     | 201 | JNI  | C38-N37-C36 | 2.08  | 116.32      | 110.34   |
| 2   | Z     | 202 | JNI  | C33-C28-C26 | -2.08 | 118.08      | 121.69   |
| 2   | F     | 202 | JNI  | C5-C6-N7    | -2.07 | 120.15      | 123.53   |
| 2   | A     | 202 | JNI  | N1-C2-N3    | 2.07  | 119.54      | 117.44   |
| 2   | j     | 201 | JNI  | C22-C21-C16 | 2.07  | 126.34      | 123.19   |
| 2   | n     | 201 | JNI  | C36-C35-N34 | 2.07  | 114.96      | 110.48   |
| 2   | r     | 202 | JNI  | C24-C23-C22 | 2.06  | 123.15      | 120.56   |
| 2   | n     | 201 | JNI  | C17-C16-N8  | -2.06 | 115.52      | 119.23   |
| 2   | f     | 202 | JNI  | C28-C29-N30 | -2.06 | 120.93      | 124.32   |
| 2   | F     | 201 | JNI  | C38-N37-C36 | 2.06  | 116.25      | 110.34   |
| 2   | j     | 201 | JNI  | C17-C16-N8  | -2.06 | 115.53      | 119.23   |
| 2   | r     | 202 | JNI  | C10-C9-N8   | 2.05  | 117.30      | 113.98   |
| 2   | v     | 201 | JNI  | C27-C26-C28 | 2.05  | 124.25      | 120.86   |
| 2   | D     | 201 | JNI  | C20-C21-C16 | 2.05  | 119.82      | 117.86   |
| 2   | C     | 201 | JNI  | C27-C26-C28 | 2.05  | 124.25      | 120.86   |
| 2   | P     | 201 | JNI  | C25-C26-C28 | -2.05 | 117.81      | 121.36   |
| 2   | X     | 202 | JNI  | C28-C29-N30 | -2.04 | 120.95      | 124.32   |
| 2   | r     | 201 | JNI  | C16-N8-C6   | -2.04 | 118.93      | 121.20   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 2   | V     | 201 | JNI  | C22-C21-C16 | 2.04  | 126.30      | 123.19   |
| 2   | t     | 202 | JNI  | C22-C21-C16 | 2.04  | 126.30      | 123.19   |
| 2   | h     | 202 | JNI  | C20-C21-C22 | -2.03 | 114.67      | 118.68   |
| 2   | o     | 201 | JNI  | C17-C16-N8  | -2.03 | 115.58      | 119.23   |
| 2   | U     | 201 | JNI  | C18-C17-C16 | 2.03  | 122.52      | 118.26   |
| 2   | P     | 202 | JNI  | C10-C9-N8   | -2.02 | 110.71      | 113.98   |
| 2   | v     | 202 | JNI  | N30-C31-N34 | 2.02  | 119.08      | 116.90   |
| 2   | V     | 201 | JNI  | N30-C31-N34 | 2.01  | 119.08      | 116.90   |

There are no chirality outliers.

All (330) torsion outliers are listed below:

| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 2   | A     | 202 | JNI  | C21-C16-N8-C9   |
| 2   | C     | 202 | JNI  | C5-C6-N8-C16    |
| 2   | C     | 202 | JNI  | N7-C6-N8-C16    |
| 2   | C     | 202 | JNI  | N32-C31-N34-C39 |
| 2   | D     | 201 | JNI  | N32-C31-N34-C39 |
| 2   | F     | 201 | JNI  | N30-C31-N34-C39 |
| 2   | F     | 201 | JNI  | N32-C31-N34-C39 |
| 2   | H     | 201 | JNI  | C5-C6-N8-C16    |
| 2   | H     | 202 | JNI  | N30-C31-N34-C39 |
| 2   | H     | 202 | JNI  | N32-C31-N34-C39 |
| 2   | J     | 202 | JNI  | C5-C6-N8-C16    |
| 2   | J     | 202 | JNI  | N7-C6-N8-C16    |
| 2   | J     | 202 | JNI  | N7-C6-N8-C9     |
| 2   | J     | 202 | JNI  | N30-C31-N34-C35 |
| 2   | J     | 202 | JNI  | N32-C31-N34-C35 |
| 2   | L     | 201 | JNI  | C10-C9-N8-C6    |
| 2   | M     | 201 | JNI  | N30-C31-N34-C39 |
| 2   | M     | 201 | JNI  | N32-C31-N34-C39 |
| 2   | P     | 202 | JNI  | C16-C21-C22-C23 |
| 2   | P     | 202 | JNI  | C16-C21-C22-C27 |
| 2   | P     | 202 | JNI  | N30-C31-N34-C35 |
| 2   | P     | 202 | JNI  | N30-C31-N34-C39 |
| 2   | P     | 202 | JNI  | N32-C31-N34-C35 |
| 2   | P     | 202 | JNI  | N32-C31-N34-C39 |
| 2   | Q     | 201 | JNI  | N30-C31-N34-C39 |
| 2   | Q     | 201 | JNI  | N32-C31-N34-C39 |
| 2   | V     | 201 | JNI  | N30-C31-N34-C35 |
| 2   | V     | 201 | JNI  | N30-C31-N34-C39 |
| 2   | V     | 201 | JNI  | N32-C31-N34-C35 |

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| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 2   | V     | 201 | JNI  | N32-C31-N34-C39 |
| 2   | X     | 202 | JNI  | N32-C31-N34-C35 |
| 2   | Z     | 201 | JNI  | N32-C31-N34-C35 |
| 2   | Z     | 202 | JNI  | C5-C6-N8-C16    |
| 2   | b     | 201 | JNI  | N32-C31-N34-C39 |
| 2   | b     | 202 | JNI  | N30-C31-N34-C35 |
| 2   | b     | 202 | JNI  | N32-C31-N34-C35 |
| 2   | d     | 201 | JNI  | N30-C31-N34-C39 |
| 2   | d     | 201 | JNI  | N32-C31-N34-C39 |
| 2   | f     | 201 | JNI  | N30-C31-N34-C39 |
| 2   | f     | 202 | JNI  | C5-C6-N8-C16    |
| 2   | f     | 202 | JNI  | C5-C6-N8-C9     |
| 2   | f     | 202 | JNI  | N7-C6-N8-C16    |
| 2   | f     | 202 | JNI  | N30-C31-N34-C35 |
| 2   | f     | 202 | JNI  | N30-C31-N34-C39 |
| 2   | f     | 202 | JNI  | N32-C31-N34-C35 |
| 2   | f     | 202 | JNI  | N32-C31-N34-C39 |
| 2   | h     | 201 | JNI  | N30-C31-N34-C39 |
| 2   | h     | 202 | JNI  | N30-C31-N34-C39 |
| 2   | h     | 202 | JNI  | N32-C31-N34-C39 |
| 2   | j     | 201 | JNI  | N30-C31-N34-C35 |
| 2   | j     | 201 | JNI  | N32-C31-N34-C35 |
| 2   | j     | 202 | JNI  | N30-C31-N34-C35 |
| 2   | j     | 202 | JNI  | N32-C31-N34-C35 |
| 2   | l     | 201 | JNI  | N30-C31-N34-C35 |
| 2   | l     | 201 | JNI  | N32-C31-N34-C35 |
| 2   | n     | 201 | JNI  | N30-C31-N34-C35 |
| 2   | n     | 201 | JNI  | N32-C31-N34-C35 |
| 2   | n     | 202 | JNI  | N30-C31-N34-C35 |
| 2   | n     | 202 | JNI  | N32-C31-N34-C35 |
| 2   | n     | 202 | JNI  | N32-C31-N34-C39 |
| 2   | o     | 201 | JNI  | C5-C6-N8-C16    |
| 2   | o     | 201 | JNI  | N7-C6-N8-C16    |
| 2   | o     | 201 | JNI  | N30-C31-N34-C39 |
| 2   | o     | 201 | JNI  | N32-C31-N34-C39 |
| 2   | p     | 201 | JNI  | N30-C31-N34-C39 |
| 2   | p     | 201 | JNI  | N32-C31-N34-C39 |
| 2   | p     | 202 | JNI  | C5-C6-N8-C16    |
| 2   | p     | 202 | JNI  | N30-C31-N34-C35 |
| 2   | p     | 202 | JNI  | N30-C31-N34-C39 |
| 2   | p     | 202 | JNI  | N32-C31-N34-C35 |
| 2   | p     | 202 | JNI  | N32-C31-N34-C39 |

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| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 2   | r     | 201 | JNI  | N30-C31-N34-C39 |
| 2   | r     | 201 | JNI  | N32-C31-N34-C35 |
| 2   | r     | 201 | JNI  | N32-C31-N34-C39 |
| 2   | r     | 202 | JNI  | N30-C31-N34-C35 |
| 2   | r     | 202 | JNI  | N32-C31-N34-C35 |
| 2   | t     | 201 | JNI  | N30-C31-N34-C35 |
| 2   | t     | 201 | JNI  | N32-C31-N34-C35 |
| 2   | t     | 202 | JNI  | N30-C31-N34-C35 |
| 2   | t     | 202 | JNI  | N32-C31-N34-C35 |
| 2   | v     | 201 | JNI  | N30-C31-N34-C39 |
| 2   | v     | 201 | JNI  | N32-C31-N34-C39 |
| 2   | v     | 201 | JNI  | C27-C26-C28-C33 |
| 2   | A     | 201 | JNI  | N32-C31-N34-C35 |
| 2   | A     | 202 | JNI  | N30-C31-N34-C39 |
| 2   | D     | 201 | JNI  | N30-C31-N34-C39 |
| 2   | F     | 202 | JNI  | N30-C31-N34-C39 |
| 2   | R     | 201 | JNI  | N30-C31-N34-C39 |
| 2   | h     | 201 | JNI  | N32-C31-N34-C39 |
| 2   | v     | 201 | JNI  | C27-C26-C28-C29 |
| 2   | v     | 201 | JNI  | C25-C26-C28-C33 |
| 2   | v     | 201 | JNI  | C25-C26-C28-C29 |
| 2   | P     | 202 | JNI  | C20-C21-C22-C23 |
| 2   | P     | 202 | JNI  | C20-C21-C22-C27 |
| 2   | X     | 202 | JNI  | C20-C21-C22-C27 |
| 2   | F     | 202 | JNI  | C25-C26-C28-C29 |
| 2   | p     | 202 | JNI  | C27-C26-C28-C33 |
| 2   | p     | 202 | JNI  | C25-C26-C28-C29 |
| 2   | F     | 202 | JNI  | C27-C26-C28-C33 |
| 2   | V     | 202 | JNI  | C27-C26-C28-C29 |
| 2   | h     | 202 | JNI  | C27-C26-C28-C29 |
| 2   | h     | 202 | JNI  | C25-C26-C28-C33 |
| 2   | C     | 202 | JNI  | N30-C31-N34-C39 |
| 2   | X     | 202 | JNI  | N30-C31-N34-C35 |
| 2   | Z     | 201 | JNI  | N30-C31-N34-C35 |
| 2   | b     | 201 | JNI  | N30-C31-N34-C39 |
| 2   | f     | 201 | JNI  | N32-C31-N34-C39 |
| 2   | j     | 202 | JNI  | N30-C31-N34-C39 |
| 2   | l     | 201 | JNI  | N30-C31-N34-C39 |
| 2   | n     | 202 | JNI  | N30-C31-N34-C39 |
| 2   | r     | 201 | JNI  | N30-C31-N34-C35 |
| 2   | b     | 202 | JNI  | C20-C21-C22-C27 |
| 2   | V     | 202 | JNI  | C25-C26-C28-C33 |

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| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 2   | X     | 202 | JNI  | C16-C21-C22-C27 |
| 2   | b     | 202 | JNI  | C16-C21-C22-C23 |
| 2   | b     | 202 | JNI  | C16-C21-C22-C27 |
| 2   | r     | 202 | JNI  | C20-C21-C22-C27 |
| 2   | X     | 202 | JNI  | C20-C21-C22-C23 |
| 2   | b     | 202 | JNI  | C20-C21-C22-C23 |
| 2   | r     | 201 | JNI  | C25-C26-C28-C33 |
| 2   | F     | 201 | JNI  | N32-C31-N34-C35 |
| 2   | Z     | 202 | JNI  | N32-C31-N34-C35 |
| 2   | h     | 202 | JNI  | N32-C31-N34-C35 |
| 2   | r     | 202 | JNI  | C16-C21-C22-C27 |
| 2   | F     | 202 | JNI  | C27-C26-C28-C29 |
| 2   | r     | 202 | JNI  | C20-C21-C22-C23 |
| 2   | j     | 202 | JNI  | C20-C21-C22-C27 |
| 2   | A     | 201 | JNI  | N30-C31-N34-C35 |
| 2   | A     | 202 | JNI  | N32-C31-N34-C39 |
| 2   | F     | 202 | JNI  | N32-C31-N34-C39 |
| 2   | H     | 201 | JNI  | N32-C31-N34-C39 |
| 2   | R     | 201 | JNI  | N32-C31-N34-C39 |
| 2   | d     | 201 | JNI  | N32-C31-N34-C35 |
| 2   | j     | 202 | JNI  | N32-C31-N34-C39 |
| 2   | v     | 201 | JNI  | N30-C31-N34-C35 |
| 2   | v     | 202 | JNI  | N32-C31-N34-C35 |
| 2   | C     | 201 | JNI  | C20-C21-C22-C27 |
| 2   | n     | 202 | JNI  | C20-C21-C22-C27 |
| 2   | X     | 202 | JNI  | C16-C21-C22-C23 |
| 2   | r     | 202 | JNI  | C16-C21-C22-C23 |
| 2   | F     | 202 | JNI  | C25-C26-C28-C33 |
| 2   | r     | 201 | JNI  | C27-C26-C28-C29 |
| 2   | p     | 202 | JNI  | C27-C26-C28-C29 |
| 2   | p     | 202 | JNI  | C25-C26-C28-C33 |
| 2   | h     | 202 | JNI  | C27-C26-C28-C33 |
| 2   | h     | 202 | JNI  | C25-C26-C28-C29 |
| 2   | F     | 201 | JNI  | N30-C31-N34-C35 |
| 2   | Z     | 202 | JNI  | N30-C31-N34-C35 |
| 2   | l     | 201 | JNI  | N32-C31-N34-C39 |
| 2   | V     | 202 | JNI  | C27-C26-C28-C33 |
| 2   | j     | 202 | JNI  | C16-C21-C22-C27 |
| 2   | H     | 201 | JNI  | N30-C31-N34-C39 |
| 2   | v     | 201 | JNI  | N32-C31-N34-C35 |
| 2   | v     | 202 | JNI  | N30-C31-N34-C35 |
| 2   | C     | 201 | JNI  | C20-C21-C22-C23 |

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| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 2   | d     | 201 | JNI  | N30-C31-N34-C35 |
| 2   | h     | 202 | JNI  | N30-C31-N34-C35 |
| 2   | j     | 202 | JNI  | C20-C21-C22-C23 |
| 2   | C     | 201 | JNI  | C16-C21-C22-C27 |
| 2   | A     | 202 | JNI  | N7-C6-N8-C9     |
| 2   | C     | 202 | JNI  | N7-C6-N8-C9     |
| 2   | H     | 201 | JNI  | N7-C6-N8-C9     |
| 2   | U     | 201 | JNI  | N7-C6-N8-C9     |
| 2   | Z     | 202 | JNI  | N7-C6-N8-C9     |
| 2   | f     | 202 | JNI  | N7-C6-N8-C9     |
| 2   | n     | 201 | JNI  | N7-C6-N8-C9     |
| 2   | o     | 201 | JNI  | N7-C6-N8-C9     |
| 2   | p     | 202 | JNI  | N7-C6-N8-C9     |
| 2   | C     | 202 | JNI  | C5-C6-N8-C9     |
| 2   | H     | 201 | JNI  | C5-C6-N8-C9     |
| 2   | J     | 202 | JNI  | C5-C6-N8-C9     |
| 2   | Z     | 202 | JNI  | C5-C6-N8-C9     |
| 2   | n     | 201 | JNI  | C5-C6-N8-C9     |
| 2   | o     | 201 | JNI  | C5-C6-N8-C9     |
| 2   | p     | 202 | JNI  | C5-C6-N8-C9     |
| 2   | t     | 202 | JNI  | C5-C6-N8-C9     |
| 2   | n     | 202 | JNI  | C16-C21-C22-C27 |
| 2   | A     | 202 | JNI  | N7-C6-N8-C16    |
| 2   | F     | 202 | JNI  | N7-C6-N8-C16    |
| 2   | H     | 201 | JNI  | N7-C6-N8-C16    |
| 2   | P     | 201 | JNI  | N7-C6-N8-C16    |
| 2   | U     | 201 | JNI  | N7-C6-N8-C16    |
| 2   | Z     | 202 | JNI  | N7-C6-N8-C16    |
| 2   | p     | 202 | JNI  | N7-C6-N8-C16    |
| 2   | r     | 202 | JNI  | N7-C6-N8-C16    |
| 2   | A     | 202 | JNI  | C5-C6-N8-C16    |
| 2   | U     | 201 | JNI  | C5-C6-N8-C16    |
| 2   | n     | 201 | JNI  | C5-C6-N8-C16    |
| 2   | t     | 202 | JNI  | C5-C6-N8-C16    |
| 2   | V     | 202 | JNI  | C25-C26-C28-C29 |
| 2   | r     | 201 | JNI  | C27-C26-C28-C33 |
| 2   | n     | 202 | JNI  | C20-C21-C22-C23 |
| 2   | C     | 201 | JNI  | C10-C9-N8-C6    |
| 2   | H     | 202 | JNI  | C10-C9-N8-C6    |
| 2   | P     | 202 | JNI  | C10-C9-N8-C6    |
| 2   | b     | 202 | JNI  | C10-C9-N8-C6    |
| 2   | n     | 202 | JNI  | C10-C9-N8-C6    |

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| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 2   | r     | 202 | JNI  | C10-C9-N8-C6    |
| 2   | C     | 201 | JNI  | N30-C31-N34-C35 |
| 2   | C     | 201 | JNI  | N32-C31-N34-C35 |
| 2   | V     | 202 | JNI  | N32-C31-N34-C35 |
| 2   | C     | 201 | JNI  | C16-C21-C22-C23 |
| 2   | j     | 202 | JNI  | C16-C21-C22-C23 |
| 2   | r     | 201 | JNI  | C25-C26-C28-C29 |
| 2   | V     | 202 | JNI  | N30-C31-N34-C35 |
| 2   | F     | 202 | JNI  | N7-C6-N8-C9     |
| 2   | P     | 201 | JNI  | N7-C6-N8-C9     |
| 2   | V     | 202 | JNI  | N7-C6-N8-C9     |
| 2   | F     | 202 | JNI  | C5-C6-N8-C9     |
| 2   | U     | 201 | JNI  | C5-C6-N8-C9     |
| 2   | j     | 202 | JNI  | C25-C26-C28-C29 |
| 2   | L     | 201 | JNI  | N7-C6-N8-C16    |
| 2   | V     | 202 | JNI  | N7-C6-N8-C16    |
| 2   | b     | 201 | JNI  | N7-C6-N8-C16    |
| 2   | n     | 201 | JNI  | N7-C6-N8-C16    |
| 2   | t     | 202 | JNI  | N7-C6-N8-C16    |
| 2   | J     | 202 | JNI  | C27-C26-C28-C33 |
| 2   | J     | 202 | JNI  | C25-C26-C28-C29 |
| 2   | C     | 201 | JNI  | C10-C9-N8-C16   |
| 2   | H     | 202 | JNI  | C10-C9-N8-C16   |
| 2   | L     | 201 | JNI  | C10-C9-N8-C16   |
| 2   | P     | 202 | JNI  | C10-C9-N8-C16   |
| 2   | r     | 202 | JNI  | C10-C9-N8-C16   |
| 2   | F     | 202 | JNI  | C5-C6-N8-C16    |
| 2   | V     | 202 | JNI  | C5-C6-N8-C16    |
| 2   | J     | 201 | JNI  | N30-C31-N34-C39 |
| 2   | U     | 201 | JNI  | N30-C31-N34-C35 |
| 2   | P     | 202 | JNI  | C27-C26-C28-C33 |
| 2   | n     | 201 | JNI  | C27-C26-C28-C33 |
| 2   | n     | 202 | JNI  | C16-C21-C22-C23 |
| 2   | n     | 201 | JNI  | C25-C26-C28-C29 |
| 2   | P     | 202 | JNI  | C25-C26-C28-C29 |
| 2   | j     | 202 | JNI  | C10-C9-N8-C6    |
| 2   | r     | 202 | JNI  | N7-C6-N8-C9     |
| 2   | t     | 202 | JNI  | N7-C6-N8-C9     |
| 2   | V     | 202 | JNI  | C5-C6-N8-C9     |
| 2   | A     | 202 | JNI  | C17-C16-N8-C9   |
| 2   | J     | 201 | JNI  | N32-C31-N34-C39 |
| 2   | C     | 201 | JNI  | N7-C6-N8-C16    |

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| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 2   | M     | 201 | JNI  | N7-C6-N8-C16    |
| 2   | Q     | 201 | JNI  | N7-C6-N8-C16    |
| 2   | X     | 201 | JNI  | N7-C6-N8-C16    |
| 2   | b     | 202 | JNI  | N7-C6-N8-C16    |
| 2   | j     | 201 | JNI  | N7-C6-N8-C16    |
| 2   | L     | 201 | JNI  | C5-C6-N8-C16    |
| 2   | M     | 201 | JNI  | C5-C6-N8-C16    |
| 2   | P     | 201 | JNI  | C5-C6-N8-C16    |
| 2   | Q     | 201 | JNI  | C5-C6-N8-C16    |
| 2   | X     | 201 | JNI  | C5-C6-N8-C16    |
| 2   | b     | 202 | JNI  | C5-C6-N8-C16    |
| 2   | r     | 202 | JNI  | C5-C6-N8-C16    |
| 2   | v     | 202 | JNI  | C20-C21-C22-C27 |
| 2   | n     | 202 | JNI  | C25-C26-C28-C29 |
| 2   | U     | 201 | JNI  | N32-C31-N34-C35 |
| 2   | J     | 202 | JNI  | C27-C26-C28-C29 |
| 2   | V     | 201 | JNI  | N7-C6-N8-C9     |
| 2   | b     | 202 | JNI  | N7-C6-N8-C9     |
| 2   | A     | 202 | JNI  | C5-C6-N8-C9     |
| 2   | P     | 202 | JNI  | C27-C26-C28-C29 |
| 2   | n     | 201 | JNI  | C27-C26-C28-C29 |
| 2   | F     | 202 | JNI  | C10-C9-N8-C6    |
| 2   | b     | 202 | JNI  | C10-C9-N8-C16   |
| 2   | v     | 202 | JNI  | C16-C21-C22-C27 |
| 2   | V     | 201 | JNI  | C5-C6-N8-C9     |
| 2   | J     | 202 | JNI  | C25-C26-C28-C33 |
| 2   | P     | 202 | JNI  | C25-C26-C28-C33 |
| 2   | j     | 202 | JNI  | C27-C26-C28-C33 |
| 2   | X     | 201 | JNI  | N30-C31-N34-C35 |
| 2   | X     | 201 | JNI  | N32-C31-N34-C35 |
| 2   | n     | 201 | JNI  | C25-C26-C28-C33 |
| 2   | j     | 202 | JNI  | C27-C26-C28-C29 |
| 2   | P     | 201 | JNI  | N32-C31-N34-C39 |
| 2   | j     | 202 | JNI  | N7-C6-N8-C9     |
| 2   | j     | 202 | JNI  | C5-C6-N8-C9     |
| 2   | v     | 202 | JNI  | C5-C6-N8-C9     |
| 2   | o     | 201 | JNI  | N32-C31-N34-C35 |
| 2   | o     | 201 | JNI  | N30-C31-N34-C35 |
| 2   | V     | 201 | JNI  | N7-C6-N8-C16    |
| 2   | X     | 202 | JNI  | N7-C6-N8-C16    |
| 2   | f     | 201 | JNI  | N7-C6-N8-C16    |
| 2   | v     | 202 | JNI  | N7-C6-N8-C16    |

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| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 2   | j     | 202 | JNI  | C10-C9-N8-C16   |
| 2   | n     | 202 | JNI  | C10-C9-N8-C16   |
| 2   | C     | 201 | JNI  | C5-C6-N8-C16    |
| 2   | b     | 201 | JNI  | C5-C6-N8-C16    |
| 2   | v     | 202 | JNI  | C5-C6-N8-C16    |
| 2   | j     | 202 | JNI  | C25-C26-C28-C33 |
| 2   | n     | 202 | JNI  | N7-C6-N8-C9     |
| 2   | p     | 201 | JNI  | N7-C6-N8-C9     |
| 2   | v     | 202 | JNI  | N7-C6-N8-C9     |
| 2   | P     | 201 | JNI  | C5-C6-N8-C9     |
| 2   | b     | 202 | JNI  | C5-C6-N8-C9     |
| 2   | r     | 202 | JNI  | C5-C6-N8-C9     |
| 2   | P     | 201 | JNI  | N30-C31-N34-C39 |
| 2   | v     | 202 | JNI  | C20-C21-C22-C23 |
| 2   | j     | 202 | JNI  | N7-C6-N8-C16    |
| 2   | N     | 201 | JNI  | C5-C6-N8-C16    |
| 2   | X     | 202 | JNI  | C5-C6-N8-C16    |
| 2   | n     | 202 | JNI  | C5-C6-N8-C16    |
| 2   | t     | 202 | JNI  | C20-C21-C22-C27 |
| 2   | Q     | 201 | JNI  | N7-C6-N8-C9     |
| 2   | X     | 202 | JNI  | N7-C6-N8-C9     |
| 2   | f     | 201 | JNI  | N7-C6-N8-C9     |
| 2   | Z     | 202 | JNI  | C20-C21-C22-C23 |
| 2   | Z     | 202 | JNI  | C20-C21-C22-C27 |
| 2   | t     | 202 | JNI  | C20-C21-C22-C23 |
| 2   | f     | 201 | JNI  | C5-C6-N8-C9     |
| 2   | n     | 202 | JNI  | C5-C6-N8-C9     |
| 2   | p     | 201 | JNI  | C5-C6-N8-C9     |
| 2   | C     | 202 | JNI  | C20-C21-C22-C27 |
| 2   | n     | 202 | JNI  | C27-C26-C28-C29 |
| 2   | C     | 202 | JNI  | C20-C21-C22-C23 |
| 2   | f     | 201 | JNI  | C5-C6-N8-C16    |
| 2   | X     | 201 | JNI  | N7-C6-N8-C9     |
| 2   | X     | 202 | JNI  | C5-C6-N8-C9     |
| 2   | J     | 202 | JNI  | N30-C31-N34-C39 |
| 2   | Z     | 202 | JNI  | C16-C21-C22-C27 |
| 2   | t     | 202 | JNI  | C16-C21-C22-C27 |
| 2   | p     | 202 | JNI  | C20-C21-C22-C27 |
| 2   | n     | 202 | JNI  | N7-C6-N8-C16    |
| 2   | p     | 201 | JNI  | N7-C6-N8-C16    |
| 2   | C     | 201 | JNI  | N7-C6-N8-C9     |
| 2   | M     | 201 | JNI  | N7-C6-N8-C9     |

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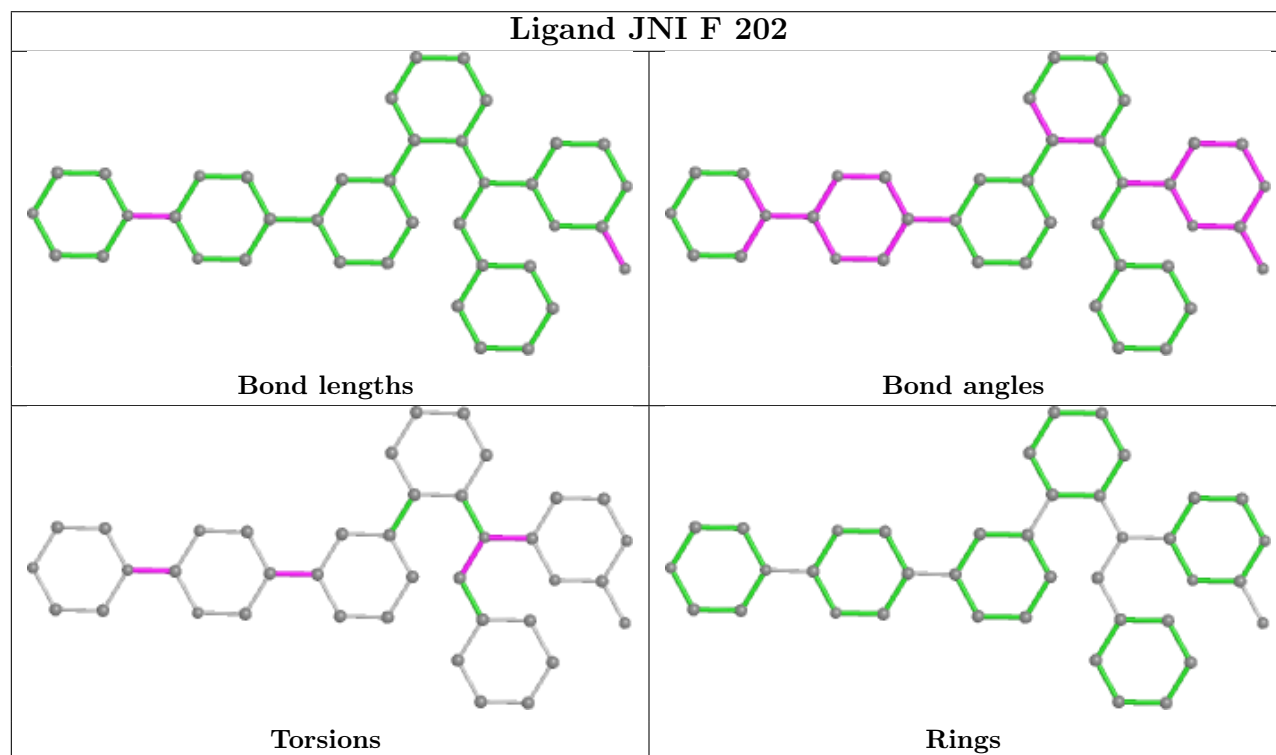
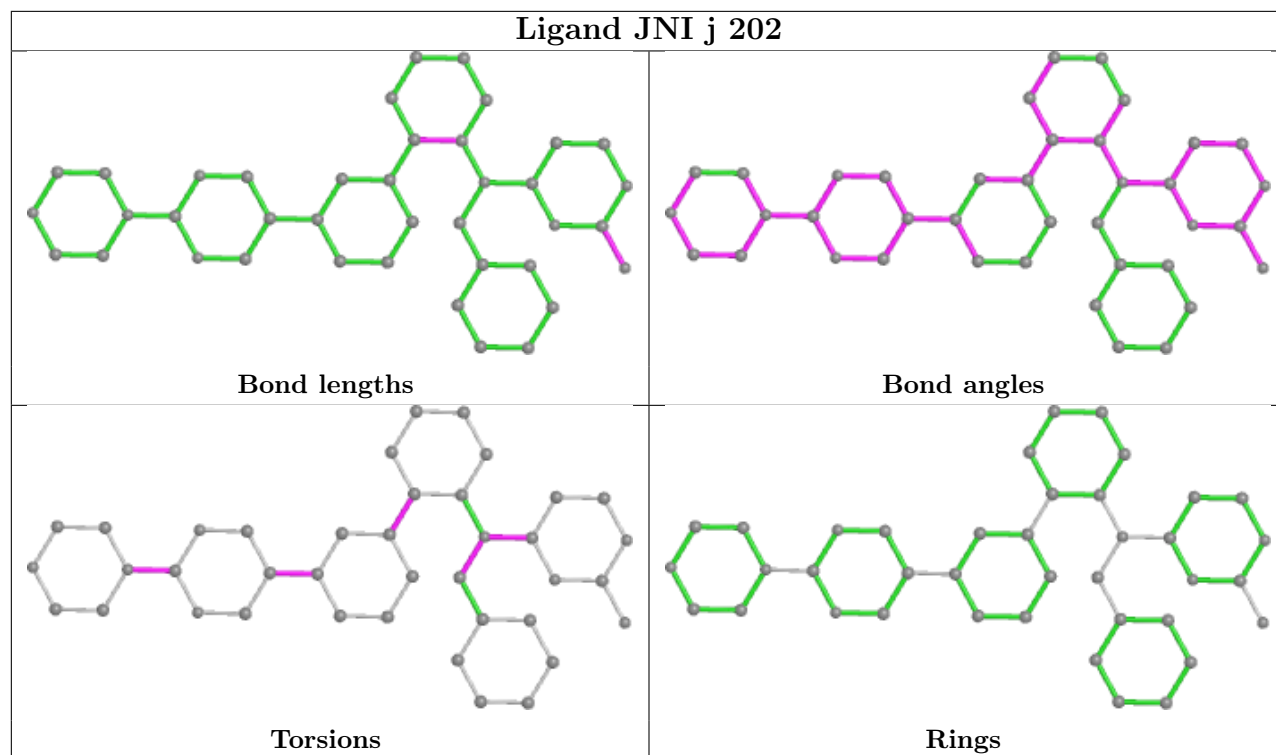
| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 2   | j     | 202 | JNI  | C5-C6-N8-C16    |
| 2   | p     | 201 | JNI  | C5-C6-N8-C16    |
| 2   | C     | 202 | JNI  | C16-C21-C22-C27 |
| 2   | X     | 202 | JNI  | C10-C9-N8-C6    |
| 2   | Z     | 202 | JNI  | C16-C21-C22-C23 |
| 2   | t     | 202 | JNI  | C16-C21-C22-C23 |
| 2   | C     | 202 | JNI  | C16-C21-C22-C23 |

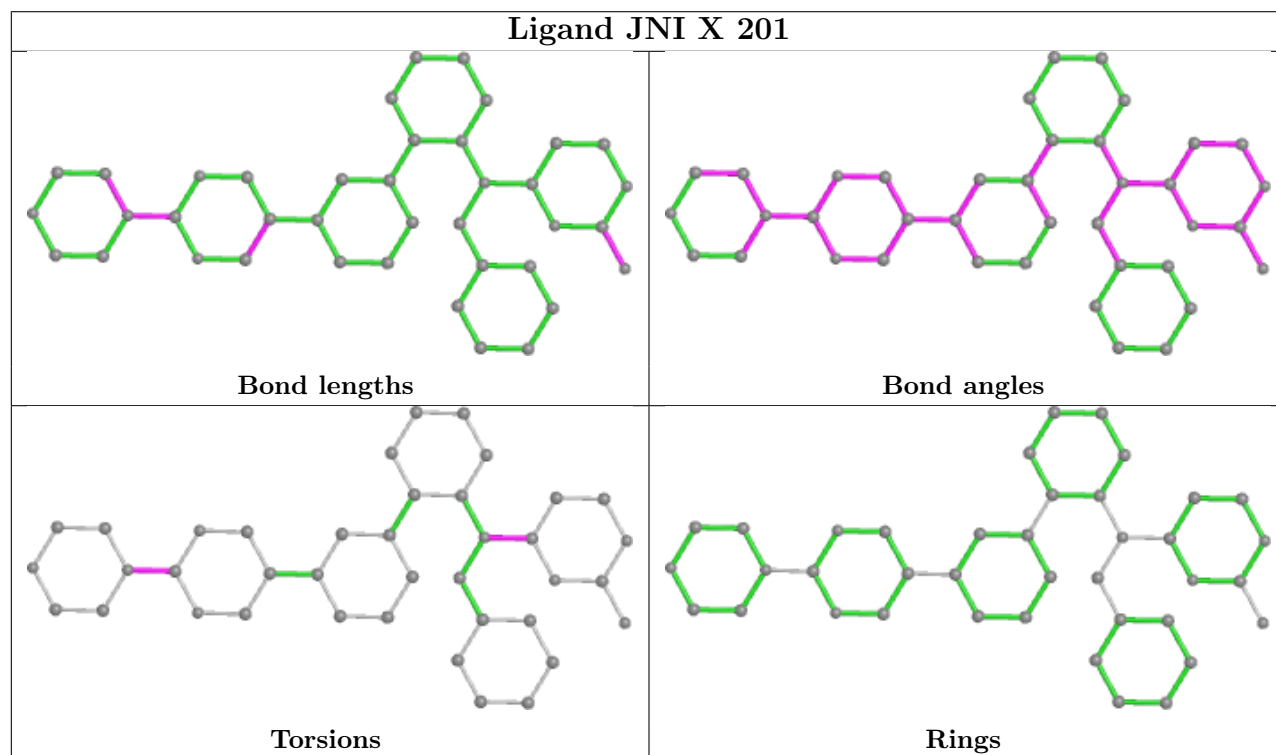
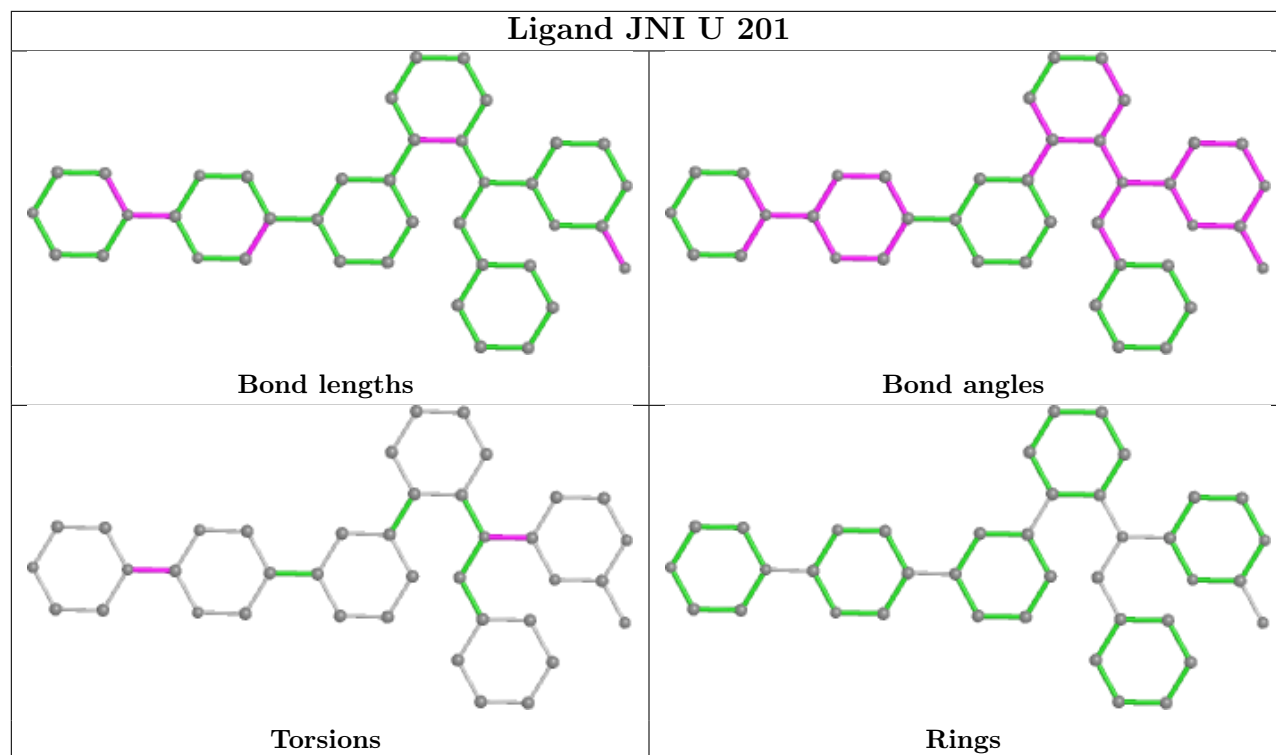
All (1) ring outliers are listed below:

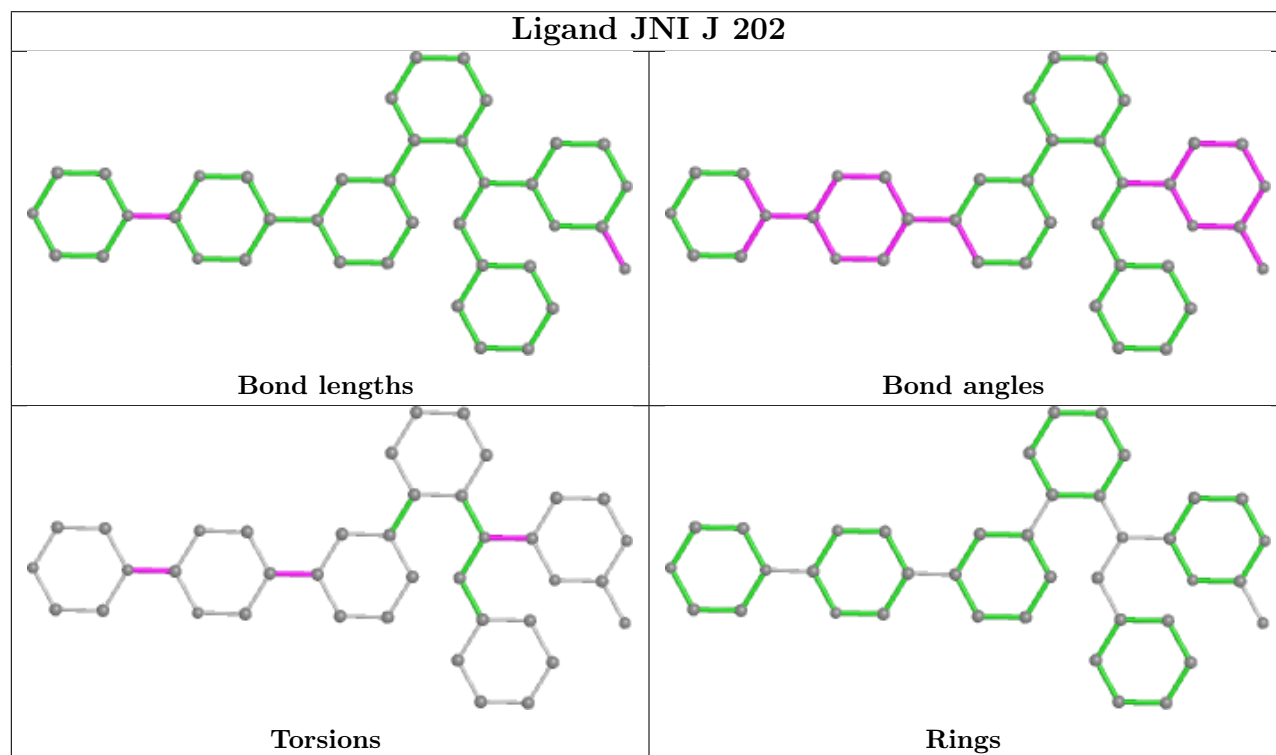
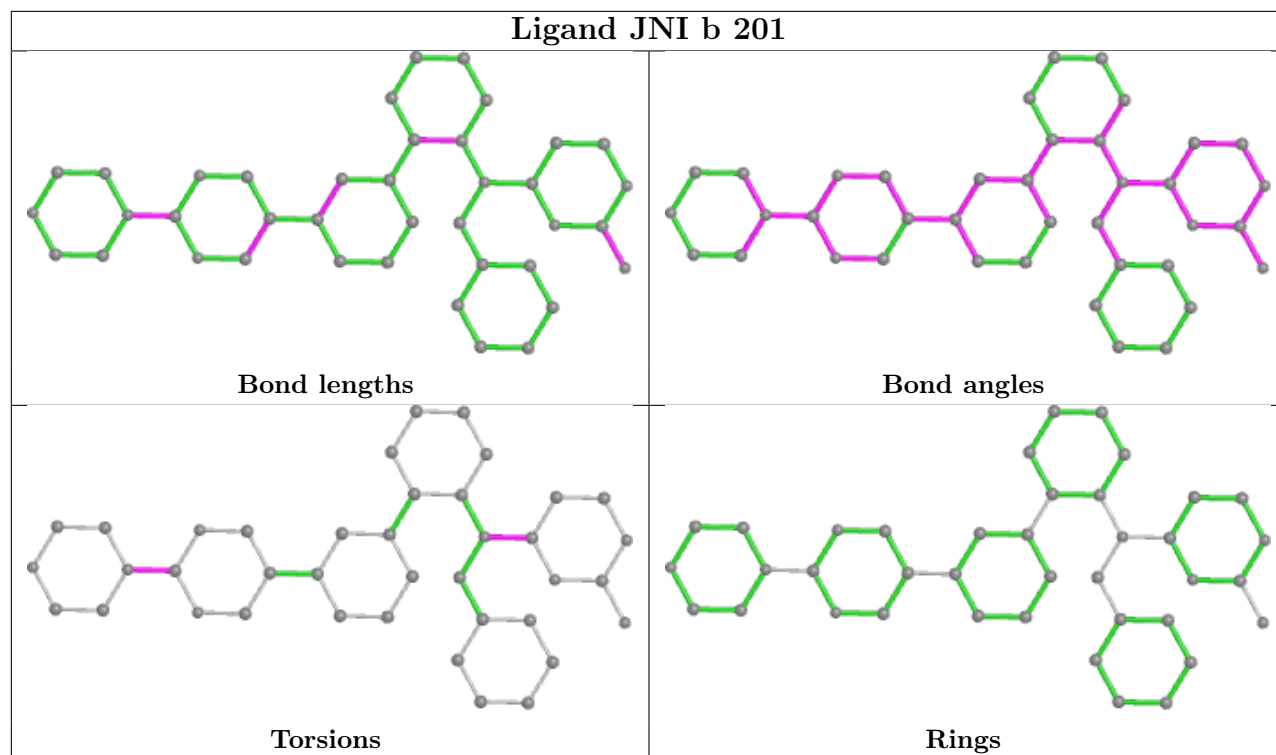
| Mol | Chain | Res | Type | Atoms                   |
|-----|-------|-----|------|-------------------------|
| 2   | v     | 202 | JNI  | C35-C36-C38-C39-N34-N37 |

No monomer is involved in short contacts.

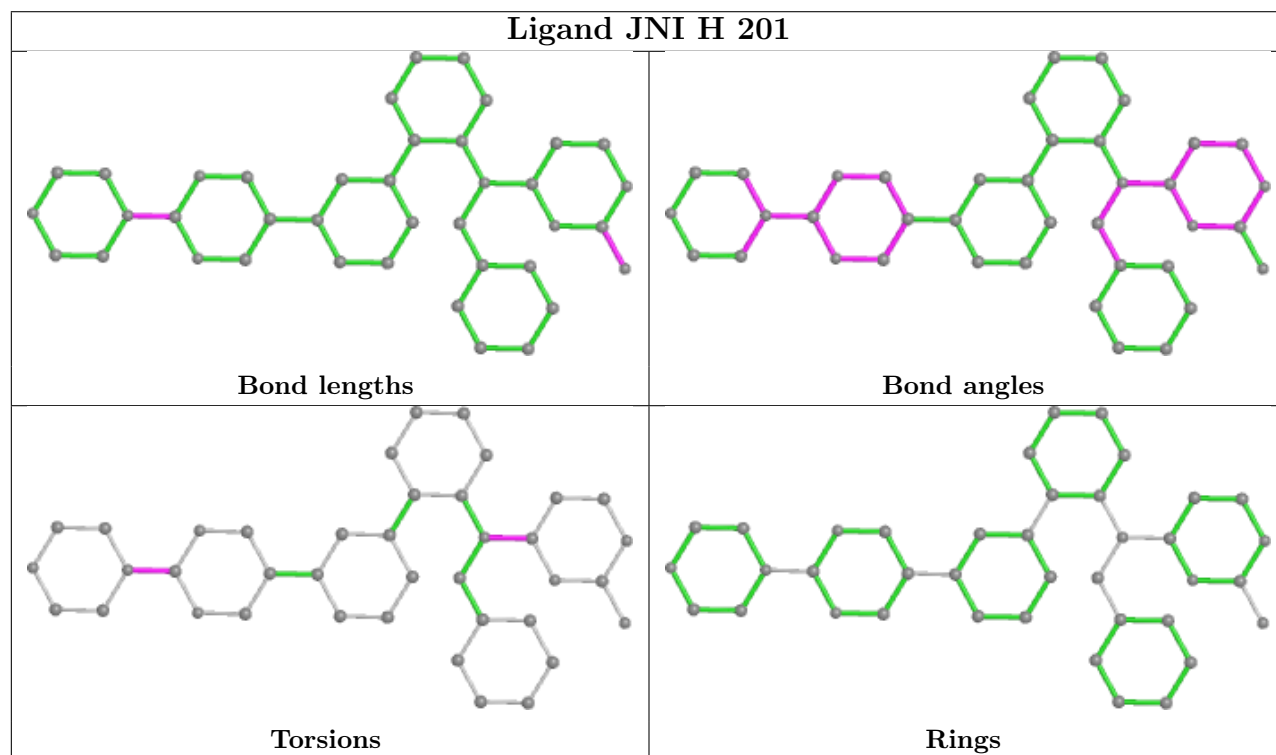
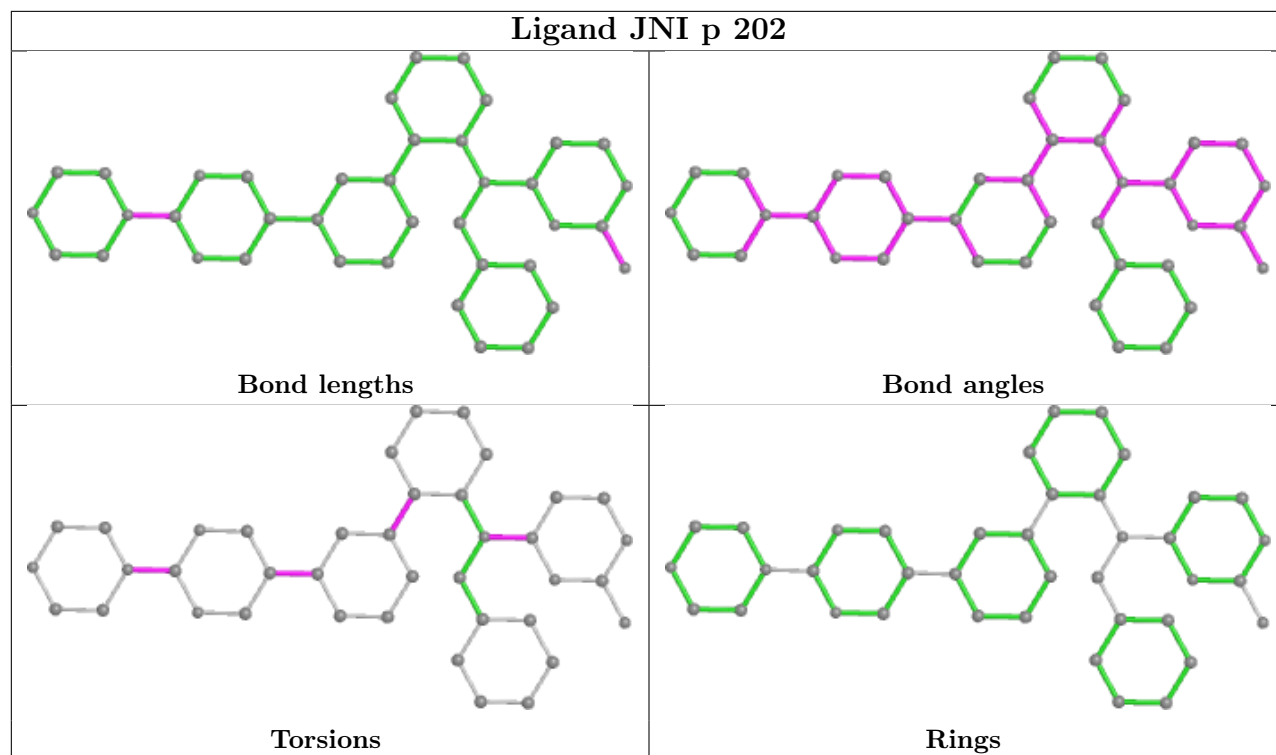
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

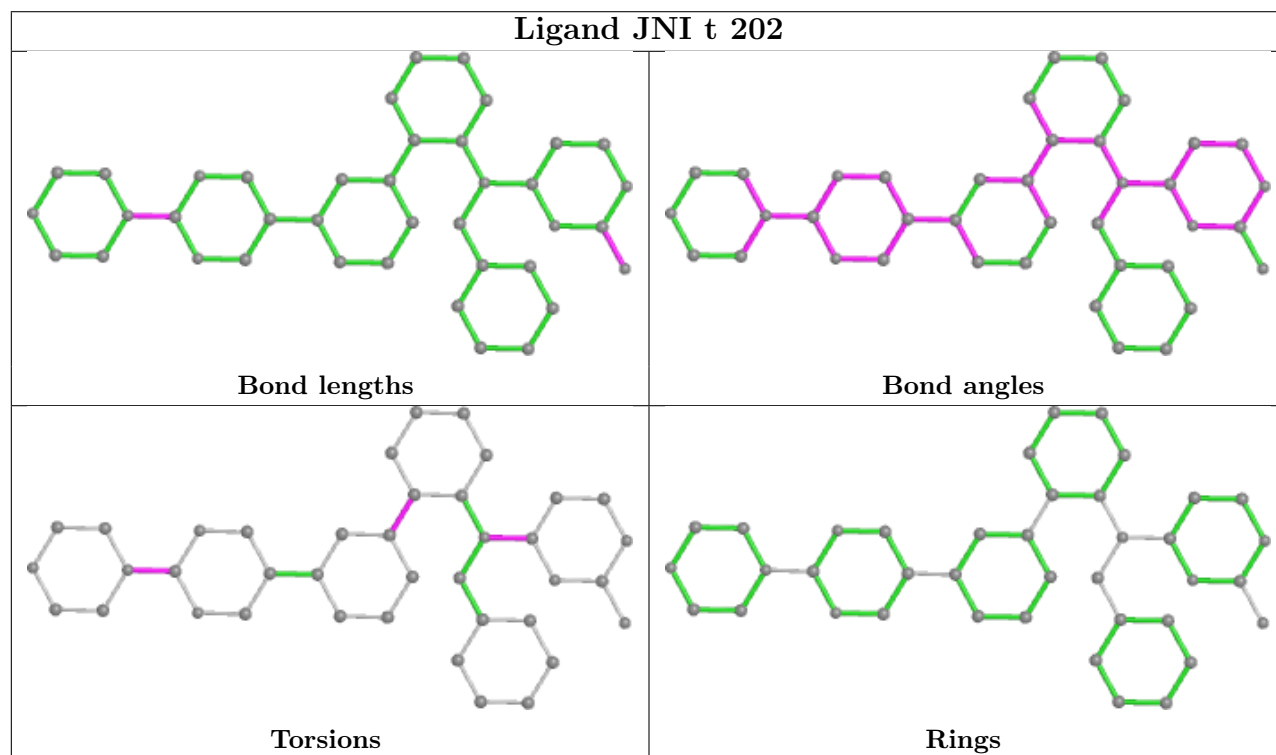
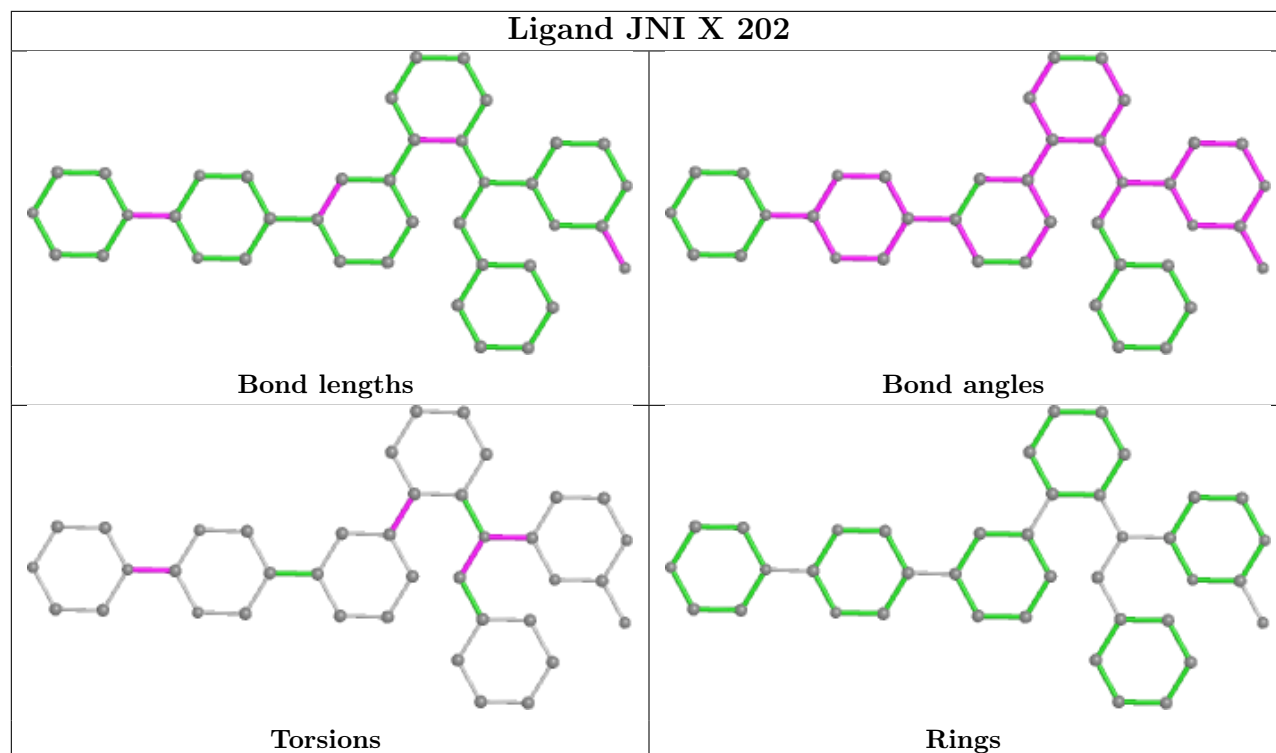


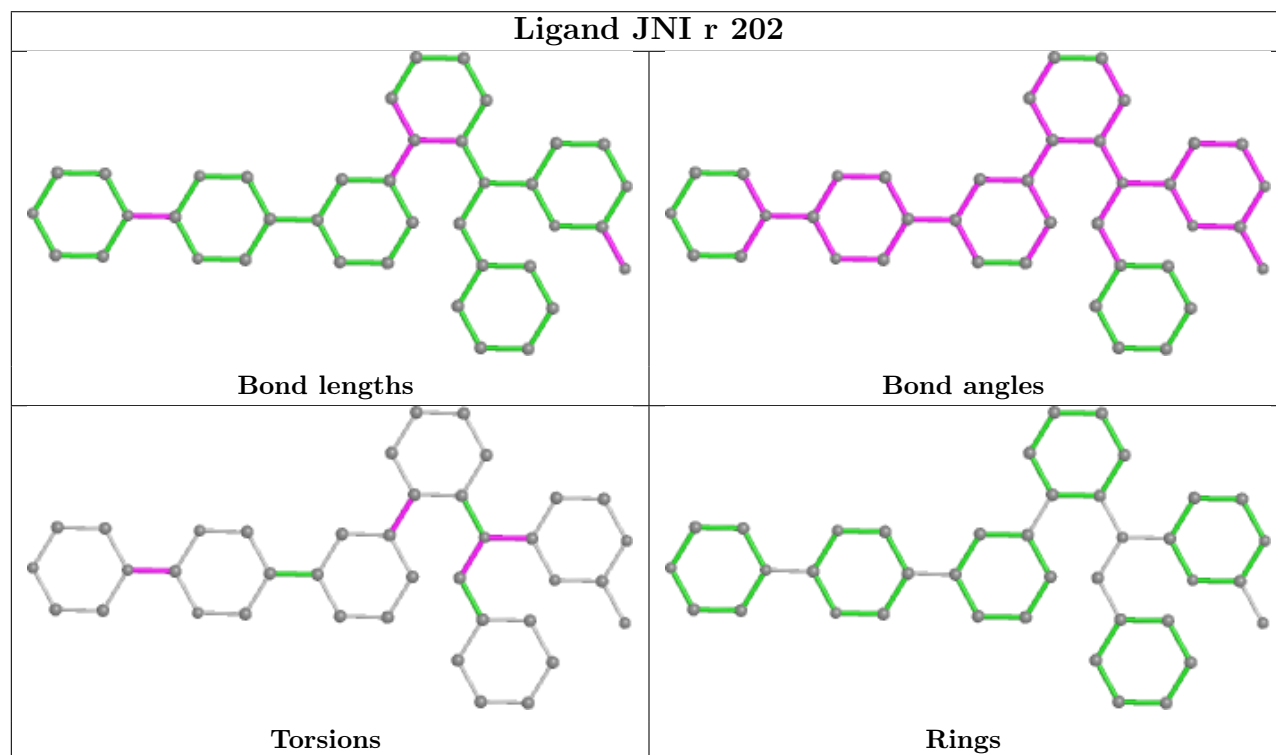
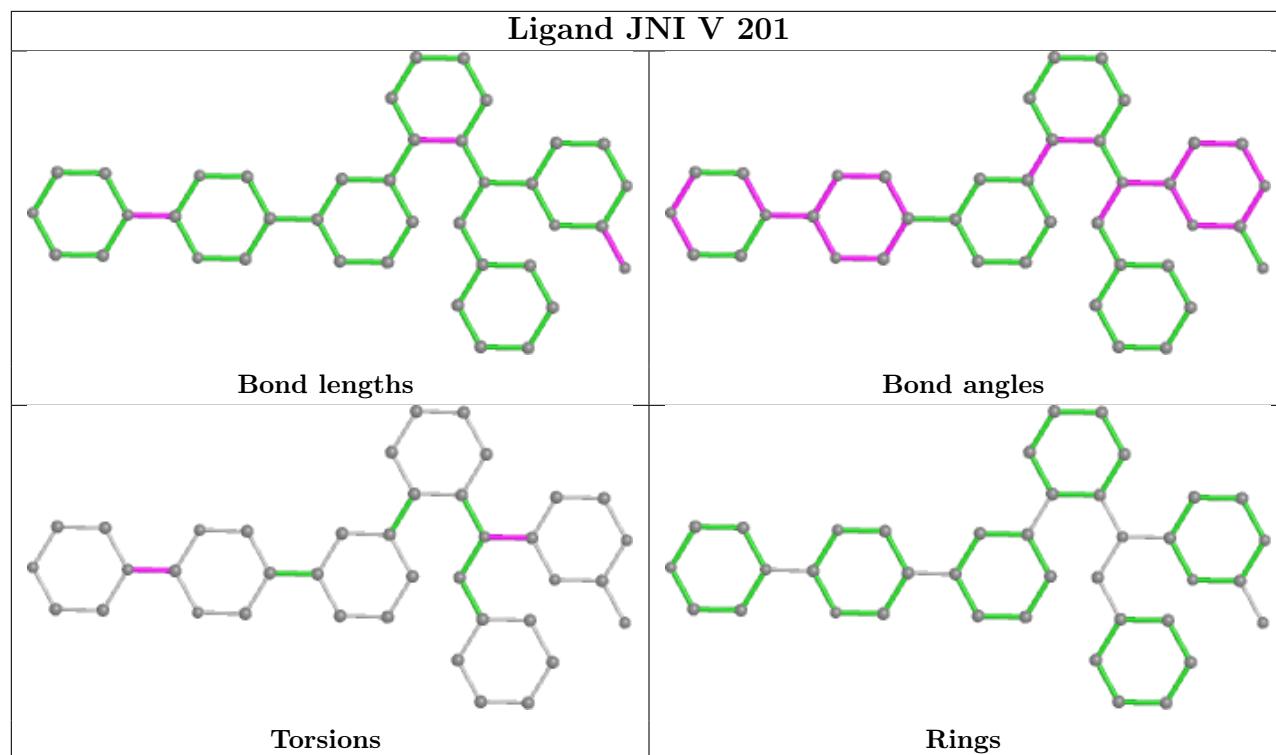


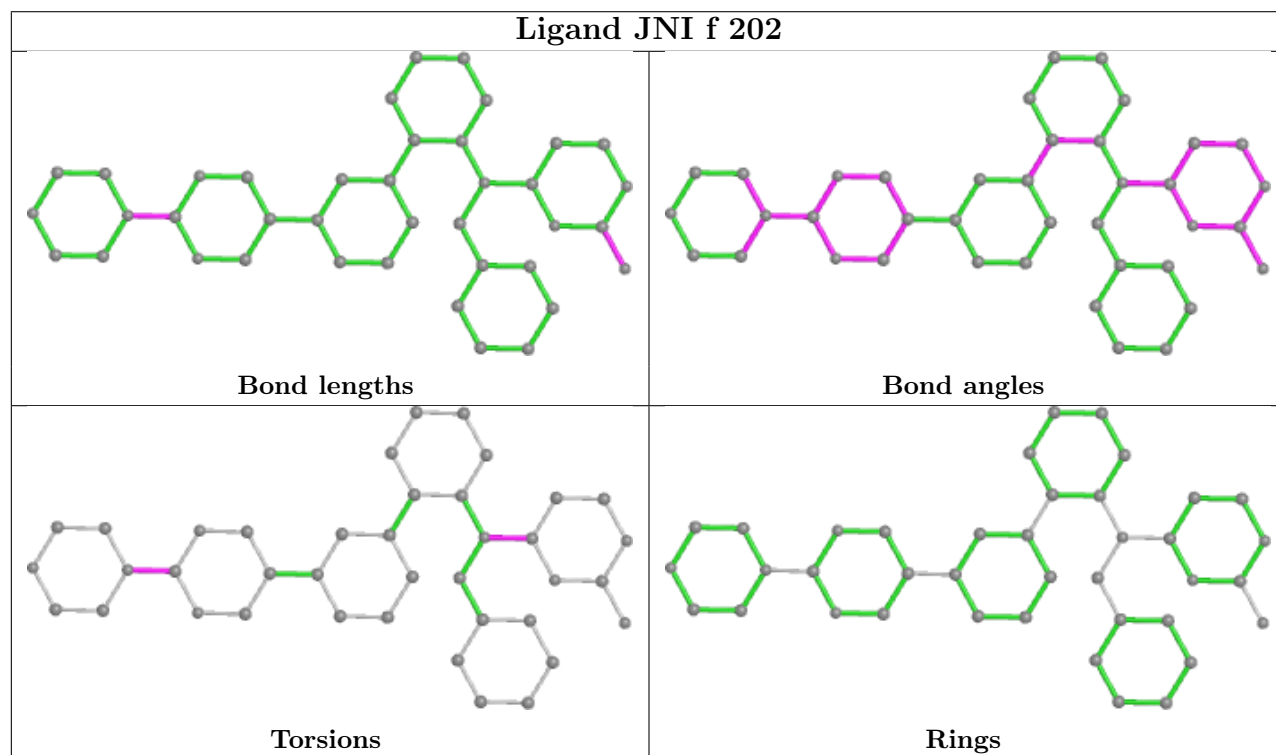
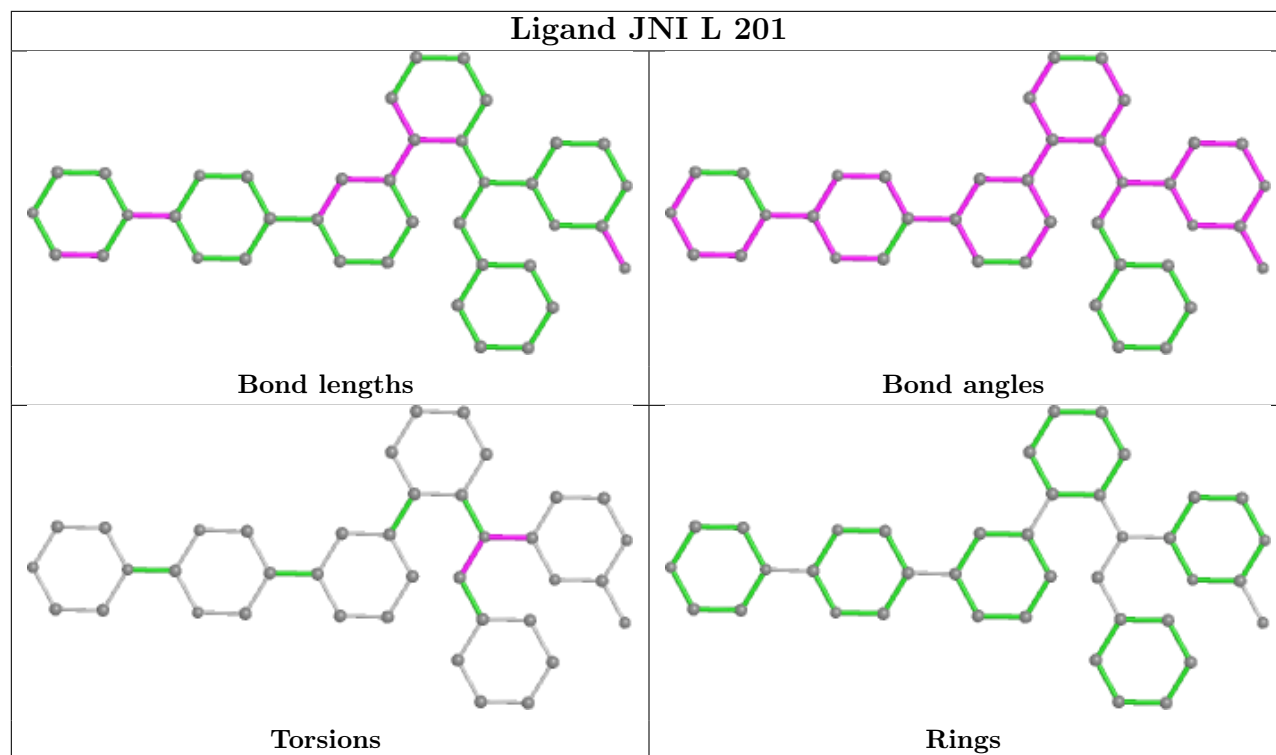


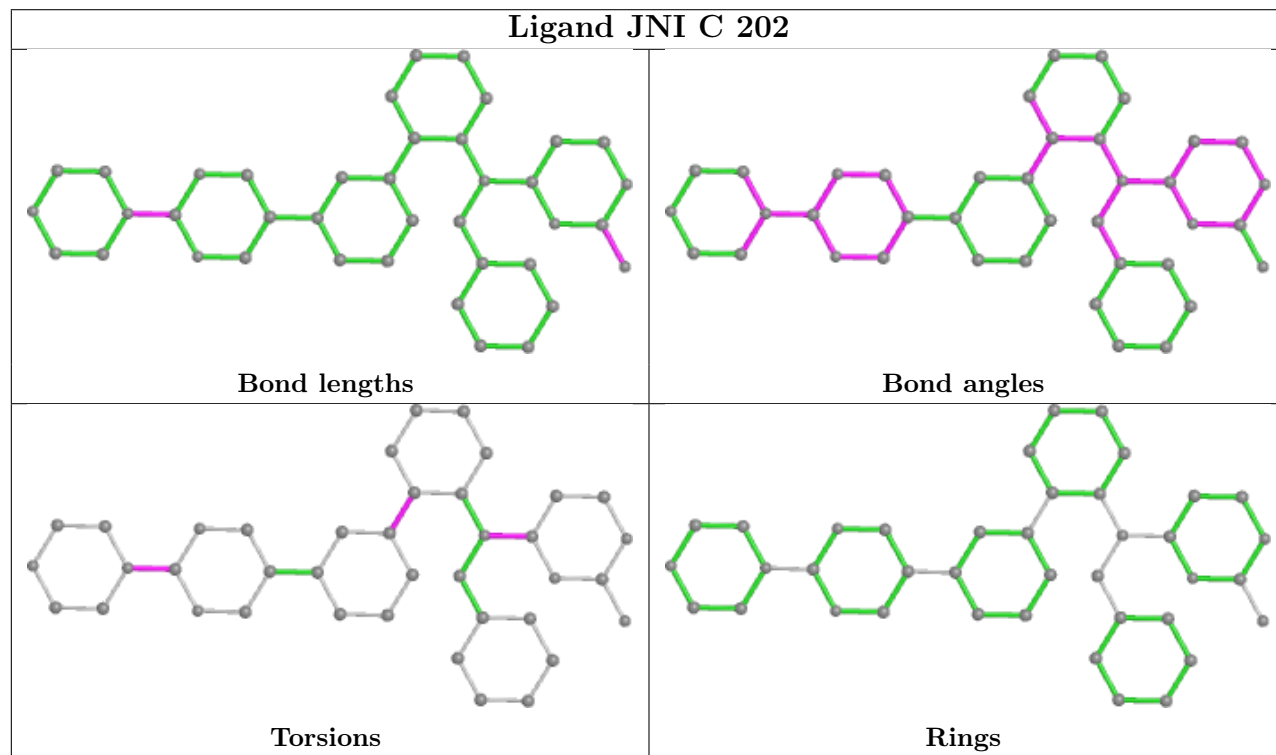
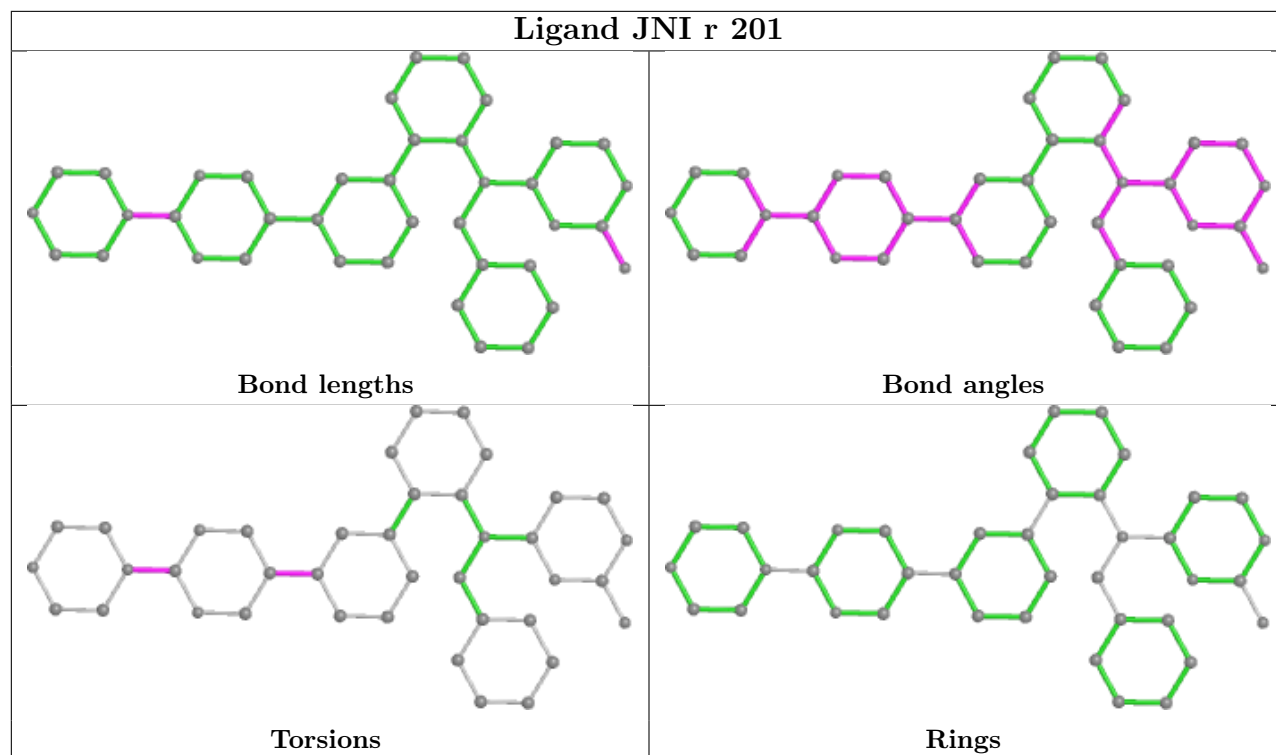


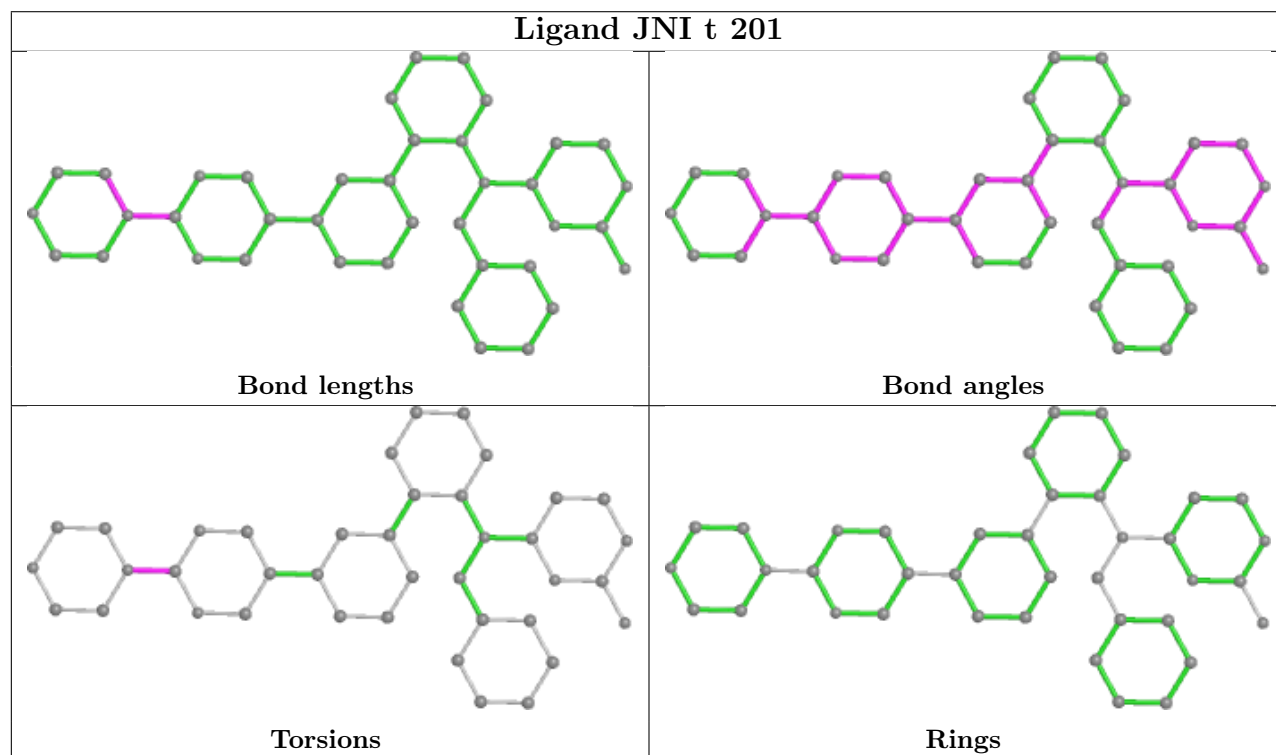
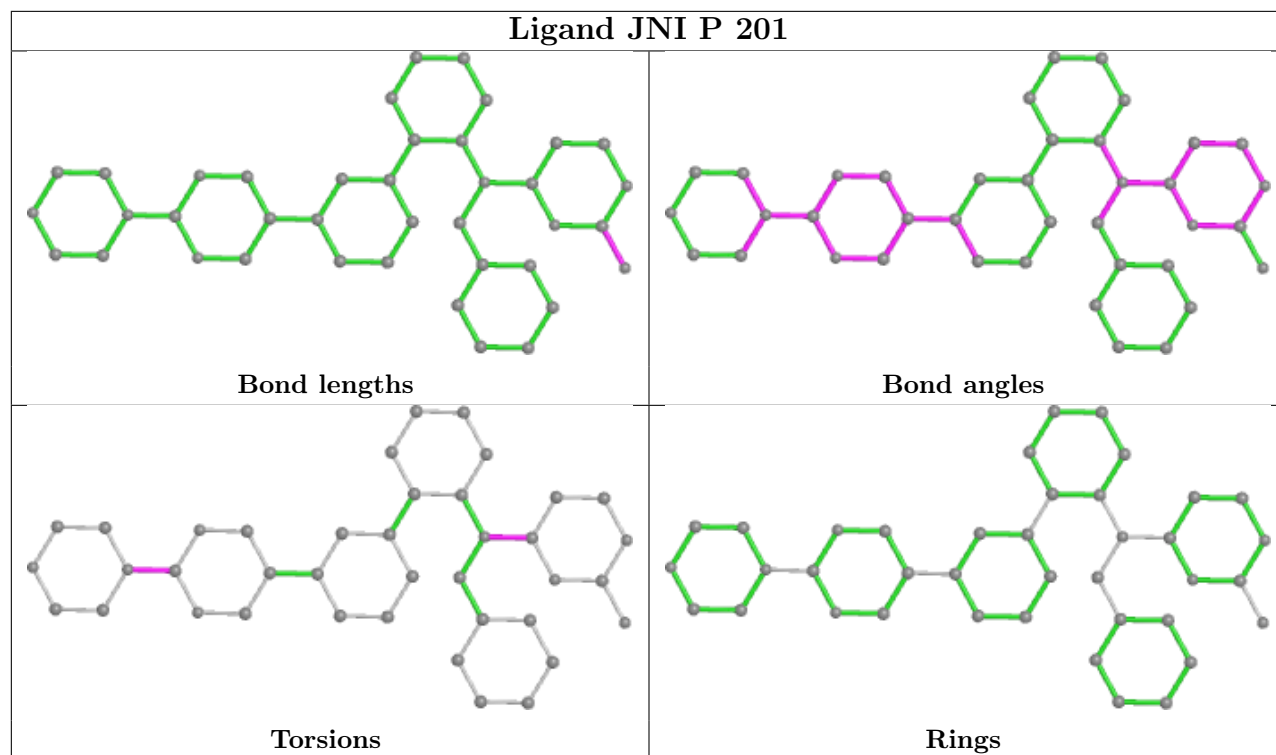


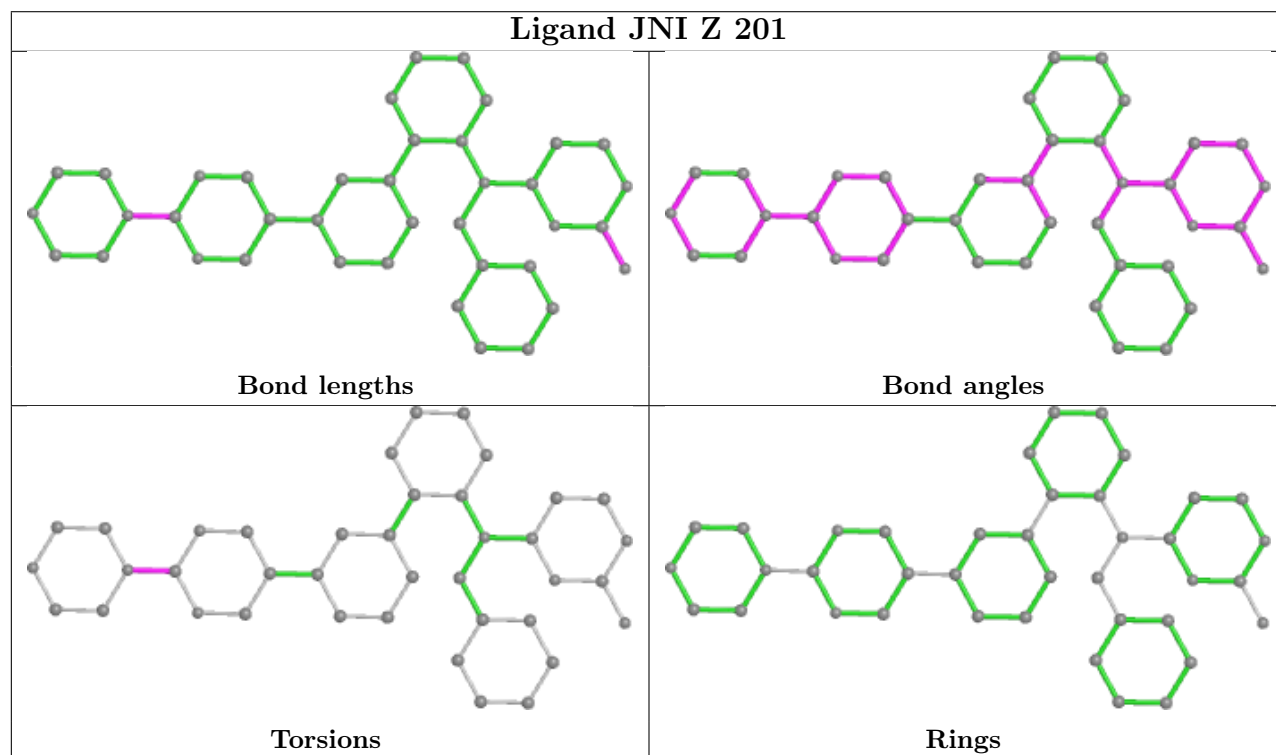
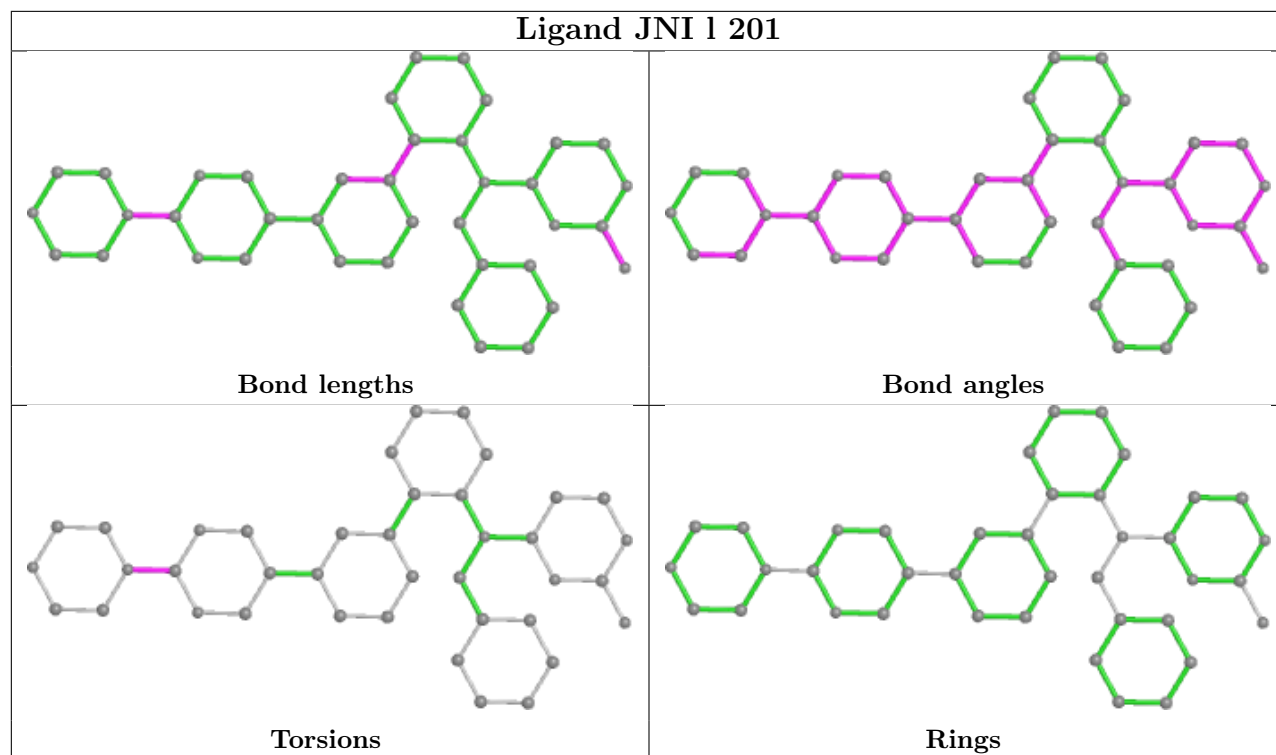


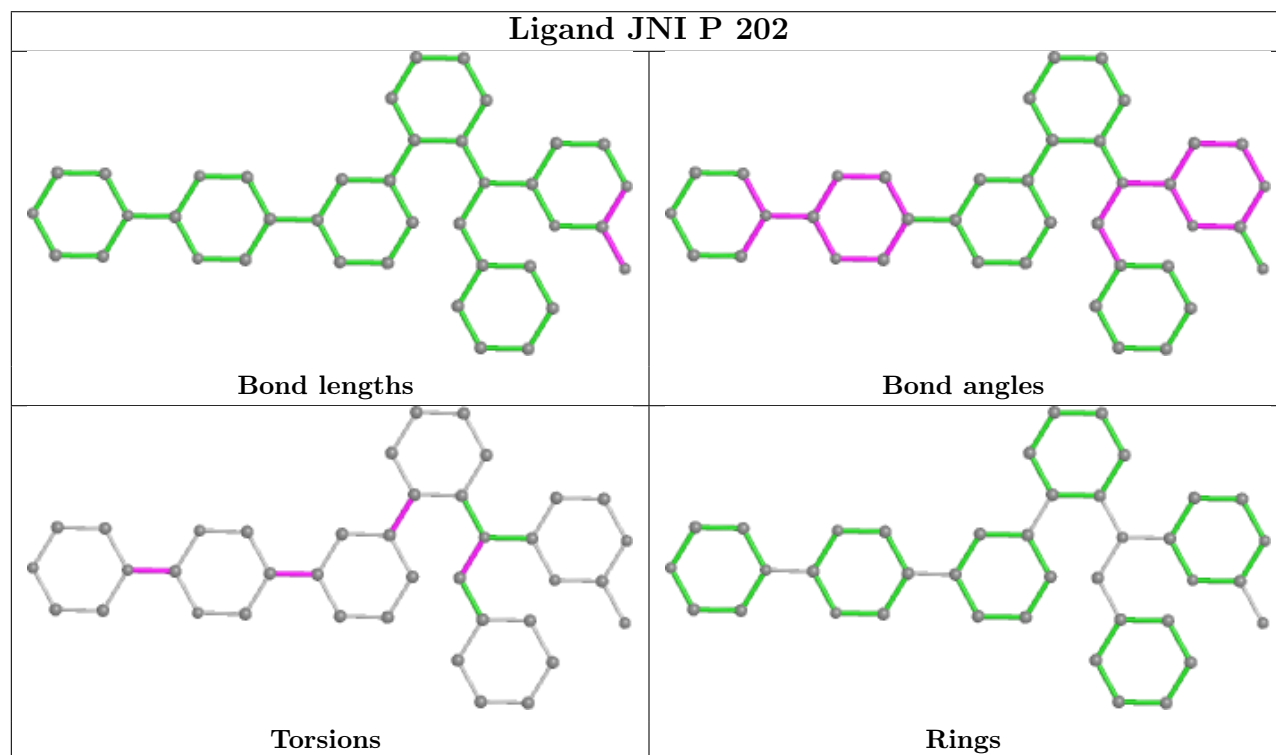
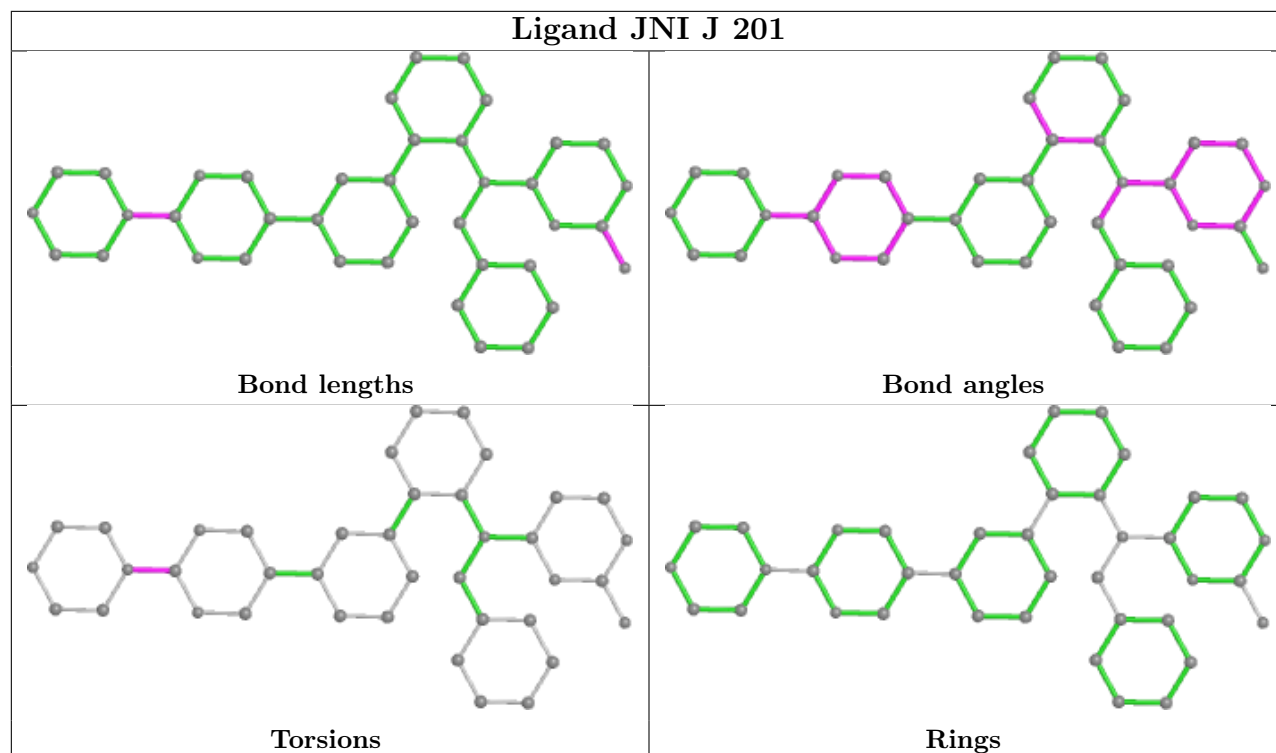




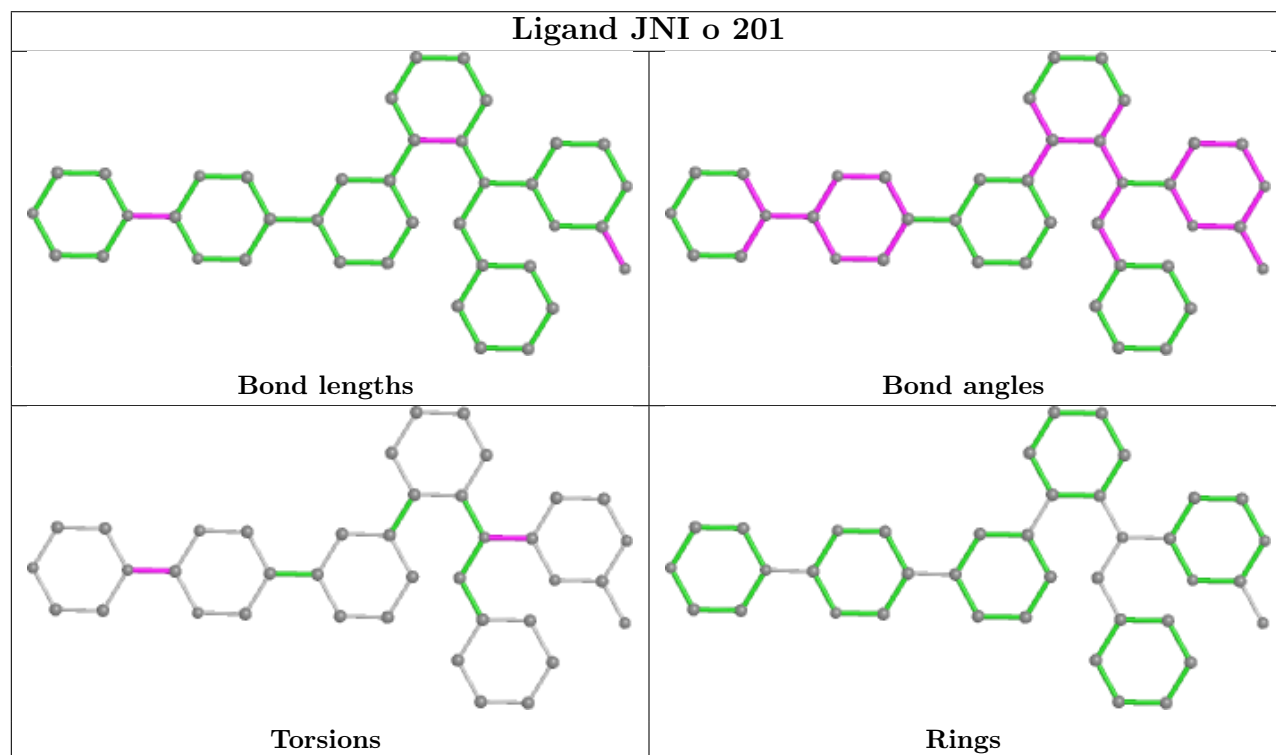
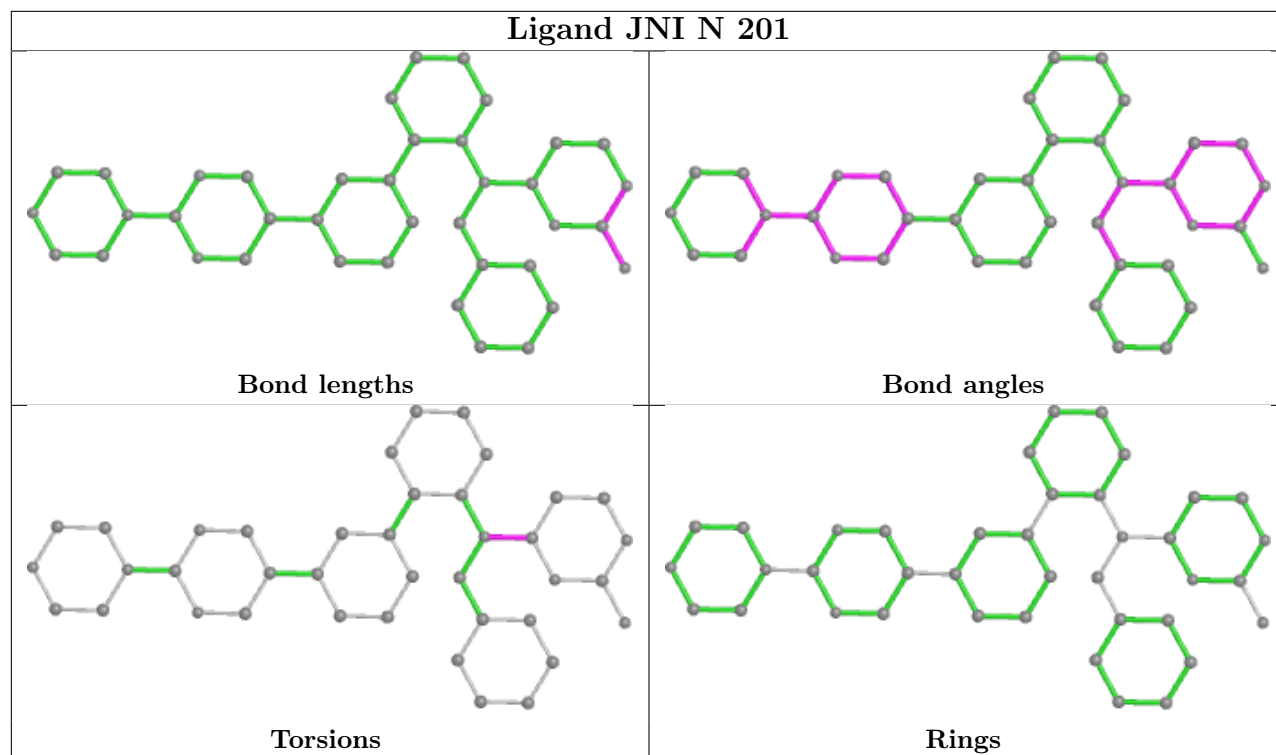


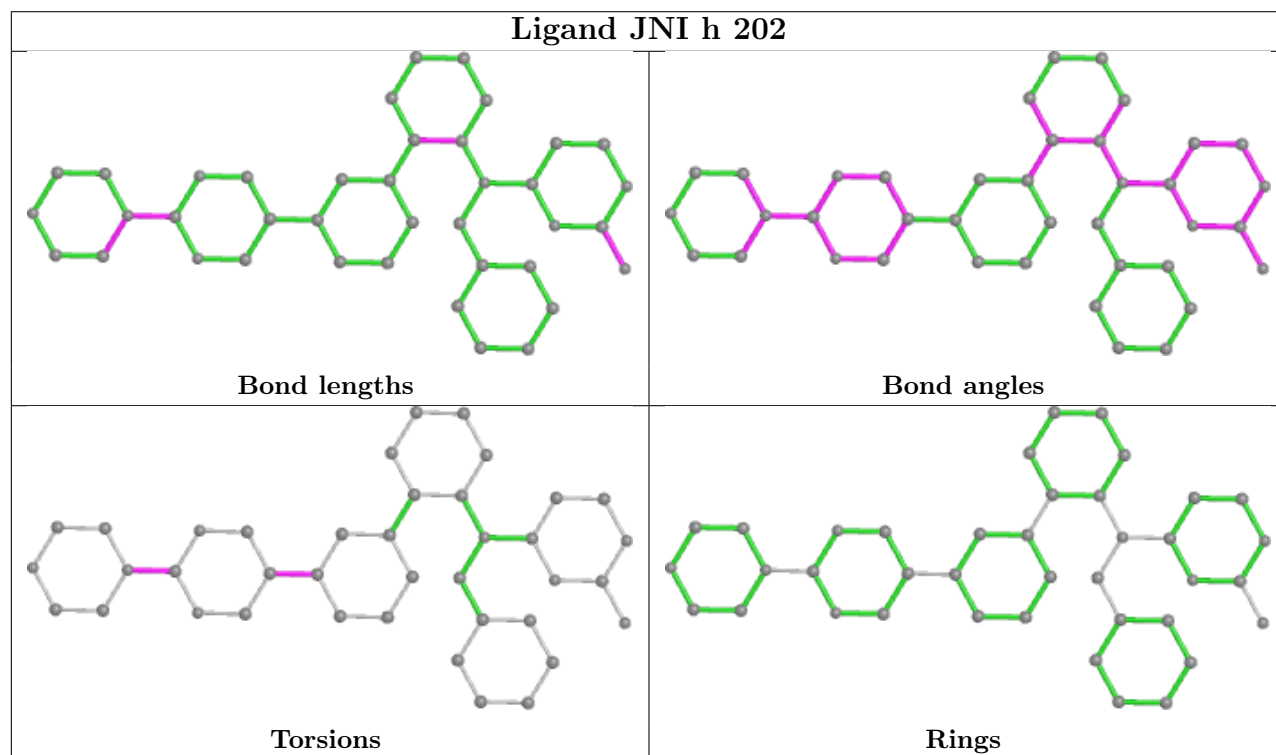
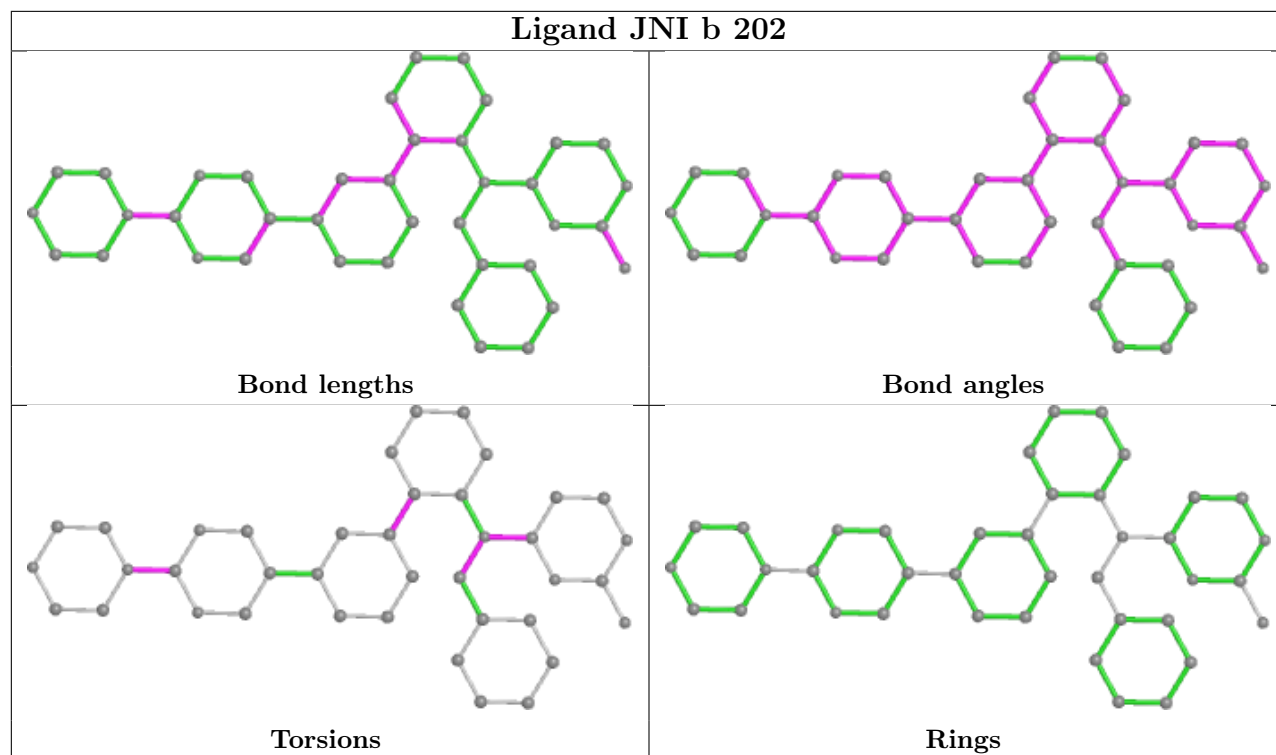


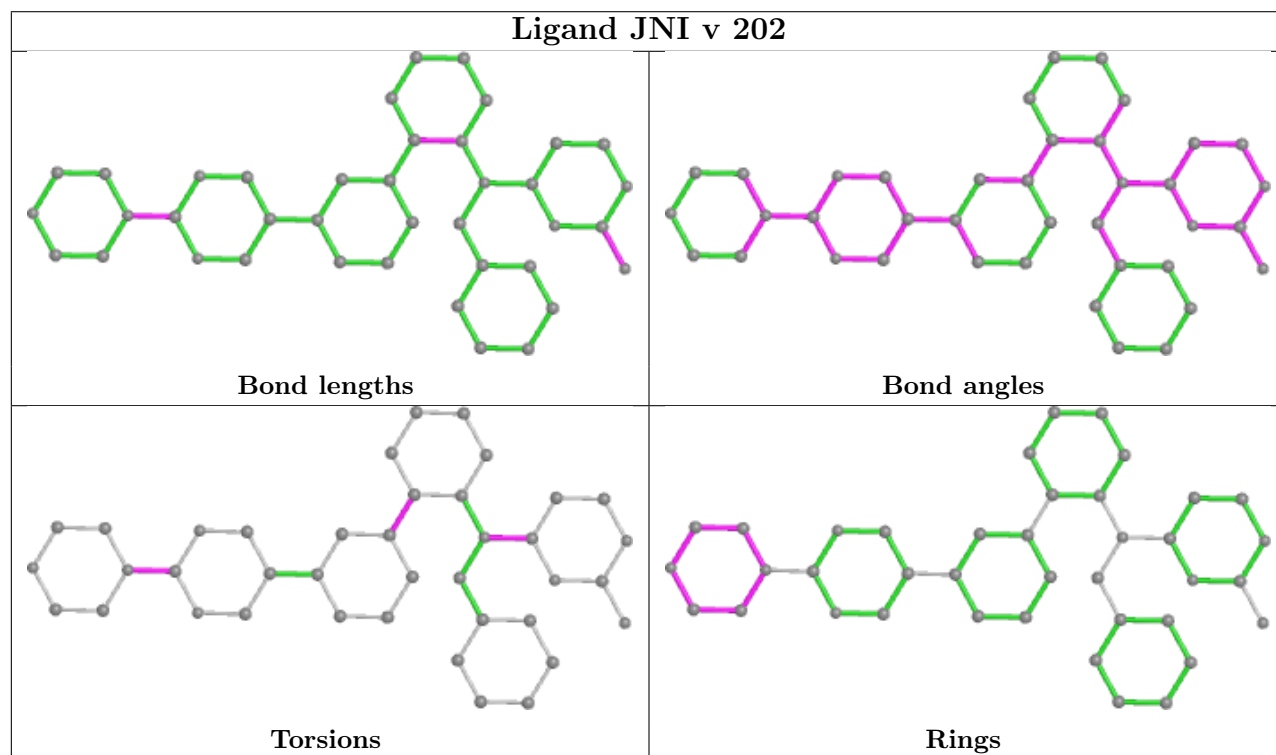
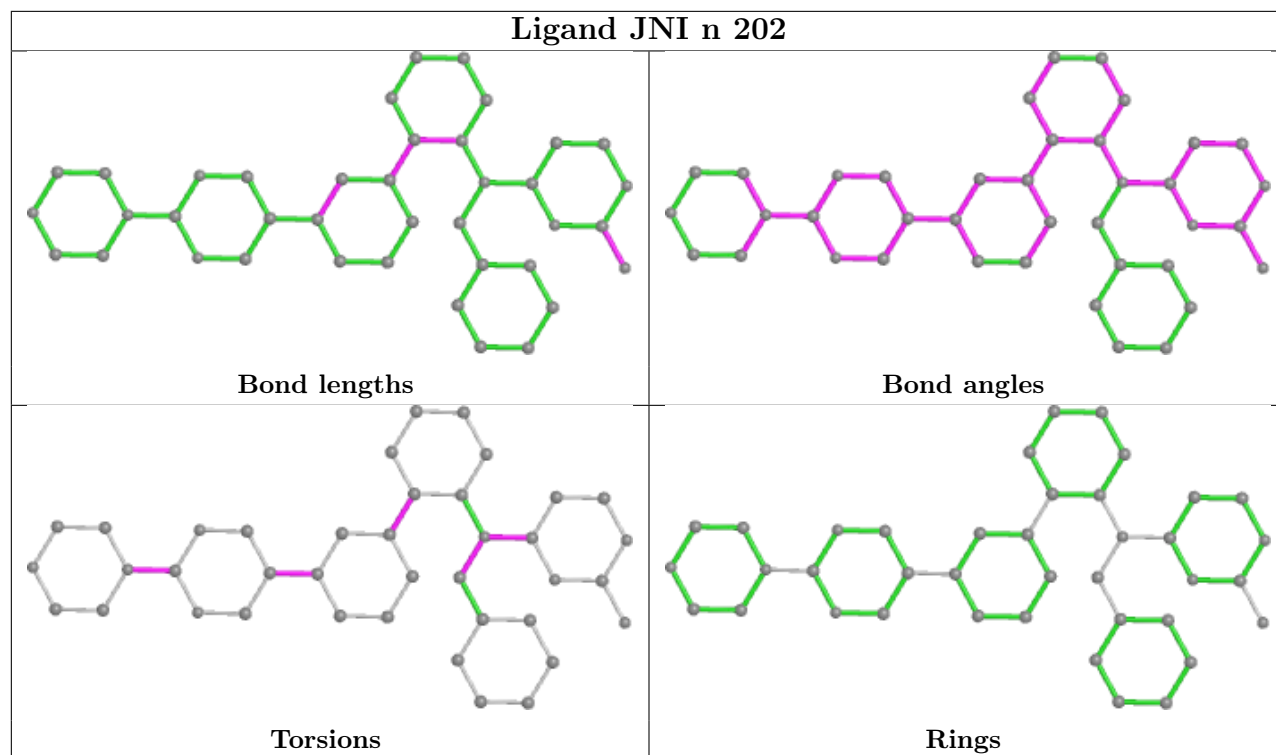


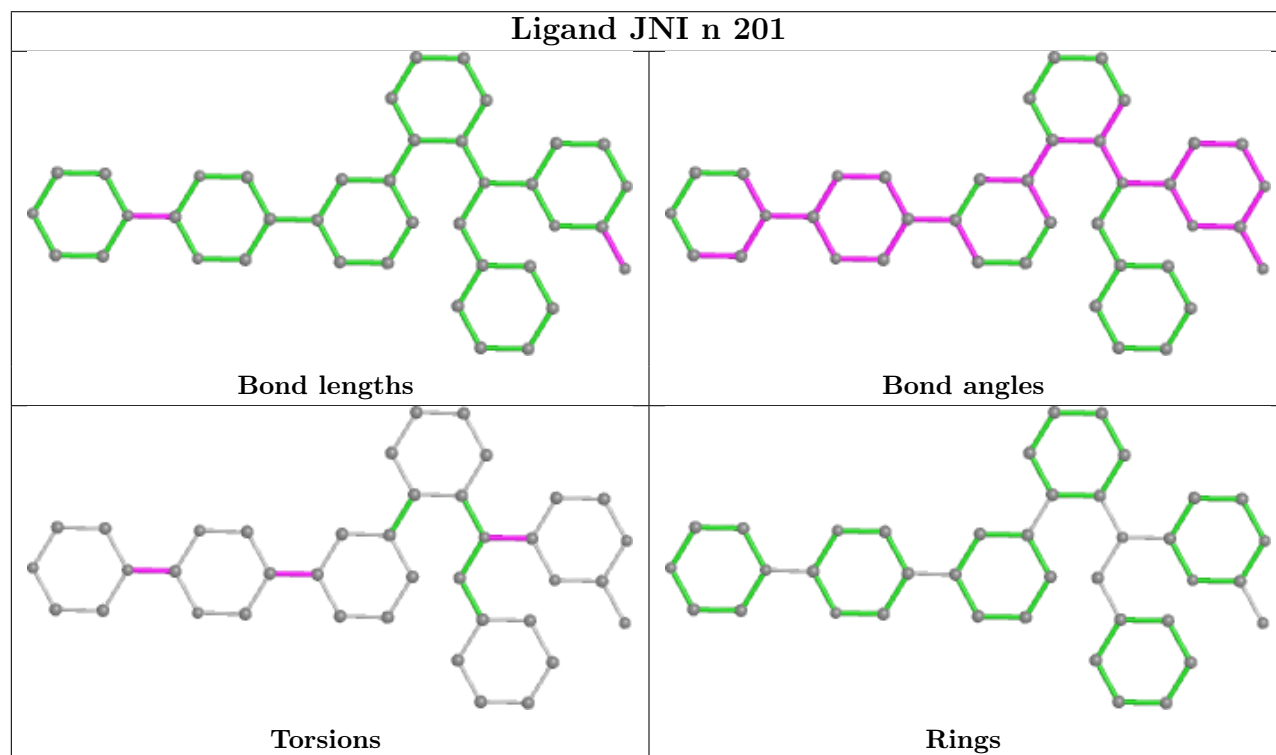
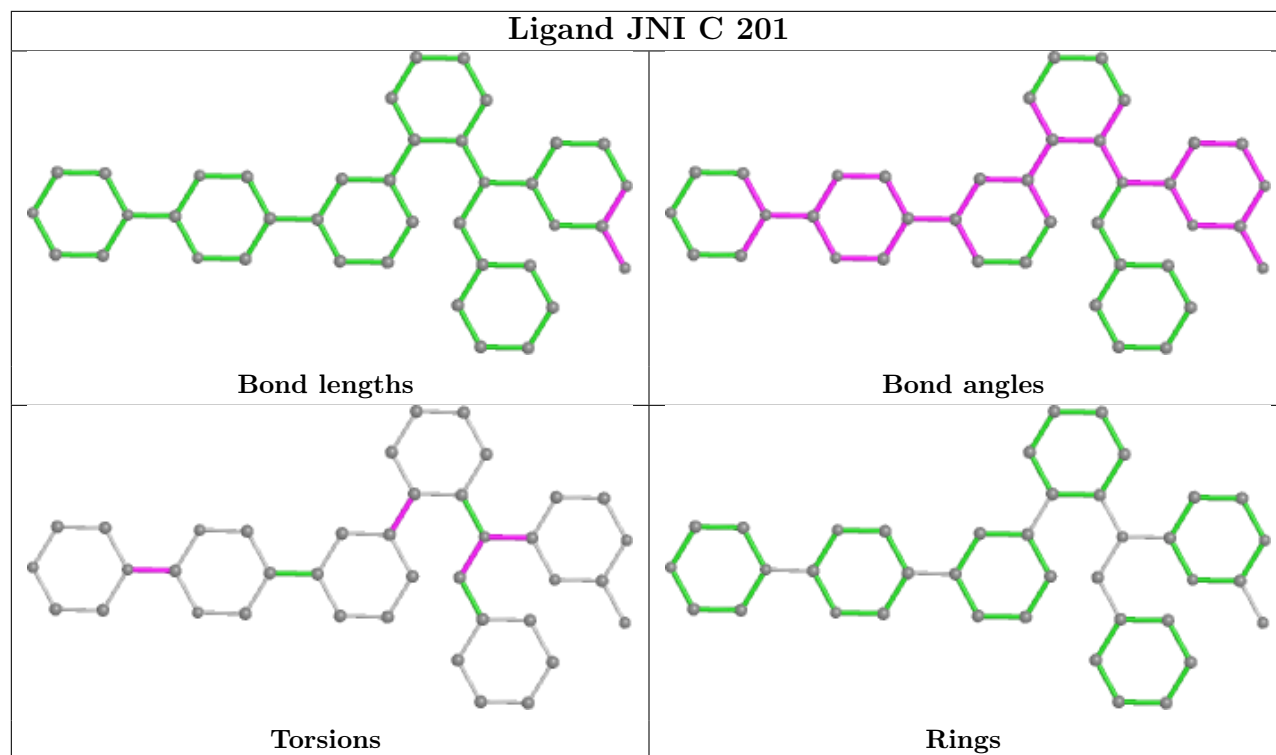


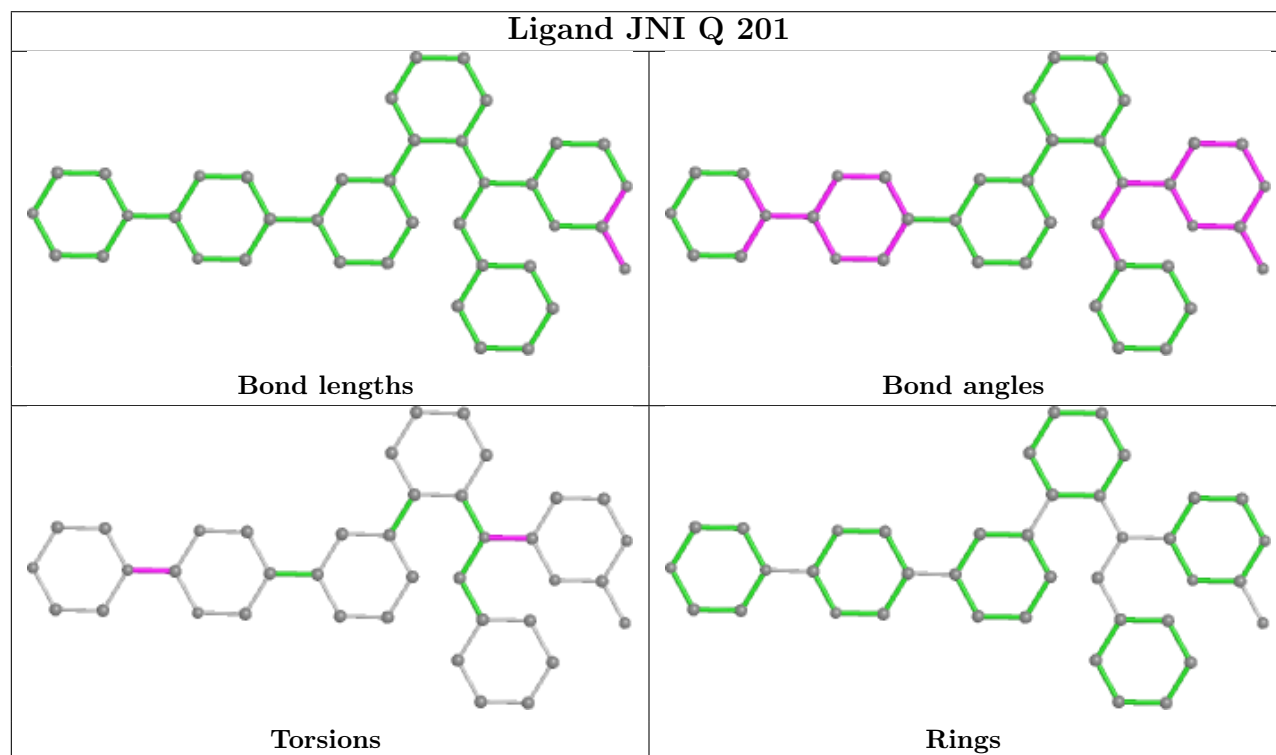
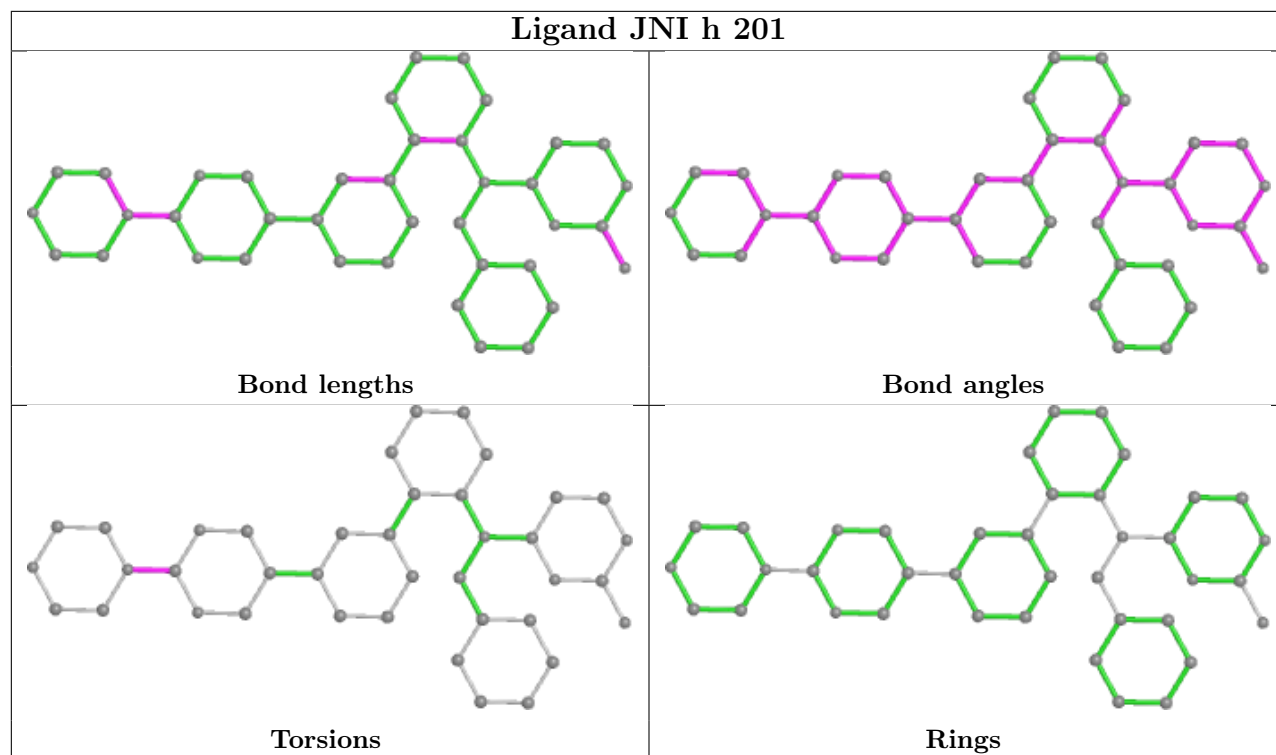


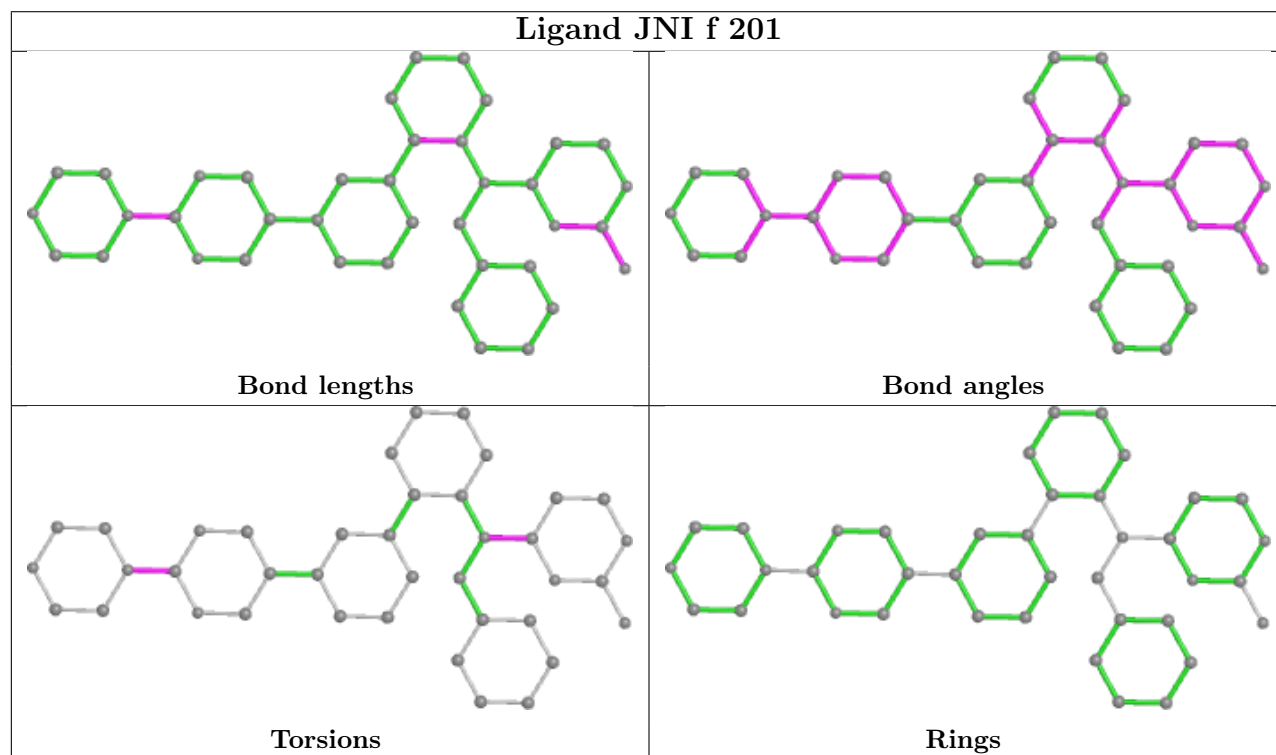
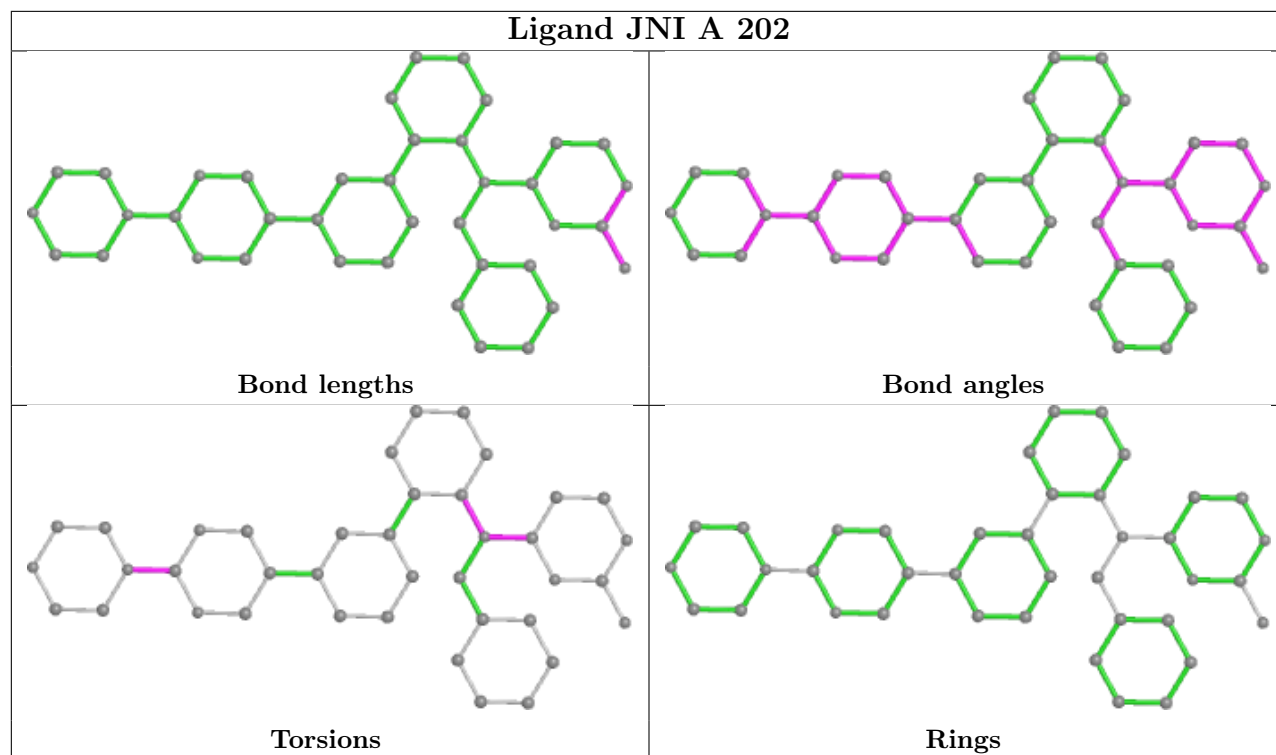


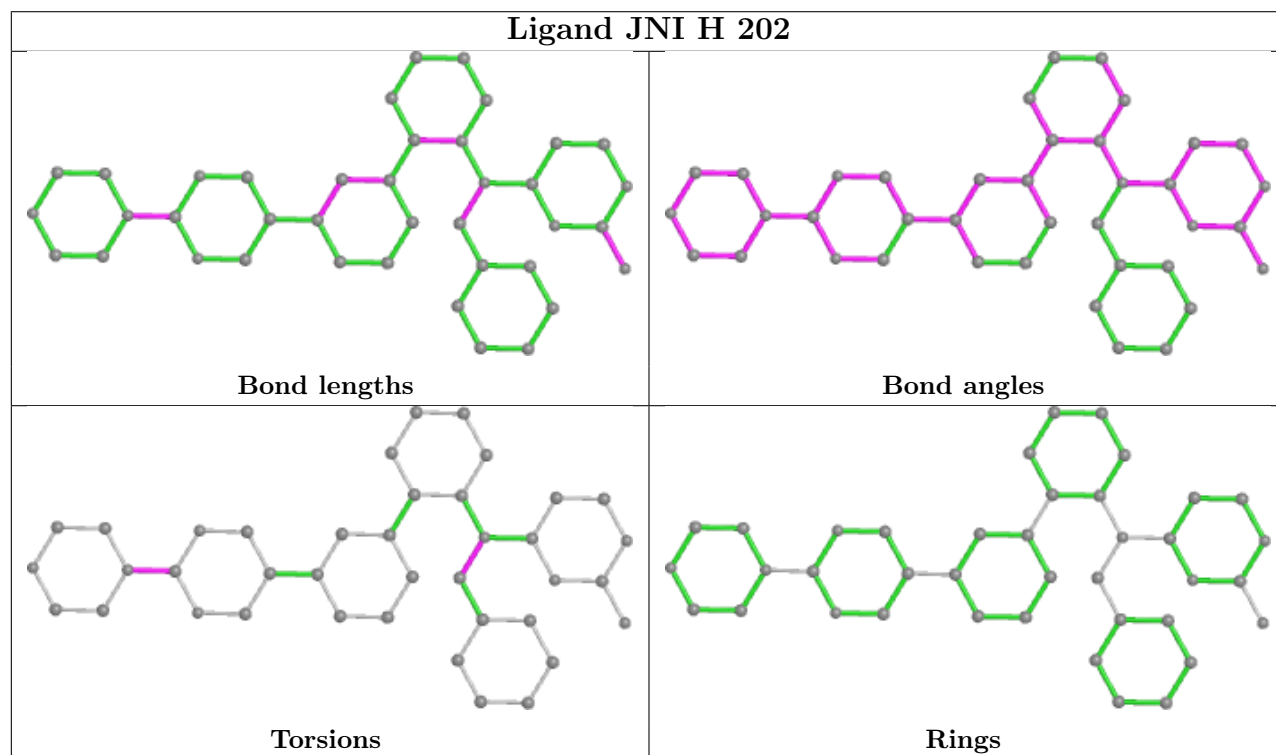
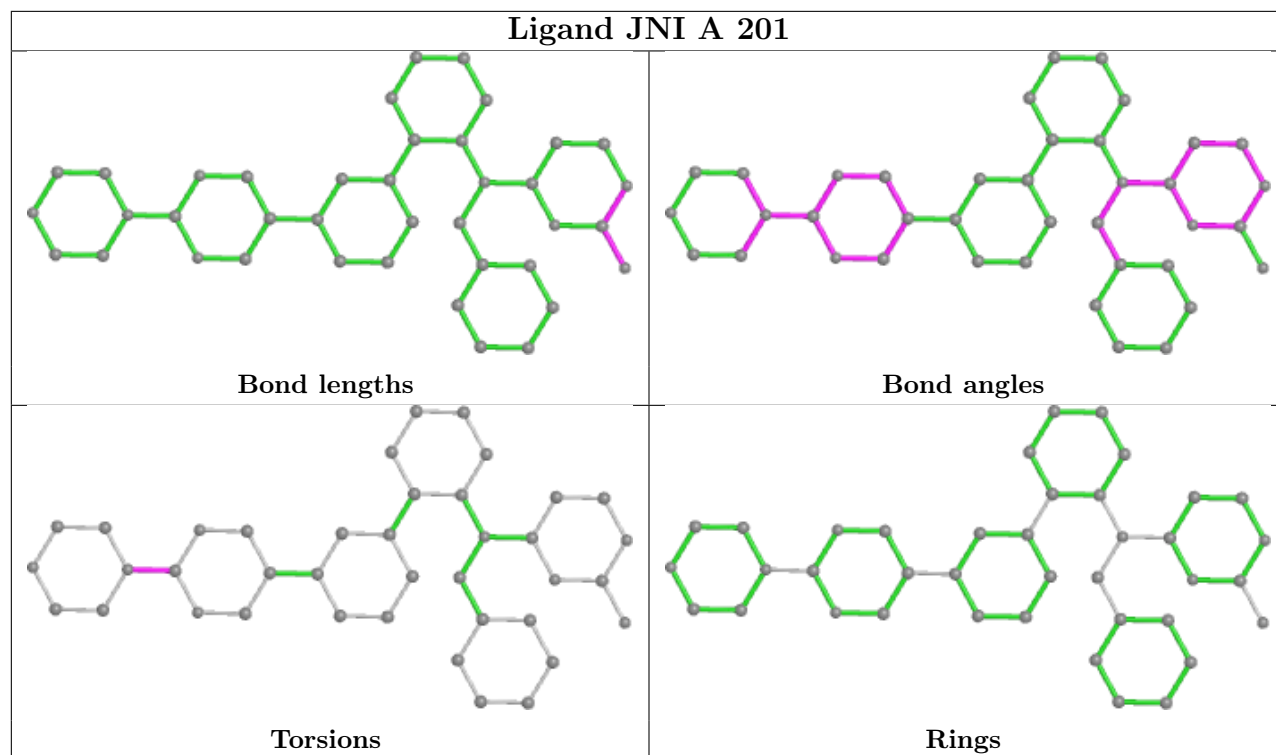


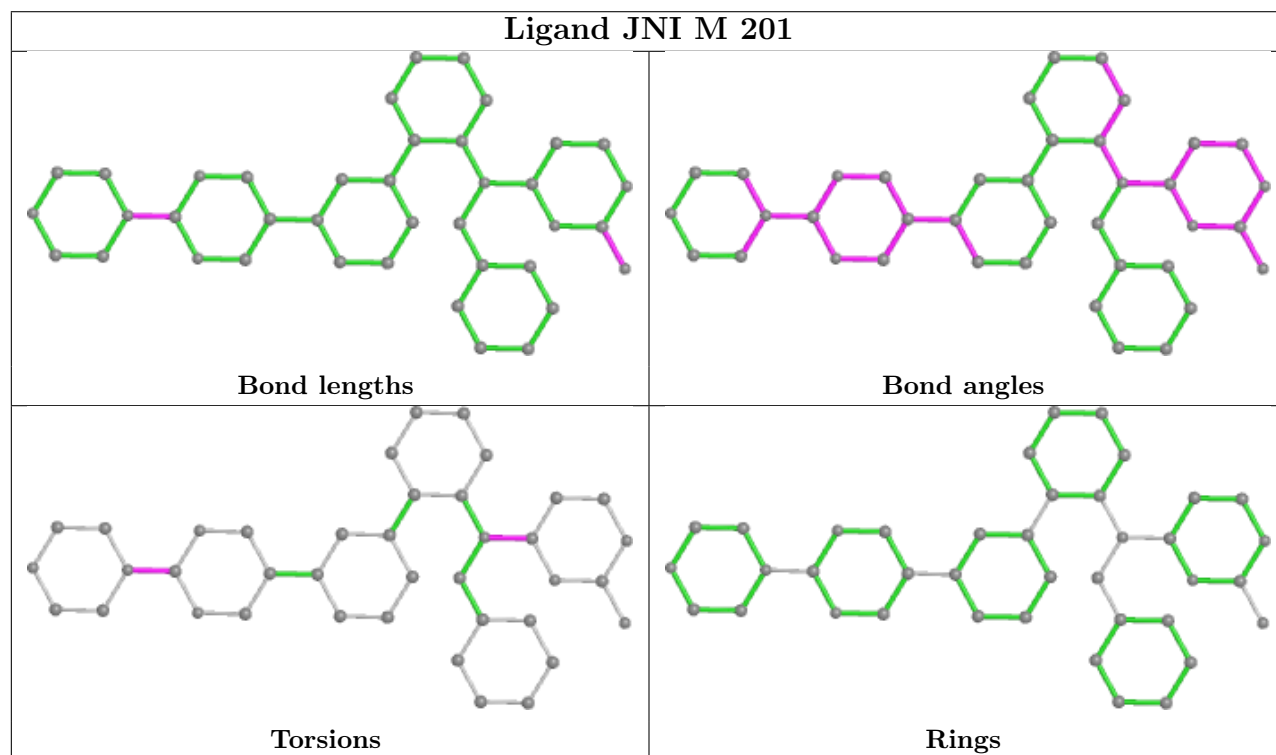
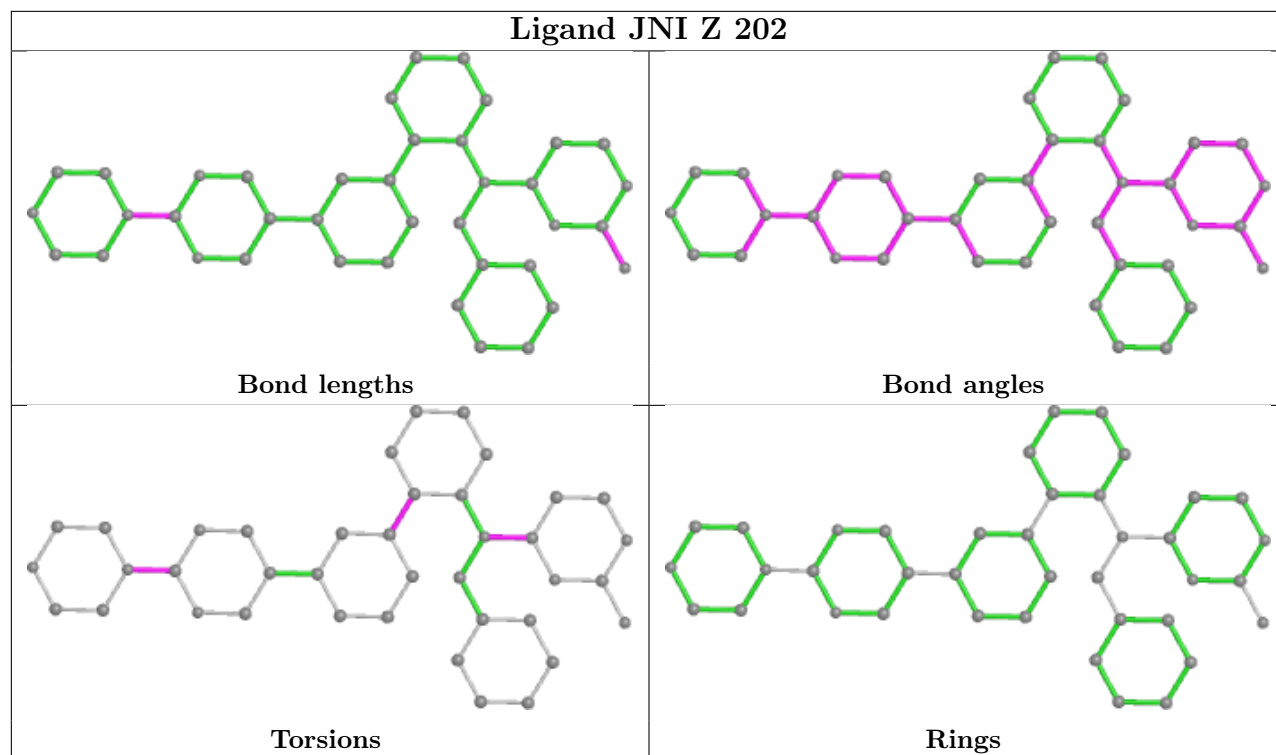




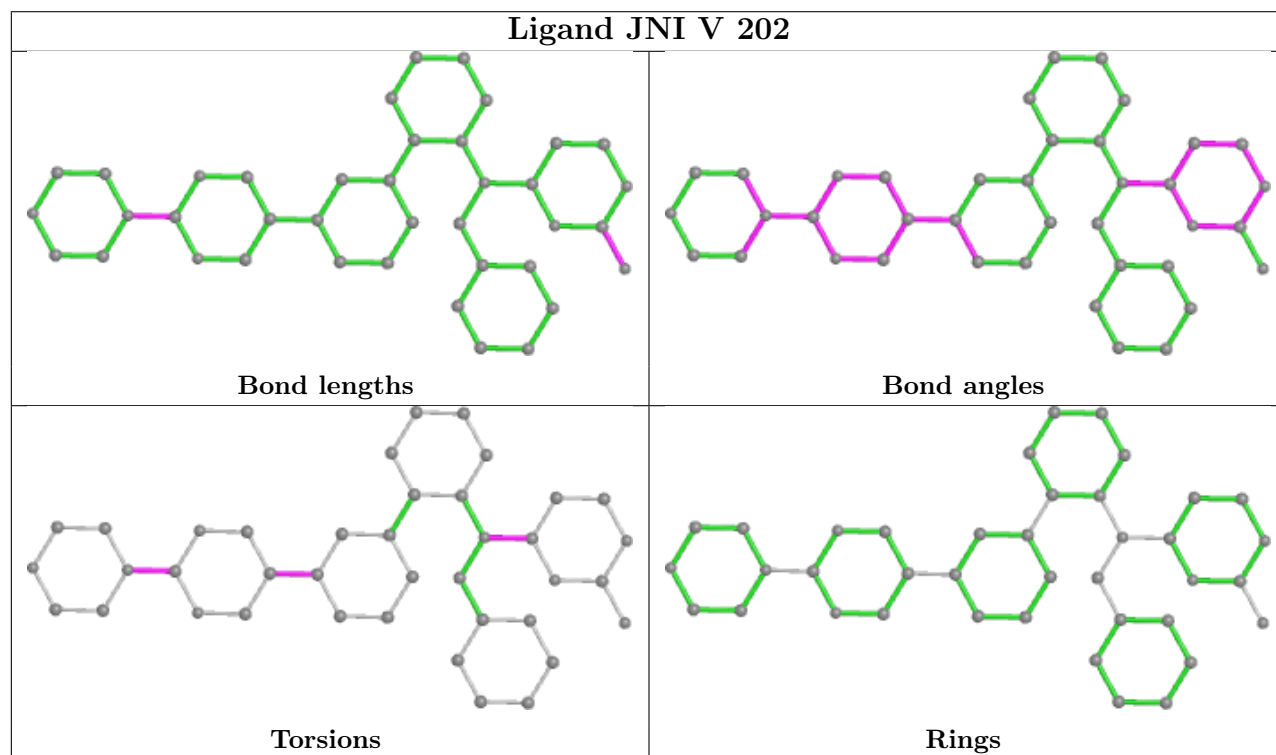
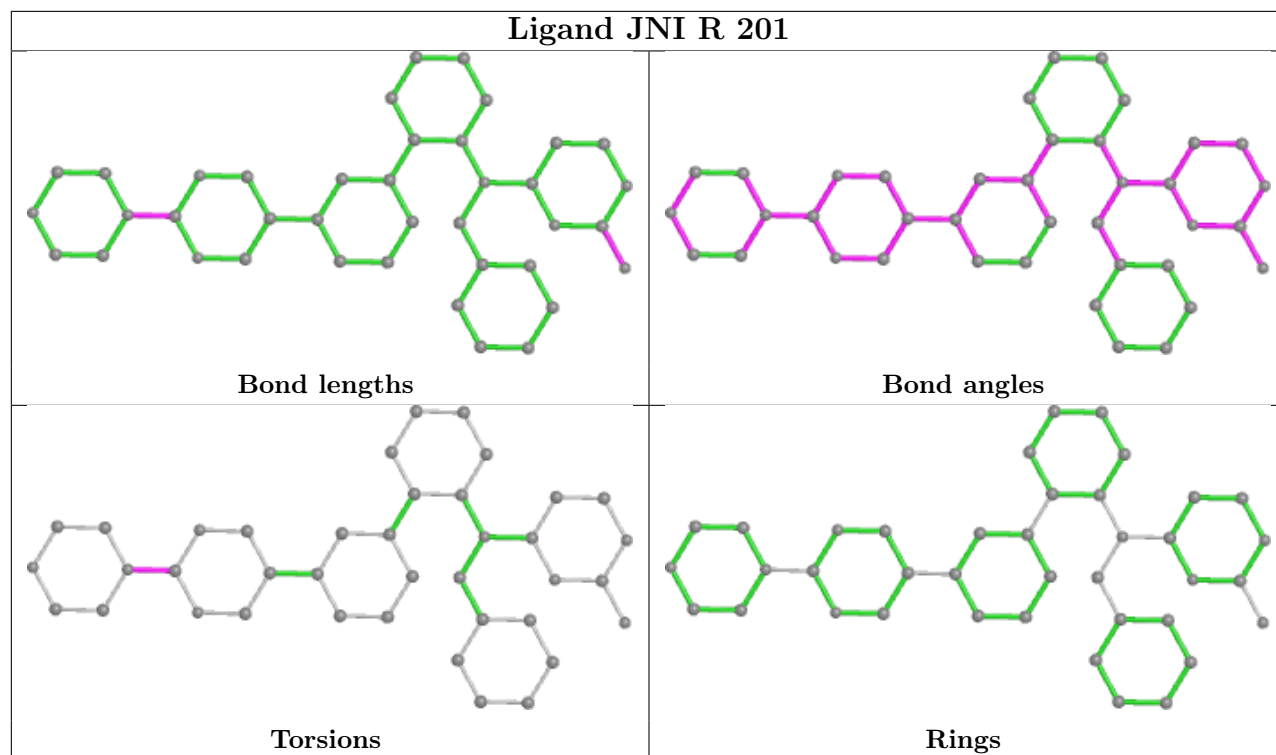


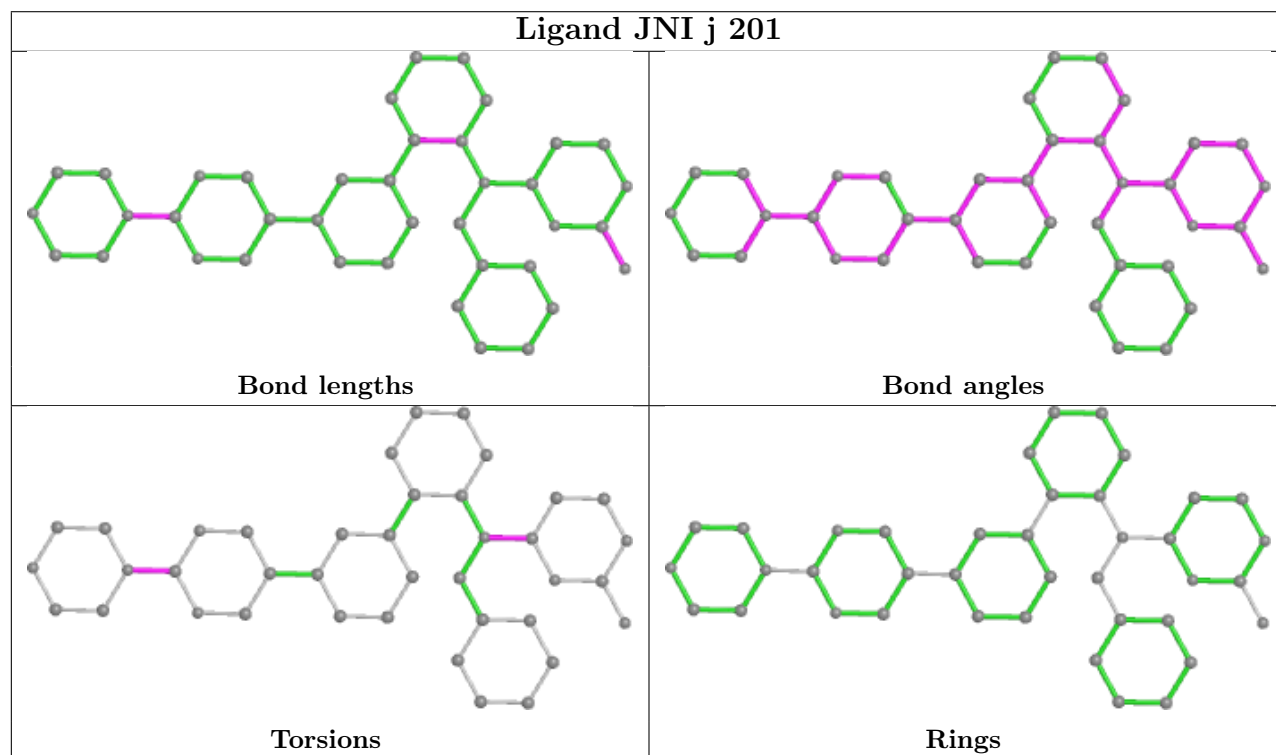
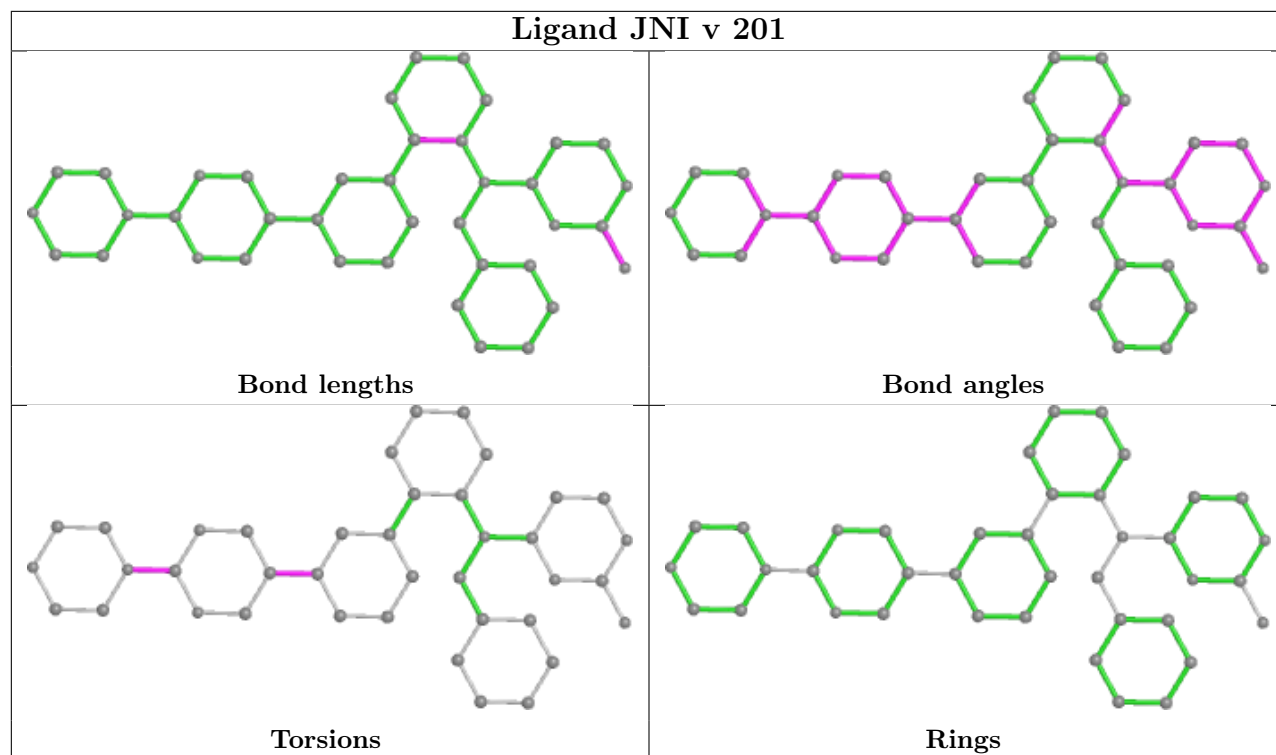


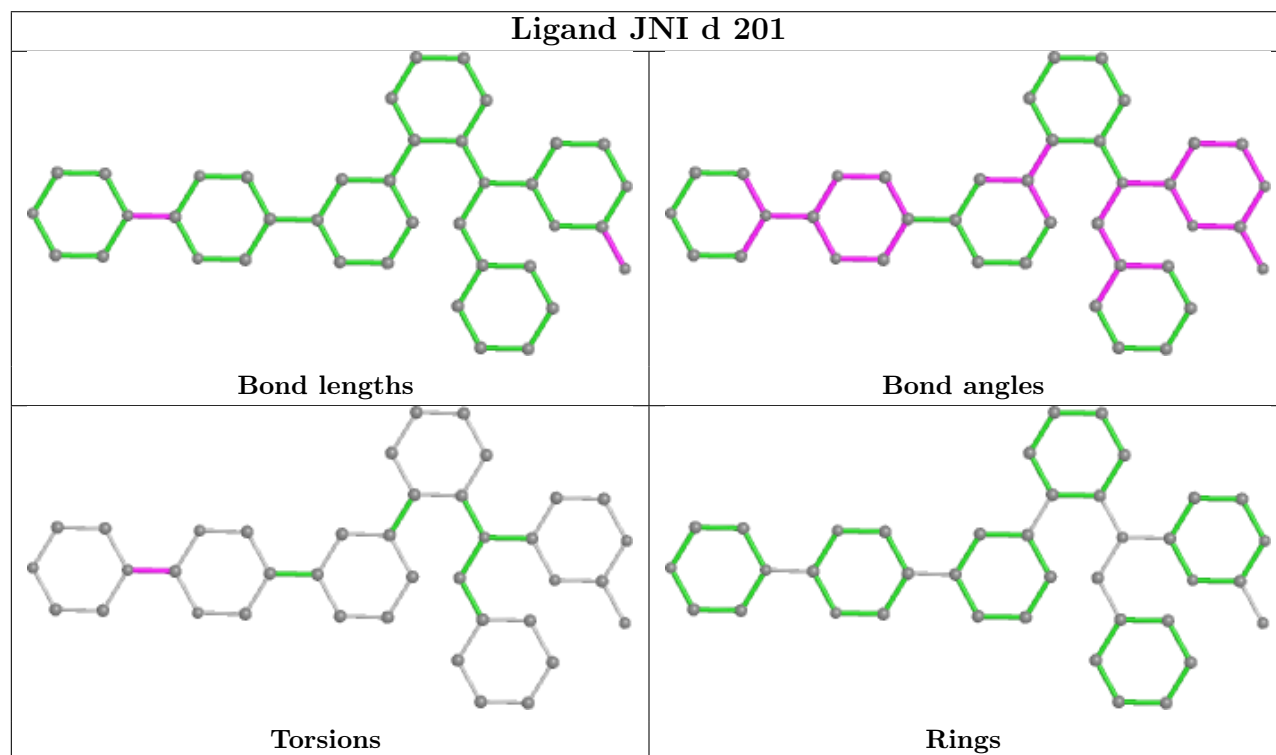
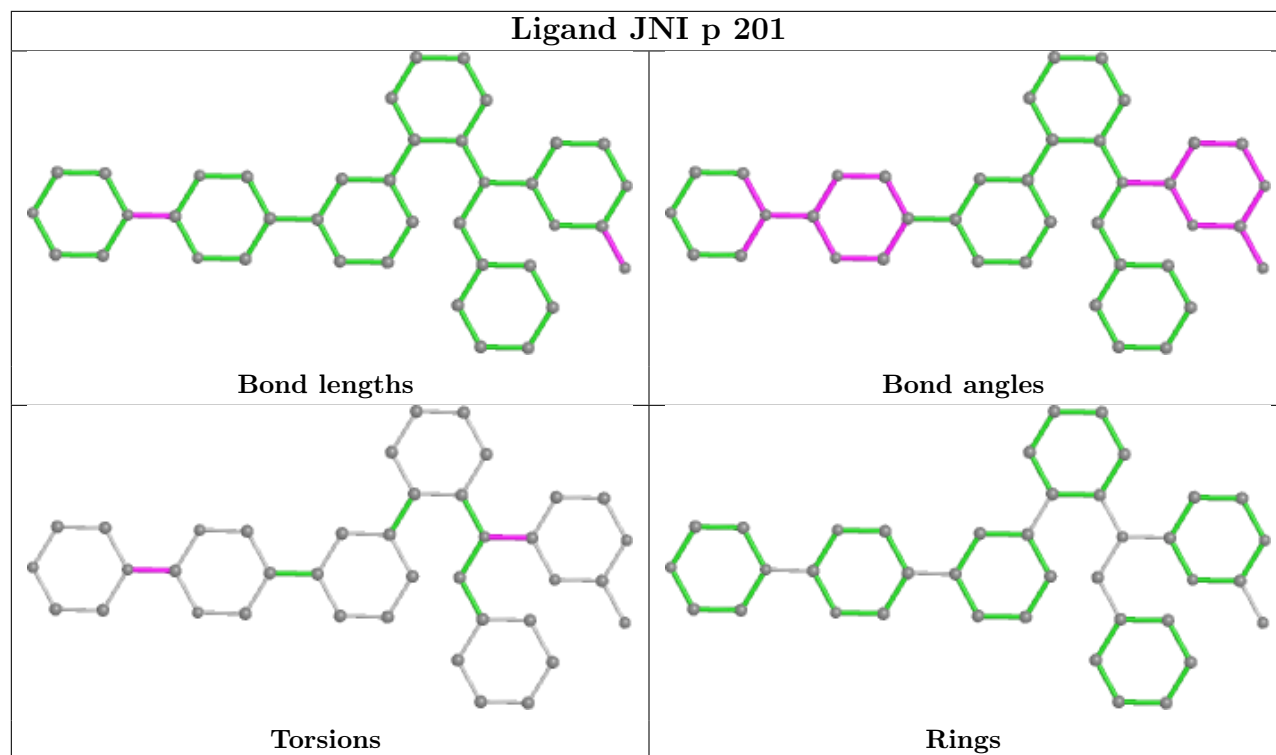


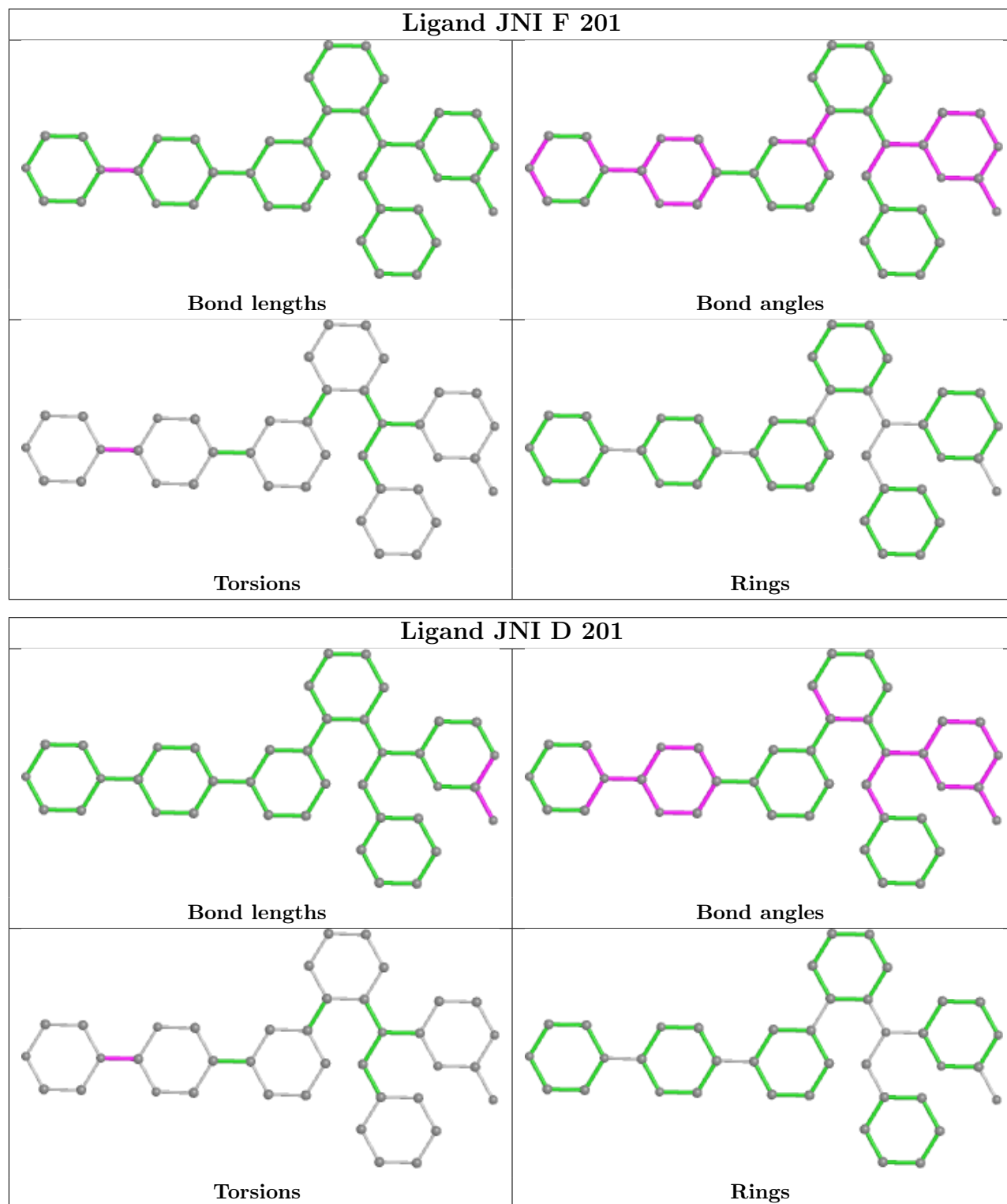












## 5.7 Other polymers [\(i\)](#)

There are no such residues in this entry.

## 5.8 Polymer linkage issues

There are no chain breaks in this entry.

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

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

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

| Mol | Chain | Analysed      | <RSRZ> | #RSRZ>2                 | OWAB(Å <sup>2</sup> ) | Q<0.9 |
|-----|-------|---------------|--------|-------------------------|-----------------------|-------|
| 1   | A     | 141/159 (88%) | -0.46  | 0 <b>100</b> <b>100</b> | 76, 112, 164, 196     | 0     |
| 1   | B     | 145/159 (91%) | -0.52  | 3 (2%) 63 34            | 59, 84, 133, 165      | 0     |
| 1   | C     | 146/159 (91%) | -0.31  | 3 (2%) 63 34            | 82, 128, 177, 195     | 0     |
| 1   | D     | 149/159 (93%) | -0.52  | 0 <b>100</b> <b>100</b> | 66, 83, 151, 180      | 0     |
| 1   | F     | 140/159 (88%) | -0.55  | 1 (0%) 87 69            | 64, 95, 175, 222      | 0     |
| 1   | G     | 149/159 (93%) | -0.49  | 4 (2%) 54 26            | 56, 84, 154, 189      | 0     |
| 1   | H     | 150/159 (94%) | -0.26  | 3 (2%) 65 36            | 84, 127, 182, 217     | 0     |
| 1   | I     | 141/159 (88%) | -0.66  | 0 <b>100</b> <b>100</b> | 66, 91, 139, 160      | 0     |
| 1   | J     | 138/159 (86%) | -0.09  | 8 (5%) 23 7             | 81, 133, 183, 195     | 0     |
| 1   | K     | 149/159 (93%) | -0.45  | 6 (4%) 38 15            | 59, 87, 161, 207      | 0     |
| 1   | L     | 142/159 (89%) | 0.07   | 8 (5%) 24 8             | 95, 142, 198, 234     | 0     |
| 1   | M     | 149/159 (93%) | -0.50  | 2 (1%) 77 51            | 64, 89, 157, 194      | 0     |
| 1   | N     | 143/159 (89%) | -0.28  | 8 (5%) 24 8             | 74, 100, 167, 211     | 0     |
| 1   | O     | 145/159 (91%) | -0.58  | 1 (0%) 87 69            | 66, 90, 136, 161      | 0     |
| 1   | P     | 145/159 (91%) | -0.29  | 3 (2%) 63 34            | 86, 131, 178, 217     | 0     |
| 1   | Q     | 149/159 (93%) | -0.57  | 0 <b>100</b> <b>100</b> | 68, 94, 154, 193      | 0     |
| 1   | R     | 138/159 (86%) | -0.39  | 2 (1%) 75 49            | 70, 104, 162, 214     | 0     |
| 1   | S     | 149/159 (93%) | -0.53  | 4 (2%) 54 26            | 62, 84, 150, 198      | 0     |
| 1   | T     | 146/159 (91%) | -0.46  | 1 (0%) 87 69            | 66, 104, 169, 206     | 0     |
| 1   | U     | 149/159 (93%) | -0.61  | 0 <b>100</b> <b>100</b> | 61, 95, 162, 207      | 0     |
| 1   | V     | 138/159 (86%) | -0.19  | 8 (5%) 23 7             | 79, 123, 187, 207     | 0     |
| 1   | W     | 143/159 (89%) | -0.59  | 1 (0%) 87 69            | 61, 82, 133, 160      | 0     |
| 1   | X     | 150/159 (94%) | -0.38  | 2 (1%) 77 51            | 68, 99, 183, 212      | 0     |
| 1   | Y     | 149/159 (93%) | -0.62  | 0 <b>100</b> <b>100</b> | 63, 83, 160, 186      | 0     |

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| Mol | Chain | Analysed        | <RSRZ> | #RSRZ>2        | OWAB(Å <sup>2</sup> ) | Q<0.9 |
|-----|-------|-----------------|--------|----------------|-----------------------|-------|
| 1   | Z     | 143/159 (89%)   | -0.21  | 5 (3%) 44 18   | 80, 119, 185, 219     | 0     |
| 1   | a     | 149/159 (93%)   | -0.44  | 7 (4%) 31 11   | 69, 91, 165, 235      | 0     |
| 1   | b     | 144/159 (90%)   | -0.31  | 2 (1%) 75 49   | 80, 116, 171, 190     | 0     |
| 1   | c     | 145/159 (91%)   | -0.57  | 1 (0%) 87 69   | 63, 86, 146, 165      | 0     |
| 1   | d     | 138/159 (86%)   | -0.41  | 1 (0%) 87 69   | 78, 116, 174, 211     | 0     |
| 1   | e     | 149/159 (93%)   | -0.66  | 0 100 100      | 60, 85, 131, 189      | 0     |
| 1   | f     | 143/159 (89%)   | -0.13  | 3 (2%) 63 34   | 93, 142, 190, 206     | 0     |
| 1   | g     | 145/159 (91%)   | -0.59  | 0 100 100      | 70, 98, 148, 170      | 0     |
| 1   | h     | 137/159 (86%)   | -0.20  | 2 (1%) 73 46   | 84, 120, 185, 204     | 0     |
| 1   | i     | 145/159 (91%)   | -0.53  | 3 (2%) 63 34   | 66, 89, 158, 186      | 0     |
| 1   | j     | 150/159 (94%)   | 0.10   | 12 (8%) 12 4   | 80, 136, 197, 221     | 0     |
| 1   | k     | 142/159 (89%)   | -0.58  | 1 (0%) 87 69   | 63, 90, 139, 171      | 0     |
| 1   | l     | 143/159 (89%)   | -0.33  | 3 (2%) 63 34   | 77, 106, 171, 240     | 0     |
| 1   | m     | 147/159 (92%)   | -0.57  | 0 100 100      | 72, 94, 145, 186      | 0     |
| 1   | n     | 147/159 (92%)   | 0.05   | 7 (4%) 30 11   | 107, 149, 188, 213    | 0     |
| 1   | o     | 147/159 (92%)   | -0.43  | 2 (1%) 75 49   | 79, 110, 158, 189     | 0     |
| 1   | p     | 139/159 (87%)   | 0.06   | 10 (7%) 15 4   | 101, 148, 198, 214    | 0     |
| 1   | q     | 149/159 (93%)   | -0.56  | 1 (0%) 87 69   | 75, 99, 141, 168      | 0     |
| 1   | r     | 144/159 (90%)   | -0.05  | 6 (4%) 36 14   | 94, 146, 187, 215     | 0     |
| 1   | s     | 149/159 (93%)   | -0.52  | 2 (1%) 77 51   | 71, 93, 145, 177      | 0     |
| 1   | t     | 143/159 (89%)   | -0.08  | 8 (5%) 24 8    | 92, 131, 178, 200     | 0     |
| 1   | u     | 145/159 (91%)   | -0.53  | 0 100 100      | 77, 100, 144, 170     | 0     |
| 1   | v     | 144/159 (90%)   | 0.27   | 12 (8%) 11 3   | 121, 154, 199, 233    | 0     |
| 1   | w     | 145/159 (91%)   | -0.53  | 1 (0%) 87 69   | 76, 111, 164, 186     | 0     |
| All | All   | 6955/7632 (91%) | -0.38  | 157 (2%) 60 31 | 56, 106, 177, 240     | 0     |

All (157) RSRZ outliers are listed below:

| Mol | Chain | Res | Type | RSRZ |
|-----|-------|-----|------|------|
| 1   | l     | 109 | ALA  | 8.6  |
| 1   | a     | 106 | PRO  | 8.2  |
| 1   | v     | 9   | SER  | 7.6  |
| 1   | l     | 108 | GLY  | 6.9  |
| 1   | L     | 72  | THR  | 6.4  |

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| <b>Mol</b> | <b>Chain</b> | <b>Res</b> | <b>Type</b> | <b>RSRZ</b> |
|------------|--------------|------------|-------------|-------------|
| 1          | j            | 8          | PRO         | 6.4         |
| 1          | P            | 23         | GLU         | 6.1         |
| 1          | L            | 71         | SER         | 5.8         |
| 1          | L            | 18         | ALA         | 5.8         |
| 1          | v            | 34         | ASN         | 5.5         |
| 1          | R            | 146        | GLU         | 5.3         |
| 1          | o            | 108        | GLY         | 5.1         |
| 1          | V            | 106        | PRO         | 4.5         |
| 1          | j            | 106        | PRO         | 4.4         |
| 1          | K            | 106        | PRO         | 4.4         |
| 1          | h            | 71         | SER         | 4.3         |
| 1          | n            | 9          | SER         | 4.3         |
| 1          | l            | 106        | PRO         | 4.3         |
| 1          | v            | 33         | ALA         | 4.2         |
| 1          | v            | 24         | GLY         | 4.2         |
| 1          | v            | 30         | ASN         | 4.0         |
| 1          | G            | 107        | GLU         | 3.9         |
| 1          | H            | 109        | ALA         | 3.9         |
| 1          | Z            | 109        | ALA         | 3.8         |
| 1          | L            | 89         | THR         | 3.7         |
| 1          | J            | 67         | GLN         | 3.7         |
| 1          | j            | 109        | ALA         | 3.7         |
| 1          | r            | 24         | GLY         | 3.5         |
| 1          | K            | 108        | GLY         | 3.5         |
| 1          | r            | 23         | GLU         | 3.4         |
| 1          | R            | 73         | HIS         | 3.4         |
| 1          | c            | 9          | SER         | 3.4         |
| 1          | p            | 44         | ARG         | 3.4         |
| 1          | v            | 8          | PRO         | 3.3         |
| 1          | L            | 31         | ARG         | 3.3         |
| 1          | a            | 9          | SER         | 3.3         |
| 1          | a            | 111        | ALA         | 3.2         |
| 1          | N            | 87         | TYR         | 3.2         |
| 1          | L            | 73         | HIS         | 3.2         |
| 1          | a            | 110        | GLU         | 3.2         |
| 1          | d            | 71         | SER         | 3.2         |
| 1          | G            | 106        | PRO         | 3.2         |
| 1          | p            | 43         | LEU         | 3.1         |
| 1          | i            | 9          | SER         | 3.1         |
| 1          | V            | 101        | CYS         | 3.1         |
| 1          | X            | 33         | ALA         | 3.1         |
| 1          | M            | 108        | GLY         | 3.0         |

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| <b>Mol</b> | <b>Chain</b> | <b>Res</b> | <b>Type</b> | <b>RSRZ</b> |
|------------|--------------|------------|-------------|-------------|
| 1          | B            | 105        | THR         | 3.0         |
| 1          | j            | 105        | THR         | 3.0         |
| 1          | k            | 9          | SER         | 3.0         |
| 1          | i            | 106        | PRO         | 3.0         |
| 1          | N            | 73         | HIS         | 3.0         |
| 1          | J            | 20         | PRO         | 3.0         |
| 1          | t            | 107        | GLU         | 3.0         |
| 1          | J            | 24         | GLY         | 3.0         |
| 1          | J            | 102        | GLN         | 3.0         |
| 1          | n            | 105        | THR         | 3.0         |
| 1          | r            | 144        | PHE         | 2.9         |
| 1          | t            | 112        | LYS         | 2.9         |
| 1          | K            | 111        | ALA         | 2.9         |
| 1          | H            | 106        | PRO         | 2.9         |
| 1          | K            | 110        | GLU         | 2.9         |
| 1          | f            | 33         | ALA         | 2.9         |
| 1          | o            | 106        | PRO         | 2.9         |
| 1          | K            | 105        | THR         | 2.9         |
| 1          | j            | 71         | SER         | 2.9         |
| 1          | V            | 105        | THR         | 2.9         |
| 1          | N            | 104        | GLU         | 2.8         |
| 1          | n            | 8          | PRO         | 2.8         |
| 1          | s            | 9          | SER         | 2.8         |
| 1          | C            | 24         | GLY         | 2.8         |
| 1          | J            | 115        | TYR         | 2.8         |
| 1          | a            | 109        | ALA         | 2.7         |
| 1          | i            | 111        | ALA         | 2.7         |
| 1          | t            | 9          | SER         | 2.7         |
| 1          | t            | 106        | PRO         | 2.7         |
| 1          | a            | 108        | GLY         | 2.7         |
| 1          | S            | 106        | PRO         | 2.7         |
| 1          | r            | 30         | ASN         | 2.7         |
| 1          | q            | 24         | GLY         | 2.7         |
| 1          | H            | 107        | GLU         | 2.7         |
| 1          | L            | 23         | GLU         | 2.7         |
| 1          | O            | 105        | THR         | 2.6         |
| 1          | j            | 73         | HIS         | 2.6         |
| 1          | v            | 29         | LEU         | 2.6         |
| 1          | K            | 107        | GLU         | 2.6         |
| 1          | P            | 73         | HIS         | 2.6         |
| 1          | P            | 106        | PRO         | 2.6         |
| 1          | r            | 86         | SER         | 2.6         |

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| <b>Mol</b> | <b>Chain</b> | <b>Res</b> | <b>Type</b> | <b>RSRZ</b> |
|------------|--------------|------------|-------------|-------------|
| 1          | p            | 71         | SER         | 2.6         |
| 1          | M            | 110        | GLU         | 2.6         |
| 1          | T            | 9          | SER         | 2.5         |
| 1          | t            | 71         | SER         | 2.5         |
| 1          | t            | 109        | ALA         | 2.5         |
| 1          | p            | 20         | PRO         | 2.5         |
| 1          | j            | 9          | SER         | 2.5         |
| 1          | n            | 40         | GLY         | 2.4         |
| 1          | S            | 108        | GLY         | 2.4         |
| 1          | t            | 108        | GLY         | 2.4         |
| 1          | b            | 21         | GLN         | 2.4         |
| 1          | f            | 24         | GLY         | 2.4         |
| 1          | v            | 10         | ASP         | 2.4         |
| 1          | X            | 110        | GLU         | 2.4         |
| 1          | h            | 146        | GLU         | 2.4         |
| 1          | G            | 111        | ALA         | 2.4         |
| 1          | J            | 103        | ARG         | 2.4         |
| 1          | v            | 35         | ALA         | 2.4         |
| 1          | G            | 108        | GLY         | 2.4         |
| 1          | p            | 72         | THR         | 2.4         |
| 1          | t            | 86         | SER         | 2.4         |
| 1          | n            | 33         | ALA         | 2.4         |
| 1          | W            | 103        | ARG         | 2.4         |
| 1          | w            | 106        | PRO         | 2.4         |
| 1          | p            | 36         | LEU         | 2.4         |
| 1          | b            | 105        | THR         | 2.3         |
| 1          | Z            | 108        | GLY         | 2.3         |
| 1          | S            | 110        | GLU         | 2.3         |
| 1          | v            | 105        | THR         | 2.3         |
| 1          | S            | 112        | LYS         | 2.3         |
| 1          | N            | 9          | SER         | 2.3         |
| 1          | n            | 71         | SER         | 2.3         |
| 1          | C            | 23         | GLU         | 2.3         |
| 1          | p            | 29         | LEU         | 2.2         |
| 1          | V            | 74         | VAL         | 2.2         |
| 1          | C            | 106        | PRO         | 2.2         |
| 1          | v            | 23         | GLU         | 2.2         |
| 1          | F            | 105        | THR         | 2.2         |
| 1          | L            | 34         | ASN         | 2.2         |
| 1          | N            | 71         | SER         | 2.2         |
| 1          | N            | 103        | ARG         | 2.2         |
| 1          | v            | 32         | ARG         | 2.2         |

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| Mol | Chain | Res | Type | RSRZ |
|-----|-------|-----|------|------|
| 1   | p     | 27  | GLN  | 2.2  |
| 1   | n     | 106 | PRO  | 2.2  |
| 1   | V     | 104 | GLU  | 2.2  |
| 1   | j     | 40  | GLY  | 2.2  |
| 1   | B     | 111 | ALA  | 2.2  |
| 1   | Z     | 21  | GLN  | 2.2  |
| 1   | p     | 21  | GLN  | 2.2  |
| 1   | j     | 107 | GLU  | 2.2  |
| 1   | Z     | 111 | ALA  | 2.1  |
| 1   | j     | 44  | ARG  | 2.1  |
| 1   | V     | 23  | GLU  | 2.1  |
| 1   | a     | 107 | GLU  | 2.1  |
| 1   | j     | 103 | ARG  | 2.1  |
| 1   | V     | 21  | GLN  | 2.1  |
| 1   | s     | 110 | GLU  | 2.1  |
| 1   | j     | 72  | THR  | 2.1  |
| 1   | p     | 10  | ASP  | 2.1  |
| 1   | Z     | 112 | LYS  | 2.1  |
| 1   | J     | 68  | GLY  | 2.1  |
| 1   | J     | 112 | LYS  | 2.1  |
| 1   | B     | 71  | SER  | 2.1  |
| 1   | r     | 102 | GLN  | 2.1  |
| 1   | V     | 103 | ARG  | 2.1  |
| 1   | N     | 86  | SER  | 2.1  |
| 1   | N     | 106 | PRO  | 2.0  |
| 1   | f     | 74  | VAL  | 2.0  |

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

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

## 6.3 Carbohydrates [\(i\)](#)

There are no monosaccharides in this entry.

## 6.4 Ligands [\(i\)](#)

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

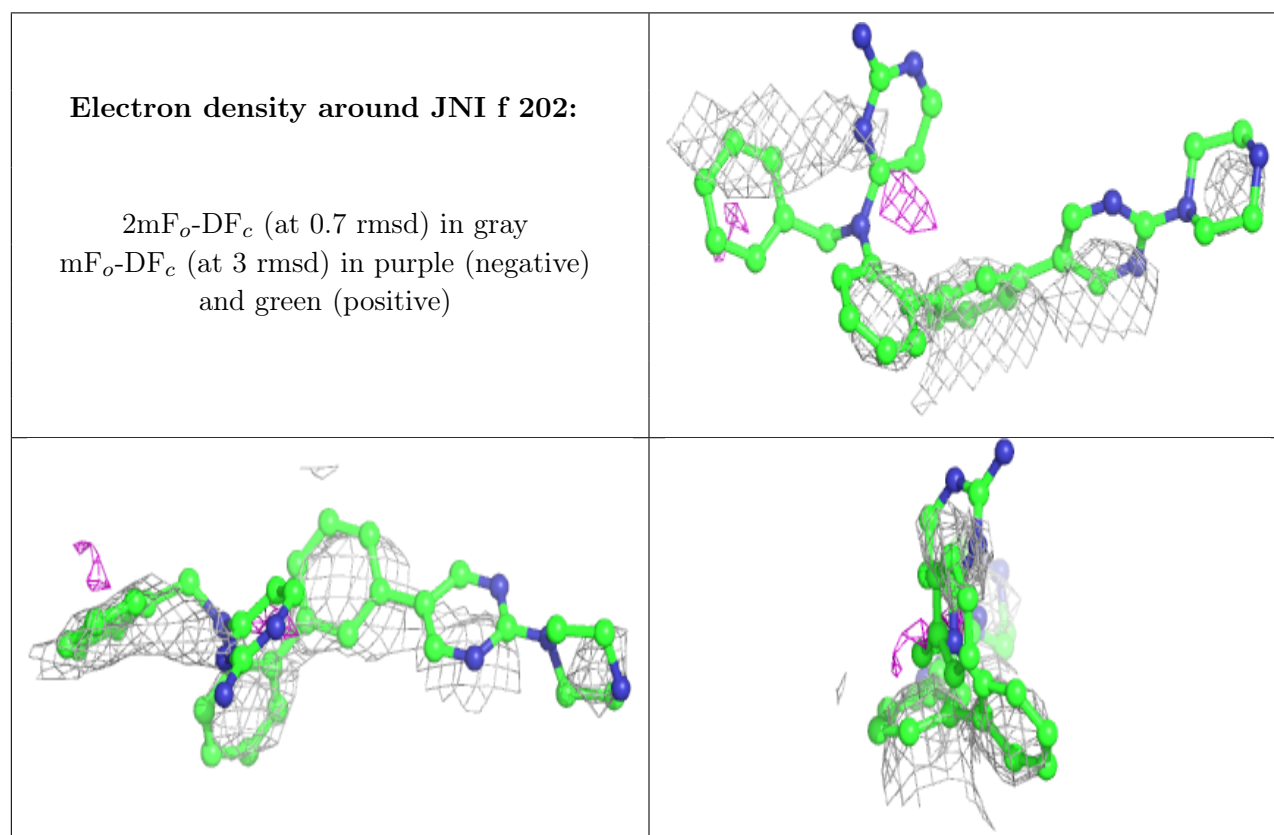
| Mol | Type | Chain | Res | Atoms | RSCC | RSR  | B-factors( $\text{\AA}^2$ ) | Q<0.9 |
|-----|------|-------|-----|-------|------|------|-----------------------------|-------|
| 2   | JNI  | f     | 202 | 39/39 | 0.76 | 0.44 | 117,175,241,261             | 0     |
| 2   | JNI  | P     | 202 | 39/39 | 0.80 | 0.32 | 80,129,210,215              | 0     |
| 2   | JNI  | j     | 202 | 39/39 | 0.80 | 0.37 | 93,148,193,200              | 0     |
| 2   | JNI  | n     | 202 | 39/39 | 0.80 | 0.33 | 88,133,183,186              | 0     |
| 2   | JNI  | r     | 202 | 39/39 | 0.83 | 0.28 | 88,144,228,245              | 0     |
| 2   | JNI  | n     | 201 | 39/39 | 0.85 | 0.30 | 67,125,200,203              | 0     |
| 2   | JNI  | v     | 202 | 39/39 | 0.85 | 0.30 | 97,150,214,219              | 0     |
| 2   | JNI  | J     | 202 | 39/39 | 0.86 | 0.27 | 101,150,181,185             | 0     |
| 2   | JNI  | t     | 202 | 39/39 | 0.86 | 0.28 | 87,160,187,203              | 0     |
| 2   | JNI  | X     | 202 | 39/39 | 0.86 | 0.30 | 65,112,179,192              | 0     |
| 2   | JNI  | Z     | 202 | 39/39 | 0.87 | 0.24 | 79,130,160,183              | 0     |
| 2   | JNI  | d     | 201 | 39/39 | 0.87 | 0.24 | 91,123,170,180              | 0     |
| 2   | JNI  | U     | 201 | 39/39 | 0.87 | 0.25 | 59,93,151,157               | 0     |
| 2   | JNI  | b     | 202 | 39/39 | 0.88 | 0.26 | 58,126,198,209              | 0     |
| 2   | JNI  | p     | 202 | 39/39 | 0.88 | 0.24 | 103,140,220,241             | 0     |
| 2   | JNI  | j     | 201 | 39/39 | 0.88 | 0.28 | 82,121,168,184              | 0     |
| 2   | JNI  | L     | 201 | 39/39 | 0.88 | 0.27 | 73,119,190,221              | 0     |
| 2   | JNI  | f     | 201 | 39/39 | 0.88 | 0.23 | 92,130,170,171              | 0     |
| 2   | JNI  | C     | 202 | 39/39 | 0.89 | 0.23 | 85,167,208,219              | 0     |
| 2   | JNI  | C     | 201 | 39/39 | 0.89 | 0.28 | 59,121,184,199              | 0     |
| 2   | JNI  | r     | 201 | 39/39 | 0.89 | 0.32 | 100,172,215,232             | 0     |
| 2   | JNI  | F     | 202 | 39/39 | 0.90 | 0.22 | 86,118,162,186              | 0     |
| 2   | JNI  | H     | 202 | 39/39 | 0.90 | 0.29 | 59,128,217,244              | 0     |
| 2   | JNI  | X     | 201 | 39/39 | 0.90 | 0.23 | 67,96,126,165               | 0     |
| 2   | JNI  | h     | 202 | 39/39 | 0.90 | 0.26 | 61,132,171,220              | 0     |
| 2   | JNI  | o     | 201 | 39/39 | 0.90 | 0.27 | 89,119,195,210              | 0     |
| 2   | JNI  | R     | 201 | 39/39 | 0.91 | 0.20 | 55,91,170,183               | 0     |
| 2   | JNI  | l     | 201 | 39/39 | 0.91 | 0.25 | 69,103,136,147              | 0     |
| 2   | JNI  | h     | 201 | 39/39 | 0.91 | 0.21 | 72,111,141,166              | 0     |
| 2   | JNI  | A     | 202 | 39/39 | 0.91 | 0.19 | 76,96,124,128               | 0     |
| 2   | JNI  | V     | 202 | 39/39 | 0.91 | 0.26 | 85,121,189,247              | 0     |
| 2   | JNI  | p     | 201 | 39/39 | 0.92 | 0.22 | 64,114,170,175              | 0     |
| 2   | JNI  | J     | 201 | 39/39 | 0.92 | 0.22 | 54,115,146,157              | 0     |
| 2   | JNI  | v     | 201 | 39/39 | 0.92 | 0.26 | 106,139,183,205             | 0     |
| 2   | JNI  | F     | 201 | 39/39 | 0.92 | 0.27 | 57,94,163,186               | 0     |
| 2   | JNI  | V     | 201 | 39/39 | 0.93 | 0.20 | 63,89,147,155               | 0     |
| 2   | JNI  | b     | 201 | 39/39 | 0.93 | 0.20 | 62,94,136,141               | 0     |
| 2   | JNI  | M     | 201 | 39/39 | 0.93 | 0.20 | 67,108,136,144              | 0     |
| 2   | JNI  | t     | 201 | 39/39 | 0.94 | 0.17 | 75,102,125,129              | 0     |
| 2   | JNI  | D     | 201 | 39/39 | 0.94 | 0.18 | 56,71,112,141               | 0     |
| 2   | JNI  | P     | 201 | 39/39 | 0.94 | 0.18 | 62,102,142,154              | 0     |
| 2   | JNI  | H     | 201 | 39/39 | 0.94 | 0.20 | 69,91,142,182               | 0     |
| 2   | JNI  | Q     | 201 | 39/39 | 0.95 | 0.23 | 67,88,141,169               | 0     |

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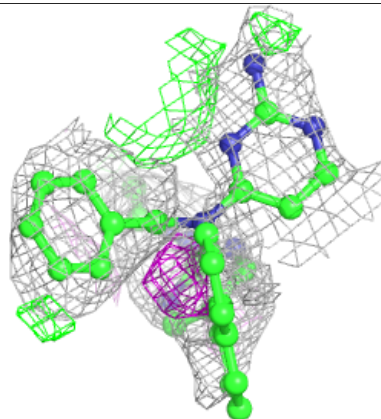
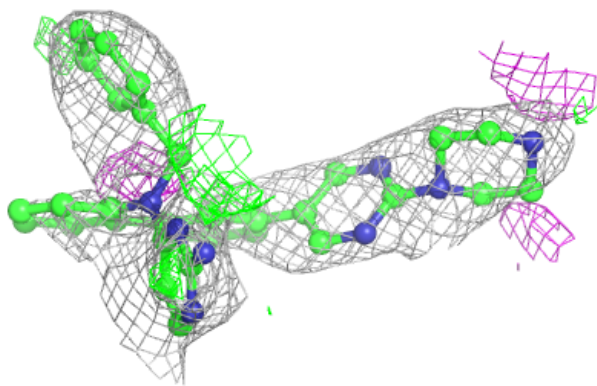
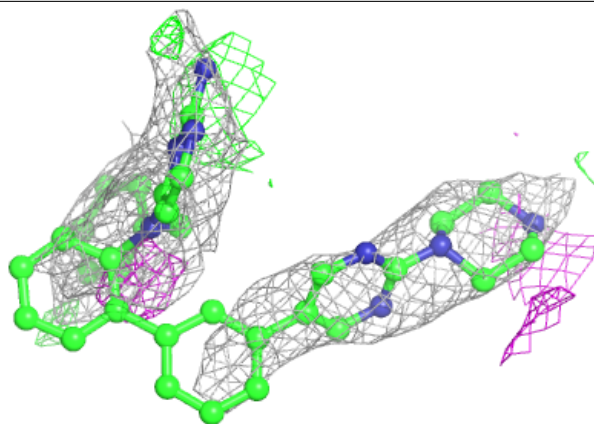
| Mol | Type | Chain | Res | Atoms | RSCC | RSR  | B-factors( $\text{\AA}^2$ ) | Q<0.9 |
|-----|------|-------|-----|-------|------|------|-----------------------------|-------|
| 2   | JNI  | Z     | 201 | 39/39 | 0.95 | 0.20 | 68,96,133,138               | 0     |
| 2   | JNI  | N     | 201 | 39/39 | 0.95 | 0.18 | 47,74,95,99                 | 0     |
| 2   | JNI  | A     | 201 | 39/39 | 0.96 | 0.15 | 33,84,117,140               | 0     |

The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation to approximate a three-dimensional view.



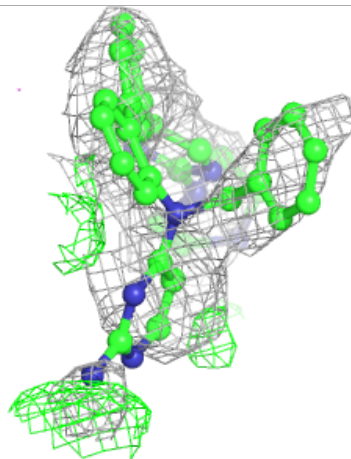
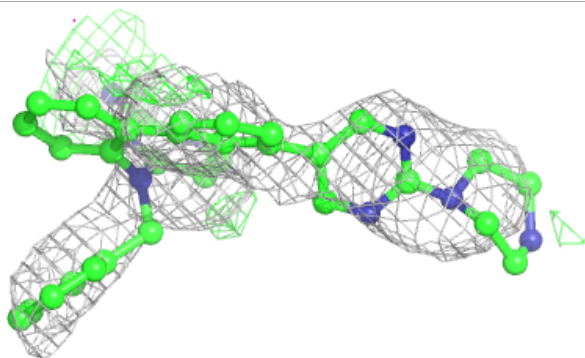
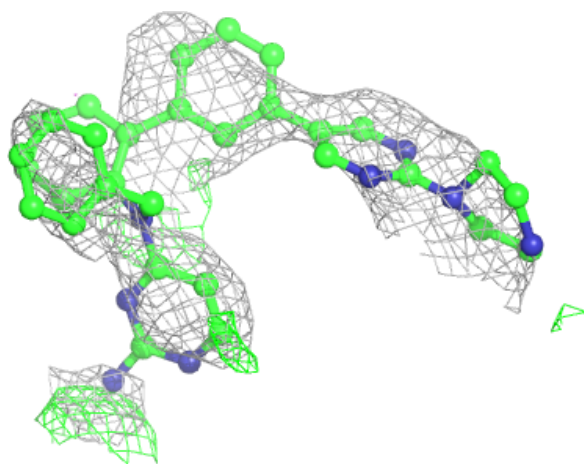
**Electron density around JNI P 202:**

$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)



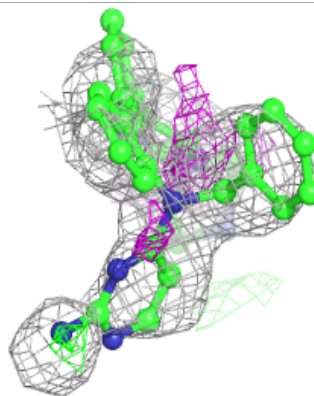
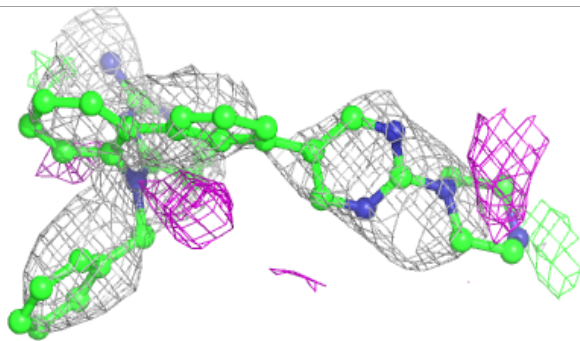
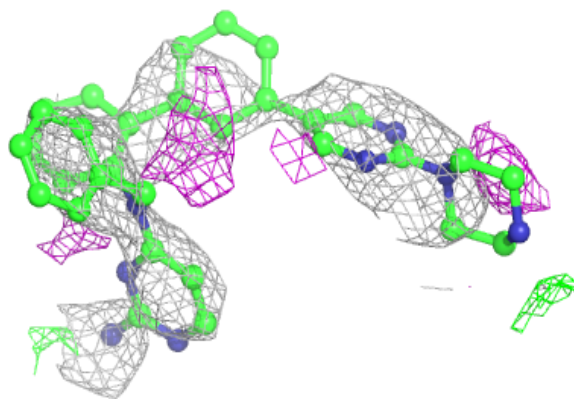
**Electron density around JN1 j 202:**

$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)



**Electron density around JNI n 202:**

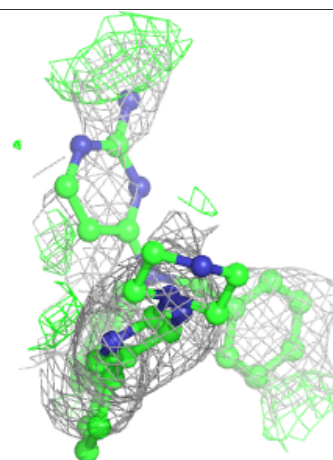
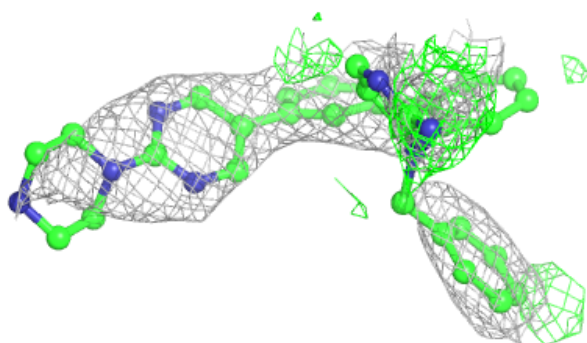
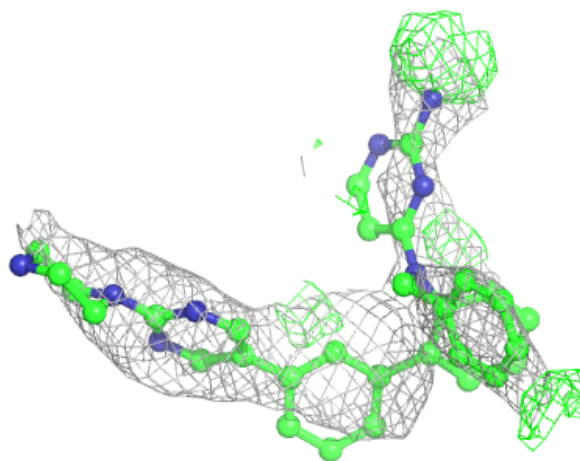
$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)





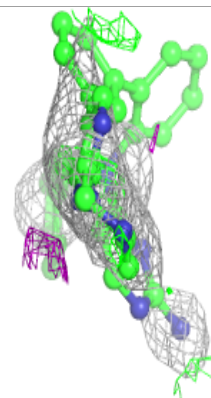
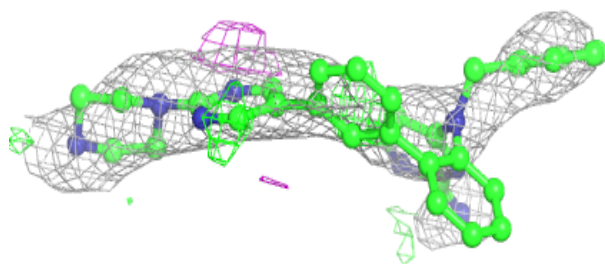
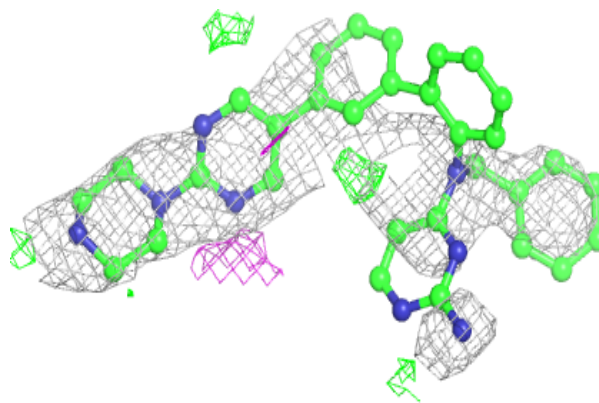
**Electron density around JNI r 202:**

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 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)

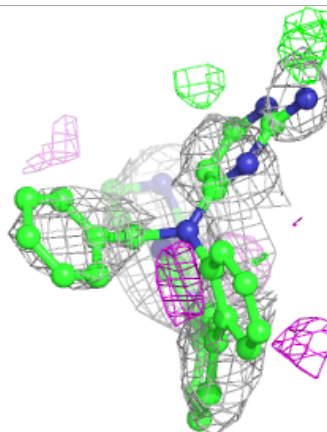
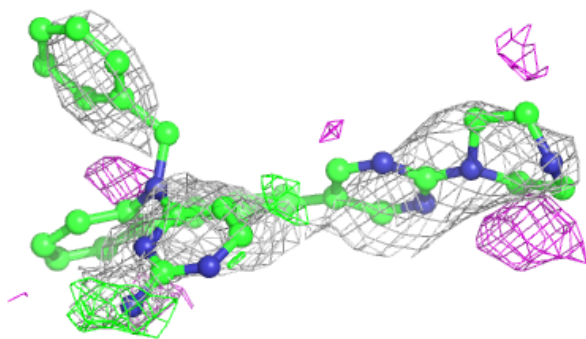
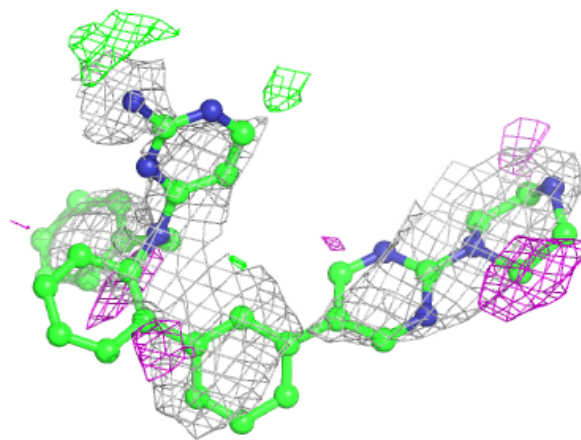


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and green (positive)

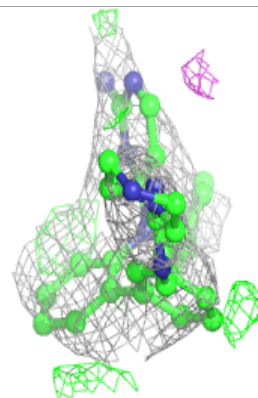
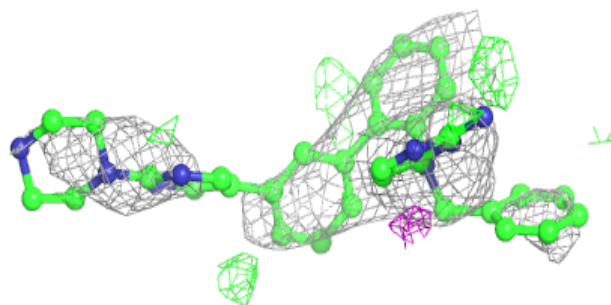
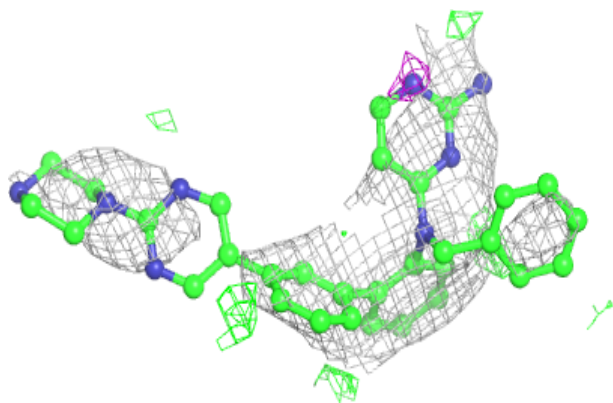
**Electron density around JNI v 202:**

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 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)

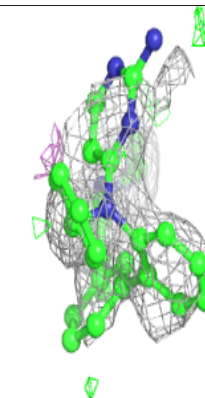
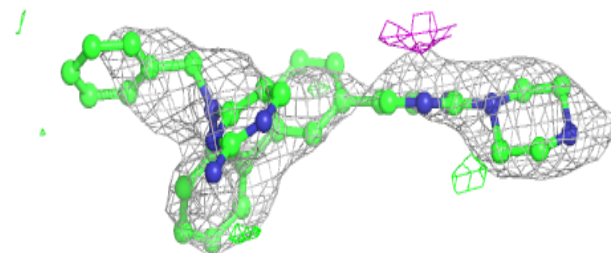
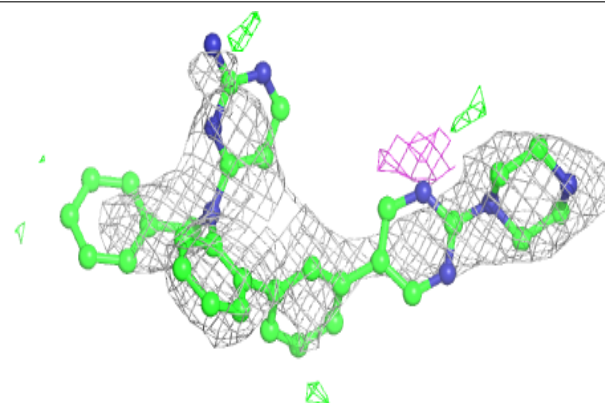


**Electron density around JNI J 202:**

$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)

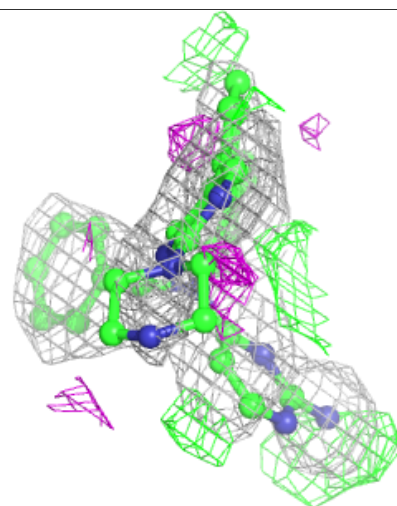
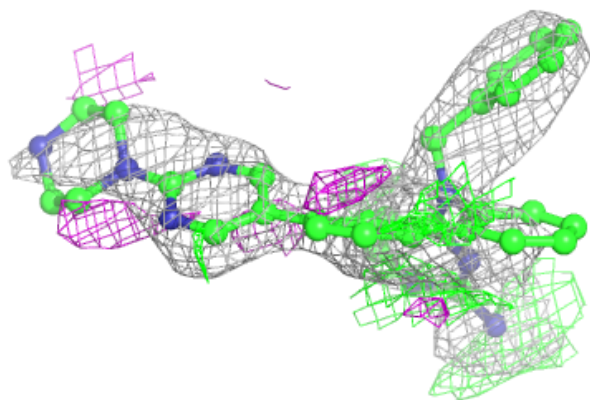
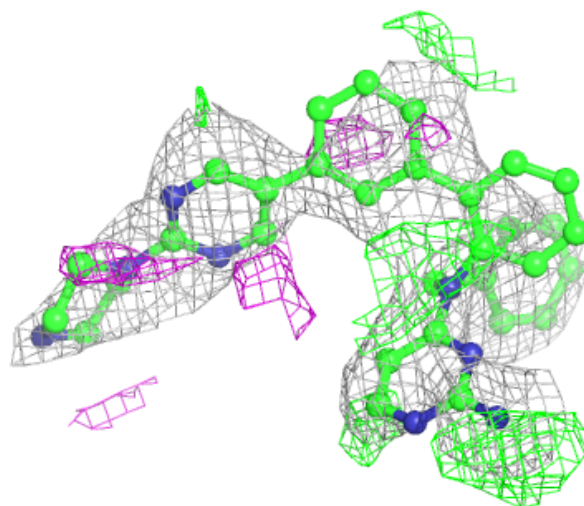
**Electron density around JNI t 202:**

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 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)



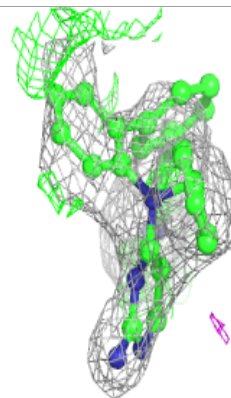
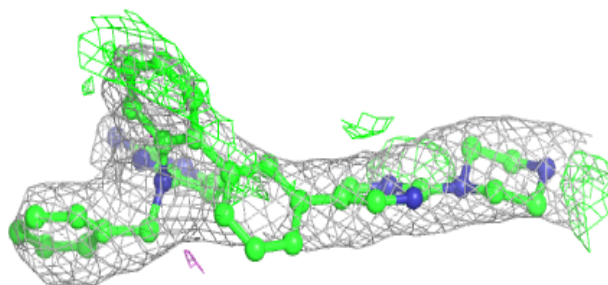
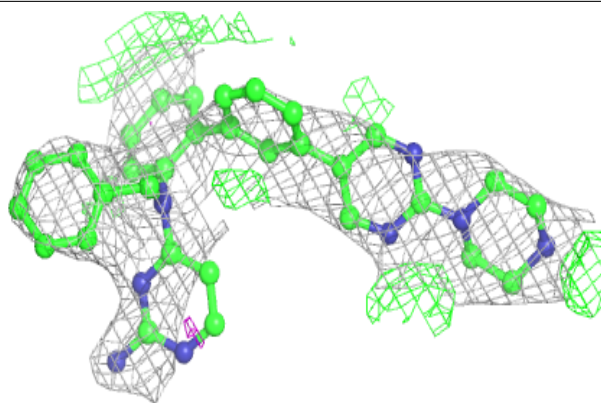
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and green (positive)

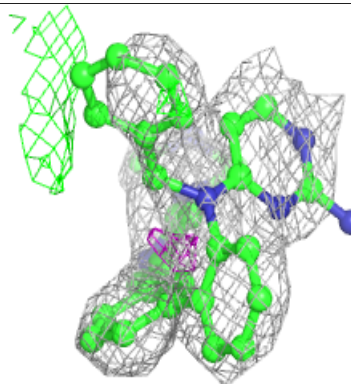
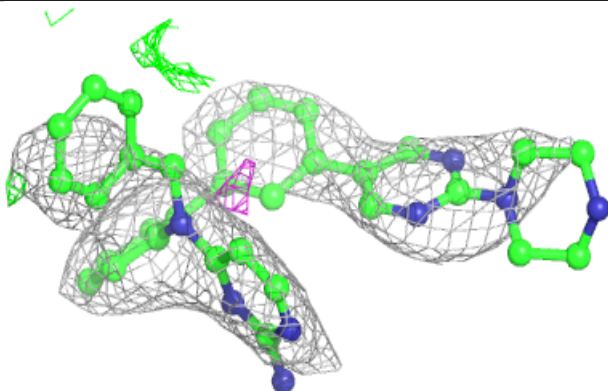
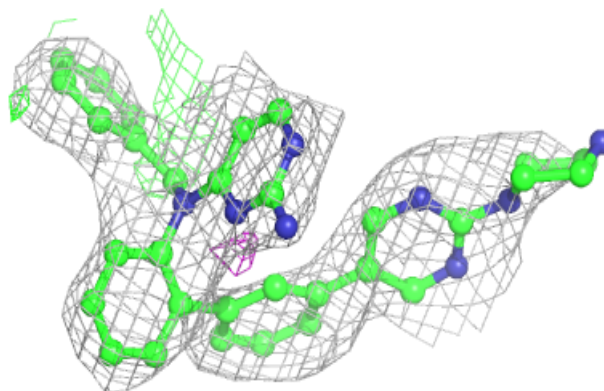


**Electron density around JNI Z 202:**

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and green (positive)

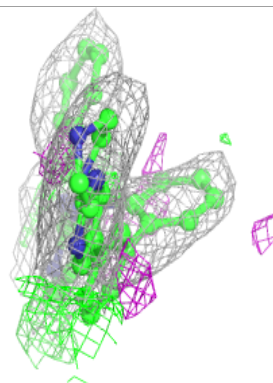
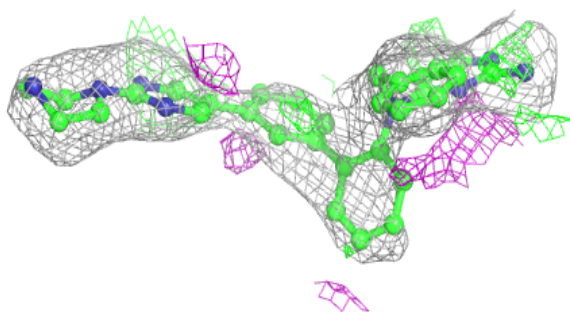
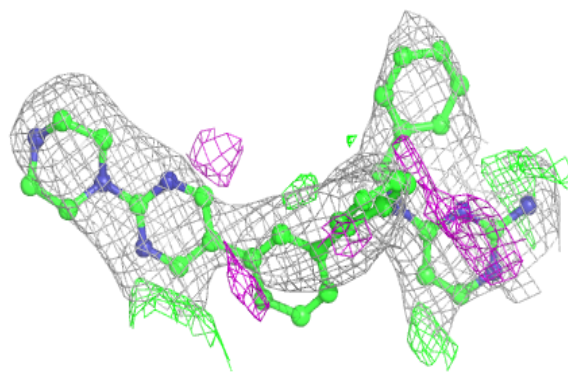
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 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)



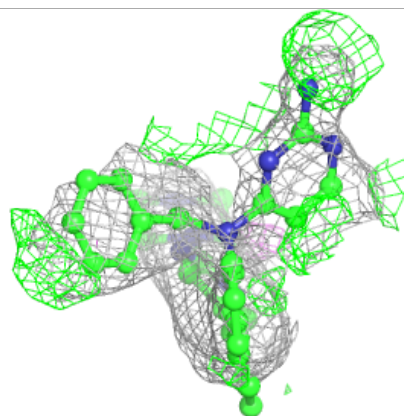
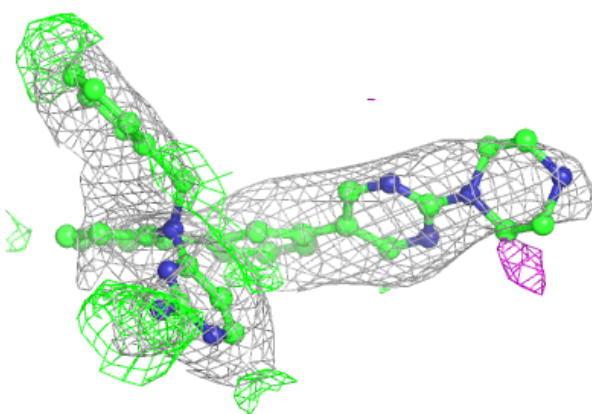
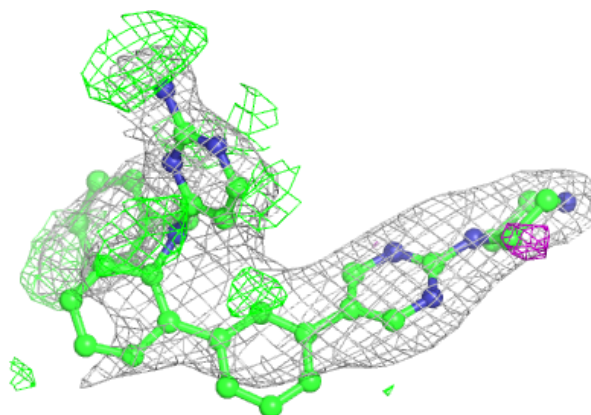
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and green (positive)

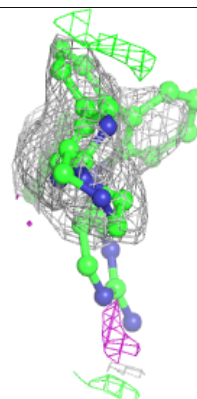
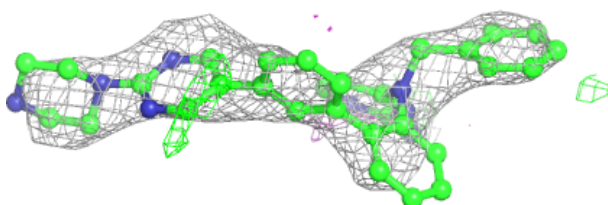
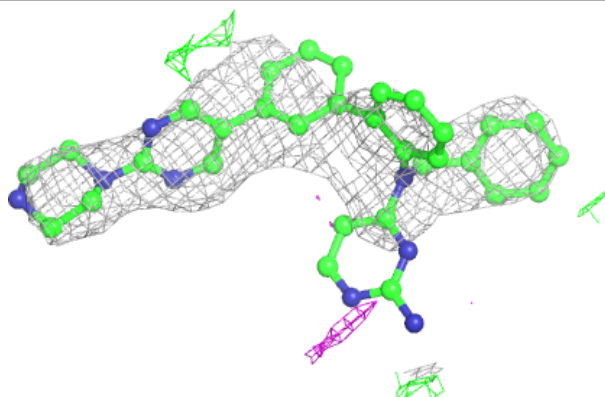


**Electron density around JNI b 202:**

$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)

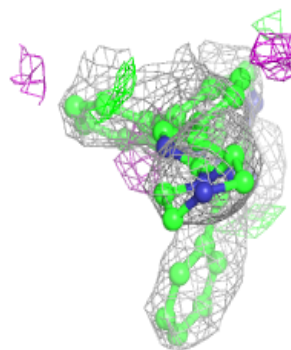
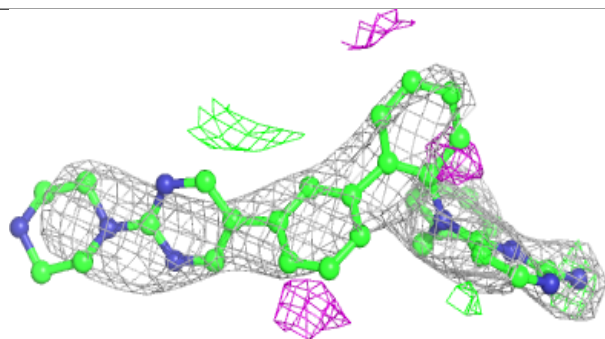
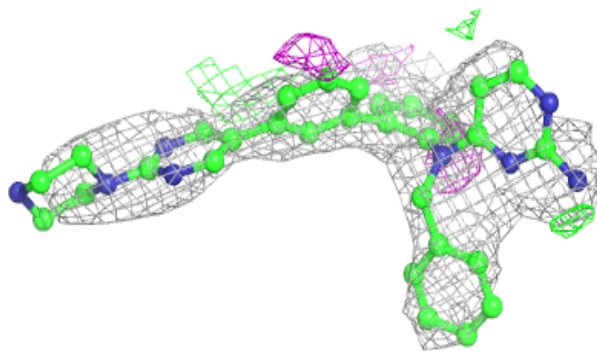
**Electron density around JNI p 202:**

$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)

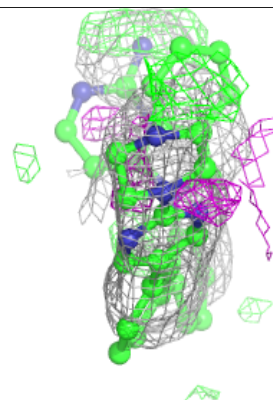
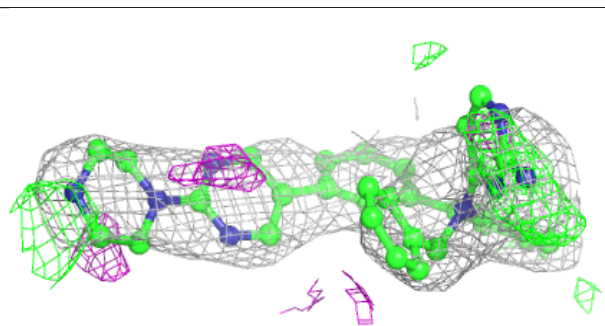
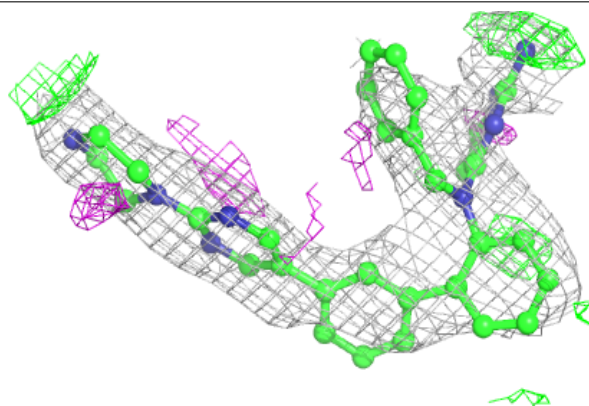


**Electron density around JNI j 201:**

$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)

**Electron density around JNI L 201:**

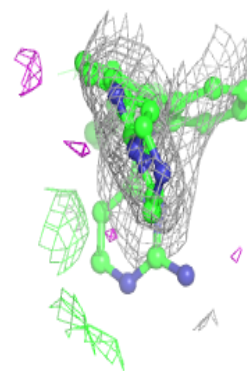
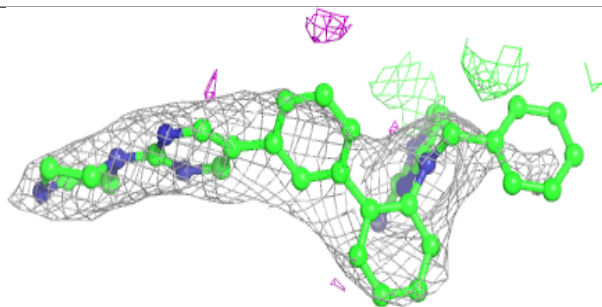
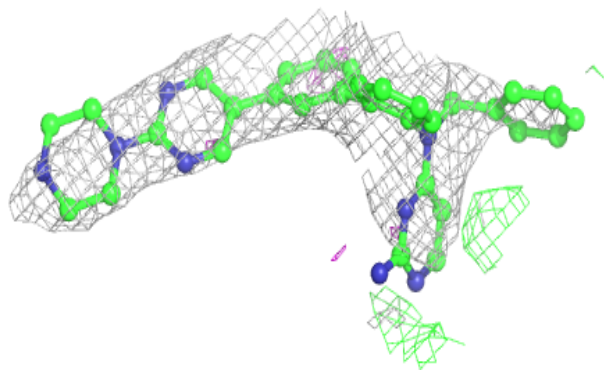
$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)



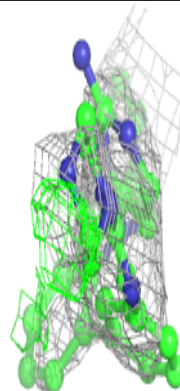
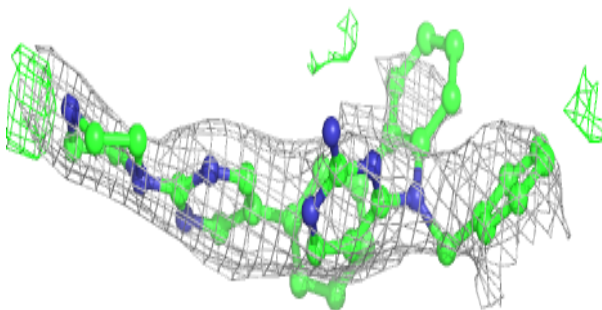
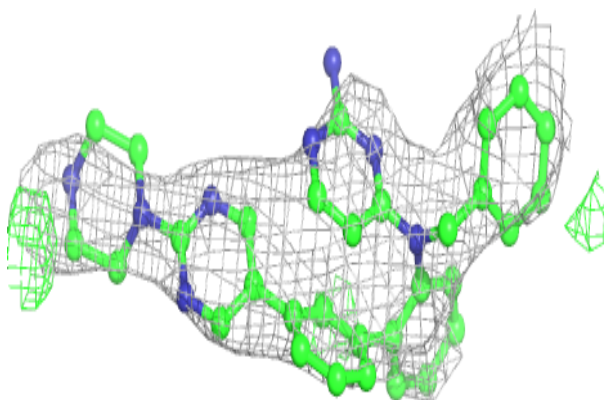


**Electron density around JNI f 201:**

$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)

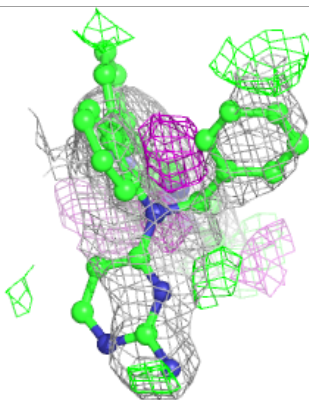
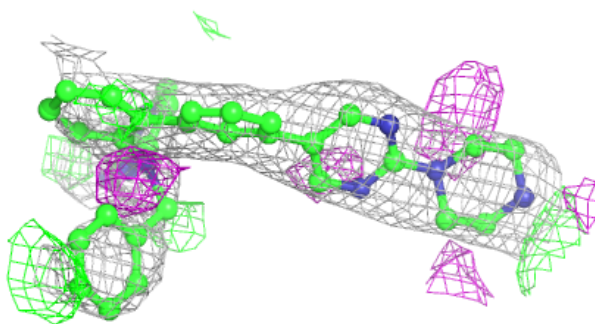
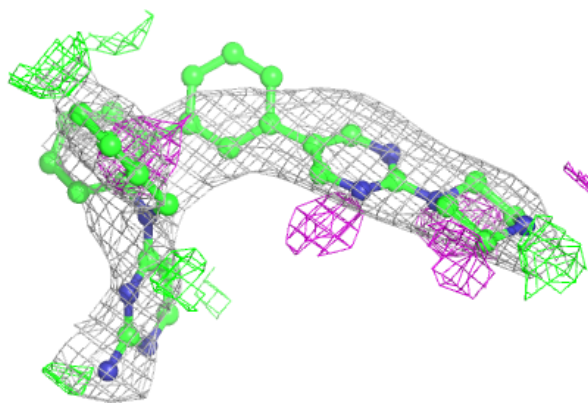
**Electron density around JNI C 202:**

$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)

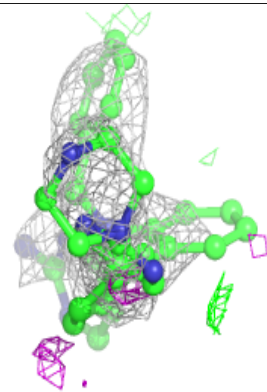
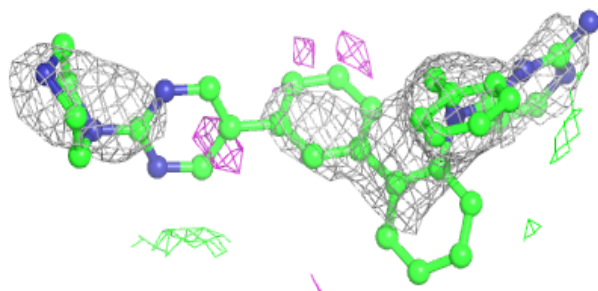
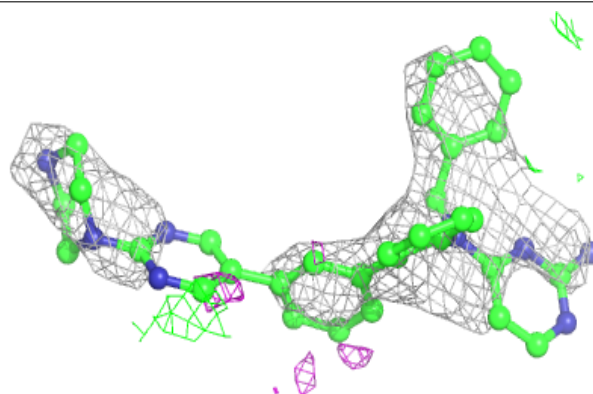


**Electron density around JNI C 201:**

$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)

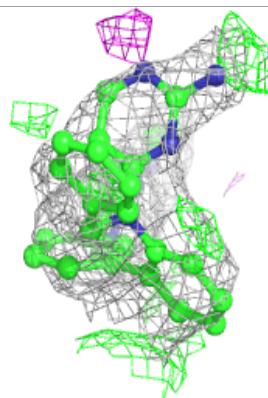
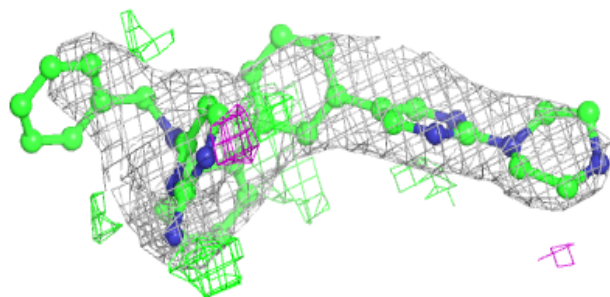
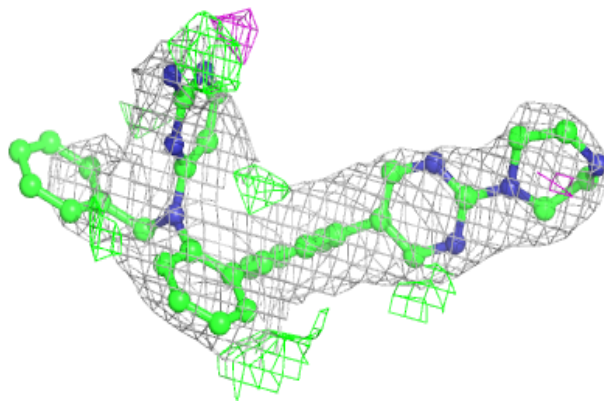
**Electron density around JNI r 201:**

$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)



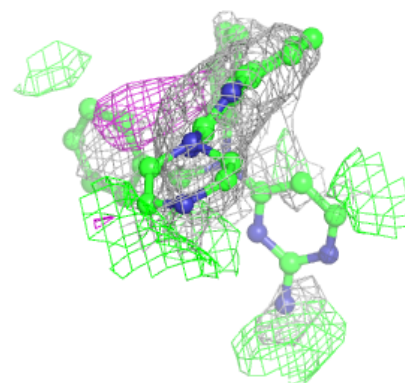
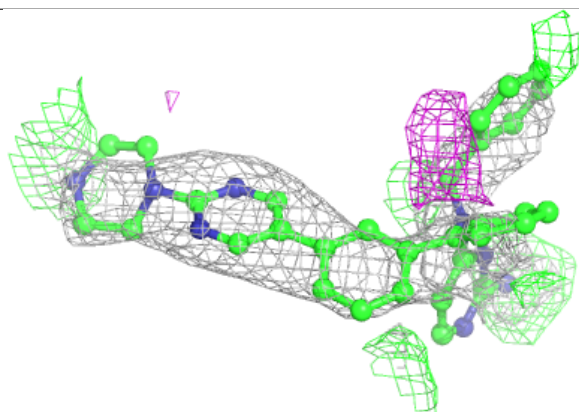
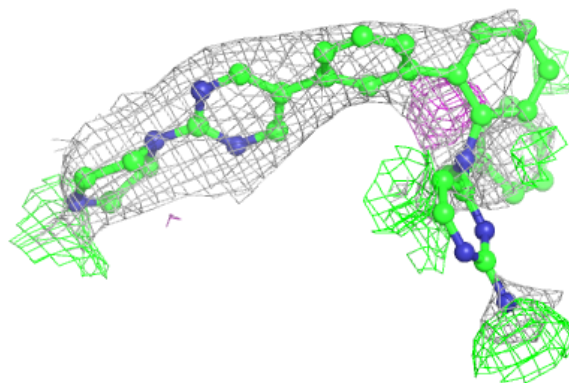
**Electron density around JNI F 202:**

$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)



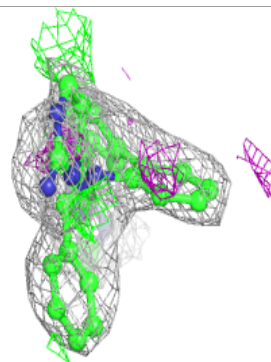
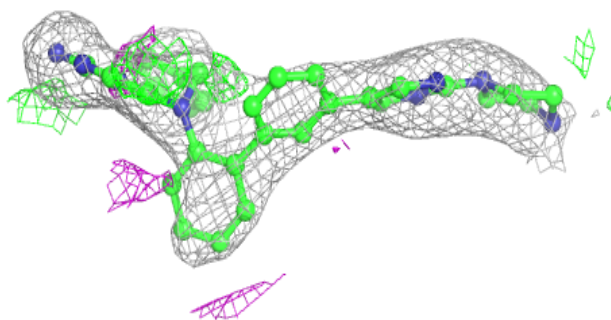
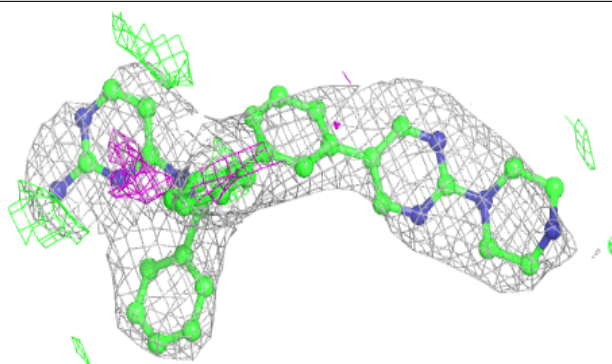
**Electron density around JNI H 202:**

$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)

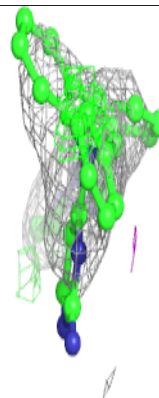
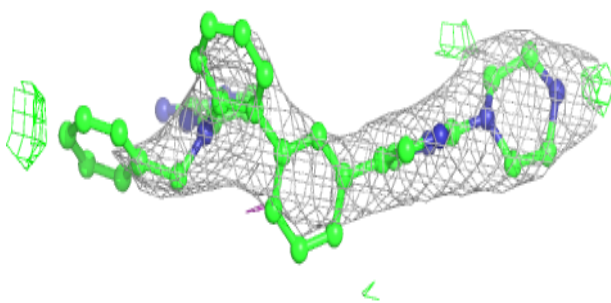
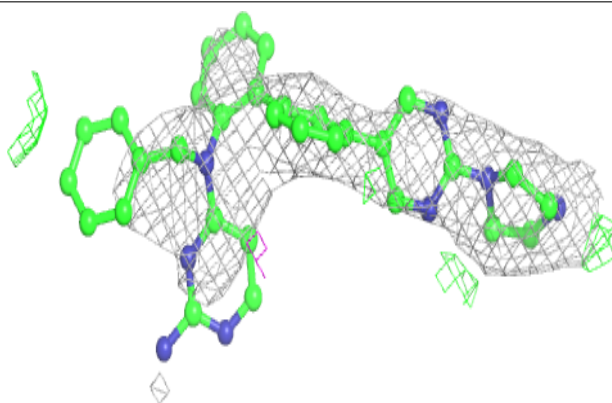


**Electron density around JNI X 201:**

$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)

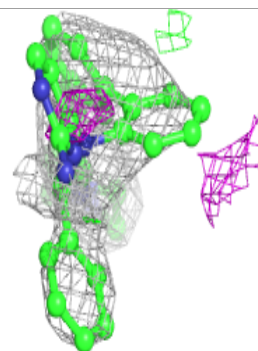
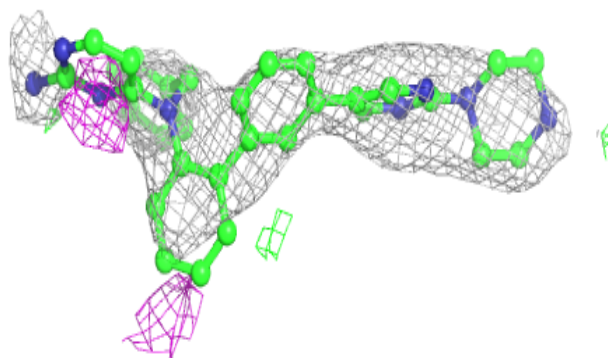
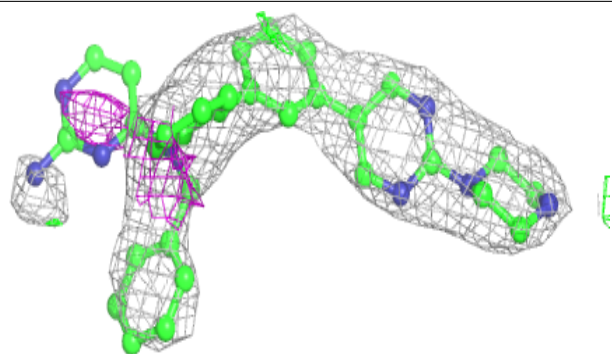
**Electron density around JNI h 202:**

$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)

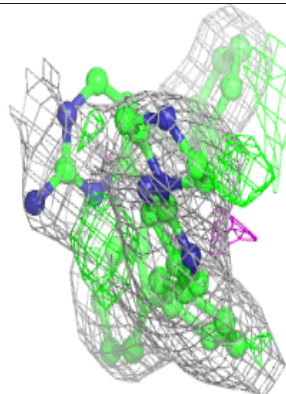
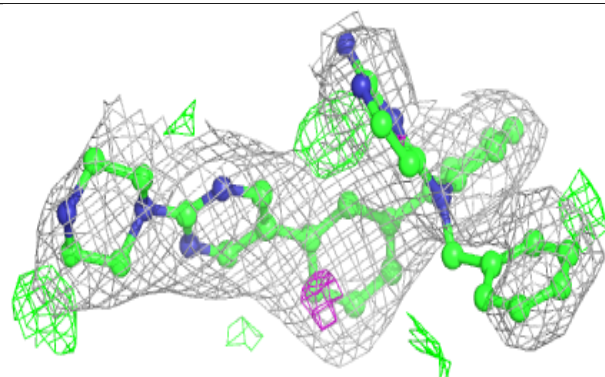
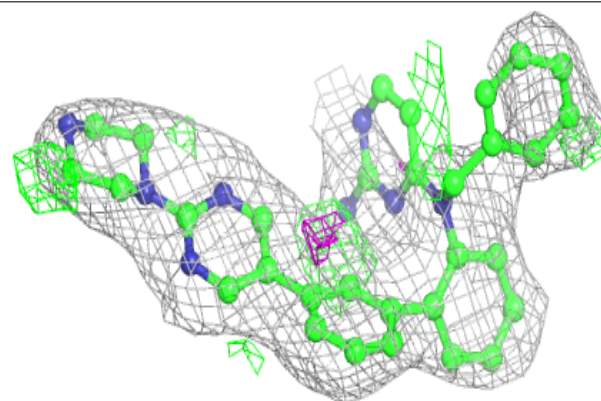


**Electron density around JNI o 201:**

$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)

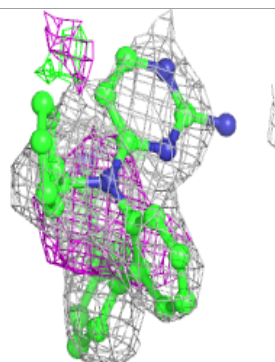
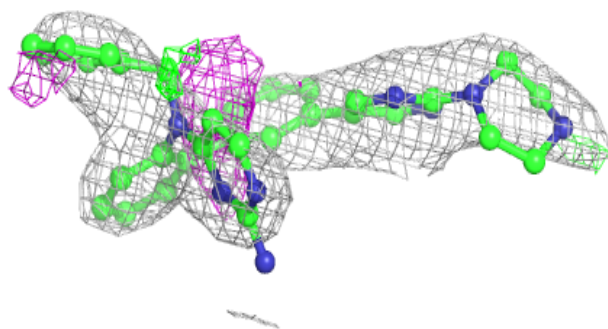
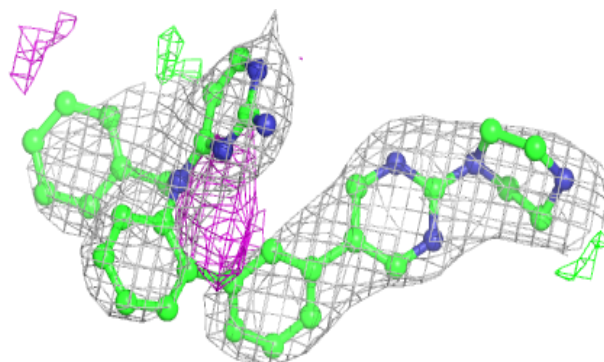
**Electron density around JNI R 201:**

$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)

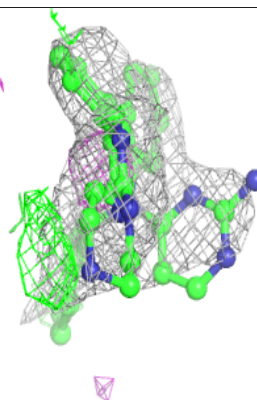
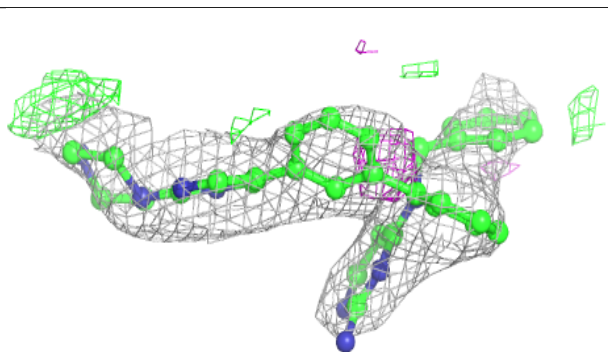
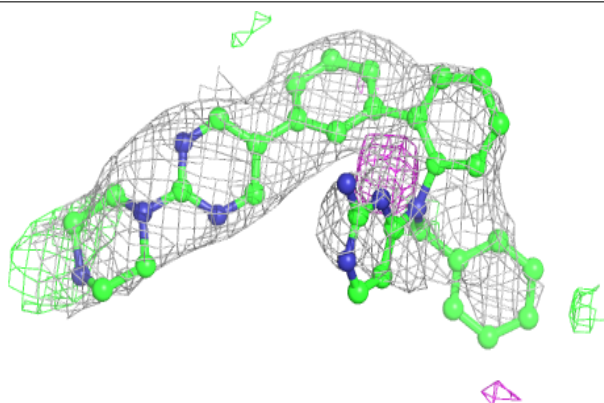


**Electron density around JNI 1 201:**

$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)

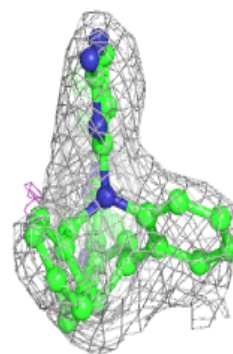
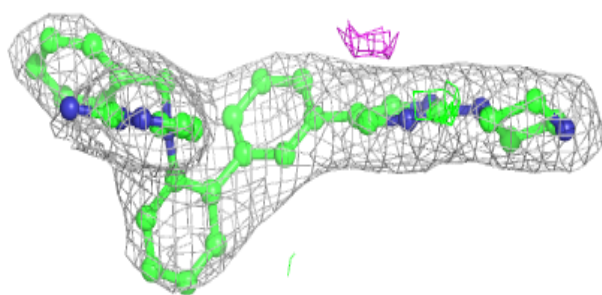
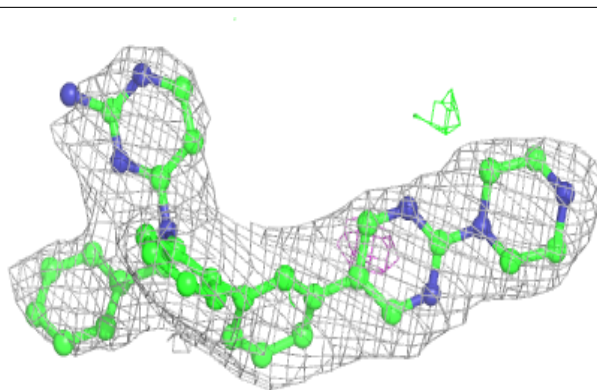
**Electron density around JNI h 201:**

$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)

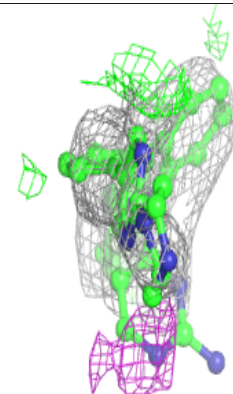
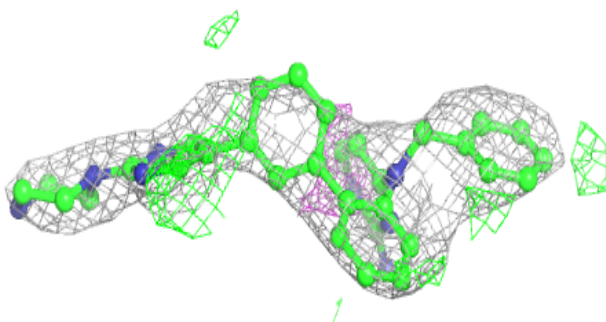
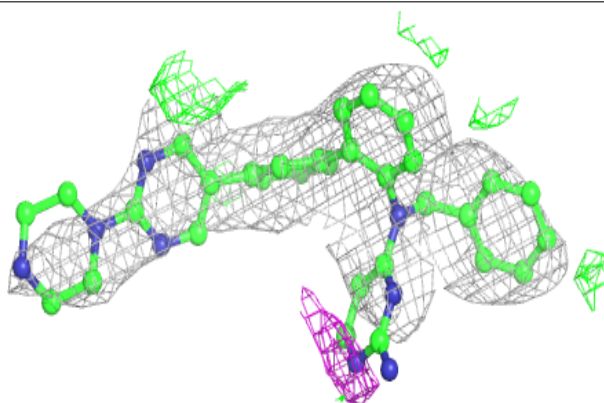


**Electron density around JNI A 202:**

$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)

**Electron density around JNI V 202:**

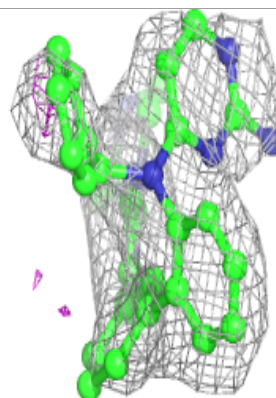
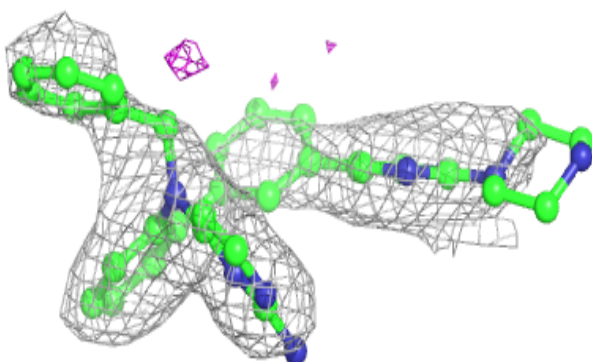
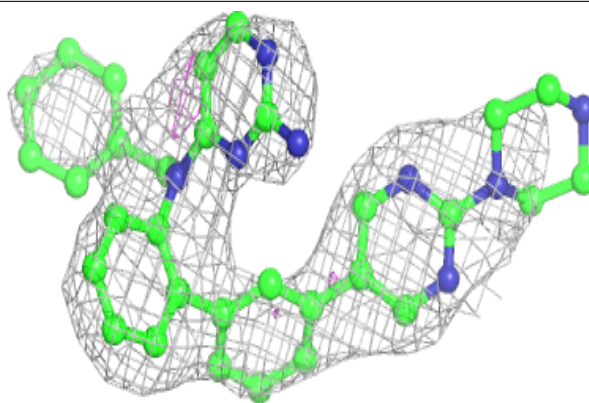
$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)



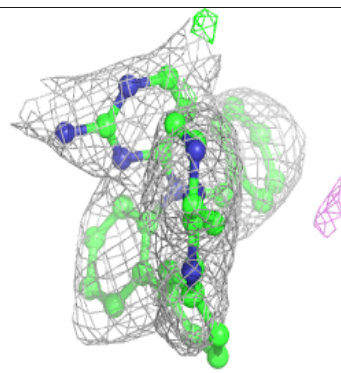
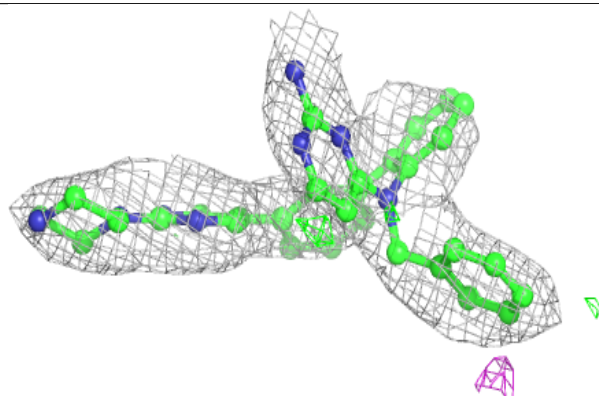
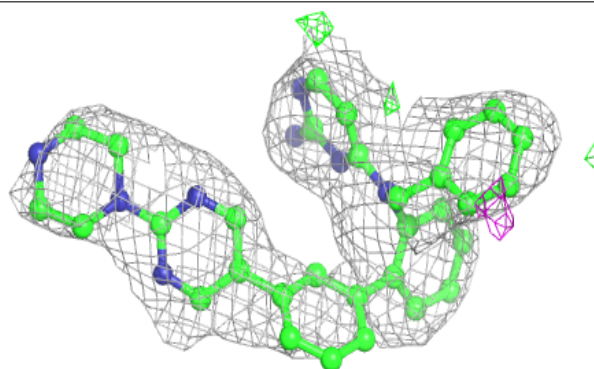


**Electron density around JNI p 201:**

$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)

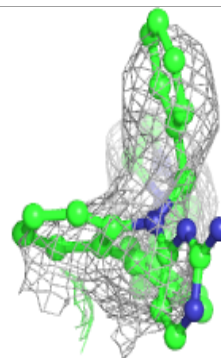
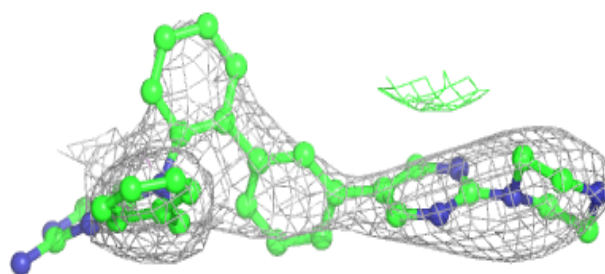
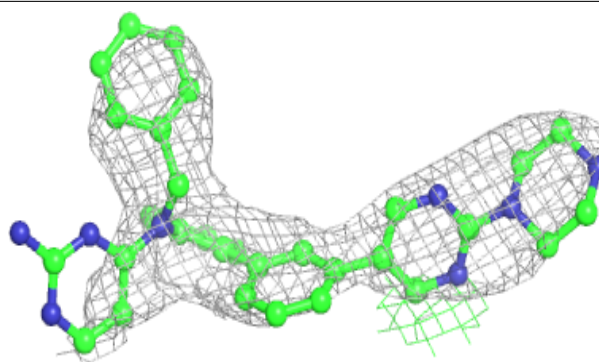
**Electron density around JNI J 201:**

$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)

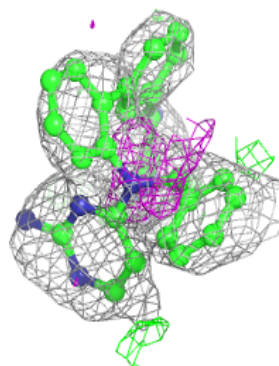
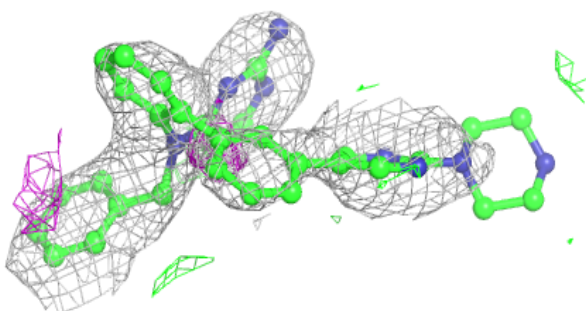
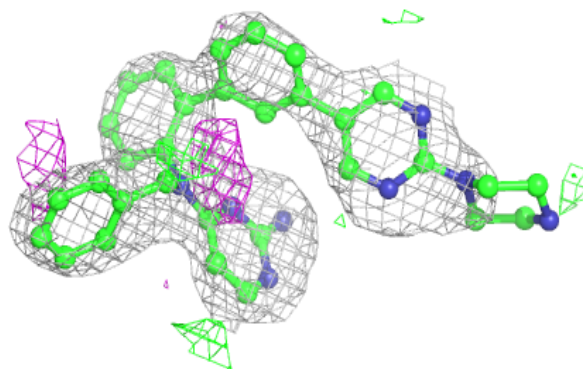


**Electron density around JNI v 201:**

$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)

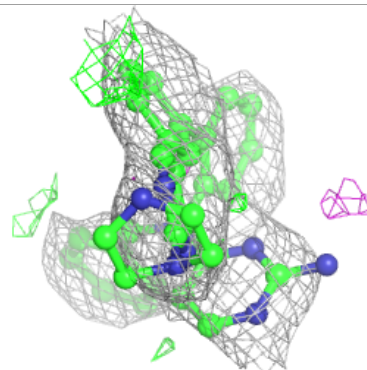
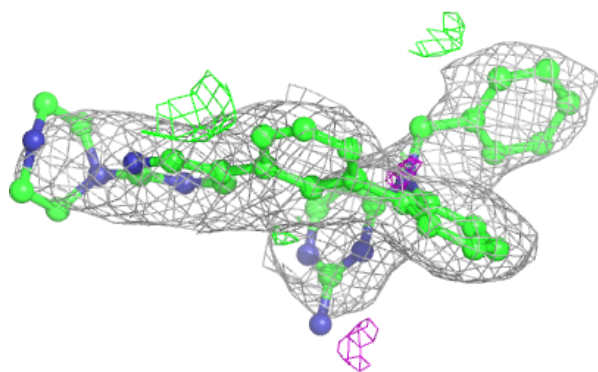
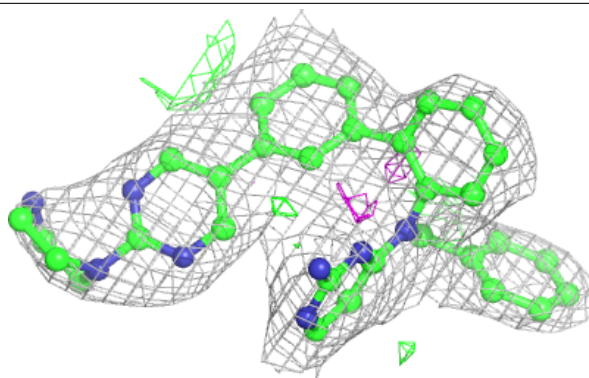
**Electron density around JNI F 201:**

$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)

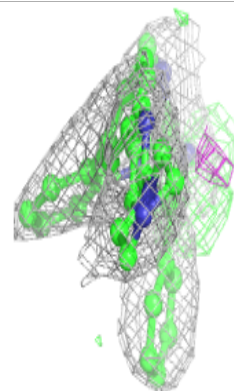
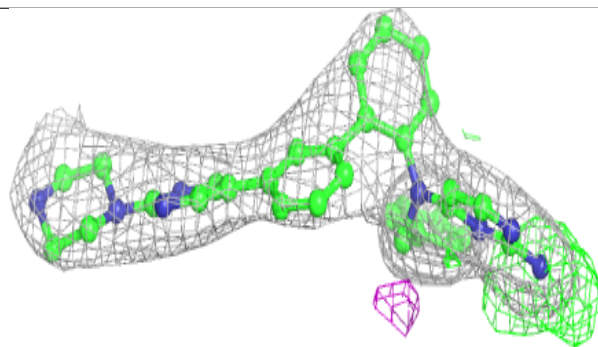
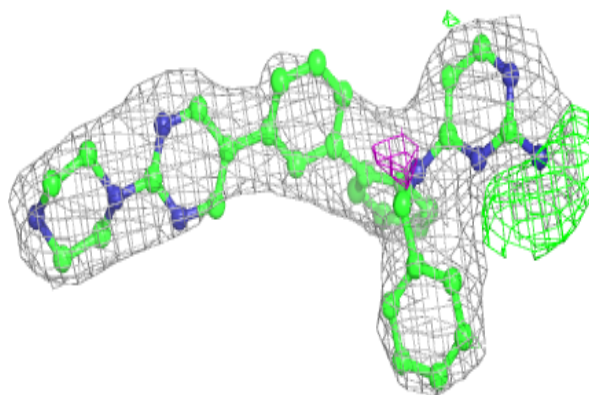


**Electron density around JNI V 201:**

$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)

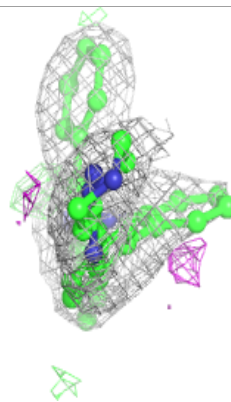
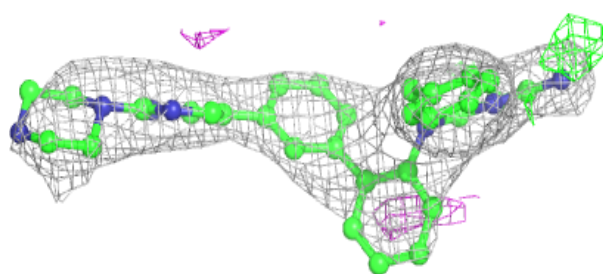
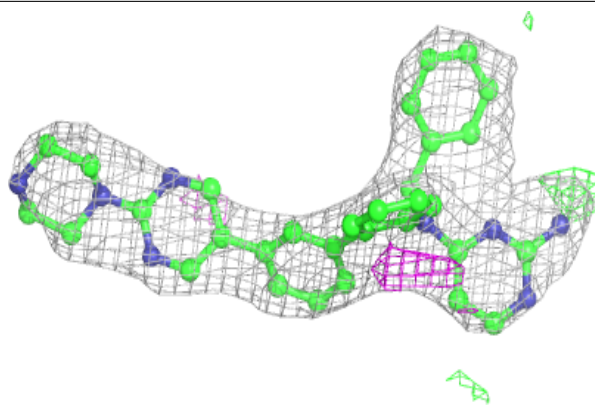
**Electron density around JNI b 201:**

$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)

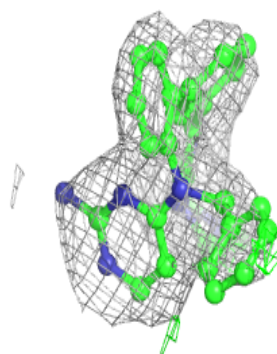
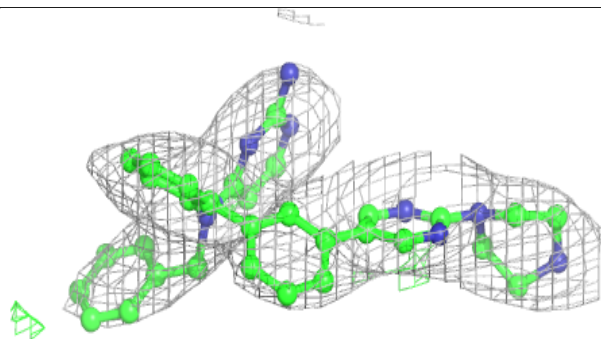
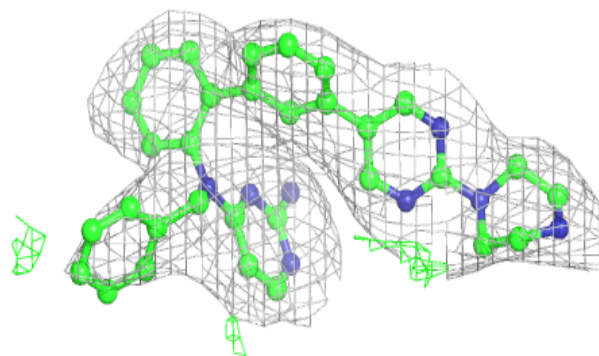


**Electron density around JNI M 201:**

$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)

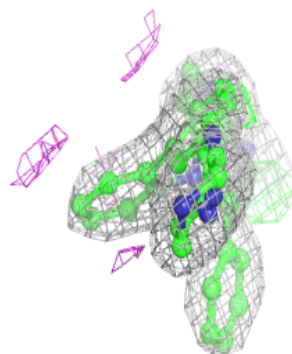
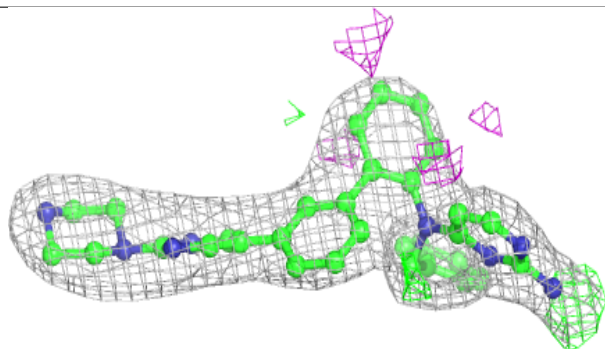
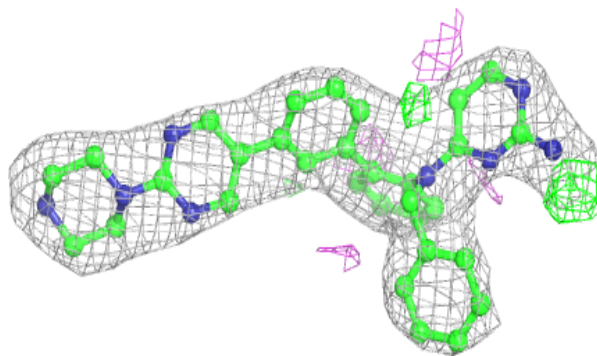
**Electron density around JNI t 201:**

$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)

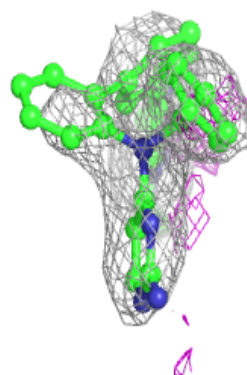
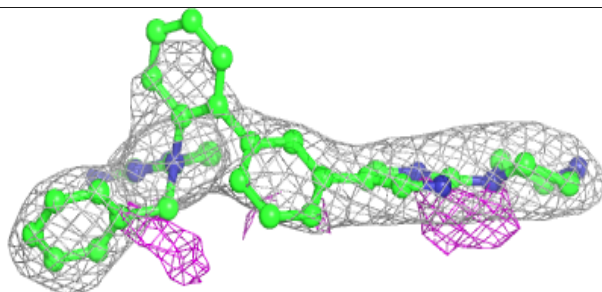
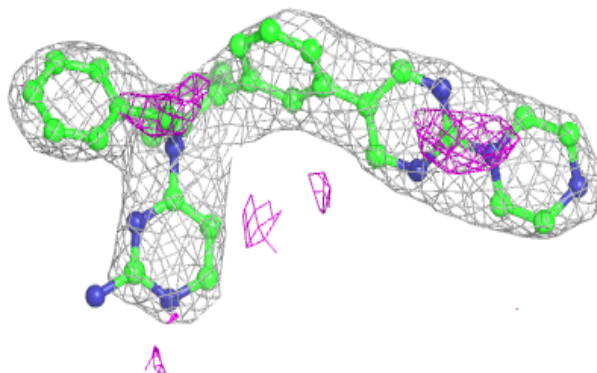


**Electron density around JNI D 201:**

$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)

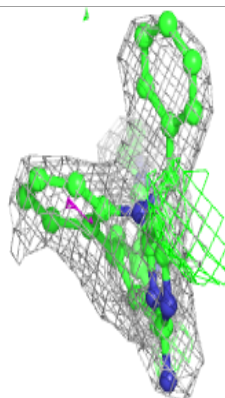
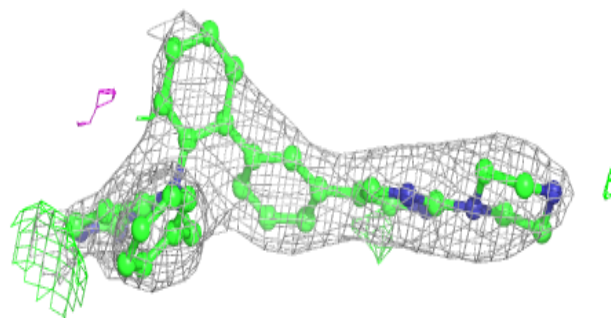
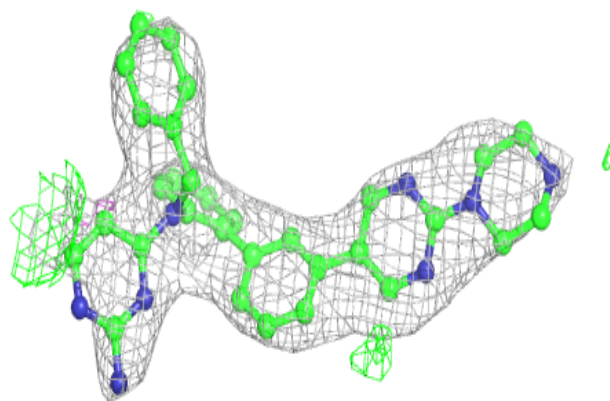
**Electron density around JNI P 201:**

$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)

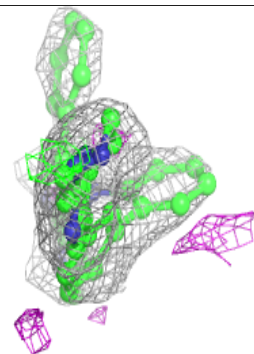
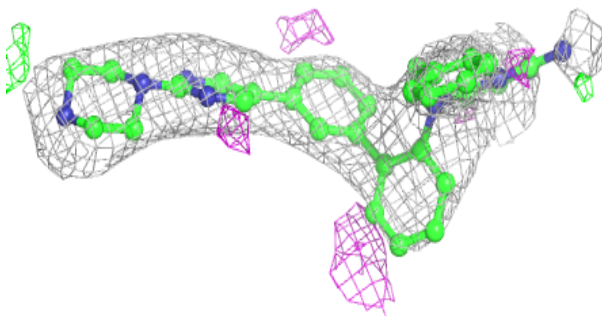
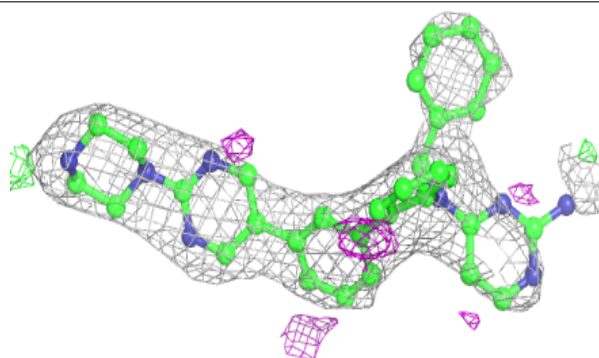


**Electron density around JNI H 201:**

$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)

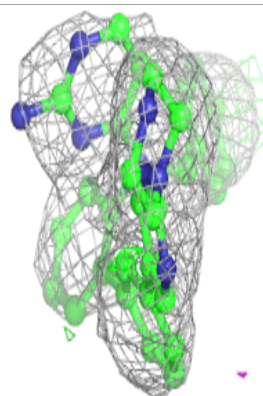
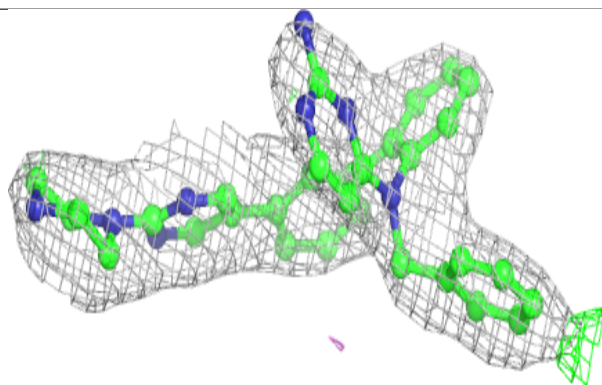
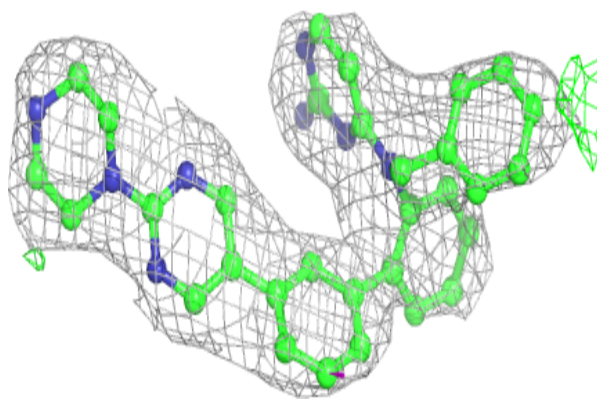
**Electron density around JNI Q 201:**

$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)

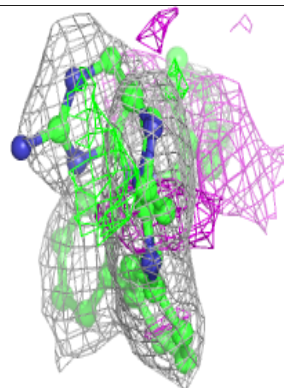
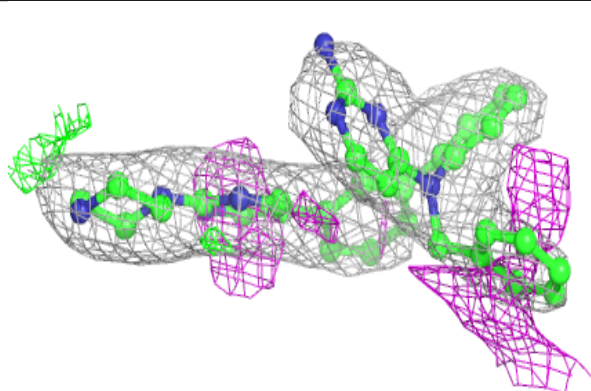
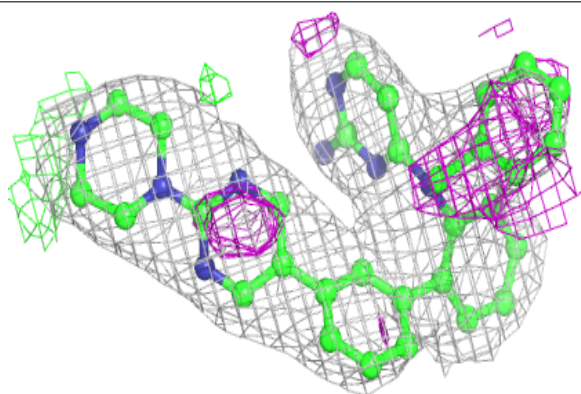


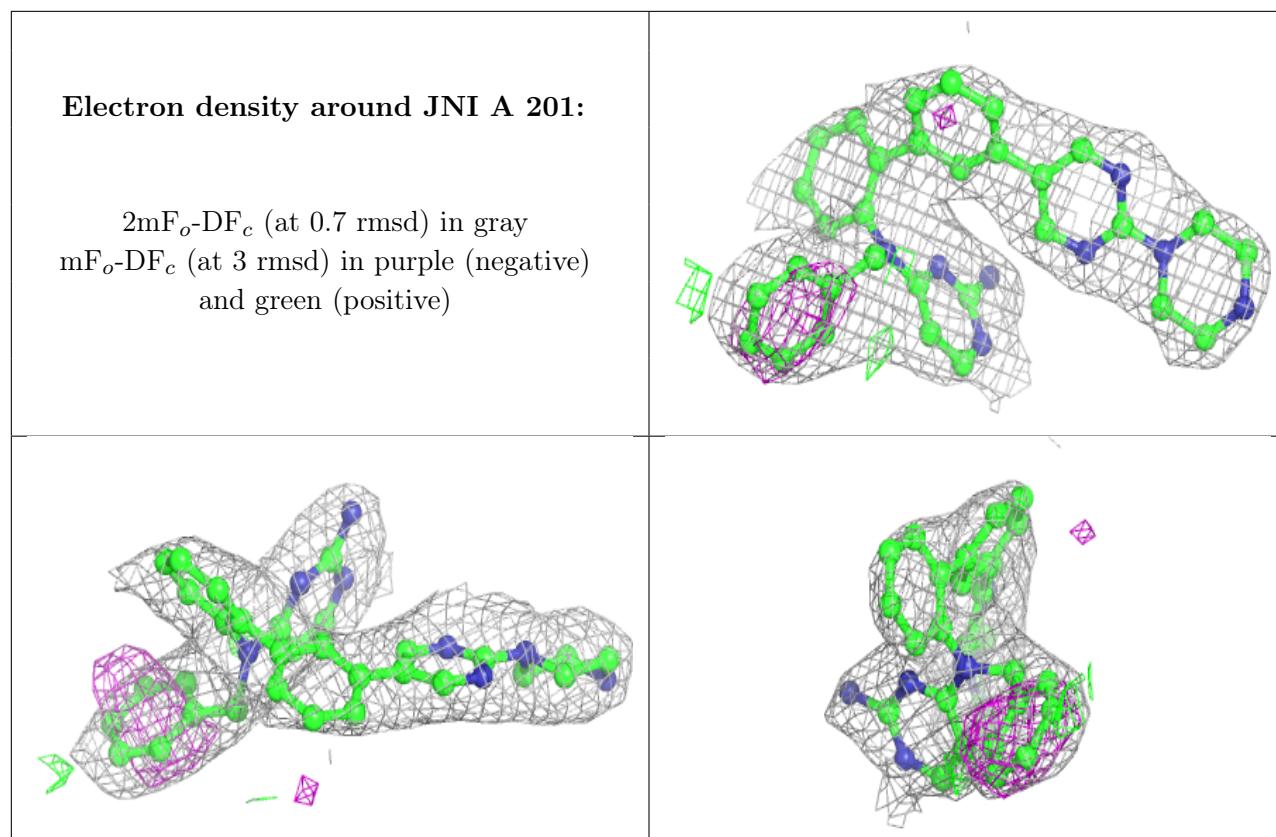
**Electron density around JNI Z 201:**

$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)

**Electron density around JNI N 201:**

$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)





## 6.5 Other polymers [i](#)

There are no such residues in this entry.