



## Full wwPDB EM Validation Report ⓘ

Nov 8, 2025 – 07:01 am GMT

PDB ID : 9GBI / pdb\_00009gbi  
EMDB ID : EMD-51219  
Title : Cryo-EM structure of Arabidopsis thaliana PSI-LHCI wild-type  
Authors : Capaldi, S.; Chaves-Sanjuan, A.; Bonnet, D.M.V.; Bassi, R.  
Deposited on : 2024-07-31  
Resolution : 3.13 Å(reported)  
Based on initial model : 7DKZ

This is a Full wwPDB EM 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/EMValidationReportHelp>  
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

EMDB validation analysis : 0.0.1.dev129  
Mogul : 1.8.4, CSD as541be (2020)  
MolProbity : 4-5-2 with Phenix2.0  
buster-report : 1.1.7 (2018)  
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)  
EM percentile statistics : 202505.v01 (Using data in the EMDb archive up until May 2025)  
MapQ : 1.9.13  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.46

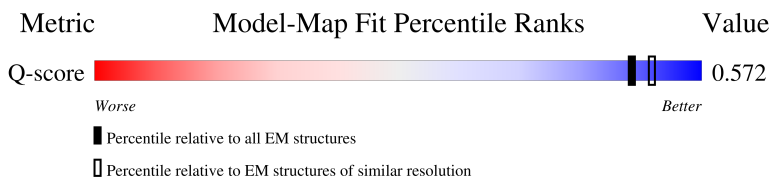
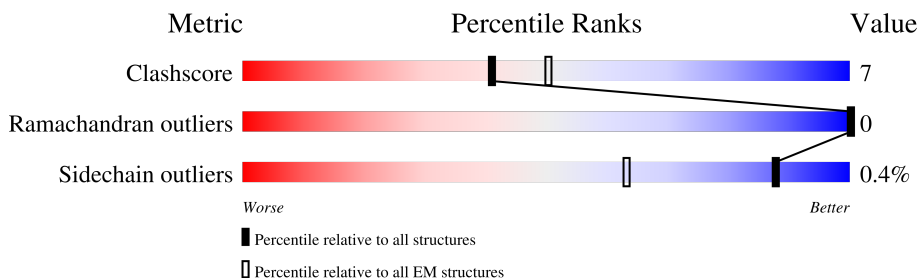
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*ELECTRON MICROSCOPY*

The reported resolution of this entry is 3.13 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.



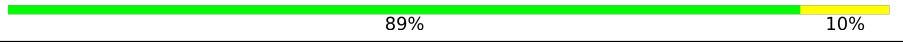
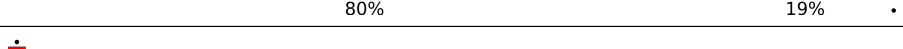
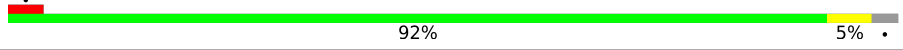
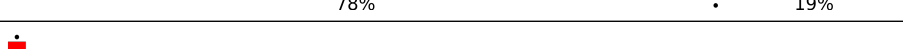
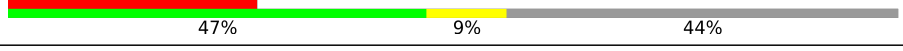
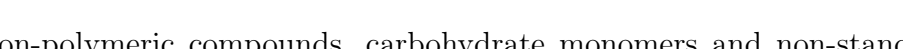
| Metric                | Whole archive<br>(#Entries) | EM structures<br>(#Entries) | Similar EM resolution<br>(#Entries, resolution range(Å)) |
|-----------------------|-----------------------------|-----------------------------|----------------------------------------------------------|
| Clashscore            | 210492                      | 15764                       | -                                                        |
| Ramachandran outliers | 207382                      | 16835                       | -                                                        |
| Sidechain outliers    | 206894                      | 16415                       | -                                                        |
| Q-score               | -                           | 25397                       | 14478 ( 2.63 - 3.63 )                                    |

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for  $\geq 3$ , 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 EM map (all-atom inclusion  $< 40\%$ ). The numeric value is given above the bar.

| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|------------------|
| 1   | 1     | 206    |                  |
| 2   | 2     | 214    |                  |
| 3   | 3     | 234    |                  |
| 4   | 4     | 199    |                  |

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| Mol | Chain | Length | Quality of chain                                                                     |
|-----|-------|--------|--------------------------------------------------------------------------------------|
| 5   | A     | 750    |    |
| 6   | B     | 734    |    |
| 7   | C     | 81     |    |
| 8   | D     | 160    |    |
| 9   | E     | 99     |    |
| 10  | F     | 154    |    |
| 11  | G     | 100    |    |
| 12  | H     | 95     |    |
| 13  | I     | 37     |    |
| 14  | J     | 44     |   |
| 15  | L     | 169    |  |
| 16  | K     | 84     |  |
| 17  | N     | 85     |  |

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 |
|-----|------|-------|-----|-----------|----------|---------|------------------|
| 18  | CHL  | 1     | 301 | X         | -        | -       | -                |
| 18  | CHL  | 1     | 306 | X         | -        | -       | -                |
| 18  | CHL  | 2     | 301 | X         | -        | -       | -                |
| 18  | CHL  | 2     | 305 | X         | -        | -       | -                |
| 18  | CHL  | 2     | 306 | X         | -        | -       | -                |
| 18  | CHL  | 2     | 307 | X         | -        | -       | -                |
| 18  | CHL  | 2     | 314 | X         | -        | -       | -                |
| 18  | CHL  | 3     | 307 | X         | -        | -       | -                |
| 18  | CHL  | 4     | 304 | X         | -        | -       | -                |
| 18  | CHL  | 4     | 305 | X         | -        | -       | -                |
| 18  | CHL  | 4     | 306 | X         | -        | -       | -                |
| 18  | CHL  | 4     | 314 | X         | -        | -       | -                |
| 19  | CLA  | 1     | 302 | X         | -        | -       | -                |
| 19  | CLA  | 1     | 303 | X         | -        | -       | -                |
| 19  | CLA  | 1     | 304 | X         | -        | -       | -                |

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| Mol | Type | Chain | Res | Chirality | Geometry | Clashes | Electron density |
|-----|------|-------|-----|-----------|----------|---------|------------------|
| 19  | CLA  | 1     | 305 | X         | -        | -       | -                |
| 19  | CLA  | 1     | 307 | X         | -        | -       | -                |
| 19  | CLA  | 1     | 308 | X         | -        | -       | -                |
| 19  | CLA  | 1     | 309 | X         | -        | -       | -                |
| 19  | CLA  | 1     | 310 | X         | -        | -       | -                |
| 19  | CLA  | 1     | 311 | X         | -        | -       | -                |
| 19  | CLA  | 1     | 312 | X         | -        | -       | -                |
| 19  | CLA  | 1     | 313 | X         | -        | -       | -                |
| 19  | CLA  | 1     | 314 | X         | -        | -       | -                |
| 19  | CLA  | 1     | 321 | X         | -        | -       | -                |
| 19  | CLA  | 2     | 302 | X         | -        | -       | -                |
| 19  | CLA  | 2     | 303 | X         | -        | -       | -                |
| 19  | CLA  | 2     | 304 | X         | -        | -       | -                |
| 19  | CLA  | 2     | 308 | X         | -        | -       | -                |
| 19  | CLA  | 2     | 309 | X         | -        | -       | -                |
| 19  | CLA  | 2     | 310 | X         | -        | -       | -                |
| 19  | CLA  | 2     | 311 | X         | -        | -       | -                |
| 19  | CLA  | 2     | 312 | X         | -        | -       | -                |
| 19  | CLA  | 2     | 313 | X         | -        | -       | -                |
| 19  | CLA  | 2     | 320 | X         | -        | -       | -                |
| 19  | CLA  | 3     | 301 | X         | -        | -       | -                |
| 19  | CLA  | 3     | 302 | X         | -        | -       | -                |
| 19  | CLA  | 3     | 303 | X         | -        | -       | -                |
| 19  | CLA  | 3     | 304 | X         | -        | -       | -                |
| 19  | CLA  | 3     | 305 | X         | -        | -       | -                |
| 19  | CLA  | 3     | 306 | X         | -        | -       | -                |
| 19  | CLA  | 3     | 308 | X         | -        | -       | -                |
| 19  | CLA  | 3     | 309 | X         | -        | -       | -                |
| 19  | CLA  | 3     | 310 | X         | -        | -       | -                |
| 19  | CLA  | 3     | 311 | X         | -        | -       | -                |
| 19  | CLA  | 3     | 312 | X         | -        | -       | -                |
| 19  | CLA  | 3     | 313 | X         | -        | -       | -                |
| 19  | CLA  | 3     | 314 | X         | -        | -       | -                |
| 19  | CLA  | 4     | 301 | X         | -        | -       | -                |
| 19  | CLA  | 4     | 302 | X         | -        | -       | -                |
| 19  | CLA  | 4     | 303 | X         | -        | -       | -                |
| 19  | CLA  | 4     | 307 | X         | -        | -       | -                |
| 19  | CLA  | 4     | 308 | X         | -        | -       | -                |
| 19  | CLA  | 4     | 309 | X         | -        | -       | -                |
| 19  | CLA  | 4     | 310 | X         | -        | -       | -                |
| 19  | CLA  | 4     | 311 | X         | -        | -       | -                |
| 19  | CLA  | 4     | 312 | X         | -        | -       | -                |

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| Mol | Type | Chain | Res | Chirality | Geometry | Clashes | Electron density |
|-----|------|-------|-----|-----------|----------|---------|------------------|
| 19  | CLA  | 4     | 313 | X         | -        | -       | -                |
| 19  | CLA  | A     | 801 | X         | -        | -       | -                |
| 19  | CLA  | A     | 802 | X         | -        | -       | -                |
| 19  | CLA  | A     | 803 | X         | -        | -       | -                |
| 19  | CLA  | A     | 804 | X         | -        | -       | -                |
| 19  | CLA  | A     | 805 | X         | -        | -       | -                |
| 19  | CLA  | A     | 806 | X         | -        | -       | -                |
| 19  | CLA  | A     | 807 | X         | -        | -       | -                |
| 19  | CLA  | A     | 808 | X         | -        | -       | -                |
| 19  | CLA  | A     | 809 | X         | -        | -       | -                |
| 19  | CLA  | A     | 810 | X         | -        | -       | -                |
| 19  | CLA  | A     | 811 | X         | -        | -       | -                |
| 19  | CLA  | A     | 812 | X         | -        | -       | -                |
| 19  | CLA  | A     | 813 | X         | -        | -       | -                |
| 19  | CLA  | A     | 814 | X         | -        | -       | -                |
| 19  | CLA  | A     | 815 | X         | -        | -       | -                |
| 19  | CLA  | A     | 816 | X         | -        | -       | -                |
| 19  | CLA  | A     | 817 | X         | -        | -       | -                |
| 19  | CLA  | A     | 818 | X         | -        | -       | -                |
| 19  | CLA  | A     | 819 | X         | -        | -       | -                |
| 19  | CLA  | A     | 820 | X         | -        | -       | -                |
| 19  | CLA  | A     | 821 | X         | -        | -       | -                |
| 19  | CLA  | A     | 822 | X         | -        | -       | -                |
| 19  | CLA  | A     | 823 | X         | -        | -       | -                |
| 19  | CLA  | A     | 824 | X         | -        | -       | -                |
| 19  | CLA  | A     | 825 | X         | -        | -       | -                |
| 19  | CLA  | A     | 826 | X         | -        | -       | -                |
| 19  | CLA  | A     | 827 | X         | -        | -       | -                |
| 19  | CLA  | A     | 828 | X         | -        | -       | -                |
| 19  | CLA  | A     | 829 | X         | -        | -       | -                |
| 19  | CLA  | A     | 830 | X         | -        | -       | -                |
| 19  | CLA  | A     | 831 | X         | -        | -       | -                |
| 19  | CLA  | A     | 832 | X         | -        | -       | -                |
| 19  | CLA  | A     | 833 | X         | -        | -       | -                |
| 19  | CLA  | A     | 834 | X         | -        | -       | -                |
| 19  | CLA  | A     | 835 | X         | -        | -       | -                |
| 19  | CLA  | A     | 836 | X         | -        | -       | -                |
| 19  | CLA  | A     | 837 | X         | -        | -       | -                |
| 19  | CLA  | A     | 838 | X         | -        | -       | -                |
| 19  | CLA  | A     | 839 | X         | -        | -       | -                |
| 19  | CLA  | A     | 840 | X         | -        | -       | -                |
| 19  | CLA  | A     | 851 | X         | -        | -       | -                |

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| Mol | Type | Chain | Res | Chirality | Geometry | Clashes | Electron density |
|-----|------|-------|-----|-----------|----------|---------|------------------|
| 19  | CLA  | A     | 852 | X         | -        | -       | -                |
| 19  | CLA  | A     | 853 | X         | -        | -       | -                |
| 19  | CLA  | A     | 854 | X         | -        | -       | -                |
| 19  | CLA  | B     | 801 | X         | -        | -       | -                |
| 19  | CLA  | B     | 802 | X         | -        | -       | -                |
| 19  | CLA  | B     | 803 | X         | -        | -       | -                |
| 19  | CLA  | B     | 804 | X         | -        | -       | -                |
| 19  | CLA  | B     | 805 | X         | -        | -       | -                |
| 19  | CLA  | B     | 806 | X         | -        | -       | -                |
| 19  | CLA  | B     | 807 | X         | -        | -       | -                |
| 19  | CLA  | B     | 808 | X         | -        | -       | -                |
| 19  | CLA  | B     | 809 | X         | -        | -       | -                |
| 19  | CLA  | B     | 810 | X         | -        | -       | -                |
| 19  | CLA  | B     | 811 | X         | -        | -       | -                |
| 19  | CLA  | B     | 812 | X         | -        | -       | -                |
| 19  | CLA  | B     | 813 | X         | -        | -       | -                |
| 19  | CLA  | B     | 814 | X         | -        | -       | -                |
| 19  | CLA  | B     | 815 | X         | -        | -       | -                |
| 19  | CLA  | B     | 816 | X         | -        | -       | -                |
| 19  | CLA  | B     | 817 | X         | -        | -       | -                |
| 19  | CLA  | B     | 818 | X         | -        | -       | -                |
| 19  | CLA  | B     | 819 | X         | -        | -       | -                |
| 19  | CLA  | B     | 820 | X         | -        | -       | -                |
| 19  | CLA  | B     | 821 | X         | -        | -       | -                |
| 19  | CLA  | B     | 822 | X         | -        | -       | -                |
| 19  | CLA  | B     | 823 | X         | -        | -       | -                |
| 19  | CLA  | B     | 824 | X         | -        | -       | -                |
| 19  | CLA  | B     | 825 | X         | -        | -       | -                |
| 19  | CLA  | B     | 826 | X         | -        | -       | -                |
| 19  | CLA  | B     | 827 | X         | -        | -       | -                |
| 19  | CLA  | B     | 828 | X         | -        | -       | -                |
| 19  | CLA  | B     | 829 | X         | -        | -       | -                |
| 19  | CLA  | B     | 830 | X         | -        | -       | -                |
| 19  | CLA  | B     | 831 | X         | -        | -       | -                |
| 19  | CLA  | B     | 832 | X         | -        | -       | -                |
| 19  | CLA  | B     | 833 | X         | -        | -       | -                |
| 19  | CLA  | B     | 834 | X         | -        | -       | -                |
| 19  | CLA  | B     | 835 | X         | -        | -       | -                |
| 19  | CLA  | B     | 836 | X         | -        | -       | -                |
| 19  | CLA  | B     | 837 | X         | -        | -       | -                |
| 19  | CLA  | B     | 838 | X         | -        | -       | -                |
| 19  | CLA  | F     | 301 | X         | -        | -       | -                |

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| Mol | Type | Chain | Res | Chirality | Geometry | Clashes | Electron density |
|-----|------|-------|-----|-----------|----------|---------|------------------|
| 19  | CLA  | F     | 302 | X         | -        | -       | -                |
| 19  | CLA  | F     | 303 | X         | -        | -       | -                |
| 19  | CLA  | F     | 304 | X         | -        | -       | -                |
| 19  | CLA  | G     | 202 | X         | -        | -       | -                |
| 19  | CLA  | G     | 203 | X         | -        | -       | -                |
| 19  | CLA  | G     | 204 | X         | -        | -       | -                |
| 19  | CLA  | H     | 201 | X         | -        | -       | -                |
| 19  | CLA  | J     | 102 | X         | -        | -       | -                |
| 19  | CLA  | K     | 202 | X         | -        | -       | -                |
| 19  | CLA  | K     | 203 | X         | -        | -       | -                |
| 19  | CLA  | K     | 204 | X         | -        | -       | -                |
| 19  | CLA  | L     | 301 | X         | -        | -       | -                |
| 19  | CLA  | L     | 302 | X         | -        | -       | -                |
| 19  | CLA  | L     | 303 | X         | -        | -       | -                |

## 2 Entry composition [i](#)

There are 28 unique types of molecules in this entry. The entry contains 36064 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called Chlorophyll a-b binding protein 6, chloroplastic.

| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 1   | 1     | 194      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1501  | 978 | 249 | 269 | 5 |         |       |

- Molecule 2 is a protein called Photosystem I chlorophyll a/b-binding protein 2, chloroplastic.

| Mol | Chain | Residues | Atoms |      |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 2   | 2     | 203      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 1582  | 1036 | 258 | 284 | 4 |         |       |

- Molecule 3 is a protein called Photosystem I chlorophyll a/b-binding protein 3-1, chloroplastic.

| Mol | Chain | Residues | Atoms |      |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 3   | 3     | 219      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 1678  | 1100 | 269 | 304 | 5 |         |       |

- Molecule 4 is a protein called Chlorophyll a-b binding protein 4, chloroplastic.

| Mol | Chain | Residues | Atoms |      |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 4   | 4     | 197      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 1562  | 1022 | 254 | 283 | 3 |         |       |

- Molecule 5 is a protein called Photosystem I P700 chlorophyll a apoprotein A1.

| Mol | Chain | Residues | Atoms |      |     |      |    | AltConf | Trace |
|-----|-------|----------|-------|------|-----|------|----|---------|-------|
| 5   | A     | 742      | Total | C    | N   | O    | S  | 0       | 0     |
|     |       |          | 5834  | 3821 | 991 | 1004 | 18 |         |       |

- Molecule 6 is a protein called Photosystem I P700 chlorophyll a apoprotein A2.

| Mol | Chain | Residues | Atoms |      |      |     |    | AltConf | Trace |
|-----|-------|----------|-------|------|------|-----|----|---------|-------|
| 6   | B     | 733      | Total | C    | N    | O   | S  | 0       | 0     |
|     |       |          | 5852  | 3840 | 1000 | 999 | 13 |         |       |

- Molecule 7 is a protein called Photosystem I iron-sulfur center.

| Mol | Chain | Residues | Atoms |     |     |     |    | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 7   | C     | 80       | Total | C   | N   | O   | S  | 0       | 0     |
|     |       |          | 615   | 381 | 107 | 116 | 11 |         |       |

- Molecule 8 is a protein called Photosystem I reaction center subunit II-2, chloroplastic.

| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 8   | D     | 141      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1112  | 712 | 193 | 203 | 4 |         |       |

- Molecule 9 is a protein called Photosystem I reaction center subunit IV B, chloroplastic.

| Mol | Chain | Residues | Atoms |     |    |    | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---------|-------|
| 9   | E     | 63       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 509   | 326 | 89 | 94 |         |       |

- Molecule 10 is a protein called Photosystem I reaction center subunit III, chloroplastic.

| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 10  | F     | 152      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1208  | 789 | 207 | 209 | 3 |         |       |

- Molecule 11 is a protein called Photosystem I reaction center subunit V, chloroplastic.

| Mol | Chain | Residues | Atoms |     |     |     | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---------|-------|
| 11  | G     | 97       | Total | C   | N   | O   | 0       | 0     |
|     |       |          | 759   | 493 | 124 | 142 |         |       |

- Molecule 12 is a protein called Photosystem I reaction center subunit VI-1, chloroplastic.

| Mol | Chain | Residues | Atoms |     |     |     | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---------|-------|
| 12  | H     | 90       | Total | C   | N   | O   | 0       | 0     |
|     |       |          | 692   | 452 | 111 | 129 |         |       |

- Molecule 13 is a protein called Photosystem I reaction center subunit VIII.

| Mol | Chain | Residues | Atoms |     |    |    |   | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|-------|
| 13  | I     | 30       | Total | C   | N  | O  | S | 0       | 0     |
|     |       |          | 230   | 156 | 37 | 36 | 1 |         |       |

- Molecule 14 is a protein called Photosystem I reaction center subunit IX.

| Mol | Chain | Residues | Atoms |     |    |    |   | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|-------|
| 14  | J     | 42       | Total | C   | N  | O  | S | 0       | 0     |
|     |       |          | 339   | 233 | 51 | 54 | 1 |         |       |

- Molecule 15 is a protein called Photosystem I reaction center subunit XI, chloroplastic.

| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 15  | L     | 144      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1076  | 710 | 172 | 192 | 2 |         |       |

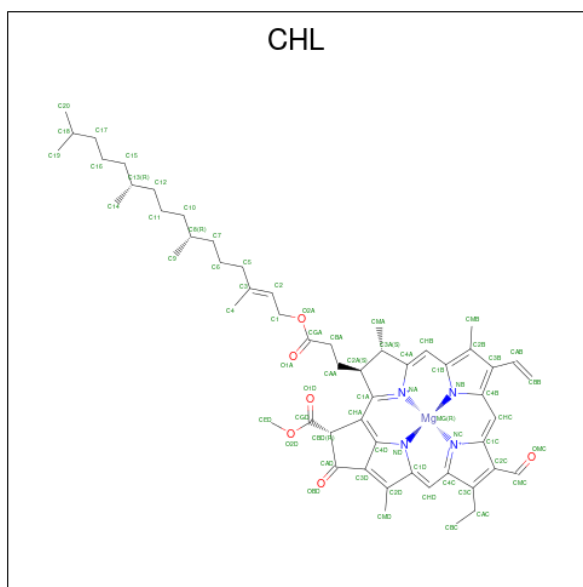
- Molecule 16 is a protein called Photosystem I reaction center subunit psaK, chloroplastic.

| Mol | Chain | Residues | Atoms |     |    |    |   | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|-------|
| 16  | K     | 55       | Total | C   | N  | O  | S | 0       | 0     |
|     |       |          | 382   | 245 | 63 | 71 | 3 |         |       |

- Molecule 17 is a protein called Photosystem I reaction center subunit N, chloroplastic.

| Mol | Chain | Residues | Atoms |     |    |    |   | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|-------|
| 17  | N     | 48       | Total | C   | N  | O  | S | 0       | 0     |
|     |       |          | 381   | 239 | 67 | 73 | 2 |         |       |

- Molecule 18 is CHLOROPHYLL B (CCD ID: CHL) (formula:  $C_{55}H_{70}MgN_4O_6$ ) (labeled as "Ligand of Interest" by depositor).



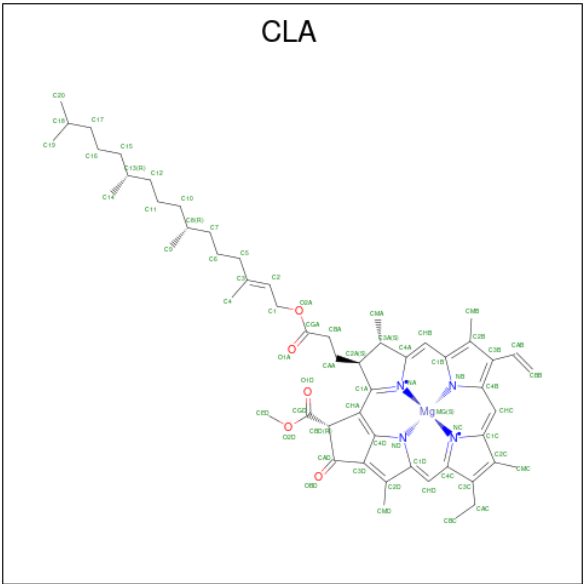
| Mol | Chain | Residues | Atoms |    |    |   |   | AltConf |
|-----|-------|----------|-------|----|----|---|---|---------|
| 18  | 1     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 56    | 45 | 1  | 4 | 6 |         |

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| Mol | Chain | Residues | Atoms |    |    |   |   | AltConf |
|-----|-------|----------|-------|----|----|---|---|---------|
| 18  | 1     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 46    | 35 | 1  | 4 | 6 |         |
| 18  | 2     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 51    | 40 | 1  | 4 | 6 |         |
| 18  | 2     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 43    | 34 | 1  | 4 | 4 |         |
| 18  | 2     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 46    | 35 | 1  | 4 | 6 |         |
| 18  | 2     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 46    | 35 | 1  | 4 | 6 |         |
| 18  | 2     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 43    | 34 | 1  | 4 | 4 |         |
| 18  | 3     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 47    | 36 | 1  | 4 | 6 |         |
| 18  | 4     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 56    | 45 | 1  | 4 | 6 |         |
| 18  | 4     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 46    | 35 | 1  | 4 | 6 |         |
| 18  | 4     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 51    | 40 | 1  | 4 | 6 |         |
| 18  | 4     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 42    | 33 | 1  | 4 | 4 |         |

- Molecule 19 is CHLOROPHYLL A (CCD ID: CLA) (formula: C<sub>55</sub>H<sub>72</sub>MgN<sub>4</sub>O<sub>5</sub>) (labeled as "Ligand of Interest" by depositor).



| Mol | Chain | Residues | Atoms |    |    |   |   | AltConf |
|-----|-------|----------|-------|----|----|---|---|---------|
| 19  | 1     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 60    | 50 | 1  | 4 | 5 |         |
| 19  | 1     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 58    | 48 | 1  | 4 | 5 |         |
| 19  | 1     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 51    | 41 | 1  | 4 | 5 |         |
| 19  | 1     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 42    | 34 | 1  | 4 | 3 |         |
| 19  | 1     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 45    | 35 | 1  | 4 | 5 |         |
| 19  | 1     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 57    | 47 | 1  | 4 | 5 |         |
| 19  | 1     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 56    | 46 | 1  | 4 | 5 |         |
| 19  | 1     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 55    | 45 | 1  | 4 | 5 |         |
| 19  | 1     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 45    | 35 | 1  | 4 | 5 |         |
| 19  | 1     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 60    | 50 | 1  | 4 | 5 |         |
| 19  | 1     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 45    | 35 | 1  | 4 | 5 |         |
| 19  | 1     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 45    | 35 | 1  | 4 | 5 |         |
| 19  | 1     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 19  | 2     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 19  | 2     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 50    | 40 | 1  | 4 | 5 |         |
| 19  | 2     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 19  | 2     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 45    | 35 | 1  | 4 | 5 |         |
| 19  | 2     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 57    | 47 | 1  | 4 | 5 |         |
| 19  | 2     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 41    | 33 | 1  | 4 | 3 |         |
| 19  | 2     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 45    | 35 | 1  | 4 | 5 |         |
| 19  | 2     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 19  | 2     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 58    | 48 | 1  | 4 | 5 |         |

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| Mol | Chain | Residues | Atoms       |         |         |        |        | AltConf |
|-----|-------|----------|-------------|---------|---------|--------|--------|---------|
| 19  | 2     | 1        | Total<br>46 | C<br>36 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 19  | 3     | 1        | Total<br>60 | C<br>50 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 19  | 3     | 1        | Total<br>60 | C<br>50 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 19  | 3     | 1        | Total<br>45 | C<br>35 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 19  | 3     | 1        | Total<br>47 | C<br>37 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 19  | 3     | 1        | Total<br>42 | C<br>34 | Mg<br>1 | N<br>4 | O<br>3 | 0       |
| 19  | 3     | 1        | Total<br>45 | C<br>35 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 19  | 3     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 19  | 3     | 1        | Total<br>50 | C<br>40 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 19  | 3     | 1        | Total<br>41 | C<br>33 | Mg<br>1 | N<br>4 | O<br>3 | 0       |
| 19  | 3     | 1        | Total<br>45 | C<br>35 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 19  | 3     | 1        | Total<br>55 | C<br>45 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 19  | 3     | 1        | Total<br>45 | C<br>35 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 19  | 3     | 1        | Total<br>46 | C<br>36 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 19  | 4     | 1        | Total<br>60 | C<br>50 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 19  | 4     | 1        | Total<br>60 | C<br>50 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 19  | 4     | 1        | Total<br>45 | C<br>35 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 19  | 4     | 1        | Total<br>50 | C<br>40 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 19  | 4     | 1        | Total<br>60 | C<br>50 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 19  | 4     | 1        | Total<br>60 | C<br>50 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 19  | 4     | 1        | Total<br>45 | C<br>35 | Mg<br>1 | N<br>4 | O<br>5 | 0       |

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| Mol | Chain | Residues | Atoms |    |    |   |   | AltConf |
|-----|-------|----------|-------|----|----|---|---|---------|
| 19  | 4     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 56    | 46 | 1  | 4 | 5 |         |
| 19  | 4     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 45    | 35 | 1  | 4 | 5 |         |
| 19  | 4     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 19  | A     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 19  | A     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 19  | A     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 50    | 40 | 1  | 4 | 5 |         |
| 19  | A     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 19  | A     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 19  | A     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 50    | 40 | 1  | 4 | 5 |         |
| 19  | A     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 19  | A     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 63    | 53 | 1  | 4 | 5 |         |
| 19  | A     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 59    | 49 | 1  | 4 | 5 |         |
| 19  | A     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 19  | A     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 54    | 44 | 1  | 4 | 5 |         |
| 19  | A     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 19  | A     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 45    | 35 | 1  | 4 | 5 |         |
| 19  | A     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 50    | 40 | 1  | 4 | 5 |         |
| 19  | A     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 45    | 35 | 1  | 4 | 5 |         |
| 19  | A     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 64    | 54 | 1  | 4 | 5 |         |
| 19  | A     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 55    | 45 | 1  | 4 | 5 |         |
| 19  | A     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |

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| Mol | Chain | Residues | Atoms       |         |         |        |        | AltConf |
|-----|-------|----------|-------------|---------|---------|--------|--------|---------|
| 19  | A     | 1        | Total<br>45 | C<br>35 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 19  | A     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 19  | A     | 1        | Total<br>45 | C<br>35 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 19  | A     | 1        | Total<br>51 | C<br>41 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 19  | A     | 1        | Total<br>55 | C<br>45 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 19  | A     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 19  | A     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 19  | A     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 19  | A     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 19  | A     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 19  | A     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 19  | A     | 1        | Total<br>50 | C<br>40 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 19  | A     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 19  | A     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 19  | A     | 1        | Total<br>50 | C<br>40 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 19  | A     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 19  | A     | 1        | Total<br>51 | C<br>41 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 19  | A     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 19  | A     | 1        | Total<br>52 | C<br>42 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 19  | A     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 19  | A     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |

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| Mol | Chain | Residues | Atoms |    |    |   |   | AltConf |
|-----|-------|----------|-------|----|----|---|---|---------|
| 19  | A     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 19  | A     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 45    | 35 | 1  | 4 | 5 |         |
| 19  | A     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 19  | A     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 60    | 50 | 1  | 4 | 5 |         |
| 19  | A     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 19  | B     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 19  | B     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 19  | B     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 45    | 35 | 1  | 4 | 5 |         |
| 19  | B     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 19  | B     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 19  | B     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 54    | 44 | 1  | 4 | 5 |         |
| 19  | B     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 19  | B     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 19  | B     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 19  | B     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 54    | 44 | 1  | 4 | 5 |         |
| 19  | B     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 55    | 45 | 1  | 4 | 5 |         |
| 19  | B     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 19  | B     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 19  | B     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 55    | 45 | 1  | 4 | 5 |         |
| 19  | B     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 55    | 45 | 1  | 4 | 5 |         |
| 19  | B     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 59    | 49 | 1  | 4 | 5 |         |

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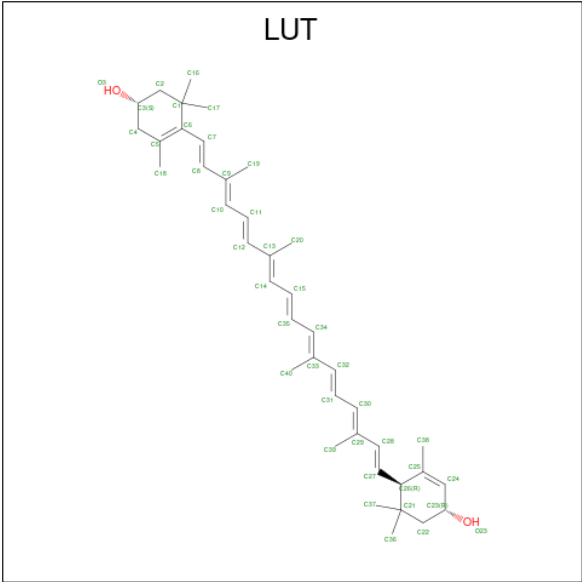
| Mol | Chain | Residues | Atoms |    |    |   |   | AltConf |
|-----|-------|----------|-------|----|----|---|---|---------|
| 19  | B     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 60    | 50 | 1  | 4 | 5 |         |
| 19  | B     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 60    | 50 | 1  | 4 | 5 |         |
| 19  | B     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 50    | 40 | 1  | 4 | 5 |         |
| 19  | B     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 55    | 45 | 1  | 4 | 5 |         |
| 19  | B     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 55    | 45 | 1  | 4 | 5 |         |
| 19  | B     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 60    | 50 | 1  | 4 | 5 |         |
| 19  | B     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 19  | B     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 60    | 50 | 1  | 4 | 5 |         |
| 19  | B     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 19  | B     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 19  | B     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 19  | B     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 19  | B     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 50    | 40 | 1  | 4 | 5 |         |
| 19  | B     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 60    | 50 | 1  | 4 | 5 |         |
| 19  | B     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 58    | 48 | 1  | 4 | 5 |         |
| 19  | B     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 19  | B     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 45    | 35 | 1  | 4 | 5 |         |
| 19  | B     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 55    | 45 | 1  | 4 | 5 |         |
| 19  | B     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 19  | B     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 47    | 37 | 1  | 4 | 5 |         |
| 19  | B     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |

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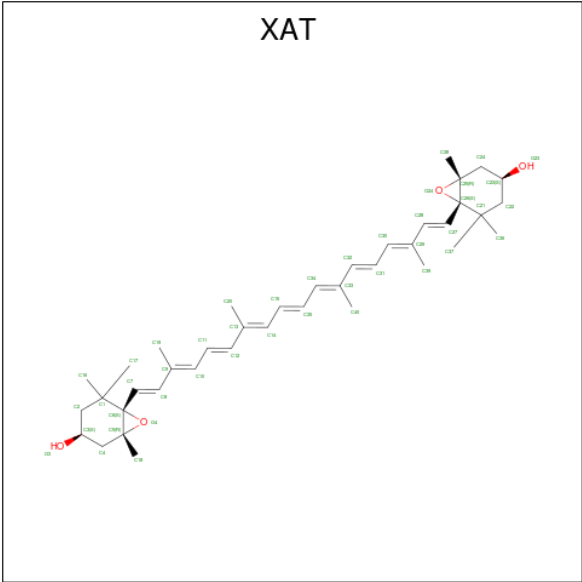
| Mol | Chain | Residues | Atoms |    |    |   |   | AltConf |
|-----|-------|----------|-------|----|----|---|---|---------|
| 19  | B     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 19  | F     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 64    | 54 | 1  | 4 | 5 |         |
| 19  | F     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 19  | F     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 45    | 35 | 1  | 4 | 5 |         |
| 19  | F     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 45    | 35 | 1  | 4 | 5 |         |
| 19  | G     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 41    | 33 | 1  | 4 | 3 |         |
| 19  | G     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 50    | 40 | 1  | 4 | 5 |         |
| 19  | G     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 46    | 36 | 1  | 4 | 5 |         |
| 19  | H     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 45    | 35 | 1  | 4 | 5 |         |
| 19  | J     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 42    | 34 | 1  | 4 | 3 |         |
| 19  | L     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 55    | 45 | 1  | 4 | 5 |         |
| 19  | L     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 19  | L     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 50    | 40 | 1  | 4 | 5 |         |
| 19  | K     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 45    | 35 | 1  | 4 | 5 |         |
| 19  | K     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 46    | 36 | 1  | 4 | 5 |         |
| 19  | K     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 37    | 31 | 1  | 4 | 1 |         |

- Molecule 20 is (3R,3'R,6S)-4,5-DIDEHYDRO-5,6-DIHYDRO-BETA,BETA-CAROTENE-3,3'-DIOL (CCD ID: LUT) (formula: C<sub>40</sub>H<sub>56</sub>O<sub>2</sub>) (labeled as "Ligand of Interest" by depositor).



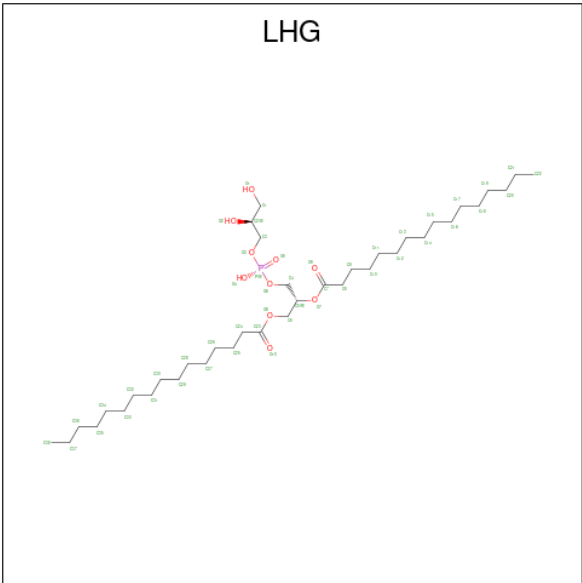
| Mol | Chain | Residues | Atoms |    |   | AltConf |
|-----|-------|----------|-------|----|---|---------|
| 20  | 1     | 1        | Total | C  | O | 0       |
|     |       |          | 42    | 40 | 2 |         |
| 20  | 1     | 1        | Total | C  | O | 0       |
|     |       |          | 42    | 40 | 2 |         |
| 20  | 2     | 1        | Total | C  | O | 0       |
|     |       |          | 42    | 40 | 2 |         |
| 20  | 3     | 1        | Total | C  | O | 0       |
|     |       |          | 42    | 40 | 2 |         |
| 20  | 4     | 1        | Total | C  | O | 0       |
|     |       |          | 42    | 40 | 2 |         |

- Molecule 21 is (3S,5R,6S,3'S,5'R,6'S)-5,6,5',6'-DIEPOXY-5,6,5',6'- TETRAHYDRO-BETA ,BETA-CAROTENE-3,3'-DIOL (CCD ID: XAT) (formula: C<sub>40</sub>H<sub>56</sub>O<sub>4</sub>) (labeled as "Ligand of Interest" by depositor).



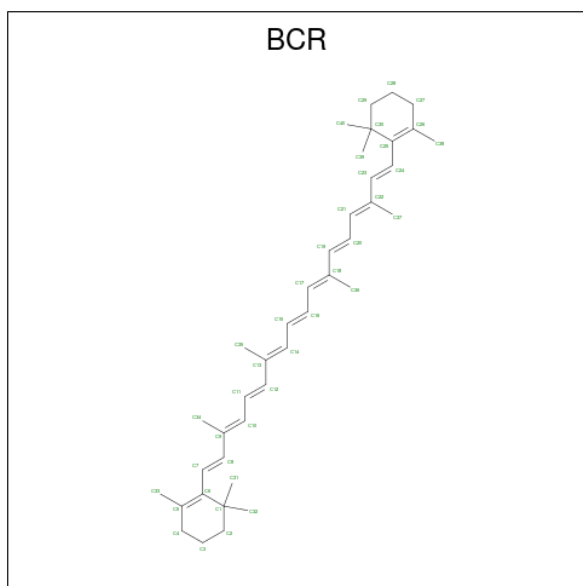
| Mol | Chain | Residues | Atoms |    |   | AltConf |
|-----|-------|----------|-------|----|---|---------|
| 21  | 1     | 1        | Total | C  | O | 0       |
|     |       |          | 44    | 40 | 4 |         |
| 21  | 2     | 1        | Total | C  | O | 0       |
|     |       |          | 44    | 40 | 4 |         |
| 21  | 3     | 1        | Total | C  | O | 0       |
|     |       |          | 44    | 40 | 4 |         |
| 21  | 4     | 1        | Total | C  | O | 0       |
|     |       |          | 44    | 40 | 4 |         |

- Molecule 22 is 1,2-DIPALMITOYL-PHOSPHATIDYL-GLYCEROLE (CCD ID: LHG) (formula:  $C_{38}H_{75}O_{10}P$ ) (labeled as "Ligand of Interest" by depositor).



| Mol | Chain | Residues | Atoms |    |    |   | AltConf |
|-----|-------|----------|-------|----|----|---|---------|
| 22  | 1     | 1        | Total | C  | O  | P | 0       |
|     |       |          | 49    | 38 | 10 | 1 |         |
| 22  | 1     | 1        | Total | C  | O  | P | 0       |
|     |       |          | 49    | 38 | 10 | 1 |         |
| 22  | 2     | 1        | Total | C  | O  | P | 0       |
|     |       |          | 37    | 26 | 10 | 1 |         |
| 22  | A     | 1        | Total | C  | O  | P | 0       |
|     |       |          | 49    | 38 | 10 | 1 |         |
| 22  | B     | 1        | Total | C  | O  | P | 0       |
|     |       |          | 45    | 34 | 10 | 1 |         |

- Molecule 23 is BETA-CAROTENE (CCD ID: BCR) (formula:  $C_{40}H_{56}$ ) (labeled as "Ligand of Interest" by depositor).



| Mol | Chain | Residues | Atoms |    | AltConf |
|-----|-------|----------|-------|----|---------|
| 23  | 1     | 1        | Total | C  | 0       |
|     |       |          | 40    | 40 |         |
| 23  | 2     | 1        | Total | C  | 0       |
|     |       |          | 40    | 40 |         |
| 23  | 3     | 1        | Total | C  | 0       |
|     |       |          | 40    | 40 |         |
| 23  | 4     | 1        | Total | C  | 0       |
|     |       |          | 40    | 40 |         |
| 23  | A     | 1        | Total | C  | 0       |
|     |       |          | 40    | 40 |         |
| 23  | A     | 1        | Total | C  | 0       |
|     |       |          | 40    | 40 |         |

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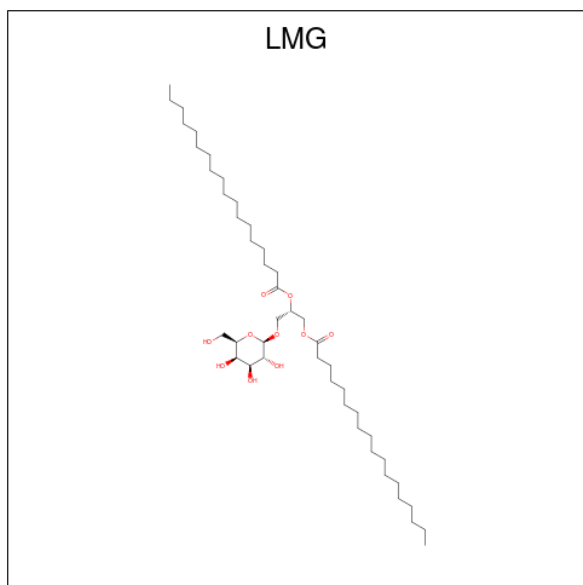
| Mol | Chain | Residues | Atoms            | AltConf |
|-----|-------|----------|------------------|---------|
| 23  | A     | 1        | Total C<br>40 40 | 0       |
| 23  | A     | 1        | Total C<br>40 40 | 0       |
| 23  | A     | 1        | Total C<br>40 40 | 0       |
| 23  | A     | 1        | Total C<br>40 40 | 0       |
| 23  | A     | 1        | Total C<br>40 40 | 0       |
| 23  | B     | 1        | Total C<br>40 40 | 0       |
| 23  | B     | 1        | Total C<br>40 40 | 0       |
| 23  | B     | 1        | Total C<br>40 40 | 0       |
| 23  | B     | 1        | Total C<br>40 40 | 0       |
| 23  | B     | 1        | Total C<br>40 40 | 0       |
| 23  | B     | 1        | Total C<br>40 40 | 0       |
| 23  | B     | 1        | Total C<br>40 40 | 0       |
| 23  | F     | 1        | Total C<br>40 40 | 0       |
| 23  | F     | 1        | Total C<br>40 40 | 0       |
| 23  | G     | 1        | Total C<br>40 40 | 0       |
| 23  | I     | 1        | Total C<br>40 40 | 0       |
| 23  | J     | 1        | Total C<br>40 40 | 0       |
| 23  | J     | 1        | Total C<br>40 40 | 0       |
| 23  | J     | 1        | Total C<br>40 40 | 0       |
| 23  | J     | 1        | Total C<br>40 40 | 0       |
| 23  | L     | 1        | Total C<br>40 40 | 0       |
| 23  | L     | 1        | Total C<br>40 40 | 0       |
| 23  | L     | 1        | Total C<br>40 40 | 0       |

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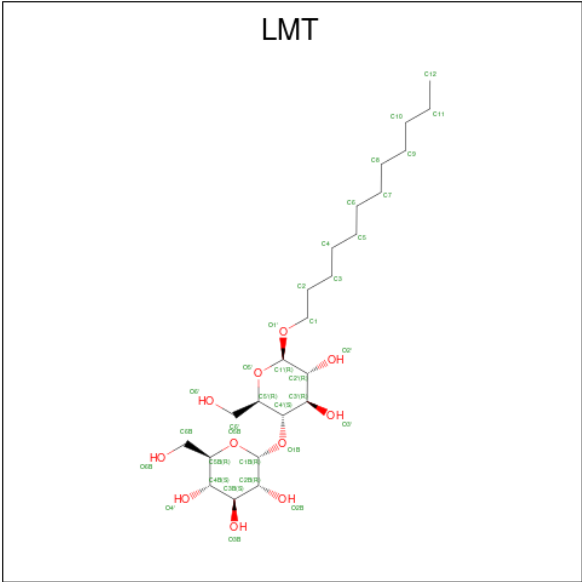
| Mol | Chain | Residues | Atoms |    | AltConf |
|-----|-------|----------|-------|----|---------|
| 23  | K     | 1        | Total | C  | 0       |
|     |       |          | 40    | 40 |         |

- Molecule 24 is 1,2-DISTEAROYL-MONOGALACTOSYL-DIGLYCERIDE (CCD ID: LMG) (formula:  $C_{45}H_{86}O_{10}$ ) (labeled as "Ligand of Interest" by depositor).



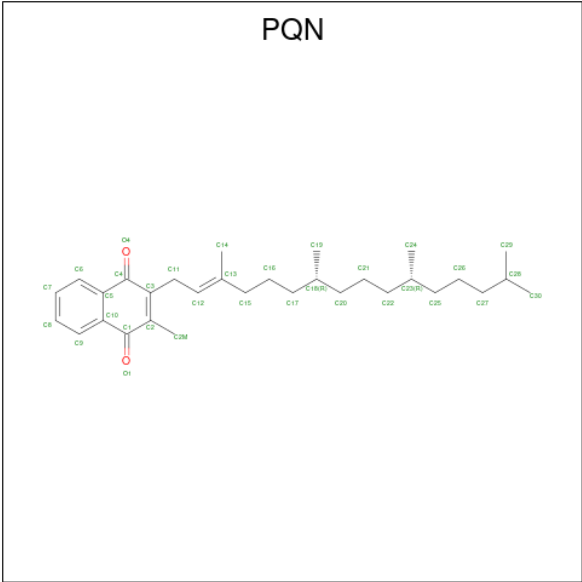
| Mol | Chain | Residues | Atoms |    |    | AltConf |
|-----|-------|----------|-------|----|----|---------|
| 24  | 1     | 1        | Total | C  | O  | 0       |
|     |       |          | 50    | 40 | 10 |         |
| 24  | 4     | 1        | Total | C  | O  | 0       |
|     |       |          | 36    | 26 | 10 |         |
| 24  | B     | 1        | Total | C  | O  | 0       |
|     |       |          | 52    | 42 | 10 |         |
| 24  | F     | 1        | Total | C  | O  | 0       |
|     |       |          | 30    | 20 | 10 |         |

- Molecule 25 is DODECYL-BETA-D-MALTOSE (CCD ID: LMT) (formula:  $C_{24}H_{46}O_{11}$ ).



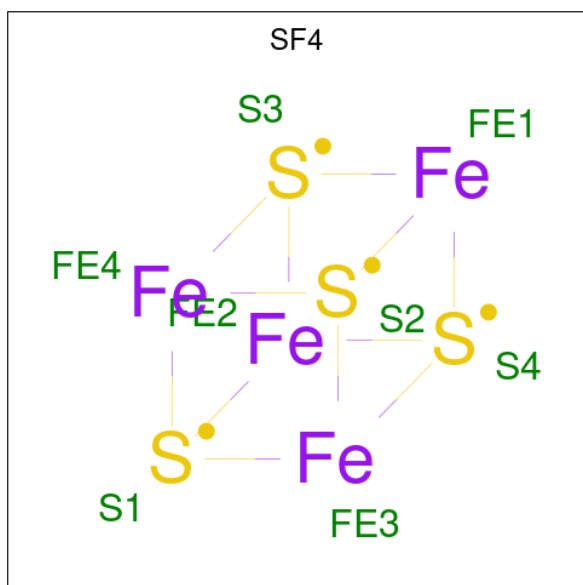
| Mol | Chain | Residues | Atoms |    |    | AltConf |
|-----|-------|----------|-------|----|----|---------|
| 25  | 2     | 1        | Total | C  | O  | 0       |
|     |       |          | 35    | 24 | 11 |         |
| 25  | G     | 1        | Total | C  | O  | 0       |
|     |       |          | 35    | 24 | 11 |         |
| 25  | N     | 1        | Total | C  | O  | 0       |
|     |       |          | 35    | 24 | 11 |         |

- Molecule 26 is PHYLLOQUINONE (CCD ID: PQN) (formula: C<sub>31</sub>H<sub>46</sub>O<sub>2</sub>) (labeled as "Ligand of Interest" by depositor).



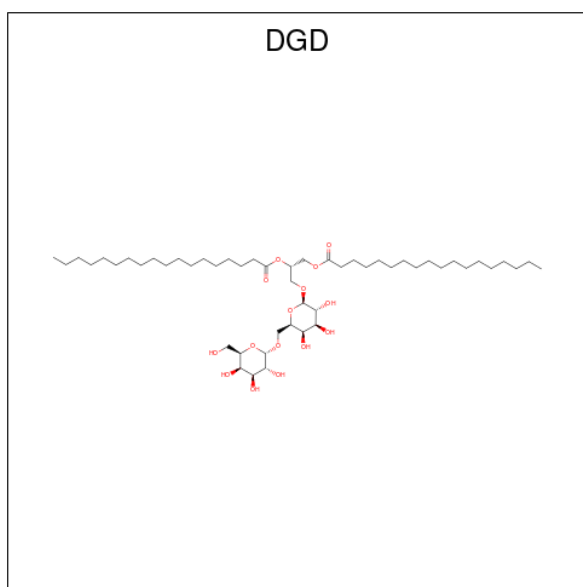
| Mol | Chain | Residues | Atoms |    |   | AltConf |
|-----|-------|----------|-------|----|---|---------|
| 26  | A     | 1        | Total | C  | O | 0       |
|     |       |          | 33    | 31 | 2 |         |
| 26  | B     | 1        | Total | C  | O | 0       |
|     |       |          | 33    | 31 | 2 |         |

- Molecule 27 is IRON/SULFUR CLUSTER (CCD ID: SF4) (formula:  $\text{Fe}_4\text{S}_4$ ) (labeled as "Ligand of Interest" by depositor).



| Mol | Chain | Residues | Atoms |    |   | AltConf |
|-----|-------|----------|-------|----|---|---------|
| 27  | A     | 1        | Total | Fe | S | 0       |
|     |       |          | 8     | 4  | 4 |         |
| 27  | C     | 1        | Total | Fe | S | 0       |
|     |       |          | 8     | 4  | 4 |         |
| 27  | C     | 1        | Total | Fe | S | 0       |
|     |       |          | 8     | 4  | 4 |         |

- Molecule 28 is DIGALACTOSYL DIACYL GLYCEROL (DGDG) (CCD ID: DGD) (formula:  $\text{C}_{51}\text{H}_{96}\text{O}_{15}$ ) (labeled as "Ligand of Interest" by depositor).

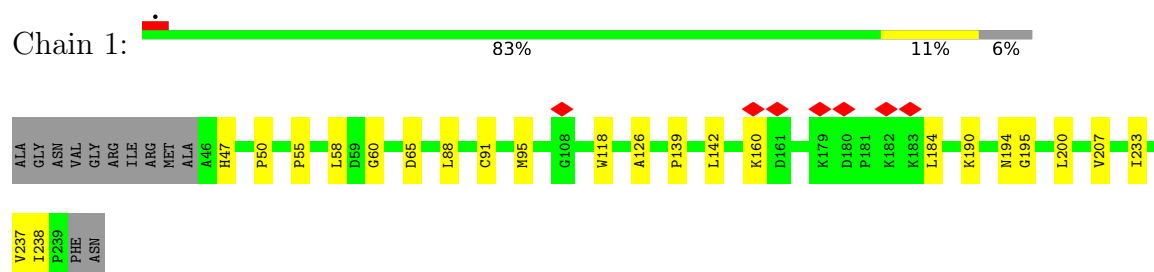


| Mol | Chain | Residues | Atoms |    |    | AltConf |
|-----|-------|----------|-------|----|----|---------|
|     |       |          | Total | C  | O  |         |
| 28  | B     | 1        | 66    | 51 | 15 | 0       |

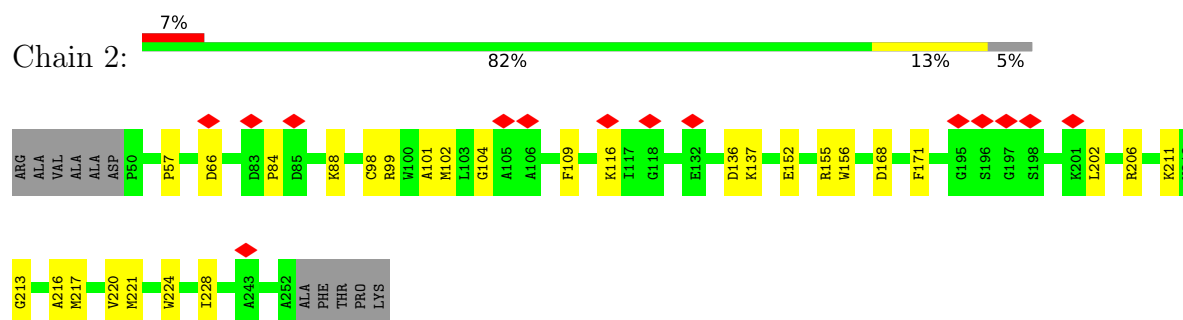
### 3 Residue-property plots [i](#)

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 atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

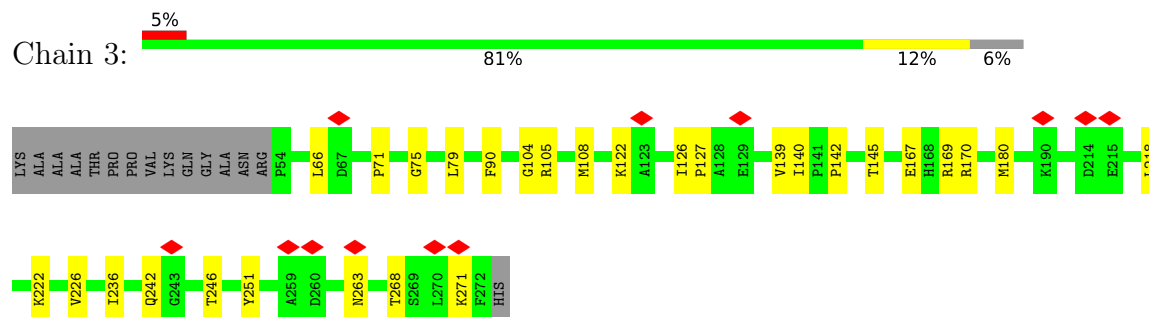
- Molecule 1: Chlorophyll a-b binding protein 6, chloroplastic



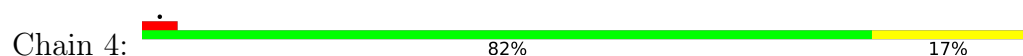
- Molecule 2: Photosystem I chlorophyll a/b-binding protein 2, chloroplastic

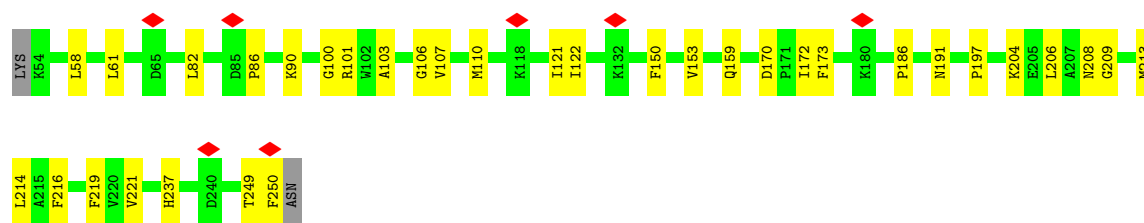


- Molecule 3: Photosystem I chlorophyll a/b-binding protein 3-1, chloroplastic



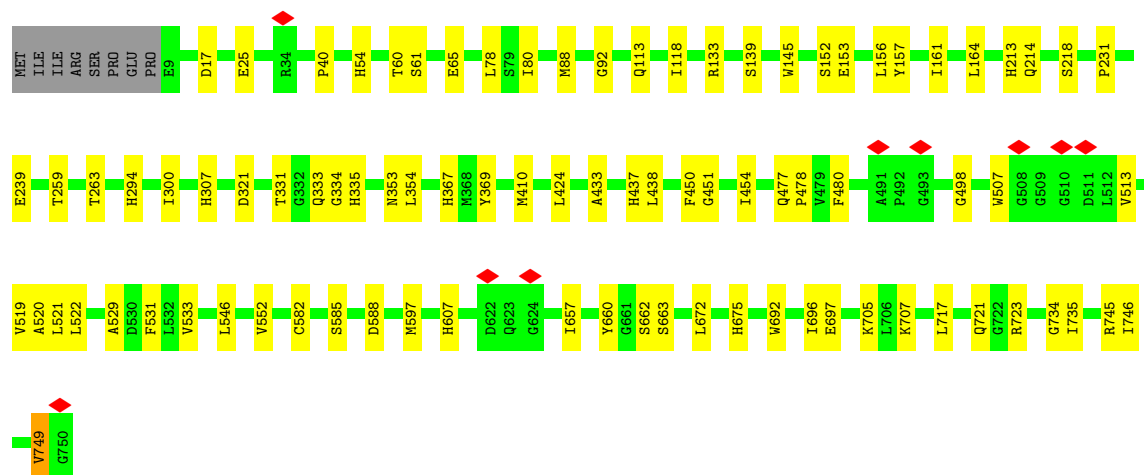
- Molecule 4: Chlorophyll a-b binding protein 4, chloroplastic





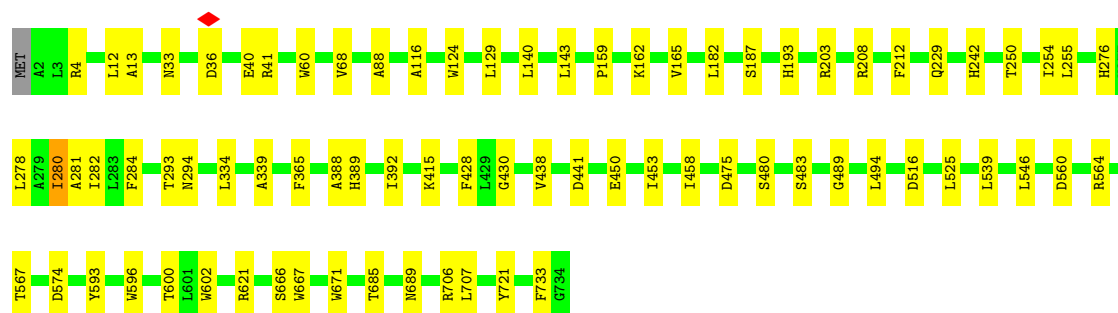
- Molecule 5: Photosystem I P700 chlorophyll a apoprotein A1

Chain A: 87% 12%



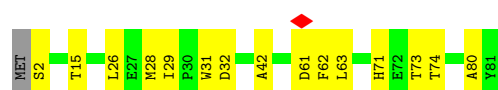
- Molecule 6: Photosystem I P700 chlorophyll a apoprotein A2

Chain B: 89% 10%



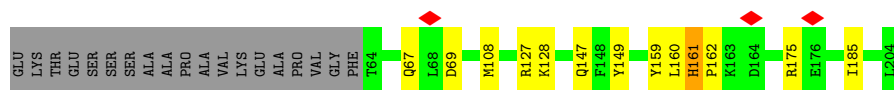
- Molecule 7: Photosystem I iron-sulfur center

Chain C: 80% 19%

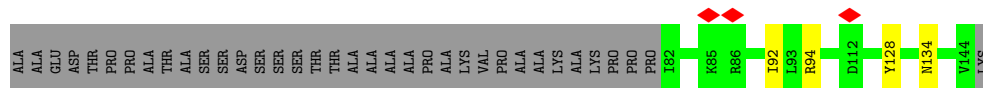


- Molecule 8: Photosystem I reaction center subunit II-2, chloroplastic

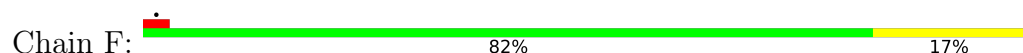
Chain D: 80% 8% 12%



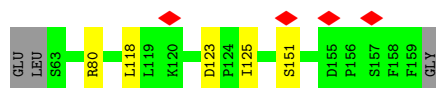
- Molecule 9: Photosystem I reaction center subunit IV B, chloroplactic



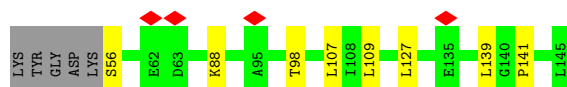
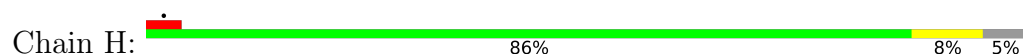
- Molecule 10: Photosystem I reaction center subunit III, chloroplactic



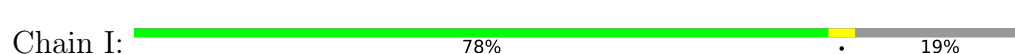
- Molecule 11: Photosystem I reaction center subunit V, chloroplactic



- Molecule 12: Photosystem I reaction center subunit VI-1, chloroplactic



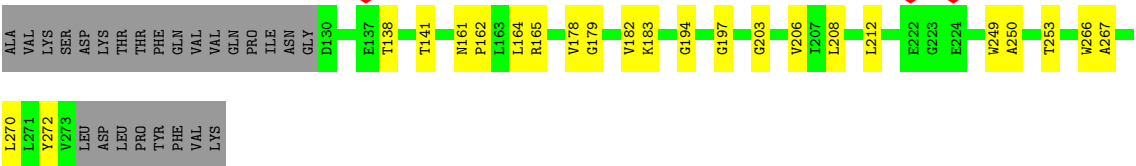
- Molecule 13: Photosystem I reaction center subunit VIII



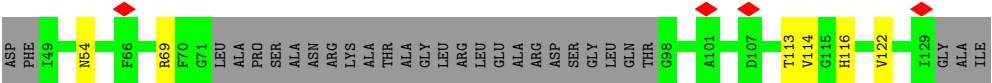
- Molecule 14: Photosystem I reaction center subunit IX



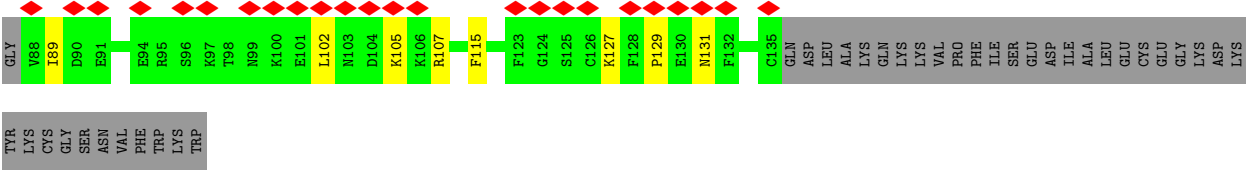
- Molecule 15: Photosystem I reaction center subunit XI, chloroplactic



• Molecule 16: Photosystem I reaction center subunit psaK, chloroplastic



• Molecule 17: Photosystem I reaction center subunit N, chloroplastic



## 4 Experimental information

| Property                             | Value                     | Source    |
|--------------------------------------|---------------------------|-----------|
| EM reconstruction method             | SINGLE PARTICLE           | Depositor |
| Imposed symmetry                     | POINT, C1                 | Depositor |
| Number of particles used             | 54155                     | Depositor |
| Resolution determination method      | FSC 0.143 CUT-OFF         | Depositor |
| CTF correction method                | NONE                      | Depositor |
| Microscope                           | FEI TALOS ARCTICA         | Depositor |
| Voltage (kV)                         | 200                       | Depositor |
| Electron dose ( $e^-/\text{\AA}^2$ ) | 40                        | Depositor |
| Minimum defocus (nm)                 | 800                       | Depositor |
| Maximum defocus (nm)                 | 2400                      | Depositor |
| Magnification                        | 120000                    | Depositor |
| Image detector                       | FEI FALCON III (4k x 4k)  | Depositor |
| Maximum map value                    | 3.854                     | Depositor |
| Minimum map value                    | -1.833                    | Depositor |
| Average map value                    | 0.000                     | Depositor |
| Map value standard deviation         | 0.091                     | Depositor |
| Recommended contour level            | 0.5                       | Depositor |
| Map size ( $\text{\AA}$ )            | 398.272, 398.272, 398.272 | wwPDB     |
| Map dimensions                       | 448, 448, 448             | wwPDB     |
| Map angles ( $^\circ$ )              | 90.0, 90.0, 90.0          | wwPDB     |
| Pixel spacing ( $\text{\AA}$ )       | 0.889, 0.889, 0.889       | Depositor |

## 5 Model quality

### 5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: CLA, CHL, DGD, SF4, LUT, XAT, PQN, LMT, LHG, LMG, BCR

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   | 1     | 0.11         | 0/1551  | 0.28        | 0/2117  |
| 2   | 2     | 0.11         | 0/1639  | 0.25        | 0/2242  |
| 3   | 3     | 0.12         | 0/1730  | 0.26        | 0/2352  |
| 4   | 4     | 0.10         | 0/1611  | 0.31        | 0/2194  |
| 5   | A     | 0.11         | 0/6031  | 0.24        | 0/8226  |
| 6   | B     | 0.12         | 0/6063  | 0.27        | 0/8281  |
| 7   | C     | 0.10         | 0/628   | 0.29        | 0/852   |
| 8   | D     | 0.11         | 0/1140  | 0.28        | 0/1542  |
| 9   | E     | 0.08         | 0/519   | 0.24        | 0/703   |
| 10  | F     | 0.11         | 0/1238  | 0.26        | 0/1670  |
| 11  | G     | 0.09         | 0/779   | 0.25        | 0/1056  |
| 12  | H     | 0.10         | 0/712   | 0.27        | 0/968   |
| 13  | I     | 0.11         | 0/236   | 0.26        | 0/322   |
| 14  | J     | 0.10         | 0/349   | 0.24        | 0/476   |
| 15  | L     | 0.12         | 0/1108  | 0.26        | 0/1512  |
| 16  | K     | 0.08         | 0/385   | 0.19        | 0/520   |
| 17  | N     | 0.10         | 0/387   | 0.31        | 0/517   |
| All | All   | 0.11         | 0/26106 | 0.26        | 0/35550 |

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 |
|-----|-------|---------------------|---------------------|
| 8   | D     | 0                   | 1                   |

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (1) planarity outliers are listed below:

| Mol | Chain | Res | Type | Group   |
|-----|-------|-----|------|---------|
| 8   | D     | 161 | HIS  | Peptide |

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

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

| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 1   | 1     | 1501  | 0        | 1476     | 18      | 0            |
| 2   | 2     | 1582  | 0        | 1533     | 21      | 0            |
| 3   | 3     | 1678  | 0        | 1646     | 19      | 0            |
| 4   | 4     | 1562  | 0        | 1517     | 26      | 0            |
| 5   | A     | 5834  | 0        | 5683     | 67      | 0            |
| 6   | B     | 5852  | 0        | 5639     | 60      | 0            |
| 7   | C     | 615   | 0        | 592      | 10      | 0            |
| 8   | D     | 1112  | 0        | 1122     | 10      | 0            |
| 9   | E     | 509   | 0        | 518      | 4       | 0            |
| 10  | F     | 1208  | 0        | 1241     | 23      | 0            |
| 11  | G     | 759   | 0        | 735      | 4       | 0            |
| 12  | H     | 692   | 0        | 693      | 7       | 0            |
| 13  | I     | 230   | 0        | 245      | 1       | 0            |
| 14  | J     | 339   | 0        | 357      | 9       | 0            |
| 15  | L     | 1076  | 0        | 1081     | 16      | 0            |
| 16  | K     | 382   | 0        | 399      | 6       | 0            |
| 17  | N     | 381   | 0        | 370      | 5       | 0            |
| 18  | 1     | 102   | 0        | 78       | 3       | 0            |
| 18  | 2     | 229   | 0        | 157      | 3       | 0            |
| 18  | 3     | 47    | 0        | 31       | 2       | 0            |
| 18  | 4     | 195   | 0        | 141      | 4       | 0            |
| 19  | 1     | 684   | 0        | 602      | 17      | 0            |
| 19  | 2     | 537   | 0        | 491      | 12      | 0            |
| 19  | 3     | 646   | 0        | 538      | 9       | 0            |
| 19  | 4     | 546   | 0        | 497      | 12      | 0            |
| 19  | A     | 2599  | 0        | 2608     | 73      | 0            |
| 19  | B     | 2262  | 0        | 2271     | 50      | 0            |
| 19  | F     | 219   | 0        | 206      | 4       | 0            |
| 19  | G     | 137   | 0        | 101      | 1       | 0            |
| 19  | H     | 45    | 0        | 28       | 2       | 0            |
| 19  | J     | 42    | 0        | 31       | 1       | 0            |

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| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 19  | K     | 128   | 0        | 91       | 4       | 0            |
| 19  | L     | 170   | 0        | 157      | 7       | 0            |
| 20  | 1     | 84    | 0        | 112      | 8       | 0            |
| 20  | 2     | 42    | 0        | 56       | 3       | 0            |
| 20  | 3     | 42    | 0        | 56       | 2       | 0            |
| 20  | 4     | 42    | 0        | 56       | 5       | 0            |
| 21  | 1     | 44    | 0        | 56       | 1       | 0            |
| 21  | 2     | 44    | 0        | 56       | 2       | 0            |
| 21  | 3     | 44    | 0        | 56       | 1       | 0            |
| 21  | 4     | 44    | 0        | 56       | 2       | 0            |
| 22  | 1     | 98    | 0        | 148      | 6       | 0            |
| 22  | 2     | 37    | 0        | 44       | 1       | 0            |
| 22  | A     | 49    | 0        | 74       | 0       | 0            |
| 22  | B     | 45    | 0        | 63       | 3       | 0            |
| 23  | 1     | 40    | 0        | 56       | 2       | 0            |
| 23  | 2     | 40    | 0        | 56       | 3       | 0            |
| 23  | 3     | 40    | 0        | 56       | 1       | 0            |
| 23  | 4     | 40    | 0        | 56       | 2       | 0            |
| 23  | A     | 280   | 0        | 392      | 27      | 0            |
| 23  | B     | 240   | 0        | 336      | 11      | 0            |
| 23  | F     | 80    | 0        | 112      | 6       | 0            |
| 23  | G     | 40    | 0        | 56       | 2       | 0            |
| 23  | I     | 40    | 0        | 56       | 1       | 0            |
| 23  | J     | 120   | 0        | 168      | 12      | 0            |
| 23  | K     | 40    | 0        | 56       | 2       | 0            |
| 23  | L     | 120   | 0        | 168      | 10      | 0            |
| 24  | 1     | 50    | 0        | 70       | 3       | 0            |
| 24  | 4     | 36    | 0        | 42       | 0       | 0            |
| 24  | B     | 52    | 0        | 77       | 1       | 0            |
| 24  | F     | 30    | 0        | 30       | 1       | 0            |
| 25  | 2     | 35    | 0        | 46       | 5       | 0            |
| 25  | G     | 35    | 0        | 46       | 0       | 0            |
| 25  | N     | 35    | 0        | 46       | 2       | 0            |
| 26  | A     | 33    | 0        | 46       | 0       | 0            |
| 26  | B     | 33    | 0        | 46       | 1       | 0            |
| 27  | A     | 8     | 0        | 0        | 0       | 0            |
| 27  | C     | 16    | 0        | 0        | 0       | 0            |
| 28  | B     | 66    | 0        | 96       | 4       | 0            |
| All | All   | 36064 | 0        | 35821    | 479     | 0            |

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 7.

All (479) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 19:1:305:CLA:HBB1 | 18:1:306:CHL:HMC  | 1.60                     | 0.84              |
| 7:C:61:ASP:HB3    | 9:E:134:ASN:HD21  | 1.44                     | 0.82              |
| 4:4:121:ILE:HG22  | 4:4:122:ILE:HG12  | 1.62                     | 0.81              |
| 20:1:315:LUT:H8   | 20:1:315:LUT:H171 | 1.64                     | 0.80              |
| 20:2:315:LUT:H171 | 20:2:315:LUT:H8   | 1.64                     | 0.80              |
| 17:N:127:LYS:HG3  | 17:N:129:PRO:HD2  | 1.67                     | 0.77              |
| 23:L:305:BCR:H21C | 23:L:305:BCR:H361 | 1.69                     | 0.74              |
| 2:2:221:MET:HG2   | 21:2:316:XAT:H35  | 1.68                     | 0.74              |
| 10:F:75:CYS:SG    | 10:F:130:CYS:N    | 2.61                     | 0.73              |
| 19:A:827:CLA:H203 | 23:J:103:BCR:H17C | 1.74                     | 0.70              |
| 6:B:453:ILE:HD13  | 23:J:101:BCR:H20C | 1.74                     | 0.70              |
| 17:N:127:LYS:O    | 17:N:131:ASN:ND2  | 2.25                     | 0.69              |
| 3:3:236:ILE:HG21  | 21:3:316:XAT:H12  | 1.76                     | 0.68              |
| 20:1:320:LUT:H28  | 19:4:313:CLA:HBC3 | 1.75                     | 0.67              |
| 19:F:302:CLA:HBD  | 19:F:302:CLA:HBA1 | 1.75                     | 0.67              |
| 20:1:320:LUT:H171 | 20:1:320:LUT:H8   | 1.75                     | 0.66              |
| 1:1:55:PRO:HG2    | 1:1:58:LEU:HD12   | 1.77                     | 0.66              |
| 5:A:745:ARG:HH11  | 5:A:749:VAL:HG11  | 1.61                     | 0.66              |
| 2:2:202:LEU:HD22  | 2:2:206:ARG:HE    | 1.61                     | 0.65              |
| 3:3:167:GLU:OE1   | 3:3:170:ARG:NH2   | 2.26                     | 0.65              |
| 5:A:353:ASN:ND2   | 19:A:804:CLA:OBD  | 2.28                     | 0.64              |
| 23:A:844:BCR:H352 | 23:A:844:BCR:H10C | 1.80                     | 0.64              |
| 23:B:840:BCR:H362 | 23:G:205:BCR:H312 | 1.80                     | 0.64              |
| 18:4:305:CHL:HBB1 | 21:4:316:XAT:H161 | 1.79                     | 0.63              |
| 6:B:546:LEU:O     | 6:B:564:ARG:NH1   | 2.31                     | 0.63              |
| 23:A:843:BCR:H10C | 23:A:843:BCR:H352 | 1.81                     | 0.63              |
| 6:B:339:ALA:HB2   | 23:B:844:BCR:H372 | 1.80                     | 0.63              |
| 5:A:588:ASP:OD1   | 5:A:723:ARG:NH1   | 2.32                     | 0.62              |
| 6:B:560:ASP:OD2   | 6:B:564:ARG:NH2   | 2.33                     | 0.62              |
| 2:2:104:GLY:HA2   | 21:2:316:XAT:H181 | 1.81                     | 0.62              |
| 19:A:806:CLA:OBD  | 25:N:201:LMT:O2B  | 2.17                     | 0.62              |
| 5:A:531:PHE:HA    | 19:A:836:CLA:HED1 | 1.81                     | 0.62              |
| 19:A:832:CLA:H152 | 19:L:302:CLA:HMB3 | 1.81                     | 0.62              |
| 4:4:58:LEU:HD23   | 4:4:61:LEU:HB2    | 1.82                     | 0.62              |
| 7:C:2:SER:N       | 7:C:71:HIS:O      | 2.32                     | 0.62              |
| 19:A:809:CLA:HBB2 | 19:A:812:CLA:HMA3 | 1.83                     | 0.61              |
| 19:4:302:CLA:H2   | 10:F:205:VAL:HG22 | 1.82                     | 0.61              |
| 19:B:811:CLA:HBA2 | 19:B:811:CLA:H43  | 1.81                     | 0.61              |
| 6:B:159:PRO:HA    | 6:B:162:LYS:HE3   | 1.82                     | 0.61              |
| 1:1:50:PRO:O      | 4:4:159:GLN:NE2   | 2.33                     | 0.61              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 5:A:438:LEU:HG    | 5:A:546:LEU:HB2   | 1.83                     | 0.61              |
| 23:1:318:BCR:H353 | 23:1:318:BCR:H10C | 1.83                     | 0.61              |
| 4:4:170:ASP:OD1   | 4:4:173:PHE:N     | 2.34                     | 0.60              |
| 19:A:809:CLA:HBA2 | 19:A:812:CLA:H192 | 1.84                     | 0.60              |
| 23:L:306:BCR:H10C | 23:L:306:BCR:H352 | 1.83                     | 0.60              |
| 6:B:182:LEU:HD13  | 19:B:812:CLA:HBB  | 1.84                     | 0.60              |
| 6:B:203:ARG:HD3   | 6:B:250:THR:HB    | 1.84                     | 0.60              |
| 7:C:62:PHE:HD2    | 8:D:185:ILE:HG21  | 1.67                     | 0.59              |
| 19:A:807:CLA:HAB  | 23:J:103:BCR:H352 | 1.83                     | 0.59              |
| 18:2:301:CHL:HHC  | 18:2:301:CHL:HBB1 | 1.85                     | 0.59              |
| 6:B:707:LEU:HD11  | 28:B:846:DGD:HB81 | 1.85                     | 0.59              |
| 19:B:813:CLA:C2C  | 23:B:842:BCR:H16C | 2.33                     | 0.58              |
| 5:A:367:HIS:ND1   | 19:A:817:CLA:OBD  | 2.32                     | 0.58              |
| 22:B:848:LHG:H242 | 22:B:848:LHG:H102 | 1.84                     | 0.58              |
| 6:B:458:ILE:HG21  | 10:F:141:ASN:HD21 | 1.69                     | 0.58              |
| 6:B:68:VAL:HG11   | 6:B:124:TRP:HZ3   | 1.68                     | 0.58              |
| 19:L:302:CLA:H3A  | 23:L:305:BCR:H373 | 1.85                     | 0.58              |
| 10:F:83:LYS:O     | 10:F:87:GLN:HG3   | 2.03                     | 0.58              |
| 4:4:107:VAL:HG11  | 20:4:315:LUT:H12  | 1.86                     | 0.57              |
| 6:B:721:TYR:HB2   | 19:B:801:CLA:HED2 | 1.86                     | 0.57              |
| 4:4:106:GLY:O     | 4:4:110:MET:HG3   | 2.04                     | 0.57              |
| 6:B:516:ASP:OD2   | 6:B:593:TYR:OH    | 2.21                     | 0.57              |
| 19:B:831:CLA:H51  | 23:F:306:BCR:H333 | 1.86                     | 0.57              |
| 6:B:40:GLU:HG2    | 6:B:165:VAL:HG23  | 1.87                     | 0.57              |
| 22:1:322:LHG:H132 | 19:B:821:CLA:H43  | 1.86                     | 0.56              |
| 5:A:513:VAL:HG12  | 5:A:520:ALA:HB3   | 1.87                     | 0.56              |
| 22:1:317:LHG:H162 | 19:4:313:CLA:HED1 | 1.86                     | 0.56              |
| 23:L:305:BCR:H361 | 23:L:305:BCR:C21  | 2.32                     | 0.56              |
| 14:J:12:PRO:HB2   | 23:J:104:BCR:H401 | 1.88                     | 0.56              |
| 1:1:190:LYS:O     | 1:1:194:ASN:ND2   | 2.30                     | 0.56              |
| 19:A:804:CLA:H143 | 23:A:845:BCR:H272 | 1.86                     | 0.56              |
| 8:D:69:ASP:N      | 8:D:69:ASP:OD1    | 2.37                     | 0.56              |
| 4:4:191:ASN:OD1   | 20:4:315:LUT:O23  | 2.24                     | 0.55              |
| 5:A:65:GLU:N      | 5:A:65:GLU:OE2    | 2.38                     | 0.55              |
| 1:1:190:LYS:HD3   | 19:1:311:CLA:HBD  | 1.88                     | 0.55              |
| 5:A:707:LYS:HG3   | 10:F:218:ALA:HB2  | 1.88                     | 0.55              |
| 6:B:36:ASP:O      | 6:B:41:ARG:NH1    | 2.39                     | 0.55              |
| 25:2:318:LMT:H121 | 25:2:318:LMT:H3'  | 1.89                     | 0.55              |
| 4:4:172:ILE:HD11  | 23:4:317:BCR:H323 | 1.88                     | 0.55              |
| 3:3:79:LEU:HD23   | 19:A:811:CLA:H2   | 1.88                     | 0.55              |
| 4:4:221:VAL:HG11  | 19:4:311:CLA:HAC2 | 1.87                     | 0.55              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 5:A:717:LEU:HB3   | 5:A:721:GLN:HG2   | 1.87                     | 0.55              |
| 1:1:91:CYS:HB3    | 1:1:195:GLY:HA3   | 1.87                     | 0.55              |
| 10:F:96:LEU:HA    | 10:F:109:LEU:HD13 | 1.89                     | 0.55              |
| 19:A:823:CLA:H42  | 23:A:848:BCR:H363 | 1.88                     | 0.55              |
| 5:A:433:ALA:O     | 5:A:437:HIS:ND1   | 2.40                     | 0.54              |
| 10:F:68:ASP:N     | 10:F:72:LEU:O     | 2.41                     | 0.54              |
| 6:B:33:ASN:HB3    | 28:B:846:DGD:HE62 | 1.89                     | 0.54              |
| 16:K:54:ASN:ND2   | 19:K:202:CLA:O1D  | 2.40                     | 0.54              |
| 19:A:853:CLA:H42  | 19:L:302:CLA:H102 | 1.89                     | 0.54              |
| 19:1:308:CLA:HBA1 | 22:1:322:LHG:H141 | 1.89                     | 0.54              |
| 10:F:190:VAL:HG21 | 24:F:307:LMG:H112 | 1.89                     | 0.54              |
| 5:A:88:MET:HE1    | 19:A:807:CLA:HMA2 | 1.89                     | 0.54              |
| 19:A:804:CLA:H61  | 23:A:846:BCR:H323 | 1.89                     | 0.54              |
| 19:B:827:CLA:H202 | 23:B:841:BCR:H352 | 1.90                     | 0.54              |
| 19:B:835:CLA:H152 | 23:F:305:BCR:H23C | 1.89                     | 0.54              |
| 10:F:103:SER:HB2  | 10:F:105:PRO:HD2  | 1.90                     | 0.53              |
| 12:H:107:LEU:HD22 | 15:L:206:VAL:HG13 | 1.90                     | 0.53              |
| 5:A:113:GLN:NE2   | 19:A:808:CLA:OBD  | 2.41                     | 0.53              |
| 3:3:140:ILE:HG22  | 3:3:142:PRO:HG2   | 1.91                     | 0.53              |
| 5:A:519:VAL:HG11  | 5:A:522:LEU:HD23  | 1.91                     | 0.53              |
| 18:2:301:CHL:HMD1 | 23:3:317:BCR:HC21 | 1.91                     | 0.53              |
| 19:A:826:CLA:HMB3 | 19:A:833:CLA:H11  | 1.90                     | 0.53              |
| 19:B:813:CLA:HBA1 | 23:B:842:BCR:H332 | 1.90                     | 0.53              |
| 6:B:450:GLU:OE2   | 10:F:119:ARG:NH1  | 2.42                     | 0.52              |
| 4:4:110:MET:HE3   | 4:4:219:PHE:HD2   | 1.74                     | 0.52              |
| 2:2:136:ASP:OD1   | 2:2:137:LYS:N     | 2.43                     | 0.52              |
| 19:A:808:CLA:H71  | 25:N:201:LMT:H72  | 1.92                     | 0.52              |
| 19:A:834:CLA:H52  | 6:B:438:VAL:HG13  | 1.92                     | 0.52              |
| 15:L:162:PRO:HA   | 15:L:165:ARG:HD3  | 1.91                     | 0.52              |
| 4:4:216:PHE:CD2   | 21:4:316:XAT:H14  | 2.45                     | 0.52              |
| 19:B:822:CLA:H42  | 19:B:823:CLA:H112 | 1.92                     | 0.52              |
| 19:B:828:CLA:HAA1 | 19:B:828:CLA:HBD  | 1.91                     | 0.52              |
| 7:C:61:ASP:HB3    | 9:E:134:ASN:ND2   | 2.20                     | 0.52              |
| 7:C:73:THR:OG1    | 7:C:74:THR:N      | 2.42                     | 0.52              |
| 14:J:11:ALA:O     | 14:J:15:SER:OG    | 2.25                     | 0.52              |
| 19:A:807:CLA:H192 | 19:A:854:CLA:H42  | 1.91                     | 0.51              |
| 19:H:201:CLA:HAA1 | 19:H:201:CLA:HBD  | 1.91                     | 0.51              |
| 14:J:28:GLU:OE1   | 14:J:31:ARG:NH1   | 2.43                     | 0.51              |
| 19:3:304:CLA:CGA  | 19:3:304:CLA:HBD  | 2.39                     | 0.51              |
| 4:4:82:LEU:HD13   | 19:4:301:CLA:H11  | 1.93                     | 0.51              |
| 22:B:848:LHG:H272 | 22:B:848:LHG:H322 | 1.91                     | 0.51              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 6:B:475:ASP:OD1   | 6:B:475:ASP:O     | 2.27                     | 0.51              |
| 6:B:4:ARG:HB2     | 6:B:13:ALA:HB1    | 1.91                     | 0.51              |
| 3:3:105:ARG:HB3   | 19:3:309:CLA:HBC3 | 1.93                     | 0.51              |
| 23:J:101:BCR:H403 | 23:J:101:BCR:H23C | 1.92                     | 0.50              |
| 7:C:29:ILE:HG22   | 8:D:175:ARG:HB3   | 1.92                     | 0.50              |
| 6:B:187:SER:HB2   | 6:B:281:ALA:HB2   | 1.92                     | 0.50              |
| 2:2:216:ALA:O     | 2:2:220:VAL:HG23  | 2.12                     | 0.50              |
| 19:A:801:CLA:HAA1 | 19:A:801:CLA:CGD  | 2.42                     | 0.50              |
| 19:A:821:CLA:HBD  | 19:A:821:CLA:HAA1 | 1.94                     | 0.50              |
| 7:C:80:ALA:HB2    | 8:D:127:ARG:HD2   | 1.93                     | 0.50              |
| 4:4:249:THR:HG22  | 4:4:250:PHE:CD2   | 2.47                     | 0.50              |
| 6:B:293:THR:HG22  | 6:B:294:ASN:H     | 1.77                     | 0.49              |
| 6:B:489:GLY:C     | 6:B:494:LEU:HD12  | 2.37                     | 0.49              |
| 8:D:161:HIS:CD2   | 8:D:162:PRO:HD3   | 2.47                     | 0.49              |
| 2:2:84:PRO:O      | 2:2:88:LYS:HG2    | 2.11                     | 0.49              |
| 10:F:89:ILE:HD12  | 10:F:113:ILE:HG23 | 1.94                     | 0.49              |
| 1:1:95:MET:SD     | 19:1:309:CLA:HBB1 | 2.52                     | 0.49              |
| 1:1:233:ILE:HG13  | 19:1:312:CLA:HMD2 | 1.95                     | 0.49              |
| 19:A:834:CLA:H42  | 23:A:849:BCR:H362 | 1.93                     | 0.49              |
| 23:2:319:BCR:C12  | 23:2:319:BCR:H341 | 2.43                     | 0.49              |
| 6:B:685:THR:O     | 6:B:689:ASN:ND2   | 2.46                     | 0.49              |
| 19:B:816:CLA:H42  | 19:B:825:CLA:HBB2 | 1.93                     | 0.49              |
| 15:L:183:LYS:HG3  | 19:L:303:CLA:HBB  | 1.93                     | 0.49              |
| 1:1:142:LEU:HD22  | 24:1:319:LMG:H142 | 1.94                     | 0.49              |
| 2:2:57:PRO:HB2    | 3:3:180:MET:HE1   | 1.95                     | 0.49              |
| 19:2:320:CLA:HBB2 | 19:4:301:CLA:HBC2 | 1.95                     | 0.49              |
| 19:A:814:CLA:H12  | 23:A:844:BCR:HC31 | 1.94                     | 0.49              |
| 6:B:284:PHE:HE1   | 19:B:818:CLA:HBB1 | 1.78                     | 0.49              |
| 19:B:809:CLA:H143 | 15:L:203:GLY:HA2  | 1.94                     | 0.49              |
| 23:L:305:BCR:H21C | 23:L:305:BCR:C36  | 2.41                     | 0.49              |
| 19:3:309:CLA:H2   | 20:3:315:LUT:H28  | 1.94                     | 0.49              |
| 4:4:101:ARG:HB3   | 18:4:306:CHL:HED2 | 1.95                     | 0.49              |
| 4:4:150:PHE:HA    | 4:4:153:VAL:HG22  | 1.95                     | 0.49              |
| 6:B:596:TRP:O     | 6:B:600:THR:HG23  | 2.12                     | 0.49              |
| 19:B:813:CLA:C1C  | 23:B:842:BCR:H15C | 2.43                     | 0.49              |
| 15:L:138:THR:H    | 15:L:141:THR:HG22 | 1.77                     | 0.49              |
| 5:A:133:ARG:NH1   | 10:F:99:TYR:OH    | 2.45                     | 0.49              |
| 10:F:100:ALA:O    | 10:F:103:SER:OG   | 2.30                     | 0.49              |
| 3:3:139:VAL:HG13  | 3:3:140:ILE:HG13  | 1.94                     | 0.49              |
| 5:A:660:TYR:OH    | 6:B:441:ASP:OD1   | 2.27                     | 0.49              |
| 19:A:829:CLA:HAA1 | 19:A:829:CLA:HBD  | 1.95                     | 0.48              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 6:B:193:HIS:HB2   | 19:B:813:CLA:C1C  | 2.43                     | 0.48              |
| 19:B:823:CLA:H161 | 19:B:823:CLA:H122 | 1.57                     | 0.48              |
| 19:B:813:CLA:C1B  | 23:B:842:BCR:H352 | 2.43                     | 0.48              |
| 4:4:209:GLY:O     | 4:4:213:MET:HG3   | 2.13                     | 0.48              |
| 4:4:197:PRO:HB3   | 19:4:308:CLA:HED3 | 1.94                     | 0.48              |
| 19:A:853:CLA:H42  | 19:L:302:CLA:H122 | 1.95                     | 0.48              |
| 1:1:238:ILE:O     | 1:1:238:ILE:HG13  | 2.14                     | 0.48              |
| 24:1:319:LMG:HC8  | 24:1:319:LMG:H111 | 1.39                     | 0.48              |
| 19:A:831:CLA:H61  | 19:B:837:CLA:H41  | 1.96                     | 0.48              |
| 12:H:56:SER:O     | 12:H:56:SER:OG    | 2.28                     | 0.48              |
| 23:J:101:BCR:H361 | 23:J:101:BCR:C21  | 2.43                     | 0.48              |
| 23:1:318:BCR:H343 | 23:1:318:BCR:H311 | 1.96                     | 0.48              |
| 15:L:212:LEU:HB3  | 15:L:253:THR:HG22 | 1.96                     | 0.48              |
| 6:B:242:HIS:CE1   | 6:B:250:THR:HG22  | 2.49                     | 0.48              |
| 6:B:480:SER:OG    | 6:B:483:SER:OG    | 2.27                     | 0.48              |
| 4:4:186:PRO:HB3   | 18:4:306:CHL:HBC2 | 1.95                     | 0.47              |
| 19:4:313:CLA:H202 | 22:B:848:LHG:H191 | 1.96                     | 0.47              |
| 5:A:662:SER:OG    | 5:A:663:SER:N     | 2.47                     | 0.47              |
| 19:A:826:CLA:H151 | 19:A:826:CLA:H111 | 1.71                     | 0.47              |
| 19:A:840:CLA:HMA2 | 6:B:685:THR:HG21  | 1.96                     | 0.47              |
| 23:A:843:BCR:H371 | 23:A:843:BCR:H393 | 1.96                     | 0.47              |
| 10:F:133:ASP:OD1  | 10:F:133:ASP:N    | 2.34                     | 0.47              |
| 8:D:161:HIS:CG    | 8:D:162:PRO:HD3   | 2.49                     | 0.47              |
| 15:L:182:VAL:HG12 | 15:L:197:GLY:HA3  | 1.96                     | 0.47              |
| 6:B:276:HIS:HB2   | 19:B:816:CLA:C1B  | 2.44                     | 0.47              |
| 12:H:98:THR:O     | 15:L:250:ALA:HB1  | 2.14                     | 0.47              |
| 19:A:854:CLA:H112 | 19:A:854:CLA:H152 | 1.58                     | 0.47              |
| 6:B:666:SER:OG    | 6:B:671:TRP:NE1   | 2.36                     | 0.47              |
| 8:D:67:GLN:NE2    | 8:D:147:GLN:OE1   | 2.47                     | 0.47              |
| 15:L:194:GLY:HA3  | 15:L:272:TYR:CE2  | 2.50                     | 0.47              |
| 6:B:458:ILE:HG21  | 10:F:141:ASN:ND2  | 2.29                     | 0.47              |
| 26:B:839:PQN:H211 | 26:B:839:PQN:H252 | 1.77                     | 0.47              |
| 5:A:531:PHE:HE2   | 23:A:843:BCR:H313 | 1.79                     | 0.47              |
| 23:2:319:BCR:H341 | 23:2:319:BCR:H12C | 1.95                     | 0.47              |
| 19:3:308:CLA:H92  | 19:3:308:CLA:H2   | 1.96                     | 0.47              |
| 5:A:139:SER:OG    | 19:A:807:CLA:OBD  | 2.32                     | 0.47              |
| 10:F:203:TRP:CD1  | 10:F:204:PRO:HD3  | 2.50                     | 0.47              |
| 14:J:10:VAL:HG13  | 14:J:12:PRO:HD2   | 1.96                     | 0.47              |
| 3:3:104:GLY:O     | 3:3:108:MET:HG3   | 2.15                     | 0.47              |
| 23:A:844:BCR:H10C | 23:A:844:BCR:C35  | 2.43                     | 0.47              |
| 19:A:852:CLA:H151 | 19:A:852:CLA:H112 | 1.65                     | 0.47              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 17:N:102:LEU:HA   | 17:N:105:LYS:HB2  | 1.97                     | 0.47              |
| 5:A:213:HIS:HB2   | 19:A:813:CLA:C1C  | 2.45                     | 0.47              |
| 19:1:313:CLA:H3A  | 19:1:313:CLA:HBA2 | 1.60                     | 0.46              |
| 18:4:304:CHL:CGA  | 23:4:317:BCR:H21C | 2.46                     | 0.46              |
| 15:L:178:VAL:HG21 | 15:L:267:ALA:HB3  | 1.97                     | 0.46              |
| 19:A:817:CLA:H3A  | 19:A:817:CLA:HBA2 | 1.49                     | 0.46              |
| 6:B:365:PHE:HB3   | 6:B:602:TRP:CZ3   | 2.51                     | 0.46              |
| 19:1:308:CLA:H3A  | 22:1:322:LHG:H122 | 1.98                     | 0.46              |
| 4:4:249:THR:HG22  | 4:4:250:PHE:HD2   | 1.79                     | 0.46              |
| 5:A:40:PRO:HG3    | 10:F:186:ILE:HD13 | 1.96                     | 0.46              |
| 7:C:15:THR:HA     | 7:C:28:MET:HE3    | 1.96                     | 0.46              |
| 5:A:354:LEU:HD21  | 19:A:829:CLA:HBB1 | 1.98                     | 0.46              |
| 1:1:139:PRO:HB3   | 24:1:319:LMG:H112 | 1.97                     | 0.46              |
| 19:A:810:CLA:H192 | 19:A:810:CLA:H161 | 1.76                     | 0.46              |
| 6:B:428:PHE:CZ    | 23:J:101:BCR:H292 | 2.50                     | 0.46              |
| 6:B:567:THR:O     | 6:B:567:THR:OG1   | 2.30                     | 0.46              |
| 14:J:31:ARG:HD2   | 23:J:104:BCR:HC32 | 1.97                     | 0.46              |
| 15:L:161:ASN:HD21 | 15:L:164:LEU:HG   | 1.80                     | 0.46              |
| 19:1:309:CLA:H92  | 19:1:309:CLA:H61  | 1.78                     | 0.46              |
| 5:A:153:GLU:HA    | 5:A:156:LEU:HD12  | 1.98                     | 0.46              |
| 19:A:814:CLA:H3A  | 19:A:814:CLA:HBA2 | 1.46                     | 0.46              |
| 23:A:847:BCR:H352 | 23:A:847:BCR:H10C | 1.97                     | 0.46              |
| 14:J:40:PRO:HD3   | 23:J:101:BCR:H10C | 1.98                     | 0.46              |
| 6:B:334:LEU:HD23  | 6:B:389:HIS:CE1   | 2.51                     | 0.46              |
| 19:B:831:CLA:H91  | 19:F:303:CLA:HMA1 | 1.98                     | 0.46              |
| 11:G:123:ASP:OD2  | 11:G:125:ILE:HG22 | 2.16                     | 0.46              |
| 4:4:237:HIS:CD2   | 19:4:311:CLA:HAA2 | 2.50                     | 0.46              |
| 19:B:808:CLA:HBA1 | 19:B:808:CLA:H3A  | 1.52                     | 0.46              |
| 23:K:201:BCR:H24C | 23:K:201:BCR:H371 | 1.83                     | 0.46              |
| 25:2:318:LMT:O6'  | 25:2:318:LMT:O6B  | 2.28                     | 0.46              |
| 3:3:66:LEU:HD13   | 3:3:75:GLY:HA2    | 1.97                     | 0.46              |
| 5:A:735:ILE:HG21  | 19:A:827:CLA:HMC2 | 1.98                     | 0.46              |
| 6:B:282:ILE:HG13  | 19:B:815:CLA:HBB1 | 1.97                     | 0.46              |
| 20:4:315:LUT:C8   | 20:4:315:LUT:H181 | 2.46                     | 0.45              |
| 5:A:531:PHE:CE2   | 23:A:843:BCR:H313 | 2.51                     | 0.45              |
| 19:A:812:CLA:H41  | 19:A:812:CLA:H61  | 1.57                     | 0.45              |
| 6:B:415:LYS:HB3   | 6:B:539:LEU:HD13  | 1.98                     | 0.45              |
| 3:3:126:ILE:HG12  | 3:3:127:PRO:HD2   | 1.99                     | 0.45              |
| 19:3:306:CLA:H3A  | 19:3:306:CLA:HBA2 | 1.63                     | 0.45              |
| 5:A:152:SER:OG    | 5:A:153:GLU:N     | 2.49                     | 0.45              |
| 5:A:657:ILE:HD12  | 6:B:621:ARG:HG3   | 1.98                     | 0.45              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 5:A:734:GLY:O     | 19:A:801:CLA:HED1 | 2.16                     | 0.45              |
| 1:1:200:LEU:HD21  | 19:1:312:CLA:H111 | 1.99                     | 0.45              |
| 1:1:207:VAL:HG11  | 19:1:312:CLA:HAC2 | 1.99                     | 0.45              |
| 19:2:320:CLA:HAA2 | 19:2:320:CLA:HBD  | 1.99                     | 0.45              |
| 5:A:705:LYS:HE3   | 19:B:830:CLA:HED3 | 1.98                     | 0.45              |
| 6:B:574:ASP:OD1   | 6:B:706:ARG:NH1   | 2.50                     | 0.45              |
| 3:3:218:LEU:HG    | 3:3:222:LYS:HE3   | 1.99                     | 0.45              |
| 5:A:231:PRO:HD2   | 17:N:107:ARG:HH21 | 1.82                     | 0.45              |
| 6:B:60:TRP:HA     | 19:B:806:CLA:HBB2 | 1.97                     | 0.45              |
| 19:1:312:CLA:C1B  | 20:1:315:LUT:H183 | 2.46                     | 0.45              |
| 19:4:311:CLA:HAA1 | 19:4:311:CLA:HBD  | 1.98                     | 0.45              |
| 19:A:801:CLA:H161 | 19:A:801:CLA:H122 | 1.59                     | 0.45              |
| 19:B:818:CLA:HBC2 | 19:B:822:CLA:H71  | 1.98                     | 0.45              |
| 6:B:733:PHE:HD2   | 12:H:141:PRO:HG2  | 1.82                     | 0.45              |
| 19:1:302:CLA:CBB  | 21:1:316:XAT:H32  | 2.46                     | 0.45              |
| 19:4:313:CLA:H3A  | 19:4:313:CLA:HBA2 | 1.56                     | 0.45              |
| 19:A:825:CLA:HMB1 | 19:A:837:CLA:HBA1 | 1.97                     | 0.45              |
| 19:B:826:CLA:H192 | 19:B:826:CLA:H161 | 1.82                     | 0.45              |
| 19:B:832:CLA:H41  | 19:B:832:CLA:H61  | 1.68                     | 0.45              |
| 14:J:28:GLU:HG3   | 19:J:102:CLA:C1B  | 2.47                     | 0.45              |
| 16:K:122:VAL:HG12 | 19:K:203:CLA:HBB1 | 1.98                     | 0.45              |
| 19:1:312:CLA:H11  | 19:1:312:CLA:HBA2 | 1.67                     | 0.45              |
| 5:A:54:HIS:CD2    | 19:A:804:CLA:HBB2 | 2.51                     | 0.45              |
| 5:A:214:GLN:HA    | 5:A:218:SER:HB3   | 1.99                     | 0.45              |
| 23:A:844:BCR:H20C | 23:A:844:BCR:H361 | 1.71                     | 0.45              |
| 22:1:322:LHG:HC82 | 22:1:322:LHG:H131 | 2.00                     | 0.45              |
| 23:F:306:BCR:H24C | 23:F:306:BCR:H371 | 1.85                     | 0.45              |
| 19:L:301:CLA:H102 | 19:L:301:CLA:H62  | 1.45                     | 0.44              |
| 1:1:237:VAL:HG12  | 1:1:238:ILE:HG23  | 1.98                     | 0.44              |
| 20:1:320:LUT:H7   | 20:1:320:LUT:H181 | 1.72                     | 0.44              |
| 19:2:309:CLA:H61  | 19:2:309:CLA:H41  | 1.79                     | 0.44              |
| 25:2:318:LMT:H41  | 25:2:318:LMT:H82  | 1.98                     | 0.44              |
| 6:B:12:LEU:HG     | 28:B:846:DGD:HE1  | 1.99                     | 0.44              |
| 19:2:304:CLA:H101 | 19:2:304:CLA:HBD  | 2.00                     | 0.44              |
| 6:B:88:ALA:HB2    | 6:B:116:ALA:HB2   | 1.99                     | 0.44              |
| 6:B:282:ILE:HD12  | 23:B:840:BCR:H361 | 2.00                     | 0.44              |
| 18:1:301:CHL:HBA2 | 18:1:301:CHL:H3A  | 1.89                     | 0.44              |
| 19:3:308:CLA:H92  | 19:3:308:CLA:H62  | 1.80                     | 0.44              |
| 5:A:582:CYS:HB2   | 6:B:667:TRP:HB3   | 2.00                     | 0.44              |
| 6:B:430:GLY:HA2   | 6:B:525:LEU:HD22  | 1.98                     | 0.44              |
| 19:2:303:CLA:HBA1 | 19:2:303:CLA:H3A  | 1.84                     | 0.44              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 5:A:333:GLN:HG2   | 5:A:334:GLY:N     | 2.32                     | 0.44              |
| 19:B:816:CLA:H61  | 19:B:816:CLA:H101 | 1.47                     | 0.44              |
| 22:2:317:LHG:HC62 | 22:2:317:LHG:H242 | 1.63                     | 0.44              |
| 19:4:301:CLA:H91  | 19:4:302:CLA:H13  | 2.00                     | 0.44              |
| 5:A:480:PHE:HE2   | 19:A:836:CLA:H2   | 1.83                     | 0.44              |
| 6:B:280:ILE:HD13  | 6:B:280:ILE:HA    | 1.85                     | 0.44              |
| 19:B:825:CLA:H152 | 23:B:844:BCR:H17C | 1.99                     | 0.44              |
| 2:2:224:TRP:O     | 2:2:228:ILE:HG22  | 2.18                     | 0.43              |
| 5:A:450:PHE:O     | 5:A:454:ILE:HG12  | 2.18                     | 0.43              |
| 19:B:811:CLA:H61  | 19:B:811:CLA:H92  | 1.73                     | 0.43              |
| 10:F:179:LYS:HB2  | 10:F:179:LYS:HE2  | 1.82                     | 0.43              |
| 19:K:202:CLA:HBA1 | 19:K:202:CLA:H3A  | 1.65                     | 0.43              |
| 3:3:71:PRO:HB2    | 3:3:226:VAL:HG21  | 2.00                     | 0.43              |
| 5:A:25:GLU:HG3    | 19:A:810:CLA:HMA2 | 2.00                     | 0.43              |
| 4:4:100:GLY:HA2   | 4:4:103:ALA:HB3   | 2.00                     | 0.43              |
| 5:A:80:ILE:HD11   | 19:A:810:CLA:H121 | 2.00                     | 0.43              |
| 5:A:133:ARG:HB2   | 17:N:115:PHE:CE1  | 2.53                     | 0.43              |
| 19:2:309:CLA:CBB  | 20:2:315:LUT:H32  | 2.48                     | 0.43              |
| 5:A:294:HIS:HB2   | 19:A:817:CLA:C1B  | 2.48                     | 0.43              |
| 19:B:838:CLA:H61  | 19:B:838:CLA:H41  | 1.81                     | 0.43              |
| 14:J:38:ILE:O     | 14:J:40:PRO:HD3   | 2.19                     | 0.43              |
| 3:3:122:LYS:HG3   | 3:3:251:TYR:HE2   | 1.84                     | 0.43              |
| 5:A:585:SER:OG    | 5:A:588:ASP:OD2   | 2.36                     | 0.43              |
| 6:B:143:LEU:HD12  | 6:B:143:LEU:HA    | 1.91                     | 0.43              |
| 19:B:831:CLA:H61  | 19:B:831:CLA:H41  | 1.55                     | 0.43              |
| 24:B:847:LMG:HC8  | 24:B:847:LMG:H111 | 1.38                     | 0.43              |
| 7:C:31:TRP:CG     | 7:C:32:ASP:H      | 2.37                     | 0.43              |
| 23:A:847:BCR:H20C | 23:A:847:BCR:H361 | 1.81                     | 0.43              |
| 6:B:278:LEU:O     | 6:B:282:ILE:HG12  | 2.19                     | 0.43              |
| 19:B:805:CLA:H12  | 19:B:805:CLA:HED3 | 2.00                     | 0.43              |
| 19:B:805:CLA:H151 | 19:B:827:CLA:HBB2 | 2.01                     | 0.43              |
| 19:B:830:CLA:H2   | 23:F:305:BCR:H353 | 2.01                     | 0.43              |
| 22:1:317:LHG:HC5  | 22:1:317:LHG:HC81 | 1.40                     | 0.43              |
| 23:A:844:BCR:H24C | 23:A:844:BCR:H371 | 1.73                     | 0.43              |
| 4:4:219:PHE:HE1   | 20:4:315:LUT:H41  | 1.83                     | 0.43              |
| 19:A:808:CLA:H121 | 23:J:103:BCR:HC41 | 2.00                     | 0.43              |
| 8:D:128:LYS:HE3   | 8:D:160:LEU:HD13  | 2.00                     | 0.43              |
| 2:2:99:ARG:NH1    | 18:2:307:CHL:OBD  | 2.50                     | 0.43              |
| 19:A:823:CLA:HBA2 | 19:A:823:CLA:H3A  | 1.48                     | 0.43              |
| 6:B:193:HIS:HB2   | 19:B:813:CLA:CHC  | 2.49                     | 0.43              |
| 10:F:203:TRP:CG   | 10:F:204:PRO:HD3  | 2.54                     | 0.43              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 11:G:118:LEU:HD12 | 11:G:118:LEU:HA   | 1.89                     | 0.43              |
| 23:L:305:BCR:H24C | 23:L:305:BCR:H371 | 1.87                     | 0.43              |
| 19:A:801:CLA:HBA1 | 19:A:801:CLA:H3A  | 1.77                     | 0.42              |
| 19:A:805:CLA:HBB2 | 19:A:828:CLA:HMC1 | 2.01                     | 0.42              |
| 19:A:839:CLA:H61  | 19:A:839:CLA:H41  | 1.54                     | 0.42              |
| 1:1:118:TRP:CZ2   | 1:1:126:ALA:HB2   | 2.54                     | 0.42              |
| 2:2:116:LYS:HD2   | 2:2:116:LYS:HA    | 1.76                     | 0.42              |
| 5:A:477:GLN:HA    | 5:A:478:PRO:HD3   | 1.91                     | 0.42              |
| 6:B:140:LEU:HD23  | 6:B:140:LEU:HA    | 1.93                     | 0.42              |
| 19:B:805:CLA:H3A  | 19:B:828:CLA:HAB  | 2.01                     | 0.42              |
| 19:B:810:CLA:H42  | 19:B:811:CLA:H51  | 2.01                     | 0.42              |
| 1:1:160:LYS:HA    | 1:1:160:LYS:HD3   | 1.91                     | 0.42              |
| 2:2:152:GLU:OE1   | 2:2:155:ARG:NH2   | 2.37                     | 0.42              |
| 5:A:672:LEU:O     | 5:A:675:HIS:HB2   | 2.19                     | 0.42              |
| 20:1:320:LUT:H11  | 20:1:320:LUT:H191 | 1.85                     | 0.42              |
| 2:2:213:GLY:O     | 2:2:217:MET:HG3   | 2.18                     | 0.42              |
| 5:A:507:TRP:CH2   | 19:A:826:CLA:HBC2 | 2.54                     | 0.42              |
| 19:A:812:CLA:H61  | 19:A:812:CLA:H92  | 1.89                     | 0.42              |
| 19:A:824:CLA:H93  | 19:A:824:CLA:H62  | 1.79                     | 0.42              |
| 10:F:83:LYS:HB2   | 10:F:83:LYS:HE2   | 1.80                     | 0.42              |
| 23:F:305:BCR:H24C | 23:F:305:BCR:H371 | 1.85                     | 0.42              |
| 19:1:321:CLA:H192 | 19:1:321:CLA:H162 | 1.82                     | 0.42              |
| 2:2:168:ASP:HB3   | 2:2:171:PHE:O     | 2.19                     | 0.42              |
| 2:2:211:LYS:NZ    | 19:2:310:CLA:O1D  | 2.46                     | 0.42              |
| 5:A:60:THR:OG1    | 5:A:61:SER:N      | 2.53                     | 0.42              |
| 23:A:844:BCR:C19  | 16:K:113:THR:HG21 | 2.49                     | 0.42              |
| 19:B:813:CLA:H141 | 19:B:813:CLA:H162 | 1.88                     | 0.42              |
| 11:G:80:ARG:NH2   | 11:G:123:ASP:OD1  | 2.50                     | 0.42              |
| 25:2:318:LMT:H6'  | 25:2:318:LMT:H6B  | 1.57                     | 0.42              |
| 5:A:529:ALA:O     | 5:A:533:VAL:HG23  | 2.19                     | 0.42              |
| 6:B:124:TRP:HB3   | 6:B:129:LEU:HD12  | 2.01                     | 0.42              |
| 23:I:101:BCR:H371 | 23:I:101:BCR:H24C | 1.87                     | 0.42              |
| 20:1:315:LUT:H7   | 20:1:315:LUT:H181 | 1.81                     | 0.42              |
| 19:1:321:CLA:HED3 | 19:B:822:CLA:H3A  | 2.02                     | 0.42              |
| 19:2:304:CLA:H92  | 19:2:304:CLA:H61  | 1.92                     | 0.42              |
| 3:3:263:ASN:O     | 3:3:268:THR:OG1   | 2.29                     | 0.42              |
| 3:3:271:LYS:HA    | 3:3:271:LYS:HD3   | 1.72                     | 0.42              |
| 19:1:308:CLA:H92  | 19:1:308:CLA:H61  | 1.83                     | 0.42              |
| 5:A:92:GLY:HA3    | 5:A:145:TRP:CH2   | 2.55                     | 0.42              |
| 19:A:818:CLA:H3A  | 19:A:818:CLA:HBA2 | 1.63                     | 0.42              |
| 6:B:254:ILE:HG13  | 6:B:255:LEU:HG    | 2.02                     | 0.42              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 12:H:88:LYS:HE3   | 12:H:88:LYS:HB3   | 1.89                     | 0.42              |
| 23:2:319:BCR:HC8  | 23:2:319:BCR:H311 | 2.02                     | 0.42              |
| 5:A:498:GLY:HA3   | 19:A:851:CLA:HED2 | 2.02                     | 0.42              |
| 19:A:825:CLA:H102 | 19:A:825:CLA:H62  | 1.70                     | 0.42              |
| 6:B:208:ARG:O     | 6:B:212:PHE:HB3   | 2.19                     | 0.42              |
| 6:B:334:LEU:HD13  | 19:B:804:CLA:C2D  | 2.50                     | 0.42              |
| 19:H:201:CLA:H3A  | 19:H:201:CLA:HBA2 | 1.55                     | 0.42              |
| 14:J:25:LEU:HD23  | 14:J:26:LEU:HD23  | 2.01                     | 0.42              |
| 19:3:308:CLA:H8   | 19:3:308:CLA:H121 | 1.80                     | 0.42              |
| 5:A:164:LEU:HD23  | 5:A:164:LEU:HA    | 1.88                     | 0.42              |
| 5:A:410:MET:HE1   | 5:A:424:LEU:HD11  | 2.02                     | 0.42              |
| 5:A:746:ILE:HD12  | 5:A:746:ILE:HA    | 1.84                     | 0.42              |
| 19:A:826:CLA:HED1 | 19:A:833:CLA:HAB  | 2.02                     | 0.42              |
| 19:B:807:CLA:O1A  | 19:B:826:CLA:HBD  | 2.19                     | 0.42              |
| 5:A:157:TYR:O     | 5:A:161:ILE:HG12  | 2.20                     | 0.41              |
| 19:A:807:CLA:H3A  | 19:A:807:CLA:HBA2 | 1.71                     | 0.41              |
| 19:A:832:CLA:HBA2 | 19:A:832:CLA:H3A  | 1.88                     | 0.41              |
| 23:A:848:BCR:H24C | 23:A:848:BCR:H371 | 1.86                     | 0.41              |
| 19:B:818:CLA:H11  | 19:B:822:CLA:H12  | 2.02                     | 0.41              |
| 23:B:843:BCR:H24C | 23:B:843:BCR:H371 | 1.91                     | 0.41              |
| 19:F:304:CLA:HBA1 | 19:F:304:CLA:H3A  | 1.61                     | 0.41              |
| 23:G:205:BCR:H24C | 23:G:205:BCR:H371 | 1.83                     | 0.41              |
| 2:2:109:PHE:CE1   | 20:2:315:LUT:H173 | 2.55                     | 0.41              |
| 5:A:597:MET:HE3   | 5:A:597:MET:HB3   | 1.84                     | 0.41              |
| 19:A:834:CLA:H192 | 19:A:834:CLA:H162 | 1.78                     | 0.41              |
| 19:A:853:CLA:H61  | 19:A:853:CLA:H41  | 1.62                     | 0.41              |
| 6:B:388:ALA:O     | 6:B:392:ILE:HG13  | 2.20                     | 0.41              |
| 19:B:811:CLA:HAA1 | 19:B:811:CLA:HBD  | 2.03                     | 0.41              |
| 9:E:92:ILE:HG22   | 9:E:94:ARG:H      | 1.85                     | 0.41              |
| 10:F:68:ASP:N     | 10:F:68:ASP:OD1   | 2.53                     | 0.41              |
| 10:F:163:TRP:CD1  | 10:F:200:GLY:HA3  | 2.56                     | 0.41              |
| 15:L:266:TRP:HB2  | 23:L:305:BCR:H331 | 2.01                     | 0.41              |
| 16:K:116:HIS:CE1  | 23:K:201:BCR:H14C | 2.55                     | 0.41              |
| 5:A:239:GLU:OE2   | 5:A:239:GLU:HA    | 2.19                     | 0.41              |
| 5:A:697:GLU:OE2   | 9:E:128:TYR:OH    | 2.27                     | 0.41              |
| 19:A:823:CLA:HMB1 | 23:A:847:BCR:H12C | 2.02                     | 0.41              |
| 19:A:836:CLA:H152 | 19:A:836:CLA:H18  | 1.83                     | 0.41              |
| 23:A:847:BCR:H371 | 23:A:847:BCR:H24C | 1.79                     | 0.41              |
| 19:B:837:CLA:HBD  | 19:B:837:CLA:HAA1 | 2.02                     | 0.41              |
| 8:D:149:TYR:HD2   | 8:D:159:TYR:HA    | 1.86                     | 0.41              |
| 1:1:184:LEU:HD12  | 1:1:184:LEU:HA    | 1.85                     | 0.41              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 2:2:66:ASP:OD1    | 2:2:66:ASP:C      | 2.64                     | 0.41              |
| 5:A:454:ILE:HG22  | 19:A:832:CLA:HBC2 | 2.03                     | 0.41              |
| 19:A:824:CLA:H192 | 19:A:824:CLA:H161 | 1.73                     | 0.41              |
| 15:L:179:GLY:O    | 15:L:182:VAL:HG22 | 2.21                     | 0.41              |
| 19:L:302:CLA:H152 | 19:L:302:CLA:H111 | 1.78                     | 0.41              |
| 3:3:105:ARG:NH1   | 18:3:307:CHL:OBD  | 2.54                     | 0.41              |
| 5:A:451:GLY:HA3   | 19:A:832:CLA:CBB  | 2.50                     | 0.41              |
| 12:H:127:LEU:HD23 | 12:H:127:LEU:HA   | 1.87                     | 0.41              |
| 15:L:270:LEU:HD23 | 15:L:270:LEU:HA   | 1.85                     | 0.41              |
| 1:1:88:LEU:HD23   | 1:1:88:LEU:HA     | 1.91                     | 0.41              |
| 20:1:320:LUT:H171 | 20:1:320:LUT:C8   | 2.45                     | 0.41              |
| 5:A:78:LEU:HD22   | 19:A:804:CLA:H92  | 2.02                     | 0.41              |
| 5:A:300:ILE:HD11  | 23:A:844:BCR:H341 | 2.03                     | 0.41              |
| 19:A:824:CLA:HBD  | 19:A:824:CLA:HAA2 | 2.02                     | 0.41              |
| 19:F:302:CLA:H152 | 19:F:302:CLA:H112 | 1.53                     | 0.41              |
| 12:H:139:LEU:HD23 | 12:H:139:LEU:HA   | 1.90                     | 0.41              |
| 19:2:313:CLA:H62  | 19:2:313:CLA:H92  | 1.74                     | 0.41              |
| 4:4:204:LYS:O     | 4:4:208:ASN:ND2   | 2.33                     | 0.41              |
| 4:4:206:LEU:HD23  | 4:4:206:LEU:HA    | 1.90                     | 0.41              |
| 5:A:533:VAL:HG11  | 5:A:607:HIS:CG    | 2.56                     | 0.41              |
| 2:2:156:TRP:NE1   | 25:2:318:LMT:O1'  | 2.53                     | 0.41              |
| 4:4:86:PRO:O      | 4:4:90:LYS:HG3    | 2.20                     | 0.41              |
| 5:A:521:LEU:HD23  | 5:A:521:LEU:HA    | 1.91                     | 0.41              |
| 19:A:834:CLA:C4B  | 19:A:852:CLA:HBB1 | 2.51                     | 0.41              |
| 6:B:229:GLN:HA    | 11:G:151:SER:HB2  | 2.02                     | 0.41              |
| 23:F:306:BCR:H20C | 23:F:306:BCR:H361 | 1.90                     | 0.41              |
| 2:2:221:MET:HE2   | 19:2:303:CLA:HBB2 | 2.02                     | 0.41              |
| 3:3:90:PHE:HB3    | 19:3:302:CLA:H2   | 2.03                     | 0.41              |
| 5:A:321:ASP:OD1   | 5:A:321:ASP:N     | 2.54                     | 0.41              |
| 5:A:331:THR:HG21  | 5:A:335:HIS:HE1   | 1.85                     | 0.41              |
| 5:A:692:TRP:O     | 5:A:696:ILE:HG13  | 2.21                     | 0.41              |
| 19:A:822:CLA:HAA1 | 19:A:822:CLA:HBD  | 2.03                     | 0.41              |
| 19:B:805:CLA:H192 | 19:B:805:CLA:H161 | 1.76                     | 0.41              |
| 19:B:806:CLA:H92  | 19:B:806:CLA:H62  | 1.95                     | 0.41              |
| 8:D:108:MET:HE3   | 8:D:108:MET:HB3   | 1.93                     | 0.41              |
| 15:L:249:TRP:O    | 15:L:253:THR:HG23 | 2.20                     | 0.41              |
| 23:L:306:BCR:H371 | 23:L:306:BCR:H24C | 1.86                     | 0.41              |
| 2:2:98:CYS:HB3    | 2:2:213:GLY:HA3   | 2.02                     | 0.41              |
| 2:2:102:MET:SD    | 19:2:309:CLA:HBB1 | 2.61                     | 0.41              |
| 19:3:302:CLA:H13  | 19:3:308:CLA:H93  | 2.03                     | 0.41              |
| 4:4:214:LEU:HD23  | 4:4:214:LEU:HA    | 1.94                     | 0.41              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 23:A:844:BCR:H402 | 16:K:114:VAL:HG21 | 2.03                     | 0.41              |
| 19:B:833:CLA:H3A  | 19:B:833:CLA:HBA2 | 1.54                     | 0.41              |
| 23:J:104:BCR:H371 | 23:J:104:BCR:H24C | 1.88                     | 0.41              |
| 2:2:101:ALA:CB    | 2:2:217:MET:HG2   | 2.52                     | 0.40              |
| 3:3:169:ARG:NH1   | 18:3:307:CHL:OMC  | 2.41                     | 0.40              |
| 3:3:242:GLN:O     | 3:3:246:THR:OG1   | 2.37                     | 0.40              |
| 23:A:843:BCR:H372 | 23:A:843:BCR:H361 | 2.02                     | 0.40              |
| 23:B:840:BCR:H24C | 23:B:840:BCR:H371 | 1.85                     | 0.40              |
| 7:C:26:LEU:HD23   | 7:C:42:ALA:HB2    | 2.02                     | 0.40              |
| 19:G:203:CLA:H3A  | 19:G:203:CLA:HBA2 | 1.48                     | 0.40              |
| 20:3:315:LUT:H35  | 20:3:315:LUT:H401 | 1.90                     | 0.40              |
| 5:A:307:HIS:NE2   | 23:A:844:BCR:H363 | 2.36                     | 0.40              |
| 19:A:818:CLA:H192 | 19:A:818:CLA:H162 | 1.78                     | 0.40              |
| 23:A:846:BCR:H371 | 23:A:846:BCR:H24C | 1.85                     | 0.40              |
| 10:F:96:LEU:HD13  | 10:F:109:LEU:HB2  | 2.03                     | 0.40              |
| 13:I:31:ILE:HD11  | 23:L:304:BCR:H333 | 2.03                     | 0.40              |
| 15:L:208:LEU:HD22 | 23:L:304:BCR:H401 | 2.02                     | 0.40              |
| 20:4:315:LUT:H35  | 20:4:315:LUT:H401 | 1.92                     | 0.40              |
| 5:A:552:VAL:HG21  | 23:A:848:BCR:HC31 | 2.03                     | 0.40              |
| 6:B:428:PHE:HZ    | 23:J:101:BCR:H292 | 1.87                     | 0.40              |
| 19:B:811:CLA:HBB1 | 19:B:819:CLA:HBC2 | 2.03                     | 0.40              |
| 19:1:305:CLA:HBB2 | 18:1:306:CHL:CBB  | 2.50                     | 0.40              |
| 19:2:312:CLA:H13  | 19:2:312:CLA:H172 | 1.93                     | 0.40              |
| 23:A:846:BCR:H20C | 23:A:846:BCR:H361 | 1.90                     | 0.40              |
| 28:B:846:DGD:HBE1 | 28:B:846:DGD:HB82 | 1.97                     | 0.40              |
| 16:K:69:ARG:HH21  | 19:K:204:CLA:C1D  | 2.34                     | 0.40              |
| 1:1:60:GLY:HA2    | 1:1:65:ASP:HB3    | 2.02                     | 0.40              |
| 5:A:259:THR:O     | 5:A:263:THR:OG1   | 2.33                     | 0.40              |
| 23:A:845:BCR:H371 | 23:A:845:BCR:H24C | 1.87                     | 0.40              |

There are no symmetry-related clashes.

## 5.3 Torsion angles ⓘ

### 5.3.1 Protein backbone ⓘ

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

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

| Mol | Chain | Analysed        | Favoured   | Allowed | Outliers | Percentiles |     |
|-----|-------|-----------------|------------|---------|----------|-------------|-----|
| 1   | 1     | 192/206 (93%)   | 186 (97%)  | 6 (3%)  | 0        | 100         | 100 |
| 2   | 2     | 201/214 (94%)   | 195 (97%)  | 6 (3%)  | 0        | 100         | 100 |
| 3   | 3     | 217/234 (93%)   | 210 (97%)  | 7 (3%)  | 0        | 100         | 100 |
| 4   | 4     | 195/199 (98%)   | 192 (98%)  | 3 (2%)  | 0        | 100         | 100 |
| 5   | A     | 740/750 (99%)   | 724 (98%)  | 16 (2%) | 0        | 100         | 100 |
| 6   | B     | 731/734 (100%)  | 717 (98%)  | 14 (2%) | 0        | 100         | 100 |
| 7   | C     | 78/81 (96%)     | 72 (92%)   | 6 (8%)  | 0        | 100         | 100 |
| 8   | D     | 139/160 (87%)   | 132 (95%)  | 7 (5%)  | 0        | 100         | 100 |
| 9   | E     | 61/99 (62%)     | 56 (92%)   | 5 (8%)  | 0        | 100         | 100 |
| 10  | F     | 150/154 (97%)   | 149 (99%)  | 1 (1%)  | 0        | 100         | 100 |
| 11  | G     | 95/100 (95%)    | 93 (98%)   | 2 (2%)  | 0        | 100         | 100 |
| 12  | H     | 88/95 (93%)     | 88 (100%)  | 0       | 0        | 100         | 100 |
| 13  | I     | 28/37 (76%)     | 28 (100%)  | 0       | 0        | 100         | 100 |
| 14  | J     | 40/44 (91%)     | 39 (98%)   | 1 (2%)  | 0        | 100         | 100 |
| 15  | L     | 142/169 (84%)   | 139 (98%)  | 3 (2%)  | 0        | 100         | 100 |
| 16  | K     | 51/84 (61%)     | 50 (98%)   | 1 (2%)  | 0        | 100         | 100 |
| 17  | N     | 46/85 (54%)     | 42 (91%)   | 4 (9%)  | 0        | 100         | 100 |
| All | All   | 3194/3445 (93%) | 3112 (97%) | 82 (3%) | 0        | 100         | 100 |

There are no Ramachandran outliers to report.

### 5.3.2 Protein sidechains ⓘ

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

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

| Mol | Chain | Analysed      | Rotameric  | Outliers | Percentiles |     |
|-----|-------|---------------|------------|----------|-------------|-----|
| 1   | 1     | 153/161 (95%) | 152 (99%)  | 1 (1%)   | 81          | 89  |
| 2   | 2     | 164/171 (96%) | 164 (100%) | 0        | 100         | 100 |
| 3   | 3     | 169/179 (94%) | 168 (99%)  | 1 (1%)   | 84          | 91  |
| 4   | 4     | 164/166 (99%) | 164 (100%) | 0        | 100         | 100 |

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| Mol | Chain | Analysed        | Rotameric   | Outliers | Percentiles |     |
|-----|-------|-----------------|-------------|----------|-------------|-----|
| 5   | A     | 601/609 (99%)   | 597 (99%)   | 4 (1%)   | 81          | 89  |
| 6   | B     | 597/598 (100%)  | 596 (100%)  | 1 (0%)   | 92          | 96  |
| 7   | C     | 70/71 (99%)     | 69 (99%)    | 1 (1%)   | 62          | 79  |
| 8   | D     | 120/134 (90%)   | 120 (100%)  | 0        | 100         | 100 |
| 9   | E     | 56/80 (70%)     | 56 (100%)   | 0        | 100         | 100 |
| 10  | F     | 125/127 (98%)   | 125 (100%)  | 0        | 100         | 100 |
| 11  | G     | 82/84 (98%)     | 82 (100%)   | 0        | 100         | 100 |
| 12  | H     | 75/79 (95%)     | 74 (99%)    | 1 (1%)   | 65          | 80  |
| 13  | I     | 26/33 (79%)     | 26 (100%)   | 0        | 100         | 100 |
| 14  | J     | 36/38 (95%)     | 36 (100%)   | 0        | 100         | 100 |
| 15  | L     | 111/134 (83%)   | 111 (100%)  | 0        | 100         | 100 |
| 16  | K     | 41/61 (67%)     | 41 (100%)   | 0        | 100         | 100 |
| 17  | N     | 41/73 (56%)     | 40 (98%)    | 1 (2%)   | 44          | 67  |
| All | All   | 2631/2798 (94%) | 2621 (100%) | 10 (0%)  | 88          | 94  |

All (10) residues with a non-rotameric sidechain are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1   | 1     | 47  | HIS  |
| 3   | 3     | 145 | THR  |
| 5   | A     | 17  | ASP  |
| 5   | A     | 118 | ILE  |
| 5   | A     | 369 | TYR  |
| 5   | A     | 749 | VAL  |
| 6   | B     | 280 | ILE  |
| 7   | C     | 63  | LEU  |
| 12  | H     | 109 | LEU  |
| 17  | N     | 89  | ILE  |

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (57) such sidechains are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1   | 1     | 116 | GLN  |
| 1   | 1     | 154 | HIS  |
| 1   | 1     | 208 | GLN  |
| 1   | 1     | 209 | GLN  |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1   | 1     | 220 | ASN  |
| 2   | 2     | 131 | GLN  |
| 2   | 2     | 166 | ASN  |
| 2   | 2     | 174 | ASN  |
| 3   | 3     | 263 | ASN  |
| 4   | 4     | 94  | GLN  |
| 4   | 4     | 99  | ASN  |
| 4   | 4     | 134 | GLN  |
| 4   | 4     | 168 | ASN  |
| 4   | 4     | 236 | GLN  |
| 4   | 4     | 237 | HIS  |
| 4   | 4     | 243 | HIS  |
| 4   | 4     | 244 | ASN  |
| 5   | A     | 50  | HIS  |
| 5   | A     | 113 | GLN  |
| 5   | A     | 136 | GLN  |
| 5   | A     | 155 | GLN  |
| 5   | A     | 317 | HIS  |
| 5   | A     | 391 | HIS  |
| 5   | A     | 658 | GLN  |
| 5   | A     | 693 | GLN  |
| 5   | A     | 713 | GLN  |
| 6   | B     | 34  | HIS  |
| 6   | B     | 158 | GLN  |
| 6   | B     | 236 | ASN  |
| 6   | B     | 266 | GLN  |
| 6   | B     | 277 | HIS  |
| 6   | B     | 299 | HIS  |
| 6   | B     | 333 | GLN  |
| 6   | B     | 363 | GLN  |
| 6   | B     | 375 | HIS  |
| 6   | B     | 402 | GLN  |
| 6   | B     | 482 | ASN  |
| 6   | B     | 598 | HIS  |
| 6   | B     | 605 | ASN  |
| 6   | B     | 610 | ASN  |
| 7   | C     | 16  | GLN  |
| 8   | D     | 71  | ASN  |
| 8   | D     | 99  | ASN  |
| 8   | D     | 121 | ASN  |
| 8   | D     | 172 | ASN  |
| 9   | E     | 102 | ASN  |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 9   | E     | 134 | ASN  |
| 10  | F     | 110 | ASN  |
| 11  | G     | 85  | ASN  |
| 11  | G     | 90  | ASN  |
| 11  | G     | 99  | GLN  |
| 11  | G     | 140 | HIS  |
| 12  | H     | 134 | GLN  |
| 13  | I     | 34  | ASN  |
| 15  | L     | 161 | ASN  |
| 16  | K     | 128 | ASN  |
| 17  | N     | 99  | 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 oligosaccharides in this entry.

## 5.6 Ligand geometry [i](#)

210 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 | $\# Z  > 2$ |
| 19  | CLA  | B     | 808 | 6    | 65,73,73     | 1.36 | 7 (10%)     | 76,113,113  | 1.71 | 11 (14%)    |
| 18  | CHL  | 2     | 307 | -    | 46,54,74     | 1.74 | 11 (23%)    | 49,90,114   | 2.12 | 7 (14%)     |

| Mol | Type | Chain | Res | Link | Bond lengths |      |          | Bond angles |      |          |
|-----|------|-------|-----|------|--------------|------|----------|-------------|------|----------|
|     |      |       |     |      | Counts       | RMSZ | # Z  > 2 | Counts      | RMSZ | # Z  > 2 |
| 19  | CLA  | 1     | 307 | -    | 45,53,73     | 1.57 | 7 (15%)  | 52,89,113   | 1.89 | 8 (15%)  |
| 19  | CLA  | B     | 824 | -    | 60,68,73     | 1.42 | 7 (11%)  | 70,107,113  | 1.79 | 10 (14%) |
| 18  | CHL  | 4     | 304 | -    | 56,64,74     | 1.63 | 11 (19%) | 61,102,114  | 1.95 | 11 (18%) |
| 19  | CLA  | 3     | 304 | -    | 47,55,73     | 1.54 | 7 (14%)  | 54,91,113   | 1.94 | 10 (18%) |
| 19  | CLA  | A     | 835 | -    | 51,59,73     | 1.51 | 7 (13%)  | 59,96,113   | 1.95 | 8 (13%)  |
| 19  | CLA  | 1     | 314 | 1    | 45,53,73     | 1.56 | 7 (15%)  | 52,89,113   | 1.89 | 7 (13%)  |
| 19  | CLA  | A     | 811 | -    | 54,62,73     | 1.48 | 7 (12%)  | 62,99,113   | 1.84 | 8 (12%)  |
| 19  | CLA  | B     | 810 | -    | 54,62,73     | 1.43 | 6 (11%)  | 67,100,113  | 1.99 | 11 (16%) |
| 22  | LHG  | 1     | 322 | -    | 48,48,48     | 0.31 | 0        | 51,54,54    | 0.27 | 0        |
| 19  | CLA  | 2     | 309 | 2    | 57,65,73     | 1.44 | 7 (12%)  | 66,103,113  | 1.80 | 11 (16%) |
| 19  | CLA  | 3     | 308 | 3    | 65,73,73     | 1.36 | 7 (10%)  | 76,113,113  | 1.70 | 8 (10%)  |
| 19  | CLA  | 4     | 312 | -    | 45,53,73     | 1.57 | 7 (15%)  | 52,89,113   | 1.89 | 8 (15%)  |
| 19  | CLA  | A     | 837 | -    | 52,60,73     | 1.51 | 7 (13%)  | 60,97,113   | 1.84 | 10 (16%) |
| 19  | CLA  | 1     | 313 | -    | 45,53,73     | 1.57 | 7 (15%)  | 52,89,113   | 1.84 | 8 (15%)  |
| 19  | CLA  | 2     | 308 | 2    | 45,53,73     | 1.58 | 7 (15%)  | 52,89,113   | 1.89 | 7 (13%)  |
| 19  | CLA  | A     | 807 | 5    | 65,73,73     | 1.34 | 7 (10%)  | 76,113,113  | 1.65 | 11 (14%) |
| 19  | CLA  | B     | 806 | -    | 54,62,73     | 1.47 | 7 (12%)  | 62,99,113   | 1.84 | 8 (12%)  |
| 19  | CLA  | B     | 819 | -    | 50,58,73     | 1.53 | 7 (14%)  | 58,95,113   | 1.88 | 8 (13%)  |
| 19  | CLA  | B     | 827 | -    | 65,73,73     | 1.35 | 7 (10%)  | 76,113,113  | 1.67 | 9 (11%)  |
| 19  | CLA  | A     | 819 | -    | 45,53,73     | 1.56 | 7 (15%)  | 52,89,113   | 1.93 | 6 (11%)  |
| 19  | CLA  | 2     | 302 | 2    | 65,73,73     | 1.35 | 7 (10%)  | 76,113,113  | 1.69 | 11 (14%) |
| 23  | BCR  | K     | 201 | -    | 41,41,41     | 0.18 | 0        | 56,56,56    | 0.50 | 0        |
| 23  | BCR  | B     | 841 | -    | 41,41,41     | 0.14 | 0        | 56,56,56    | 0.25 | 0        |
| 19  | CLA  | B     | 818 | -    | 60,68,73     | 1.42 | 7 (11%)  | 70,107,113  | 1.76 | 10 (14%) |
| 23  | BCR  | A     | 844 | -    | 41,41,41     | 0.25 | 0        | 56,56,56    | 0.86 | 2 (3%)   |
| 25  | LMT  | N     | 201 | -    | 36,36,36     | 0.10 | 0        | 47,47,47    | 0.25 | 0        |
| 19  | CLA  | F     | 303 | -    | 45,53,73     | 1.58 | 7 (15%)  | 52,89,113   | 1.96 | 10 (19%) |
| 19  | CLA  | B     | 803 | -    | 45,53,73     | 1.58 | 7 (15%)  | 52,89,113   | 1.91 | 6 (11%)  |
| 19  | CLA  | 4     | 307 | 4    | 50,58,73     | 1.54 | 7 (14%)  | 58,95,113   | 1.90 | 8 (13%)  |
| 26  | PQN  | A     | 841 | -    | 34,34,34     | 0.28 | 0        | 42,45,45    | 0.50 | 1 (2%)   |
| 23  | BCR  | B     | 840 | -    | 41,41,41     | 0.13 | 0        | 56,56,56    | 0.28 | 0        |
| 19  | CLA  | 3     | 301 | 3    | 60,68,73     | 1.41 | 7 (11%)  | 70,107,113  | 1.74 | 11 (15%) |
| 18  | CHL  | 2     | 301 | 2    | 51,59,74     | 1.69 | 10 (19%) | 55,96,114   | 2.09 | 11 (20%) |
| 19  | CLA  | A     | 803 | 19   | 50,58,73     | 1.54 | 7 (14%)  | 58,95,113   | 1.85 | 8 (13%)  |
| 23  | BCR  | B     | 845 | -    | 41,41,41     | 0.11 | 0        | 56,56,56    | 0.24 | 0        |
| 19  | CLA  | 1     | 305 | -    | 42,50,73     | 1.59 | 7 (16%)  | 48,85,113   | 1.95 | 7 (14%)  |

| Mol | Type | Chain | Res | Link | Bond lengths |      |          | Bond angles |      |          |
|-----|------|-------|-----|------|--------------|------|----------|-------------|------|----------|
|     |      |       |     |      | Counts       | RMSZ | # Z  > 2 | Counts      | RMSZ | # Z  > 2 |
| 19  | CLA  | B     | 805 | 6    | 65,73,73     | 1.35 | 7 (10%)  | 76,113,113  | 1.74 | 10 (13%) |
| 19  | CLA  | A     | 815 | -    | 45,53,73     | 1.57 | 7 (15%)  | 52,89,113   | 1.93 | 8 (15%)  |
| 19  | CLA  | A     | 817 | -    | 55,63,73     | 1.46 | 7 (12%)  | 64,101,113  | 1.79 | 9 (14%)  |
| 19  | CLA  | 4     | 302 | -    | 60,68,73     | 1.42 | 7 (11%)  | 70,107,113  | 1.76 | 11 (15%) |
| 19  | CLA  | K     | 202 | -    | 45,53,73     | 1.58 | 7 (15%)  | 52,89,113   | 1.92 | 9 (17%)  |
| 23  | BCR  | G     | 205 | -    | 41,41,41     | 0.10 | 0        | 56,56,56    | 0.33 | 0        |
| 23  | BCR  | J     | 103 | -    | 41,41,41     | 0.12 | 0        | 56,56,56    | 0.22 | 0        |
| 19  | CLA  | F     | 301 | -    | 64,72,73     | 1.37 | 7 (10%)  | 74,111,113  | 1.81 | 11 (14%) |
| 22  | LHG  | B     | 848 | 19   | 44,44,48     | 0.32 | 0        | 47,50,54    | 0.29 | 0        |
| 19  | CLA  | A     | 804 | -    | 65,73,73     | 1.35 | 7 (10%)  | 76,113,113  | 1.81 | 12 (15%) |
| 19  | CLA  | 1     | 309 | 1    | 56,64,73     | 1.46 | 7 (12%)  | 65,102,113  | 1.82 | 9 (13%)  |
| 19  | CLA  | 4     | 313 | -    | 65,73,73     | 1.36 | 7 (10%)  | 76,113,113  | 1.72 | 11 (14%) |
| 19  | CLA  | A     | 827 | -    | 65,73,73     | 1.34 | 7 (10%)  | 76,113,113  | 1.70 | 9 (11%)  |
| 19  | CLA  | B     | 828 | -    | 65,73,73     | 1.36 | 7 (10%)  | 76,113,113  | 1.65 | 11 (14%) |
| 23  | BCR  | 1     | 318 | -    | 41,41,41     | 0.16 | 0        | 56,56,56    | 0.80 | 2 (3%)   |
| 19  | CLA  | B     | 811 | -    | 55,63,73     | 1.47 | 7 (12%)  | 64,101,113  | 1.85 | 10 (15%) |
| 19  | CLA  | 2     | 304 | -    | 65,73,73     | 1.37 | 8 (12%)  | 76,113,113  | 1.70 | 11 (14%) |
| 19  | CLA  | B     | 825 | -    | 65,73,73     | 1.35 | 7 (10%)  | 76,113,113  | 1.80 | 10 (13%) |
| 19  | CLA  | B     | 809 | -    | 65,73,73     | 1.35 | 7 (10%)  | 76,113,113  | 1.65 | 10 (13%) |
| 19  | CLA  | A     | 809 | -    | 59,67,73     | 1.42 | 7 (11%)  | 68,105,113  | 1.82 | 11 (16%) |
| 19  | CLA  | G     | 202 | -    | 41,49,73     | 1.63 | 7 (17%)  | 47,84,113   | 1.99 | 8 (17%)  |
| 19  | CLA  | A     | 825 | -    | 65,73,73     | 1.36 | 7 (10%)  | 76,113,113  | 1.74 | 10 (13%) |
| 19  | CLA  | B     | 823 | -    | 65,73,73     | 1.35 | 7 (10%)  | 76,113,113  | 1.70 | 11 (14%) |
| 19  | CLA  | 4     | 309 | -    | 60,68,73     | 1.41 | 7 (11%)  | 70,107,113  | 1.70 | 9 (12%)  |
| 19  | CLA  | F     | 304 | 10   | 45,53,73     | 1.57 | 7 (15%)  | 52,89,113   | 1.98 | 7 (13%)  |
| 18  | CHL  | 3     | 307 | -    | 47,55,74     | 1.69 | 10 (21%) | 50,91,114   | 2.20 | 12 (24%) |
| 19  | CLA  | B     | 836 | -    | 47,55,73     | 1.54 | 7 (14%)  | 54,91,113   | 1.88 | 7 (12%)  |
| 20  | LUT  | 4     | 315 | -    | 42,43,43     | 1.67 | 8 (19%)  | 51,60,60    | 1.52 | 9 (17%)  |
| 24  | LMG  | B     | 847 | -    | 52,52,55     | 0.19 | 0        | 60,60,63    | 0.16 | 0        |
| 19  | CLA  | B     | 830 | -    | 60,68,73     | 1.42 | 7 (11%)  | 70,107,113  | 1.78 | 10 (14%) |
| 18  | CHL  | 1     | 306 | -    | 46,54,74     | 1.75 | 11 (23%) | 49,90,114   | 2.14 | 10 (20%) |
| 19  | CLA  | A     | 836 | -    | 65,73,73     | 1.36 | 7 (10%)  | 76,113,113  | 1.68 | 10 (13%) |
| 19  | CLA  | B     | 820 | -    | 55,63,73     | 1.46 | 7 (12%)  | 64,101,113  | 1.80 | 9 (14%)  |
| 19  | CLA  | A     | 852 | -    | 65,73,73     | 1.34 | 7 (10%)  | 76,113,113  | 1.70 | 13 (17%) |
| 19  | CLA  | B     | 831 | -    | 58,66,73     | 1.43 | 7 (12%)  | 67,104,113  | 1.76 | 8 (11%)  |
| 23  | BCR  | A     | 849 | -    | 41,41,41     | 0.15 | 0        | 56,56,56    | 0.31 | 0        |

| Mol | Type | Chain | Res | Link | Bond lengths |      |          | Bond angles |      |          |
|-----|------|-------|-----|------|--------------|------|----------|-------------|------|----------|
|     |      |       |     |      | Counts       | RMSZ | # Z  > 2 | Counts      | RMSZ | # Z  > 2 |
| 19  | CLA  | 1     | 302 | 1    | 60,68,73     | 1.40 | 7 (11%)  | 70,107,113  | 1.78 | 11 (15%) |
| 19  | CLA  | B     | 814 | -    | 55,63,73     | 1.47 | 7 (12%)  | 64,101,113  | 1.87 | 10 (15%) |
| 19  | CLA  | B     | 838 | -    | 65,73,73     | 1.35 | 7 (10%)  | 76,113,113  | 1.66 | 11 (14%) |
| 19  | CLA  | A     | 822 | -    | 51,59,73     | 1.51 | 7 (13%)  | 59,96,113   | 1.93 | 11 (18%) |
| 19  | CLA  | A     | 823 | -    | 55,63,73     | 1.46 | 7 (12%)  | 64,101,113  | 1.78 | 9 (14%)  |
| 19  | CLA  | B     | 832 | -    | 65,73,73     | 1.36 | 7 (10%)  | 76,113,113  | 1.69 | 9 (11%)  |
| 19  | CLA  | K     | 204 | 16   | 38,45,73     | 1.71 | 8 (21%)  | 43,78,113   | 2.05 | 8 (18%)  |
| 19  | CLA  | A     | 824 | -    | 65,73,73     | 1.34 | 7 (10%)  | 76,113,113  | 1.69 | 13 (17%) |
| 22  | LHG  | A     | 842 | -    | 48,48,48     | 0.30 | 0        | 51,54,54    | 0.28 | 0        |
| 19  | CLA  | A     | 812 | -    | 65,73,73     | 1.34 | 7 (10%)  | 76,113,113  | 1.78 | 10 (13%) |
| 19  | CLA  | A     | 806 | -    | 50,58,73     | 1.54 | 7 (14%)  | 58,95,113   | 1.85 | 9 (15%)  |
| 19  | CLA  | A     | 830 | -    | 50,58,73     | 1.54 | 7 (14%)  | 58,95,113   | 1.83 | 10 (17%) |
| 19  | CLA  | A     | 854 | -    | 65,73,73     | 1.35 | 7 (10%)  | 76,113,113  | 1.73 | 11 (14%) |
| 19  | CLA  | B     | 801 | -    | 65,73,73     | 1.35 | 7 (10%)  | 76,113,113  | 1.67 | 11 (14%) |
| 19  | CLA  | A     | 808 | 5    | 62,70,73     | 1.38 | 7 (11%)  | 72,109,113  | 1.80 | 10 (13%) |
| 19  | CLA  | B     | 813 | -    | 65,73,73     | 1.36 | 7 (10%)  | 76,113,113  | 1.71 | 8 (10%)  |
| 18  | CHL  | 4     | 314 | 4    | 41,50,74     | 1.69 | 8 (19%)  | 42,85,114   | 2.23 | 9 (21%)  |
| 19  | CLA  | A     | 801 | -    | 65,73,73     | 1.35 | 7 (10%)  | 76,113,113  | 1.70 | 11 (14%) |
| 19  | CLA  | A     | 810 | 19   | 65,73,73     | 1.35 | 7 (10%)  | 76,113,113  | 1.70 | 11 (14%) |
| 19  | CLA  | 2     | 312 | -    | 65,73,73     | 1.35 | 7 (10%)  | 76,113,113  | 1.71 | 9 (11%)  |
| 19  | CLA  | B     | 807 | -    | 65,73,73     | 1.35 | 7 (10%)  | 76,113,113  | 1.73 | 9 (11%)  |
| 21  | XAT  | 4     | 316 | -    | 39,47,47     | 0.09 | 0        | 54,74,74    | 0.70 | 1 (1%)   |
| 24  | LMG  | 1     | 319 | -    | 50,50,55     | 0.20 | 0        | 58,58,63    | 0.14 | 0        |
| 24  | LMG  | 4     | 318 | -    | 36,36,55     | 0.20 | 0        | 44,44,63    | 0.13 | 0        |
| 20  | LUT  | 1     | 315 | -    | 42,43,43     | 1.63 | 8 (19%)  | 51,60,60    | 1.62 | 12 (23%) |
| 19  | CLA  | 1     | 321 | 22   | 65,73,73     | 1.34 | 7 (10%)  | 76,113,113  | 1.80 | 8 (10%)  |
| 25  | LMT  | 2     | 318 | -    | 36,36,36     | 0.15 | 0        | 47,47,47    | 0.16 | 0        |
| 19  | CLA  | A     | 853 | -    | 60,68,73     | 1.41 | 7 (11%)  | 70,107,113  | 1.71 | 8 (11%)  |
| 19  | CLA  | B     | 802 | -    | 65,73,73     | 1.34 | 7 (10%)  | 76,113,113  | 1.75 | 11 (14%) |
| 23  | BCR  | 3     | 317 | -    | 41,41,41     | 0.12 | 0        | 56,56,56    | 0.32 | 0        |
| 19  | CLA  | 3     | 314 | -    | 46,54,73     | 1.57 | 7 (15%)  | 53,90,113   | 1.89 | 6 (11%)  |
| 18  | CHL  | 4     | 305 | -    | 46,54,74     | 1.74 | 12 (26%) | 49,90,114   | 2.04 | 8 (16%)  |
| 19  | CLA  | 3     | 312 | -    | 55,63,73     | 1.46 | 7 (12%)  | 64,101,113  | 1.81 | 7 (10%)  |
| 25  | LMT  | G     | 201 | -    | 36,36,36     | 0.10 | 0        | 47,47,47    | 0.20 | 0        |
| 18  | CHL  | 1     | 301 | 1    | 56,64,74     | 1.61 | 10 (17%) | 61,102,114  | 1.98 | 11 (18%) |
| 23  | BCR  | J     | 104 | -    | 41,41,41     | 0.11 | 0        | 56,56,56    | 0.20 | 0        |

| Mol | Type | Chain | Res | Link | Bond lengths |      |          | Bond angles |      |          |
|-----|------|-------|-----|------|--------------|------|----------|-------------|------|----------|
|     |      |       |     |      | Counts       | RMSZ | # Z  > 2 | Counts      | RMSZ | # Z  > 2 |
| 19  | CLA  | J     | 102 | -    | 42,50,73     | 1.58 | 7 (16%)  | 48,85,113   | 1.92 | 7 (14%)  |
| 19  | CLA  | A     | 839 | -    | 65,73,73     | 1.36 | 7 (10%)  | 76,113,113  | 1.72 | 11 (14%) |
| 23  | BCR  | L     | 304 | -    | 41,41,41     | 0.15 | 0        | 56,56,56    | 0.29 | 0        |
| 19  | CLA  | 1     | 304 | -    | 51,59,73     | 1.51 | 7 (13%)  | 59,96,113   | 1.90 | 8 (13%)  |
| 19  | CLA  | B     | 816 | -    | 59,67,73     | 1.41 | 7 (11%)  | 68,105,113  | 1.72 | 11 (16%) |
| 28  | DGD  | B     | 846 | -    | 67,67,67     | 0.16 | 0        | 81,81,81    | 0.15 | 0        |
| 19  | CLA  | A     | 831 | -    | 65,73,73     | 1.36 | 7 (10%)  | 76,113,113  | 1.71 | 9 (11%)  |
| 19  | CLA  | A     | 814 | -    | 50,58,73     | 1.53 | 7 (14%)  | 58,95,113   | 1.90 | 9 (15%)  |
| 18  | CHL  | 2     | 305 | -    | 43,51,74     | 1.68 | 8 (18%)  | 45,86,114   | 2.24 | 7 (15%)  |
| 19  | CLA  | 3     | 311 | -    | 45,53,73     | 1.59 | 7 (15%)  | 52,89,113   | 2.01 | 8 (15%)  |
| 19  | CLA  | 4     | 308 | 4    | 60,68,73     | 1.40 | 7 (11%)  | 70,107,113  | 1.78 | 11 (15%) |
| 23  | BCR  | A     | 848 | -    | 41,41,41     | 0.12 | 0        | 56,56,56    | 0.19 | 0        |
| 19  | CLA  | A     | 820 | -    | 65,73,73     | 1.36 | 7 (10%)  | 76,113,113  | 1.68 | 10 (13%) |
| 19  | CLA  | A     | 829 | -    | 65,73,73     | 1.36 | 7 (10%)  | 76,113,113  | 1.74 | 9 (11%)  |
| 19  | CLA  | 3     | 303 | -    | 45,53,73     | 1.58 | 7 (15%)  | 52,89,113   | 1.88 | 8 (15%)  |
| 19  | CLA  | H     | 201 | 12   | 45,53,73     | 1.57 | 7 (15%)  | 52,89,113   | 1.90 | 10 (19%) |
| 23  | BCR  | L     | 306 | -    | 41,41,41     | 0.14 | 0        | 56,56,56    | 0.42 | 0        |
| 19  | CLA  | B     | 834 | -    | 55,63,73     | 1.47 | 7 (12%)  | 64,101,113  | 1.88 | 8 (12%)  |
| 23  | BCR  | L     | 305 | -    | 41,41,41     | 0.22 | 0        | 56,56,56    | 0.86 | 2 (3%)   |
| 23  | BCR  | I     | 101 | -    | 41,41,41     | 0.11 | 0        | 56,56,56    | 0.21 | 0        |
| 19  | CLA  | 4     | 310 | 4    | 45,53,73     | 1.58 | 7 (15%)  | 52,89,113   | 1.97 | 7 (13%)  |
| 19  | CLA  | 2     | 310 | 22   | 41,49,73     | 1.62 | 7 (17%)  | 47,84,113   | 1.99 | 8 (17%)  |
| 23  | BCR  | F     | 306 | -    | 41,41,41     | 0.13 | 0        | 56,56,56    | 0.28 | 0        |
| 24  | LMG  | F     | 307 | -    | 30,30,55     | 0.21 | 0        | 38,38,63    | 0.14 | 0        |
| 19  | CLA  | 3     | 302 | 3    | 60,68,73     | 1.41 | 7 (11%)  | 70,107,113  | 1.77 | 13 (18%) |
| 23  | BCR  | B     | 843 | -    | 41,41,41     | 0.12 | 0        | 56,56,56    | 0.31 | 0        |
| 19  | CLA  | A     | 840 | -    | 65,73,73     | 1.35 | 7 (10%)  | 76,113,113  | 1.66 | 9 (11%)  |
| 19  | CLA  | A     | 832 | -    | 65,73,73     | 1.36 | 7 (10%)  | 76,113,113  | 1.67 | 8 (10%)  |
| 19  | CLA  | B     | 835 | -    | 65,73,73     | 1.35 | 7 (10%)  | 76,113,113  | 1.73 | 9 (11%)  |
| 19  | CLA  | A     | 813 | -    | 45,53,73     | 1.57 | 7 (15%)  | 52,89,113   | 2.00 | 7 (13%)  |
| 19  | CLA  | B     | 821 | -    | 55,63,73     | 1.46 | 7 (12%)  | 64,101,113  | 1.82 | 8 (12%)  |
| 19  | CLA  | 4     | 301 | 4    | 60,68,73     | 1.41 | 7 (11%)  | 70,107,113  | 1.79 | 9 (12%)  |
| 23  | BCR  | A     | 843 | -    | 41,41,41     | 0.19 | 0        | 56,56,56    | 0.67 | 2 (3%)   |
| 19  | CLA  | B     | 822 | -    | 60,68,73     | 1.41 | 7 (11%)  | 70,107,113  | 1.70 | 10 (14%) |
| 19  | CLA  | G     | 203 | -    | 50,58,73     | 1.53 | 7 (14%)  | 58,95,113   | 1.97 | 7 (12%)  |
| 19  | CLA  | 1     | 311 | 1    | 45,53,73     | 1.58 | 7 (15%)  | 52,89,113   | 1.94 | 6 (11%)  |

| Mol | Type | Chain | Res | Link | Bond lengths |      |          | Bond angles |      |          |
|-----|------|-------|-----|------|--------------|------|----------|-------------|------|----------|
|     |      |       |     |      | Counts       | RMSZ | # Z  > 2 | Counts      | RMSZ | # Z  > 2 |
| 19  | CLA  | 2     | 311 | 2    | 45,53,73     | 1.58 | 7 (15%)  | 52,89,113   | 1.98 | 7 (13%)  |
| 19  | CLA  | B     | 833 | -    | 45,53,73     | 1.58 | 7 (15%)  | 52,89,113   | 1.97 | 7 (13%)  |
| 20  | LUT  | 3     | 315 | -    | 42,43,43     | 1.65 | 8 (19%)  | 51,60,60    | 1.54 | 9 (17%)  |
| 23  | BCR  | 2     | 319 | -    | 41,41,41     | 0.23 | 0        | 56,56,56    | 0.74 | 2 (3%)   |
| 20  | LUT  | 2     | 315 | -    | 42,43,43     | 1.64 | 8 (19%)  | 51,60,60    | 1.61 | 11 (21%) |
| 19  | CLA  | F     | 302 | -    | 65,73,73     | 1.34 | 7 (10%)  | 76,113,113  | 1.74 | 14 (18%) |
| 19  | CLA  | 4     | 311 | -    | 56,64,73     | 1.45 | 7 (12%)  | 65,102,113  | 1.79 | 7 (10%)  |
| 19  | CLA  | B     | 817 | -    | 60,68,73     | 1.40 | 7 (11%)  | 70,107,113  | 1.76 | 12 (17%) |
| 19  | CLA  | L     | 303 | -    | 50,58,73     | 1.54 | 7 (14%)  | 58,95,113   | 1.82 | 11 (18%) |
| 19  | CLA  | 2     | 320 | 4    | 46,54,73     | 1.54 | 7 (15%)  | 53,90,113   | 1.96 | 8 (15%)  |
| 23  | BCR  | J     | 101 | -    | 41,41,41     | 0.17 | 0        | 56,56,56    | 0.96 | 4 (7%)   |
| 23  | BCR  | A     | 847 | -    | 41,41,41     | 0.14 | 0        | 56,56,56    | 0.71 | 0        |
| 19  | CLA  | 3     | 310 | -    | 41,49,73     | 1.62 | 8 (19%)  | 47,84,113   | 1.97 | 9 (19%)  |
| 21  | XAT  | 3     | 316 | -    | 39,47,47     | 0.10 | 0        | 54,74,74    | 0.77 | 2 (3%)   |
| 22  | LHG  | 1     | 317 | 19   | 48,48,48     | 0.30 | 0        | 51,54,54    | 0.29 | 0        |
| 27  | SF4  | C     | 102 | 7    | 0,12,12      | -    | -        | -           | -    | -        |
| 19  | CLA  | 1     | 308 | 1    | 57,65,73     | 1.44 | 7 (12%)  | 66,103,113  | 1.84 | 9 (13%)  |
| 19  | CLA  | A     | 816 | -    | 63,72,73     | 1.37 | 7 (11%)  | 73,112,113  | 1.63 | 10 (13%) |
| 19  | CLA  | A     | 821 | -    | 45,53,73     | 1.58 | 7 (15%)  | 52,89,113   | 1.94 | 8 (15%)  |
| 18  | CHL  | 4     | 306 | -    | 51,59,74     | 1.68 | 11 (21%) | 55,96,114   | 2.04 | 11 (20%) |
| 19  | CLA  | B     | 829 | -    | 50,58,73     | 1.53 | 7 (14%)  | 58,95,113   | 1.82 | 10 (17%) |
| 19  | CLA  | L     | 301 | 15   | 55,63,73     | 1.46 | 7 (12%)  | 64,101,113  | 1.80 | 9 (14%)  |
| 19  | CLA  | A     | 851 | 5    | 45,53,73     | 1.58 | 7 (15%)  | 52,89,113   | 1.93 | 7 (13%)  |
| 19  | CLA  | K     | 203 | -    | 46,54,73     | 1.56 | 7 (15%)  | 53,90,113   | 1.92 | 7 (13%)  |
| 20  | LUT  | 1     | 320 | -    | 42,43,43     | 1.63 | 8 (19%)  | 51,60,60    | 1.65 | 11 (21%) |
| 23  | BCR  | F     | 305 | -    | 41,41,41     | 0.11 | 0        | 56,56,56    | 0.24 | 0        |
| 19  | CLA  | 2     | 303 | -    | 50,58,73     | 1.54 | 7 (14%)  | 58,95,113   | 1.88 | 8 (13%)  |
| 19  | CLA  | B     | 804 | -    | 65,73,73     | 1.35 | 7 (10%)  | 76,113,113  | 1.76 | 9 (11%)  |
| 19  | CLA  | A     | 833 | -    | 50,58,73     | 1.54 | 7 (14%)  | 58,95,113   | 1.81 | 9 (15%)  |
| 23  | BCR  | 4     | 317 | -    | 41,41,41     | 0.14 | 0        | 56,56,56    | 0.32 | 0        |
| 23  | BCR  | A     | 846 | -    | 41,41,41     | 0.11 | 0        | 56,56,56    | 0.18 | 0        |
| 23  | BCR  | B     | 844 | -    | 41,41,41     | 0.11 | 0        | 56,56,56    | 0.33 | 0        |
| 23  | BCR  | A     | 845 | -    | 41,41,41     | 0.14 | 0        | 56,56,56    | 0.22 | 0        |
| 27  | SF4  | C     | 101 | 7    | 0,12,12      | -    | -        | -           | -    | -        |
| 23  | BCR  | B     | 842 | -    | 41,41,41     | 0.16 | 0        | 56,56,56    | 0.78 | 2 (3%)   |
| 19  | CLA  | 3     | 306 | 3    | 45,53,73     | 1.57 | 7 (15%)  | 52,89,113   | 1.87 | 8 (15%)  |

| Mol | Type | Chain | Res | Link | Bond lengths |      |          | Bond angles |      |          |
|-----|------|-------|-----|------|--------------|------|----------|-------------|------|----------|
|     |      |       |     |      | Counts       | RMSZ | # Z  > 2 | Counts      | RMSZ | # Z  > 2 |
| 18  | CHL  | 2     | 306 | -    | 46,54,74     | 1.74 | 10 (21%) | 49,90,114   | 2.14 | 10 (20%) |
| 19  | CLA  | A     | 802 | -    | 65,73,73     | 1.35 | 7 (10%)  | 76,113,113  | 1.62 | 10 (13%) |
| 19  | CLA  | 3     | 305 | -    | 42,50,73     | 1.59 | 7 (16%)  | 48,85,113   | 1.94 | 8 (16%)  |
| 18  | CHL  | 2     | 314 | 2    | 43,51,74     | 1.66 | 8 (18%)  | 45,86,114   | 2.08 | 8 (17%)  |
| 19  | CLA  | 1     | 310 | 22   | 55,63,73     | 1.48 | 7 (12%)  | 64,101,113  | 1.82 | 11 (17%) |
| 19  | CLA  | A     | 834 | -    | 65,73,73     | 1.35 | 7 (10%)  | 76,113,113  | 1.62 | 10 (13%) |
| 19  | CLA  | B     | 815 | -    | 55,63,73     | 1.47 | 7 (12%)  | 64,101,113  | 1.81 | 8 (12%)  |
| 21  | XAT  | 1     | 316 | -    | 39,47,47     | 0.10 | 0        | 54,74,74    | 0.68 | 2 (3%)   |
| 19  | CLA  | 3     | 309 | 3    | 50,58,73     | 1.53 | 7 (14%)  | 58,95,113   | 1.84 | 11 (18%) |
| 19  | CLA  | A     | 805 | 5    | 65,73,73     | 1.34 | 7 (10%)  | 76,113,113  | 1.74 | 12 (15%) |
| 19  | CLA  | B     | 837 | -    | 65,73,73     | 1.36 | 7 (10%)  | 76,113,113  | 1.70 | 11 (14%) |
| 19  | CLA  | 1     | 303 | -    | 58,66,73     | 1.42 | 7 (12%)  | 67,104,113  | 1.78 | 9 (13%)  |
| 19  | CLA  | 1     | 312 | -    | 60,68,73     | 1.40 | 7 (11%)  | 70,107,113  | 1.75 | 9 (12%)  |
| 19  | CLA  | A     | 828 | -    | 65,73,73     | 1.36 | 7 (10%)  | 76,113,113  | 1.69 | 12 (15%) |
| 21  | XAT  | 2     | 316 | -    | 39,47,47     | 0.13 | 0        | 54,74,74    | 0.72 | 1 (1%)   |
| 27  | SF4  | A     | 850 | 5,6  | 0,12,12      | -    | -        | -           | -    | -        |
| 19  | CLA  | A     | 826 | -    | 65,73,73     | 1.35 | 7 (10%)  | 76,113,113  | 1.79 | 10 (13%) |
| 19  | CLA  | 3     | 313 | -    | 45,53,73     | 1.58 | 7 (15%)  | 52,89,113   | 1.89 | 8 (15%)  |
| 19  | CLA  | L     | 302 | -    | 65,73,73     | 1.36 | 7 (10%)  | 76,113,113  | 1.69 | 11 (14%) |
| 19  | CLA  | 2     | 313 | -    | 58,66,73     | 1.44 | 8 (13%)  | 67,104,113  | 1.88 | 10 (14%) |
| 26  | PQN  | B     | 839 | -    | 34,34,34     | 0.27 | 0        | 42,45,45    | 0.50 | 1 (2%)   |
| 19  | CLA  | A     | 838 | -    | 65,73,73     | 1.35 | 7 (10%)  | 76,113,113  | 1.72 | 10 (13%) |
| 19  | CLA  | B     | 812 | -    | 65,73,73     | 1.33 | 7 (10%)  | 76,113,113  | 1.79 | 10 (13%) |
| 19  | CLA  | B     | 826 | -    | 65,73,73     | 1.34 | 7 (10%)  | 76,113,113  | 1.67 | 11 (14%) |
| 19  | CLA  | A     | 818 | -    | 65,73,73     | 1.36 | 7 (10%)  | 76,113,113  | 1.67 | 11 (14%) |
| 19  | CLA  | 4     | 303 | -    | 45,53,73     | 1.58 | 7 (15%)  | 52,89,113   | 1.93 | 8 (15%)  |
| 19  | CLA  | G     | 204 | 11   | 46,54,73     | 1.55 | 7 (15%)  | 53,90,113   | 1.96 | 9 (16%)  |
| 22  | LHG  | 2     | 317 | 19   | 36,36,48     | 0.34 | 0        | 39,42,54    | 0.30 | 0        |

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 |
|-----|------|-------|-----|------|-----------|---------------|-------|
| 19  | CLA  | B     | 808 | 6    | 1/1/15/20 | 12/37/115/115 | -     |

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| Mol | Type | Chain | Res | Link | Chirals   | Torsions      | Rings   |
|-----|------|-------|-----|------|-----------|---------------|---------|
| 18  | CHL  | 2     | 307 | -    | 3/3/16/26 | 6/15/113/137  | -       |
| 19  | CLA  | 1     | 307 | -    | 1/1/11/20 | 5/13/91/115   | -       |
| 19  | CLA  | B     | 824 | -    | 1/1/14/20 | 9/31/109/115  | -       |
| 18  | CHL  | 4     | 304 | -    | 3/3/18/26 | 7/27/125/137  | -       |
| 19  | CLA  | 3     | 304 | -    | 1/1/11/20 | 7/16/94/115   | -       |
| 19  | CLA  | A     | 835 | -    | 1/1/12/20 | 9/21/99/115   | -       |
| 19  | CLA  | 1     | 314 | 1    | 1/1/11/20 | 6/13/91/115   | -       |
| 19  | CLA  | A     | 811 | -    | 1/1/12/20 | 6/24/102/115  | -       |
| 19  | CLA  | B     | 810 | -    | 1/1/13/20 | 11/25/101/115 | -       |
| 22  | LHG  | 1     | 322 | -    | -         | 9/53/53/53    | -       |
| 19  | CLA  | 2     | 309 | 2    | 1/1/13/20 | 12/28/106/115 | -       |
| 19  | CLA  | 3     | 308 | 3    | 1/1/15/20 | 21/37/115/115 | -       |
| 19  | CLA  | 4     | 312 | -    | 1/1/11/20 | 6/13/91/115   | -       |
| 19  | CLA  | A     | 837 | -    | 1/1/12/20 | 10/22/100/115 | -       |
| 19  | CLA  | 1     | 313 | -    | 1/1/11/20 | 8/13/91/115   | -       |
| 19  | CLA  | 2     | 308 | 2    | 1/1/11/20 | 5/13/91/115   | -       |
| 19  | CLA  | A     | 807 | 5    | 1/1/15/20 | 21/37/115/115 | -       |
| 19  | CLA  | B     | 806 | -    | 1/1/12/20 | 7/24/102/115  | -       |
| 19  | CLA  | B     | 819 | -    | 1/1/12/20 | 10/19/97/115  | -       |
| 19  | CLA  | B     | 827 | -    | 1/1/15/20 | 19/37/115/115 | -       |
| 19  | CLA  | A     | 819 | -    | 1/1/11/20 | 0/13/91/115   | -       |
| 19  | CLA  | 2     | 302 | 2    | 1/1/15/20 | 16/37/115/115 | -       |
| 23  | BCR  | K     | 201 | -    | -         | 9/29/63/63    | 0/2/2/2 |
| 23  | BCR  | B     | 841 | -    | -         | 4/29/63/63    | 0/2/2/2 |
| 19  | CLA  | B     | 818 | -    | 1/1/14/20 | 10/31/109/115 | -       |
| 23  | BCR  | A     | 844 | -    | -         | 1/29/63/63    | 0/2/2/2 |
| 25  | LMT  | N     | 201 | -    | -         | 5/21/61/61    | 0/2/2/2 |
| 19  | CLA  | F     | 303 | -    | 1/1/11/20 | 4/13/91/115   | -       |
| 19  | CLA  | B     | 803 | -    | 1/1/11/20 | 6/13/91/115   | -       |
| 19  | CLA  | 4     | 307 | 4    | 1/1/12/20 | 7/19/97/115   | -       |
| 26  | PQN  | A     | 841 | -    | -         | 2/23/43/43    | 0/2/2/2 |
| 23  | BCR  | B     | 840 | -    | -         | 0/29/63/63    | 0/2/2/2 |
| 19  | CLA  | 3     | 301 | 3    | 1/1/14/20 | 13/31/109/115 | -       |
| 18  | CHL  | 2     | 301 | 2    | 3/3/17/26 | 12/21/119/137 | -       |
| 19  | CLA  | A     | 803 | 19   | 1/1/12/20 | 10/19/97/115  | -       |

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| Mol | Type | Chain | Res | Link | Chirals   | Torsions      | Rings   |
|-----|------|-------|-----|------|-----------|---------------|---------|
| 23  | BCR  | B     | 845 | -    | -         | 2/29/63/63    | 0/2/2/2 |
| 19  | CLA  | 1     | 305 | -    | 1/1/10/20 | 3/10/88/115   | -       |
| 19  | CLA  | B     | 805 | 6    | 1/1/15/20 | 13/37/115/115 | -       |
| 19  | CLA  | A     | 815 | -    | 1/1/11/20 | 4/13/91/115   | -       |
| 19  | CLA  | A     | 817 | -    | 1/1/13/20 | 8/25/103/115  | -       |
| 19  | CLA  | 4     | 302 | -    | 1/1/14/20 | 14/31/109/115 | -       |
| 19  | CLA  | K     | 202 | -    | 1/1/11/20 | 7/13/91/115   | -       |
| 23  | BCR  | G     | 205 | -    | -         | 2/29/63/63    | 0/2/2/2 |
| 23  | BCR  | J     | 103 | -    | -         | 2/29/63/63    | 0/2/2/2 |
| 19  | CLA  | F     | 301 | -    | 1/1/14/20 | 20/36/114/115 | -       |
| 22  | LHG  | B     | 848 | 19   | -         | 9/49/49/53    | -       |
| 19  | CLA  | A     | 804 | -    | 1/1/15/20 | 20/37/115/115 | -       |
| 19  | CLA  | 1     | 309 | 1    | 1/1/13/20 | 5/27/105/115  | -       |
| 19  | CLA  | 4     | 313 | -    | 1/1/15/20 | 20/37/115/115 | -       |
| 19  | CLA  | A     | 827 | -    | 1/1/15/20 | 13/37/115/115 | -       |
| 19  | CLA  | B     | 828 | -    | 1/1/15/20 | 15/37/115/115 | -       |
| 23  | BCR  | 1     | 318 | -    | -         | 8/29/63/63    | 0/2/2/2 |
| 19  | CLA  | B     | 811 | -    | 1/1/13/20 | 11/25/103/115 | -       |
| 19  | CLA  | 2     | 304 | -    | 1/1/15/20 | 20/37/115/115 | -       |
| 19  | CLA  | B     | 825 | -    | 1/1/15/20 | 14/37/115/115 | -       |
| 19  | CLA  | B     | 809 | -    | 1/1/15/20 | 18/37/115/115 | -       |
| 19  | CLA  | A     | 809 | -    | 1/1/13/20 | 11/30/108/115 | -       |
| 19  | CLA  | G     | 202 | -    | 1/1/10/20 | 4/8/86/115    | -       |
| 19  | CLA  | A     | 825 | -    | 1/1/15/20 | 6/37/115/115  | -       |
| 19  | CLA  | B     | 823 | -    | 1/1/15/20 | 14/37/115/115 | -       |
| 19  | CLA  | 4     | 309 | -    | 1/1/14/20 | 11/31/109/115 | -       |
| 19  | CLA  | F     | 304 | 10   | 1/1/11/20 | 6/13/91/115   | -       |
| 18  | CHL  | 3     | 307 | -    | 3/3/16/26 | 5/17/115/137  | -       |
| 19  | CLA  | B     | 836 | -    | 1/1/11/20 | 0/16/94/115   | -       |
| 20  | LUT  | 4     | 315 | -    | -         | 1/29/67/67    | 0/2/2/2 |
| 24  | LMG  | B     | 847 | -    | -         | 11/47/67/70   | 0/1/1/1 |
| 19  | CLA  | B     | 830 | -    | 1/1/14/20 | 15/31/109/115 | -       |
| 18  | CHL  | 1     | 306 | -    | 3/3/16/26 | 7/15/113/137  | -       |
| 19  | CLA  | A     | 836 | -    | 1/1/15/20 | 14/37/115/115 | -       |

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| Mol | Type | Chain | Res | Link | Chirals   | Torsions      | Rings   |
|-----|------|-------|-----|------|-----------|---------------|---------|
| 19  | CLA  | B     | 820 | -    | 1/1/13/20 | 12/25/103/115 | -       |
| 19  | CLA  | A     | 852 | -    | 1/1/15/20 | 14/37/115/115 | -       |
| 19  | CLA  | B     | 831 | -    | 1/1/13/20 | 17/29/107/115 | -       |
| 23  | BCR  | A     | 849 | -    | -         | 4/29/63/63    | 0/2/2/2 |
| 19  | CLA  | 1     | 302 | 1    | 1/1/14/20 | 9/31/109/115  | -       |
| 19  | CLA  | B     | 814 | -    | 1/1/13/20 | 7/25/103/115  | -       |
| 19  | CLA  | B     | 838 | -    | 1/1/15/20 | 14/37/115/115 | -       |
| 19  | CLA  | A     | 822 | -    | 1/1/12/20 | 13/21/99/115  | -       |
| 19  | CLA  | A     | 823 | -    | 1/1/13/20 | 8/25/103/115  | -       |
| 19  | CLA  | B     | 832 | -    | 1/1/15/20 | 19/37/115/115 | -       |
| 19  | CLA  | K     | 204 | 16   | 1/1/8/20  | 0/2/76/115    | -       |
| 19  | CLA  | A     | 824 | -    | 1/1/15/20 | 13/37/115/115 | -       |
| 22  | LHG  | A     | 842 | -    | -         | 8/53/53/53    | -       |
| 19  | CLA  | A     | 812 | -    | 1/1/15/20 | 24/37/115/115 | -       |
| 19  | CLA  | A     | 806 | -    | 1/1/12/20 | 3/19/97/115   | -       |
| 19  | CLA  | A     | 830 | -    | 1/1/12/20 | 9/19/97/115   | -       |
| 19  | CLA  | A     | 854 | -    | 1/1/15/20 | 14/37/115/115 | -       |
| 19  | CLA  | B     | 801 | -    | 1/1/15/20 | 14/37/115/115 | -       |
| 19  | CLA  | A     | 808 | 5    | 1/1/14/20 | 15/34/112/115 | -       |
| 19  | CLA  | B     | 813 | -    | 1/1/15/20 | 16/37/115/115 | -       |
| 18  | CHL  | 4     | 314 | 4    | 3/3/15/26 | 1/10/108/137  | -       |
| 19  | CLA  | A     | 801 | -    | 1/1/15/20 | 12/37/115/115 | -       |
| 19  | CLA  | A     | 810 | 19   | 1/1/15/20 | 16/37/115/115 | -       |
| 19  | CLA  | 2     | 312 | -    | 1/1/15/20 | 21/37/115/115 | -       |
| 19  | CLA  | B     | 807 | -    | 1/1/15/20 | 12/37/115/115 | -       |
| 21  | XAT  | 4     | 316 | -    | -         | 0/31/93/93    | 0/4/4/4 |
| 24  | LMG  | 1     | 319 | -    | -         | 11/45/65/70   | 0/1/1/1 |
| 24  | LMG  | 4     | 318 | -    | -         | 5/31/51/70    | 0/1/1/1 |
| 20  | LUT  | 1     | 315 | -    | -         | 0/29/67/67    | 0/2/2/2 |
| 19  | CLA  | 1     | 321 | 22   | 1/1/15/20 | 14/37/115/115 | -       |
| 25  | LMT  | 2     | 318 | -    | -         | 7/21/61/61    | 0/2/2/2 |
| 19  | CLA  | A     | 853 | -    | 1/1/14/20 | 15/31/109/115 | -       |
| 19  | CLA  | B     | 802 | -    | 1/1/15/20 | 13/37/115/115 | -       |
| 23  | BCR  | 3     | 317 | -    | -         | 3/29/63/63    | 0/2/2/2 |
| 19  | CLA  | 3     | 314 | -    | 1/1/11/20 | 7/15/93/115   | -       |

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| Mol | Type | Chain | Res | Link | Chirals   | Torsions      | Rings   |
|-----|------|-------|-----|------|-----------|---------------|---------|
| 18  | CHL  | 4     | 305 | -    | 3/3/16/26 | 7/15/113/137  | -       |
| 19  | CLA  | 3     | 312 | -    | 1/1/13/20 | 8/25/103/115  | -       |
| 25  | LMT  | G     | 201 | -    | -         | 4/21/61/61    | 0/2/2/2 |
| 18  | CHL  | 1     | 301 | 1    | 3/3/18/26 | 10/27/125/137 | -       |
| 23  | BCR  | J     | 104 | -    | -         | 4/29/63/63    | 0/2/2/2 |
| 19  | CLA  | J     | 102 | -    | 1/1/10/20 | 5/10/88/115   | -       |
| 19  | CLA  | A     | 839 | -    | 1/1/15/20 | 15/37/115/115 | -       |
| 23  | BCR  | L     | 304 | -    | -         | 4/29/63/63    | 0/2/2/2 |
| 19  | CLA  | 1     | 304 | -    | 1/1/12/20 | 12/21/99/115  | -       |
| 19  | CLA  | B     | 816 | -    | 1/1/13/20 | 12/30/108/115 | -       |
| 28  | DGD  | B     | 846 | -    | -         | 7/55/95/95    | 0/2/2/2 |
| 19  | CLA  | A     | 831 | -    | 1/1/15/20 | 14/37/115/115 | -       |
| 19  | CLA  | A     | 814 | -    | 1/1/12/20 | 11/19/97/115  | -       |
| 18  | CHL  | 2     | 305 | -    | 3/3/15/26 | 4/12/110/137  | -       |
| 19  | CLA  | 3     | 311 | -    | 1/1/11/20 | 4/13/91/115   | -       |
| 19  | CLA  | 4     | 308 | 4    | 1/1/14/20 | 6/31/109/115  | -       |
| 23  | BCR  | A     | 848 | -    | -         | 0/29/63/63    | 0/2/2/2 |
| 19  | CLA  | A     | 820 | -    | 1/1/15/20 | 14/37/115/115 | -       |
| 19  | CLA  | A     | 829 | -    | 1/1/15/20 | 18/37/115/115 | -       |
| 19  | CLA  | 3     | 303 | -    | 1/1/11/20 | 5/13/91/115   | -       |
| 19  | CLA  | H     | 201 | 12   | 1/1/11/20 | 9/13/91/115   | -       |
| 23  | BCR  | L     | 306 | -    | -         | 3/29/63/63    | 0/2/2/2 |
| 19  | CLA  | B     | 834 | -    | 1/1/13/20 | 7/25/103/115  | -       |
| 23  | BCR  | L     | 305 | -    | -         | 2/29/63/63    | 0/2/2/2 |
| 23  | BCR  | I     | 101 | -    | -         | 0/29/63/63    | 0/2/2/2 |
| 19  | CLA  | 4     | 310 | 4    | 1/1/11/20 | 6/13/91/115   | -       |
| 19  | CLA  | 2     | 310 | 22   | 1/1/10/20 | 2/8/86/115    | -       |
| 23  | BCR  | F     | 306 | -    | -         | 0/29/63/63    | 0/2/2/2 |
| 24  | LMG  | F     | 307 | -    | -         | 2/25/45/70    | 0/1/1/1 |
| 19  | CLA  | 3     | 302 | 3    | 1/1/14/20 | 10/31/109/115 | -       |
| 23  | BCR  | B     | 843 | -    | -         | 0/29/63/63    | 0/2/2/2 |
| 19  | CLA  | A     | 840 | -    | 1/1/15/20 | 20/37/115/115 | -       |
| 19  | CLA  | A     | 832 | -    | 1/1/15/20 | 15/37/115/115 | -       |
| 19  | CLA  | B     | 835 | -    | 1/1/15/20 | 15/37/115/115 | -       |
| 19  | CLA  | A     | 813 | -    | 1/1/11/20 | 4/13/91/115   | -       |

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| Mol | Type | Chain | Res | Link | Chirals   | Torsions      | Rings   |
|-----|------|-------|-----|------|-----------|---------------|---------|
| 19  | CLA  | B     | 821 | -    | 1/1/13/20 | 6/25/103/115  | -       |
| 19  | CLA  | 4     | 301 | 4    | 1/1/14/20 | 8/31/109/115  | -       |
| 23  | BCR  | A     | 843 | -    | -         | 11/29/63/63   | 0/2/2/2 |
| 19  | CLA  | B     | 822 | -    | 1/1/14/20 | 19/31/109/115 | -       |
| 19  | CLA  | G     | 203 | -    | 1/1/12/20 | 8/19/97/115   | -       |
| 19  | CLA  | 1     | 311 | 1    | 1/1/11/20 | 7/13/91/115   | -       |
| 19  | CLA  | 2     | 311 | 2    | 1/1/11/20 | 6/13/91/115   | -       |
| 19  | CLA  | B     | 833 | -    | 1/1/11/20 | 5/13/91/115   | -       |
| 20  | LUT  | 3     | 315 | -    | -         | 1/29/67/67    | 0/2/2/2 |
| 23  | BCR  | 2     | 319 | -    | -         | 9/29/63/63    | 0/2/2/2 |
| 20  | LUT  | 2     | 315 | -    | -         | 0/29/67/67    | 0/2/2/2 |
| 19  | CLA  | F     | 302 | -    | 1/1/15/20 | 20/37/115/115 | -       |
| 19  | CLA  | 4     | 311 | -    | 1/1/13/20 | 10/27/105/115 | -       |
| 19  | CLA  | B     | 817 | -    | 1/1/14/20 | 17/31/109/115 | -       |
| 19  | CLA  | L     | 303 | -    | 1/1/12/20 | 11/19/97/115  | -       |
| 19  | CLA  | 2     | 320 | 4    | 1/1/11/20 | 2/15/93/115   | -       |
| 23  | BCR  | J     | 101 | -    | -         | 11/29/63/63   | 0/2/2/2 |
| 23  | BCR  | A     | 847 | -    | -         | 3/29/63/63    | 0/2/2/2 |
| 19  | CLA  | 3     | 310 | -    | 1/1/10/20 | 4/8/86/115    | -       |
| 21  | XAT  | 3     | 316 | -    | -         | 0/31/93/93    | 0/4/4/4 |
| 22  | LHG  | 1     | 317 | 19   | -         | 8/53/53/53    | -       |
| 27  | SF4  | C     | 102 | 7    | -         | -             | 0/6/5/5 |
| 19  | CLA  | 1     | 308 | 1    | 1/1/13/20 | 10/28/106/115 | -       |
| 19  | CLA  | A     | 816 | -    | 1/1/15/20 | 13/35/113/115 | -       |
| 19  | CLA  | A     | 821 | -    | 1/1/11/20 | 5/13/91/115   | -       |
| 18  | CHL  | 4     | 306 | -    | 3/3/17/26 | 7/21/119/137  | -       |
| 19  | CLA  | B     | 829 | -    | 1/1/12/20 | 6/19/97/115   | -       |
| 19  | CLA  | L     | 301 | 15   | 1/1/13/20 | 17/25/103/115 | -       |
| 19  | CLA  | A     | 851 | 5    | 1/1/11/20 | 4/13/91/115   | -       |
| 19  | CLA  | K     | 203 | -    | 1/1/11/20 | 4/15/93/115   | -       |
| 20  | LUT  | 1     | 320 | -    | -         | 0/29/67/67    | 0/2/2/2 |
| 23  | BCR  | F     | 305 | -    | -         | 2/29/63/63    | 0/2/2/2 |
| 19  | CLA  | 2     | 303 | -    | 1/1/12/20 | 6/19/97/115   | -       |
| 19  | CLA  | B     | 804 | -    | 1/1/15/20 | 12/37/115/115 | -       |
| 19  | CLA  | A     | 833 | -    | 1/1/12/20 | 5/19/97/115   | -       |

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| Mol | Type | Chain | Res | Link | Chirals   | Torsions      | Rings   |
|-----|------|-------|-----|------|-----------|---------------|---------|
| 23  | BCR  | 4     | 317 | -    | -         | 2/29/63/63    | 0/2/2/2 |
| 23  | BCR  | A     | 846 | -    | -         | 0/29/63/63    | 0/2/2/2 |
| 23  | BCR  | B     | 844 | -    | -         | 2/29/63/63    | 0/2/2/2 |
| 23  | BCR  | A     | 845 | -    | -         | 3/29/63/63    | 0/2/2/2 |
| 27  | SF4  | C     | 101 | 7    | -         | -             | 0/6/5/5 |
| 23  | BCR  | B     | 842 | -    | -         | 9/29/63/63    | 0/2/2/2 |
| 19  | CLA  | 3     | 306 | 3    | 1/1/11/20 | 5/13/91/115   | -       |
| 18  | CHL  | 2     | 306 | -    | 3/3/16/26 | 9/15/113/137  | -       |
| 19  | CLA  | A     | 802 | -    | 1/1/15/20 | 10/37/115/115 | -       |
| 19  | CLA  | 3     | 305 | -    | 1/1/10/20 | 2/10/88/115   | -       |
| 18  | CHL  | 2     | 314 | 2    | 2/2/15/26 | 6/12/110/137  | -       |
| 19  | CLA  | 1     | 310 | 22   | 1/1/13/20 | 5/25/103/115  | -       |
| 19  | CLA  | A     | 834 | -    | 1/1/15/20 | 17/37/115/115 | -       |
| 19  | CLA  | B     | 815 | -    | 1/1/13/20 | 7/25/103/115  | -       |
| 21  | XAT  | 1     | 316 | -    | -         | 0/31/93/93    | 0/4/4/4 |
| 19  | CLA  | 3     | 309 | 3    | 1/1/12/20 | 6/19/97/115   | -       |
| 19  | CLA  | A     | 805 | 5    | 1/1/15/20 | 18/37/115/115 | -       |
| 19  | CLA  | B     | 837 | -    | 1/1/15/20 | 17/37/115/115 | -       |
| 19  | CLA  | 1     | 303 | -    | 1/1/13/20 | 9/29/107/115  | -       |
| 19  | CLA  | 1     | 312 | -    | 1/1/14/20 | 12/31/109/115 | -       |
| 19  | CLA  | A     | 828 | -    | 1/1/15/20 | 12/37/115/115 | -       |
| 21  | XAT  | 2     | 316 | -    | -         | 2/31/93/93    | 0/4/4/4 |
| 27  | SF4  | A     | 850 | 5,6  | -         | -             | 0/6/5/5 |
| 19  | CLA  | A     | 826 | -    | 1/1/15/20 | 14/37/115/115 | -       |
| 19  | CLA  | 3     | 313 | -    | 1/1/11/20 | 5/13/91/115   | -       |
| 19  | CLA  | L     | 302 | -    | 1/1/15/20 | 19/37/115/115 | -       |
| 19  | CLA  | 2     | 313 | -    | 1/1/13/20 | 8/29/107/115  | -       |
| 26  | PQN  | B     | 839 | -    | -         | 5/23/43/43    | 0/2/2/2 |
| 19  | CLA  | A     | 838 | -    | 1/1/15/20 | 14/37/115/115 | -       |
| 19  | CLA  | B     | 812 | -    | 1/1/15/20 | 16/37/115/115 | -       |
| 19  | CLA  | B     | 826 | -    | 1/1/15/20 | 15/37/115/115 | -       |
| 19  | CLA  | A     | 818 | -    | 1/1/15/20 | 17/37/115/115 | -       |
| 19  | CLA  | 4     | 303 | -    | 1/1/11/20 | 6/13/91/115   | -       |
| 19  | CLA  | G     | 204 | 11   | 1/1/11/20 | 6/15/93/115   | -       |
| 22  | LHG  | 2     | 317 | 19   | -         | 9/41/41/53    | -       |

All (1164) bond length outliers are listed below:

| Mol | Chain | Res | Type | Atoms   | Z    | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|------|-------------|----------|
| 18  | 2     | 305 | CHL  | CMC-C2C | 5.46 | 1.56        | 1.45     |
| 18  | 4     | 304 | CHL  | CMC-C2C | 5.45 | 1.56        | 1.45     |
| 18  | 2     | 301 | CHL  | CMC-C2C | 5.45 | 1.56        | 1.45     |
| 18  | 2     | 307 | CHL  | CMC-C2C | 5.42 | 1.56        | 1.45     |
| 18  | 1     | 306 | CHL  | CMC-C2C | 5.42 | 1.56        | 1.45     |
| 18  | 1     | 301 | CHL  | CMC-C2C | 5.41 | 1.56        | 1.45     |
| 18  | 4     | 305 | CHL  | CMC-C2C | 5.41 | 1.56        | 1.45     |
| 18  | 2     | 314 | CHL  | CMC-C2C | 5.40 | 1.56        | 1.45     |
| 18  | 4     | 314 | CHL  | CMC-C2C | 5.40 | 1.56        | 1.45     |
| 18  | 3     | 307 | CHL  | CMC-C2C | 5.40 | 1.56        | 1.45     |
| 18  | 4     | 306 | CHL  | CMC-C2C | 5.38 | 1.56        | 1.45     |
| 18  | 2     | 306 | CHL  | CMC-C2C | 5.38 | 1.56        | 1.45     |
| 19  | 3     | 311 | CLA  | MG-NA   | 5.07 | 2.18        | 2.06     |
| 19  | 4     | 310 | CLA  | MG-NA   | 5.05 | 2.18        | 2.06     |
| 19  | A     | 831 | CLA  | MG-NA   | 5.05 | 2.18        | 2.06     |
| 19  | F     | 304 | CLA  | MG-NA   | 5.05 | 2.18        | 2.06     |
| 19  | A     | 815 | CLA  | MG-NA   | 5.04 | 2.18        | 2.06     |
| 19  | B     | 805 | CLA  | MG-NA   | 5.04 | 2.18        | 2.06     |
| 19  | B     | 834 | CLA  | MG-NA   | 5.04 | 2.18        | 2.06     |
| 19  | 4     | 302 | CLA  | MG-NA   | 5.03 | 2.18        | 2.06     |
| 19  | 3     | 305 | CLA  | MG-NA   | 5.02 | 2.18        | 2.06     |
| 19  | K     | 204 | CLA  | MG-NA   | 5.02 | 2.18        | 2.06     |
| 19  | B     | 811 | CLA  | MG-NA   | 5.01 | 2.18        | 2.06     |
| 19  | F     | 303 | CLA  | MG-NA   | 5.01 | 2.18        | 2.06     |
| 19  | A     | 829 | CLA  | MG-NA   | 5.01 | 2.18        | 2.06     |
| 19  | 1     | 311 | CLA  | MG-NA   | 5.01 | 2.18        | 2.06     |
| 19  | 1     | 304 | CLA  | MG-NA   | 5.01 | 2.18        | 2.06     |
| 19  | 2     | 311 | CLA  | MG-NA   | 5.01 | 2.18        | 2.06     |
| 19  | A     | 821 | CLA  | MG-NA   | 5.01 | 2.18        | 2.06     |
| 19  | 4     | 311 | CLA  | MG-NA   | 5.01 | 2.18        | 2.06     |
| 19  | 4     | 313 | CLA  | MG-NA   | 5.01 | 2.18        | 2.06     |
| 19  | K     | 202 | CLA  | MG-NA   | 5.01 | 2.18        | 2.06     |
| 19  | 3     | 310 | CLA  | MG-NA   | 5.01 | 2.18        | 2.06     |
| 19  | 2     | 304 | CLA  | MG-NA   | 5.01 | 2.18        | 2.06     |
| 19  | A     | 839 | CLA  | MG-NA   | 5.00 | 2.18        | 2.06     |
| 19  | 1     | 310 | CLA  | MG-NA   | 5.00 | 2.18        | 2.06     |
| 19  | 3     | 312 | CLA  | MG-NA   | 5.00 | 2.18        | 2.06     |
| 19  | 3     | 313 | CLA  | MG-NA   | 5.00 | 2.18        | 2.06     |
| 19  | K     | 203 | CLA  | MG-NA   | 5.00 | 2.18        | 2.06     |
| 19  | 3     | 304 | CLA  | MG-NA   | 5.00 | 2.18        | 2.06     |
| 19  | A     | 832 | CLA  | MG-NA   | 5.00 | 2.18        | 2.06     |
| 19  | A     | 851 | CLA  | MG-NA   | 5.00 | 2.18        | 2.06     |

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| Mol | Chain | Res | Type | Atoms | Z    | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|-------|------|-------------|----------|
| 19  | A     | 837 | CLA  | MG-NA | 5.00 | 2.18        | 2.06     |
| 19  | B     | 836 | CLA  | MG-NA | 5.00 | 2.18        | 2.06     |
| 19  | A     | 836 | CLA  | MG-NA | 4.99 | 2.18        | 2.06     |
| 19  | 2     | 313 | CLA  | MG-NA | 4.99 | 2.18        | 2.06     |
| 19  | A     | 822 | CLA  | MG-NA | 4.99 | 2.18        | 2.06     |
| 19  | 3     | 314 | CLA  | MG-NA | 4.99 | 2.18        | 2.06     |
| 19  | B     | 837 | CLA  | MG-NA | 4.99 | 2.18        | 2.06     |
| 19  | H     | 201 | CLA  | MG-NA | 4.99 | 2.18        | 2.06     |
| 19  | B     | 814 | CLA  | MG-NA | 4.99 | 2.18        | 2.06     |
| 19  | 3     | 302 | CLA  | MG-NA | 4.99 | 2.18        | 2.06     |
| 19  | 4     | 307 | CLA  | MG-NA | 4.99 | 2.18        | 2.06     |
| 19  | A     | 835 | CLA  | MG-NA | 4.99 | 2.18        | 2.06     |
| 19  | 2     | 312 | CLA  | MG-NA | 4.99 | 2.18        | 2.06     |
| 19  | B     | 830 | CLA  | MG-NA | 4.99 | 2.18        | 2.06     |
| 19  | A     | 828 | CLA  | MG-NA | 4.99 | 2.18        | 2.06     |
| 19  | 1     | 305 | CLA  | MG-NA | 4.99 | 2.18        | 2.06     |
| 19  | B     | 833 | CLA  | MG-NA | 4.99 | 2.18        | 2.06     |
| 19  | 1     | 312 | CLA  | MG-NA | 4.98 | 2.18        | 2.06     |
| 19  | A     | 801 | CLA  | MG-NA | 4.98 | 2.18        | 2.06     |
| 19  | B     | 821 | CLA  | MG-NA | 4.98 | 2.18        | 2.06     |
| 19  | 1     | 302 | CLA  | MG-NA | 4.98 | 2.18        | 2.06     |
| 19  | 2     | 303 | CLA  | MG-NA | 4.98 | 2.18        | 2.06     |
| 19  | L     | 303 | CLA  | MG-NA | 4.98 | 2.18        | 2.06     |
| 19  | 4     | 303 | CLA  | MG-NA | 4.98 | 2.18        | 2.06     |
| 19  | 1     | 307 | CLA  | MG-NA | 4.98 | 2.18        | 2.06     |
| 19  | G     | 204 | CLA  | MG-NA | 4.97 | 2.18        | 2.06     |
| 19  | B     | 828 | CLA  | MG-NA | 4.97 | 2.18        | 2.06     |
| 19  | B     | 832 | CLA  | MG-NA | 4.97 | 2.18        | 2.06     |
| 19  | A     | 817 | CLA  | MG-NA | 4.97 | 2.18        | 2.06     |
| 19  | B     | 819 | CLA  | MG-NA | 4.97 | 2.18        | 2.06     |
| 19  | A     | 812 | CLA  | MG-NA | 4.97 | 2.18        | 2.06     |
| 19  | B     | 820 | CLA  | MG-NA | 4.97 | 2.18        | 2.06     |
| 19  | A     | 804 | CLA  | MG-NA | 4.97 | 2.18        | 2.06     |
| 19  | 1     | 303 | CLA  | MG-NA | 4.97 | 2.18        | 2.06     |
| 19  | 4     | 309 | CLA  | MG-NA | 4.97 | 2.18        | 2.06     |
| 19  | B     | 808 | CLA  | MG-NA | 4.97 | 2.18        | 2.06     |
| 19  | B     | 810 | CLA  | MG-NA | 4.97 | 2.18        | 2.06     |
| 19  | F     | 301 | CLA  | MG-NA | 4.97 | 2.18        | 2.06     |
| 19  | G     | 202 | CLA  | MG-NA | 4.97 | 2.18        | 2.06     |
| 19  | A     | 840 | CLA  | MG-NA | 4.97 | 2.18        | 2.06     |
| 19  | L     | 301 | CLA  | MG-NA | 4.97 | 2.18        | 2.06     |
| 19  | 3     | 301 | CLA  | MG-NA | 4.97 | 2.18        | 2.06     |

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| Mol | Chain | Res | Type | Atoms | Z    | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|-------|------|-------------|----------|
| 19  | A     | 806 | CLA  | MG-NA | 4.96 | 2.18        | 2.06     |
| 19  | B     | 804 | CLA  | MG-NA | 4.96 | 2.18        | 2.06     |
| 19  | B     | 812 | CLA  | MG-NA | 4.96 | 2.18        | 2.06     |
| 19  | B     | 815 | CLA  | MG-NA | 4.96 | 2.18        | 2.06     |
| 19  | A     | 824 | CLA  | MG-NA | 4.96 | 2.18        | 2.06     |
| 19  | A     | 826 | CLA  | MG-NA | 4.96 | 2.18        | 2.06     |
| 19  | B     | 809 | CLA  | MG-NA | 4.96 | 2.18        | 2.06     |
| 19  | A     | 814 | CLA  | MG-NA | 4.95 | 2.18        | 2.06     |
| 19  | A     | 830 | CLA  | MG-NA | 4.95 | 2.18        | 2.06     |
| 19  | G     | 203 | CLA  | MG-NA | 4.95 | 2.18        | 2.06     |
| 19  | 3     | 303 | CLA  | MG-NA | 4.95 | 2.18        | 2.06     |
| 19  | B     | 806 | CLA  | MG-NA | 4.95 | 2.18        | 2.06     |
| 19  | B     | 813 | CLA  | MG-NA | 4.95 | 2.18        | 2.06     |
| 19  | A     | 818 | CLA  | MG-NA | 4.95 | 2.18        | 2.06     |
| 19  | B     | 823 | CLA  | MG-NA | 4.95 | 2.18        | 2.06     |
| 19  | A     | 854 | CLA  | MG-NA | 4.95 | 2.18        | 2.06     |
| 19  | B     | 807 | CLA  | MG-NA | 4.95 | 2.18        | 2.06     |
| 19  | A     | 803 | CLA  | MG-NA | 4.94 | 2.18        | 2.06     |
| 19  | A     | 811 | CLA  | MG-NA | 4.94 | 2.18        | 2.06     |
| 19  | A     | 825 | CLA  | MG-NA | 4.94 | 2.18        | 2.06     |
| 19  | 2     | 310 | CLA  | MG-NA | 4.94 | 2.18        | 2.06     |
| 19  | A     | 810 | CLA  | MG-NA | 4.94 | 2.18        | 2.06     |
| 19  | A     | 816 | CLA  | MG-NA | 4.94 | 2.18        | 2.06     |
| 19  | J     | 102 | CLA  | MG-NA | 4.94 | 2.18        | 2.06     |
| 19  | L     | 302 | CLA  | MG-NA | 4.94 | 2.18        | 2.06     |
| 19  | B     | 818 | CLA  | MG-NA | 4.94 | 2.18        | 2.06     |
| 19  | 1     | 321 | CLA  | MG-NA | 4.93 | 2.18        | 2.06     |
| 19  | 1     | 308 | CLA  | MG-NA | 4.93 | 2.18        | 2.06     |
| 19  | B     | 817 | CLA  | MG-NA | 4.93 | 2.18        | 2.06     |
| 19  | 2     | 302 | CLA  | MG-NA | 4.93 | 2.18        | 2.06     |
| 19  | A     | 813 | CLA  | MG-NA | 4.93 | 2.18        | 2.06     |
| 19  | 1     | 309 | CLA  | MG-NA | 4.93 | 2.18        | 2.06     |
| 19  | B     | 803 | CLA  | MG-NA | 4.93 | 2.18        | 2.06     |
| 19  | A     | 853 | CLA  | MG-NA | 4.93 | 2.18        | 2.06     |
| 19  | A     | 833 | CLA  | MG-NA | 4.93 | 2.18        | 2.06     |
| 19  | A     | 834 | CLA  | MG-NA | 4.93 | 2.18        | 2.06     |
| 19  | A     | 808 | CLA  | MG-NA | 4.93 | 2.18        | 2.06     |
| 19  | B     | 825 | CLA  | MG-NA | 4.92 | 2.18        | 2.06     |
| 19  | A     | 809 | CLA  | MG-NA | 4.92 | 2.18        | 2.06     |
| 19  | A     | 819 | CLA  | MG-NA | 4.92 | 2.18        | 2.06     |
| 19  | 3     | 308 | CLA  | MG-NA | 4.92 | 2.18        | 2.06     |
| 19  | 3     | 309 | CLA  | MG-NA | 4.92 | 2.18        | 2.06     |

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| Mol | Chain | Res | Type | Atoms  | Z    | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|--------|------|-------------|----------|
| 19  | A     | 805 | CLA  | MG-NA  | 4.92 | 2.18        | 2.06     |
| 19  | 2     | 308 | CLA  | MG-NA  | 4.91 | 2.17        | 2.06     |
| 19  | 4     | 312 | CLA  | MG-NA  | 4.91 | 2.17        | 2.06     |
| 19  | A     | 823 | CLA  | MG-NA  | 4.91 | 2.17        | 2.06     |
| 19  | B     | 827 | CLA  | MG-NA  | 4.91 | 2.17        | 2.06     |
| 19  | 3     | 306 | CLA  | MG-NA  | 4.91 | 2.17        | 2.06     |
| 19  | A     | 838 | CLA  | MG-NA  | 4.91 | 2.17        | 2.06     |
| 19  | B     | 824 | CLA  | MG-NA  | 4.91 | 2.17        | 2.06     |
| 19  | 2     | 309 | CLA  | MG-NA  | 4.91 | 2.17        | 2.06     |
| 19  | B     | 826 | CLA  | MG-NA  | 4.91 | 2.17        | 2.06     |
| 19  | B     | 835 | CLA  | MG-NA  | 4.91 | 2.17        | 2.06     |
| 19  | B     | 801 | CLA  | MG-NA  | 4.90 | 2.17        | 2.06     |
| 19  | A     | 820 | CLA  | MG-NA  | 4.90 | 2.17        | 2.06     |
| 19  | B     | 838 | CLA  | MG-NA  | 4.90 | 2.17        | 2.06     |
| 19  | 4     | 301 | CLA  | MG-NA  | 4.90 | 2.17        | 2.06     |
| 19  | B     | 829 | CLA  | MG-NA  | 4.90 | 2.17        | 2.06     |
| 19  | F     | 302 | CLA  | MG-NA  | 4.90 | 2.17        | 2.06     |
| 19  | 2     | 320 | CLA  | MG-NA  | 4.89 | 2.17        | 2.06     |
| 19  | 1     | 314 | CLA  | MG-NA  | 4.89 | 2.17        | 2.06     |
| 19  | B     | 802 | CLA  | MG-NA  | 4.88 | 2.17        | 2.06     |
| 19  | A     | 802 | CLA  | MG-NA  | 4.88 | 2.17        | 2.06     |
| 19  | B     | 831 | CLA  | MG-NA  | 4.88 | 2.17        | 2.06     |
| 19  | A     | 807 | CLA  | MG-NA  | 4.87 | 2.17        | 2.06     |
| 19  | 1     | 313 | CLA  | MG-NA  | 4.87 | 2.17        | 2.06     |
| 19  | A     | 852 | CLA  | MG-NA  | 4.87 | 2.17        | 2.06     |
| 19  | 4     | 308 | CLA  | MG-NA  | 4.86 | 2.17        | 2.06     |
| 19  | A     | 827 | CLA  | MG-NA  | 4.85 | 2.17        | 2.06     |
| 19  | B     | 816 | CLA  | MG-NA  | 4.85 | 2.17        | 2.06     |
| 19  | B     | 822 | CLA  | MG-NA  | 4.83 | 2.17        | 2.06     |
| 19  | 1     | 309 | CLA  | C4B-NB | 4.27 | 1.39        | 1.35     |
| 19  | L     | 303 | CLA  | C4B-NB | 4.27 | 1.39        | 1.35     |
| 19  | 2     | 309 | CLA  | C4B-NB | 4.27 | 1.39        | 1.35     |
| 19  | 3     | 301 | CLA  | C4B-NB | 4.25 | 1.39        | 1.35     |
| 19  | B     | 830 | CLA  | C4B-NB | 4.25 | 1.39        | 1.35     |
| 19  | B     | 823 | CLA  | C4B-NB | 4.24 | 1.39        | 1.35     |
| 19  | K     | 203 | CLA  | C4B-NB | 4.23 | 1.39        | 1.35     |
| 19  | A     | 828 | CLA  | C4B-NB | 4.23 | 1.39        | 1.35     |
| 19  | B     | 833 | CLA  | C4B-NB | 4.23 | 1.39        | 1.35     |
| 19  | 2     | 304 | CLA  | C4B-NB | 4.23 | 1.39        | 1.35     |
| 19  | 3     | 314 | CLA  | C4B-NB | 4.23 | 1.39        | 1.35     |
| 19  | 4     | 302 | CLA  | C4B-NB | 4.23 | 1.39        | 1.35     |
| 19  | A     | 802 | CLA  | C4B-NB | 4.23 | 1.39        | 1.35     |

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| Mol | Chain | Res | Type | Atoms  | Z    | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|--------|------|-------------|----------|
| 19  | K     | 204 | CLA  | C4B-NB | 4.23 | 1.39        | 1.35     |
| 19  | B     | 818 | CLA  | C4B-NB | 4.23 | 1.39        | 1.35     |
| 19  | 3     | 313 | CLA  | C4B-NB | 4.22 | 1.39        | 1.35     |
| 19  | 1     | 305 | CLA  | C4B-NB | 4.22 | 1.39        | 1.35     |
| 19  | A     | 851 | CLA  | C4B-NB | 4.22 | 1.39        | 1.35     |
| 19  | 3     | 304 | CLA  | C4B-NB | 4.22 | 1.39        | 1.35     |
| 19  | 4     | 307 | CLA  | C4B-NB | 4.22 | 1.39        | 1.35     |
| 19  | A     | 834 | CLA  | C4B-NB | 4.21 | 1.39        | 1.35     |
| 19  | B     | 801 | CLA  | C4B-NB | 4.21 | 1.39        | 1.35     |
| 19  | A     | 824 | CLA  | C4B-NB | 4.21 | 1.39        | 1.35     |
| 19  | K     | 202 | CLA  | C4B-NB | 4.21 | 1.39        | 1.35     |
| 19  | 4     | 309 | CLA  | C4B-NB | 4.21 | 1.39        | 1.35     |
| 19  | B     | 813 | CLA  | C4B-NB | 4.21 | 1.39        | 1.35     |
| 19  | 2     | 311 | CLA  | C4B-NB | 4.20 | 1.39        | 1.35     |
| 19  | 3     | 310 | CLA  | C4B-NB | 4.20 | 1.39        | 1.35     |
| 19  | A     | 822 | CLA  | C4B-NB | 4.20 | 1.39        | 1.35     |
| 19  | A     | 820 | CLA  | C4B-NB | 4.19 | 1.39        | 1.35     |
| 19  | A     | 832 | CLA  | C4B-NB | 4.19 | 1.39        | 1.35     |
| 19  | 3     | 311 | CLA  | C4B-NB | 4.19 | 1.38        | 1.35     |
| 19  | G     | 202 | CLA  | C4B-NB | 4.19 | 1.38        | 1.35     |
| 19  | 1     | 310 | CLA  | C4B-NB | 4.19 | 1.38        | 1.35     |
| 19  | 4     | 310 | CLA  | C4B-NB | 4.19 | 1.38        | 1.35     |
| 19  | B     | 835 | CLA  | C4B-NB | 4.19 | 1.38        | 1.35     |
| 19  | 2     | 308 | CLA  | C4B-NB | 4.19 | 1.38        | 1.35     |
| 19  | 4     | 301 | CLA  | C4B-NB | 4.19 | 1.38        | 1.35     |
| 19  | 3     | 302 | CLA  | C4B-NB | 4.19 | 1.38        | 1.35     |
| 19  | F     | 302 | CLA  | C4B-NB | 4.18 | 1.38        | 1.35     |
| 19  | A     | 836 | CLA  | C4B-NB | 4.18 | 1.38        | 1.35     |
| 19  | J     | 102 | CLA  | C4B-NB | 4.18 | 1.38        | 1.35     |
| 19  | 3     | 305 | CLA  | C4B-NB | 4.18 | 1.38        | 1.35     |
| 19  | 2     | 302 | CLA  | C4B-NB | 4.18 | 1.38        | 1.35     |
| 19  | G     | 203 | CLA  | C4B-NB | 4.18 | 1.38        | 1.35     |
| 19  | 4     | 303 | CLA  | C4B-NB | 4.18 | 1.38        | 1.35     |
| 19  | L     | 302 | CLA  | C4B-NB | 4.18 | 1.38        | 1.35     |
| 19  | 4     | 311 | CLA  | C4B-NB | 4.18 | 1.38        | 1.35     |
| 19  | B     | 808 | CLA  | C4B-NB | 4.18 | 1.38        | 1.35     |
| 19  | 3     | 308 | CLA  | C4B-NB | 4.17 | 1.38        | 1.35     |
| 19  | 1     | 313 | CLA  | C4B-NB | 4.17 | 1.38        | 1.35     |
| 19  | A     | 810 | CLA  | C4B-NB | 4.17 | 1.38        | 1.35     |
| 19  | B     | 836 | CLA  | C4B-NB | 4.17 | 1.38        | 1.35     |
| 19  | 1     | 311 | CLA  | C4B-NB | 4.17 | 1.38        | 1.35     |
| 19  | A     | 829 | CLA  | C4B-NB | 4.17 | 1.38        | 1.35     |

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| Mol | Chain | Res | Type | Atoms  | Z    | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|--------|------|-------------|----------|
| 19  | B     | 815 | CLA  | C4B-NB | 4.17 | 1.38        | 1.35     |
| 19  | B     | 824 | CLA  | C4B-NB | 4.16 | 1.38        | 1.35     |
| 19  | B     | 814 | CLA  | C4B-NB | 4.16 | 1.38        | 1.35     |
| 19  | B     | 825 | CLA  | C4B-NB | 4.16 | 1.38        | 1.35     |
| 19  | F     | 301 | CLA  | C4B-NB | 4.16 | 1.38        | 1.35     |
| 19  | 2     | 310 | CLA  | C4B-NB | 4.16 | 1.38        | 1.35     |
| 19  | 2     | 303 | CLA  | C4B-NB | 4.16 | 1.38        | 1.35     |
| 19  | A     | 818 | CLA  | C4B-NB | 4.16 | 1.38        | 1.35     |
| 19  | A     | 827 | CLA  | C4B-NB | 4.15 | 1.38        | 1.35     |
| 19  | B     | 834 | CLA  | C4B-NB | 4.15 | 1.38        | 1.35     |
| 19  | 3     | 303 | CLA  | C4B-NB | 4.15 | 1.38        | 1.35     |
| 19  | 3     | 309 | CLA  | C4B-NB | 4.15 | 1.38        | 1.35     |
| 19  | 1     | 302 | CLA  | C4B-NB | 4.15 | 1.38        | 1.35     |
| 19  | A     | 803 | CLA  | C4B-NB | 4.15 | 1.38        | 1.35     |
| 19  | B     | 821 | CLA  | C4B-NB | 4.15 | 1.38        | 1.35     |
| 19  | 3     | 306 | CLA  | C4B-NB | 4.15 | 1.38        | 1.35     |
| 19  | 4     | 312 | CLA  | C4B-NB | 4.14 | 1.38        | 1.35     |
| 19  | A     | 840 | CLA  | C4B-NB | 4.14 | 1.38        | 1.35     |
| 19  | B     | 827 | CLA  | C4B-NB | 4.14 | 1.38        | 1.35     |
| 19  | A     | 831 | CLA  | C4B-NB | 4.14 | 1.38        | 1.35     |
| 19  | 1     | 314 | CLA  | C4B-NB | 4.14 | 1.38        | 1.35     |
| 19  | A     | 801 | CLA  | C4B-NB | 4.14 | 1.38        | 1.35     |
| 19  | A     | 839 | CLA  | C4B-NB | 4.14 | 1.38        | 1.35     |
| 19  | A     | 811 | CLA  | C4B-NB | 4.13 | 1.38        | 1.35     |
| 19  | 4     | 313 | CLA  | C4B-NB | 4.13 | 1.38        | 1.35     |
| 19  | G     | 204 | CLA  | C4B-NB | 4.13 | 1.38        | 1.35     |
| 19  | 1     | 307 | CLA  | C4B-NB | 4.13 | 1.38        | 1.35     |
| 19  | 3     | 312 | CLA  | C4B-NB | 4.13 | 1.38        | 1.35     |
| 19  | B     | 805 | CLA  | C4B-NB | 4.13 | 1.38        | 1.35     |
| 19  | 1     | 304 | CLA  | C4B-NB | 4.12 | 1.38        | 1.35     |
| 19  | B     | 837 | CLA  | C4B-NB | 4.12 | 1.38        | 1.35     |
| 19  | F     | 304 | CLA  | C4B-NB | 4.12 | 1.38        | 1.35     |
| 19  | A     | 813 | CLA  | C4B-NB | 4.12 | 1.38        | 1.35     |
| 19  | B     | 807 | CLA  | C4B-NB | 4.12 | 1.38        | 1.35     |
| 19  | 1     | 312 | CLA  | C4B-NB | 4.12 | 1.38        | 1.35     |
| 19  | 4     | 308 | CLA  | C4B-NB | 4.12 | 1.38        | 1.35     |
| 19  | B     | 803 | CLA  | C4B-NB | 4.12 | 1.38        | 1.35     |
| 19  | A     | 815 | CLA  | C4B-NB | 4.12 | 1.38        | 1.35     |
| 19  | A     | 830 | CLA  | C4B-NB | 4.12 | 1.38        | 1.35     |
| 19  | A     | 837 | CLA  | C4B-NB | 4.12 | 1.38        | 1.35     |
| 19  | B     | 819 | CLA  | C4B-NB | 4.12 | 1.38        | 1.35     |
| 19  | B     | 832 | CLA  | C4B-NB | 4.12 | 1.38        | 1.35     |

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| Mol | Chain | Res | Type | Atoms   | Z    | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|------|-------------|----------|
| 19  | A     | 816 | CLA  | C4B-NB  | 4.12 | 1.38        | 1.35     |
| 19  | B     | 810 | CLA  | C4B-NB  | 4.11 | 1.38        | 1.35     |
| 19  | B     | 826 | CLA  | C4B-NB  | 4.11 | 1.38        | 1.35     |
| 19  | 2     | 313 | CLA  | C4B-NB  | 4.11 | 1.38        | 1.35     |
| 19  | B     | 822 | CLA  | C4B-NB  | 4.11 | 1.38        | 1.35     |
| 19  | F     | 303 | CLA  | C4B-NB  | 4.11 | 1.38        | 1.35     |
| 19  | A     | 821 | CLA  | C4B-NB  | 4.11 | 1.38        | 1.35     |
| 19  | 1     | 321 | CLA  | C4B-NB  | 4.10 | 1.38        | 1.35     |
| 19  | 1     | 303 | CLA  | C4B-NB  | 4.10 | 1.38        | 1.35     |
| 19  | A     | 852 | CLA  | C4B-NB  | 4.10 | 1.38        | 1.35     |
| 19  | A     | 854 | CLA  | C4B-NB  | 4.10 | 1.38        | 1.35     |
| 19  | 2     | 312 | CLA  | C4B-NB  | 4.10 | 1.38        | 1.35     |
| 19  | A     | 817 | CLA  | C4B-NB  | 4.10 | 1.38        | 1.35     |
| 19  | H     | 201 | CLA  | C4B-NB  | 4.10 | 1.38        | 1.35     |
| 19  | A     | 825 | CLA  | C4B-NB  | 4.10 | 1.38        | 1.35     |
| 20  | 4     | 315 | LUT  | C34-C33 | 4.10 | 1.41        | 1.35     |
| 20  | 4     | 315 | LUT  | C14-C13 | 4.09 | 1.41        | 1.35     |
| 19  | B     | 817 | CLA  | C4B-NB  | 4.09 | 1.38        | 1.35     |
| 19  | B     | 831 | CLA  | C4B-NB  | 4.09 | 1.38        | 1.35     |
| 19  | A     | 853 | CLA  | C4B-NB  | 4.08 | 1.38        | 1.35     |
| 19  | B     | 806 | CLA  | C4B-NB  | 4.08 | 1.38        | 1.35     |
| 19  | B     | 802 | CLA  | C4B-NB  | 4.08 | 1.38        | 1.35     |
| 19  | L     | 301 | CLA  | C4B-NB  | 4.08 | 1.38        | 1.35     |
| 19  | B     | 828 | CLA  | C4B-NB  | 4.08 | 1.38        | 1.35     |
| 19  | B     | 809 | CLA  | C4B-NB  | 4.08 | 1.38        | 1.35     |
| 19  | B     | 804 | CLA  | C4B-NB  | 4.07 | 1.38        | 1.35     |
| 19  | A     | 835 | CLA  | C4B-NB  | 4.07 | 1.38        | 1.35     |
| 19  | A     | 814 | CLA  | C4B-NB  | 4.07 | 1.38        | 1.35     |
| 19  | A     | 819 | CLA  | C4B-NB  | 4.06 | 1.38        | 1.35     |
| 20  | 4     | 315 | LUT  | C30-C29 | 4.06 | 1.41        | 1.35     |
| 19  | A     | 823 | CLA  | C4B-NB  | 4.06 | 1.38        | 1.35     |
| 19  | B     | 829 | CLA  | C4B-NB  | 4.06 | 1.38        | 1.35     |
| 20  | 2     | 315 | LUT  | C34-C33 | 4.06 | 1.41        | 1.35     |
| 20  | 3     | 315 | LUT  | C34-C33 | 4.05 | 1.41        | 1.35     |
| 19  | B     | 838 | CLA  | C4B-NB  | 4.05 | 1.38        | 1.35     |
| 19  | A     | 826 | CLA  | C4B-NB  | 4.05 | 1.38        | 1.35     |
| 19  | B     | 816 | CLA  | C4B-NB  | 4.05 | 1.38        | 1.35     |
| 19  | 1     | 308 | CLA  | C4B-NB  | 4.05 | 1.38        | 1.35     |
| 19  | A     | 809 | CLA  | C4B-NB  | 4.05 | 1.38        | 1.35     |
| 19  | B     | 811 | CLA  | C4B-NB  | 4.05 | 1.38        | 1.35     |
| 19  | A     | 804 | CLA  | C4B-NB  | 4.04 | 1.38        | 1.35     |
| 19  | B     | 820 | CLA  | C4B-NB  | 4.04 | 1.38        | 1.35     |

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| Mol | Chain | Res | Type | Atoms   | Z    | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|------|-------------|----------|
| 19  | A     | 838 | CLA  | C4B-NB  | 4.03 | 1.38        | 1.35     |
| 19  | A     | 807 | CLA  | C4B-NB  | 4.02 | 1.38        | 1.35     |
| 19  | A     | 833 | CLA  | C4B-NB  | 4.02 | 1.38        | 1.35     |
| 20  | 4     | 315 | LUT  | C10-C9  | 4.02 | 1.41        | 1.35     |
| 20  | 2     | 315 | LUT  | C14-C13 | 4.01 | 1.41        | 1.35     |
| 20  | 1     | 315 | LUT  | C34-C33 | 4.01 | 1.41        | 1.35     |
| 19  | 2     | 320 | CLA  | C4B-NB  | 4.00 | 1.38        | 1.35     |
| 19  | A     | 805 | CLA  | C4B-NB  | 4.00 | 1.38        | 1.35     |
| 19  | A     | 806 | CLA  | C4B-NB  | 4.00 | 1.38        | 1.35     |
| 20  | 3     | 315 | LUT  | C10-C9  | 3.98 | 1.41        | 1.35     |
| 19  | A     | 812 | CLA  | C4B-NB  | 3.98 | 1.38        | 1.35     |
| 20  | 1     | 315 | LUT  | C14-C13 | 3.97 | 1.41        | 1.35     |
| 20  | 3     | 315 | LUT  | C14-C13 | 3.95 | 1.41        | 1.35     |
| 20  | 1     | 320 | LUT  | C34-C33 | 3.95 | 1.41        | 1.35     |
| 20  | 1     | 320 | LUT  | C14-C13 | 3.94 | 1.41        | 1.35     |
| 20  | 2     | 315 | LUT  | C30-C29 | 3.94 | 1.41        | 1.35     |
| 20  | 1     | 320 | LUT  | C30-C29 | 3.93 | 1.41        | 1.35     |
| 20  | 3     | 315 | LUT  | C30-C29 | 3.93 | 1.41        | 1.35     |
| 20  | 2     | 315 | LUT  | C10-C9  | 3.93 | 1.41        | 1.35     |
| 18  | 2     | 306 | CHL  | C4B-NB  | 3.93 | 1.38        | 1.35     |
| 20  | 1     | 320 | LUT  | C10-C9  | 3.92 | 1.41        | 1.35     |
| 18  | 2     | 305 | CHL  | C4B-NB  | 3.92 | 1.38        | 1.35     |
| 18  | 4     | 306 | CHL  | C4B-NB  | 3.89 | 1.38        | 1.35     |
| 19  | A     | 808 | CLA  | C4B-NB  | 3.89 | 1.38        | 1.35     |
| 20  | 1     | 315 | LUT  | C30-C29 | 3.88 | 1.40        | 1.35     |
| 19  | B     | 812 | CLA  | C4B-NB  | 3.87 | 1.38        | 1.35     |
| 18  | 4     | 304 | CHL  | C4B-NB  | 3.86 | 1.38        | 1.35     |
| 18  | 4     | 305 | CHL  | C4B-NB  | 3.84 | 1.38        | 1.35     |
| 20  | 1     | 315 | LUT  | C10-C9  | 3.83 | 1.40        | 1.35     |
| 18  | 1     | 306 | CHL  | C4B-NB  | 3.83 | 1.38        | 1.35     |
| 18  | 2     | 301 | CHL  | C4B-NB  | 3.83 | 1.38        | 1.35     |
| 18  | 2     | 307 | CHL  | C4B-NB  | 3.80 | 1.38        | 1.35     |
| 18  | 4     | 314 | CHL  | C4B-NB  | 3.78 | 1.38        | 1.35     |
| 18  | 3     | 307 | CHL  | C4B-NB  | 3.77 | 1.38        | 1.35     |
| 18  | 1     | 301 | CHL  | C4B-NB  | 3.74 | 1.38        | 1.35     |
| 18  | 2     | 314 | CHL  | C4B-NB  | 3.58 | 1.38        | 1.35     |
| 18  | 2     | 306 | CHL  | O2D-CGD | 3.49 | 1.41        | 1.33     |
| 18  | 2     | 314 | CHL  | O2D-CGD | 3.49 | 1.41        | 1.33     |
| 18  | 2     | 301 | CHL  | O2D-CGD | 3.47 | 1.41        | 1.33     |
| 18  | 2     | 305 | CHL  | O2D-CGD | 3.47 | 1.41        | 1.33     |
| 18  | 4     | 305 | CHL  | O2D-CGD | 3.47 | 1.41        | 1.33     |
| 18  | 1     | 306 | CHL  | O2D-CGD | 3.47 | 1.41        | 1.33     |

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| Mol | Chain | Res | Type | Atoms   | Z     | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|-------|-------------|----------|
| 18  | 2     | 307 | CHL  | O2D-CGD | 3.46  | 1.41        | 1.33     |
| 18  | 4     | 304 | CHL  | O2D-CGD | 3.46  | 1.41        | 1.33     |
| 18  | 4     | 304 | CHL  | C3B-C2B | -3.45 | 1.35        | 1.40     |
| 18  | 1     | 301 | CHL  | O2D-CGD | 3.45  | 1.41        | 1.33     |
| 18  | 3     | 307 | CHL  | C3B-C2B | -3.44 | 1.35        | 1.40     |
| 18  | 2     | 307 | CHL  | C3B-C2B | -3.44 | 1.35        | 1.40     |
| 18  | 4     | 306 | CHL  | O2D-CGD | 3.42  | 1.41        | 1.33     |
| 18  | 3     | 307 | CHL  | O2D-CGD | 3.42  | 1.41        | 1.33     |
| 19  | B     | 822 | CLA  | CHC-C1C | 3.40  | 1.43        | 1.35     |
| 18  | 4     | 314 | CHL  | O2D-CGD | 3.39  | 1.41        | 1.30     |
| 18  | 4     | 314 | CHL  | C3B-C2B | -3.37 | 1.35        | 1.40     |
| 18  | 4     | 305 | CHL  | C3B-C2B | -3.37 | 1.35        | 1.40     |
| 18  | 2     | 301 | CHL  | C3B-C2B | -3.36 | 1.35        | 1.40     |
| 18  | 1     | 306 | CHL  | C3B-C2B | -3.36 | 1.35        | 1.40     |
| 18  | 1     | 306 | CHL  | O2A-CGA | 3.36  | 1.42        | 1.30     |
| 18  | 4     | 305 | CHL  | O2A-CGA | 3.36  | 1.42        | 1.30     |
| 19  | A     | 808 | CLA  | CHC-C1C | 3.36  | 1.43        | 1.35     |
| 18  | 4     | 306 | CHL  | C3B-C2B | -3.35 | 1.35        | 1.40     |
| 18  | 2     | 307 | CHL  | O2A-CGA | 3.35  | 1.42        | 1.30     |
| 19  | F     | 302 | CLA  | CHC-C1C | 3.35  | 1.43        | 1.35     |
| 18  | 2     | 306 | CHL  | O2A-CGA | 3.35  | 1.42        | 1.30     |
| 19  | B     | 813 | CLA  | CHC-C1C | 3.33  | 1.43        | 1.35     |
| 19  | A     | 827 | CLA  | CHC-C1C | 3.33  | 1.43        | 1.35     |
| 19  | B     | 815 | CLA  | CHC-C1C | 3.32  | 1.43        | 1.35     |
| 18  | 2     | 305 | CHL  | C3B-C2B | -3.32 | 1.35        | 1.40     |
| 19  | A     | 809 | CLA  | CHC-C1C | 3.32  | 1.43        | 1.35     |
| 19  | B     | 824 | CLA  | CHC-C1C | 3.32  | 1.43        | 1.35     |
| 19  | A     | 806 | CLA  | CHC-C1C | 3.31  | 1.43        | 1.35     |
| 19  | A     | 838 | CLA  | CHC-C1C | 3.31  | 1.43        | 1.35     |
| 19  | L     | 302 | CLA  | CHC-C1C | 3.31  | 1.43        | 1.35     |
| 19  | A     | 837 | CLA  | CHC-C1C | 3.30  | 1.43        | 1.35     |
| 19  | 2     | 302 | CLA  | CHC-C1C | 3.30  | 1.43        | 1.35     |
| 19  | 1     | 309 | CLA  | CHC-C1C | 3.30  | 1.43        | 1.35     |
| 19  | B     | 828 | CLA  | CHC-C1C | 3.30  | 1.43        | 1.35     |
| 19  | 4     | 308 | CLA  | CHC-C1C | 3.30  | 1.43        | 1.35     |
| 18  | 2     | 306 | CHL  | C3B-C2B | -3.30 | 1.35        | 1.40     |
| 19  | 2     | 309 | CLA  | CHC-C1C | 3.29  | 1.43        | 1.35     |
| 19  | A     | 828 | CLA  | CHC-C1C | 3.29  | 1.43        | 1.35     |
| 19  | 4     | 301 | CLA  | CHC-C1C | 3.29  | 1.43        | 1.35     |
| 19  | A     | 816 | CLA  | CHC-C1C | 3.29  | 1.43        | 1.35     |
| 19  | A     | 852 | CLA  | CHC-C1C | 3.29  | 1.43        | 1.35     |
| 19  | B     | 818 | CLA  | CHC-C1C | 3.29  | 1.43        | 1.35     |

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| Mol | Chain | Res | Type | Atoms   | Z     | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|-------|-------------|----------|
| 19  | 3     | 301 | CLA  | CHC-C1C | 3.29  | 1.43        | 1.35     |
| 19  | A     | 803 | CLA  | CHC-C1C | 3.29  | 1.43        | 1.35     |
| 19  | A     | 811 | CLA  | CHC-C1C | 3.29  | 1.43        | 1.35     |
| 19  | A     | 833 | CLA  | CHC-C1C | 3.29  | 1.43        | 1.35     |
| 19  | A     | 825 | CLA  | CHC-C1C | 3.29  | 1.43        | 1.35     |
| 19  | A     | 823 | CLA  | CHC-C1C | 3.29  | 1.43        | 1.35     |
| 19  | A     | 801 | CLA  | CHC-C1C | 3.28  | 1.43        | 1.35     |
| 19  | 3     | 309 | CLA  | CHC-C1C | 3.28  | 1.43        | 1.35     |
| 19  | B     | 825 | CLA  | CHC-C1C | 3.28  | 1.43        | 1.35     |
| 19  | A     | 804 | CLA  | CHC-C1C | 3.28  | 1.43        | 1.35     |
| 19  | A     | 810 | CLA  | CHC-C1C | 3.28  | 1.43        | 1.35     |
| 19  | B     | 814 | CLA  | CHC-C1C | 3.28  | 1.43        | 1.35     |
| 19  | A     | 818 | CLA  | CHC-C1C | 3.28  | 1.43        | 1.35     |
| 19  | 2     | 303 | CLA  | CHC-C1C | 3.28  | 1.43        | 1.35     |
| 19  | A     | 814 | CLA  | CHC-C1C | 3.28  | 1.43        | 1.35     |
| 19  | 2     | 308 | CLA  | CHC-C1C | 3.28  | 1.43        | 1.35     |
| 19  | B     | 801 | CLA  | CHC-C1C | 3.28  | 1.43        | 1.35     |
| 19  | B     | 820 | CLA  | CHC-C1C | 3.28  | 1.43        | 1.35     |
| 19  | B     | 831 | CLA  | CHC-C1C | 3.28  | 1.43        | 1.35     |
| 19  | A     | 834 | CLA  | CHC-C1C | 3.28  | 1.43        | 1.35     |
| 19  | B     | 811 | CLA  | CHC-C1C | 3.28  | 1.43        | 1.35     |
| 19  | A     | 813 | CLA  | CHC-C1C | 3.28  | 1.43        | 1.35     |
| 19  | B     | 804 | CLA  | CHC-C1C | 3.27  | 1.43        | 1.35     |
| 19  | A     | 805 | CLA  | CHC-C1C | 3.27  | 1.43        | 1.35     |
| 19  | B     | 805 | CLA  | CHC-C1C | 3.27  | 1.43        | 1.35     |
| 19  | 3     | 304 | CLA  | CHC-C1C | 3.27  | 1.43        | 1.35     |
| 19  | B     | 817 | CLA  | CHC-C1C | 3.27  | 1.43        | 1.35     |
| 19  | A     | 853 | CLA  | CHC-C1C | 3.27  | 1.43        | 1.35     |
| 19  | 4     | 313 | CLA  | CHC-C1C | 3.27  | 1.43        | 1.35     |
| 19  | 3     | 303 | CLA  | CHC-C1C | 3.27  | 1.43        | 1.35     |
| 19  | B     | 809 | CLA  | CHC-C1C | 3.27  | 1.43        | 1.35     |
| 19  | H     | 201 | CLA  | CHC-C1C | 3.27  | 1.43        | 1.35     |
| 18  | 1     | 301 | CHL  | C3B-C2B | -3.27 | 1.35        | 1.40     |
| 19  | B     | 833 | CLA  | CHC-C1C | 3.27  | 1.43        | 1.35     |
| 19  | 3     | 306 | CLA  | CHC-C1C | 3.27  | 1.43        | 1.35     |
| 19  | 1     | 313 | CLA  | CHC-C1C | 3.27  | 1.43        | 1.35     |
| 19  | A     | 829 | CLA  | CHC-C1C | 3.27  | 1.43        | 1.35     |
| 19  | B     | 835 | CLA  | CHC-C1C | 3.27  | 1.43        | 1.35     |
| 19  | A     | 854 | CLA  | CHC-C1C | 3.27  | 1.43        | 1.35     |
| 19  | B     | 816 | CLA  | CHC-C1C | 3.26  | 1.43        | 1.35     |
| 19  | B     | 837 | CLA  | CHC-C1C | 3.26  | 1.43        | 1.35     |
| 19  | 1     | 314 | CLA  | CHC-C1C | 3.26  | 1.43        | 1.35     |

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| Mol | Chain | Res | Type | Atoms   | Z    | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|------|-------------|----------|
| 19  | A     | 820 | CLA  | CHC-C1C | 3.26 | 1.43        | 1.35     |
| 19  | B     | 832 | CLA  | CHC-C1C | 3.26 | 1.43        | 1.35     |
| 19  | F     | 301 | CLA  | CHC-C1C | 3.26 | 1.43        | 1.35     |
| 19  | A     | 802 | CLA  | CHC-C1C | 3.26 | 1.43        | 1.35     |
| 19  | A     | 807 | CLA  | CHC-C1C | 3.26 | 1.43        | 1.35     |
| 19  | G     | 203 | CLA  | CHC-C1C | 3.26 | 1.43        | 1.35     |
| 19  | 3     | 308 | CLA  | CHC-C1C | 3.26 | 1.43        | 1.35     |
| 19  | B     | 806 | CLA  | CHC-C1C | 3.26 | 1.43        | 1.35     |
| 19  | A     | 821 | CLA  | CHC-C1C | 3.26 | 1.43        | 1.35     |
| 19  | 1     | 310 | CLA  | CHC-C1C | 3.26 | 1.43        | 1.35     |
| 19  | A     | 830 | CLA  | CHC-C1C | 3.26 | 1.43        | 1.35     |
| 19  | J     | 102 | CLA  | CHC-C1C | 3.25 | 1.43        | 1.35     |
| 19  | B     | 802 | CLA  | CHC-C1C | 3.25 | 1.43        | 1.35     |
| 19  | 1     | 321 | CLA  | CHC-C1C | 3.25 | 1.43        | 1.35     |
| 19  | K     | 203 | CLA  | CHC-C1C | 3.25 | 1.43        | 1.35     |
| 19  | B     | 810 | CLA  | CHC-C1C | 3.25 | 1.43        | 1.35     |
| 19  | B     | 803 | CLA  | CHC-C1C | 3.25 | 1.43        | 1.35     |
| 19  | 1     | 302 | CLA  | CHC-C1C | 3.25 | 1.43        | 1.35     |
| 19  | B     | 830 | CLA  | CHC-C1C | 3.25 | 1.43        | 1.35     |
| 19  | 3     | 314 | CLA  | CHC-C1C | 3.25 | 1.43        | 1.35     |
| 19  | 3     | 313 | CLA  | CHC-C1C | 3.25 | 1.43        | 1.35     |
| 19  | 4     | 303 | CLA  | CHC-C1C | 3.25 | 1.43        | 1.35     |
| 19  | 2     | 304 | CLA  | CHC-C1C | 3.25 | 1.43        | 1.35     |
| 19  | B     | 819 | CLA  | CHC-C1C | 3.25 | 1.43        | 1.35     |
| 19  | A     | 835 | CLA  | CHC-C1C | 3.24 | 1.43        | 1.35     |
| 19  | A     | 826 | CLA  | CHC-C1C | 3.24 | 1.43        | 1.35     |
| 19  | A     | 851 | CLA  | CHC-C1C | 3.24 | 1.43        | 1.35     |
| 19  | 1     | 303 | CLA  | CHC-C1C | 3.24 | 1.43        | 1.35     |
| 19  | B     | 834 | CLA  | CHC-C1C | 3.24 | 1.43        | 1.35     |
| 19  | K     | 204 | CLA  | CHC-C1C | 3.24 | 1.43        | 1.35     |
| 19  | 3     | 310 | CLA  | CHC-C1C | 3.24 | 1.43        | 1.35     |
| 19  | B     | 838 | CLA  | CHC-C1C | 3.24 | 1.43        | 1.35     |
| 19  | A     | 836 | CLA  | CHC-C1C | 3.24 | 1.43        | 1.35     |
| 19  | 2     | 313 | CLA  | CHC-C1C | 3.24 | 1.43        | 1.35     |
| 19  | 1     | 312 | CLA  | CHC-C1C | 3.24 | 1.43        | 1.35     |
| 19  | 2     | 310 | CLA  | CHC-C1C | 3.24 | 1.43        | 1.35     |
| 19  | 4     | 307 | CLA  | CHC-C1C | 3.24 | 1.43        | 1.35     |
| 19  | B     | 836 | CLA  | CHC-C1C | 3.24 | 1.43        | 1.35     |
| 19  | A     | 839 | CLA  | CHC-C1C | 3.24 | 1.43        | 1.35     |
| 19  | 1     | 304 | CLA  | CHC-C1C | 3.23 | 1.43        | 1.35     |
| 19  | B     | 827 | CLA  | CHC-C1C | 3.23 | 1.43        | 1.35     |
| 19  | B     | 826 | CLA  | CHC-C1C | 3.23 | 1.43        | 1.35     |

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| Mol | Chain | Res | Type | Atoms   | Z     | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|-------|-------------|----------|
| 19  | G     | 204 | CLA  | CHC-C1C | 3.23  | 1.43        | 1.35     |
| 19  | A     | 817 | CLA  | CHC-C1C | 3.23  | 1.43        | 1.35     |
| 19  | B     | 821 | CLA  | CHC-C1C | 3.23  | 1.43        | 1.35     |
| 19  | 3     | 311 | CLA  | CHC-C1C | 3.23  | 1.43        | 1.35     |
| 19  | F     | 303 | CLA  | CHC-C1C | 3.23  | 1.43        | 1.35     |
| 19  | 1     | 311 | CLA  | CHC-C1C | 3.23  | 1.43        | 1.35     |
| 19  | 4     | 309 | CLA  | CHC-C1C | 3.23  | 1.43        | 1.35     |
| 19  | 2     | 311 | CLA  | CHC-C1C | 3.23  | 1.43        | 1.35     |
| 19  | 1     | 308 | CLA  | CHC-C1C | 3.23  | 1.43        | 1.35     |
| 19  | B     | 807 | CLA  | CHC-C1C | 3.22  | 1.43        | 1.35     |
| 19  | G     | 202 | CLA  | CHC-C1C | 3.22  | 1.43        | 1.35     |
| 19  | L     | 301 | CLA  | CHC-C1C | 3.22  | 1.43        | 1.35     |
| 19  | 2     | 312 | CLA  | CHC-C1C | 3.22  | 1.43        | 1.35     |
| 19  | K     | 202 | CLA  | CHC-C1C | 3.22  | 1.43        | 1.35     |
| 19  | 3     | 305 | CLA  | CHC-C1C | 3.22  | 1.43        | 1.35     |
| 19  | 1     | 307 | CLA  | CHC-C1C | 3.22  | 1.43        | 1.35     |
| 19  | A     | 832 | CLA  | C3B-C2B | -3.22 | 1.35        | 1.40     |
| 19  | 3     | 312 | CLA  | CHC-C1C | 3.22  | 1.43        | 1.35     |
| 19  | 2     | 320 | CLA  | CHC-C1C | 3.22  | 1.43        | 1.35     |
| 19  | 4     | 310 | CLA  | CHC-C1C | 3.22  | 1.43        | 1.35     |
| 19  | 3     | 302 | CLA  | CHC-C1C | 3.22  | 1.43        | 1.35     |
| 19  | B     | 829 | CLA  | CHC-C1C | 3.21  | 1.43        | 1.35     |
| 19  | A     | 822 | CLA  | CHC-C1C | 3.21  | 1.43        | 1.35     |
| 19  | B     | 812 | CLA  | CHC-C1C | 3.21  | 1.43        | 1.35     |
| 19  | 4     | 312 | CLA  | CHC-C1C | 3.21  | 1.43        | 1.35     |
| 19  | B     | 823 | CLA  | CHC-C1C | 3.21  | 1.43        | 1.35     |
| 19  | L     | 303 | CLA  | CHC-C1C | 3.21  | 1.43        | 1.35     |
| 19  | B     | 808 | CLA  | CHC-C1C | 3.21  | 1.43        | 1.35     |
| 19  | A     | 840 | CLA  | CHC-C1C | 3.21  | 1.43        | 1.35     |
| 19  | 4     | 302 | CLA  | CHC-C1C | 3.21  | 1.43        | 1.35     |
| 19  | A     | 819 | CLA  | CHC-C1C | 3.21  | 1.43        | 1.35     |
| 19  | A     | 824 | CLA  | CHC-C1C | 3.19  | 1.43        | 1.35     |
| 19  | 1     | 305 | CLA  | CHC-C1C | 3.19  | 1.43        | 1.35     |
| 19  | A     | 815 | CLA  | CHC-C1C | 3.19  | 1.43        | 1.35     |
| 19  | F     | 304 | CLA  | CHC-C1C | 3.19  | 1.43        | 1.35     |
| 18  | 2     | 314 | CHL  | C3B-C2B | -3.19 | 1.35        | 1.40     |
| 19  | A     | 812 | CLA  | CHC-C1C | 3.18  | 1.43        | 1.35     |
| 19  | L     | 303 | CLA  | C3B-C2B | -3.17 | 1.36        | 1.40     |
| 19  | A     | 831 | CLA  | CHC-C1C | 3.17  | 1.43        | 1.35     |
| 19  | A     | 832 | CLA  | CHC-C1C | 3.17  | 1.43        | 1.35     |
| 19  | B     | 818 | CLA  | C3B-C2B | -3.16 | 1.36        | 1.40     |
| 19  | 3     | 308 | CLA  | C3B-C2B | -3.15 | 1.36        | 1.40     |

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| Mol | Chain | Res | Type | Atoms   | Z     | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|-------|-------------|----------|
| 19  | B     | 831 | CLA  | C3B-C2B | -3.15 | 1.36        | 1.40     |
| 19  | 1     | 305 | CLA  | C3B-C2B | -3.14 | 1.36        | 1.40     |
| 19  | 4     | 311 | CLA  | C3B-C2B | -3.14 | 1.36        | 1.40     |
| 19  | 4     | 311 | CLA  | CHC-C1C | 3.14  | 1.43        | 1.35     |
| 19  | B     | 808 | CLA  | C3B-C2B | -3.12 | 1.36        | 1.40     |
| 19  | B     | 814 | CLA  | C3B-C2B | -3.11 | 1.36        | 1.40     |
| 19  | A     | 830 | CLA  | C3B-C2B | -3.11 | 1.36        | 1.40     |
| 19  | B     | 813 | CLA  | C3B-C2B | -3.11 | 1.36        | 1.40     |
| 19  | 3     | 309 | CLA  | C3B-C2B | -3.10 | 1.36        | 1.40     |
| 19  | 3     | 301 | CLA  | C3B-C2B | -3.10 | 1.36        | 1.40     |
| 19  | A     | 853 | CLA  | C3B-C2B | -3.10 | 1.36        | 1.40     |
| 19  | A     | 802 | CLA  | C3B-C2B | -3.09 | 1.36        | 1.40     |
| 19  | 3     | 303 | CLA  | C3B-C2B | -3.09 | 1.36        | 1.40     |
| 19  | A     | 828 | CLA  | C3B-C2B | -3.09 | 1.36        | 1.40     |
| 19  | 1     | 309 | CLA  | C3B-C2B | -3.08 | 1.36        | 1.40     |
| 19  | B     | 803 | CLA  | C3B-C2B | -3.08 | 1.36        | 1.40     |
| 19  | A     | 840 | CLA  | C3B-C2B | -3.08 | 1.36        | 1.40     |
| 19  | A     | 825 | CLA  | C3B-C2B | -3.07 | 1.36        | 1.40     |
| 19  | A     | 809 | CLA  | C3B-C2B | -3.07 | 1.36        | 1.40     |
| 19  | A     | 835 | CLA  | C3B-C2B | -3.07 | 1.36        | 1.40     |
| 19  | B     | 807 | CLA  | C3B-C2B | -3.06 | 1.36        | 1.40     |
| 19  | A     | 831 | CLA  | C3B-C2B | -3.06 | 1.36        | 1.40     |
| 19  | A     | 829 | CLA  | C3B-C2B | -3.06 | 1.36        | 1.40     |
| 19  | A     | 813 | CLA  | C3B-C2B | -3.06 | 1.36        | 1.40     |
| 19  | A     | 837 | CLA  | C3B-C2B | -3.06 | 1.36        | 1.40     |
| 19  | B     | 827 | CLA  | C3B-C2B | -3.06 | 1.36        | 1.40     |
| 19  | B     | 835 | CLA  | C3B-C2B | -3.06 | 1.36        | 1.40     |
| 19  | 2     | 309 | CLA  | C3B-C2B | -3.06 | 1.36        | 1.40     |
| 19  | B     | 815 | CLA  | C3B-C2B | -3.06 | 1.36        | 1.40     |
| 19  | B     | 824 | CLA  | C3B-C2B | -3.06 | 1.36        | 1.40     |
| 19  | 4     | 301 | CLA  | C3B-C2B | -3.06 | 1.36        | 1.40     |
| 19  | B     | 816 | CLA  | C3B-C2B | -3.06 | 1.36        | 1.40     |
| 19  | L     | 301 | CLA  | C3B-C2B | -3.05 | 1.36        | 1.40     |
| 19  | 2     | 311 | CLA  | C3B-C2B | -3.05 | 1.36        | 1.40     |
| 19  | A     | 807 | CLA  | C3B-C2B | -3.05 | 1.36        | 1.40     |
| 19  | A     | 815 | CLA  | C3B-C2B | -3.05 | 1.36        | 1.40     |
| 19  | 4     | 310 | CLA  | C3B-C2B | -3.05 | 1.36        | 1.40     |
| 19  | A     | 823 | CLA  | C3B-C2B | -3.05 | 1.36        | 1.40     |
| 19  | B     | 821 | CLA  | C3B-C2B | -3.05 | 1.36        | 1.40     |
| 19  | 1     | 311 | CLA  | C3B-C2B | -3.05 | 1.36        | 1.40     |
| 19  | B     | 833 | CLA  | C3B-C2B | -3.05 | 1.36        | 1.40     |
| 19  | A     | 818 | CLA  | C3B-C2B | -3.05 | 1.36        | 1.40     |

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| Mol | Chain | Res | Type | Atoms   | Z     | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|-------|-------------|----------|
| 19  | B     | 834 | CLA  | C3B-C2B | -3.04 | 1.36        | 1.40     |
| 19  | B     | 828 | CLA  | C3B-C2B | -3.04 | 1.36        | 1.40     |
| 18  | 2     | 306 | CHL  | MG-NA   | 3.04  | 2.13        | 2.06     |
| 19  | A     | 820 | CLA  | C3B-C2B | -3.04 | 1.36        | 1.40     |
| 19  | A     | 836 | CLA  | C3B-C2B | -3.04 | 1.36        | 1.40     |
| 19  | 4     | 303 | CLA  | C3B-C2B | -3.04 | 1.36        | 1.40     |
| 19  | 4     | 307 | CLA  | C3B-C2B | -3.04 | 1.36        | 1.40     |
| 19  | K     | 203 | CLA  | C3B-C2B | -3.04 | 1.36        | 1.40     |
| 19  | 3     | 305 | CLA  | C3B-C2B | -3.03 | 1.36        | 1.40     |
| 19  | L     | 302 | CLA  | C3B-C2B | -3.03 | 1.36        | 1.40     |
| 18  | 2     | 305 | CHL  | MG-NA   | 3.03  | 2.13        | 2.06     |
| 19  | 1     | 310 | CLA  | C3B-C2B | -3.03 | 1.36        | 1.40     |
| 19  | 2     | 304 | CLA  | C3B-C2B | -3.03 | 1.36        | 1.40     |
| 19  | A     | 838 | CLA  | C3B-C2B | -3.03 | 1.36        | 1.40     |
| 19  | A     | 854 | CLA  | C3B-C2B | -3.03 | 1.36        | 1.40     |
| 19  | K     | 202 | CLA  | C3B-C2B | -3.03 | 1.36        | 1.40     |
| 19  | 1     | 304 | CLA  | C3B-C2B | -3.03 | 1.36        | 1.40     |
| 19  | 4     | 309 | CLA  | C3B-C2B | -3.03 | 1.36        | 1.40     |
| 19  | A     | 803 | CLA  | C3B-C2B | -3.03 | 1.36        | 1.40     |
| 19  | B     | 812 | CLA  | C3B-C2B | -3.03 | 1.36        | 1.40     |
| 19  | 1     | 312 | CLA  | C3B-C2B | -3.03 | 1.36        | 1.40     |
| 19  | F     | 303 | CLA  | C3B-C2B | -3.03 | 1.36        | 1.40     |
| 19  | 2     | 303 | CLA  | C3B-C2B | -3.03 | 1.36        | 1.40     |
| 19  | G     | 204 | CLA  | C3B-C2B | -3.03 | 1.36        | 1.40     |
| 19  | B     | 805 | CLA  | C3B-C2B | -3.02 | 1.36        | 1.40     |
| 19  | 2     | 302 | CLA  | C3B-C2B | -3.02 | 1.36        | 1.40     |
| 19  | G     | 202 | CLA  | C3B-C2B | -3.02 | 1.36        | 1.40     |
| 18  | 4     | 305 | CHL  | MG-NA   | 3.02  | 2.13        | 2.06     |
| 19  | B     | 822 | CLA  | C3B-C2B | -3.02 | 1.36        | 1.40     |
| 19  | 4     | 312 | CLA  | C3B-C2B | -3.02 | 1.36        | 1.40     |
| 19  | 3     | 314 | CLA  | C3B-C2B | -3.02 | 1.36        | 1.40     |
| 18  | 4     | 304 | CHL  | MG-NA   | 3.02  | 2.13        | 2.06     |
| 19  | A     | 822 | CLA  | C3B-C2B | -3.02 | 1.36        | 1.40     |
| 19  | B     | 801 | CLA  | C3B-C2B | -3.02 | 1.36        | 1.40     |
| 19  | A     | 816 | CLA  | C3B-C2B | -3.02 | 1.36        | 1.40     |
| 18  | 2     | 301 | CHL  | MG-NA   | 3.02  | 2.13        | 2.06     |
| 19  | 1     | 307 | CLA  | C3B-C2B | -3.02 | 1.36        | 1.40     |
| 19  | B     | 820 | CLA  | C3B-C2B | -3.02 | 1.36        | 1.40     |
| 19  | B     | 830 | CLA  | C3B-C2B | -3.01 | 1.36        | 1.40     |
| 19  | B     | 837 | CLA  | C3B-C2B | -3.01 | 1.36        | 1.40     |
| 19  | A     | 819 | CLA  | C3B-C2B | -3.01 | 1.36        | 1.40     |
| 19  | 3     | 311 | CLA  | C3B-C2B | -3.01 | 1.36        | 1.40     |

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| Mol | Chain | Res | Type | Atoms   | Z     | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|-------|-------------|----------|
| 19  | A     | 804 | CLA  | C3B-C2B | -3.01 | 1.36        | 1.40     |
| 19  | A     | 805 | CLA  | C3B-C2B | -3.01 | 1.36        | 1.40     |
| 19  | A     | 810 | CLA  | C3B-C2B | -3.01 | 1.36        | 1.40     |
| 19  | A     | 851 | CLA  | C3B-C2B | -3.01 | 1.36        | 1.40     |
| 18  | 4     | 314 | CHL  | MG-NA   | 3.01  | 2.13        | 2.06     |
| 19  | A     | 833 | CLA  | C3B-C2B | -3.01 | 1.36        | 1.40     |
| 19  | 4     | 302 | CLA  | C3B-C2B | -3.01 | 1.36        | 1.40     |
| 19  | B     | 811 | CLA  | C3B-C2B | -3.01 | 1.36        | 1.40     |
| 18  | 4     | 306 | CHL  | MG-NA   | 3.01  | 2.13        | 2.06     |
| 19  | 3     | 312 | CLA  | C3B-C2B | -3.01 | 1.36        | 1.40     |
| 19  | B     | 809 | CLA  | C3B-C2B | -3.01 | 1.36        | 1.40     |
| 19  | B     | 806 | CLA  | C3B-C2B | -3.01 | 1.36        | 1.40     |
| 19  | B     | 832 | CLA  | C3B-C2B | -3.01 | 1.36        | 1.40     |
| 19  | B     | 817 | CLA  | C3B-C2B | -3.01 | 1.36        | 1.40     |
| 19  | A     | 826 | CLA  | C3B-C2B | -3.00 | 1.36        | 1.40     |
| 19  | 2     | 310 | CLA  | C3B-C2B | -3.00 | 1.36        | 1.40     |
| 18  | 1     | 306 | CHL  | MG-NA   | 3.00  | 2.13        | 2.06     |
| 19  | A     | 801 | CLA  | C3B-C2B | -3.00 | 1.36        | 1.40     |
| 19  | A     | 821 | CLA  | C3B-C2B | -3.00 | 1.36        | 1.40     |
| 19  | 1     | 321 | CLA  | C3B-C2B | -3.00 | 1.36        | 1.40     |
| 19  | 2     | 313 | CLA  | C3B-C2B | -3.00 | 1.36        | 1.40     |
| 19  | A     | 814 | CLA  | C3B-C2B | -3.00 | 1.36        | 1.40     |
| 19  | J     | 102 | CLA  | C3B-C2B | -2.99 | 1.36        | 1.40     |
| 19  | A     | 806 | CLA  | C3B-C2B | -2.99 | 1.36        | 1.40     |
| 19  | A     | 817 | CLA  | C3B-C2B | -2.99 | 1.36        | 1.40     |
| 19  | B     | 838 | CLA  | C3B-C2B | -2.99 | 1.36        | 1.40     |
| 19  | 1     | 308 | CLA  | C3B-C2B | -2.99 | 1.36        | 1.40     |
| 19  | 3     | 302 | CLA  | C3B-C2B | -2.99 | 1.36        | 1.40     |
| 19  | 4     | 308 | CLA  | C3B-C2B | -2.99 | 1.36        | 1.40     |
| 19  | 3     | 306 | CLA  | C3B-C2B | -2.99 | 1.36        | 1.40     |
| 19  | 2     | 308 | CLA  | C3B-C2B | -2.99 | 1.36        | 1.40     |
| 19  | F     | 301 | CLA  | C3B-C2B | -2.99 | 1.36        | 1.40     |
| 19  | A     | 811 | CLA  | C3B-C2B | -2.99 | 1.36        | 1.40     |
| 19  | B     | 825 | CLA  | C3B-C2B | -2.99 | 1.36        | 1.40     |
| 18  | 2     | 314 | CHL  | MG-NA   | 2.98  | 2.13        | 2.06     |
| 19  | 1     | 313 | CLA  | C3B-C2B | -2.98 | 1.36        | 1.40     |
| 19  | A     | 839 | CLA  | C3B-C2B | -2.98 | 1.36        | 1.40     |
| 18  | 2     | 307 | CHL  | MG-NA   | 2.98  | 2.13        | 2.06     |
| 19  | B     | 804 | CLA  | C3B-C2B | -2.98 | 1.36        | 1.40     |
| 19  | 3     | 310 | CLA  | C3B-C2B | -2.97 | 1.36        | 1.40     |
| 19  | A     | 812 | CLA  | C3B-C2B | -2.97 | 1.36        | 1.40     |
| 19  | A     | 827 | CLA  | C3B-C2B | -2.97 | 1.36        | 1.40     |

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| Mol | Chain | Res | Type | Atoms   | Z     | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|-------|-------------|----------|
| 19  | B     | 819 | CLA  | C3B-C2B | -2.97 | 1.36        | 1.40     |
| 19  | 3     | 313 | CLA  | C3B-C2B | -2.97 | 1.36        | 1.40     |
| 19  | 2     | 320 | CLA  | C3B-C2B | -2.96 | 1.36        | 1.40     |
| 19  | B     | 836 | CLA  | C3B-C2B | -2.96 | 1.36        | 1.40     |
| 19  | 2     | 312 | CLA  | C3B-C2B | -2.96 | 1.36        | 1.40     |
| 19  | 4     | 313 | CLA  | C3B-C2B | -2.96 | 1.36        | 1.40     |
| 18  | 1     | 301 | CHL  | O2A-CGA | 2.96  | 1.42        | 1.33     |
| 19  | 1     | 303 | CLA  | C3B-C2B | -2.96 | 1.36        | 1.40     |
| 19  | G     | 203 | CLA  | C3B-C2B | -2.96 | 1.36        | 1.40     |
| 18  | 4     | 306 | CHL  | O2A-CGA | 2.96  | 1.42        | 1.33     |
| 19  | A     | 824 | CLA  | C3B-C2B | -2.96 | 1.36        | 1.40     |
| 18  | 3     | 307 | CHL  | MG-NA   | 2.95  | 2.13        | 2.06     |
| 19  | B     | 829 | CLA  | C3B-C2B | -2.95 | 1.36        | 1.40     |
| 18  | 4     | 304 | CHL  | O2A-CGA | 2.95  | 1.42        | 1.33     |
| 19  | F     | 304 | CLA  | C3B-C2B | -2.95 | 1.36        | 1.40     |
| 19  | B     | 823 | CLA  | C3B-C2B | -2.94 | 1.36        | 1.40     |
| 19  | K     | 204 | CLA  | C3B-C2B | -2.94 | 1.36        | 1.40     |
| 19  | A     | 834 | CLA  | C3B-C2B | -2.94 | 1.36        | 1.40     |
| 18  | 2     | 301 | CHL  | O2A-CGA | 2.94  | 1.41        | 1.33     |
| 19  | A     | 852 | CLA  | C3B-C2B | -2.93 | 1.36        | 1.40     |
| 18  | 1     | 301 | CHL  | MG-NA   | 2.92  | 2.13        | 2.06     |
| 19  | H     | 201 | CLA  | C3B-C2B | -2.91 | 1.36        | 1.40     |
| 19  | 1     | 314 | CLA  | C3B-C2B | -2.90 | 1.36        | 1.40     |
| 19  | B     | 826 | CLA  | C3B-C2B | -2.87 | 1.36        | 1.40     |
| 19  | 3     | 304 | CLA  | C3B-C2B | -2.87 | 1.36        | 1.40     |
| 19  | B     | 802 | CLA  | C3B-C2B | -2.85 | 1.36        | 1.40     |
| 18  | 3     | 307 | CHL  | O2A-CGA | 2.85  | 1.42        | 1.33     |
| 19  | A     | 808 | CLA  | C3B-C2B | -2.84 | 1.36        | 1.40     |
| 20  | 1     | 315 | LUT  | C8-C9   | -2.83 | 1.39        | 1.45     |
| 19  | 1     | 302 | CLA  | C3B-C2B | -2.83 | 1.36        | 1.40     |
| 20  | 1     | 320 | LUT  | C8-C9   | -2.81 | 1.39        | 1.45     |
| 20  | 2     | 315 | LUT  | C8-C9   | -2.78 | 1.40        | 1.45     |
| 20  | 3     | 315 | LUT  | C8-C9   | -2.78 | 1.40        | 1.45     |
| 20  | 4     | 315 | LUT  | C8-C9   | -2.77 | 1.40        | 1.45     |
| 19  | A     | 808 | CLA  | C1D-ND  | -2.74 | 1.34        | 1.37     |
| 19  | A     | 804 | CLA  | C1D-ND  | -2.72 | 1.34        | 1.37     |
| 19  | B     | 822 | CLA  | C1D-ND  | -2.70 | 1.34        | 1.37     |
| 19  | 1     | 308 | CLA  | C1D-ND  | -2.69 | 1.34        | 1.37     |
| 19  | A     | 806 | CLA  | C1D-ND  | -2.67 | 1.34        | 1.37     |
| 19  | A     | 834 | CLA  | C1D-ND  | -2.67 | 1.34        | 1.37     |
| 19  | A     | 852 | CLA  | C1D-ND  | -2.67 | 1.34        | 1.37     |
| 19  | B     | 824 | CLA  | C1D-ND  | -2.67 | 1.34        | 1.37     |

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| Mol | Chain | Res | Type | Atoms  | Z     | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|--------|-------|-------------|----------|
| 19  | B     | 820 | CLA  | C1D-ND | -2.66 | 1.34        | 1.37     |
| 19  | B     | 801 | CLA  | C1D-ND | -2.66 | 1.34        | 1.37     |
| 19  | B     | 831 | CLA  | C1D-ND | -2.66 | 1.34        | 1.37     |
| 19  | B     | 802 | CLA  | C1D-ND | -2.66 | 1.34        | 1.37     |
| 19  | B     | 829 | CLA  | C1D-ND | -2.66 | 1.34        | 1.37     |
| 19  | A     | 825 | CLA  | C1D-ND | -2.65 | 1.34        | 1.37     |
| 19  | A     | 803 | CLA  | C1D-ND | -2.65 | 1.34        | 1.37     |
| 19  | L     | 302 | CLA  | C1D-ND | -2.65 | 1.34        | 1.37     |
| 19  | A     | 833 | CLA  | C1D-ND | -2.64 | 1.34        | 1.37     |
| 19  | B     | 816 | CLA  | C1D-ND | -2.64 | 1.34        | 1.37     |
| 19  | 3     | 308 | CLA  | C1D-ND | -2.64 | 1.34        | 1.37     |
| 19  | B     | 827 | CLA  | C1D-ND | -2.64 | 1.34        | 1.37     |
| 19  | B     | 804 | CLA  | C1D-ND | -2.64 | 1.34        | 1.37     |
| 19  | B     | 809 | CLA  | C1D-ND | -2.63 | 1.34        | 1.37     |
| 19  | 4     | 313 | CLA  | C1D-ND | -2.63 | 1.34        | 1.37     |
| 19  | A     | 827 | CLA  | C1D-ND | -2.63 | 1.34        | 1.37     |
| 19  | A     | 807 | CLA  | C1D-ND | -2.63 | 1.34        | 1.37     |
| 19  | B     | 828 | CLA  | C1D-ND | -2.63 | 1.34        | 1.37     |
| 19  | B     | 833 | CLA  | C1D-ND | -2.63 | 1.34        | 1.37     |
| 19  | A     | 811 | CLA  | C1D-ND | -2.63 | 1.34        | 1.37     |
| 19  | B     | 806 | CLA  | C1D-ND | -2.63 | 1.34        | 1.37     |
| 19  | A     | 820 | CLA  | C1D-ND | -2.63 | 1.34        | 1.37     |
| 19  | A     | 826 | CLA  | C1D-ND | -2.63 | 1.34        | 1.37     |
| 19  | B     | 826 | CLA  | C1D-ND | -2.63 | 1.34        | 1.37     |
| 19  | A     | 809 | CLA  | C1D-ND | -2.63 | 1.34        | 1.37     |
| 19  | A     | 821 | CLA  | C1D-ND | -2.62 | 1.34        | 1.37     |
| 19  | B     | 825 | CLA  | C1D-ND | -2.62 | 1.34        | 1.37     |
| 19  | A     | 818 | CLA  | C1D-ND | -2.62 | 1.34        | 1.37     |
| 19  | B     | 808 | CLA  | C1D-ND | -2.62 | 1.34        | 1.37     |
| 19  | B     | 815 | CLA  | C1D-ND | -2.62 | 1.34        | 1.37     |
| 19  | A     | 813 | CLA  | C1D-ND | -2.61 | 1.34        | 1.37     |
| 19  | B     | 818 | CLA  | C1D-ND | -2.61 | 1.34        | 1.37     |
| 19  | B     | 823 | CLA  | C1D-ND | -2.61 | 1.34        | 1.37     |
| 19  | F     | 301 | CLA  | C1D-ND | -2.61 | 1.34        | 1.37     |
| 19  | 4     | 307 | CLA  | C1D-ND | -2.61 | 1.34        | 1.37     |
| 19  | A     | 828 | CLA  | C1D-ND | -2.61 | 1.34        | 1.37     |
| 19  | 3     | 303 | CLA  | C1D-ND | -2.61 | 1.34        | 1.37     |
| 19  | B     | 813 | CLA  | C1D-ND | -2.60 | 1.34        | 1.37     |
| 19  | B     | 835 | CLA  | C1D-ND | -2.60 | 1.34        | 1.37     |
| 19  | B     | 837 | CLA  | C1D-ND | -2.60 | 1.34        | 1.37     |
| 19  | 4     | 301 | CLA  | C1D-ND | -2.60 | 1.34        | 1.37     |
| 19  | A     | 838 | CLA  | C1D-ND | -2.60 | 1.34        | 1.37     |

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| Mol | Chain | Res | Type | Atoms   | Z     | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|-------|-------------|----------|
| 19  | B     | 810 | CLA  | C1D-ND  | -2.60 | 1.34        | 1.37     |
| 19  | 1     | 310 | CLA  | C1D-ND  | -2.60 | 1.34        | 1.37     |
| 19  | A     | 802 | CLA  | C1D-ND  | -2.60 | 1.34        | 1.37     |
| 19  | A     | 830 | CLA  | C1D-ND  | -2.60 | 1.34        | 1.37     |
| 19  | F     | 302 | CLA  | C3B-C2B | -2.60 | 1.36        | 1.40     |
| 19  | A     | 814 | CLA  | C1D-ND  | -2.59 | 1.34        | 1.37     |
| 19  | 2     | 313 | CLA  | C1D-ND  | -2.59 | 1.34        | 1.37     |
| 19  | A     | 835 | CLA  | C1D-ND  | -2.59 | 1.34        | 1.37     |
| 19  | B     | 832 | CLA  | C1D-ND  | -2.59 | 1.34        | 1.37     |
| 19  | B     | 807 | CLA  | C1D-ND  | -2.59 | 1.34        | 1.37     |
| 19  | B     | 814 | CLA  | C1D-ND  | -2.59 | 1.34        | 1.37     |
| 19  | 3     | 314 | CLA  | C1D-ND  | -2.58 | 1.34        | 1.37     |
| 19  | A     | 817 | CLA  | C1D-ND  | -2.58 | 1.34        | 1.37     |
| 19  | 1     | 302 | CLA  | C1D-ND  | -2.58 | 1.34        | 1.37     |
| 19  | 2     | 304 | CLA  | C1D-ND  | -2.58 | 1.34        | 1.37     |
| 19  | A     | 837 | CLA  | C1D-ND  | -2.58 | 1.34        | 1.37     |
| 19  | F     | 302 | CLA  | C1D-ND  | -2.58 | 1.34        | 1.37     |
| 19  | A     | 816 | CLA  | C1D-ND  | -2.58 | 1.34        | 1.37     |
| 19  | A     | 840 | CLA  | C1D-ND  | -2.58 | 1.34        | 1.37     |
| 19  | F     | 303 | CLA  | C1D-ND  | -2.58 | 1.34        | 1.37     |
| 19  | 3     | 301 | CLA  | C1D-ND  | -2.58 | 1.34        | 1.37     |
| 19  | A     | 823 | CLA  | C1D-ND  | -2.58 | 1.34        | 1.37     |
| 19  | 2     | 310 | CLA  | C1D-ND  | -2.57 | 1.34        | 1.37     |
| 19  | 3     | 311 | CLA  | C1D-ND  | -2.57 | 1.34        | 1.37     |
| 19  | B     | 812 | CLA  | C1D-ND  | -2.57 | 1.34        | 1.37     |
| 19  | A     | 839 | CLA  | C1D-ND  | -2.57 | 1.34        | 1.37     |
| 19  | A     | 853 | CLA  | C1D-ND  | -2.57 | 1.34        | 1.37     |
| 19  | B     | 838 | CLA  | C1D-ND  | -2.57 | 1.34        | 1.37     |
| 19  | A     | 836 | CLA  | C1D-ND  | -2.57 | 1.34        | 1.37     |
| 19  | B     | 817 | CLA  | C1D-ND  | -2.57 | 1.34        | 1.37     |
| 19  | 2     | 320 | CLA  | C1D-ND  | -2.57 | 1.34        | 1.37     |
| 19  | B     | 821 | CLA  | C1D-ND  | -2.57 | 1.34        | 1.37     |
| 19  | 2     | 308 | CLA  | C1D-ND  | -2.57 | 1.34        | 1.37     |
| 19  | L     | 301 | CLA  | C1D-ND  | -2.57 | 1.34        | 1.37     |
| 19  | A     | 831 | CLA  | C1D-ND  | -2.56 | 1.34        | 1.37     |
| 19  | 3     | 306 | CLA  | C1D-ND  | -2.56 | 1.34        | 1.37     |
| 19  | 2     | 302 | CLA  | C1D-ND  | -2.56 | 1.34        | 1.37     |
| 19  | L     | 303 | CLA  | C1D-ND  | -2.56 | 1.34        | 1.37     |
| 19  | 3     | 312 | CLA  | C1D-ND  | -2.56 | 1.34        | 1.37     |
| 19  | G     | 202 | CLA  | C1D-ND  | -2.56 | 1.34        | 1.37     |
| 19  | 4     | 308 | CLA  | C1D-ND  | -2.56 | 1.34        | 1.37     |
| 19  | 1     | 303 | CLA  | C1D-ND  | -2.56 | 1.34        | 1.37     |

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| Mol | Chain | Res | Type | Atoms  | Z     | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|--------|-------|-------------|----------|
| 19  | B     | 819 | CLA  | C1D-ND | -2.55 | 1.34        | 1.37     |
| 19  | 1     | 309 | CLA  | C1D-ND | -2.55 | 1.34        | 1.37     |
| 19  | B     | 803 | CLA  | C1D-ND | -2.55 | 1.34        | 1.37     |
| 19  | B     | 836 | CLA  | C1D-ND | -2.55 | 1.34        | 1.37     |
| 19  | A     | 801 | CLA  | C1D-ND | -2.55 | 1.34        | 1.37     |
| 19  | B     | 830 | CLA  | C1D-ND | -2.54 | 1.34        | 1.37     |
| 19  | 3     | 305 | CLA  | C1D-ND | -2.54 | 1.34        | 1.37     |
| 19  | A     | 824 | CLA  | C1D-ND | -2.54 | 1.34        | 1.37     |
| 19  | B     | 805 | CLA  | C1D-ND | -2.54 | 1.34        | 1.37     |
| 19  | A     | 812 | CLA  | C1D-ND | -2.54 | 1.34        | 1.37     |
| 19  | 4     | 303 | CLA  | C1D-ND | -2.54 | 1.34        | 1.37     |
| 19  | 4     | 312 | CLA  | C1D-ND | -2.54 | 1.34        | 1.37     |
| 19  | 1     | 312 | CLA  | C1D-ND | -2.54 | 1.34        | 1.37     |
| 19  | 2     | 309 | CLA  | C1D-ND | -2.54 | 1.34        | 1.37     |
| 19  | A     | 829 | CLA  | C1D-ND | -2.54 | 1.34        | 1.37     |
| 19  | 1     | 313 | CLA  | C1D-ND | -2.53 | 1.34        | 1.37     |
| 19  | A     | 805 | CLA  | C1D-ND | -2.53 | 1.34        | 1.37     |
| 19  | 2     | 303 | CLA  | C1D-ND | -2.53 | 1.34        | 1.37     |
| 19  | 1     | 307 | CLA  | C1D-ND | -2.52 | 1.34        | 1.37     |
| 19  | J     | 102 | CLA  | C1D-ND | -2.52 | 1.34        | 1.37     |
| 19  | B     | 811 | CLA  | C1D-ND | -2.52 | 1.34        | 1.37     |
| 19  | G     | 204 | CLA  | C1D-ND | -2.52 | 1.34        | 1.37     |
| 19  | 3     | 304 | CLA  | C1D-ND | -2.52 | 1.34        | 1.37     |
| 19  | 3     | 309 | CLA  | C1D-ND | -2.52 | 1.34        | 1.37     |
| 19  | G     | 203 | CLA  | C1D-ND | -2.52 | 1.34        | 1.37     |
| 19  | A     | 832 | CLA  | C1D-ND | -2.52 | 1.34        | 1.37     |
| 19  | A     | 851 | CLA  | C1D-ND | -2.51 | 1.34        | 1.37     |
| 18  | 4     | 304 | CHL  | C2-C3  | 2.51  | 1.39        | 1.33     |
| 19  | 4     | 302 | CLA  | C1D-ND | -2.51 | 1.34        | 1.37     |
| 19  | 3     | 313 | CLA  | C1D-ND | -2.51 | 1.34        | 1.37     |
| 19  | 1     | 305 | CLA  | C1D-ND | -2.51 | 1.34        | 1.37     |
| 18  | 1     | 301 | CHL  | C2-C3  | 2.51  | 1.39        | 1.33     |
| 19  | 3     | 310 | CLA  | C1D-ND | -2.51 | 1.34        | 1.37     |
| 19  | 4     | 309 | CLA  | C1D-ND | -2.50 | 1.34        | 1.37     |
| 19  | 1     | 314 | CLA  | C1D-ND | -2.50 | 1.34        | 1.37     |
| 19  | 1     | 311 | CLA  | C1D-ND | -2.50 | 1.34        | 1.37     |
| 19  | A     | 815 | CLA  | C1D-ND | -2.50 | 1.34        | 1.37     |
| 19  | H     | 201 | CLA  | C1D-ND | -2.50 | 1.34        | 1.37     |
| 19  | 2     | 312 | CLA  | C1D-ND | -2.50 | 1.34        | 1.37     |
| 19  | 1     | 304 | CLA  | C1D-ND | -2.50 | 1.34        | 1.37     |
| 19  | A     | 854 | CLA  | C1D-ND | -2.49 | 1.34        | 1.37     |
| 19  | F     | 304 | CLA  | C1D-ND | -2.49 | 1.34        | 1.37     |

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| Mol | Chain | Res | Type | Atoms   | Z     | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|-------|-------------|----------|
| 18  | 2     | 314 | CHL  | CHC-C1C | 2.49  | 1.41        | 1.35     |
| 19  | A     | 810 | CLA  | C1D-ND  | -2.49 | 1.34        | 1.37     |
| 19  | 3     | 302 | CLA  | C1D-ND  | -2.49 | 1.34        | 1.37     |
| 19  | 4     | 311 | CLA  | C1D-ND  | -2.48 | 1.34        | 1.37     |
| 19  | B     | 834 | CLA  | C1D-ND  | -2.48 | 1.34        | 1.37     |
| 19  | K     | 203 | CLA  | C1D-ND  | -2.48 | 1.34        | 1.37     |
| 19  | A     | 822 | CLA  | C1D-ND  | -2.48 | 1.34        | 1.37     |
| 19  | 1     | 321 | CLA  | C1D-ND  | -2.48 | 1.34        | 1.37     |
| 19  | K     | 202 | CLA  | C1D-ND  | -2.48 | 1.34        | 1.37     |
| 19  | 4     | 310 | CLA  | C1D-ND  | -2.47 | 1.34        | 1.37     |
| 19  | A     | 819 | CLA  | C1D-ND  | -2.47 | 1.34        | 1.37     |
| 18  | 1     | 306 | CHL  | CHC-C1C | 2.47  | 1.41        | 1.35     |
| 19  | 2     | 311 | CLA  | C1D-ND  | -2.46 | 1.34        | 1.37     |
| 18  | 2     | 306 | CHL  | CHC-C1C | 2.45  | 1.41        | 1.35     |
| 18  | 1     | 301 | CHL  | CHC-C1C | 2.45  | 1.41        | 1.35     |
| 18  | 2     | 307 | CHL  | CBA-CGA | 2.44  | 1.56        | 1.50     |
| 18  | 2     | 307 | CHL  | CHC-C1C | 2.43  | 1.41        | 1.35     |
| 18  | 4     | 306 | CHL  | CHC-C1C | 2.43  | 1.41        | 1.35     |
| 19  | 1     | 311 | CLA  | C1B-CHB | -2.43 | 1.34        | 1.41     |
| 19  | 3     | 311 | CLA  | C1B-CHB | -2.43 | 1.34        | 1.41     |
| 18  | 4     | 314 | CHL  | CHC-C1C | 2.43  | 1.41        | 1.35     |
| 18  | 4     | 305 | CHL  | CHC-C1C | 2.43  | 1.41        | 1.35     |
| 18  | 2     | 306 | CHL  | CBA-CGA | 2.43  | 1.56        | 1.50     |
| 18  | 1     | 306 | CHL  | CBA-CGA | 2.43  | 1.56        | 1.50     |
| 19  | K     | 204 | CLA  | C1D-ND  | -2.43 | 1.34        | 1.37     |
| 19  | A     | 840 | CLA  | C1B-CHB | -2.43 | 1.34        | 1.41     |
| 19  | A     | 831 | CLA  | C1B-CHB | -2.43 | 1.34        | 1.41     |
| 19  | 3     | 305 | CLA  | C1B-CHB | -2.43 | 1.34        | 1.41     |
| 19  | A     | 803 | CLA  | C1B-CHB | -2.42 | 1.34        | 1.41     |
| 19  | A     | 812 | CLA  | C1B-CHB | -2.42 | 1.34        | 1.41     |
| 19  | B     | 837 | CLA  | C1B-CHB | -2.42 | 1.34        | 1.41     |
| 18  | 2     | 301 | CHL  | CHC-C1C | 2.42  | 1.41        | 1.35     |
| 18  | 2     | 305 | CHL  | CHC-C1C | 2.41  | 1.41        | 1.35     |
| 19  | B     | 805 | CLA  | C1B-CHB | -2.41 | 1.34        | 1.41     |
| 19  | A     | 829 | CLA  | C1B-CHB | -2.41 | 1.34        | 1.41     |
| 19  | A     | 805 | CLA  | C1B-CHB | -2.41 | 1.34        | 1.41     |
| 19  | B     | 812 | CLA  | C1B-CHB | -2.41 | 1.34        | 1.41     |
| 19  | A     | 815 | CLA  | C1B-CHB | -2.41 | 1.34        | 1.41     |
| 18  | 4     | 305 | CHL  | CBA-CGA | 2.41  | 1.56        | 1.50     |
| 19  | 1     | 310 | CLA  | C1B-CHB | -2.41 | 1.34        | 1.41     |
| 19  | 2     | 313 | CLA  | C1B-CHB | -2.40 | 1.34        | 1.41     |
| 19  | A     | 830 | CLA  | C1B-CHB | -2.40 | 1.34        | 1.41     |

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| Mol | Chain | Res | Type | Atoms   | Z     | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|-------|-------------|----------|
| 19  | B     | 823 | CLA  | C1B-CHB | -2.40 | 1.34        | 1.41     |
| 19  | 3     | 314 | CLA  | C1B-CHB | -2.40 | 1.34        | 1.41     |
| 19  | H     | 201 | CLA  | C1B-CHB | -2.40 | 1.34        | 1.41     |
| 19  | B     | 811 | CLA  | C1B-CHB | -2.40 | 1.34        | 1.41     |
| 19  | 4     | 309 | CLA  | C1B-CHB | -2.40 | 1.34        | 1.41     |
| 19  | B     | 814 | CLA  | C1B-CHB | -2.40 | 1.34        | 1.41     |
| 19  | F     | 304 | CLA  | C1B-CHB | -2.40 | 1.34        | 1.41     |
| 19  | 1     | 302 | CLA  | C1B-CHB | -2.40 | 1.34        | 1.41     |
| 19  | 4     | 303 | CLA  | C1B-CHB | -2.40 | 1.34        | 1.41     |
| 19  | 1     | 305 | CLA  | C1B-CHB | -2.40 | 1.34        | 1.41     |
| 19  | B     | 828 | CLA  | C1B-CHB | -2.40 | 1.34        | 1.41     |
| 19  | K     | 204 | CLA  | C1B-CHB | -2.40 | 1.34        | 1.41     |
| 19  | A     | 837 | CLA  | C1B-CHB | -2.39 | 1.34        | 1.41     |
| 19  | 4     | 302 | CLA  | C1B-CHB | -2.39 | 1.34        | 1.41     |
| 19  | A     | 822 | CLA  | C1B-CHB | -2.39 | 1.34        | 1.41     |
| 19  | A     | 832 | CLA  | C1B-CHB | -2.39 | 1.34        | 1.41     |
| 19  | 4     | 310 | CLA  | C1B-CHB | -2.39 | 1.34        | 1.41     |
| 19  | 3     | 302 | CLA  | C1B-CHB | -2.39 | 1.34        | 1.41     |
| 19  | B     | 834 | CLA  | C1B-CHB | -2.39 | 1.34        | 1.41     |
| 19  | 2     | 304 | CLA  | C1B-CHB | -2.39 | 1.34        | 1.41     |
| 19  | A     | 828 | CLA  | C1B-CHB | -2.39 | 1.34        | 1.41     |
| 19  | B     | 803 | CLA  | C1B-CHB | -2.39 | 1.34        | 1.41     |
| 19  | B     | 830 | CLA  | C1B-CHB | -2.39 | 1.34        | 1.41     |
| 19  | G     | 202 | CLA  | C1B-CHB | -2.39 | 1.34        | 1.41     |
| 19  | K     | 203 | CLA  | C1B-CHB | -2.39 | 1.34        | 1.41     |
| 19  | 2     | 311 | CLA  | C1B-CHB | -2.39 | 1.34        | 1.41     |
| 19  | B     | 808 | CLA  | C1B-CHB | -2.39 | 1.34        | 1.41     |
| 19  | 2     | 309 | CLA  | C1B-CHB | -2.38 | 1.34        | 1.41     |
| 19  | A     | 854 | CLA  | C1B-CHB | -2.38 | 1.34        | 1.41     |
| 19  | 3     | 301 | CLA  | C1B-CHB | -2.38 | 1.34        | 1.41     |
| 19  | B     | 818 | CLA  | C1B-CHB | -2.38 | 1.34        | 1.41     |
| 19  | 1     | 304 | CLA  | C1B-CHB | -2.38 | 1.34        | 1.41     |
| 19  | A     | 853 | CLA  | C1B-CHB | -2.38 | 1.34        | 1.41     |
| 19  | 2     | 320 | CLA  | C1B-CHB | -2.38 | 1.34        | 1.41     |
| 19  | 4     | 312 | CLA  | C1B-CHB | -2.38 | 1.34        | 1.41     |
| 19  | 1     | 312 | CLA  | C1B-CHB | -2.38 | 1.34        | 1.41     |
| 19  | G     | 204 | CLA  | C1B-CHB | -2.38 | 1.34        | 1.41     |
| 19  | A     | 806 | CLA  | C1B-CHB | -2.38 | 1.34        | 1.41     |
| 19  | A     | 852 | CLA  | C1B-CHB | -2.38 | 1.34        | 1.41     |
| 19  | A     | 835 | CLA  | C1B-CHB | -2.38 | 1.34        | 1.41     |
| 19  | B     | 807 | CLA  | C1B-CHB | -2.38 | 1.34        | 1.41     |
| 19  | B     | 813 | CLA  | C1B-CHB | -2.38 | 1.34        | 1.41     |

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| Mol | Chain | Res | Type | Atoms   | Z     | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|-------|-------------|----------|
| 19  | F     | 303 | CLA  | C1B-CHB | -2.38 | 1.34        | 1.41     |
| 19  | L     | 302 | CLA  | C1B-CHB | -2.38 | 1.34        | 1.41     |
| 18  | 4     | 304 | CHL  | CHC-C1C | 2.38  | 1.41        | 1.35     |
| 19  | L     | 303 | CLA  | C1B-CHB | -2.38 | 1.34        | 1.41     |
| 19  | 3     | 309 | CLA  | C1B-CHB | -2.38 | 1.34        | 1.41     |
| 19  | A     | 833 | CLA  | C1B-CHB | -2.38 | 1.34        | 1.41     |
| 19  | B     | 821 | CLA  | C1B-CHB | -2.38 | 1.34        | 1.41     |
| 19  | F     | 301 | CLA  | C1B-CHB | -2.38 | 1.34        | 1.41     |
| 19  | B     | 815 | CLA  | C1B-CHB | -2.38 | 1.34        | 1.41     |
| 19  | 1     | 321 | CLA  | C1B-CHB | -2.37 | 1.34        | 1.41     |
| 19  | A     | 821 | CLA  | C1B-CHB | -2.37 | 1.34        | 1.41     |
| 19  | 3     | 306 | CLA  | C1B-CHB | -2.37 | 1.34        | 1.41     |
| 19  | A     | 817 | CLA  | C1B-CHB | -2.37 | 1.34        | 1.41     |
| 19  | G     | 203 | CLA  | C1B-CHB | -2.37 | 1.34        | 1.41     |
| 19  | 2     | 308 | CLA  | C1B-CHB | -2.37 | 1.34        | 1.41     |
| 19  | A     | 836 | CLA  | C1B-CHB | -2.37 | 1.34        | 1.41     |
| 19  | A     | 819 | CLA  | C1B-CHB | -2.37 | 1.34        | 1.41     |
| 19  | B     | 810 | CLA  | C1B-CHB | -2.37 | 1.34        | 1.41     |
| 19  | A     | 839 | CLA  | C1B-CHB | -2.37 | 1.34        | 1.41     |
| 19  | B     | 836 | CLA  | C1B-CHB | -2.37 | 1.34        | 1.41     |
| 20  | 1     | 315 | LUT  | C32-C33 | -2.37 | 1.40        | 1.45     |
| 19  | 1     | 309 | CLA  | C1B-CHB | -2.37 | 1.34        | 1.41     |
| 19  | 4     | 311 | CLA  | C1B-CHB | -2.37 | 1.34        | 1.41     |
| 19  | B     | 806 | CLA  | C1B-CHB | -2.37 | 1.34        | 1.41     |
| 19  | B     | 825 | CLA  | C1B-CHB | -2.37 | 1.34        | 1.41     |
| 19  | B     | 833 | CLA  | C1B-CHB | -2.37 | 1.34        | 1.41     |
| 19  | L     | 301 | CLA  | C1B-CHB | -2.37 | 1.34        | 1.41     |
| 19  | 4     | 301 | CLA  | C1B-CHB | -2.37 | 1.34        | 1.41     |
| 19  | 2     | 302 | CLA  | C1B-CHB | -2.37 | 1.34        | 1.41     |
| 19  | A     | 814 | CLA  | C1B-CHB | -2.36 | 1.34        | 1.41     |
| 19  | B     | 838 | CLA  | C1B-CHB | -2.36 | 1.34        | 1.41     |
| 19  | B     | 826 | CLA  | C1B-CHB | -2.36 | 1.34        | 1.41     |
| 19  | B     | 827 | CLA  | C1B-CHB | -2.36 | 1.34        | 1.41     |
| 19  | A     | 816 | CLA  | C1B-CHB | -2.36 | 1.34        | 1.41     |
| 19  | B     | 802 | CLA  | C1B-CHB | -2.36 | 1.34        | 1.41     |
| 19  | A     | 807 | CLA  | C1B-CHB | -2.36 | 1.34        | 1.41     |
| 19  | A     | 809 | CLA  | C1B-CHB | -2.36 | 1.34        | 1.41     |
| 19  | 4     | 313 | CLA  | C1B-CHB | -2.36 | 1.34        | 1.41     |
| 19  | 3     | 304 | CLA  | C1B-CHB | -2.36 | 1.34        | 1.41     |
| 19  | B     | 832 | CLA  | C1B-CHB | -2.36 | 1.34        | 1.41     |
| 19  | 3     | 308 | CLA  | C1B-CHB | -2.36 | 1.34        | 1.41     |
| 19  | 3     | 313 | CLA  | C1B-CHB | -2.36 | 1.34        | 1.41     |

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| Mol | Chain | Res | Type | Atoms   | Z     | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|-------|-------------|----------|
| 19  | A     | 823 | CLA  | C1B-CHB | -2.36 | 1.34        | 1.41     |
| 19  | A     | 824 | CLA  | C1B-CHB | -2.36 | 1.34        | 1.41     |
| 19  | 1     | 308 | CLA  | C1B-CHB | -2.36 | 1.34        | 1.41     |
| 19  | A     | 818 | CLA  | C1B-CHB | -2.36 | 1.34        | 1.41     |
| 19  | A     | 804 | CLA  | C1B-CHB | -2.36 | 1.34        | 1.41     |
| 19  | A     | 826 | CLA  | C1B-CHB | -2.36 | 1.34        | 1.41     |
| 19  | K     | 202 | CLA  | C1B-CHB | -2.36 | 1.34        | 1.41     |
| 19  | 1     | 307 | CLA  | C1B-CHB | -2.36 | 1.34        | 1.41     |
| 19  | B     | 816 | CLA  | C1B-CHB | -2.36 | 1.34        | 1.41     |
| 18  | 3     | 307 | CHL  | CHC-C1C | 2.36  | 1.41        | 1.35     |
| 19  | A     | 838 | CLA  | C1B-CHB | -2.36 | 1.34        | 1.41     |
| 19  | B     | 817 | CLA  | C1B-CHB | -2.36 | 1.34        | 1.41     |
| 19  | A     | 811 | CLA  | C1B-CHB | -2.36 | 1.34        | 1.41     |
| 19  | B     | 804 | CLA  | C1B-CHB | -2.36 | 1.34        | 1.41     |
| 19  | A     | 810 | CLA  | C1B-CHB | -2.35 | 1.34        | 1.41     |
| 19  | A     | 834 | CLA  | C1B-CHB | -2.35 | 1.34        | 1.41     |
| 19  | B     | 835 | CLA  | C1B-CHB | -2.35 | 1.34        | 1.41     |
| 20  | 1     | 315 | LUT  | C12-C13 | -2.35 | 1.40        | 1.45     |
| 19  | B     | 819 | CLA  | C1B-CHB | -2.35 | 1.34        | 1.41     |
| 19  | A     | 851 | CLA  | C1B-CHB | -2.35 | 1.34        | 1.41     |
| 19  | 4     | 307 | CLA  | C1B-CHB | -2.35 | 1.34        | 1.41     |
| 19  | A     | 808 | CLA  | C1B-CHB | -2.35 | 1.34        | 1.41     |
| 19  | 1     | 303 | CLA  | C1B-CHB | -2.35 | 1.34        | 1.41     |
| 19  | 2     | 303 | CLA  | C1B-CHB | -2.35 | 1.34        | 1.41     |
| 19  | A     | 813 | CLA  | C1B-CHB | -2.35 | 1.34        | 1.41     |
| 19  | A     | 825 | CLA  | C1B-CHB | -2.35 | 1.34        | 1.41     |
| 19  | 2     | 310 | CLA  | C1B-CHB | -2.35 | 1.34        | 1.41     |
| 19  | B     | 820 | CLA  | C1B-CHB | -2.35 | 1.34        | 1.41     |
| 19  | A     | 802 | CLA  | C1B-CHB | -2.35 | 1.34        | 1.41     |
| 19  | 4     | 308 | CLA  | C1B-CHB | -2.35 | 1.34        | 1.41     |
| 19  | 3     | 310 | CLA  | C1B-CHB | -2.35 | 1.34        | 1.41     |
| 19  | 3     | 312 | CLA  | C1B-CHB | -2.35 | 1.34        | 1.41     |
| 19  | 1     | 313 | CLA  | C1B-CHB | -2.35 | 1.34        | 1.41     |
| 19  | 3     | 303 | CLA  | C1B-CHB | -2.34 | 1.34        | 1.41     |
| 19  | B     | 809 | CLA  | C1B-CHB | -2.34 | 1.34        | 1.41     |
| 19  | 1     | 314 | CLA  | C1B-CHB | -2.34 | 1.34        | 1.41     |
| 19  | J     | 102 | CLA  | C1B-CHB | -2.34 | 1.34        | 1.41     |
| 19  | A     | 820 | CLA  | C1B-CHB | -2.34 | 1.34        | 1.41     |
| 20  | 3     | 315 | LUT  | C12-C13 | -2.34 | 1.40        | 1.45     |
| 19  | B     | 801 | CLA  | C1B-CHB | -2.34 | 1.34        | 1.41     |
| 19  | B     | 829 | CLA  | C1B-CHB | -2.34 | 1.34        | 1.41     |
| 19  | 2     | 312 | CLA  | C1B-CHB | -2.33 | 1.34        | 1.41     |

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| Mol | Chain | Res | Type | Atoms   | Z     | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|-------|-------------|----------|
| 19  | B     | 822 | CLA  | C1B-CHB | -2.33 | 1.34        | 1.41     |
| 19  | B     | 824 | CLA  | C1B-CHB | -2.33 | 1.34        | 1.41     |
| 19  | F     | 302 | CLA  | C1B-CHB | -2.33 | 1.34        | 1.41     |
| 18  | 2     | 301 | CHL  | C2-C3   | 2.32  | 1.39        | 1.32     |
| 20  | 1     | 320 | LUT  | C32-C33 | -2.32 | 1.41        | 1.45     |
| 19  | A     | 801 | CLA  | C1B-CHB | -2.32 | 1.34        | 1.41     |
| 20  | 3     | 315 | LUT  | C32-C33 | -2.31 | 1.41        | 1.45     |
| 20  | 2     | 315 | LUT  | C32-C33 | -2.31 | 1.41        | 1.45     |
| 20  | 2     | 315 | LUT  | C12-C13 | -2.31 | 1.41        | 1.45     |
| 19  | A     | 827 | CLA  | C1B-CHB | -2.31 | 1.34        | 1.41     |
| 18  | 4     | 306 | CHL  | C2-C3   | 2.31  | 1.39        | 1.32     |
| 20  | 3     | 315 | LUT  | C28-C29 | -2.31 | 1.41        | 1.45     |
| 20  | 4     | 315 | LUT  | C12-C13 | -2.30 | 1.41        | 1.45     |
| 20  | 1     | 320 | LUT  | C12-C13 | -2.30 | 1.41        | 1.45     |
| 19  | B     | 831 | CLA  | C1B-CHB | -2.29 | 1.34        | 1.41     |
| 20  | 1     | 315 | LUT  | C28-C29 | -2.29 | 1.41        | 1.45     |
| 18  | 2     | 314 | CHL  | MG-NC   | 2.29  | 2.11        | 2.06     |
| 18  | 4     | 314 | CHL  | MG-NC   | 2.26  | 2.11        | 2.06     |
| 19  | 4     | 302 | CLA  | MG-NC   | 2.26  | 2.11        | 2.06     |
| 20  | 4     | 315 | LUT  | C32-C33 | -2.25 | 1.41        | 1.45     |
| 20  | 1     | 320 | LUT  | C28-C29 | -2.25 | 1.41        | 1.45     |
| 19  | A     | 831 | CLA  | MG-NC   | 2.25  | 2.11        | 2.06     |
| 19  | F     | 304 | CLA  | MG-NC   | 2.25  | 2.11        | 2.06     |
| 20  | 2     | 315 | LUT  | C28-C29 | -2.25 | 1.41        | 1.45     |
| 20  | 4     | 315 | LUT  | C28-C29 | -2.24 | 1.41        | 1.45     |
| 19  | B     | 834 | CLA  | MG-NC   | 2.24  | 2.11        | 2.06     |
| 19  | 4     | 311 | CLA  | MG-NC   | 2.24  | 2.11        | 2.06     |
| 19  | 3     | 311 | CLA  | MG-NC   | 2.24  | 2.11        | 2.06     |
| 19  | A     | 822 | CLA  | MG-NC   | 2.23  | 2.11        | 2.06     |
| 19  | 2     | 311 | CLA  | MG-NC   | 2.23  | 2.11        | 2.06     |
| 19  | 1     | 311 | CLA  | MG-NC   | 2.23  | 2.11        | 2.06     |
| 19  | K     | 203 | CLA  | MG-NC   | 2.23  | 2.11        | 2.06     |
| 18  | 2     | 306 | CHL  | MG-NC   | 2.23  | 2.11        | 2.06     |
| 18  | 4     | 305 | CHL  | MG-NC   | 2.23  | 2.11        | 2.06     |
| 18  | 2     | 301 | CHL  | MG-NC   | 2.22  | 2.11        | 2.06     |
| 19  | A     | 835 | CLA  | MG-NC   | 2.22  | 2.11        | 2.06     |
| 19  | 1     | 304 | CLA  | MG-NC   | 2.22  | 2.11        | 2.06     |
| 19  | K     | 204 | CLA  | MG-NC   | 2.22  | 2.11        | 2.06     |
| 18  | 2     | 307 | CHL  | MG-NC   | 2.22  | 2.11        | 2.06     |
| 19  | A     | 815 | CLA  | MG-NC   | 2.22  | 2.11        | 2.06     |
| 19  | A     | 829 | CLA  | MG-NC   | 2.22  | 2.11        | 2.06     |
| 19  | 2     | 312 | CLA  | MG-NC   | 2.21  | 2.11        | 2.06     |

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| Mol | Chain | Res | Type | Atoms | Z    | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|-------|------|-------------|----------|
| 19  | 4     | 307 | CLA  | MG-NC | 2.21 | 2.11        | 2.06     |
| 19  | 1     | 305 | CLA  | MG-NC | 2.21 | 2.11        | 2.06     |
| 18  | 2     | 305 | CHL  | MG-NC | 2.21 | 2.11        | 2.06     |
| 19  | 3     | 313 | CLA  | MG-NC | 2.21 | 2.11        | 2.06     |
| 19  | 1     | 310 | CLA  | MG-NC | 2.21 | 2.11        | 2.06     |
| 19  | 4     | 310 | CLA  | MG-NC | 2.21 | 2.11        | 2.06     |
| 19  | A     | 828 | CLA  | MG-NC | 2.21 | 2.11        | 2.06     |
| 19  | A     | 839 | CLA  | MG-NC | 2.21 | 2.11        | 2.06     |
| 19  | F     | 303 | CLA  | MG-NC | 2.21 | 2.11        | 2.06     |
| 19  | 3     | 314 | CLA  | MG-NC | 2.21 | 2.11        | 2.06     |
| 19  | A     | 824 | CLA  | MG-NC | 2.21 | 2.11        | 2.06     |
| 19  | A     | 832 | CLA  | MG-NC | 2.21 | 2.11        | 2.06     |
| 19  | B     | 805 | CLA  | MG-NC | 2.21 | 2.11        | 2.06     |
| 19  | 2     | 313 | CLA  | MG-NC | 2.21 | 2.11        | 2.06     |
| 19  | A     | 851 | CLA  | MG-NC | 2.20 | 2.11        | 2.06     |
| 19  | B     | 830 | CLA  | MG-NC | 2.20 | 2.11        | 2.06     |
| 19  | 3     | 305 | CLA  | MG-NC | 2.20 | 2.11        | 2.06     |
| 19  | A     | 836 | CLA  | MG-NC | 2.20 | 2.11        | 2.06     |
| 19  | 3     | 304 | CLA  | MG-NC | 2.20 | 2.11        | 2.06     |
| 19  | 3     | 302 | CLA  | MG-NC | 2.20 | 2.11        | 2.06     |
| 19  | 3     | 310 | CLA  | MG-NC | 2.20 | 2.11        | 2.06     |
| 18  | 4     | 304 | CHL  | MG-NC | 2.20 | 2.11        | 2.06     |
| 19  | 2     | 304 | CLA  | MG-NC | 2.20 | 2.11        | 2.06     |
| 19  | B     | 825 | CLA  | MG-NC | 2.20 | 2.11        | 2.06     |
| 19  | B     | 836 | CLA  | MG-NC | 2.20 | 2.11        | 2.06     |
| 19  | A     | 817 | CLA  | MG-NC | 2.20 | 2.11        | 2.06     |
| 18  | 4     | 306 | CHL  | MG-NC | 2.19 | 2.11        | 2.06     |
| 19  | 4     | 309 | CLA  | MG-NC | 2.19 | 2.11        | 2.06     |
| 19  | A     | 837 | CLA  | MG-NC | 2.19 | 2.11        | 2.06     |
| 19  | B     | 837 | CLA  | MG-NC | 2.19 | 2.11        | 2.06     |
| 19  | G     | 204 | CLA  | MG-NC | 2.19 | 2.11        | 2.06     |
| 19  | B     | 821 | CLA  | MG-NC | 2.19 | 2.11        | 2.06     |
| 19  | B     | 812 | CLA  | MG-NC | 2.19 | 2.11        | 2.06     |
| 19  | H     | 201 | CLA  | MG-NC | 2.19 | 2.11        | 2.06     |
| 19  | 2     | 303 | CLA  | MG-NC | 2.19 | 2.11        | 2.06     |
| 19  | 3     | 312 | CLA  | MG-NC | 2.19 | 2.11        | 2.06     |
| 19  | B     | 823 | CLA  | MG-NC | 2.19 | 2.11        | 2.06     |
| 19  | B     | 811 | CLA  | MG-NC | 2.19 | 2.11        | 2.06     |
| 19  | G     | 202 | CLA  | MG-NC | 2.19 | 2.11        | 2.06     |
| 19  | J     | 102 | CLA  | MG-NC | 2.19 | 2.11        | 2.06     |
| 19  | 4     | 303 | CLA  | MG-NC | 2.19 | 2.11        | 2.06     |
| 19  | F     | 301 | CLA  | MG-NC | 2.19 | 2.11        | 2.06     |

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| Mol | Chain | Res | Type | Atoms | Z    | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|-------|------|-------------|----------|
| 19  | B     | 833 | CLA  | MG-NC | 2.18 | 2.11        | 2.06     |
| 19  | L     | 303 | CLA  | MG-NC | 2.18 | 2.11        | 2.06     |
| 19  | B     | 813 | CLA  | MG-NC | 2.18 | 2.11        | 2.06     |
| 19  | 1     | 307 | CLA  | MG-NC | 2.18 | 2.11        | 2.06     |
| 19  | A     | 834 | CLA  | MG-NC | 2.18 | 2.11        | 2.06     |
| 19  | A     | 840 | CLA  | MG-NC | 2.18 | 2.11        | 2.06     |
| 19  | 4     | 313 | CLA  | MG-NC | 2.18 | 2.11        | 2.06     |
| 19  | A     | 819 | CLA  | MG-NC | 2.18 | 2.11        | 2.06     |
| 19  | G     | 203 | CLA  | MG-NC | 2.18 | 2.11        | 2.06     |
| 19  | K     | 202 | CLA  | MG-NC | 2.18 | 2.11        | 2.06     |
| 19  | B     | 826 | CLA  | MG-NC | 2.18 | 2.11        | 2.06     |
| 18  | 1     | 301 | CHL  | MG-NC | 2.18 | 2.11        | 2.06     |
| 19  | B     | 818 | CLA  | MG-NC | 2.18 | 2.11        | 2.06     |
| 19  | L     | 302 | CLA  | MG-NC | 2.18 | 2.11        | 2.06     |
| 19  | B     | 819 | CLA  | MG-NC | 2.17 | 2.11        | 2.06     |
| 19  | A     | 812 | CLA  | MG-NC | 2.17 | 2.11        | 2.06     |
| 18  | 3     | 307 | CHL  | MG-NC | 2.17 | 2.11        | 2.06     |
| 19  | 1     | 312 | CLA  | MG-NC | 2.17 | 2.11        | 2.06     |
| 19  | 3     | 301 | CLA  | MG-NC | 2.17 | 2.11        | 2.06     |
| 19  | 2     | 302 | CLA  | MG-NC | 2.17 | 2.11        | 2.06     |
| 19  | B     | 808 | CLA  | MG-NC | 2.17 | 2.11        | 2.06     |
| 19  | 3     | 303 | CLA  | MG-NC | 2.17 | 2.11        | 2.06     |
| 19  | A     | 820 | CLA  | MG-NC | 2.17 | 2.11        | 2.06     |
| 19  | B     | 803 | CLA  | MG-NC | 2.17 | 2.11        | 2.06     |
| 19  | B     | 807 | CLA  | MG-NC | 2.17 | 2.11        | 2.06     |
| 19  | B     | 814 | CLA  | MG-NC | 2.17 | 2.11        | 2.06     |
| 18  | 1     | 306 | CHL  | MG-NC | 2.17 | 2.11        | 2.06     |
| 19  | 2     | 320 | CLA  | MG-NC | 2.17 | 2.11        | 2.06     |
| 19  | B     | 827 | CLA  | MG-NC | 2.16 | 2.11        | 2.06     |
| 19  | B     | 809 | CLA  | MG-NC | 2.16 | 2.11        | 2.06     |
| 19  | L     | 301 | CLA  | MG-NC | 2.16 | 2.11        | 2.06     |
| 19  | A     | 853 | CLA  | MG-NC | 2.16 | 2.11        | 2.06     |
| 19  | A     | 821 | CLA  | MG-NC | 2.16 | 2.11        | 2.06     |
| 19  | A     | 825 | CLA  | MG-NC | 2.16 | 2.11        | 2.06     |
| 19  | 2     | 309 | CLA  | MG-NC | 2.16 | 2.11        | 2.06     |
| 19  | 1     | 321 | CLA  | MG-NC | 2.16 | 2.11        | 2.06     |
| 19  | B     | 832 | CLA  | MG-NC | 2.16 | 2.11        | 2.06     |
| 19  | A     | 818 | CLA  | MG-NC | 2.16 | 2.11        | 2.06     |
| 19  | 1     | 303 | CLA  | MG-NC | 2.16 | 2.11        | 2.06     |
| 19  | 2     | 308 | CLA  | MG-NC | 2.16 | 2.11        | 2.06     |
| 19  | A     | 811 | CLA  | MG-NC | 2.16 | 2.11        | 2.06     |
| 19  | B     | 806 | CLA  | MG-NC | 2.15 | 2.11        | 2.06     |

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| Mol | Chain | Res | Type | Atoms | Z    | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|-------|------|-------------|----------|
| 19  | A     | 813 | CLA  | MG-NC | 2.15 | 2.11        | 2.06     |
| 19  | A     | 854 | CLA  | MG-NC | 2.15 | 2.11        | 2.06     |
| 19  | A     | 816 | CLA  | MG-NC | 2.15 | 2.11        | 2.06     |
| 19  | 3     | 308 | CLA  | MG-NC | 2.15 | 2.11        | 2.06     |
| 19  | A     | 803 | CLA  | MG-NC | 2.15 | 2.11        | 2.06     |
| 19  | B     | 828 | CLA  | MG-NC | 2.15 | 2.11        | 2.06     |
| 19  | A     | 830 | CLA  | MG-NC | 2.15 | 2.11        | 2.06     |
| 19  | 3     | 306 | CLA  | MG-NC | 2.15 | 2.11        | 2.06     |
| 19  | 4     | 312 | CLA  | MG-NC | 2.15 | 2.11        | 2.06     |
| 19  | B     | 801 | CLA  | MG-NC | 2.15 | 2.11        | 2.06     |
| 19  | 1     | 309 | CLA  | MG-NC | 2.15 | 2.11        | 2.06     |
| 19  | B     | 817 | CLA  | MG-NC | 2.15 | 2.11        | 2.06     |
| 19  | 2     | 310 | CLA  | MG-NC | 2.15 | 2.11        | 2.06     |
| 19  | 3     | 309 | CLA  | MG-NC | 2.15 | 2.11        | 2.06     |
| 19  | A     | 826 | CLA  | MG-NC | 2.15 | 2.11        | 2.06     |
| 19  | 1     | 308 | CLA  | MG-NC | 2.15 | 2.11        | 2.06     |
| 19  | A     | 802 | CLA  | MG-NC | 2.14 | 2.11        | 2.06     |
| 19  | A     | 814 | CLA  | MG-NC | 2.14 | 2.11        | 2.06     |
| 19  | B     | 810 | CLA  | MG-NC | 2.14 | 2.11        | 2.06     |
| 19  | 1     | 302 | CLA  | MG-NC | 2.14 | 2.11        | 2.06     |
| 19  | F     | 302 | CLA  | MG-NC | 2.14 | 2.11        | 2.06     |
| 19  | A     | 805 | CLA  | MG-NC | 2.14 | 2.11        | 2.06     |
| 19  | 1     | 313 | CLA  | MG-NC | 2.14 | 2.11        | 2.06     |
| 19  | A     | 810 | CLA  | MG-NC | 2.14 | 2.11        | 2.06     |
| 19  | 1     | 314 | CLA  | MG-NC | 2.13 | 2.11        | 2.06     |
| 19  | A     | 807 | CLA  | MG-NC | 2.13 | 2.11        | 2.06     |
| 19  | A     | 801 | CLA  | MG-NC | 2.13 | 2.11        | 2.06     |
| 19  | B     | 820 | CLA  | MG-NC | 2.13 | 2.11        | 2.06     |
| 19  | A     | 806 | CLA  | MG-NC | 2.13 | 2.11        | 2.06     |
| 19  | B     | 815 | CLA  | MG-NC | 2.13 | 2.11        | 2.06     |
| 19  | B     | 824 | CLA  | MG-NC | 2.12 | 2.11        | 2.06     |
| 19  | B     | 802 | CLA  | MG-NC | 2.12 | 2.11        | 2.06     |
| 19  | B     | 829 | CLA  | MG-NC | 2.12 | 2.11        | 2.06     |
| 19  | A     | 833 | CLA  | MG-NC | 2.12 | 2.11        | 2.06     |
| 19  | A     | 809 | CLA  | MG-NC | 2.12 | 2.11        | 2.06     |
| 19  | A     | 838 | CLA  | MG-NC | 2.12 | 2.11        | 2.06     |
| 19  | A     | 852 | CLA  | MG-NC | 2.11 | 2.11        | 2.06     |
| 19  | A     | 808 | CLA  | MG-NC | 2.11 | 2.11        | 2.06     |
| 19  | 4     | 301 | CLA  | MG-NC | 2.11 | 2.11        | 2.06     |
| 19  | B     | 804 | CLA  | MG-NC | 2.11 | 2.11        | 2.06     |
| 19  | A     | 827 | CLA  | MG-NC | 2.11 | 2.11        | 2.06     |
| 19  | B     | 838 | CLA  | MG-NC | 2.11 | 2.11        | 2.06     |

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| Mol | Chain | Res | Type | Atoms   | Z     | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|-------|-------------|----------|
| 19  | A     | 804 | CLA  | MG-NC   | 2.11  | 2.11        | 2.06     |
| 19  | B     | 816 | CLA  | MG-NC   | 2.10  | 2.11        | 2.06     |
| 19  | B     | 835 | CLA  | MG-NC   | 2.10  | 2.11        | 2.06     |
| 19  | B     | 831 | CLA  | MG-NC   | 2.09  | 2.11        | 2.06     |
| 19  | 4     | 308 | CLA  | MG-NC   | 2.09  | 2.11        | 2.06     |
| 19  | A     | 823 | CLA  | MG-NC   | 2.08  | 2.11        | 2.06     |
| 19  | B     | 822 | CLA  | MG-NC   | 2.07  | 2.11        | 2.06     |
| 18  | 4     | 305 | CHL  | C3B-CAB | -2.06 | 1.43        | 1.47     |
| 18  | 2     | 307 | CHL  | C3B-CAB | -2.06 | 1.43        | 1.47     |
| 18  | 3     | 307 | CHL  | C3B-CAB | -2.05 | 1.43        | 1.47     |
| 18  | 4     | 306 | CHL  | C3B-CAB | -2.04 | 1.43        | 1.47     |
| 19  | 2     | 313 | CLA  | CAA-C2A | 2.04  | 1.57        | 1.54     |
| 18  | 1     | 306 | CHL  | C3B-CAB | -2.04 | 1.43        | 1.47     |
| 18  | 4     | 314 | CHL  | C3B-CAB | -2.03 | 1.43        | 1.47     |
| 18  | 3     | 307 | CHL  | O1D-CGD | 2.03  | 1.26        | 1.21     |
| 18  | 1     | 301 | CHL  | C3B-CAB | -2.03 | 1.43        | 1.47     |
| 18  | 2     | 305 | CHL  | O1D-CGD | 2.03  | 1.26        | 1.21     |
| 18  | 2     | 306 | CHL  | O1D-CGD | 2.03  | 1.26        | 1.21     |
| 18  | 2     | 314 | CHL  | O1D-CGD | 2.03  | 1.26        | 1.21     |
| 19  | K     | 204 | CLA  | CAA-C2A | 2.02  | 1.57        | 1.53     |
| 18  | 1     | 306 | CHL  | O1D-CGD | 2.02  | 1.26        | 1.21     |
| 18  | 4     | 305 | CHL  | C1B-NB  | 2.02  | 1.37        | 1.35     |
| 18  | 4     | 306 | CHL  | C1B-NB  | 2.02  | 1.37        | 1.35     |
| 18  | 4     | 305 | CHL  | O1D-CGD | 2.02  | 1.26        | 1.21     |
| 18  | 2     | 301 | CHL  | O1D-CGD | 2.01  | 1.26        | 1.21     |
| 18  | 4     | 304 | CHL  | O1D-CGD | 2.01  | 1.26        | 1.21     |
| 18  | 2     | 307 | CHL  | O1D-CGD | 2.01  | 1.26        | 1.21     |
| 18  | 4     | 304 | CHL  | C3B-CAB | -2.01 | 1.43        | 1.47     |
| 19  | 2     | 304 | CLA  | CAA-C2A | 2.01  | 1.57        | 1.54     |
| 19  | 3     | 310 | CLA  | CAA-C2A | 2.01  | 1.57        | 1.53     |

All (1522) bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms      | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 19  | 1     | 321 | CLA  | C4A-NA-C1A | 10.93 | 111.62      | 106.71   |
| 19  | A     | 804 | CLA  | C4A-NA-C1A | 10.89 | 111.60      | 106.71   |
| 19  | G     | 203 | CLA  | C4A-NA-C1A | 10.87 | 111.59      | 106.71   |
| 19  | B     | 825 | CLA  | C4A-NA-C1A | 10.83 | 111.57      | 106.71   |
| 18  | 3     | 307 | CHL  | C4A-NA-C1A | 10.81 | 111.57      | 106.71   |
| 19  | B     | 812 | CLA  | C4A-NA-C1A | 10.69 | 111.51      | 106.71   |
| 18  | 4     | 314 | CHL  | C4A-NA-C1A | 10.66 | 111.50      | 106.71   |
| 19  | A     | 812 | CLA  | C4A-NA-C1A | 10.65 | 111.50      | 106.71   |

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| Mol | Chain | Res | Type | Atoms      | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 19  | A     | 826 | CLA  | C4A-NA-C1A | 10.65 | 111.49      | 106.71   |
| 19  | 2     | 311 | CLA  | C4A-NA-C1A | 10.63 | 111.48      | 106.71   |
| 19  | 2     | 313 | CLA  | C4A-NA-C1A | 10.60 | 111.47      | 106.71   |
| 19  | B     | 834 | CLA  | C4A-NA-C1A | 10.59 | 111.47      | 106.71   |
| 19  | G     | 204 | CLA  | C4A-NA-C1A | 10.57 | 111.46      | 106.71   |
| 19  | F     | 301 | CLA  | C4A-NA-C1A | 10.57 | 111.46      | 106.71   |
| 19  | 3     | 311 | CLA  | C4A-NA-C1A | 10.54 | 111.44      | 106.71   |
| 18  | 2     | 305 | CHL  | C4A-NA-C1A | 10.50 | 111.43      | 106.71   |
| 19  | K     | 204 | CLA  | C4A-NA-C1A | 10.48 | 111.42      | 106.71   |
| 19  | A     | 813 | CLA  | C4A-NA-C1A | 10.48 | 111.42      | 106.71   |
| 19  | B     | 804 | CLA  | C4A-NA-C1A | 10.47 | 111.41      | 106.71   |
| 19  | F     | 304 | CLA  | C4A-NA-C1A | 10.42 | 111.39      | 106.71   |
| 19  | 2     | 320 | CLA  | C4A-NA-C1A | 10.39 | 111.38      | 106.71   |
| 19  | A     | 835 | CLA  | C4A-NA-C1A | 10.38 | 111.37      | 106.71   |
| 19  | 4     | 310 | CLA  | C4A-NA-C1A | 10.37 | 111.37      | 106.71   |
| 18  | 1     | 306 | CHL  | C4A-NA-C1A | 10.35 | 111.36      | 106.71   |
| 19  | B     | 805 | CLA  | C4A-NA-C1A | 10.35 | 111.36      | 106.71   |
| 18  | 2     | 307 | CHL  | C4A-NA-C1A | 10.34 | 111.36      | 106.71   |
| 18  | 2     | 301 | CHL  | C4A-NA-C1A | 10.32 | 111.34      | 106.71   |
| 19  | B     | 814 | CLA  | C4A-NA-C1A | 10.27 | 111.32      | 106.71   |
| 18  | 2     | 306 | CHL  | C4A-NA-C1A | 10.24 | 111.31      | 106.71   |
| 19  | A     | 805 | CLA  | C4A-NA-C1A | 10.21 | 111.29      | 106.71   |
| 19  | K     | 203 | CLA  | C4A-NA-C1A | 10.18 | 111.28      | 106.71   |
| 19  | 1     | 311 | CLA  | C4A-NA-C1A | 10.17 | 111.28      | 106.71   |
| 19  | A     | 821 | CLA  | C4A-NA-C1A | 10.17 | 111.28      | 106.71   |
| 19  | A     | 822 | CLA  | C4A-NA-C1A | 10.16 | 111.27      | 106.71   |
| 19  | B     | 807 | CLA  | C4A-NA-C1A | 10.13 | 111.26      | 106.71   |
| 19  | A     | 808 | CLA  | C4A-NA-C1A | 10.13 | 111.26      | 106.71   |
| 19  | B     | 802 | CLA  | C4A-NA-C1A | 10.13 | 111.26      | 106.71   |
| 19  | B     | 811 | CLA  | C4A-NA-C1A | 10.13 | 111.26      | 106.71   |
| 19  | B     | 833 | CLA  | C4A-NA-C1A | 10.13 | 111.26      | 106.71   |
| 19  | A     | 825 | CLA  | C4A-NA-C1A | 10.11 | 111.25      | 106.71   |
| 19  | F     | 303 | CLA  | C4A-NA-C1A | 10.10 | 111.25      | 106.71   |
| 18  | 1     | 301 | CHL  | C4A-NA-C1A | 10.06 | 111.23      | 106.71   |
| 19  | 3     | 312 | CLA  | C4A-NA-C1A | 10.06 | 111.23      | 106.71   |
| 19  | A     | 829 | CLA  | C4A-NA-C1A | 10.04 | 111.22      | 106.71   |
| 19  | 4     | 307 | CLA  | C4A-NA-C1A | 10.03 | 111.22      | 106.71   |
| 19  | 1     | 309 | CLA  | C4A-NA-C1A | 10.02 | 111.21      | 106.71   |
| 19  | A     | 819 | CLA  | C4A-NA-C1A | 10.02 | 111.21      | 106.71   |
| 19  | B     | 835 | CLA  | C4A-NA-C1A | 10.02 | 111.21      | 106.71   |
| 19  | 4     | 301 | CLA  | C4A-NA-C1A | 10.01 | 111.21      | 106.71   |
| 19  | B     | 810 | CLA  | C4A-NA-C1A | 10.01 | 111.21      | 106.71   |

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| Mol | Chain | Res | Type | Atoms      | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 19  | 3     | 304 | CLA  | C4A-NA-C1A | 10.01 | 111.20      | 106.71   |
| 19  | A     | 854 | CLA  | C4A-NA-C1A | 10.01 | 111.20      | 106.71   |
| 19  | 1     | 308 | CLA  | C4A-NA-C1A | 9.99  | 111.20      | 106.71   |
| 19  | 1     | 305 | CLA  | C4A-NA-C1A | 9.98  | 111.19      | 106.71   |
| 19  | A     | 815 | CLA  | C4A-NA-C1A | 9.97  | 111.19      | 106.71   |
| 19  | 4     | 311 | CLA  | C4A-NA-C1A | 9.96  | 111.19      | 106.71   |
| 19  | A     | 838 | CLA  | C4A-NA-C1A | 9.95  | 111.18      | 106.71   |
| 19  | 3     | 302 | CLA  | C4A-NA-C1A | 9.93  | 111.17      | 106.71   |
| 19  | A     | 831 | CLA  | C4A-NA-C1A | 9.93  | 111.17      | 106.71   |
| 19  | B     | 830 | CLA  | C4A-NA-C1A | 9.92  | 111.16      | 106.71   |
| 19  | 4     | 303 | CLA  | C4A-NA-C1A | 9.91  | 111.16      | 106.71   |
| 19  | 2     | 312 | CLA  | C4A-NA-C1A | 9.90  | 111.16      | 106.71   |
| 19  | A     | 851 | CLA  | C4A-NA-C1A | 9.89  | 111.15      | 106.71   |
| 19  | A     | 809 | CLA  | C4A-NA-C1A | 9.87  | 111.14      | 106.71   |
| 19  | A     | 839 | CLA  | C4A-NA-C1A | 9.87  | 111.14      | 106.71   |
| 19  | B     | 813 | CLA  | C4A-NA-C1A | 9.85  | 111.13      | 106.71   |
| 18  | 4     | 304 | CHL  | C4A-NA-C1A | 9.84  | 111.13      | 106.71   |
| 19  | B     | 803 | CLA  | C4A-NA-C1A | 9.84  | 111.13      | 106.71   |
| 19  | 4     | 308 | CLA  | C4A-NA-C1A | 9.84  | 111.13      | 106.71   |
| 19  | B     | 821 | CLA  | C4A-NA-C1A | 9.84  | 111.13      | 106.71   |
| 19  | 4     | 313 | CLA  | C4A-NA-C1A | 9.83  | 111.13      | 106.71   |
| 19  | A     | 832 | CLA  | C4A-NA-C1A | 9.83  | 111.13      | 106.71   |
| 19  | A     | 811 | CLA  | C4A-NA-C1A | 9.83  | 111.12      | 106.71   |
| 19  | B     | 808 | CLA  | C4A-NA-C1A | 9.82  | 111.12      | 106.71   |
| 19  | K     | 202 | CLA  | C4A-NA-C1A | 9.82  | 111.12      | 106.71   |
| 19  | 1     | 302 | CLA  | C4A-NA-C1A | 9.81  | 111.12      | 106.71   |
| 19  | 1     | 310 | CLA  | C4A-NA-C1A | 9.80  | 111.11      | 106.71   |
| 19  | 2     | 303 | CLA  | C4A-NA-C1A | 9.80  | 111.11      | 106.71   |
| 19  | G     | 202 | CLA  | C4A-NA-C1A | 9.80  | 111.11      | 106.71   |
| 19  | 3     | 314 | CLA  | C4A-NA-C1A | 9.76  | 111.09      | 106.71   |
| 19  | A     | 814 | CLA  | C4A-NA-C1A | 9.76  | 111.09      | 106.71   |
| 19  | B     | 818 | CLA  | C4A-NA-C1A | 9.74  | 111.09      | 106.71   |
| 19  | B     | 824 | CLA  | C4A-NA-C1A | 9.73  | 111.08      | 106.71   |
| 19  | 1     | 312 | CLA  | C4A-NA-C1A | 9.71  | 111.07      | 106.71   |
| 19  | H     | 201 | CLA  | C4A-NA-C1A | 9.70  | 111.07      | 106.71   |
| 18  | 4     | 306 | CHL  | C4A-NA-C1A | 9.68  | 111.06      | 106.71   |
| 19  | 3     | 308 | CLA  | C4A-NA-C1A | 9.67  | 111.05      | 106.71   |
| 19  | 1     | 304 | CLA  | C4A-NA-C1A | 9.66  | 111.05      | 106.71   |
| 19  | B     | 819 | CLA  | C4A-NA-C1A | 9.66  | 111.05      | 106.71   |
| 19  | 2     | 302 | CLA  | C4A-NA-C1A | 9.64  | 111.04      | 106.71   |
| 19  | 1     | 303 | CLA  | C4A-NA-C1A | 9.63  | 111.04      | 106.71   |
| 19  | 4     | 312 | CLA  | C4A-NA-C1A | 9.63  | 111.04      | 106.71   |

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| Mol | Chain | Res | Type | Atoms      | Z    | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|------|-------------|----------|
| 19  | 3     | 305 | CLA  | C4A-NA-C1A | 9.62 | 111.03      | 106.71   |
| 19  | A     | 817 | CLA  | C4A-NA-C1A | 9.61 | 111.03      | 106.71   |
| 19  | B     | 820 | CLA  | C4A-NA-C1A | 9.61 | 111.03      | 106.71   |
| 19  | 3     | 301 | CLA  | C4A-NA-C1A | 9.60 | 111.02      | 106.71   |
| 19  | 1     | 314 | CLA  | C4A-NA-C1A | 9.60 | 111.02      | 106.71   |
| 19  | B     | 806 | CLA  | C4A-NA-C1A | 9.60 | 111.02      | 106.71   |
| 19  | 2     | 309 | CLA  | C4A-NA-C1A | 9.58 | 111.01      | 106.71   |
| 19  | 3     | 303 | CLA  | C4A-NA-C1A | 9.57 | 111.01      | 106.71   |
| 19  | A     | 828 | CLA  | C4A-NA-C1A | 9.57 | 111.01      | 106.71   |
| 19  | A     | 836 | CLA  | C4A-NA-C1A | 9.57 | 111.01      | 106.71   |
| 19  | 2     | 310 | CLA  | C4A-NA-C1A | 9.56 | 111.01      | 106.71   |
| 19  | B     | 815 | CLA  | C4A-NA-C1A | 9.56 | 111.00      | 106.71   |
| 19  | A     | 852 | CLA  | C4A-NA-C1A | 9.56 | 111.00      | 106.71   |
| 19  | A     | 810 | CLA  | C4A-NA-C1A | 9.55 | 111.00      | 106.71   |
| 19  | 3     | 309 | CLA  | C4A-NA-C1A | 9.54 | 111.00      | 106.71   |
| 19  | L     | 301 | CLA  | C4A-NA-C1A | 9.54 | 111.00      | 106.71   |
| 19  | B     | 827 | CLA  | C4A-NA-C1A | 9.54 | 110.99      | 106.71   |
| 19  | A     | 827 | CLA  | C4A-NA-C1A | 9.53 | 110.99      | 106.71   |
| 19  | A     | 806 | CLA  | C4A-NA-C1A | 9.52 | 110.99      | 106.71   |
| 19  | 2     | 308 | CLA  | C4A-NA-C1A | 9.52 | 110.98      | 106.71   |
| 19  | 1     | 307 | CLA  | C4A-NA-C1A | 9.51 | 110.98      | 106.71   |
| 19  | B     | 836 | CLA  | C4A-NA-C1A | 9.48 | 110.97      | 106.71   |
| 19  | J     | 102 | CLA  | C4A-NA-C1A | 9.48 | 110.97      | 106.71   |
| 19  | 3     | 313 | CLA  | C4A-NA-C1A | 9.48 | 110.97      | 106.71   |
| 19  | A     | 840 | CLA  | C4A-NA-C1A | 9.48 | 110.97      | 106.71   |
| 19  | B     | 823 | CLA  | C4A-NA-C1A | 9.47 | 110.97      | 106.71   |
| 19  | 4     | 302 | CLA  | C4A-NA-C1A | 9.47 | 110.96      | 106.71   |
| 19  | A     | 820 | CLA  | C4A-NA-C1A | 9.46 | 110.96      | 106.71   |
| 19  | B     | 832 | CLA  | C4A-NA-C1A | 9.45 | 110.96      | 106.71   |
| 19  | B     | 817 | CLA  | C4A-NA-C1A | 9.45 | 110.95      | 106.71   |
| 19  | L     | 302 | CLA  | C4A-NA-C1A | 9.43 | 110.95      | 106.71   |
| 19  | B     | 801 | CLA  | C4A-NA-C1A | 9.42 | 110.94      | 106.71   |
| 19  | A     | 816 | CLA  | C4A-NA-C1A | 9.42 | 110.94      | 106.71   |
| 19  | A     | 818 | CLA  | C4A-NA-C1A | 9.41 | 110.94      | 106.71   |
| 19  | B     | 831 | CLA  | C4A-NA-C1A | 9.40 | 110.93      | 106.71   |
| 19  | L     | 303 | CLA  | C4A-NA-C1A | 9.39 | 110.93      | 106.71   |
| 19  | A     | 824 | CLA  | C4A-NA-C1A | 9.39 | 110.93      | 106.71   |
| 19  | F     | 302 | CLA  | C4A-NA-C1A | 9.39 | 110.93      | 106.71   |
| 19  | B     | 837 | CLA  | C4A-NA-C1A | 9.37 | 110.92      | 106.71   |
| 19  | A     | 837 | CLA  | C4A-NA-C1A | 9.37 | 110.92      | 106.71   |
| 19  | A     | 853 | CLA  | C4A-NA-C1A | 9.36 | 110.92      | 106.71   |
| 18  | 4     | 305 | CHL  | C4A-NA-C1A | 9.35 | 110.91      | 106.71   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 19  | A     | 803 | CLA  | C4A-NA-C1A  | 9.34  | 110.91      | 106.71   |
| 19  | 3     | 306 | CLA  | C4A-NA-C1A  | 9.32  | 110.90      | 106.71   |
| 19  | 2     | 304 | CLA  | C4A-NA-C1A  | 9.28  | 110.88      | 106.71   |
| 19  | A     | 833 | CLA  | C4A-NA-C1A  | 9.26  | 110.87      | 106.71   |
| 19  | B     | 829 | CLA  | C4A-NA-C1A  | 9.26  | 110.87      | 106.71   |
| 19  | 3     | 310 | CLA  | C4A-NA-C1A  | 9.24  | 110.86      | 106.71   |
| 19  | B     | 826 | CLA  | C4A-NA-C1A  | 9.21  | 110.84      | 106.71   |
| 19  | A     | 823 | CLA  | C4A-NA-C1A  | 9.18  | 110.83      | 106.71   |
| 19  | B     | 838 | CLA  | C4A-NA-C1A  | 9.17  | 110.83      | 106.71   |
| 19  | A     | 830 | CLA  | C4A-NA-C1A  | 9.12  | 110.81      | 106.71   |
| 19  | 4     | 309 | CLA  | C4A-NA-C1A  | 9.12  | 110.80      | 106.71   |
| 19  | 1     | 313 | CLA  | C4A-NA-C1A  | 9.10  | 110.80      | 106.71   |
| 19  | B     | 828 | CLA  | C4A-NA-C1A  | 9.06  | 110.78      | 106.71   |
| 19  | A     | 807 | CLA  | C4A-NA-C1A  | 9.04  | 110.77      | 106.71   |
| 19  | B     | 809 | CLA  | C4A-NA-C1A  | 9.00  | 110.75      | 106.71   |
| 19  | A     | 801 | CLA  | C4A-NA-C1A  | 8.88  | 110.70      | 106.71   |
| 18  | 2     | 314 | CHL  | C4A-NA-C1A  | 8.83  | 110.68      | 106.71   |
| 19  | B     | 822 | CLA  | C4A-NA-C1A  | 8.79  | 110.66      | 106.71   |
| 19  | B     | 816 | CLA  | C4A-NA-C1A  | 8.66  | 110.60      | 106.71   |
| 19  | A     | 802 | CLA  | C4A-NA-C1A  | 8.50  | 110.53      | 106.71   |
| 19  | A     | 834 | CLA  | C4A-NA-C1A  | 8.41  | 110.49      | 106.71   |
| 19  | B     | 810 | CLA  | CAB-C3B-C4B | 5.74  | 137.29      | 128.46   |
| 19  | A     | 801 | CLA  | O2D-CGD-CBD | 4.41  | 119.11      | 111.27   |
| 19  | A     | 829 | CLA  | O2D-CGD-CBD | 4.41  | 119.11      | 111.27   |
| 19  | B     | 810 | CLA  | CAB-C3B-C2B | -4.37 | 116.12      | 124.69   |
| 20  | 1     | 320 | LUT  | C35-C15-C14 | 4.32  | 132.32      | 123.47   |
| 19  | B     | 835 | CLA  | O2D-CGD-CBD | 4.29  | 118.89      | 111.27   |
| 19  | A     | 826 | CLA  | O2D-CGD-CBD | 4.25  | 118.83      | 111.27   |
| 19  | B     | 806 | CLA  | O2D-CGD-CBD | 4.21  | 118.75      | 111.27   |
| 19  | 3     | 310 | CLA  | O2D-CGD-CBD | 4.19  | 118.71      | 111.27   |
| 20  | 1     | 320 | LUT  | C19-C9-C10  | -4.18 | 117.07      | 122.92   |
| 19  | B     | 819 | CLA  | O2D-CGD-CBD | 4.17  | 118.67      | 111.27   |
| 20  | 1     | 315 | LUT  | C15-C35-C34 | 4.16  | 132.00      | 123.47   |
| 19  | B     | 813 | CLA  | O2D-CGD-CBD | 4.16  | 118.65      | 111.27   |
| 19  | 2     | 320 | CLA  | O2D-CGD-CBD | 4.15  | 118.65      | 111.27   |
| 18  | 4     | 314 | CHL  | CAA-C2A-C3A | -4.15 | 103.89      | 114.26   |
| 19  | 3     | 312 | CLA  | O2D-CGD-CBD | 4.14  | 118.63      | 111.27   |
| 19  | A     | 827 | CLA  | O2D-CGD-CBD | 4.14  | 118.63      | 111.27   |
| 19  | 1     | 321 | CLA  | O2D-CGD-CBD | 4.14  | 118.62      | 111.27   |
| 18  | 2     | 305 | CHL  | CAA-C2A-C3A | -4.12 | 103.95      | 114.26   |
| 19  | A     | 803 | CLA  | O2D-CGD-CBD | 4.12  | 118.59      | 111.27   |
| 19  | A     | 814 | CLA  | O2D-CGD-CBD | 4.12  | 118.59      | 111.27   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 19  | B     | 827 | CLA  | O2D-CGD-CBD | 4.11  | 118.56      | 111.27   |
| 19  | B     | 812 | CLA  | O2D-CGD-CBD | 4.10  | 118.56      | 111.27   |
| 19  | A     | 836 | CLA  | O2D-CGD-CBD | 4.09  | 118.54      | 111.27   |
| 19  | B     | 836 | CLA  | O2D-CGD-CBD | 4.09  | 118.54      | 111.27   |
| 19  | 4     | 309 | CLA  | O2D-CGD-CBD | 4.08  | 118.52      | 111.27   |
| 18  | 2     | 314 | CHL  | CAA-C2A-C3A | -4.08 | 104.07      | 114.26   |
| 19  | 1     | 309 | CLA  | O2D-CGD-CBD | 4.08  | 118.51      | 111.27   |
| 19  | B     | 834 | CLA  | O2D-CGD-CBD | 4.08  | 118.51      | 111.27   |
| 19  | 3     | 314 | CLA  | O2D-CGD-CBD | 4.07  | 118.50      | 111.27   |
| 18  | 4     | 304 | CHL  | O2D-CGD-CBD | 4.07  | 118.50      | 111.27   |
| 20  | 2     | 315 | LUT  | C15-C35-C34 | 4.06  | 131.80      | 123.47   |
| 19  | A     | 854 | CLA  | O2D-CGD-CBD | 4.06  | 118.48      | 111.27   |
| 19  | A     | 853 | CLA  | O2D-CGD-CBD | 4.05  | 118.46      | 111.27   |
| 19  | 4     | 307 | CLA  | O2D-CGD-CBD | 4.05  | 118.46      | 111.27   |
| 19  | B     | 809 | CLA  | O2D-CGD-CBD | 4.03  | 118.44      | 111.27   |
| 19  | A     | 825 | CLA  | O2D-CGD-CBD | 4.03  | 118.44      | 111.27   |
| 19  | 1     | 303 | CLA  | O2D-CGD-CBD | 4.03  | 118.43      | 111.27   |
| 19  | B     | 815 | CLA  | O2D-CGD-CBD | 4.03  | 118.43      | 111.27   |
| 19  | B     | 825 | CLA  | O2D-CGD-CBD | 4.03  | 118.43      | 111.27   |
| 19  | B     | 832 | CLA  | O2D-CGD-CBD | 4.02  | 118.42      | 111.27   |
| 19  | G     | 203 | CLA  | O2D-CGD-CBD | 4.02  | 118.42      | 111.27   |
| 19  | A     | 819 | CLA  | O2D-CGD-CBD | 4.02  | 118.41      | 111.27   |
| 19  | 1     | 312 | CLA  | O2D-CGD-CBD | 4.02  | 118.41      | 111.27   |
| 19  | J     | 102 | CLA  | O2D-CGD-CBD | 4.02  | 118.41      | 111.27   |
| 19  | A     | 804 | CLA  | O2D-CGD-CBD | 4.02  | 118.41      | 111.27   |
| 19  | A     | 822 | CLA  | O2D-CGD-CBD | 4.02  | 118.41      | 111.27   |
| 19  | B     | 810 | CLA  | O2D-CGD-CBD | 4.01  | 118.39      | 111.27   |
| 19  | A     | 812 | CLA  | O2D-CGD-CBD | 4.01  | 118.39      | 111.27   |
| 19  | B     | 817 | CLA  | O2D-CGD-CBD | 4.00  | 118.38      | 111.27   |
| 19  | B     | 821 | CLA  | O2D-CGD-CBD | 3.99  | 118.36      | 111.27   |
| 19  | 2     | 303 | CLA  | O2D-CGD-CBD | 3.99  | 118.36      | 111.27   |
| 19  | A     | 840 | CLA  | O2D-CGD-CBD | 3.99  | 118.35      | 111.27   |
| 19  | 3     | 308 | CLA  | O2D-CGD-CBD | 3.99  | 118.35      | 111.27   |
| 19  | B     | 816 | CLA  | O2D-CGD-CBD | 3.97  | 118.33      | 111.27   |
| 19  | B     | 829 | CLA  | O2D-CGD-CBD | 3.97  | 118.33      | 111.27   |
| 19  | 2     | 309 | CLA  | O2D-CGD-CBD | 3.97  | 118.32      | 111.27   |
| 19  | 4     | 311 | CLA  | O2D-CGD-CBD | 3.96  | 118.31      | 111.27   |
| 19  | B     | 823 | CLA  | O2D-CGD-CBD | 3.96  | 118.31      | 111.27   |
| 18  | 2     | 301 | CHL  | O2D-CGD-CBD | 3.96  | 118.31      | 111.27   |
| 19  | K     | 202 | CLA  | O2D-CGD-CBD | 3.96  | 118.30      | 111.27   |
| 19  | B     | 833 | CLA  | O2D-CGD-CBD | 3.95  | 118.30      | 111.27   |
| 19  | 3     | 303 | CLA  | O2D-CGD-CBD | 3.95  | 118.29      | 111.27   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 19  | A     | 811 | CLA  | O2D-CGD-CBD | 3.95  | 118.29      | 111.27   |
| 20  | 3     | 315 | LUT  | C19-C9-C10  | -3.95 | 117.39      | 122.92   |
| 19  | A     | 824 | CLA  | O2D-CGD-CBD | 3.95  | 118.29      | 111.27   |
| 19  | K     | 203 | CLA  | O2D-CGD-CBD | 3.95  | 118.29      | 111.27   |
| 19  | 1     | 307 | CLA  | O2D-CGD-CBD | 3.95  | 118.28      | 111.27   |
| 19  | A     | 802 | CLA  | O2D-CGD-CBD | 3.94  | 118.27      | 111.27   |
| 19  | B     | 804 | CLA  | O2D-CGD-CBD | 3.94  | 118.27      | 111.27   |
| 19  | 2     | 302 | CLA  | O2D-CGD-CBD | 3.94  | 118.27      | 111.27   |
| 19  | 2     | 313 | CLA  | O2D-CGD-CBD | 3.94  | 118.27      | 111.27   |
| 19  | 2     | 304 | CLA  | O2D-CGD-CBD | 3.93  | 118.26      | 111.27   |
| 19  | A     | 818 | CLA  | O2D-CGD-CBD | 3.93  | 118.26      | 111.27   |
| 19  | B     | 808 | CLA  | O2D-CGD-CBD | 3.93  | 118.26      | 111.27   |
| 19  | A     | 835 | CLA  | O2D-CGD-CBD | 3.93  | 118.25      | 111.27   |
| 19  | A     | 839 | CLA  | O2D-CGD-CBD | 3.93  | 118.25      | 111.27   |
| 19  | B     | 805 | CLA  | O2D-CGD-CBD | 3.93  | 118.25      | 111.27   |
| 19  | B     | 803 | CLA  | O2D-CGD-CBD | 3.93  | 118.25      | 111.27   |
| 19  | L     | 301 | CLA  | O2D-CGD-CBD | 3.93  | 118.25      | 111.27   |
| 18  | 4     | 305 | CHL  | O2D-CGD-CBD | 3.92  | 118.24      | 111.27   |
| 19  | B     | 838 | CLA  | O2D-CGD-CBD | 3.92  | 118.24      | 111.27   |
| 19  | A     | 852 | CLA  | O2D-CGD-CBD | 3.92  | 118.24      | 111.27   |
| 20  | 2     | 315 | LUT  | C39-C29-C30 | -3.92 | 117.43      | 122.92   |
| 19  | 4     | 308 | CLA  | O2D-CGD-CBD | 3.92  | 118.23      | 111.27   |
| 19  | A     | 851 | CLA  | O2D-CGD-CBD | 3.92  | 118.22      | 111.27   |
| 19  | A     | 805 | CLA  | O2D-CGD-CBD | 3.91  | 118.22      | 111.27   |
| 19  | 4     | 301 | CLA  | O2D-CGD-CBD | 3.91  | 118.21      | 111.27   |
| 19  | F     | 304 | CLA  | O2D-CGD-CBD | 3.91  | 118.21      | 111.27   |
| 19  | 4     | 313 | CLA  | O2D-CGD-CBD | 3.91  | 118.21      | 111.27   |
| 19  | 4     | 303 | CLA  | O2D-CGD-CBD | 3.90  | 118.21      | 111.27   |
| 19  | A     | 820 | CLA  | O2D-CGD-CBD | 3.90  | 118.21      | 111.27   |
| 19  | A     | 831 | CLA  | O2D-CGD-CBD | 3.90  | 118.20      | 111.27   |
| 19  | A     | 838 | CLA  | O2D-CGD-CBD | 3.90  | 118.20      | 111.27   |
| 19  | A     | 828 | CLA  | O2D-CGD-CBD | 3.90  | 118.19      | 111.27   |
| 18  | 2     | 307 | CHL  | O2D-CGD-CBD | 3.89  | 118.19      | 111.27   |
| 19  | A     | 807 | CLA  | O2D-CGD-CBD | 3.89  | 118.18      | 111.27   |
| 18  | 2     | 305 | CHL  | O2D-CGD-CBD | 3.89  | 118.18      | 111.27   |
| 19  | F     | 301 | CLA  | O2D-CGD-CBD | 3.89  | 118.17      | 111.27   |
| 19  | 1     | 304 | CLA  | O2D-CGD-CBD | 3.89  | 118.17      | 111.27   |
| 19  | 2     | 310 | CLA  | O2D-CGD-CBD | 3.89  | 118.17      | 111.27   |
| 19  | 1     | 311 | CLA  | O2D-CGD-CBD | 3.88  | 118.16      | 111.27   |
| 18  | 1     | 301 | CHL  | O2D-CGD-CBD | 3.88  | 118.16      | 111.27   |
| 19  | 1     | 314 | CLA  | O2D-CGD-CBD | 3.88  | 118.16      | 111.27   |
| 19  | A     | 837 | CLA  | O2D-CGD-CBD | 3.87  | 118.15      | 111.27   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 19  | 2     | 311 | CLA  | O2D-CGD-CBD | 3.87  | 118.14      | 111.27   |
| 19  | A     | 806 | CLA  | O2D-CGD-CBD | 3.87  | 118.14      | 111.27   |
| 19  | F     | 303 | CLA  | O2D-CGD-CBD | 3.87  | 118.14      | 111.27   |
| 19  | 3     | 313 | CLA  | O2D-CGD-CBD | 3.86  | 118.14      | 111.27   |
| 20  | 3     | 315 | LUT  | C39-C29-C30 | -3.86 | 117.51      | 122.92   |
| 18  | 3     | 307 | CHL  | O2D-CGD-CBD | 3.86  | 118.13      | 111.27   |
| 19  | B     | 814 | CLA  | O2D-CGD-CBD | 3.86  | 118.13      | 111.27   |
| 19  | 4     | 312 | CLA  | O2D-CGD-CBD | 3.86  | 118.12      | 111.27   |
| 20  | 4     | 315 | LUT  | C19-C9-C10  | -3.86 | 117.52      | 122.92   |
| 19  | 1     | 313 | CLA  | O2D-CGD-CBD | 3.86  | 118.12      | 111.27   |
| 19  | B     | 831 | CLA  | O2D-CGD-CBD | 3.86  | 118.12      | 111.27   |
| 19  | 4     | 302 | CLA  | O2D-CGD-CBD | 3.86  | 118.12      | 111.27   |
| 19  | 3     | 305 | CLA  | O2D-CGD-CBD | 3.85  | 118.12      | 111.27   |
| 19  | 3     | 306 | CLA  | O2D-CGD-CBD | 3.85  | 118.11      | 111.27   |
| 19  | B     | 826 | CLA  | O2D-CGD-CBD | 3.85  | 118.11      | 111.27   |
| 19  | 3     | 311 | CLA  | O2D-CGD-CBD | 3.84  | 118.10      | 111.27   |
| 18  | 4     | 306 | CHL  | O2D-CGD-CBD | 3.84  | 118.10      | 111.27   |
| 19  | 1     | 308 | CLA  | O2D-CGD-CBD | 3.84  | 118.09      | 111.27   |
| 20  | 1     | 320 | LUT  | C39-C29-C30 | -3.84 | 117.55      | 122.92   |
| 20  | 1     | 315 | LUT  | C39-C29-C30 | -3.84 | 117.55      | 122.92   |
| 19  | B     | 802 | CLA  | O2D-CGD-CBD | 3.84  | 118.08      | 111.27   |
| 19  | A     | 830 | CLA  | O2D-CGD-CBD | 3.83  | 118.08      | 111.27   |
| 19  | L     | 302 | CLA  | O2D-CGD-CBD | 3.83  | 118.08      | 111.27   |
| 19  | A     | 808 | CLA  | O2D-CGD-CBD | 3.83  | 118.08      | 111.27   |
| 20  | 4     | 315 | LUT  | C39-C29-C30 | -3.83 | 117.56      | 122.92   |
| 19  | B     | 818 | CLA  | O2D-CGD-CBD | 3.83  | 118.07      | 111.27   |
| 23  | B     | 842 | BCR  | C16-C15-C14 | 3.83  | 131.31      | 123.47   |
| 19  | A     | 833 | CLA  | O2D-CGD-CBD | 3.82  | 118.06      | 111.27   |
| 19  | B     | 837 | CLA  | O2D-CGD-CBD | 3.82  | 118.05      | 111.27   |
| 19  | A     | 815 | CLA  | O2D-CGD-CBD | 3.82  | 118.05      | 111.27   |
| 19  | A     | 823 | CLA  | O2D-CGD-CBD | 3.81  | 118.05      | 111.27   |
| 18  | 2     | 314 | CHL  | O2D-CGD-CBD | 3.81  | 118.04      | 111.27   |
| 19  | 2     | 308 | CLA  | O2D-CGD-CBD | 3.81  | 118.04      | 111.27   |
| 19  | G     | 202 | CLA  | O2D-CGD-CBD | 3.81  | 118.03      | 111.27   |
| 19  | F     | 302 | CLA  | CMB-C2B-C1B | -3.81 | 122.61      | 128.46   |
| 19  | B     | 811 | CLA  | O2D-CGD-CBD | 3.80  | 118.03      | 111.27   |
| 19  | B     | 830 | CLA  | O2D-CGD-CBD | 3.80  | 118.03      | 111.27   |
| 19  | A     | 813 | CLA  | O2D-CGD-CBD | 3.80  | 118.02      | 111.27   |
| 19  | B     | 807 | CLA  | O2D-CGD-CBD | 3.80  | 118.02      | 111.27   |
| 19  | L     | 303 | CLA  | O2D-CGD-CBD | 3.80  | 118.01      | 111.27   |
| 20  | 2     | 315 | LUT  | C19-C9-C10  | -3.80 | 117.61      | 122.92   |
| 19  | A     | 817 | CLA  | O2D-CGD-CBD | 3.79  | 118.01      | 111.27   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 19  | F     | 302 | CLA  | O2D-CGD-CBD | 3.79  | 118.00      | 111.27   |
| 19  | A     | 809 | CLA  | O2D-CGD-CBD | 3.79  | 118.00      | 111.27   |
| 19  | A     | 834 | CLA  | O2D-CGD-CBD | 3.78  | 117.98      | 111.27   |
| 19  | 1     | 302 | CLA  | O2D-CGD-CBD | 3.77  | 117.98      | 111.27   |
| 19  | 4     | 310 | CLA  | O2D-CGD-CBD | 3.77  | 117.97      | 111.27   |
| 19  | B     | 820 | CLA  | O2D-CGD-CBD | 3.77  | 117.97      | 111.27   |
| 19  | 2     | 312 | CLA  | O2D-CGD-CBD | 3.76  | 117.96      | 111.27   |
| 18  | 1     | 306 | CHL  | O2D-CGD-CBD | 3.76  | 117.95      | 111.27   |
| 18  | 2     | 306 | CHL  | O2D-CGD-CBD | 3.76  | 117.94      | 111.27   |
| 19  | A     | 810 | CLA  | O2D-CGD-CBD | 3.75  | 117.94      | 111.27   |
| 19  | 1     | 305 | CLA  | O2D-CGD-CBD | 3.74  | 117.92      | 111.27   |
| 19  | 3     | 304 | CLA  | O2D-CGD-CBD | 3.74  | 117.92      | 111.27   |
| 19  | 3     | 301 | CLA  | O2D-CGD-CBD | 3.74  | 117.91      | 111.27   |
| 19  | A     | 832 | CLA  | O2D-CGD-CBD | 3.72  | 117.88      | 111.27   |
| 20  | 1     | 315 | LUT  | C19-C9-C10  | -3.72 | 117.71      | 122.92   |
| 19  | A     | 835 | CLA  | C4-C3-C5    | -3.71 | 111.74      | 115.98   |
| 19  | A     | 821 | CLA  | O2D-CGD-CBD | 3.71  | 117.87      | 111.27   |
| 19  | B     | 828 | CLA  | O2D-CGD-CBD | 3.71  | 117.86      | 111.27   |
| 19  | 3     | 302 | CLA  | O2D-CGD-CBD | 3.70  | 117.84      | 111.27   |
| 19  | B     | 822 | CLA  | O2D-CGD-CBD | 3.69  | 117.83      | 111.27   |
| 19  | 3     | 309 | CLA  | O2D-CGD-CBD | 3.68  | 117.82      | 111.27   |
| 20  | 3     | 315 | LUT  | C15-C35-C34 | 3.67  | 131.00      | 123.47   |
| 19  | 1     | 310 | CLA  | O2D-CGD-CBD | 3.63  | 117.72      | 111.27   |
| 19  | B     | 801 | CLA  | O2D-CGD-CBD | 3.62  | 117.69      | 111.27   |
| 23  | B     | 842 | BCR  | C15-C16-C17 | 3.57  | 130.78      | 123.47   |
| 19  | B     | 824 | CLA  | O2D-CGD-CBD | 3.57  | 117.60      | 111.27   |
| 19  | G     | 204 | CLA  | O2D-CGD-CBD | 3.56  | 117.60      | 111.27   |
| 23  | J     | 101 | BCR  | C16-C15-C14 | 3.50  | 130.63      | 123.47   |
| 19  | H     | 201 | CLA  | O2D-CGD-CBD | 3.47  | 117.44      | 111.27   |
| 20  | 4     | 315 | LUT  | C15-C35-C34 | 3.46  | 130.57      | 123.47   |
| 23  | 1     | 318 | BCR  | C7-C8-C9    | 3.46  | 131.46      | 126.23   |
| 20  | 1     | 320 | LUT  | C20-C13-C14 | -3.43 | 118.12      | 122.92   |
| 19  | F     | 302 | CLA  | CHD-C1D-ND  | -3.43 | 121.30      | 124.45   |
| 23  | J     | 101 | BCR  | C21-C20-C19 | 3.39  | 133.78      | 123.22   |
| 19  | 1     | 302 | CLA  | CMB-C2B-C1B | -3.38 | 123.27      | 128.46   |
| 19  | 1     | 304 | CLA  | C4-C3-C5    | -3.38 | 112.12      | 115.98   |
| 18  | 1     | 301 | CHL  | CAA-C2A-C3A | -3.35 | 103.60      | 112.78   |
| 18  | 4     | 305 | CHL  | CAA-C2A-C3A | -3.35 | 103.61      | 112.78   |
| 19  | B     | 829 | CLA  | CMB-C2B-C1B | -3.34 | 123.33      | 128.46   |
| 19  | A     | 827 | CLA  | CHD-C1D-ND  | -3.34 | 121.39      | 124.45   |
| 20  | 4     | 315 | LUT  | C35-C15-C14 | 3.33  | 130.30      | 123.47   |
| 23  | 1     | 318 | BCR  | C8-C7-C6    | 3.33  | 136.56      | 127.20   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 19  | A     | 802 | CLA  | CHD-C1D-ND  | -3.33 | 121.40      | 124.45   |
| 18  | 1     | 301 | CHL  | C1-C2-C3    | 3.32  | 131.79      | 126.04   |
| 19  | B     | 824 | CLA  | CHD-C1D-ND  | -3.32 | 121.41      | 124.45   |
| 19  | B     | 802 | CLA  | CMB-C2B-C1B | -3.31 | 123.37      | 128.46   |
| 19  | A     | 808 | CLA  | CMB-C2B-C1B | -3.30 | 123.39      | 128.46   |
| 18  | 2     | 307 | CHL  | CAA-C2A-C3A | -3.30 | 103.75      | 112.78   |
| 19  | A     | 852 | CLA  | CMB-C2B-C1B | -3.30 | 123.39      | 128.46   |
| 19  | A     | 801 | CLA  | CHD-C1D-ND  | -3.29 | 121.43      | 124.45   |
| 20  | 3     | 315 | LUT  | C35-C15-C14 | 3.29  | 130.22      | 123.47   |
| 19  | 3     | 311 | CLA  | CHD-C1D-ND  | -3.29 | 121.43      | 124.45   |
| 19  | A     | 830 | CLA  | CMB-C2B-C1B | -3.28 | 123.43      | 128.46   |
| 19  | B     | 816 | CLA  | C12-C11-C10 | -3.27 | 102.05      | 113.62   |
| 19  | L     | 301 | CLA  | O2A-CGA-CBA | 3.27  | 122.16      | 111.91   |
| 19  | A     | 826 | CLA  | O2A-CGA-CBA | 3.27  | 122.16      | 111.91   |
| 21  | 3     | 316 | XAT  | C7-C8-C9    | 3.25  | 130.58      | 125.53   |
| 19  | A     | 814 | CLA  | CHD-C1D-ND  | -3.25 | 121.47      | 124.45   |
| 18  | 2     | 301 | CHL  | CAA-C2A-C3A | -3.25 | 103.89      | 112.78   |
| 19  | 1     | 309 | CLA  | O2A-CGA-CBA | 3.24  | 122.07      | 111.91   |
| 19  | A     | 823 | CLA  | CHD-C1D-ND  | -3.24 | 121.48      | 124.45   |
| 19  | B     | 822 | CLA  | CHD-C1D-ND  | -3.23 | 121.49      | 124.45   |
| 18  | 2     | 306 | CHL  | CAA-C2A-C3A | -3.23 | 103.94      | 112.78   |
| 18  | 4     | 304 | CHL  | C1-C2-C3    | 3.22  | 131.61      | 126.04   |
| 19  | A     | 834 | CLA  | O2A-CGA-CBA | 3.22  | 122.00      | 111.91   |
| 19  | 1     | 304 | CLA  | O2A-CGA-CBA | 3.21  | 121.99      | 111.91   |
| 19  | 2     | 304 | CLA  | C1-C2-C3    | 3.21  | 131.60      | 126.04   |
| 20  | 1     | 315 | LUT  | C40-C33-C34 | -3.21 | 118.43      | 122.92   |
| 19  | A     | 807 | CLA  | O2A-CGA-CBA | 3.20  | 121.96      | 111.91   |
| 19  | B     | 827 | CLA  | O2A-CGA-CBA | 3.20  | 121.96      | 111.91   |
| 19  | B     | 838 | CLA  | O2A-CGA-CBA | 3.20  | 121.96      | 111.91   |
| 19  | B     | 836 | CLA  | O2A-CGA-CBA | 3.20  | 121.95      | 111.91   |
| 19  | 1     | 310 | CLA  | O2A-CGA-CBA | 3.20  | 121.95      | 111.91   |
| 20  | 2     | 315 | LUT  | C40-C33-C34 | -3.20 | 118.44      | 122.92   |
| 19  | 3     | 308 | CLA  | O2A-CGA-CBA | 3.20  | 121.94      | 111.91   |
| 18  | 4     | 306 | CHL  | CAA-C2A-C3A | -3.20 | 104.03      | 112.78   |
| 19  | A     | 835 | CLA  | O2A-CGA-CBA | 3.20  | 121.94      | 111.91   |
| 19  | 2     | 309 | CLA  | O2A-CGA-CBA | 3.19  | 121.93      | 111.91   |
| 19  | A     | 806 | CLA  | O2A-CGA-CBA | 3.19  | 121.93      | 111.91   |
| 19  | 4     | 308 | CLA  | CHD-C1D-ND  | -3.19 | 121.52      | 124.45   |
| 19  | B     | 826 | CLA  | CMB-C2B-C1B | -3.19 | 123.56      | 128.46   |
| 19  | A     | 826 | CLA  | CHD-C1D-ND  | -3.19 | 121.53      | 124.45   |
| 19  | 4     | 308 | CLA  | O2A-CGA-CBA | 3.19  | 121.90      | 111.91   |
| 19  | B     | 807 | CLA  | O2A-CGA-CBA | 3.17  | 121.87      | 111.91   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 19  | B     | 830 | CLA  | O2A-CGA-CBA | 3.17  | 121.86      | 111.91   |
| 19  | A     | 810 | CLA  | O2A-CGA-CBA | 3.17  | 121.86      | 111.91   |
| 18  | 4     | 304 | CHL  | CAA-C2A-C3A | -3.17 | 104.10      | 112.78   |
| 19  | B     | 837 | CLA  | O2A-CGA-CBA | 3.17  | 121.85      | 111.91   |
| 19  | 1     | 308 | CLA  | CHD-C1D-ND  | -3.17 | 121.54      | 124.45   |
| 19  | 2     | 302 | CLA  | O2A-CGA-CBA | 3.16  | 121.84      | 111.91   |
| 19  | A     | 810 | CLA  | CHD-C1D-ND  | -3.16 | 121.55      | 124.45   |
| 19  | 3     | 304 | CLA  | CMB-C2B-C1B | -3.16 | 123.61      | 128.46   |
| 19  | A     | 808 | CLA  | O2A-CGA-CBA | 3.16  | 121.82      | 111.91   |
| 19  | B     | 801 | CLA  | O2A-CGA-CBA | 3.16  | 121.82      | 111.91   |
| 19  | B     | 816 | CLA  | CMB-C2B-C1B | -3.16 | 123.61      | 128.46   |
| 18  | 1     | 306 | CHL  | CAA-C2A-C3A | -3.16 | 104.13      | 112.78   |
| 19  | A     | 817 | CLA  | CMB-C2B-C1B | -3.16 | 123.61      | 128.46   |
| 19  | B     | 833 | CLA  | CHD-C1D-ND  | -3.16 | 121.55      | 124.45   |
| 19  | B     | 823 | CLA  | CMB-C2B-C1B | -3.16 | 123.61      | 128.46   |
| 20  | 3     | 315 | LUT  | C40-C33-C34 | -3.16 | 118.50      | 122.92   |
| 19  | B     | 825 | CLA  | O2A-CGA-CBA | 3.15  | 121.81      | 111.91   |
| 19  | B     | 808 | CLA  | CMB-C2B-C1B | -3.15 | 123.62      | 128.46   |
| 19  | F     | 301 | CLA  | O2A-CGA-CBA | 3.15  | 121.80      | 111.91   |
| 19  | A     | 836 | CLA  | O2A-CGA-CBA | 3.15  | 121.78      | 111.91   |
| 20  | 1     | 320 | LUT  | C12-C13-C14 | 3.15  | 123.77      | 118.94   |
| 19  | A     | 824 | CLA  | CMB-C2B-C1B | -3.15 | 123.63      | 128.46   |
| 19  | 1     | 314 | CLA  | CMB-C2B-C1B | -3.14 | 123.63      | 128.46   |
| 19  | B     | 828 | CLA  | O2A-CGA-CBA | 3.14  | 121.77      | 111.91   |
| 19  | B     | 820 | CLA  | O2A-CGA-CBA | 3.14  | 121.76      | 111.91   |
| 19  | A     | 832 | CLA  | O2A-CGA-CBA | 3.14  | 121.76      | 111.91   |
| 18  | 2     | 314 | CHL  | CHD-C1D-ND  | -3.14 | 121.57      | 124.45   |
| 19  | A     | 803 | CLA  | CHD-C1D-ND  | -3.14 | 121.57      | 124.45   |
| 19  | B     | 814 | CLA  | O2A-CGA-CBA | 3.14  | 121.75      | 111.91   |
| 19  | A     | 809 | CLA  | C12-C11-C10 | -3.13 | 102.54      | 113.62   |
| 19  | A     | 825 | CLA  | CHD-C1D-ND  | -3.13 | 121.58      | 124.45   |
| 19  | B     | 804 | CLA  | O2A-CGA-CBA | 3.13  | 121.72      | 111.91   |
| 18  | 3     | 307 | CHL  | CAA-C2A-C3A | -3.13 | 104.22      | 112.78   |
| 19  | H     | 201 | CLA  | CMB-C2B-C1B | -3.12 | 123.66      | 128.46   |
| 19  | 4     | 311 | CLA  | O2A-CGA-CBA | 3.12  | 121.71      | 111.91   |
| 20  | 3     | 315 | LUT  | C20-C13-C14 | -3.12 | 118.55      | 122.92   |
| 19  | 4     | 308 | CLA  | CMB-C2B-C1B | -3.12 | 123.67      | 128.46   |
| 19  | B     | 818 | CLA  | O2A-CGA-CBA | 3.12  | 121.70      | 111.91   |
| 19  | L     | 302 | CLA  | O2A-CGA-CBA | 3.12  | 121.69      | 111.91   |
| 19  | 1     | 312 | CLA  | O2A-CGA-CBA | 3.11  | 121.68      | 111.91   |
| 19  | L     | 302 | CLA  | CMB-C2B-C1B | -3.11 | 123.68      | 128.46   |
| 19  | A     | 838 | CLA  | O2A-CGA-CBA | 3.11  | 121.67      | 111.91   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 19  | A     | 812 | CLA  | CMB-C2B-C1B | -3.11 | 123.69      | 128.46   |
| 20  | 4     | 315 | LUT  | C40-C33-C34 | -3.11 | 118.57      | 122.92   |
| 19  | 3     | 304 | CLA  | O2A-CGA-CBA | 3.10  | 121.65      | 111.91   |
| 23  | L     | 305 | BCR  | C16-C15-C14 | 3.10  | 129.83      | 123.47   |
| 19  | B     | 806 | CLA  | O2A-CGA-CBA | 3.10  | 121.65      | 111.91   |
| 19  | B     | 822 | CLA  | O2A-CGA-CBA | 3.10  | 121.64      | 111.91   |
| 19  | 1     | 309 | CLA  | CHD-C1D-ND  | -3.10 | 121.60      | 124.45   |
| 19  | B     | 814 | CLA  | CMB-C2B-C1B | -3.10 | 123.70      | 128.46   |
| 18  | 2     | 306 | CHL  | CHD-C1D-ND  | -3.10 | 121.61      | 124.45   |
| 19  | B     | 829 | CLA  | O2A-CGA-CBA | 3.10  | 121.63      | 111.91   |
| 18  | 3     | 307 | CHL  | CHD-C1D-ND  | -3.10 | 121.61      | 124.45   |
| 19  | B     | 835 | CLA  | CHD-C1D-ND  | -3.10 | 121.61      | 124.45   |
| 19  | A     | 813 | CLA  | CHD-C1D-ND  | -3.09 | 121.61      | 124.45   |
| 21  | 2     | 316 | XAT  | O4-C5-C4    | -3.09 | 111.06      | 113.38   |
| 19  | A     | 823 | CLA  | O2A-CGA-CBA | 3.09  | 121.61      | 111.91   |
| 19  | B     | 815 | CLA  | O2A-CGA-CBA | 3.09  | 121.60      | 111.91   |
| 19  | 2     | 304 | CLA  | CMB-C2B-C1B | -3.09 | 123.72      | 128.46   |
| 19  | B     | 814 | CLA  | CHD-C1D-ND  | -3.09 | 121.62      | 124.45   |
| 19  | F     | 301 | CLA  | CHD-C1D-ND  | -3.09 | 121.62      | 124.45   |
| 19  | A     | 834 | CLA  | CMB-C2B-C1B | -3.09 | 123.72      | 128.46   |
| 19  | 2     | 312 | CLA  | O2A-CGA-CBA | 3.09  | 121.59      | 111.91   |
| 19  | B     | 809 | CLA  | CMB-C2B-C1B | -3.09 | 123.72      | 128.46   |
| 19  | B     | 823 | CLA  | O2A-CGA-CBA | 3.08  | 121.58      | 111.91   |
| 19  | 2     | 309 | CLA  | CHD-C1D-ND  | -3.08 | 121.62      | 124.45   |
| 19  | A     | 831 | CLA  | O2A-CGA-CBA | 3.08  | 121.57      | 111.91   |
| 19  | A     | 830 | CLA  | CHD-C1D-ND  | -3.08 | 121.63      | 124.45   |
| 19  | F     | 304 | CLA  | CMB-C2B-C1B | -3.08 | 123.73      | 128.46   |
| 19  | B     | 824 | CLA  | O2A-CGA-CBA | 3.08  | 121.56      | 111.91   |
| 19  | 2     | 310 | CLA  | CHD-C1D-ND  | -3.08 | 121.63      | 124.45   |
| 19  | 3     | 309 | CLA  | CMB-C2B-C1B | -3.07 | 123.74      | 128.46   |
| 19  | A     | 829 | CLA  | O2A-CGA-CBA | 3.07  | 121.55      | 111.91   |
| 19  | B     | 831 | CLA  | O2A-CGA-CBA | 3.07  | 121.55      | 111.91   |
| 19  | 4     | 307 | CLA  | O2A-CGA-CBA | 3.07  | 121.54      | 111.91   |
| 19  | 4     | 313 | CLA  | CHD-C1D-ND  | -3.07 | 121.63      | 124.45   |
| 18  | 4     | 306 | CHL  | C1-C2-C3    | 3.07  | 131.72      | 126.75   |
| 18  | 2     | 301 | CHL  | C1-C2-C3    | 3.07  | 131.71      | 126.75   |
| 18  | 1     | 306 | CHL  | CHD-C1D-ND  | -3.07 | 121.64      | 124.45   |
| 19  | B     | 837 | CLA  | CMB-C2B-C1B | -3.07 | 123.75      | 128.46   |
| 19  | 3     | 303 | CLA  | CMB-C2B-C1B | -3.06 | 123.75      | 128.46   |
| 19  | B     | 819 | CLA  | CHD-C1D-ND  | -3.06 | 121.64      | 124.45   |
| 19  | 3     | 308 | CLA  | CHD-C1D-ND  | -3.06 | 121.64      | 124.45   |
| 19  | B     | 808 | CLA  | O2A-CGA-CBA | 3.06  | 121.52      | 111.91   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 19  | A     | 828 | CLA  | CMB-C2B-C1B | -3.06 | 123.76      | 128.46   |
| 19  | 1     | 302 | CLA  | O2A-CGA-CBA | 3.06  | 121.50      | 111.91   |
| 19  | A     | 839 | CLA  | CMB-C2B-C1B | -3.06 | 123.77      | 128.46   |
| 19  | 1     | 321 | CLA  | O2A-CGA-CBA | 3.06  | 121.50      | 111.91   |
| 19  | A     | 833 | CLA  | CMB-C2B-C1B | -3.05 | 123.77      | 128.46   |
| 19  | A     | 834 | CLA  | CHD-C1D-ND  | -3.05 | 121.65      | 124.45   |
| 19  | A     | 852 | CLA  | CHD-C1D-ND  | -3.05 | 121.65      | 124.45   |
| 19  | 2     | 320 | CLA  | CMB-C2B-C1B | -3.05 | 123.77      | 128.46   |
| 19  | 2     | 308 | CLA  | CHD-C1D-ND  | -3.05 | 121.65      | 124.45   |
| 19  | 4     | 303 | CLA  | CMB-C2B-C1B | -3.05 | 123.78      | 128.46   |
| 19  | 1     | 321 | CLA  | CMB-C2B-C1B | -3.05 | 123.78      | 128.46   |
| 19  | A     | 837 | CLA  | CMB-C2B-C1B | -3.05 | 123.78      | 128.46   |
| 19  | A     | 805 | CLA  | CMB-C2B-C1B | -3.05 | 123.78      | 128.46   |
| 19  | A     | 804 | CLA  | CHD-C1D-ND  | -3.05 | 121.65      | 124.45   |
| 19  | 1     | 310 | CLA  | CMB-C2B-C1B | -3.05 | 123.78      | 128.46   |
| 19  | 2     | 308 | CLA  | CMB-C2B-C1B | -3.05 | 123.78      | 128.46   |
| 19  | B     | 811 | CLA  | CMB-C2B-C1B | -3.05 | 123.78      | 128.46   |
| 19  | 2     | 313 | CLA  | O2A-CGA-CBA | 3.05  | 121.47      | 111.91   |
| 19  | A     | 820 | CLA  | CHD-C1D-ND  | -3.04 | 121.66      | 124.45   |
| 19  | B     | 838 | CLA  | CMB-C2B-C1B | -3.04 | 123.78      | 128.46   |
| 19  | 3     | 302 | CLA  | CMB-C2B-C1B | -3.04 | 123.79      | 128.46   |
| 19  | J     | 102 | CLA  | CMB-C2B-C1B | -3.04 | 123.79      | 128.46   |
| 19  | A     | 838 | CLA  | CHD-C1D-ND  | -3.04 | 121.66      | 124.45   |
| 19  | G     | 203 | CLA  | O2A-CGA-CBA | 3.04  | 121.46      | 111.91   |
| 19  | B     | 802 | CLA  | CHD-C1D-ND  | -3.04 | 121.66      | 124.45   |
| 19  | 3     | 311 | CLA  | CMB-C2B-C1B | -3.04 | 123.79      | 128.46   |
| 19  | 1     | 307 | CLA  | CMB-C2B-C1B | -3.04 | 123.79      | 128.46   |
| 19  | B     | 809 | CLA  | O2A-CGA-CBA | 3.04  | 121.44      | 111.91   |
| 19  | 3     | 309 | CLA  | O2A-CGA-CBA | 3.04  | 121.44      | 111.91   |
| 19  | B     | 806 | CLA  | CHD-C1D-ND  | -3.04 | 121.66      | 124.45   |
| 19  | A     | 851 | CLA  | CMB-C2B-C1B | -3.04 | 123.80      | 128.46   |
| 19  | A     | 824 | CLA  | O2A-CGA-CBA | 3.04  | 121.44      | 111.91   |
| 19  | A     | 833 | CLA  | O2A-CGA-CBA | 3.04  | 121.44      | 111.91   |
| 19  | A     | 811 | CLA  | O2A-CGA-CBA | 3.03  | 121.43      | 111.91   |
| 19  | 3     | 306 | CLA  | CMB-C2B-C1B | -3.03 | 123.80      | 128.46   |
| 19  | 4     | 303 | CLA  | CHD-C1D-ND  | -3.03 | 121.67      | 124.45   |
| 19  | L     | 302 | CLA  | CHD-C1D-ND  | -3.03 | 121.67      | 124.45   |
| 19  | 2     | 309 | CLA  | CMB-C2B-C1B | -3.03 | 123.80      | 128.46   |
| 19  | L     | 301 | CLA  | CMB-C2B-C1B | -3.03 | 123.81      | 128.46   |
| 19  | B     | 822 | CLA  | CMB-C2B-C1B | -3.03 | 123.81      | 128.46   |
| 19  | A     | 801 | CLA  | O2A-CGA-CBA | 3.03  | 121.42      | 111.91   |
| 19  | A     | 820 | CLA  | CMB-C2B-C1B | -3.03 | 123.81      | 128.46   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 19  | A     | 824 | CLA  | CHD-C1D-ND  | -3.03 | 121.67      | 124.45   |
| 19  | 3     | 312 | CLA  | O2A-CGA-CBA | 3.03  | 121.41      | 111.91   |
| 19  | A     | 803 | CLA  | CMB-C2B-C1B | -3.03 | 123.81      | 128.46   |
| 19  | 4     | 309 | CLA  | CMB-C2B-C1B | -3.03 | 123.81      | 128.46   |
| 19  | H     | 201 | CLA  | CHD-C1D-ND  | -3.03 | 121.67      | 124.45   |
| 19  | B     | 817 | CLA  | CMB-C2B-C1B | -3.02 | 123.81      | 128.46   |
| 19  | 2     | 303 | CLA  | CMB-C2B-C1B | -3.02 | 123.82      | 128.46   |
| 19  | B     | 819 | CLA  | CMB-C2B-C1B | -3.02 | 123.82      | 128.46   |
| 19  | G     | 203 | CLA  | CMB-C2B-C1B | -3.02 | 123.82      | 128.46   |
| 18  | 4     | 305 | CHL  | CHD-C1D-ND  | -3.02 | 121.68      | 124.45   |
| 19  | 3     | 310 | CLA  | CMB-C2B-C1B | -3.02 | 123.82      | 128.46   |
| 19  | B     | 818 | CLA  | CMB-C2B-C1B | -3.02 | 123.82      | 128.46   |
| 20  | 4     | 315 | LUT  | C20-C13-C14 | -3.02 | 118.69      | 122.92   |
| 19  | 2     | 313 | CLA  | CMB-C2B-C1B | -3.02 | 123.83      | 128.46   |
| 19  | B     | 821 | CLA  | CMB-C2B-C1B | -3.02 | 123.83      | 128.46   |
| 19  | B     | 807 | CLA  | CHD-C1D-ND  | -3.02 | 121.68      | 124.45   |
| 19  | B     | 815 | CLA  | CHD-C1D-ND  | -3.02 | 121.68      | 124.45   |
| 19  | B     | 818 | CLA  | CHD-C1D-ND  | -3.02 | 121.68      | 124.45   |
| 19  | 3     | 314 | CLA  | CMB-C2B-C1B | -3.02 | 123.83      | 128.46   |
| 19  | B     | 836 | CLA  | CMB-C2B-C1B | -3.01 | 123.83      | 128.46   |
| 19  | A     | 818 | CLA  | CMB-C2B-C1B | -3.01 | 123.83      | 128.46   |
| 19  | A     | 810 | CLA  | CMB-C2B-C1B | -3.01 | 123.83      | 128.46   |
| 19  | 3     | 313 | CLA  | CMB-C2B-C1B | -3.01 | 123.83      | 128.46   |
| 19  | A     | 814 | CLA  | O2A-CGA-CBA | 3.01  | 121.36      | 111.91   |
| 19  | 2     | 312 | CLA  | CMB-C2B-C1B | -3.01 | 123.84      | 128.46   |
| 19  | 2     | 310 | CLA  | CMB-C2B-C1B | -3.01 | 123.84      | 128.46   |
| 19  | A     | 822 | CLA  | CMB-C2B-C1B | -3.01 | 123.84      | 128.46   |
| 19  | A     | 829 | CLA  | CMB-C2B-C1B | -3.01 | 123.84      | 128.46   |
| 19  | A     | 836 | CLA  | CMB-C2B-C1B | -3.01 | 123.84      | 128.46   |
| 19  | 1     | 313 | CLA  | CMB-C2B-C1B | -3.01 | 123.84      | 128.46   |
| 21  | 4     | 316 | XAT  | C7-C8-C9    | 3.01  | 130.20      | 125.53   |
| 19  | 1     | 303 | CLA  | CMB-C2B-C1B | -3.01 | 123.84      | 128.46   |
| 19  | K     | 204 | CLA  | CMB-C2B-C1B | -3.01 | 123.84      | 128.46   |
| 19  | 3     | 304 | CLA  | CHD-C1D-ND  | -3.01 | 121.69      | 124.45   |
| 19  | B     | 807 | CLA  | CMB-C2B-C1B | -3.01 | 123.84      | 128.46   |
| 19  | A     | 803 | CLA  | O2A-CGA-CBA | 3.01  | 121.34      | 111.91   |
| 19  | A     | 816 | CLA  | CMB-C2B-C1B | -3.01 | 123.84      | 128.46   |
| 19  | L     | 303 | CLA  | O2A-CGA-CBA | 3.00  | 121.34      | 111.91   |
| 19  | 3     | 305 | CLA  | CMB-C2B-C1B | -3.00 | 123.85      | 128.46   |
| 19  | B     | 825 | CLA  | CMB-C2B-C1B | -3.00 | 123.85      | 128.46   |
| 19  | F     | 303 | CLA  | CMB-C2B-C1B | -3.00 | 123.85      | 128.46   |
| 19  | 1     | 308 | CLA  | O2A-CGA-CBA | 3.00  | 121.33      | 111.91   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 19  | B     | 804 | CLA  | CMB-C2B-C1B | -3.00 | 123.85      | 128.46   |
| 19  | 4     | 313 | CLA  | CMB-C2B-C1B | -3.00 | 123.86      | 128.46   |
| 19  | B     | 833 | CLA  | CMB-C2B-C1B | -3.00 | 123.86      | 128.46   |
| 19  | 4     | 302 | CLA  | CMB-C2B-C1B | -3.00 | 123.86      | 128.46   |
| 19  | A     | 809 | CLA  | CHD-C1D-ND  | -3.00 | 121.70      | 124.45   |
| 19  | 2     | 302 | CLA  | CMB-C2B-C1B | -3.00 | 123.86      | 128.46   |
| 19  | A     | 815 | CLA  | CMB-C2B-C1B | -3.00 | 123.86      | 128.46   |
| 19  | A     | 822 | CLA  | C4-C3-C5    | -3.00 | 112.56      | 115.98   |
| 19  | 4     | 301 | CLA  | O2A-CGA-CBA | 2.99  | 121.31      | 111.91   |
| 19  | B     | 823 | CLA  | CHD-C1D-ND  | -2.99 | 121.70      | 124.45   |
| 19  | G     | 204 | CLA  | CMB-C2B-C1B | -2.99 | 123.86      | 128.46   |
| 19  | 2     | 304 | CLA  | CHD-C1D-ND  | -2.99 | 121.70      | 124.45   |
| 19  | A     | 814 | CLA  | CMB-C2B-C1B | -2.99 | 123.86      | 128.46   |
| 20  | 1     | 320 | LUT  | C40-C33-C34 | -2.99 | 118.73      | 122.92   |
| 19  | A     | 807 | CLA  | CMB-C2B-C1B | -2.99 | 123.86      | 128.46   |
| 19  | A     | 809 | CLA  | CMB-C2B-C1B | -2.99 | 123.86      | 128.46   |
| 19  | 4     | 310 | CLA  | CHD-C1D-ND  | -2.99 | 121.70      | 124.45   |
| 19  | B     | 806 | CLA  | CMB-C2B-C1B | -2.99 | 123.86      | 128.46   |
| 19  | J     | 102 | CLA  | CHD-C1D-ND  | -2.99 | 121.70      | 124.45   |
| 19  | A     | 811 | CLA  | CMB-C2B-C1B | -2.99 | 123.87      | 128.46   |
| 19  | B     | 830 | CLA  | CMB-C2B-C1B | -2.99 | 123.87      | 128.46   |
| 19  | A     | 851 | CLA  | CHD-C1D-ND  | -2.99 | 121.71      | 124.45   |
| 19  | A     | 818 | CLA  | O2A-CGA-CBA | 2.99  | 121.29      | 111.91   |
| 19  | 3     | 301 | CLA  | CMB-C2B-C1B | -2.99 | 123.87      | 128.46   |
| 19  | A     | 806 | CLA  | CMB-C2B-C1B | -2.99 | 123.87      | 128.46   |
| 19  | A     | 831 | CLA  | CMB-C2B-C1B | -2.99 | 123.87      | 128.46   |
| 19  | 4     | 307 | CLA  | CMB-C2B-C1B | -2.99 | 123.87      | 128.46   |
| 19  | B     | 837 | CLA  | CHD-C1D-ND  | -2.99 | 121.71      | 124.45   |
| 19  | 4     | 301 | CLA  | CMB-C2B-C1B | -2.99 | 123.87      | 128.46   |
| 19  | B     | 831 | CLA  | CHD-C1D-ND  | -2.99 | 121.71      | 124.45   |
| 19  | F     | 303 | CLA  | CHD-C1D-ND  | -2.99 | 121.71      | 124.45   |
| 19  | B     | 826 | CLA  | O2A-CGA-CBA | 2.98  | 121.27      | 111.91   |
| 19  | 1     | 304 | CLA  | CMB-C2B-C1B | -2.98 | 123.88      | 128.46   |
| 19  | A     | 804 | CLA  | O2A-CGA-CBA | 2.98  | 121.27      | 111.91   |
| 19  | A     | 812 | CLA  | O2A-CGA-CBA | 2.98  | 121.27      | 111.91   |
| 19  | A     | 802 | CLA  | O2A-CGA-CBA | 2.98  | 121.27      | 111.91   |
| 19  | 4     | 312 | CLA  | CMB-C2B-C1B | -2.98 | 123.88      | 128.46   |
| 19  | B     | 832 | CLA  | O2A-CGA-CBA | 2.98  | 121.26      | 111.91   |
| 19  | A     | 804 | CLA  | CMB-C2B-C1B | -2.98 | 123.89      | 128.46   |
| 19  | B     | 834 | CLA  | O2A-CGA-CBA | 2.98  | 121.25      | 111.91   |
| 19  | K     | 202 | CLA  | CMB-C2B-C1B | -2.98 | 123.89      | 128.46   |
| 19  | A     | 802 | CLA  | CMB-C2B-C1B | -2.98 | 123.89      | 128.46   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 19  | B     | 805 | CLA  | CMB-C2B-C1B | -2.98 | 123.89      | 128.46   |
| 19  | A     | 840 | CLA  | CMB-C2B-C1B | -2.97 | 123.89      | 128.46   |
| 19  | G     | 202 | CLA  | CMB-C2B-C1B | -2.97 | 123.89      | 128.46   |
| 19  | K     | 203 | CLA  | CMB-C2B-C1B | -2.97 | 123.89      | 128.46   |
| 19  | A     | 839 | CLA  | O2A-CGA-CBA | 2.97  | 121.24      | 111.91   |
| 19  | B     | 812 | CLA  | CMB-C2B-C1B | -2.97 | 123.90      | 128.46   |
| 19  | 4     | 313 | CLA  | O2A-CGA-CBA | 2.97  | 121.23      | 111.91   |
| 19  | A     | 837 | CLA  | CHD-C1D-ND  | -2.97 | 121.72      | 124.45   |
| 19  | B     | 832 | CLA  | CHD-C1D-ND  | -2.97 | 121.72      | 124.45   |
| 19  | A     | 801 | CLA  | CMB-C2B-C1B | -2.97 | 123.90      | 128.46   |
| 19  | 1     | 302 | CLA  | CHD-C1D-ND  | -2.97 | 121.72      | 124.45   |
| 19  | 1     | 312 | CLA  | CMB-C2B-C1B | -2.97 | 123.90      | 128.46   |
| 19  | A     | 827 | CLA  | CMB-C2B-C1B | -2.97 | 123.90      | 128.46   |
| 18  | 3     | 307 | CHL  | C2C-C3C-C4C | 2.97  | 108.61      | 106.49   |
| 19  | B     | 828 | CLA  | CMB-C2B-C1B | -2.97 | 123.90      | 128.46   |
| 19  | B     | 812 | CLA  | O2A-CGA-CBA | 2.97  | 121.22      | 111.91   |
| 19  | 1     | 303 | CLA  | O2A-CGA-CBA | 2.97  | 121.22      | 111.91   |
| 19  | A     | 840 | CLA  | O2A-CGA-CBA | 2.97  | 121.22      | 111.91   |
| 19  | 2     | 303 | CLA  | CHD-C1D-ND  | -2.97 | 121.73      | 124.45   |
| 19  | B     | 830 | CLA  | C1-C2-C3    | 2.96  | 131.17      | 126.04   |
| 19  | 1     | 311 | CLA  | CMB-C2B-C1B | -2.96 | 123.91      | 128.46   |
| 19  | A     | 820 | CLA  | O2A-CGA-CBA | 2.96  | 121.21      | 111.91   |
| 19  | 2     | 303 | CLA  | O2A-CGA-CBA | 2.96  | 121.21      | 111.91   |
| 19  | 3     | 308 | CLA  | CMB-C2B-C1B | -2.96 | 123.91      | 128.46   |
| 19  | 4     | 307 | CLA  | CHD-C1D-ND  | -2.96 | 121.73      | 124.45   |
| 19  | B     | 805 | CLA  | O2A-CGA-CBA | 2.96  | 121.19      | 111.91   |
| 19  | A     | 821 | CLA  | CMB-C2B-C1B | -2.96 | 123.92      | 128.46   |
| 19  | A     | 838 | CLA  | CMB-C2B-C1B | -2.96 | 123.92      | 128.46   |
| 19  | B     | 824 | CLA  | CMB-C2B-C1B | -2.96 | 123.92      | 128.46   |
| 19  | B     | 834 | CLA  | CMB-C2B-C1B | -2.96 | 123.92      | 128.46   |
| 26  | A     | 841 | PQN  | C11-C3-C4   | -2.95 | 115.34      | 118.50   |
| 19  | A     | 854 | CLA  | CMB-C2B-C1B | -2.95 | 123.93      | 128.46   |
| 19  | B     | 819 | CLA  | O2A-CGA-CBA | 2.95  | 121.17      | 111.91   |
| 19  | B     | 813 | CLA  | CMB-C2B-C1B | -2.95 | 123.93      | 128.46   |
| 19  | F     | 301 | CLA  | CMB-C2B-C1B | -2.95 | 123.93      | 128.46   |
| 19  | A     | 807 | CLA  | CHD-C1D-ND  | -2.95 | 121.74      | 124.45   |
| 19  | 1     | 313 | CLA  | CHD-C1D-ND  | -2.95 | 121.74      | 124.45   |
| 19  | A     | 819 | CLA  | CMB-C2B-C1B | -2.95 | 123.93      | 128.46   |
| 19  | B     | 820 | CLA  | CMB-C2B-C1B | -2.95 | 123.93      | 128.46   |
| 19  | B     | 801 | CLA  | CHD-C1D-ND  | -2.95 | 121.75      | 124.45   |
| 19  | B     | 832 | CLA  | CMB-C2B-C1B | -2.95 | 123.93      | 128.46   |
| 19  | A     | 826 | CLA  | CMB-C2B-C1B | -2.95 | 123.94      | 128.46   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 19  | B     | 835 | CLA  | CMB-C2B-C1B | -2.95 | 123.94      | 128.46   |
| 19  | B     | 815 | CLA  | CMB-C2B-C1B | -2.95 | 123.94      | 128.46   |
| 19  | B     | 835 | CLA  | O2A-CGA-CBA | 2.94  | 121.15      | 111.91   |
| 26  | B     | 839 | PQN  | C11-C3-C4   | -2.94 | 115.35      | 118.50   |
| 19  | A     | 853 | CLA  | CMB-C2B-C1B | -2.94 | 123.94      | 128.46   |
| 19  | 1     | 308 | CLA  | CMB-C2B-C1B | -2.94 | 123.94      | 128.46   |
| 19  | 1     | 309 | CLA  | CMB-C2B-C1B | -2.94 | 123.94      | 128.46   |
| 19  | 4     | 302 | CLA  | O2A-CGA-CBA | 2.94  | 121.14      | 111.91   |
| 19  | 1     | 307 | CLA  | CHD-C1D-ND  | -2.94 | 121.75      | 124.45   |
| 19  | B     | 825 | CLA  | CHD-C1D-ND  | -2.94 | 121.75      | 124.45   |
| 19  | A     | 836 | CLA  | CHD-C1D-ND  | -2.94 | 121.75      | 124.45   |
| 20  | 2     | 315 | LUT  | C20-C13-C14 | -2.94 | 118.81      | 122.92   |
| 19  | A     | 813 | CLA  | CMB-C2B-C1B | -2.94 | 123.95      | 128.46   |
| 19  | A     | 808 | CLA  | CHD-C1D-ND  | -2.93 | 121.76      | 124.45   |
| 19  | F     | 302 | CLA  | O2A-CGA-CBA | 2.93  | 121.11      | 111.91   |
| 19  | B     | 810 | CLA  | CHD-C1D-ND  | -2.93 | 121.76      | 124.45   |
| 19  | A     | 854 | CLA  | O2A-CGA-CBA | 2.93  | 121.11      | 111.91   |
| 19  | B     | 810 | CLA  | CMB-C2B-C1B | -2.93 | 123.97      | 128.46   |
| 19  | B     | 827 | CLA  | CMB-C2B-C1B | -2.93 | 123.97      | 128.46   |
| 19  | A     | 830 | CLA  | O2A-CGA-CBA | 2.92  | 121.09      | 111.91   |
| 19  | B     | 811 | CLA  | O2A-CGA-CBA | 2.92  | 121.08      | 111.91   |
| 19  | 4     | 301 | CLA  | C1-C2-C3    | 2.92  | 131.10      | 126.04   |
| 19  | B     | 803 | CLA  | CMB-C2B-C1B | -2.92 | 123.97      | 128.46   |
| 19  | 3     | 309 | CLA  | CHD-C1D-ND  | -2.92 | 121.77      | 124.45   |
| 19  | 4     | 310 | CLA  | CMB-C2B-C1B | -2.92 | 123.97      | 128.46   |
| 19  | 2     | 304 | CLA  | O2A-CGA-CBA | 2.92  | 121.06      | 111.91   |
| 19  | 4     | 302 | CLA  | CHD-C1D-ND  | -2.92 | 121.77      | 124.45   |
| 19  | K     | 202 | CLA  | CHD-C1D-ND  | -2.91 | 121.78      | 124.45   |
| 19  | 2     | 311 | CLA  | CMB-C2B-C1B | -2.91 | 123.99      | 128.46   |
| 19  | A     | 828 | CLA  | O2A-CGA-CBA | 2.91  | 121.03      | 111.91   |
| 19  | B     | 801 | CLA  | CMB-C2B-C1B | -2.91 | 124.00      | 128.46   |
| 19  | A     | 835 | CLA  | CMB-C2B-C1B | -2.91 | 124.00      | 128.46   |
| 19  | 3     | 313 | CLA  | CHD-C1D-ND  | -2.91 | 121.78      | 124.45   |
| 18  | 2     | 301 | CHL  | O2A-CGA-CBA | 2.90  | 121.01      | 111.91   |
| 19  | 3     | 302 | CLA  | CHD-C1D-ND  | -2.90 | 121.79      | 124.45   |
| 19  | 4     | 309 | CLA  | CHD-C1D-ND  | -2.90 | 121.79      | 124.45   |
| 19  | A     | 822 | CLA  | O2A-CGA-CBA | 2.90  | 121.00      | 111.91   |
| 19  | A     | 840 | CLA  | CHD-C1D-ND  | -2.90 | 121.79      | 124.45   |
| 19  | A     | 825 | CLA  | O2A-CGA-CBA | 2.90  | 121.00      | 111.91   |
| 19  | A     | 817 | CLA  | O2A-CGA-CBA | 2.90  | 121.00      | 111.91   |
| 19  | A     | 837 | CLA  | O2A-CGA-CBA | 2.89  | 120.99      | 111.91   |
| 19  | B     | 813 | CLA  | O2A-CGA-CBA | 2.89  | 120.99      | 111.91   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 19  | 4     | 312 | CLA  | CHD-C1D-ND  | -2.89 | 121.80      | 124.45   |
| 19  | A     | 809 | CLA  | O2A-CGA-CBA | 2.89  | 120.99      | 111.91   |
| 19  | B     | 803 | CLA  | CHD-C1D-ND  | -2.89 | 121.80      | 124.45   |
| 19  | A     | 853 | CLA  | O2A-CGA-CBA | 2.89  | 120.98      | 111.91   |
| 19  | B     | 816 | CLA  | O2A-CGA-CBA | 2.89  | 120.98      | 111.91   |
| 19  | B     | 810 | CLA  | O2A-CGA-CBA | 2.89  | 120.97      | 111.91   |
| 19  | A     | 839 | CLA  | CHD-C1D-ND  | -2.89 | 121.80      | 124.45   |
| 19  | B     | 817 | CLA  | O2A-CGA-CBA | 2.89  | 120.97      | 111.91   |
| 19  | 3     | 301 | CLA  | O2A-CGA-CBA | 2.89  | 120.96      | 111.91   |
| 19  | B     | 817 | CLA  | CHD-C1D-ND  | -2.89 | 121.80      | 124.45   |
| 19  | 3     | 312 | CLA  | CMB-C2B-C1B | -2.88 | 124.03      | 128.46   |
| 19  | 2     | 302 | CLA  | CHD-C1D-ND  | -2.88 | 121.80      | 124.45   |
| 19  | B     | 809 | CLA  | CHD-C1D-ND  | -2.88 | 121.81      | 124.45   |
| 19  | B     | 836 | CLA  | CHD-C1D-ND  | -2.88 | 121.81      | 124.45   |
| 19  | A     | 852 | CLA  | O2A-CGA-CBA | 2.88  | 120.94      | 111.91   |
| 19  | B     | 808 | CLA  | CHD-C1D-ND  | -2.88 | 121.81      | 124.45   |
| 23  | L     | 305 | BCR  | C15-C16-C17 | 2.88  | 129.37      | 123.47   |
| 19  | A     | 833 | CLA  | CHD-C1D-ND  | -2.88 | 121.81      | 124.45   |
| 19  | 1     | 305 | CLA  | CMB-C2B-C1B | -2.87 | 124.05      | 128.46   |
| 19  | B     | 821 | CLA  | CHD-C1D-ND  | -2.87 | 121.81      | 124.45   |
| 19  | B     | 805 | CLA  | CHD-C1D-ND  | -2.87 | 121.82      | 124.45   |
| 19  | A     | 816 | CLA  | CHD-C1D-ND  | -2.87 | 121.82      | 124.45   |
| 19  | A     | 825 | CLA  | CMB-C2B-C1B | -2.87 | 124.05      | 128.46   |
| 19  | B     | 821 | CLA  | O2A-CGA-CBA | 2.87  | 120.91      | 111.91   |
| 19  | 3     | 306 | CLA  | CHD-C1D-ND  | -2.87 | 121.82      | 124.45   |
| 18  | 4     | 306 | CHL  | O2A-CGA-CBA | 2.87  | 120.90      | 111.91   |
| 19  | G     | 202 | CLA  | CHD-C1D-ND  | -2.87 | 121.82      | 124.45   |
| 19  | L     | 303 | CLA  | CHD-C1D-ND  | -2.87 | 121.82      | 124.45   |
| 19  | A     | 812 | CLA  | CHD-C1D-ND  | -2.86 | 121.82      | 124.45   |
| 19  | A     | 854 | CLA  | CHD-C1D-ND  | -2.86 | 121.83      | 124.45   |
| 19  | 2     | 313 | CLA  | C1-C2-C3    | 2.86  | 130.98      | 126.04   |
| 19  | 3     | 305 | CLA  | CHD-C1D-ND  | -2.85 | 121.83      | 124.45   |
| 19  | A     | 827 | CLA  | O2A-CGA-CBA | 2.85  | 120.86      | 111.91   |
| 19  | A     | 816 | CLA  | O2A-CGA-CBA | 2.85  | 120.86      | 111.91   |
| 20  | 1     | 315 | LUT  | C20-C13-C14 | -2.85 | 118.94      | 122.92   |
| 18  | 2     | 307 | CHL  | CHD-C1D-ND  | -2.85 | 121.84      | 124.45   |
| 19  | B     | 812 | CLA  | CHD-C1D-ND  | -2.84 | 121.84      | 124.45   |
| 19  | B     | 802 | CLA  | O2A-CGA-CBA | 2.84  | 120.83      | 111.91   |
| 18  | 1     | 301 | CHL  | CHD-C1D-ND  | -2.84 | 121.84      | 124.45   |
| 18  | 1     | 301 | CHL  | O2A-CGA-CBA | 2.84  | 120.81      | 111.91   |
| 19  | A     | 806 | CLA  | CHD-C1D-ND  | -2.83 | 121.86      | 124.45   |
| 18  | 2     | 305 | CHL  | CHD-C1D-ND  | -2.83 | 121.86      | 124.45   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 19  | B     | 813 | CLA  | CHD-C1D-ND  | -2.82 | 121.86      | 124.45   |
| 19  | B     | 838 | CLA  | CHD-C1D-ND  | -2.82 | 121.86      | 124.45   |
| 19  | A     | 821 | CLA  | CHD-C1D-ND  | -2.82 | 121.86      | 124.45   |
| 23  | A     | 844 | BCR  | C15-C16-C17 | 2.82  | 129.25      | 123.47   |
| 19  | A     | 823 | CLA  | CMB-C2B-C1B | -2.82 | 124.14      | 128.46   |
| 19  | 3     | 314 | CLA  | CHD-C1D-ND  | -2.81 | 121.87      | 124.45   |
| 19  | A     | 816 | CLA  | C1-C2-C3    | 2.81  | 130.90      | 126.04   |
| 23  | J     | 101 | BCR  | C15-C16-C17 | -2.81 | 117.72      | 123.47   |
| 19  | 1     | 303 | CLA  | CHD-C1D-ND  | -2.81 | 121.87      | 124.45   |
| 19  | B     | 804 | CLA  | CHD-C1D-ND  | -2.81 | 121.87      | 124.45   |
| 18  | 4     | 306 | CHL  | CHD-C1D-ND  | -2.80 | 121.88      | 124.45   |
| 19  | B     | 826 | CLA  | CHD-C1D-ND  | -2.80 | 121.88      | 124.45   |
| 18  | 4     | 304 | CHL  | O2A-CGA-CBA | 2.80  | 120.70      | 111.91   |
| 19  | 4     | 301 | CLA  | CHD-C1D-ND  | -2.80 | 121.88      | 124.45   |
| 19  | L     | 303 | CLA  | CMB-C2B-C1B | -2.80 | 124.16      | 128.46   |
| 19  | A     | 825 | CLA  | C1-C2-C3    | 2.80  | 130.89      | 126.04   |
| 19  | 3     | 310 | CLA  | CHD-C1D-ND  | -2.80 | 121.88      | 124.45   |
| 19  | A     | 832 | CLA  | CMB-C2B-C1B | -2.80 | 124.16      | 128.46   |
| 19  | A     | 831 | CLA  | CHD-C1D-ND  | -2.80 | 121.88      | 124.45   |
| 19  | B     | 828 | CLA  | C1-C2-C3    | 2.80  | 130.88      | 126.04   |
| 19  | 4     | 309 | CLA  | O2A-CGA-CBA | 2.80  | 120.69      | 111.91   |
| 18  | 1     | 301 | CHL  | CMB-C2B-C1B | -2.80 | 124.17      | 128.46   |
| 19  | F     | 304 | CLA  | CHD-C1D-ND  | -2.79 | 121.89      | 124.45   |
| 19  | 1     | 310 | CLA  | CHD-C1D-ND  | -2.79 | 121.89      | 124.45   |
| 20  | 1     | 315 | LUT  | C19-C9-C8   | 2.79  | 122.47      | 118.08   |
| 19  | 1     | 304 | CLA  | CHD-C1D-ND  | -2.79 | 121.89      | 124.45   |
| 19  | A     | 815 | CLA  | CHD-C1D-ND  | -2.79 | 121.89      | 124.45   |
| 19  | B     | 828 | CLA  | CHD-C1D-ND  | -2.79 | 121.89      | 124.45   |
| 19  | 3     | 303 | CLA  | CHD-C1D-ND  | -2.79 | 121.89      | 124.45   |
| 19  | A     | 822 | CLA  | CHD-C1D-ND  | -2.78 | 121.90      | 124.45   |
| 19  | 1     | 305 | CLA  | CHD-C1D-ND  | -2.78 | 121.90      | 124.45   |
| 19  | 1     | 311 | CLA  | CHD-C1D-ND  | -2.78 | 121.90      | 124.45   |
| 19  | A     | 811 | CLA  | CHD-C1D-ND  | -2.78 | 121.90      | 124.45   |
| 19  | B     | 830 | CLA  | CHD-C1D-ND  | -2.78 | 121.90      | 124.45   |
| 19  | 1     | 304 | CLA  | C1-C2-C3    | 2.78  | 130.85      | 126.04   |
| 19  | B     | 829 | CLA  | CHD-C1D-ND  | -2.77 | 121.91      | 124.45   |
| 19  | L     | 301 | CLA  | C1-C2-C3    | 2.77  | 130.83      | 126.04   |
| 19  | 3     | 302 | CLA  | O2A-CGA-CBA | 2.77  | 120.59      | 111.91   |
| 19  | G     | 203 | CLA  | CHD-C1D-ND  | -2.76 | 121.91      | 124.45   |
| 19  | A     | 818 | CLA  | CHD-C1D-ND  | -2.76 | 121.92      | 124.45   |
| 19  | 4     | 302 | CLA  | C1-C2-C3    | 2.76  | 130.81      | 126.04   |
| 23  | 2     | 319 | BCR  | C16-C15-C14 | 2.76  | 129.12      | 123.47   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 20  | 2     | 315 | LUT  | C35-C15-C14 | 2.75  | 129.11      | 123.47   |
| 20  | 2     | 315 | LUT  | C32-C33-C34 | 2.75  | 123.16      | 118.94   |
| 19  | A     | 805 | CLA  | O2A-CGA-CBA | 2.75  | 120.54      | 111.91   |
| 19  | 2     | 310 | CLA  | CMA-C3A-C2A | -2.75 | 109.68      | 116.10   |
| 19  | B     | 816 | CLA  | CHD-C1D-ND  | -2.75 | 121.93      | 124.45   |
| 19  | B     | 837 | CLA  | C1-C2-C3    | 2.75  | 130.79      | 126.04   |
| 19  | B     | 806 | CLA  | C1-C2-C3    | 2.75  | 130.79      | 126.04   |
| 18  | 4     | 304 | CHL  | CHD-C1D-ND  | -2.74 | 121.93      | 124.45   |
| 19  | 3     | 301 | CLA  | CHD-C1D-ND  | -2.74 | 121.93      | 124.45   |
| 19  | B     | 827 | CLA  | CHD-C1D-ND  | -2.74 | 121.94      | 124.45   |
| 19  | A     | 819 | CLA  | CHD-C1D-ND  | -2.74 | 121.94      | 124.45   |
| 19  | B     | 820 | CLA  | CHD-C1D-ND  | -2.74 | 121.94      | 124.45   |
| 20  | 1     | 315 | LUT  | C32-C33-C34 | 2.73  | 123.14      | 118.94   |
| 19  | 3     | 308 | CLA  | C1-C2-C3    | 2.73  | 130.77      | 126.04   |
| 19  | L     | 301 | CLA  | CHD-C1D-ND  | -2.73 | 121.94      | 124.45   |
| 18  | 2     | 301 | CHL  | CHD-C1D-ND  | -2.73 | 121.94      | 124.45   |
| 18  | 4     | 314 | CHL  | CHD-C1D-ND  | -2.73 | 121.94      | 124.45   |
| 19  | 2     | 312 | CLA  | CHD-C1D-ND  | -2.73 | 121.94      | 124.45   |
| 19  | A     | 828 | CLA  | CHD-C1D-ND  | -2.73 | 121.95      | 124.45   |
| 19  | A     | 817 | CLA  | CHD-C1D-ND  | -2.72 | 121.95      | 124.45   |
| 19  | B     | 831 | CLA  | CMB-C2B-C1B | -2.72 | 124.28      | 128.46   |
| 19  | A     | 805 | CLA  | C1-C2-C3    | 2.72  | 130.75      | 126.04   |
| 19  | A     | 829 | CLA  | CHD-C1D-ND  | -2.72 | 121.96      | 124.45   |
| 19  | 4     | 311 | CLA  | CMB-C2B-C1B | -2.72 | 124.29      | 128.46   |
| 19  | 2     | 311 | CLA  | CHD-C1D-ND  | -2.71 | 121.96      | 124.45   |
| 19  | 4     | 311 | CLA  | CHD-C1D-ND  | -2.71 | 121.96      | 124.45   |
| 19  | A     | 853 | CLA  | CHD-C1D-ND  | -2.71 | 121.96      | 124.45   |
| 19  | 1     | 312 | CLA  | CHD-C1D-ND  | -2.71 | 121.96      | 124.45   |
| 19  | B     | 812 | CLA  | C1-C2-C3    | 2.70  | 130.72      | 126.04   |
| 19  | K     | 203 | CLA  | CHD-C1D-ND  | -2.70 | 121.97      | 124.45   |
| 19  | 1     | 321 | CLA  | CHD-C1D-ND  | -2.70 | 121.97      | 124.45   |
| 19  | F     | 302 | CLA  | CMB-C2B-C3B | 2.69  | 129.72      | 124.68   |
| 19  | A     | 802 | CLA  | C1-C2-C3    | 2.69  | 130.70      | 126.04   |
| 19  | B     | 811 | CLA  | C1-C2-C3    | 2.69  | 130.70      | 126.04   |
| 19  | A     | 811 | CLA  | C1-C2-C3    | 2.69  | 130.70      | 126.04   |
| 19  | 2     | 313 | CLA  | CHD-C1D-ND  | -2.69 | 121.98      | 124.45   |
| 19  | B     | 811 | CLA  | CHD-C1D-ND  | -2.69 | 121.98      | 124.45   |
| 19  | B     | 809 | CLA  | C1-C2-C3    | 2.69  | 130.69      | 126.04   |
| 19  | B     | 815 | CLA  | C1-C2-C3    | 2.67  | 130.66      | 126.04   |
| 19  | 1     | 310 | CLA  | C1-C2-C3    | 2.67  | 130.66      | 126.04   |
| 19  | B     | 831 | CLA  | C1-C2-C3    | 2.67  | 130.66      | 126.04   |
| 20  | 3     | 315 | LUT  | C32-C33-C34 | 2.67  | 123.03      | 118.94   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 19  | A     | 812 | CLA  | C1-C2-C3    | 2.67  | 130.65      | 126.04   |
| 19  | A     | 829 | CLA  | C1-C2-C3    | 2.66  | 130.65      | 126.04   |
| 19  | A     | 823 | CLA  | C1-C2-C3    | 2.66  | 130.64      | 126.04   |
| 19  | 2     | 320 | CLA  | CHD-C1D-ND  | -2.66 | 122.01      | 124.45   |
| 19  | 3     | 312 | CLA  | CHD-C1D-ND  | -2.65 | 122.02      | 124.45   |
| 19  | K     | 204 | CLA  | CHD-C1D-ND  | -2.65 | 122.02      | 124.45   |
| 19  | A     | 801 | CLA  | C1-C2-C3    | 2.65  | 130.63      | 126.04   |
| 19  | F     | 301 | CLA  | C1-C2-C3    | 2.64  | 130.61      | 126.04   |
| 18  | 2     | 301 | CHL  | CMB-C2B-C1B | -2.64 | 124.41      | 128.46   |
| 20  | 1     | 320 | LUT  | C15-C35-C34 | 2.64  | 128.88      | 123.47   |
| 19  | G     | 202 | CLA  | CMA-C3A-C2A | -2.64 | 109.94      | 116.10   |
| 19  | B     | 824 | CLA  | O1D-CGD-CBD | -2.64 | 119.09      | 124.48   |
| 19  | G     | 204 | CLA  | CHD-C1D-ND  | -2.63 | 122.03      | 124.45   |
| 21  | 1     | 316 | XAT  | C7-C8-C9    | 2.62  | 129.60      | 125.53   |
| 19  | B     | 822 | CLA  | C1-C2-C3    | 2.62  | 130.58      | 126.04   |
| 19  | B     | 834 | CLA  | CHD-C1D-ND  | -2.62 | 122.05      | 124.45   |
| 19  | B     | 816 | CLA  | C1-C2-C3    | 2.61  | 130.56      | 126.04   |
| 19  | K     | 204 | CLA  | CMA-C3A-C2A | -2.61 | 110.00      | 116.10   |
| 19  | A     | 832 | CLA  | CHD-C1D-ND  | -2.61 | 122.05      | 124.45   |
| 18  | 2     | 305 | CHL  | CMB-C2B-C1B | -2.61 | 124.45      | 128.46   |
| 19  | B     | 804 | CLA  | C1-C2-C3    | 2.61  | 130.55      | 126.04   |
| 19  | 1     | 314 | CLA  | CHD-C1D-ND  | -2.60 | 122.06      | 124.45   |
| 20  | 3     | 315 | LUT  | C12-C13-C14 | 2.60  | 122.93      | 118.94   |
| 19  | 3     | 310 | CLA  | CMA-C3A-C2A | -2.60 | 110.03      | 116.10   |
| 18  | 4     | 306 | CHL  | CMB-C2B-C1B | -2.60 | 124.47      | 128.46   |
| 19  | A     | 805 | CLA  | CHD-C1D-ND  | -2.59 | 122.07      | 124.45   |
| 18  | 2     | 306 | CHL  | CMB-C2B-C1B | -2.59 | 124.48      | 128.46   |
| 19  | B     | 832 | CLA  | C1-C2-C3    | 2.59  | 130.52      | 126.04   |
| 19  | A     | 839 | CLA  | C1-C2-C3    | 2.59  | 130.51      | 126.04   |
| 18  | 3     | 307 | CHL  | CMB-C2B-C1B | -2.58 | 124.49      | 128.46   |
| 19  | F     | 302 | CLA  | C4-C3-C5    | -2.58 | 110.93      | 115.27   |
| 20  | 1     | 320 | LUT  | C8-C9-C10   | 2.57  | 122.89      | 118.94   |
| 19  | A     | 832 | CLA  | C1-C2-C3    | 2.57  | 130.49      | 126.04   |
| 18  | 4     | 305 | CHL  | CMB-C2B-C1B | -2.57 | 124.52      | 128.46   |
| 19  | B     | 824 | CLA  | C1-C2-C3    | 2.57  | 130.49      | 126.04   |
| 19  | 4     | 313 | CLA  | C1-C2-C3    | 2.57  | 130.48      | 126.04   |
| 18  | 1     | 306 | CHL  | CMB-C2B-C1B | -2.56 | 124.53      | 128.46   |
| 19  | 1     | 308 | CLA  | C1-C2-C3    | 2.56  | 130.47      | 126.04   |
| 18  | 2     | 314 | CHL  | CMB-C2B-C1B | -2.56 | 124.53      | 128.46   |
| 21  | 3     | 316 | XAT  | O24-C25-C24 | -2.56 | 111.46      | 113.38   |
| 19  | B     | 821 | CLA  | C1-C2-C3    | 2.55  | 130.44      | 126.04   |
| 20  | 4     | 315 | LUT  | C32-C33-C34 | 2.54  | 122.84      | 118.94   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 19  | B     | 820 | CLA  | C1-C2-C3    | 2.54  | 130.44      | 126.04   |
| 19  | A     | 804 | CLA  | C4-C3-C5    | -2.54 | 111.00      | 115.27   |
| 19  | A     | 814 | CLA  | C1-C2-C3    | 2.54  | 130.86      | 126.75   |
| 19  | B     | 824 | CLA  | O2D-CGD-O1D | -2.53 | 118.88      | 123.84   |
| 18  | 4     | 314 | CHL  | CMB-C2B-C1B | -2.53 | 124.57      | 128.46   |
| 19  | 2     | 302 | CLA  | C1-C2-C3    | 2.53  | 130.41      | 126.04   |
| 19  | A     | 820 | CLA  | C1-C2-C3    | 2.53  | 130.41      | 126.04   |
| 19  | 4     | 307 | CLA  | C1-C2-C3    | 2.52  | 130.83      | 126.75   |
| 19  | 4     | 309 | CLA  | C1-C2-C3    | 2.52  | 130.40      | 126.04   |
| 20  | 1     | 315 | LUT  | C35-C15-C14 | 2.52  | 128.63      | 123.47   |
| 19  | B     | 823 | CLA  | C1-C2-C3    | 2.51  | 130.39      | 126.04   |
| 19  | A     | 810 | CLA  | C1-C2-C3    | 2.51  | 130.38      | 126.04   |
| 20  | 2     | 315 | LUT  | C19-C9-C8   | 2.51  | 122.03      | 118.08   |
| 19  | B     | 817 | CLA  | C4-C3-C5    | -2.51 | 111.05      | 115.27   |
| 19  | A     | 831 | CLA  | C1-C2-C3    | 2.50  | 130.38      | 126.04   |
| 19  | A     | 836 | CLA  | C1-C2-C3    | 2.50  | 130.38      | 126.04   |
| 19  | 2     | 313 | CLA  | C4-C3-C5    | -2.50 | 111.07      | 115.27   |
| 19  | 3     | 312 | CLA  | C1-C2-C3    | 2.49  | 130.36      | 126.04   |
| 18  | 4     | 306 | CHL  | C2C-C3C-C4C | 2.49  | 108.27      | 106.49   |
| 19  | B     | 838 | CLA  | C1-C2-C3    | 2.49  | 130.36      | 126.04   |
| 19  | A     | 822 | CLA  | C1-C2-C3    | 2.49  | 130.35      | 126.04   |
| 19  | B     | 813 | CLA  | C1-C2-C3    | 2.49  | 130.35      | 126.04   |
| 18  | 2     | 305 | CHL  | C2A-C3A-C4A | 2.49  | 105.89      | 101.87   |
| 19  | 3     | 301 | CLA  | C12-C11-C10 | -2.49 | 101.82      | 113.24   |
| 19  | A     | 808 | CLA  | C1-C2-C3    | 2.49  | 130.34      | 126.04   |
| 19  | B     | 835 | CLA  | C1-C2-C3    | 2.48  | 130.33      | 126.04   |
| 19  | B     | 818 | CLA  | C1-C2-C3    | 2.48  | 130.33      | 126.04   |
| 19  | 2     | 312 | CLA  | C1-C2-C3    | 2.48  | 130.32      | 126.04   |
| 19  | B     | 814 | CLA  | C1-C2-C3    | 2.47  | 130.32      | 126.04   |
| 19  | A     | 805 | CLA  | C12-C11-C10 | -2.47 | 101.90      | 113.24   |
| 19  | B     | 826 | CLA  | C1-C2-C3    | 2.46  | 130.30      | 126.04   |
| 18  | 4     | 314 | CHL  | C2A-C3A-C4A | 2.46  | 105.84      | 101.87   |
| 18  | 2     | 314 | CHL  | C2C-C3C-C4C | 2.45  | 108.24      | 106.49   |
| 19  | B     | 837 | CLA  | C4-C3-C5    | -2.45 | 111.15      | 115.27   |
| 19  | A     | 818 | CLA  | C1-C2-C3    | 2.45  | 130.28      | 126.04   |
| 19  | K     | 203 | CLA  | O2A-CGA-CBA | 2.45  | 121.91      | 112.23   |
| 19  | A     | 827 | CLA  | C12-C11-C10 | -2.44 | 102.01      | 113.24   |
| 19  | B     | 825 | CLA  | C1-C2-C3    | 2.44  | 130.27      | 126.04   |
| 20  | 1     | 320 | LUT  | C39-C29-C28 | 2.44  | 121.92      | 118.08   |
| 19  | A     | 818 | CLA  | C12-C11-C10 | -2.44 | 102.03      | 113.24   |
| 20  | 1     | 315 | LUT  | C39-C29-C28 | 2.44  | 121.91      | 118.08   |
| 19  | A     | 835 | CLA  | CHD-C1D-ND  | -2.43 | 122.22      | 124.45   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 19  | A     | 853 | CLA  | C1-C2-C3    | 2.43  | 130.25      | 126.04   |
| 18  | 4     | 304 | CHL  | CMB-C2B-C1B | -2.43 | 124.73      | 128.46   |
| 19  | 1     | 307 | CLA  | O2A-CGA-CBA | 2.43  | 121.84      | 114.03   |
| 19  | A     | 838 | CLA  | C1-C2-C3    | 2.43  | 130.24      | 126.04   |
| 19  | A     | 830 | CLA  | C1-C2-C3    | 2.43  | 130.68      | 126.75   |
| 19  | 4     | 308 | CLA  | C1-C2-C3    | 2.42  | 130.24      | 126.04   |
| 19  | A     | 824 | CLA  | C4-C3-C5    | -2.42 | 111.20      | 115.27   |
| 19  | L     | 302 | CLA  | C1-C2-C3    | 2.42  | 130.23      | 126.04   |
| 18  | 4     | 304 | CHL  | C2A-C3A-C4A | 2.42  | 105.78      | 101.87   |
| 18  | 2     | 314 | CHL  | C2A-C3A-C4A | 2.42  | 105.77      | 101.87   |
| 19  | F     | 302 | CLA  | C12-C11-C10 | -2.42 | 102.14      | 113.24   |
| 19  | B     | 812 | CLA  | C12-C11-C10 | -2.42 | 102.14      | 113.24   |
| 19  | 2     | 308 | CLA  | O2A-CGA-CBA | 2.41  | 121.78      | 114.03   |
| 19  | 1     | 310 | CLA  | O1D-CGD-CBD | -2.41 | 119.55      | 124.48   |
| 19  | L     | 303 | CLA  | C1-C2-C3    | 2.41  | 130.64      | 126.75   |
| 19  | B     | 808 | CLA  | C1-C2-C3    | 2.41  | 130.20      | 126.04   |
| 19  | B     | 830 | CLA  | C12-C11-C10 | -2.40 | 102.19      | 113.24   |
| 19  | B     | 817 | CLA  | C1-C2-C3    | 2.40  | 130.19      | 126.04   |
| 19  | 3     | 306 | CLA  | O2A-CGA-CBA | 2.40  | 121.74      | 114.03   |
| 19  | A     | 824 | CLA  | C1-C2-C3    | 2.40  | 130.19      | 126.04   |
| 19  | K     | 204 | CLA  | OBD-CAD-CBD | -2.40 | 121.08      | 125.97   |
| 19  | A     | 854 | CLA  | C1-C2-C3    | 2.40  | 130.19      | 126.04   |
| 19  | B     | 802 | CLA  | C1-C2-C3    | 2.39  | 130.19      | 126.04   |
| 19  | 4     | 310 | CLA  | O2A-CGA-CBA | 2.39  | 121.72      | 114.03   |
| 19  | 2     | 304 | CLA  | C12-C11-C10 | -2.39 | 102.24      | 113.24   |
| 19  | A     | 807 | CLA  | C1-C2-C3    | 2.39  | 130.18      | 126.04   |
| 19  | 3     | 314 | CLA  | O2A-CGA-CBA | 2.39  | 121.68      | 112.23   |
| 20  | 4     | 315 | LUT  | C12-C13-C14 | 2.39  | 122.61      | 118.94   |
| 19  | B     | 802 | CLA  | C12-C11-C10 | -2.39 | 102.27      | 113.24   |
| 23  | A     | 844 | BCR  | C16-C15-C14 | 2.39  | 128.36      | 123.47   |
| 19  | B     | 810 | CLA  | C1-C2-C3    | 2.38  | 130.16      | 126.04   |
| 19  | A     | 834 | CLA  | C4-C3-C5    | -2.38 | 111.26      | 115.27   |
| 19  | 2     | 309 | CLA  | C1-C2-C3    | 2.38  | 130.16      | 126.04   |
| 18  | 2     | 306 | CHL  | C2A-C3A-C4A | 2.38  | 105.71      | 101.87   |
| 19  | 4     | 308 | CLA  | C12-C11-C10 | -2.38 | 102.31      | 113.24   |
| 19  | A     | 810 | CLA  | C12-C11-C10 | -2.38 | 102.31      | 113.24   |
| 19  | B     | 825 | CLA  | C12-C11-C10 | -2.38 | 102.32      | 113.24   |
| 18  | 1     | 301 | CHL  | C2C-C3C-C4C | 2.38  | 108.18      | 106.49   |
| 19  | B     | 834 | CLA  | C1-C2-C3    | 2.38  | 130.15      | 126.04   |
| 19  | 1     | 303 | CLA  | C1-C2-C3    | 2.38  | 130.15      | 126.04   |
| 19  | A     | 809 | CLA  | C1-C2-C3    | 2.37  | 130.15      | 126.04   |
| 18  | 3     | 307 | CHL  | C2A-C3A-C4A | 2.37  | 105.70      | 101.87   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 19  | B     | 828 | CLA  | CMD-C2D-C1D | 2.37  | 128.90      | 124.71   |
| 19  | A     | 837 | CLA  | C1-C2-C3    | 2.37  | 130.15      | 126.04   |
| 18  | 2     | 314 | CHL  | C4D-CHA-C1A | 2.37  | 124.13      | 121.25   |
| 19  | L     | 301 | CLA  | C4-C3-C5    | -2.37 | 111.29      | 115.27   |
| 19  | 1     | 313 | CLA  | O2A-CGA-CBA | 2.37  | 121.63      | 114.03   |
| 19  | A     | 808 | CLA  | C12-C11-C10 | -2.37 | 102.37      | 113.24   |
| 19  | B     | 809 | CLA  | C12-C11-C10 | -2.36 | 102.37      | 113.24   |
| 19  | B     | 817 | CLA  | C12-C11-C10 | -2.36 | 102.38      | 113.24   |
| 19  | B     | 823 | CLA  | C12-C11-C10 | -2.36 | 102.38      | 113.24   |
| 19  | 1     | 311 | CLA  | O2A-CGA-CBA | 2.36  | 121.62      | 114.03   |
| 19  | 1     | 302 | CLA  | C1-C2-C3    | 2.36  | 130.13      | 126.04   |
| 18  | 1     | 301 | CHL  | C2A-C1A-CHA | 2.36  | 127.98      | 123.86   |
| 19  | 4     | 303 | CLA  | O2A-CGA-CBA | 2.36  | 121.61      | 114.03   |
| 19  | 1     | 321 | CLA  | C1-C2-C3    | 2.36  | 130.12      | 126.04   |
| 19  | A     | 835 | CLA  | C1-C2-C3    | 2.35  | 130.11      | 126.04   |
| 19  | 1     | 321 | CLA  | C12-C11-C10 | -2.35 | 102.43      | 113.24   |
| 19  | B     | 808 | CLA  | C12-C11-C10 | -2.35 | 102.43      | 113.24   |
| 19  | A     | 823 | CLA  | C3C-C4C-NC  | -2.35 | 107.94      | 110.57   |
| 19  | A     | 840 | CLA  | C12-C11-C10 | -2.35 | 102.44      | 113.24   |
| 19  | 1     | 302 | CLA  | CMB-C2B-C3B | 2.35  | 129.07      | 124.68   |
| 18  | 2     | 301 | CHL  | C2C-C3C-C4C | 2.35  | 108.16      | 106.49   |
| 19  | A     | 816 | CLA  | C12-C11-C10 | -2.34 | 102.47      | 113.24   |
| 19  | B     | 832 | CLA  | C12-C11-C10 | -2.34 | 102.48      | 113.24   |
| 19  | A     | 817 | CLA  | C1-C2-C3    | 2.34  | 130.09      | 126.04   |
| 20  | 1     | 320 | LUT  | C32-C33-C34 | 2.34  | 122.53      | 118.94   |
| 19  | F     | 301 | CLA  | C12-C11-C10 | -2.34 | 102.49      | 113.24   |
| 19  | 1     | 312 | CLA  | C12-C11-C10 | -2.34 | 102.50      | 113.24   |
| 19  | 4     | 301 | CLA  | C12-C11-C10 | -2.34 | 102.50      | 113.24   |
| 19  | 3     | 302 | CLA  | C12-C11-C10 | -2.34 | 102.51      | 113.24   |
| 19  | A     | 829 | CLA  | C12-C11-C10 | -2.34 | 102.51      | 113.24   |
| 19  | B     | 837 | CLA  | C12-C11-C10 | -2.34 | 102.51      | 113.24   |
| 19  | 1     | 302 | CLA  | C12-C11-C10 | -2.33 | 102.51      | 113.24   |
| 19  | 2     | 312 | CLA  | C12-C11-C10 | -2.33 | 102.52      | 113.24   |
| 19  | A     | 836 | CLA  | C12-C11-C10 | -2.33 | 102.52      | 113.24   |
| 19  | F     | 303 | CLA  | O2A-CGA-CBA | 2.33  | 121.53      | 114.03   |
| 20  | 3     | 315 | LUT  | C39-C29-C28 | 2.33  | 121.75      | 118.08   |
| 19  | A     | 852 | CLA  | C12-C11-C10 | -2.33 | 102.52      | 113.24   |
| 19  | 3     | 311 | CLA  | O2A-CGA-CBA | 2.33  | 121.52      | 114.03   |
| 19  | 3     | 308 | CLA  | C12-C11-C10 | -2.33 | 102.52      | 113.24   |
| 19  | A     | 854 | CLA  | O1D-CGD-CBD | -2.33 | 119.71      | 124.48   |
| 23  | J     | 101 | BCR  | C20-C19-C18 | 2.33  | 132.96      | 126.42   |
| 19  | 2     | 303 | CLA  | C1-C2-C3    | 2.33  | 130.52      | 126.75   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 19  | B     | 804 | CLA  | C12-C11-C10 | -2.33 | 102.55      | 113.24   |
| 19  | A     | 839 | CLA  | C12-C11-C10 | -2.32 | 102.56      | 113.24   |
| 18  | 2     | 307 | CHL  | CMB-C2B-C1B | -2.32 | 124.89      | 128.46   |
| 19  | K     | 202 | CLA  | O2A-CGA-CBA | 2.32  | 121.49      | 114.03   |
| 19  | B     | 803 | CLA  | O2A-CGA-CBA | 2.32  | 121.49      | 114.03   |
| 19  | A     | 851 | CLA  | O2A-CGA-CBA | 2.32  | 121.49      | 114.03   |
| 19  | 4     | 309 | CLA  | C12-C11-C10 | -2.32 | 102.57      | 113.24   |
| 18  | 4     | 314 | CHL  | C2C-C3C-C4C | 2.32  | 108.14      | 106.49   |
| 19  | B     | 822 | CLA  | C12-C11-C10 | -2.32 | 102.58      | 113.24   |
| 19  | A     | 853 | CLA  | C12-C11-C10 | -2.32 | 102.58      | 113.24   |
| 19  | F     | 304 | CLA  | O2A-CGA-CBA | 2.32  | 121.48      | 114.03   |
| 19  | B     | 805 | CLA  | C12-C11-C10 | -2.32 | 102.59      | 113.24   |
| 19  | 4     | 302 | CLA  | C12-C11-C10 | -2.32 | 102.59      | 113.24   |
| 19  | A     | 834 | CLA  | C12-C11-C10 | -2.31 | 102.61      | 113.24   |
| 19  | A     | 821 | CLA  | O2A-CGA-CBA | 2.31  | 121.46      | 114.03   |
| 19  | A     | 807 | CLA  | C4-C3-C5    | -2.31 | 111.38      | 115.27   |
| 18  | 2     | 307 | CHL  | C2C-C3C-C4C | 2.31  | 108.14      | 106.49   |
| 19  | A     | 827 | CLA  | C1-C2-C3    | 2.31  | 130.04      | 126.04   |
| 19  | B     | 824 | CLA  | C12-C11-C10 | -2.31 | 102.62      | 113.24   |
| 19  | B     | 807 | CLA  | C12-C11-C10 | -2.31 | 102.63      | 113.24   |
| 19  | 3     | 309 | CLA  | C1-C2-C3    | 2.31  | 130.49      | 126.75   |
| 19  | A     | 819 | CLA  | O2A-CGA-CBA | 2.31  | 121.45      | 114.03   |
| 19  | B     | 802 | CLA  | CMB-C2B-C3B | 2.31  | 129.00      | 124.68   |
| 19  | L     | 302 | CLA  | O1D-CGD-CBD | -2.31 | 119.76      | 124.48   |
| 19  | 1     | 314 | CLA  | O2A-CGA-CBA | 2.31  | 121.44      | 114.03   |
| 19  | A     | 813 | CLA  | O2A-CGA-CBA | 2.31  | 121.44      | 114.03   |
| 19  | A     | 824 | CLA  | C12-C11-C10 | -2.31 | 102.64      | 113.24   |
| 19  | A     | 828 | CLA  | O1D-CGD-CBD | -2.31 | 119.77      | 124.48   |
| 19  | 1     | 312 | CLA  | C1-C2-C3    | 2.31  | 130.03      | 126.04   |
| 19  | A     | 802 | CLA  | C12-C11-C10 | -2.30 | 102.65      | 113.24   |
| 19  | B     | 826 | CLA  | C12-C11-C10 | -2.30 | 102.65      | 113.24   |
| 20  | 4     | 315 | LUT  | C39-C29-C28 | 2.30  | 121.71      | 118.08   |
| 18  | 4     | 306 | CHL  | C2A-C3A-C4A | 2.30  | 105.59      | 101.87   |
| 19  | B     | 818 | CLA  | C12-C11-C10 | -2.30 | 102.66      | 113.24   |
| 19  | B     | 827 | CLA  | C12-C11-C10 | -2.30 | 102.66      | 113.24   |
| 19  | B     | 802 | CLA  | C2D-C1D-ND  | 2.30  | 111.80      | 110.10   |
| 23  | A     | 843 | BCR  | C24-C23-C22 | 2.30  | 129.71      | 126.23   |
| 19  | 4     | 312 | CLA  | O2A-CGA-CBA | 2.30  | 121.41      | 114.03   |
| 18  | 3     | 307 | CHL  | O2A-CGA-CBA | 2.30  | 121.31      | 112.23   |
| 19  | A     | 820 | CLA  | C12-C11-C10 | -2.30 | 102.68      | 113.24   |
| 19  | 2     | 320 | CLA  | O2A-CGA-CBA | 2.30  | 121.31      | 112.23   |
| 19  | 3     | 302 | CLA  | C1-C2-C3    | 2.29  | 130.01      | 126.04   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 19  | 3     | 313 | CLA  | O2A-CGA-CBA | 2.29  | 121.40      | 114.03   |
| 19  | A     | 815 | CLA  | O2A-CGA-CBA | 2.29  | 121.39      | 114.03   |
| 19  | B     | 813 | CLA  | C12-C11-C10 | -2.29 | 102.71      | 113.24   |
| 19  | B     | 829 | CLA  | C1-C2-C3    | 2.29  | 130.46      | 126.75   |
| 19  | A     | 801 | CLA  | C12-C11-C10 | -2.29 | 102.72      | 113.24   |
| 19  | A     | 831 | CLA  | C12-C11-C10 | -2.29 | 102.72      | 113.24   |
| 19  | L     | 302 | CLA  | C12-C11-C10 | -2.29 | 102.73      | 113.24   |
| 19  | B     | 801 | CLA  | O1D-CGD-CBD | -2.28 | 119.81      | 124.48   |
| 19  | B     | 826 | CLA  | O1D-CGD-CBD | -2.28 | 119.82      | 124.48   |
| 19  | A     | 804 | CLA  | C1-C2-C3    | 2.28  | 129.98      | 126.04   |
| 19  | A     | 854 | CLA  | C12-C11-C10 | -2.28 | 102.77      | 113.24   |
| 19  | 4     | 313 | CLA  | C12-C11-C10 | -2.28 | 102.77      | 113.24   |
| 19  | G     | 204 | CLA  | O1D-CGD-CBD | -2.28 | 119.83      | 124.48   |
| 18  | 4     | 305 | CHL  | C2C-C3C-C4C | 2.27  | 108.11      | 106.49   |
| 19  | 2     | 311 | CLA  | O2A-CGA-CBA | 2.27  | 121.33      | 114.03   |
| 19  | B     | 801 | CLA  | C1-C2-C3    | 2.27  | 129.97      | 126.04   |
| 19  | 2     | 302 | CLA  | C12-C11-C10 | -2.27 | 102.81      | 113.24   |
| 19  | B     | 828 | CLA  | C12-C11-C10 | -2.27 | 102.81      | 113.24   |
| 19  | B     | 816 | CLA  | C3C-C4C-NC  | -2.27 | 108.03      | 110.57   |
| 19  | A     | 807 | CLA  | C12-C11-C10 | -2.27 | 102.82      | 113.24   |
| 19  | 1     | 312 | CLA  | C4-C3-C5    | -2.27 | 111.46      | 115.27   |
| 19  | A     | 804 | CLA  | C12-C11-C10 | -2.27 | 102.82      | 113.24   |
| 19  | 4     | 311 | CLA  | C1-C2-C3    | 2.26  | 129.96      | 126.04   |
| 18  | 1     | 306 | CHL  | C4D-CHA-C1A | 2.26  | 124.00      | 121.25   |
| 19  | A     | 838 | CLA  | C12-C11-C10 | -2.26 | 102.85      | 113.24   |
| 19  | B     | 838 | CLA  | C12-C11-C10 | -2.26 | 102.86      | 113.24   |
| 19  | A     | 852 | CLA  | C1-C2-C3    | 2.26  | 129.95      | 126.04   |
| 19  | A     | 808 | CLA  | CMB-C2B-C3B | 2.26  | 128.90      | 124.68   |
| 19  | A     | 825 | CLA  | C12-C11-C10 | -2.25 | 102.89      | 113.24   |
| 19  | B     | 801 | CLA  | C12-C11-C10 | -2.25 | 102.89      | 113.24   |
| 19  | A     | 828 | CLA  | C12-C11-C10 | -2.25 | 102.89      | 113.24   |
| 21  | 1     | 316 | XAT  | O4-C5-C4    | -2.25 | 111.69      | 113.38   |
| 19  | A     | 810 | CLA  | CMD-C2D-C1D | 2.25  | 128.67      | 124.71   |
| 19  | A     | 852 | CLA  | CMB-C2B-C3B | 2.25  | 128.88      | 124.68   |
| 19  | 3     | 306 | CLA  | O1D-CGD-CBD | -2.24 | 119.89      | 124.48   |
| 19  | 1     | 308 | CLA  | C12-C11-C10 | -2.24 | 102.46      | 113.29   |
| 19  | B     | 820 | CLA  | O1D-CGD-CBD | -2.24 | 119.90      | 124.48   |
| 19  | A     | 801 | CLA  | C2D-C1D-ND  | 2.24  | 111.75      | 110.10   |
| 18  | 2     | 306 | CHL  | O2A-CGA-CBA | 2.24  | 121.23      | 114.03   |
| 19  | 2     | 309 | CLA  | C12-C11-C10 | -2.24 | 102.48      | 113.29   |
| 19  | F     | 302 | CLA  | C1-C2-C3    | 2.24  | 129.92      | 126.04   |
| 20  | 2     | 315 | LUT  | C39-C29-C28 | 2.24  | 121.60      | 118.08   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 19  | B     | 804 | CLA  | C3C-C4C-NC  | -2.24 | 108.06      | 110.57   |
| 19  | 3     | 301 | CLA  | C1-C2-C3    | 2.24  | 129.91      | 126.04   |
| 19  | A     | 826 | CLA  | C12-C11-C10 | -2.24 | 102.97      | 113.24   |
| 19  | 1     | 302 | CLA  | C3C-C4C-NC  | -2.23 | 108.07      | 110.57   |
| 19  | A     | 806 | CLA  | C1-C2-C3    | 2.23  | 130.36      | 126.75   |
| 20  | 2     | 315 | LUT  | C12-C13-C14 | 2.23  | 122.36      | 118.94   |
| 19  | L     | 301 | CLA  | C3C-C4C-NC  | -2.23 | 108.14      | 110.57   |
| 19  | A     | 833 | CLA  | C3C-C4C-NC  | -2.23 | 108.07      | 110.57   |
| 19  | 3     | 304 | CLA  | C2D-C1D-ND  | 2.23  | 111.75      | 110.10   |
| 19  | B     | 835 | CLA  | C12-C11-C10 | -2.23 | 102.99      | 113.24   |
| 19  | A     | 832 | CLA  | C12-C11-C10 | -2.23 | 103.00      | 113.24   |
| 19  | B     | 811 | CLA  | O1D-CGD-CBD | -2.23 | 119.92      | 124.48   |
| 18  | 3     | 307 | CHL  | C4D-CHA-C1A | 2.22  | 123.95      | 121.25   |
| 18  | 1     | 306 | CHL  | O2A-CGA-CBA | 2.22  | 121.17      | 114.03   |
| 18  | 4     | 304 | CHL  | O2A-CGA-O1A | -2.22 | 117.99      | 123.59   |
| 18  | 1     | 301 | CHL  | O2A-CGA-O1A | -2.22 | 117.99      | 123.59   |
| 23  | 2     | 319 | BCR  | C15-C16-C17 | 2.22  | 128.02      | 123.47   |
| 19  | A     | 828 | CLA  | C1-C2-C3    | 2.22  | 129.88      | 126.04   |
| 19  | A     | 826 | CLA  | C1-C2-C3    | 2.22  | 129.88      | 126.04   |
| 18  | 2     | 301 | CHL  | C2A-C3A-C4A | 2.21  | 105.45      | 101.87   |
| 19  | B     | 823 | CLA  | O1D-CGD-CBD | -2.21 | 119.96      | 124.48   |
| 19  | A     | 809 | CLA  | C4-C3-C5    | -2.21 | 111.55      | 115.27   |
| 19  | A     | 812 | CLA  | C12-C11-C10 | -2.21 | 103.08      | 113.24   |
| 19  | B     | 835 | CLA  | C2D-C1D-ND  | 2.21  | 111.73      | 110.10   |
| 19  | B     | 805 | CLA  | C4-C3-C5    | -2.21 | 111.56      | 115.27   |
| 19  | B     | 819 | CLA  | C1-C2-C3    | 2.21  | 130.32      | 126.75   |
| 19  | 4     | 312 | CLA  | C3C-C4C-NC  | -2.20 | 108.10      | 110.57   |
| 18  | 4     | 304 | CHL  | C2A-C1A-CHA | 2.20  | 127.71      | 123.86   |
| 19  | G     | 202 | CLA  | CAA-C2A-C3A | -2.20 | 110.96      | 116.10   |
| 18  | 4     | 305 | CHL  | C2A-C1A-CHA | 2.20  | 127.71      | 123.86   |
| 19  | G     | 204 | CLA  | O2A-CGA-CBA | 2.20  | 120.93      | 112.23   |
| 19  | H     | 201 | CLA  | O2A-CGA-CBA | 2.20  | 120.92      | 112.23   |
| 19  | A     | 823 | CLA  | CMD-C2D-C1D | 2.20  | 128.59      | 124.71   |
| 19  | B     | 801 | CLA  | C2D-C1D-ND  | 2.20  | 111.72      | 110.10   |
| 19  | 3     | 303 | CLA  | O2A-CGA-CBA | 2.20  | 121.09      | 114.03   |
| 19  | 4     | 302 | CLA  | O1D-CGD-CBD | -2.20 | 119.99      | 124.48   |
| 19  | 4     | 308 | CLA  | C3C-C4C-NC  | -2.19 | 108.11      | 110.57   |
| 19  | A     | 804 | CLA  | C3C-C4C-NC  | -2.19 | 108.11      | 110.57   |
| 19  | B     | 833 | CLA  | O2A-CGA-CBA | 2.19  | 121.08      | 114.03   |
| 19  | G     | 203 | CLA  | C1-C2-C3    | 2.19  | 130.30      | 126.75   |
| 19  | A     | 810 | CLA  | C3C-C4C-NC  | -2.19 | 108.11      | 110.57   |
| 18  | 4     | 305 | CHL  | O2A-CGA-CBA | 2.19  | 121.07      | 114.03   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 19  | 4     | 310 | CLA  | C2D-C1D-ND  | 2.19  | 111.72      | 110.10   |
| 19  | B     | 829 | CLA  | CMB-C2B-C3B | 2.19  | 128.77      | 124.68   |
| 19  | 3     | 306 | CLA  | C3C-C4C-NC  | -2.19 | 108.12      | 110.57   |
| 19  | 3     | 304 | CLA  | CMD-C2D-C1D | 2.19  | 128.57      | 124.71   |
| 19  | B     | 828 | CLA  | C3C-C4C-NC  | -2.19 | 108.12      | 110.57   |
| 19  | B     | 813 | CLA  | C2D-C1D-ND  | 2.19  | 111.72      | 110.10   |
| 19  | B     | 817 | CLA  | C3C-C4C-NC  | -2.19 | 108.12      | 110.57   |
| 19  | B     | 838 | CLA  | O1D-CGD-CBD | -2.19 | 120.01      | 124.48   |
| 19  | B     | 826 | CLA  | CMB-C2B-C3B | 2.18  | 128.77      | 124.68   |
| 19  | A     | 837 | CLA  | O1D-CGD-CBD | -2.18 | 120.02      | 124.48   |
| 19  | 4     | 313 | CLA  | O1D-CGD-CBD | -2.18 | 120.02      | 124.48   |
| 18  | 1     | 306 | CHL  | C2A-C3A-C4A | 2.18  | 105.39      | 101.87   |
| 19  | B     | 802 | CLA  | O2A-CGA-O1A | -2.18 | 118.09      | 123.59   |
| 23  | A     | 843 | BCR  | C23-C24-C25 | 2.18  | 133.33      | 127.20   |
| 19  | B     | 829 | CLA  | C3C-C4C-NC  | -2.18 | 108.13      | 110.57   |
| 19  | A     | 834 | CLA  | O1D-CGD-CBD | -2.18 | 120.03      | 124.48   |
| 19  | 2     | 310 | CLA  | O1D-CGD-CBD | -2.18 | 120.03      | 124.48   |
| 19  | A     | 838 | CLA  | C3C-C4C-NC  | -2.18 | 108.13      | 110.57   |
| 19  | 3     | 309 | CLA  | O1D-CGD-CBD | -2.18 | 120.03      | 124.48   |
| 19  | B     | 817 | CLA  | O2A-CGA-O1A | -2.17 | 118.11      | 123.59   |
| 19  | A     | 803 | CLA  | C1-C2-C3    | 2.17  | 130.27      | 126.75   |
| 18  | 2     | 305 | CHL  | C2C-C3C-C4C | 2.17  | 108.04      | 106.49   |
| 19  | B     | 823 | CLA  | C2D-C1D-ND  | 2.17  | 111.70      | 110.10   |
| 19  | F     | 301 | CLA  | C4-C3-C5    | -2.17 | 111.62      | 115.27   |
| 19  | 4     | 301 | CLA  | C3C-C4C-NC  | -2.17 | 108.14      | 110.57   |
| 19  | 2     | 311 | CLA  | C2D-C1D-ND  | 2.17  | 111.70      | 110.10   |
| 19  | 4     | 302 | CLA  | C2D-C1D-ND  | 2.16  | 111.70      | 110.10   |
| 20  | 2     | 315 | LUT  | C1-C6-C7    | 2.16  | 121.90      | 115.78   |
| 19  | A     | 852 | CLA  | C3C-C4C-NC  | -2.16 | 108.15      | 110.57   |
| 19  | A     | 852 | CLA  | O1D-CGD-CBD | -2.16 | 120.06      | 124.48   |
| 18  | 2     | 301 | CHL  | O2A-CGA-O1A | -2.16 | 118.14      | 123.59   |
| 19  | H     | 201 | CLA  | CMB-C2B-C3B | 2.16  | 128.72      | 124.68   |
| 19  | 2     | 310 | CLA  | CAA-C2A-C3A | -2.16 | 111.06      | 116.10   |
| 19  | 4     | 308 | CLA  | CMD-C2D-C1D | 2.16  | 128.52      | 124.71   |
| 19  | 1     | 312 | CLA  | C3C-C4C-NC  | -2.16 | 108.15      | 110.57   |
| 19  | B     | 820 | CLA  | C3C-C4C-NC  | -2.16 | 108.15      | 110.57   |
| 19  | B     | 838 | CLA  | C3C-C4C-NC  | -2.16 | 108.15      | 110.57   |
| 19  | B     | 810 | CLA  | C4-C3-C5    | -2.16 | 111.64      | 115.27   |
| 19  | B     | 837 | CLA  | O1D-CGD-CBD | -2.16 | 120.07      | 124.48   |
| 19  | A     | 806 | CLA  | O1D-CGD-CBD | -2.16 | 120.07      | 124.48   |
| 18  | 4     | 304 | CHL  | C2C-C3C-C4C | 2.16  | 108.03      | 106.49   |
| 19  | A     | 853 | CLA  | C3C-C4C-NC  | -2.16 | 108.15      | 110.57   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 18  | 2     | 307 | CHL  | O2A-CGA-CBA | 2.15  | 120.95      | 114.03   |
| 20  | 1     | 315 | LUT  | C1-C6-C7    | 2.15  | 121.87      | 115.78   |
| 19  | 3     | 308 | CLA  | C3C-C4C-NC  | -2.15 | 108.16      | 110.57   |
| 19  | B     | 815 | CLA  | C3C-C4C-NC  | -2.15 | 108.16      | 110.57   |
| 19  | 2     | 309 | CLA  | C2D-C1D-ND  | 2.15  | 111.69      | 110.10   |
| 19  | A     | 805 | CLA  | C3C-C4C-NC  | -2.15 | 108.16      | 110.57   |
| 19  | B     | 807 | CLA  | C1-C2-C3    | 2.15  | 129.76      | 126.04   |
| 19  | B     | 824 | CLA  | C3C-C4C-NC  | -2.15 | 108.16      | 110.57   |
| 19  | 1     | 311 | CLA  | C2D-C1D-ND  | 2.15  | 111.69      | 110.10   |
| 19  | B     | 801 | CLA  | O2D-CGD-O1D | -2.15 | 119.64      | 123.84   |
| 19  | 1     | 303 | CLA  | C3C-C4C-NC  | -2.14 | 108.17      | 110.57   |
| 19  | A     | 808 | CLA  | C3C-C4C-NC  | -2.14 | 108.17      | 110.57   |
| 19  | A     | 817 | CLA  | O1D-CGD-CBD | -2.14 | 120.10      | 124.48   |
| 19  | B     | 831 | CLA  | C3C-C4C-NC  | -2.14 | 108.17      | 110.57   |
| 19  | A     | 806 | CLA  | C3C-C4C-NC  | -2.14 | 108.17      | 110.57   |
| 18  | 3     | 307 | CHL  | CBC-CAC-C3C | -2.14 | 106.53      | 112.43   |
| 19  | 2     | 312 | CLA  | C3C-C4C-NC  | -2.14 | 108.17      | 110.57   |
| 19  | A     | 818 | CLA  | C4-C3-C5    | -2.14 | 111.67      | 115.27   |
| 19  | 1     | 302 | CLA  | O1D-CGD-CBD | -2.14 | 120.11      | 124.48   |
| 19  | B     | 828 | CLA  | O1D-CGD-CBD | -2.14 | 120.11      | 124.48   |
| 19  | 1     | 310 | CLA  | O2D-CGD-O1D | -2.13 | 119.67      | 123.84   |
| 19  | A     | 810 | CLA  | C4-C3-C5    | -2.13 | 111.68      | 115.27   |
| 18  | 2     | 306 | CHL  | C2C-C3C-C4C | 2.13  | 108.01      | 106.49   |
| 19  | A     | 825 | CLA  | O2A-CGA-O1A | -2.13 | 118.21      | 123.59   |
| 19  | 3     | 302 | CLA  | C2D-C1D-ND  | 2.13  | 111.67      | 110.10   |
| 19  | A     | 829 | CLA  | C2D-C1D-ND  | 2.13  | 111.67      | 110.10   |
| 19  | A     | 817 | CLA  | CMB-C2B-C3B | 2.13  | 128.67      | 124.68   |
| 19  | 1     | 307 | CLA  | C3C-C4C-NC  | -2.13 | 108.18      | 110.57   |
| 19  | 3     | 304 | CLA  | CMB-C2B-C3B | 2.13  | 128.66      | 124.68   |
| 19  | B     | 819 | CLA  | C3C-C4C-NC  | -2.13 | 108.18      | 110.57   |
| 19  | A     | 837 | CLA  | O2A-CGA-O1A | -2.13 | 118.22      | 123.59   |
| 19  | A     | 828 | CLA  | O2A-CGA-O1A | -2.13 | 118.22      | 123.59   |
| 19  | A     | 839 | CLA  | O1D-CGD-CBD | -2.13 | 120.13      | 124.48   |
| 19  | B     | 837 | CLA  | CMB-C2B-C3B | 2.13  | 128.66      | 124.68   |
| 19  | F     | 304 | CLA  | C2D-C1D-ND  | 2.13  | 111.67      | 110.10   |
| 19  | K     | 204 | CLA  | C2D-C1D-ND  | 2.13  | 111.67      | 110.10   |
| 19  | A     | 830 | CLA  | C3C-C4C-NC  | -2.13 | 108.19      | 110.57   |
| 19  | 3     | 301 | CLA  | O1D-CGD-CBD | -2.13 | 120.13      | 124.48   |
| 19  | A     | 833 | CLA  | C1-C2-C3    | 2.12  | 130.19      | 126.75   |
| 19  | 3     | 310 | CLA  | CAA-C2A-C3A | -2.12 | 111.14      | 116.10   |
| 19  | A     | 809 | CLA  | C3C-C4C-NC  | -2.12 | 108.19      | 110.57   |
| 19  | K     | 203 | CLA  | C2D-C1D-ND  | 2.12  | 111.67      | 110.10   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 19  | 4     | 301 | CLA  | O1D-CGD-CBD | -2.12 | 120.14      | 124.48   |
| 19  | L     | 301 | CLA  | O1D-CGD-CBD | -2.12 | 120.14      | 124.48   |
| 19  | B     | 832 | CLA  | C3C-C4C-NC  | -2.12 | 108.19      | 110.57   |
| 19  | A     | 838 | CLA  | O2A-CGA-O1A | -2.12 | 118.24      | 123.59   |
| 19  | A     | 824 | CLA  | CMB-C2B-C3B | 2.12  | 128.65      | 124.68   |
| 19  | 2     | 303 | CLA  | C3C-C4C-NC  | -2.12 | 108.19      | 110.57   |
| 19  | B     | 822 | CLA  | C3C-C4C-NC  | -2.12 | 108.19      | 110.57   |
| 19  | A     | 812 | CLA  | CMB-C2B-C3B | 2.12  | 128.65      | 124.68   |
| 19  | A     | 830 | CLA  | CMB-C2B-C3B | 2.12  | 128.64      | 124.68   |
| 20  | 1     | 320 | LUT  | C1-C6-C7    | 2.12  | 121.77      | 115.78   |
| 19  | 4     | 308 | CLA  | CMB-C2B-C3B | 2.12  | 128.64      | 124.68   |
| 19  | A     | 832 | CLA  | C2D-C1D-ND  | 2.12  | 111.67      | 110.10   |
| 19  | B     | 807 | CLA  | C2D-C1D-ND  | 2.12  | 111.67      | 110.10   |
| 19  | B     | 834 | CLA  | O2A-CGA-O1A | -2.12 | 118.25      | 123.59   |
| 19  | 1     | 314 | CLA  | C3C-C4C-NC  | -2.12 | 108.20      | 110.57   |
| 18  | 2     | 306 | CHL  | OMC-CMC-C2C | -2.12 | 120.90      | 125.69   |
| 19  | 2     | 312 | CLA  | O1D-CGD-CBD | -2.12 | 120.15      | 124.48   |
| 19  | 3     | 301 | CLA  | O2A-CGA-O1A | -2.12 | 118.25      | 123.59   |
| 19  | A     | 854 | CLA  | C3C-C4C-NC  | -2.12 | 108.20      | 110.57   |
| 19  | A     | 808 | CLA  | O1D-CGD-CBD | -2.12 | 120.16      | 124.48   |
| 19  | B     | 805 | CLA  | C2D-C1D-ND  | 2.12  | 111.66      | 110.10   |
| 19  | A     | 803 | CLA  | C3C-C4C-NC  | -2.12 | 108.20      | 110.57   |
| 19  | 1     | 314 | CLA  | CMB-C2B-C3B | 2.11  | 128.63      | 124.68   |
| 19  | B     | 822 | CLA  | O1D-CGD-CBD | -2.11 | 120.16      | 124.48   |
| 19  | A     | 813 | CLA  | C3C-C4C-NC  | -2.11 | 108.20      | 110.57   |
| 19  | F     | 302 | CLA  | O1D-CGD-CBD | -2.11 | 120.16      | 124.48   |
| 19  | 1     | 309 | CLA  | C2D-C1D-ND  | 2.11  | 111.66      | 110.10   |
| 19  | 1     | 309 | CLA  | C1-C2-C3    | 2.11  | 129.70      | 126.04   |
| 19  | B     | 816 | CLA  | O2A-CGA-O1A | -2.11 | 118.26      | 123.59   |
| 19  | 1     | 308 | CLA  | C4-C3-C5    | -2.11 | 111.72      | 115.27   |
| 19  | B     | 832 | CLA  | CMD-C2D-C1D | 2.11  | 128.43      | 124.71   |
| 19  | B     | 823 | CLA  | CMB-C2B-C3B | 2.11  | 128.62      | 124.68   |
| 19  | G     | 204 | CLA  | C2D-C1D-ND  | 2.11  | 111.66      | 110.10   |
| 19  | A     | 813 | CLA  | O1D-CGD-CBD | -2.11 | 120.17      | 124.48   |
| 19  | A     | 816 | CLA  | C3C-C4C-NC  | -2.11 | 108.21      | 110.57   |
| 19  | L     | 302 | CLA  | C3C-C4C-NC  | -2.11 | 108.21      | 110.57   |
| 19  | 2     | 308 | CLA  | C3C-C4C-NC  | -2.11 | 108.21      | 110.57   |
| 19  | B     | 814 | CLA  | C2D-C1D-ND  | 2.11  | 111.66      | 110.10   |
| 19  | A     | 821 | CLA  | O1D-CGD-CBD | -2.11 | 120.17      | 124.48   |
| 19  | A     | 805 | CLA  | C4-C3-C5    | -2.10 | 111.73      | 115.27   |
| 19  | 3     | 304 | CLA  | O1D-CGD-CBD | -2.10 | 120.18      | 124.48   |
| 19  | 4     | 311 | CLA  | C3C-C4C-NC  | -2.10 | 108.21      | 110.57   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 19  | 1     | 313 | CLA  | O1D-CGD-CBD | -2.10 | 120.18      | 124.48   |
| 19  | 3     | 309 | CLA  | C2D-C1D-ND  | 2.10  | 111.65      | 110.10   |
| 19  | 3     | 311 | CLA  | C2D-C1D-ND  | 2.10  | 111.65      | 110.10   |
| 19  | B     | 803 | CLA  | C3C-C4C-NC  | -2.10 | 108.21      | 110.57   |
| 19  | B     | 808 | CLA  | C3C-C4C-NC  | -2.10 | 108.22      | 110.57   |
| 19  | B     | 834 | CLA  | C2D-C1D-ND  | 2.10  | 111.65      | 110.10   |
| 19  | F     | 304 | CLA  | CMB-C2B-C3B | 2.10  | 128.61      | 124.68   |
| 19  | A     | 820 | CLA  | C3C-C4C-NC  | -2.10 | 108.22      | 110.57   |
| 19  | B     | 831 | CLA  | O1D-CGD-CBD | -2.10 | 120.19      | 124.48   |
| 19  | 4     | 307 | CLA  | C2D-C1D-ND  | 2.10  | 111.65      | 110.10   |
| 19  | A     | 807 | CLA  | C3C-C4C-NC  | -2.10 | 108.22      | 110.57   |
| 19  | A     | 804 | CLA  | O2A-CGA-O1A | -2.10 | 118.30      | 123.59   |
| 19  | A     | 816 | CLA  | O2A-CGA-O1A | -2.10 | 118.30      | 123.59   |
| 19  | A     | 834 | CLA  | CMB-C2B-C3B | 2.10  | 128.60      | 124.68   |
| 19  | 2     | 313 | CLA  | C3C-C4C-NC  | -2.10 | 108.22      | 110.57   |
| 19  | G     | 203 | CLA  | C3C-C4C-NC  | -2.10 | 108.22      | 110.57   |
| 19  | A     | 815 | CLA  | O1D-CGD-CBD | -2.10 | 120.20      | 124.48   |
| 19  | A     | 820 | CLA  | O2A-CGA-O1A | -2.10 | 118.30      | 123.59   |
| 19  | 3     | 305 | CLA  | CMD-C2D-C1D | 2.10  | 128.41      | 124.71   |
| 19  | A     | 824 | CLA  | C2D-C1D-ND  | 2.10  | 111.65      | 110.10   |
| 20  | 1     | 315 | LUT  | C12-C13-C14 | 2.09  | 122.16      | 118.94   |
| 19  | K     | 204 | CLA  | CAA-C2A-C3A | -2.09 | 111.22      | 116.10   |
| 19  | K     | 202 | CLA  | C2D-C1D-ND  | 2.09  | 111.64      | 110.10   |
| 19  | 1     | 321 | CLA  | C3C-C4C-NC  | -2.09 | 108.23      | 110.57   |
| 19  | B     | 818 | CLA  | C3C-C4C-NC  | -2.09 | 108.23      | 110.57   |
| 19  | 3     | 313 | CLA  | O1D-CGD-CBD | -2.09 | 120.21      | 124.48   |
| 19  | B     | 808 | CLA  | C4-C3-C5    | -2.09 | 111.75      | 115.27   |
| 19  | B     | 829 | CLA  | O1D-CGD-CBD | -2.09 | 120.21      | 124.48   |
| 19  | 3     | 309 | CLA  | CMD-C2D-C1D | 2.09  | 128.39      | 124.71   |
| 19  | F     | 302 | CLA  | C3C-C4C-NC  | -2.09 | 108.23      | 110.57   |
| 19  | B     | 801 | CLA  | C4-C3-C5    | -2.09 | 111.76      | 115.27   |
| 18  | 4     | 306 | CHL  | O2A-CGA-O1A | -2.09 | 118.33      | 123.59   |
| 19  | A     | 817 | CLA  | C3C-C4C-NC  | -2.09 | 108.23      | 110.57   |
| 19  | 2     | 304 | CLA  | O2A-CGA-O1A | -2.09 | 118.33      | 123.59   |
| 19  | A     | 852 | CLA  | O2A-CGA-O1A | -2.09 | 118.33      | 123.59   |
| 19  | 4     | 309 | CLA  | C2D-C1D-ND  | 2.09  | 111.64      | 110.10   |
| 19  | A     | 831 | CLA  | C2D-C1D-ND  | 2.09  | 111.64      | 110.10   |
| 19  | A     | 837 | CLA  | C3C-C4C-NC  | -2.09 | 108.23      | 110.57   |
| 19  | 2     | 320 | CLA  | CMB-C2B-C3B | 2.09  | 128.58      | 124.68   |
| 19  | 3     | 312 | CLA  | C3C-C4C-NC  | -2.08 | 108.23      | 110.57   |
| 19  | 2     | 302 | CLA  | O1D-CGD-CBD | -2.08 | 120.22      | 124.48   |
| 19  | H     | 201 | CLA  | C2D-C1D-ND  | 2.08  | 111.64      | 110.10   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 19  | B     | 830 | CLA  | O1D-CGD-CBD | -2.08 | 120.22      | 124.48   |
| 19  | A     | 814 | CLA  | C3C-C4C-NC  | -2.08 | 108.24      | 110.57   |
| 19  | 3     | 310 | CLA  | O1D-CGD-CBD | -2.08 | 120.23      | 124.48   |
| 19  | A     | 830 | CLA  | O1D-CGD-CBD | -2.08 | 120.23      | 124.48   |
| 19  | 1     | 307 | CLA  | CMD-C2D-C1D | 2.08  | 128.38      | 124.71   |
| 19  | 2     | 320 | CLA  | C3C-C4C-NC  | -2.08 | 108.24      | 110.57   |
| 19  | A     | 811 | CLA  | O1D-CGD-CBD | -2.08 | 120.23      | 124.48   |
| 19  | B     | 809 | CLA  | C3C-C4C-NC  | -2.08 | 108.24      | 110.57   |
| 19  | H     | 201 | CLA  | CMD-C2D-C1D | 2.08  | 128.38      | 124.71   |
| 19  | A     | 805 | CLA  | O1D-CGD-CBD | -2.08 | 120.23      | 124.48   |
| 19  | B     | 816 | CLA  | CMB-C2B-C3B | 2.08  | 128.57      | 124.68   |
| 19  | A     | 820 | CLA  | O1D-CGD-CBD | -2.08 | 120.23      | 124.48   |
| 19  | 4     | 303 | CLA  | C3C-C4C-NC  | -2.08 | 108.24      | 110.57   |
| 18  | 4     | 314 | CHL  | C4D-CHA-C1A | 2.08  | 123.78      | 121.25   |
| 19  | B     | 827 | CLA  | C5-C3-C2    | 2.07  | 125.32      | 121.12   |
| 19  | 3     | 301 | CLA  | C2D-C1D-ND  | 2.07  | 111.63      | 110.10   |
| 19  | A     | 818 | CLA  | C3C-C4C-NC  | -2.07 | 108.25      | 110.57   |
| 19  | F     | 301 | CLA  | C3C-C4C-NC  | -2.07 | 108.25      | 110.57   |
| 18  | 1     | 306 | CHL  | OMC-CMC-C2C | -2.07 | 121.00      | 125.69   |
| 19  | B     | 833 | CLA  | O1D-CGD-CBD | -2.07 | 120.24      | 124.48   |
| 19  | B     | 830 | CLA  | C4-C3-C5    | -2.07 | 111.78      | 115.27   |
| 19  | A     | 805 | CLA  | CMB-C2B-C3B | 2.07  | 128.55      | 124.68   |
| 19  | 1     | 305 | CLA  | C3C-C4C-NC  | -2.07 | 108.25      | 110.57   |
| 19  | B     | 810 | CLA  | C3C-C4C-NC  | -2.07 | 108.25      | 110.57   |
| 19  | 3     | 303 | CLA  | CMD-C2D-C1D | 2.07  | 128.36      | 124.71   |
| 18  | 4     | 314 | CHL  | C2A-C1A-CHA | 2.07  | 127.47      | 123.86   |
| 19  | B     | 805 | CLA  | C3C-C4C-NC  | -2.07 | 108.25      | 110.57   |
| 19  | B     | 820 | CLA  | C4-C3-C5    | -2.07 | 111.80      | 115.27   |
| 19  | 1     | 309 | CLA  | C3C-C4C-NC  | -2.07 | 108.25      | 110.57   |
| 19  | L     | 302 | CLA  | CMB-C2B-C3B | 2.07  | 128.54      | 124.68   |
| 19  | B     | 806 | CLA  | C3C-C4C-NC  | -2.07 | 108.25      | 110.57   |
| 19  | A     | 838 | CLA  | O1D-CGD-CBD | -2.06 | 120.26      | 124.48   |
| 19  | A     | 825 | CLA  | O1D-CGD-CBD | -2.06 | 120.26      | 124.48   |
| 19  | J     | 102 | CLA  | C3C-C4C-NC  | -2.06 | 108.26      | 110.57   |
| 19  | A     | 839 | CLA  | CMB-C2B-C3B | 2.06  | 128.54      | 124.68   |
| 19  | B     | 809 | CLA  | CMB-C2B-C3B | 2.06  | 128.54      | 124.68   |
| 19  | L     | 303 | CLA  | C3C-C4C-NC  | -2.06 | 108.26      | 110.57   |
| 19  | A     | 840 | CLA  | O1D-CGD-CBD | -2.06 | 120.26      | 124.48   |
| 19  | A     | 822 | CLA  | O2A-CGA-O1A | -2.06 | 118.39      | 123.59   |
| 19  | 3     | 302 | CLA  | CMD-C2D-C1D | 2.06  | 128.35      | 124.71   |
| 19  | 3     | 310 | CLA  | C3C-C4C-NC  | -2.06 | 108.26      | 110.57   |
| 19  | 2     | 308 | CLA  | CMB-C2B-C3B | 2.06  | 128.53      | 124.68   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 19  | B     | 811 | CLA  | O2A-CGA-O1A | -2.06 | 118.39      | 123.59   |
| 19  | 1     | 310 | CLA  | C2D-C1D-ND  | 2.06  | 111.62      | 110.10   |
| 19  | A     | 834 | CLA  | C2D-C1D-ND  | 2.06  | 111.62      | 110.10   |
| 19  | 3     | 313 | CLA  | C3C-C4C-NC  | -2.06 | 108.27      | 110.57   |
| 19  | 2     | 302 | CLA  | C2D-C1D-ND  | 2.06  | 111.62      | 110.10   |
| 19  | A     | 821 | CLA  | C3C-C4C-NC  | -2.06 | 108.27      | 110.57   |
| 19  | 3     | 302 | CLA  | O2A-CGA-O1A | -2.06 | 118.41      | 123.59   |
| 19  | A     | 805 | CLA  | O2A-CGA-O1A | -2.06 | 118.41      | 123.59   |
| 19  | A     | 828 | CLA  | C4-C3-C5    | -2.06 | 111.81      | 115.27   |
| 19  | A     | 818 | CLA  | O1D-CGD-CBD | -2.05 | 120.28      | 124.48   |
| 19  | B     | 809 | CLA  | C4-C3-C5    | -2.05 | 111.81      | 115.27   |
| 19  | B     | 816 | CLA  | C4-C3-C5    | -2.05 | 111.82      | 115.27   |
| 19  | 1     | 310 | CLA  | CMB-C2B-C3B | 2.05  | 128.52      | 124.68   |
| 19  | A     | 803 | CLA  | CMB-C2B-C3B | 2.05  | 128.52      | 124.68   |
| 19  | A     | 819 | CLA  | C3C-C4C-NC  | -2.05 | 108.27      | 110.57   |
| 19  | A     | 807 | CLA  | O1D-CGD-CBD | -2.05 | 120.28      | 124.48   |
| 19  | A     | 824 | CLA  | O1D-CGD-CBD | -2.05 | 120.28      | 124.48   |
| 19  | F     | 301 | CLA  | O1D-CGD-CBD | -2.05 | 120.28      | 124.48   |
| 19  | 3     | 303 | CLA  | C3C-C4C-NC  | -2.05 | 108.27      | 110.57   |
| 19  | B     | 827 | CLA  | C3C-C4C-NC  | -2.05 | 108.27      | 110.57   |
| 19  | 1     | 303 | CLA  | O1D-CGD-CBD | -2.05 | 120.29      | 124.48   |
| 19  | A     | 851 | CLA  | O1D-CGD-CBD | -2.05 | 120.29      | 124.48   |
| 19  | B     | 804 | CLA  | O1D-CGD-CBD | -2.05 | 120.29      | 124.48   |
| 19  | 2     | 309 | CLA  | CMD-C2D-C1D | 2.05  | 128.33      | 124.71   |
| 19  | B     | 822 | CLA  | CMB-C2B-C3B | 2.05  | 128.51      | 124.68   |
| 19  | B     | 814 | CLA  | O1D-CGD-CBD | -2.05 | 120.29      | 124.48   |
| 19  | 2     | 311 | CLA  | CMD-C2D-C1D | 2.05  | 128.33      | 124.71   |
| 19  | A     | 801 | CLA  | CMD-C2D-C1D | 2.05  | 128.33      | 124.71   |
| 19  | B     | 812 | CLA  | CMB-C2B-C3B | 2.05  | 128.51      | 124.68   |
| 19  | 1     | 302 | CLA  | CMD-C2D-C1D | 2.05  | 128.32      | 124.71   |
| 19  | 1     | 313 | CLA  | C3C-C4C-NC  | -2.05 | 108.27      | 110.57   |
| 19  | A     | 812 | CLA  | C3C-C4C-NC  | -2.05 | 108.27      | 110.57   |
| 19  | 4     | 310 | CLA  | CMD-C2D-C1D | 2.05  | 128.32      | 124.71   |
| 19  | B     | 821 | CLA  | O2A-CGA-O1A | -2.05 | 118.42      | 123.59   |
| 19  | 4     | 313 | CLA  | C3C-C4C-NC  | -2.05 | 108.27      | 110.57   |
| 19  | B     | 812 | CLA  | CMD-C2D-C1D | 2.05  | 128.32      | 124.71   |
| 19  | 1     | 309 | CLA  | CMD-C2D-C1D | 2.05  | 128.32      | 124.71   |
| 19  | 1     | 308 | CLA  | C3C-C4C-NC  | -2.05 | 108.28      | 110.57   |
| 19  | 3     | 311 | CLA  | CMB-C2B-C3B | 2.05  | 128.51      | 124.68   |
| 18  | 4     | 306 | CHL  | OMC-CMC-C2C | -2.04 | 121.06      | 125.69   |
| 19  | A     | 830 | CLA  | CMD-C2D-C1D | 2.04  | 128.31      | 124.71   |
| 19  | A     | 852 | CLA  | C2D-C1D-ND  | 2.04  | 111.61      | 110.10   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 19  | A     | 833 | CLA  | CMB-C2B-C3B | 2.04  | 128.50      | 124.68   |
| 19  | A     | 821 | CLA  | C2D-C1D-ND  | 2.04  | 111.61      | 110.10   |
| 19  | 3     | 305 | CLA  | O1D-CGD-CBD | -2.04 | 120.31      | 124.48   |
| 19  | A     | 823 | CLA  | O1D-CGD-CBD | -2.04 | 120.31      | 124.48   |
| 19  | B     | 818 | CLA  | O1D-CGD-CBD | -2.04 | 120.31      | 124.48   |
| 19  | B     | 837 | CLA  | C3C-C4C-NC  | -2.04 | 108.28      | 110.57   |
| 19  | B     | 825 | CLA  | O1D-CGD-CBD | -2.04 | 120.31      | 124.48   |
| 19  | A     | 837 | CLA  | CMB-C2B-C3B | 2.04  | 128.50      | 124.68   |
| 19  | 2     | 313 | CLA  | O1D-CGD-CBD | -2.04 | 120.31      | 124.48   |
| 19  | 2     | 309 | CLA  | C3C-C4C-NC  | -2.04 | 108.28      | 110.57   |
| 19  | B     | 807 | CLA  | CMB-C2B-C3B | 2.04  | 128.50      | 124.68   |
| 19  | B     | 817 | CLA  | CMB-C2B-C3B | 2.04  | 128.50      | 124.68   |
| 19  | L     | 303 | CLA  | CMD-C2D-C1D | 2.04  | 128.31      | 124.71   |
| 19  | 3     | 305 | CLA  | C3C-C4C-NC  | -2.04 | 108.28      | 110.57   |
| 19  | A     | 801 | CLA  | C3C-C4C-NC  | -2.04 | 108.28      | 110.57   |
| 19  | A     | 802 | CLA  | C3C-C4C-NC  | -2.04 | 108.28      | 110.57   |
| 19  | 4     | 302 | CLA  | O2A-CGA-O1A | -2.04 | 118.45      | 123.59   |
| 19  | B     | 814 | CLA  | CMB-C2B-C3B | 2.04  | 128.49      | 124.68   |
| 19  | 1     | 303 | CLA  | C4-C3-C5    | -2.04 | 111.84      | 115.27   |
| 19  | 1     | 304 | CLA  | C3C-C4C-NC  | -2.04 | 108.28      | 110.57   |
| 19  | A     | 835 | CLA  | C3C-C4C-NC  | -2.04 | 108.28      | 110.57   |
| 19  | B     | 835 | CLA  | C3C-C4C-NC  | -2.04 | 108.28      | 110.57   |
| 19  | B     | 836 | CLA  | C3C-C4C-NC  | -2.04 | 108.28      | 110.57   |
| 19  | 4     | 308 | CLA  | CED-O2D-CGD | 2.04  | 120.55      | 115.94   |
| 19  | A     | 840 | CLA  | CMD-C2D-C1D | 2.04  | 128.31      | 124.71   |
| 19  | 3     | 310 | CLA  | C2D-C1D-ND  | 2.04  | 111.61      | 110.10   |
| 19  | A     | 854 | CLA  | C2D-C1D-ND  | 2.04  | 111.61      | 110.10   |
| 19  | B     | 811 | CLA  | CMB-C2B-C3B | 2.04  | 128.49      | 124.68   |
| 19  | L     | 303 | CLA  | O2A-CGA-O1A | -2.04 | 118.45      | 123.59   |
| 19  | A     | 836 | CLA  | C3C-C4C-NC  | -2.04 | 108.29      | 110.57   |
| 19  | B     | 811 | CLA  | C3C-C4C-NC  | -2.04 | 108.29      | 110.57   |
| 19  | B     | 821 | CLA  | C3C-C4C-NC  | -2.04 | 108.29      | 110.57   |
| 19  | L     | 303 | CLA  | C2D-C1D-ND  | 2.04  | 111.60      | 110.10   |
| 19  | 2     | 304 | CLA  | CMB-C2B-C3B | 2.04  | 128.49      | 124.68   |
| 19  | F     | 302 | CLA  | O2A-CGA-O1A | -2.04 | 118.46      | 123.59   |
| 19  | A     | 811 | CLA  | C3C-C4C-NC  | -2.03 | 108.29      | 110.57   |
| 19  | B     | 806 | CLA  | CMB-C2B-C3B | 2.03  | 128.49      | 124.68   |
| 19  | 4     | 312 | CLA  | CMD-C2D-C1D | 2.03  | 128.30      | 124.71   |
| 18  | 3     | 307 | CHL  | C3C-C4C-NC  | -2.03 | 108.29      | 110.57   |
| 19  | K     | 202 | CLA  | C3C-C4C-NC  | -2.03 | 108.29      | 110.57   |
| 19  | 3     | 309 | CLA  | CMB-C2B-C3B | 2.03  | 128.48      | 124.68   |
| 19  | A     | 810 | CLA  | O1D-CGD-CBD | -2.03 | 120.32      | 124.48   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 19  | 4     | 313 | CLA  | C2D-C1D-ND  | 2.03  | 111.60      | 110.10   |
| 19  | A     | 812 | CLA  | C2D-C1D-ND  | 2.03  | 111.60      | 110.10   |
| 19  | A     | 827 | CLA  | O2A-CGA-O1A | -2.03 | 118.46      | 123.59   |
| 19  | 4     | 302 | CLA  | CMD-C2D-C1D | 2.03  | 128.29      | 124.71   |
| 19  | 3     | 309 | CLA  | O2A-CGA-O1A | -2.03 | 118.46      | 123.59   |
| 19  | A     | 825 | CLA  | C3C-C4C-NC  | -2.03 | 108.29      | 110.57   |
| 19  | G     | 202 | CLA  | C3C-C4C-NC  | -2.03 | 108.29      | 110.57   |
| 19  | A     | 802 | CLA  | CMD-C2D-C1D | 2.03  | 128.29      | 124.71   |
| 19  | A     | 802 | CLA  | O1D-CGD-CBD | -2.03 | 120.33      | 124.48   |
| 19  | A     | 814 | CLA  | CMB-C2B-C3B | 2.03  | 128.48      | 124.68   |
| 18  | 2     | 301 | CHL  | C4D-CHA-C1A | 2.03  | 123.72      | 121.25   |
| 19  | A     | 854 | CLA  | CMD-C2D-C1D | 2.03  | 128.29      | 124.71   |
| 19  | 1     | 305 | CLA  | CMD-C2D-C1D | 2.03  | 128.29      | 124.71   |
| 18  | 2     | 306 | CHL  | C4D-CHA-C1A | 2.03  | 123.72      | 121.25   |
| 19  | A     | 852 | CLA  | C4-C3-C5    | -2.03 | 111.86      | 115.27   |
| 19  | F     | 303 | CLA  | O1D-CGD-CBD | -2.03 | 120.33      | 124.48   |
| 19  | 1     | 307 | CLA  | CMB-C2B-C3B | 2.03  | 128.47      | 124.68   |
| 19  | 4     | 303 | CLA  | CMB-C2B-C3B | 2.03  | 128.47      | 124.68   |
| 19  | 4     | 309 | CLA  | CMB-C2B-C3B | 2.03  | 128.47      | 124.68   |
| 19  | A     | 806 | CLA  | CMB-C2B-C3B | 2.03  | 128.47      | 124.68   |
| 19  | 3     | 311 | CLA  | O1D-CGD-CBD | -2.03 | 120.33      | 124.48   |
| 19  | A     | 840 | CLA  | C3C-C4C-NC  | -2.03 | 108.30      | 110.57   |
| 18  | 3     | 307 | CHL  | C2A-C1A-CHA | 2.03  | 127.40      | 123.86   |
| 19  | 3     | 305 | CLA  | C2D-C1D-ND  | 2.03  | 111.60      | 110.10   |
| 19  | A     | 828 | CLA  | C2D-C1D-ND  | 2.03  | 111.60      | 110.10   |
| 19  | A     | 816 | CLA  | CMB-C2B-C3B | 2.03  | 128.47      | 124.68   |
| 19  | A     | 801 | CLA  | O1D-CGD-CBD | -2.03 | 120.34      | 124.48   |
| 19  | A     | 809 | CLA  | O1D-CGD-CBD | -2.03 | 120.34      | 124.48   |
| 19  | A     | 839 | CLA  | O2A-CGA-O1A | -2.03 | 118.48      | 123.59   |
| 19  | B     | 810 | CLA  | O2A-CGA-O1A | -2.03 | 118.48      | 123.59   |
| 19  | B     | 826 | CLA  | O2A-CGA-O1A | -2.03 | 118.48      | 123.59   |
| 20  | 1     | 315 | LUT  | C11-C10-C9  | 2.03  | 130.20      | 127.31   |
| 19  | 2     | 302 | CLA  | C3C-C4C-NC  | -2.03 | 108.30      | 110.57   |
| 19  | 3     | 301 | CLA  | C3C-C4C-NC  | -2.03 | 108.30      | 110.57   |
| 19  | B     | 833 | CLA  | C2D-C1D-ND  | 2.03  | 111.60      | 110.10   |
| 19  | F     | 303 | CLA  | C2D-C1D-ND  | 2.03  | 111.60      | 110.10   |
| 19  | A     | 839 | CLA  | C3C-C4C-NC  | -2.03 | 108.30      | 110.57   |
| 19  | A     | 807 | CLA  | CMB-C2B-C3B | 2.03  | 128.47      | 124.68   |
| 18  | 4     | 314 | CHL  | OMC-CMC-C2C | -2.03 | 121.11      | 125.69   |
| 19  | H     | 201 | CLA  | C3C-C4C-NC  | -2.03 | 108.36      | 110.57   |
| 19  | F     | 303 | CLA  | CMB-C2B-C3B | 2.03  | 128.47      | 124.68   |
| 19  | A     | 826 | CLA  | C3C-C4C-NC  | -2.02 | 108.30      | 110.57   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 19  | G     | 204 | CLA  | C3C-C4C-NC  | -2.02 | 108.30      | 110.57   |
| 19  | A     | 822 | CLA  | C2D-C1D-ND  | 2.02  | 111.60      | 110.10   |
| 19  | B     | 808 | CLA  | C2D-C1D-ND  | 2.02  | 111.60      | 110.10   |
| 19  | B     | 815 | CLA  | C4-C3-C5    | -2.02 | 111.87      | 115.27   |
| 19  | 2     | 304 | CLA  | C3C-C4C-NC  | -2.02 | 108.30      | 110.57   |
| 19  | 2     | 310 | CLA  | C3C-C4C-NC  | -2.02 | 108.30      | 110.57   |
| 19  | A     | 809 | CLA  | CMB-C2B-C3B | 2.02  | 128.46      | 124.68   |
| 19  | 3     | 314 | CLA  | CMB-C2B-C3B | 2.02  | 128.46      | 124.68   |
| 19  | B     | 819 | CLA  | CMB-C2B-C3B | 2.02  | 128.46      | 124.68   |
| 19  | J     | 102 | CLA  | CMB-C2B-C3B | 2.02  | 128.46      | 124.68   |
| 19  | G     | 204 | CLA  | CMD-C2D-C1D | 2.02  | 128.28      | 124.71   |
| 19  | 2     | 320 | CLA  | O1D-CGD-CBD | -2.02 | 120.35      | 124.48   |
| 19  | 2     | 302 | CLA  | CMB-C2B-C3B | 2.02  | 128.46      | 124.68   |
| 19  | 3     | 302 | CLA  | CMB-C2B-C3B | 2.02  | 128.46      | 124.68   |
| 19  | 3     | 306 | CLA  | CMB-C2B-C3B | 2.02  | 128.46      | 124.68   |
| 19  | A     | 851 | CLA  | C3C-C4C-NC  | -2.02 | 108.31      | 110.57   |
| 19  | F     | 303 | CLA  | C3C-C4C-NC  | -2.02 | 108.31      | 110.57   |
| 18  | 1     | 301 | CHL  | C2A-C3A-C4A | 2.02  | 105.13      | 101.87   |
| 19  | 1     | 305 | CLA  | O1D-CGD-CBD | -2.02 | 120.35      | 124.48   |
| 19  | A     | 804 | CLA  | O1D-CGD-CBD | -2.02 | 120.35      | 124.48   |
| 19  | B     | 836 | CLA  | O1D-CGD-CBD | -2.02 | 120.35      | 124.48   |
| 19  | F     | 302 | CLA  | CMD-C2D-C1D | 2.02  | 128.27      | 124.71   |
| 19  | B     | 826 | CLA  | C3C-C4C-NC  | -2.02 | 108.31      | 110.57   |
| 19  | 4     | 312 | CLA  | O1D-CGD-CBD | -2.02 | 120.36      | 124.48   |
| 19  | A     | 818 | CLA  | O2A-CGA-O1A | -2.02 | 118.50      | 123.59   |
| 19  | L     | 303 | CLA  | CED-O2D-CGD | 2.02  | 120.50      | 115.94   |
| 19  | B     | 838 | CLA  | O2A-CGA-O1A | -2.02 | 118.50      | 123.59   |
| 19  | 3     | 302 | CLA  | C3C-C4C-NC  | -2.02 | 108.31      | 110.57   |
| 19  | B     | 823 | CLA  | C3C-C4C-NC  | -2.02 | 108.31      | 110.57   |
| 19  | A     | 824 | CLA  | O2A-CGA-O1A | -2.02 | 118.50      | 123.59   |
| 19  | A     | 815 | CLA  | C2D-C1D-ND  | 2.02  | 111.59      | 110.10   |
| 19  | A     | 826 | CLA  | C2D-C1D-ND  | 2.02  | 111.59      | 110.10   |
| 19  | A     | 833 | CLA  | O2A-CGA-O1A | -2.01 | 118.51      | 123.59   |
| 19  | B     | 802 | CLA  | C3C-C4C-NC  | -2.01 | 108.31      | 110.57   |
| 19  | G     | 202 | CLA  | C2D-C1D-ND  | 2.01  | 111.59      | 110.10   |
| 19  | F     | 303 | CLA  | CMD-C2D-C1D | 2.01  | 128.26      | 124.71   |
| 19  | K     | 202 | CLA  | CMD-C2D-C1D | 2.01  | 128.26      | 124.71   |
| 19  | 2     | 313 | CLA  | CMB-C2B-C3B | 2.01  | 128.44      | 124.68   |
| 19  | 3     | 303 | CLA  | O2A-CGA-O1A | -2.01 | 118.28      | 123.30   |
| 19  | B     | 838 | CLA  | CMB-C2B-C3B | 2.01  | 128.44      | 124.68   |
| 19  | 2     | 303 | CLA  | O2A-CGA-O1A | -2.01 | 118.51      | 123.59   |
| 19  | A     | 824 | CLA  | C3C-C4C-NC  | -2.01 | 108.31      | 110.57   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 19  | B     | 814 | CLA  | C3C-C4C-NC  | -2.01 | 108.31      | 110.57   |
| 19  | 3     | 313 | CLA  | CMB-C2B-C3B | 2.01  | 128.44      | 124.68   |
| 19  | K     | 204 | CLA  | CMB-C2B-C3B | 2.01  | 128.44      | 124.68   |
| 19  | A     | 828 | CLA  | CMB-C2B-C3B | 2.01  | 128.44      | 124.68   |
| 19  | 2     | 309 | CLA  | CMB-C2B-C3B | 2.01  | 128.44      | 124.68   |
| 19  | K     | 202 | CLA  | O1D-CGD-CBD | -2.01 | 120.37      | 124.48   |
| 19  | 4     | 307 | CLA  | C3C-C4C-NC  | -2.01 | 108.32      | 110.57   |
| 19  | B     | 825 | CLA  | C2D-C1D-ND  | 2.01  | 111.58      | 110.10   |
| 19  | 1     | 313 | CLA  | CMB-C2B-C3B | 2.01  | 128.44      | 124.68   |
| 19  | B     | 812 | CLA  | C3C-C4C-NC  | -2.01 | 108.32      | 110.57   |
| 19  | A     | 816 | CLA  | C4-C3-C5    | -2.01 | 111.89      | 115.27   |
| 19  | B     | 830 | CLA  | C2D-C1D-ND  | 2.01  | 111.58      | 110.10   |
| 19  | A     | 829 | CLA  | O1D-CGD-CBD | -2.01 | 120.38      | 124.48   |
| 19  | B     | 818 | CLA  | O2A-CGA-O1A | -2.01 | 118.52      | 123.59   |
| 19  | B     | 825 | CLA  | CMB-C2B-C3B | 2.01  | 128.44      | 124.68   |
| 19  | 4     | 313 | CLA  | CMB-C2B-C3B | 2.01  | 128.43      | 124.68   |
| 19  | A     | 822 | CLA  | CMB-C2B-C3B | 2.01  | 128.43      | 124.68   |
| 19  | B     | 828 | CLA  | CMB-C2B-C3B | 2.01  | 128.43      | 124.68   |
| 19  | B     | 827 | CLA  | C2D-C1D-ND  | 2.01  | 111.58      | 110.10   |
| 19  | B     | 817 | CLA  | O1D-CGD-CBD | -2.01 | 120.38      | 124.48   |
| 19  | 4     | 303 | CLA  | CMD-C2D-C1D | 2.01  | 128.25      | 124.71   |
| 18  | 1     | 306 | CHL  | C2C-C3C-C4C | 2.01  | 107.92      | 106.49   |
| 19  | A     | 814 | CLA  | CMD-C2D-C1D | 2.01  | 128.25      | 124.71   |
| 19  | A     | 831 | CLA  | CMD-C2D-C1D | 2.01  | 128.25      | 124.71   |
| 19  | H     | 201 | CLA  | O1D-CGD-CBD | -2.01 | 120.38      | 124.48   |
| 19  | 3     | 302 | CLA  | CED-O2D-CGD | 2.01  | 120.47      | 115.94   |
| 19  | B     | 829 | CLA  | CMD-C2D-C1D | 2.00  | 128.24      | 124.71   |
| 19  | 2     | 304 | CLA  | C4-C3-C5    | -2.00 | 111.90      | 115.27   |
| 19  | A     | 804 | CLA  | CMB-C2B-C3B | 2.00  | 128.43      | 124.68   |
| 19  | B     | 808 | CLA  | CMB-C2B-C3B | 2.00  | 128.43      | 124.68   |
| 19  | A     | 836 | CLA  | C2D-C1D-ND  | 2.00  | 111.58      | 110.10   |
| 19  | A     | 826 | CLA  | O1D-CGD-CBD | -2.00 | 120.39      | 124.48   |
| 19  | 1     | 310 | CLA  | C3C-C4C-NC  | -2.00 | 108.33      | 110.57   |
| 19  | 3     | 304 | CLA  | C3C-C4C-NC  | -2.00 | 108.33      | 110.57   |
| 19  | A     | 836 | CLA  | CMB-C2B-C3B | 2.00  | 128.42      | 124.68   |
| 19  | K     | 203 | CLA  | C3C-C4C-NC  | -2.00 | 108.33      | 110.57   |
| 19  | J     | 102 | CLA  | O1D-CGD-CBD | -2.00 | 120.39      | 124.48   |
| 19  | F     | 301 | CLA  | CMB-C2B-C3B | 2.00  | 128.42      | 124.68   |
| 19  | A     | 815 | CLA  | CMD-C2D-C1D | 2.00  | 128.24      | 124.71   |
| 19  | A     | 822 | CLA  | CMD-C2D-C1D | 2.00  | 128.24      | 124.71   |
| 19  | L     | 302 | CLA  | CMD-C2D-C1D | 2.00  | 128.24      | 124.71   |
| 19  | B     | 805 | CLA  | CMB-C2B-C3B | 2.00  | 128.42      | 124.68   |

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| Mol | Chain | Res | Type | Atoms       | Z    | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|------|-------------|----------|
| 19  | F     | 302 | CLA  | C2D-C1D-ND  | 2.00 | 111.58      | 110.10   |
| 19  | A     | 827 | CLA  | CMB-C2B-C3B | 2.00 | 128.42      | 124.68   |

All (178) chirality outliers are listed below:

| Mol | Chain | Res | Type | Atom |
|-----|-------|-----|------|------|
| 18  | 1     | 301 | CHL  | NC   |
| 18  | 1     | 301 | CHL  | ND   |
| 18  | 1     | 301 | CHL  | NA   |
| 18  | 1     | 306 | CHL  | NC   |
| 18  | 1     | 306 | CHL  | ND   |
| 18  | 1     | 306 | CHL  | NA   |
| 18  | 2     | 301 | CHL  | NC   |
| 18  | 2     | 301 | CHL  | ND   |
| 18  | 2     | 301 | CHL  | NA   |
| 18  | 2     | 305 | CHL  | NC   |
| 18  | 2     | 305 | CHL  | ND   |
| 18  | 2     | 305 | CHL  | NA   |
| 18  | 2     | 306 | CHL  | NC   |
| 18  | 2     | 306 | CHL  | ND   |
| 18  | 2     | 306 | CHL  | NA   |
| 18  | 2     | 307 | CHL  | NC   |
| 18  | 2     | 307 | CHL  | ND   |
| 18  | 2     | 307 | CHL  | NA   |
| 18  | 2     | 314 | CHL  | NC   |
| 18  | 2     | 314 | CHL  | ND   |
| 18  | 3     | 307 | CHL  | NC   |
| 18  | 3     | 307 | CHL  | ND   |
| 18  | 3     | 307 | CHL  | NA   |
| 18  | 4     | 304 | CHL  | NC   |
| 18  | 4     | 304 | CHL  | ND   |
| 18  | 4     | 304 | CHL  | NA   |
| 18  | 4     | 305 | CHL  | NC   |
| 18  | 4     | 305 | CHL  | ND   |
| 18  | 4     | 305 | CHL  | NA   |
| 18  | 4     | 306 | CHL  | NC   |
| 18  | 4     | 306 | CHL  | ND   |
| 18  | 4     | 306 | CHL  | NA   |
| 18  | 4     | 314 | CHL  | NC   |
| 18  | 4     | 314 | CHL  | ND   |
| 18  | 4     | 314 | CHL  | NA   |
| 19  | 1     | 302 | CLA  | ND   |

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| Mol | Chain | Res | Type | Atom |
|-----|-------|-----|------|------|
| 19  | 1     | 303 | CLA  | ND   |
| 19  | 1     | 304 | CLA  | ND   |
| 19  | 1     | 305 | CLA  | ND   |
| 19  | 1     | 307 | CLA  | ND   |
| 19  | 1     | 308 | CLA  | ND   |
| 19  | 1     | 309 | CLA  | ND   |
| 19  | 1     | 310 | CLA  | ND   |
| 19  | 1     | 311 | CLA  | ND   |
| 19  | 1     | 312 | CLA  | ND   |
| 19  | 1     | 313 | CLA  | ND   |
| 19  | 1     | 314 | CLA  | ND   |
| 19  | 1     | 321 | CLA  | ND   |
| 19  | 2     | 302 | CLA  | ND   |
| 19  | 2     | 303 | CLA  | ND   |
| 19  | 2     | 304 | CLA  | ND   |
| 19  | 2     | 308 | CLA  | ND   |
| 19  | 2     | 309 | CLA  | ND   |
| 19  | 2     | 310 | CLA  | ND   |
| 19  | 2     | 311 | CLA  | ND   |
| 19  | 2     | 312 | CLA  | ND   |
| 19  | 2     | 313 | CLA  | ND   |
| 19  | 2     | 320 | CLA  | ND   |
| 19  | 3     | 301 | CLA  | ND   |
| 19  | 3     | 302 | CLA  | ND   |
| 19  | 3     | 303 | CLA  | ND   |
| 19  | 3     | 304 | CLA  | ND   |
| 19  | 3     | 305 | CLA  | ND   |
| 19  | 3     | 306 | CLA  | ND   |
| 19  | 3     | 308 | CLA  | ND   |
| 19  | 3     | 309 | CLA  | ND   |
| 19  | 3     | 310 | CLA  | ND   |
| 19  | 3     | 311 | CLA  | ND   |
| 19  | 3     | 312 | CLA  | ND   |
| 19  | 3     | 313 | CLA  | ND   |
| 19  | 3     | 314 | CLA  | ND   |
| 19  | 4     | 301 | CLA  | ND   |
| 19  | 4     | 302 | CLA  | ND   |
| 19  | 4     | 303 | CLA  | ND   |
| 19  | 4     | 307 | CLA  | ND   |
| 19  | 4     | 308 | CLA  | ND   |
| 19  | 4     | 309 | CLA  | ND   |
| 19  | 4     | 310 | CLA  | ND   |

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| Mol | Chain | Res | Type | Atom |
|-----|-------|-----|------|------|
| 19  | 4     | 311 | CLA  | ND   |
| 19  | 4     | 312 | CLA  | ND   |
| 19  | 4     | 313 | CLA  | ND   |
| 19  | A     | 801 | CLA  | ND   |
| 19  | A     | 802 | CLA  | ND   |
| 19  | A     | 803 | CLA  | ND   |
| 19  | A     | 804 | CLA  | ND   |
| 19  | A     | 805 | CLA  | ND   |
| 19  | A     | 806 | CLA  | ND   |
| 19  | A     | 807 | CLA  | ND   |
| 19  | A     | 808 | CLA  | ND   |
| 19  | A     | 809 | CLA  | ND   |
| 19  | A     | 810 | CLA  | ND   |
| 19  | A     | 811 | CLA  | ND   |
| 19  | A     | 812 | CLA  | ND   |
| 19  | A     | 813 | CLA  | ND   |
| 19  | A     | 814 | CLA  | ND   |
| 19  | A     | 815 | CLA  | ND   |
| 19  | A     | 816 | CLA  | ND   |
| 19  | A     | 817 | CLA  | ND   |
| 19  | A     | 818 | CLA  | ND   |
| 19  | A     | 819 | CLA  | ND   |
| 19  | A     | 820 | CLA  | ND   |
| 19  | A     | 821 | CLA  | ND   |
| 19  | A     | 822 | CLA  | ND   |
| 19  | A     | 823 | CLA  | ND   |
| 19  | A     | 824 | CLA  | ND   |
| 19  | A     | 825 | CLA  | ND   |
| 19  | A     | 826 | CLA  | ND   |
| 19  | A     | 827 | CLA  | ND   |
| 19  | A     | 828 | CLA  | ND   |
| 19  | A     | 829 | CLA  | ND   |
| 19  | A     | 830 | CLA  | ND   |
| 19  | A     | 831 | CLA  | ND   |
| 19  | A     | 832 | CLA  | ND   |
| 19  | A     | 833 | CLA  | ND   |
| 19  | A     | 834 | CLA  | ND   |
| 19  | A     | 835 | CLA  | ND   |
| 19  | A     | 836 | CLA  | ND   |
| 19  | A     | 837 | CLA  | ND   |
| 19  | A     | 838 | CLA  | ND   |
| 19  | A     | 839 | CLA  | ND   |

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| Mol | Chain | Res | Type | Atom |
|-----|-------|-----|------|------|
| 19  | A     | 840 | CLA  | ND   |
| 19  | A     | 851 | CLA  | ND   |
| 19  | A     | 852 | CLA  | ND   |
| 19  | A     | 853 | CLA  | ND   |
| 19  | A     | 854 | CLA  | ND   |
| 19  | B     | 801 | CLA  | ND   |
| 19  | B     | 802 | CLA  | ND   |
| 19  | B     | 803 | CLA  | ND   |
| 19  | B     | 804 | CLA  | ND   |
| 19  | B     | 805 | CLA  | ND   |
| 19  | B     | 806 | CLA  | ND   |
| 19  | B     | 807 | CLA  | ND   |
| 19  | B     | 808 | CLA  | ND   |
| 19  | B     | 809 | CLA  | ND   |
| 19  | B     | 810 | CLA  | ND   |
| 19  | B     | 811 | CLA  | ND   |
| 19  | B     | 812 | CLA  | ND   |
| 19  | B     | 813 | CLA  | ND   |
| 19  | B     | 814 | CLA  | ND   |
| 19  | B     | 815 | CLA  | ND   |
| 19  | B     | 816 | CLA  | ND   |
| 19  | B     | 817 | CLA  | ND   |
| 19  | B     | 818 | CLA  | ND   |
| 19  | B     | 819 | CLA  | ND   |
| 19  | B     | 820 | CLA  | ND   |
| 19  | B     | 821 | CLA  | ND   |
| 19  | B     | 822 | CLA  | ND   |
| 19  | B     | 823 | CLA  | ND   |
| 19  | B     | 824 | CLA  | ND   |
| 19  | B     | 825 | CLA  | ND   |
| 19  | B     | 826 | CLA  | ND   |
| 19  | B     | 827 | CLA  | ND   |
| 19  | B     | 828 | CLA  | ND   |
| 19  | B     | 829 | CLA  | ND   |
| 19  | B     | 830 | CLA  | ND   |
| 19  | B     | 831 | CLA  | ND   |
| 19  | B     | 832 | CLA  | ND   |
| 19  | B     | 833 | CLA  | ND   |
| 19  | B     | 834 | CLA  | ND   |
| 19  | B     | 835 | CLA  | ND   |
| 19  | B     | 836 | CLA  | ND   |
| 19  | B     | 837 | CLA  | ND   |

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| Mol | Chain | Res | Type | Atom |
|-----|-------|-----|------|------|
| 19  | B     | 838 | CLA  | ND   |
| 19  | F     | 301 | CLA  | ND   |
| 19  | F     | 302 | CLA  | ND   |
| 19  | F     | 303 | CLA  | ND   |
| 19  | F     | 304 | CLA  | ND   |
| 19  | G     | 202 | CLA  | ND   |
| 19  | G     | 203 | CLA  | ND   |
| 19  | G     | 204 | CLA  | ND   |
| 19  | H     | 201 | CLA  | ND   |
| 19  | J     | 102 | CLA  | ND   |
| 19  | L     | 301 | CLA  | ND   |
| 19  | L     | 302 | CLA  | ND   |
| 19  | L     | 303 | CLA  | ND   |
| 19  | K     | 202 | CLA  | ND   |
| 19  | K     | 203 | CLA  | ND   |
| 19  | K     | 204 | CLA  | ND   |

All (1811) torsion outliers are listed below:

| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 18  | 1     | 301 | CHL  | CHA-CBD-CGD-O1D |
| 18  | 1     | 301 | CHL  | CHA-CBD-CGD-O2D |
| 18  | 1     | 301 | CHL  | CBD-CGD-O2D-CED |
| 18  | 1     | 301 | CHL  | O1D-CGD-O2D-CED |
| 18  | 1     | 306 | CHL  | C1C-C2C-CMC-OMC |
| 18  | 1     | 306 | CHL  | CHA-CBD-CGD-O2D |
| 18  | 2     | 301 | CHL  | C1-C2-C3-C4     |
| 18  | 2     | 301 | CHL  | C1-C2-C3-C5     |
| 18  | 2     | 305 | CHL  | C3C-C2C-CMC-OMC |
| 18  | 2     | 306 | CHL  | C3C-C2C-CMC-OMC |
| 18  | 2     | 306 | CHL  | CBD-CGD-O2D-CED |
| 18  | 2     | 307 | CHL  | C1A-C2A-CAA-CBA |
| 18  | 2     | 307 | CHL  | CHA-CBD-CGD-O1D |
| 18  | 2     | 314 | CHL  | C1A-C2A-CAA-CBA |
| 18  | 2     | 314 | CHL  | C3A-C2A-CAA-CBA |
| 18  | 2     | 314 | CHL  | CHA-CBD-CGD-O2D |
| 18  | 2     | 314 | CHL  | CBD-CGD-O2D-CED |
| 18  | 4     | 304 | CHL  | CHA-CBD-CGD-O1D |
| 18  | 4     | 304 | CHL  | CHA-CBD-CGD-O2D |
| 18  | 4     | 305 | CHL  | CBD-CGD-O2D-CED |
| 18  | 4     | 306 | CHL  | CHA-CBD-CGD-O1D |
| 19  | 1     | 302 | CLA  | CHA-CBD-CGD-O1D |

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| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 19  | 1     | 304 | CLA  | CBD-CGD-O2D-CED |
| 19  | 1     | 304 | CLA  | C2-C3-C5-C6     |
| 19  | 1     | 305 | CLA  | C1A-C2A-CAA-CBA |
| 19  | 1     | 305 | CLA  | C3A-C2A-CAA-CBA |
| 19  | 1     | 308 | CLA  | CBD-CGD-O2D-CED |
| 19  | 1     | 308 | CLA  | C1-C2-C3-C4     |
| 19  | 1     | 308 | CLA  | C1-C2-C3-C5     |
| 19  | 1     | 309 | CLA  | C2-C3-C5-C6     |
| 19  | 1     | 309 | CLA  | C4-C3-C5-C6     |
| 19  | 1     | 311 | CLA  | CBD-CGD-O2D-CED |
| 19  | 1     | 312 | CLA  | CBA-CGA-O2A-C1  |
| 19  | 1     | 312 | CLA  | O1A-CGA-O2A-C1  |
| 19  | 1     | 312 | CLA  | C1-C2-C3-C4     |
| 19  | 1     | 313 | CLA  | C1A-C2A-CAA-CBA |
| 19  | 1     | 313 | CLA  | C3A-C2A-CAA-CBA |
| 19  | 1     | 313 | CLA  | CHA-CBD-CGD-O1D |
| 19  | 1     | 314 | CLA  | C1A-C2A-CAA-CBA |
| 19  | 1     | 321 | CLA  | C1A-C2A-CAA-CBA |
| 19  | 1     | 321 | CLA  | CHA-CBD-CGD-O1D |
| 19  | 1     | 321 | CLA  | CHA-CBD-CGD-O2D |
| 19  | 1     | 321 | CLA  | CAD-CBD-CGD-O1D |
| 19  | 2     | 304 | CLA  | C1A-C2A-CAA-CBA |
| 19  | 2     | 304 | CLA  | C3A-C2A-CAA-CBA |
| 19  | 2     | 304 | CLA  | CHA-CBD-CGD-O2D |
| 19  | 2     | 304 | CLA  | C1-C2-C3-C4     |
| 19  | 2     | 308 | CLA  | C1A-C2A-CAA-CBA |
| 19  | 2     | 308 | CLA  | C3A-C2A-CAA-CBA |
| 19  | 2     | 309 | CLA  | C1A-C2A-CAA-CBA |
| 19  | 2     | 312 | CLA  | CHA-CBD-CGD-O2D |
| 19  | 2     | 312 | CLA  | CBD-CGD-O2D-CED |
| 19  | 2     | 313 | CLA  | C1A-C2A-CAA-CBA |
| 19  | 2     | 313 | CLA  | C1-C2-C3-C4     |
| 19  | 2     | 313 | CLA  | C1-C2-C3-C5     |
| 19  | 3     | 301 | CLA  | CBD-CGD-O2D-CED |
| 19  | 3     | 302 | CLA  | O1A-CGA-O2A-C1  |
| 19  | 3     | 303 | CLA  | C1A-C2A-CAA-CBA |
| 19  | 3     | 303 | CLA  | C3A-C2A-CAA-CBA |
| 19  | 3     | 306 | CLA  | C1A-C2A-CAA-CBA |
| 19  | 3     | 306 | CLA  | C3A-C2A-CAA-CBA |
| 19  | 3     | 308 | CLA  | C1A-C2A-CAA-CBA |
| 19  | 3     | 308 | CLA  | C3A-C2A-CAA-CBA |
| 19  | 3     | 308 | CLA  | C1-C2-C3-C5     |

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| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 19  | 3     | 314 | CLA  | C2A-CAA-CBA-CGA |
| 19  | 3     | 314 | CLA  | CBA-CGA-O2A-C1  |
| 19  | 4     | 307 | CLA  | C1A-C2A-CAA-CBA |
| 19  | 4     | 307 | CLA  | C3A-C2A-CAA-CBA |
| 19  | 4     | 307 | CLA  | CHA-CBD-CGD-O1D |
| 19  | 4     | 309 | CLA  | CHA-CBD-CGD-O1D |
| 19  | 4     | 311 | CLA  | CHA-CBD-CGD-O1D |
| 19  | 4     | 311 | CLA  | CHA-CBD-CGD-O2D |
| 19  | 4     | 312 | CLA  | C1A-C2A-CAA-CBA |
| 19  | 4     | 312 | CLA  | C3A-C2A-CAA-CBA |
| 19  | 4     | 312 | CLA  | CHA-CBD-CGD-O1D |
| 19  | 4     | 313 | CLA  | C3A-C2A-CAA-CBA |
| 19  | A     | 801 | CLA  | C1A-C2A-CAA-CBA |
| 19  | A     | 801 | CLA  | C3A-C2A-CAA-CBA |
| 19  | A     | 801 | CLA  | C4-C3-C5-C6     |
| 19  | A     | 802 | CLA  | C11-C12-C13-C14 |
| 19  | A     | 803 | CLA  | C1A-C2A-CAA-CBA |
| 19  | A     | 803 | CLA  | C3A-C2A-CAA-CBA |
| 19  | A     | 803 | CLA  | C1-C2-C3-C5     |
| 19  | A     | 804 | CLA  | C1A-C2A-CAA-CBA |
| 19  | A     | 804 | CLA  | C3A-C2A-CAA-CBA |
| 19  | A     | 804 | CLA  | CHA-CBD-CGD-O1D |
| 19  | A     | 804 | CLA  | CHA-CBD-CGD-O2D |
| 19  | A     | 804 | CLA  | CAD-CBD-CGD-O1D |
| 19  | A     | 804 | CLA  | CAD-CBD-CGD-O2D |
| 19  | A     | 804 | CLA  | C1-C2-C3-C4     |
| 19  | A     | 804 | CLA  | C1-C2-C3-C5     |
| 19  | A     | 805 | CLA  | C1A-C2A-CAA-CBA |
| 19  | A     | 807 | CLA  | CHA-CBD-CGD-O2D |
| 19  | A     | 807 | CLA  | C1-C2-C3-C5     |
| 19  | A     | 808 | CLA  | C6-C7-C8-C9     |
| 19  | A     | 809 | CLA  | CHA-CBD-CGD-O2D |
| 19  | A     | 809 | CLA  | C1-C2-C3-C5     |
| 19  | A     | 810 | CLA  | C1A-C2A-CAA-CBA |
| 19  | A     | 810 | CLA  | C3A-C2A-CAA-CBA |
| 19  | A     | 810 | CLA  | C1-C2-C3-C4     |
| 19  | A     | 810 | CLA  | C1-C2-C3-C5     |
| 19  | A     | 812 | CLA  | C1-C2-C3-C5     |
| 19  | A     | 812 | CLA  | C2-C3-C5-C6     |
| 19  | A     | 814 | CLA  | C1A-C2A-CAA-CBA |
| 19  | A     | 814 | CLA  | C3A-C2A-CAA-CBA |
| 19  | A     | 816 | CLA  | C1-C2-C3-C4     |

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| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 19  | A     | 816 | CLA  | C1-C2-C3-C5     |
| 19  | A     | 817 | CLA  | C3A-C2A-CAA-CBA |
| 19  | A     | 818 | CLA  | C1A-C2A-CAA-CBA |
| 19  | A     | 818 | CLA  | C3A-C2A-CAA-CBA |
| 19  | A     | 820 | CLA  | C1A-C2A-CAA-CBA |
| 19  | A     | 820 | CLA  | C14-C13-C15-C16 |
| 19  | A     | 821 | CLA  | C1A-C2A-CAA-CBA |
| 19  | A     | 821 | CLA  | CHA-CBD-CGD-O1D |
| 19  | A     | 822 | CLA  | C1A-C2A-CAA-CBA |
| 19  | A     | 822 | CLA  | C3A-C2A-CAA-CBA |
| 19  | A     | 822 | CLA  | C2A-CAA-CBA-CGA |
| 19  | A     | 822 | CLA  | C4-C3-C5-C6     |
| 19  | A     | 823 | CLA  | C3A-C2A-CAA-CBA |
| 19  | A     | 823 | CLA  | CHA-CBD-CGD-O1D |
| 19  | A     | 823 | CLA  | CHA-CBD-CGD-O2D |
| 19  | A     | 827 | CLA  | C1-C2-C3-C5     |
| 19  | A     | 827 | CLA  | C14-C13-C15-C16 |
| 19  | A     | 828 | CLA  | C2A-CAA-CBA-CGA |
| 19  | A     | 829 | CLA  | C2-C3-C5-C6     |
| 19  | A     | 830 | CLA  | C1A-C2A-CAA-CBA |
| 19  | A     | 830 | CLA  | C3A-C2A-CAA-CBA |
| 19  | A     | 831 | CLA  | CBD-CGD-O2D-CED |
| 19  | A     | 832 | CLA  | C3A-C2A-CAA-CBA |
| 19  | A     | 832 | CLA  | C11-C10-C8-C9   |
| 19  | A     | 833 | CLA  | CBA-CGA-O2A-C1  |
| 19  | A     | 833 | CLA  | C1-C2-C3-C4     |
| 19  | A     | 833 | CLA  | C1-C2-C3-C5     |
| 19  | A     | 834 | CLA  | CHA-CBD-CGD-O2D |
| 19  | A     | 834 | CLA  | C1-C2-C3-C5     |
| 19  | A     | 835 | CLA  | C1-C2-C3-C4     |
| 19  | A     | 835 | CLA  | C1-C2-C3-C5     |
| 19  | A     | 838 | CLA  | CHA-CBD-CGD-O1D |
| 19  | A     | 838 | CLA  | CHA-CBD-CGD-O2D |
| 19  | A     | 839 | CLA  | C2-C3-C5-C6     |
| 19  | A     | 839 | CLA  | C4-C3-C5-C6     |
| 19  | A     | 839 | CLA  | C14-C13-C15-C16 |
| 19  | A     | 840 | CLA  | C1-C2-C3-C4     |
| 19  | A     | 853 | CLA  | C1A-C2A-CAA-CBA |
| 19  | A     | 853 | CLA  | C3A-C2A-CAA-CBA |
| 19  | A     | 853 | CLA  | C4-C3-C5-C6     |
| 19  | A     | 854 | CLA  | C1A-C2A-CAA-CBA |
| 19  | A     | 854 | CLA  | C3A-C2A-CAA-CBA |

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| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 19  | A     | 854 | CLA  | CHA-CBD-CGD-O1D |
| 19  | B     | 801 | CLA  | CHA-CBD-CGD-O1D |
| 19  | B     | 801 | CLA  | C1-C2-C3-C4     |
| 19  | B     | 803 | CLA  | C1A-C2A-CAA-CBA |
| 19  | B     | 803 | CLA  | C3A-C2A-CAA-CBA |
| 19  | B     | 803 | CLA  | CHA-CBD-CGD-O1D |
| 19  | B     | 803 | CLA  | CHA-CBD-CGD-O2D |
| 19  | B     | 804 | CLA  | C1A-C2A-CAA-CBA |
| 19  | B     | 804 | CLA  | C3A-C2A-CAA-CBA |
| 19  | B     | 804 | CLA  | C14-C13-C15-C16 |
| 19  | B     | 808 | CLA  | C1A-C2A-CAA-CBA |
| 19  | B     | 808 | CLA  | C3A-C2A-CAA-CBA |
| 19  | B     | 809 | CLA  | CBD-CGD-O2D-CED |
| 19  | B     | 809 | CLA  | C1-C2-C3-C4     |
| 19  | B     | 809 | CLA  | C1-C2-C3-C5     |
| 19  | B     | 810 | CLA  | C1A-C2A-CAA-CBA |
| 19  | B     | 810 | CLA  | C3A-C2A-CAA-CBA |
| 19  | B     | 810 | CLA  | CHA-CBD-CGD-O1D |
| 19  | B     | 810 | CLA  | CHA-CBD-CGD-O2D |
| 19  | B     | 811 | CLA  | C2A-CAA-CBA-CGA |
| 19  | B     | 812 | CLA  | C14-C13-C15-C16 |
| 19  | B     | 813 | CLA  | CHA-CBD-CGD-O1D |
| 19  | B     | 813 | CLA  | CHA-CBD-CGD-O2D |
| 19  | B     | 813 | CLA  | CBD-CGD-O2D-CED |
| 19  | B     | 814 | CLA  | CHA-CBD-CGD-O1D |
| 19  | B     | 814 | CLA  | CHA-CBD-CGD-O2D |
| 19  | B     | 815 | CLA  | C1-C2-C3-C5     |
| 19  | B     | 817 | CLA  | C3A-C2A-CAA-CBA |
| 19  | B     | 817 | CLA  | C1-C2-C3-C5     |
| 19  | B     | 818 | CLA  | CHA-CBD-CGD-O1D |
| 19  | B     | 818 | CLA  | CHA-CBD-CGD-O2D |
| 19  | B     | 819 | CLA  | C1-C2-C3-C4     |
| 19  | B     | 819 | CLA  | C1-C2-C3-C5     |
| 19  | B     | 820 | CLA  | C1A-C2A-CAA-CBA |
| 19  | B     | 820 | CLA  | C3A-C2A-CAA-CBA |
| 19  | B     | 822 | CLA  | CHA-CBD-CGD-O1D |
| 19  | B     | 823 | CLA  | C1A-C2A-CAA-CBA |
| 19  | B     | 825 | CLA  | C1A-C2A-CAA-CBA |
| 19  | B     | 825 | CLA  | C3A-C2A-CAA-CBA |
| 19  | B     | 827 | CLA  | C1A-C2A-CAA-CBA |
| 19  | B     | 827 | CLA  | C3A-C2A-CAA-CBA |
| 19  | B     | 827 | CLA  | C2A-CAA-CBA-CGA |

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| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 19  | B     | 827 | CLA  | CHA-CBD-CGD-O1D |
| 19  | B     | 828 | CLA  | C1A-C2A-CAA-CBA |
| 19  | B     | 828 | CLA  | C3A-C2A-CAA-CBA |
| 19  | B     | 829 | CLA  | C1A-C2A-CAA-CBA |
| 19  | B     | 829 | CLA  | C3A-C2A-CAA-CBA |
| 19  | B     | 830 | CLA  | C1A-C2A-CAA-CBA |
| 19  | B     | 831 | CLA  | C1A-C2A-CAA-CBA |
| 19  | B     | 831 | CLA  | C3A-C2A-CAA-CBA |
| 19  | B     | 831 | CLA  | CHA-CBD-CGD-O1D |
| 19  | B     | 831 | CLA  | C4-C3-C5-C6     |
| 19  | B     | 832 | CLA  | C1A-C2A-CAA-CBA |
| 19  | B     | 832 | CLA  | C2-C3-C5-C6     |
| 19  | B     | 833 | CLA  | C1A-C2A-CAA-CBA |
| 19  | B     | 833 | CLA  | C3A-C2A-CAA-CBA |
| 19  | B     | 834 | CLA  | C1-C2-C3-C4     |
| 19  | B     | 837 | CLA  | C1-C2-C3-C4     |
| 19  | B     | 837 | CLA  | C1-C2-C3-C5     |
| 19  | B     | 838 | CLA  | C2-C3-C5-C6     |
| 19  | B     | 838 | CLA  | C4-C3-C5-C6     |
| 19  | F     | 301 | CLA  | C1-C2-C3-C5     |
| 19  | F     | 302 | CLA  | O2A-C1-C2-C3    |
| 19  | F     | 302 | CLA  | C1-C2-C3-C5     |
| 19  | F     | 304 | CLA  | C1A-C2A-CAA-CBA |
| 19  | F     | 304 | CLA  | C3A-C2A-CAA-CBA |
| 19  | G     | 202 | CLA  | CHA-CBD-CGD-O1D |
| 19  | G     | 202 | CLA  | CHA-CBD-CGD-O2D |
| 19  | G     | 203 | CLA  | C1A-C2A-CAA-CBA |
| 19  | G     | 203 | CLA  | C3A-C2A-CAA-CBA |
| 19  | G     | 203 | CLA  | CBA-CGA-O2A-C1  |
| 19  | G     | 203 | CLA  | CHA-CBD-CGD-O1D |
| 19  | G     | 203 | CLA  | C1-C2-C3-C5     |
| 19  | G     | 204 | CLA  | CBD-CGD-O2D-CED |
| 19  | H     | 201 | CLA  | C1A-C2A-CAA-CBA |
| 19  | H     | 201 | CLA  | C3A-C2A-CAA-CBA |
| 19  | H     | 201 | CLA  | C2A-CAA-CBA-CGA |
| 19  | H     | 201 | CLA  | CBD-CGD-O2D-CED |
| 19  | J     | 102 | CLA  | CHA-CBD-CGD-O1D |
| 19  | J     | 102 | CLA  | CHA-CBD-CGD-O2D |
| 19  | J     | 102 | CLA  | CAD-CBD-CGD-O1D |
| 19  | J     | 102 | CLA  | CAD-CBD-CGD-O2D |
| 19  | L     | 301 | CLA  | C1A-C2A-CAA-CBA |
| 19  | L     | 301 | CLA  | C3A-C2A-CAA-CBA |

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| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 19  | L     | 301 | CLA  | CBA-CGA-O2A-C1  |
| 19  | L     | 301 | CLA  | O1A-CGA-O2A-C1  |
| 19  | L     | 301 | CLA  | C1-C2-C3-C4     |
| 19  | L     | 301 | CLA  | C1-C2-C3-C5     |
| 19  | L     | 303 | CLA  | C1-C2-C3-C5     |
| 19  | K     | 202 | CLA  | C1A-C2A-CAA-CBA |
| 19  | K     | 202 | CLA  | C3A-C2A-CAA-CBA |
| 19  | K     | 203 | CLA  | C1A-C2A-CAA-CBA |
| 22  | 1     | 317 | LHG  | C4-O6-P-O4      |
| 22  | 1     | 317 | LHG  | C4-O6-P-O5      |
| 22  | 1     | 317 | LHG  | O9-C7-O7-C5     |
| 22  | 1     | 317 | LHG  | C8-C7-O7-C5     |
| 22  | 1     | 322 | LHG  | O10-C23-O8-C6   |
| 22  | 1     | 322 | LHG  | C24-C23-O8-C6   |
| 22  | 2     | 317 | LHG  | C3-O3-P-O4      |
| 22  | 2     | 317 | LHG  | C3-O3-P-O5      |
| 22  | 2     | 317 | LHG  | O10-C23-O8-C6   |
| 22  | 2     | 317 | LHG  | C24-C23-O8-C6   |
| 22  | B     | 848 | LHG  | C3-O3-P-O4      |
| 22  | B     | 848 | LHG  | C3-O3-P-O5      |
| 22  | B     | 848 | LHG  | C4-O6-P-O3      |
| 23  | 1     | 318 | BCR  | C11-C12-C13-C14 |
| 23  | 1     | 318 | BCR  | C11-C12-C13-C35 |
| 23  | 2     | 319 | BCR  | C1-C6-C7-C8     |
| 23  | 2     | 319 | BCR  | C5-C6-C7-C8     |
| 23  | 2     | 319 | BCR  | C13-C14-C15-C16 |
| 23  | 2     | 319 | BCR  | C17-C18-C19-C20 |
| 23  | 2     | 319 | BCR  | C36-C18-C19-C20 |
| 23  | 2     | 319 | BCR  | C21-C22-C23-C24 |
| 23  | A     | 843 | BCR  | C11-C12-C13-C14 |
| 23  | A     | 843 | BCR  | C11-C12-C13-C35 |
| 23  | A     | 843 | BCR  | C17-C18-C19-C20 |
| 23  | A     | 843 | BCR  | C36-C18-C19-C20 |
| 23  | A     | 843 | BCR  | C21-C22-C23-C24 |
| 23  | A     | 843 | BCR  | C37-C22-C23-C24 |
| 23  | A     | 845 | BCR  | C5-C6-C7-C8     |
| 23  | A     | 847 | BCR  | C11-C12-C13-C14 |
| 23  | A     | 847 | BCR  | C11-C12-C13-C35 |
| 23  | B     | 842 | BCR  | C11-C12-C13-C14 |
| 23  | J     | 101 | BCR  | C11-C12-C13-C14 |
| 23  | J     | 101 | BCR  | C23-C24-C25-C26 |
| 23  | J     | 101 | BCR  | C23-C24-C25-C30 |

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| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 23  | J     | 104 | BCR  | C23-C24-C25-C26 |
| 23  | L     | 304 | BCR  | C23-C24-C25-C26 |
| 23  | L     | 304 | BCR  | C23-C24-C25-C30 |
| 23  | K     | 201 | BCR  | C17-C18-C19-C20 |
| 23  | K     | 201 | BCR  | C36-C18-C19-C20 |
| 23  | K     | 201 | BCR  | C23-C24-C25-C30 |
| 24  | 1     | 319 | LMG  | O6-C1-O1-C7     |
| 24  | 1     | 319 | LMG  | O9-C10-O7-C8    |
| 24  | 1     | 319 | LMG  | C11-C10-O7-C8   |
| 24  | 1     | 319 | LMG  | O10-C28-O8-C9   |
| 24  | 1     | 319 | LMG  | C29-C28-O8-C9   |
| 24  | B     | 847 | LMG  | O9-C10-O7-C8    |
| 24  | B     | 847 | LMG  | C11-C10-O7-C8   |
| 24  | B     | 847 | LMG  | O10-C28-O8-C9   |
| 24  | B     | 847 | LMG  | C29-C28-O8-C9   |
| 25  | 2     | 318 | LMT  | C2'-C1'-O1'-C1  |
| 25  | 2     | 318 | LMT  | O5'-C1'-O1'-C1  |
| 25  | 2     | 318 | LMT  | C2-C1-O1'-C1'   |
| 28  | B     | 846 | DGD  | C2D-C1D-O3G-C3G |
| 28  | B     | 846 | DGD  | O6D-C1D-O3G-C3G |
| 18  | 2     | 305 | CHL  | O1D-CGD-O2D-CED |
| 18  | 4     | 305 | CHL  | O1D-CGD-O2D-CED |
| 19  | 4     | 302 | CLA  | O1D-CGD-O2D-CED |
| 18  | 2     | 306 | CHL  | O1D-CGD-O2D-CED |
| 19  | H     | 201 | CLA  | O1D-CGD-O2D-CED |
| 18  | 2     | 305 | CHL  | CBD-CGD-O2D-CED |
| 19  | 1     | 314 | CLA  | CBD-CGD-O2D-CED |
| 19  | 2     | 302 | CLA  | CBD-CGD-O2D-CED |
| 19  | 2     | 311 | CLA  | CBD-CGD-O2D-CED |
| 19  | 3     | 304 | CLA  | CBD-CGD-O2D-CED |
| 19  | 3     | 309 | CLA  | CBD-CGD-O2D-CED |
| 19  | 4     | 302 | CLA  | CBD-CGD-O2D-CED |
| 19  | A     | 815 | CLA  | CBD-CGD-O2D-CED |
| 19  | A     | 820 | CLA  | CBD-CGD-O2D-CED |
| 19  | A     | 822 | CLA  | CBD-CGD-O2D-CED |
| 19  | A     | 851 | CLA  | CBD-CGD-O2D-CED |
| 19  | B     | 802 | CLA  | CBD-CGD-O2D-CED |
| 19  | B     | 820 | CLA  | CBD-CGD-O2D-CED |
| 19  | F     | 301 | CLA  | CBD-CGD-O2D-CED |
| 19  | G     | 202 | CLA  | CBD-CGD-O2D-CED |
| 19  | K     | 202 | CLA  | CBD-CGD-O2D-CED |
| 19  | 1     | 308 | CLA  | O1A-CGA-O2A-C1  |

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| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 19  | 4     | 313 | CLA  | O1A-CGA-O2A-C1  |
| 19  | A     | 816 | CLA  | O1A-CGA-O2A-C1  |
| 19  | A     | 833 | CLA  | O1A-CGA-O2A-C1  |
| 19  | A     | 837 | CLA  | O1A-CGA-O2A-C1  |
| 19  | A     | 840 | CLA  | O1A-CGA-O2A-C1  |
| 19  | B     | 811 | CLA  | O1A-CGA-O2A-C1  |
| 19  | G     | 203 | CLA  | O1A-CGA-O2A-C1  |
| 19  | 3     | 314 | CLA  | O1A-CGA-O2A-C1  |
| 19  | G     | 204 | CLA  | O1A-CGA-O2A-C1  |
| 19  | 1     | 308 | CLA  | O1D-CGD-O2D-CED |
| 19  | 1     | 311 | CLA  | O1D-CGD-O2D-CED |
| 19  | B     | 809 | CLA  | O1D-CGD-O2D-CED |
| 19  | G     | 204 | CLA  | CBA-CGA-O2A-C1  |
| 18  | 2     | 314 | CHL  | O1D-CGD-O2D-CED |
| 19  | 3     | 304 | CLA  | O1D-CGD-O2D-CED |
| 19  | 3     | 309 | CLA  | O1D-CGD-O2D-CED |
| 19  | B     | 802 | CLA  | O1D-CGD-O2D-CED |
| 19  | B     | 813 | CLA  | O1D-CGD-O2D-CED |
| 19  | 3     | 302 | CLA  | CBA-CGA-O2A-C1  |
| 19  | A     | 814 | CLA  | CBA-CGA-O2A-C1  |
| 19  | A     | 824 | CLA  | CBA-CGA-O2A-C1  |
| 19  | B     | 830 | CLA  | CBA-CGA-O2A-C1  |
| 18  | 1     | 306 | CHL  | CBD-CGD-O2D-CED |
| 18  | 2     | 301 | CHL  | CBD-CGD-O2D-CED |
| 19  | 1     | 302 | CLA  | CBD-CGD-O2D-CED |
| 19  | 1     | 307 | CLA  | CBD-CGD-O2D-CED |
| 19  | 2     | 310 | CLA  | CBD-CGD-O2D-CED |
| 19  | 3     | 305 | CLA  | CBD-CGD-O2D-CED |
| 19  | 3     | 313 | CLA  | CBD-CGD-O2D-CED |
| 19  | 4     | 313 | CLA  | CBD-CGD-O2D-CED |
| 19  | A     | 805 | CLA  | CBD-CGD-O2D-CED |
| 19  | A     | 818 | CLA  | CBD-CGD-O2D-CED |
| 19  | A     | 837 | CLA  | CBD-CGD-O2D-CED |
| 19  | A     | 840 | CLA  | CBD-CGD-O2D-CED |
| 19  | B     | 824 | CLA  | CBD-CGD-O2D-CED |
| 19  | B     | 830 | CLA  | CBD-CGD-O2D-CED |
| 19  | B     | 832 | CLA  | CBD-CGD-O2D-CED |
| 19  | F     | 304 | CLA  | CBD-CGD-O2D-CED |
| 19  | A     | 804 | CLA  | O1A-CGA-O2A-C1  |
| 19  | A     | 811 | CLA  | O1A-CGA-O2A-C1  |
| 19  | A     | 814 | CLA  | O1A-CGA-O2A-C1  |
| 19  | A     | 818 | CLA  | O1A-CGA-O2A-C1  |

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| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 19  | A     | 822 | CLA  | O1A-CGA-O2A-C1  |
| 19  | A     | 824 | CLA  | O1A-CGA-O2A-C1  |
| 19  | A     | 831 | CLA  | O1A-CGA-O2A-C1  |
| 19  | A     | 832 | CLA  | O1A-CGA-O2A-C1  |
| 19  | B     | 809 | CLA  | O1A-CGA-O2A-C1  |
| 19  | B     | 814 | CLA  | O1A-CGA-O2A-C1  |
| 19  | B     | 819 | CLA  | O1A-CGA-O2A-C1  |
| 19  | B     | 830 | CLA  | O1A-CGA-O2A-C1  |
| 19  | L     | 303 | CLA  | O1A-CGA-O2A-C1  |
| 19  | 2     | 311 | CLA  | O1D-CGD-O2D-CED |
| 19  | G     | 202 | CLA  | O1D-CGD-O2D-CED |
| 19  | 1     | 314 | CLA  | O1D-CGD-O2D-CED |
| 19  | 2     | 309 | CLA  | CBD-CGD-O2D-CED |
| 19  | 4     | 301 | CLA  | CBD-CGD-O2D-CED |
| 19  | 4     | 311 | CLA  | CBD-CGD-O2D-CED |
| 19  | L     | 302 | CLA  | CBD-CGD-O2D-CED |
| 19  | B     | 810 | CLA  | O1A-CGA-O2A-C1  |
| 19  | H     | 201 | CLA  | CBA-CGA-O2A-C1  |
| 19  | 3     | 308 | CLA  | C3-C5-C6-C7     |
| 19  | A     | 816 | CLA  | C3-C5-C6-C7     |
| 19  | A     | 838 | CLA  | C3-C5-C6-C7     |
| 19  | B     | 810 | CLA  | C3-C5-C6-C7     |
| 19  | B     | 822 | CLA  | C3-C5-C6-C7     |
| 19  | A     | 811 | CLA  | CBA-CGA-O2A-C1  |
| 19  | A     | 812 | CLA  | CBA-CGA-O2A-C1  |
| 19  | A     | 816 | CLA  | CBA-CGA-O2A-C1  |
| 19  | A     | 831 | CLA  | CBA-CGA-O2A-C1  |
| 19  | A     | 832 | CLA  | CBA-CGA-O2A-C1  |
| 19  | A     | 840 | CLA  | CBA-CGA-O2A-C1  |
| 19  | 3     | 310 | CLA  | CBD-CGD-O2D-CED |
| 19  | F     | 302 | CLA  | CBD-CGD-O2D-CED |
| 19  | F     | 303 | CLA  | CBD-CGD-O2D-CED |
| 19  | A     | 836 | CLA  | O1A-CGA-O2A-C1  |
| 25  | G     | 201 | LMT  | C3'-C4'-O1B-C1B |
| 18  | 3     | 307 | CHL  | CBA-CGA-O2A-C1  |
| 19  | B     | 822 | CLA  | C4-C3-C5-C6     |
| 19  | 2     | 309 | CLA  | C2-C3-C5-C6     |
| 19  | 4     | 310 | CLA  | CBD-CGD-O2D-CED |
| 19  | A     | 812 | CLA  | CBD-CGD-O2D-CED |
| 19  | A     | 814 | CLA  | CBD-CGD-O2D-CED |
| 19  | A     | 830 | CLA  | CBD-CGD-O2D-CED |
| 19  | 1     | 311 | CLA  | C2A-CAA-CBA-CGA |

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| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 19  | 1     | 313 | CLA  | C2A-CAA-CBA-CGA |
| 19  | 4     | 311 | CLA  | C2A-CAA-CBA-CGA |
| 19  | A     | 811 | CLA  | C2A-CAA-CBA-CGA |
| 19  | A     | 812 | CLA  | C2A-CAA-CBA-CGA |
| 19  | A     | 823 | CLA  | C2A-CAA-CBA-CGA |
| 19  | A     | 831 | CLA  | C2A-CAA-CBA-CGA |
| 19  | A     | 834 | CLA  | C2A-CAA-CBA-CGA |
| 19  | A     | 836 | CLA  | C2A-CAA-CBA-CGA |
| 19  | A     | 840 | CLA  | C2A-CAA-CBA-CGA |
| 19  | A     | 854 | CLA  | C2A-CAA-CBA-CGA |
| 19  | B     | 808 | CLA  | C2A-CAA-CBA-CGA |
| 19  | B     | 816 | CLA  | C2A-CAA-CBA-CGA |
| 19  | B     | 823 | CLA  | C2A-CAA-CBA-CGA |
| 19  | L     | 303 | CLA  | C2A-CAA-CBA-CGA |
| 19  | B     | 808 | CLA  | O1A-CGA-O2A-C1  |
| 19  | 2     | 304 | CLA  | CBA-CGA-O2A-C1  |
| 19  | 3     | 312 | CLA  | CBA-CGA-O2A-C1  |
| 19  | 4     | 311 | CLA  | CBA-CGA-O2A-C1  |
| 19  | A     | 804 | CLA  | CBA-CGA-O2A-C1  |
| 19  | A     | 818 | CLA  | CBA-CGA-O2A-C1  |
| 19  | A     | 822 | CLA  | CBA-CGA-O2A-C1  |
| 19  | A     | 836 | CLA  | CBA-CGA-O2A-C1  |
| 19  | B     | 808 | CLA  | CBA-CGA-O2A-C1  |
| 19  | B     | 810 | CLA  | CBA-CGA-O2A-C1  |
| 19  | B     | 814 | CLA  | CBA-CGA-O2A-C1  |
| 19  | B     | 819 | CLA  | CBA-CGA-O2A-C1  |
| 19  | L     | 303 | CLA  | CBA-CGA-O2A-C1  |
| 19  | 1     | 304 | CLA  | O1D-CGD-O2D-CED |
| 19  | 1     | 312 | CLA  | C1-C2-C3-C5     |
| 19  | 2     | 304 | CLA  | C1-C2-C3-C5     |
| 19  | A     | 824 | CLA  | C1-C2-C3-C5     |
| 19  | B     | 801 | CLA  | C1-C2-C3-C5     |
| 19  | B     | 820 | CLA  | C1-C2-C3-C5     |
| 19  | 3     | 311 | CLA  | CBD-CGD-O2D-CED |
| 19  | 4     | 303 | CLA  | CBD-CGD-O2D-CED |
| 19  | A     | 822 | CLA  | O1D-CGD-O2D-CED |
| 19  | A     | 831 | CLA  | O1D-CGD-O2D-CED |
| 19  | F     | 304 | CLA  | O1D-CGD-O2D-CED |
| 19  | G     | 204 | CLA  | O1D-CGD-O2D-CED |
| 19  | 3     | 312 | CLA  | O1A-CGA-O2A-C1  |
| 19  | 4     | 311 | CLA  | O1A-CGA-O2A-C1  |
| 19  | B     | 821 | CLA  | O1A-CGA-O2A-C1  |

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| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 19  | B     | 832 | CLA  | O1A-CGA-O2A-C1  |
| 18  | 3     | 307 | CHL  | O1A-CGA-O2A-C1  |
| 23  | 2     | 319 | BCR  | C19-C20-C21-C22 |
| 23  | J     | 101 | BCR  | C13-C14-C15-C16 |
| 19  | 2     | 304 | CLA  | CBD-CGD-O2D-CED |
| 19  | 2     | 308 | CLA  | CBD-CGD-O2D-CED |
| 19  | A     | 803 | CLA  | CBD-CGD-O2D-CED |
| 19  | B     | 837 | CLA  | CBD-CGD-O2D-CED |
| 19  | L     | 302 | CLA  | C3-C5-C6-C7     |
| 19  | 4     | 313 | CLA  | CBA-CGA-O2A-C1  |
| 19  | A     | 835 | CLA  | CBA-CGA-O2A-C1  |
| 19  | A     | 837 | CLA  | CBA-CGA-O2A-C1  |
| 19  | B     | 811 | CLA  | CBA-CGA-O2A-C1  |
| 19  | B     | 832 | CLA  | CBA-CGA-O2A-C1  |
| 19  | 4     | 302 | CLA  | O1A-CGA-O2A-C1  |
| 19  | B     | 805 | CLA  | O1A-CGA-O2A-C1  |
| 18  | 2     | 307 | CHL  | CBD-CGD-O2D-CED |
| 19  | B     | 817 | CLA  | CBD-CGD-O2D-CED |
| 19  | B     | 818 | CLA  | CBD-CGD-O2D-CED |
| 19  | 3     | 301 | CLA  | O1D-CGD-O2D-CED |
| 19  | A     | 808 | CLA  | CBD-CGD-O2D-CED |
| 19  | 1     | 308 | CLA  | CBA-CGA-O2A-C1  |
| 19  | B     | 809 | CLA  | CBA-CGA-O2A-C1  |
| 19  | 2     | 312 | CLA  | O1A-CGA-O2A-C1  |
| 19  | B     | 835 | CLA  | O1A-CGA-O2A-C1  |
| 19  | A     | 812 | CLA  | C4-C3-C5-C6     |
| 19  | A     | 834 | CLA  | C4-C3-C5-C6     |
| 19  | B     | 811 | CLA  | C4-C3-C5-C6     |
| 19  | A     | 834 | CLA  | C2-C3-C5-C6     |
| 19  | A     | 853 | CLA  | C2-C3-C5-C6     |
| 19  | B     | 811 | CLA  | C2-C3-C5-C6     |
| 19  | B     | 831 | CLA  | C2-C3-C5-C6     |
| 19  | J     | 102 | CLA  | CBD-CGD-O2D-CED |
| 18  | 4     | 306 | CHL  | C2A-CAA-CBA-CGA |
| 19  | 2     | 312 | CLA  | C2A-CAA-CBA-CGA |
| 19  | 3     | 312 | CLA  | C2A-CAA-CBA-CGA |
| 19  | A     | 802 | CLA  | C2A-CAA-CBA-CGA |
| 19  | A     | 807 | CLA  | C2A-CAA-CBA-CGA |
| 19  | A     | 814 | CLA  | C2A-CAA-CBA-CGA |
| 19  | A     | 816 | CLA  | C2A-CAA-CBA-CGA |
| 19  | B     | 819 | CLA  | C2A-CAA-CBA-CGA |
| 19  | B     | 832 | CLA  | C2A-CAA-CBA-CGA |

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| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 19  | G     | 203 | CLA  | C2A-CAA-CBA-CGA |
| 19  | K     | 202 | CLA  | C2A-CAA-CBA-CGA |
| 18  | 2     | 301 | CHL  | O1A-CGA-O2A-C1  |
| 18  | 2     | 301 | CHL  | CBA-CGA-O2A-C1  |
| 19  | A     | 817 | CLA  | CBA-CGA-O2A-C1  |
| 19  | B     | 801 | CLA  | CBA-CGA-O2A-C1  |
| 19  | F     | 301 | CLA  | CBA-CGA-O2A-C1  |
| 25  | N     | 201 | LMT  | O5B-C1B-O1B-C4' |
| 19  | A     | 812 | CLA  | O1D-CGD-O2D-CED |
| 19  | B     | 818 | CLA  | O1D-CGD-O2D-CED |
| 19  | A     | 812 | CLA  | O1A-CGA-O2A-C1  |
| 19  | A     | 840 | CLA  | C1-C2-C3-C5     |
| 19  | A     | 835 | CLA  | O1A-CGA-O2A-C1  |
| 19  | A     | 812 | CLA  | C3-C5-C6-C7     |
| 19  | A     | 834 | CLA  | C3-C5-C6-C7     |
| 19  | B     | 837 | CLA  | C3-C5-C6-C7     |
| 19  | 2     | 312 | CLA  | CBA-CGA-O2A-C1  |
| 19  | 4     | 302 | CLA  | CBA-CGA-O2A-C1  |
| 19  | A     | 801 | CLA  | CBA-CGA-O2A-C1  |
| 19  | A     | 830 | CLA  | CBA-CGA-O2A-C1  |
| 19  | B     | 804 | CLA  | CBA-CGA-O2A-C1  |
| 19  | B     | 805 | CLA  | CBA-CGA-O2A-C1  |
| 19  | B     | 821 | CLA  | CBA-CGA-O2A-C1  |
| 19  | B     | 824 | CLA  | CBA-CGA-O2A-C1  |
| 19  | B     | 826 | CLA  | CBA-CGA-O2A-C1  |
| 19  | B     | 829 | CLA  | CBA-CGA-O2A-C1  |
| 19  | B     | 835 | CLA  | CBA-CGA-O2A-C1  |
| 19  | B     | 814 | CLA  | CBD-CGD-O2D-CED |
| 19  | 2     | 312 | CLA  | O1D-CGD-O2D-CED |
| 23  | J     | 101 | BCR  | C19-C20-C21-C22 |
| 19  | 4     | 313 | CLA  | C15-C16-C17-C18 |
| 19  | A     | 820 | CLA  | O1D-CGD-O2D-CED |
| 19  | 1     | 302 | CLA  | C10-C11-C12-C13 |
| 19  | A     | 812 | CLA  | C5-C6-C7-C8     |
| 25  | N     | 201 | LMT  | C2'-C1'-O1'-C1  |
| 19  | B     | 801 | CLA  | O1A-CGA-O2A-C1  |
| 19  | 1     | 312 | CLA  | C6-C7-C8-C9     |
| 19  | 1     | 321 | CLA  | C14-C13-C15-C16 |
| 19  | 2     | 302 | CLA  | C11-C12-C13-C14 |
| 19  | 2     | 309 | CLA  | C11-C10-C8-C9   |
| 19  | 2     | 312 | CLA  | C11-C10-C8-C9   |
| 19  | 2     | 312 | CLA  | C11-C12-C13-C14 |

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| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 19  | 4     | 308 | CLA  | C11-C10-C8-C9   |
| 19  | A     | 805 | CLA  | C6-C7-C8-C9     |
| 19  | A     | 807 | CLA  | C6-C7-C8-C9     |
| 19  | A     | 808 | CLA  | C11-C10-C8-C9   |
| 19  | A     | 808 | CLA  | C14-C13-C15-C16 |
| 19  | A     | 826 | CLA  | C14-C13-C15-C16 |
| 19  | A     | 829 | CLA  | C11-C12-C13-C14 |
| 19  | A     | 836 | CLA  | C11-C10-C8-C9   |
| 19  | A     | 839 | CLA  | C11-C10-C8-C9   |
| 19  | A     | 852 | CLA  | C14-C13-C15-C16 |
| 19  | A     | 853 | CLA  | C11-C10-C8-C9   |
| 19  | B     | 802 | CLA  | C11-C12-C13-C14 |
| 19  | B     | 807 | CLA  | C11-C12-C13-C14 |
| 19  | B     | 807 | CLA  | C14-C13-C15-C16 |
| 19  | B     | 809 | CLA  | C14-C13-C15-C16 |
| 19  | B     | 813 | CLA  | C11-C10-C8-C9   |
| 19  | B     | 813 | CLA  | C14-C13-C15-C16 |
| 19  | B     | 816 | CLA  | C11-C10-C8-C9   |
| 19  | B     | 824 | CLA  | C11-C10-C8-C9   |
| 19  | B     | 825 | CLA  | C14-C13-C15-C16 |
| 19  | B     | 827 | CLA  | C14-C13-C15-C16 |
| 19  | B     | 828 | CLA  | C11-C12-C13-C14 |
| 19  | B     | 830 | CLA  | C6-C7-C8-C9     |
| 19  | B     | 831 | CLA  | C11-C10-C8-C9   |
| 19  | B     | 837 | CLA  | C11-C10-C8-C9   |
| 19  | B     | 838 | CLA  | C11-C10-C8-C9   |
| 19  | F     | 301 | CLA  | C11-C10-C8-C9   |
| 19  | L     | 302 | CLA  | C11-C10-C8-C9   |
| 18  | 2     | 307 | CHL  | O1D-CGD-O2D-CED |
| 19  | 3     | 314 | CLA  | CBD-CGD-O2D-CED |
| 19  | A     | 807 | CLA  | CBD-CGD-O2D-CED |
| 19  | A     | 853 | CLA  | C2A-CAA-CBA-CGA |
| 19  | B     | 817 | CLA  | O1A-CGA-O2A-C1  |
| 19  | B     | 829 | CLA  | O1A-CGA-O2A-C1  |
| 19  | B     | 831 | CLA  | O1A-CGA-O2A-C1  |
| 19  | 4     | 302 | CLA  | C10-C11-C12-C13 |
| 19  | A     | 801 | CLA  | C13-C15-C16-C17 |
| 19  | A     | 810 | CLA  | C10-C11-C12-C13 |
| 19  | A     | 839 | CLA  | C10-C11-C12-C13 |
| 19  | B     | 823 | CLA  | C8-C10-C11-C12  |
| 19  | B     | 832 | CLA  | C10-C11-C12-C13 |
| 19  | H     | 201 | CLA  | O1A-CGA-O2A-C1  |

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| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 19  | B     | 831 | CLA  | CBA-CGA-O2A-C1  |
| 19  | 1     | 321 | CLA  | C13-C15-C16-C17 |
| 19  | 2     | 302 | CLA  | C10-C11-C12-C13 |
| 19  | 3     | 301 | CLA  | C10-C11-C12-C13 |
| 19  | 4     | 308 | CLA  | C10-C11-C12-C13 |
| 19  | A     | 816 | CLA  | C10-C11-C12-C13 |
| 19  | A     | 818 | CLA  | C15-C16-C17-C18 |
| 19  | A     | 824 | CLA  | C5-C6-C7-C8     |
| 19  | A     | 825 | CLA  | C10-C11-C12-C13 |
| 19  | A     | 825 | CLA  | C15-C16-C17-C18 |
| 19  | A     | 838 | CLA  | C15-C16-C17-C18 |
| 19  | B     | 804 | CLA  | C15-C16-C17-C18 |
| 19  | B     | 807 | CLA  | C10-C11-C12-C13 |
| 19  | B     | 809 | CLA  | C15-C16-C17-C18 |
| 19  | B     | 813 | CLA  | C15-C16-C17-C18 |
| 19  | B     | 826 | CLA  | C10-C11-C12-C13 |
| 19  | B     | 827 | CLA  | C15-C16-C17-C18 |
| 19  | B     | 834 | CLA  | C5-C6-C7-C8     |
| 19  | B     | 835 | CLA  | C15-C16-C17-C18 |
| 19  | L     | 302 | CLA  | C15-C16-C17-C18 |
| 25  | N     | 201 | LMT  | C2B-C1B-O1B-C4' |
| 19  | 2     | 304 | CLA  | C5-C6-C7-C8     |
| 19  | 2     | 312 | CLA  | C5-C6-C7-C8     |
| 19  | 2     | 312 | CLA  | C10-C11-C12-C13 |
| 19  | 3     | 302 | CLA  | C10-C11-C12-C13 |
| 19  | 3     | 312 | CLA  | C5-C6-C7-C8     |
| 19  | 4     | 311 | CLA  | C5-C6-C7-C8     |
| 19  | A     | 805 | CLA  | C5-C6-C7-C8     |
| 19  | A     | 828 | CLA  | C15-C16-C17-C18 |
| 19  | A     | 834 | CLA  | C15-C16-C17-C18 |
| 19  | A     | 854 | CLA  | C10-C11-C12-C13 |
| 19  | B     | 801 | CLA  | C15-C16-C17-C18 |
| 19  | B     | 804 | CLA  | C10-C11-C12-C13 |
| 19  | B     | 805 | CLA  | C5-C6-C7-C8     |
| 19  | B     | 809 | CLA  | C10-C11-C12-C13 |
| 19  | B     | 813 | CLA  | C10-C11-C12-C13 |
| 19  | B     | 813 | CLA  | C13-C15-C16-C17 |
| 19  | B     | 822 | CLA  | C8-C10-C11-C12  |
| 19  | B     | 837 | CLA  | C10-C11-C12-C13 |
| 19  | B     | 838 | CLA  | C10-C11-C12-C13 |
| 19  | A     | 834 | CLA  | C10-C11-C12-C13 |
| 19  | A     | 840 | CLA  | C5-C6-C7-C8     |

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| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 19  | B     | 811 | CLA  | C5-C6-C7-C8     |
| 19  | A     | 815 | CLA  | O1D-CGD-O2D-CED |
| 19  | 4     | 313 | CLA  | C2-C1-O2A-CGA   |
| 19  | 3     | 302 | CLA  | C5-C6-C7-C8     |
| 19  | A     | 826 | CLA  | C8-C10-C11-C12  |
| 19  | A     | 831 | CLA  | C10-C11-C12-C13 |
| 19  | B     | 805 | CLA  | C15-C16-C17-C18 |
| 19  | B     | 808 | CLA  | C10-C11-C12-C13 |
| 19  | B     | 822 | CLA  | C10-C11-C12-C13 |
| 19  | B     | 820 | CLA  | O1D-CGD-O2D-CED |
| 19  | B     | 808 | CLA  | CBD-CGD-O2D-CED |
| 19  | K     | 203 | CLA  | CBD-CGD-O2D-CED |
| 19  | 2     | 309 | CLA  | C8-C10-C11-C12  |
| 19  | A     | 809 | CLA  | C5-C6-C7-C8     |
| 19  | B     | 805 | CLA  | C10-C11-C12-C13 |
| 19  | B     | 823 | CLA  | C15-C16-C17-C18 |
| 19  | A     | 810 | CLA  | O1D-CGD-O2D-CED |
| 19  | A     | 807 | CLA  | C6-C7-C8-C10    |
| 19  | A     | 807 | CLA  | C11-C12-C13-C15 |
| 19  | A     | 818 | CLA  | C6-C7-C8-C10    |
| 19  | A     | 818 | CLA  | C12-C13-C15-C16 |
| 19  | A     | 827 | CLA  | C12-C13-C15-C16 |
| 19  | A     | 836 | CLA  | C11-C12-C13-C15 |
| 19  | A     | 852 | CLA  | C11-C12-C13-C15 |
| 19  | A     | 854 | CLA  | C11-C12-C13-C15 |
| 19  | B     | 801 | CLA  | C12-C13-C15-C16 |
| 19  | B     | 807 | CLA  | C12-C13-C15-C16 |
| 19  | B     | 813 | CLA  | C11-C10-C8-C7   |
| 19  | B     | 823 | CLA  | C12-C13-C15-C16 |
| 19  | B     | 827 | CLA  | C11-C10-C8-C7   |
| 19  | B     | 837 | CLA  | C11-C10-C8-C7   |
| 19  | F     | 302 | CLA  | C11-C12-C13-C15 |
| 19  | L     | 302 | CLA  | C6-C7-C8-C10    |
| 19  | L     | 302 | CLA  | C11-C12-C13-C15 |
| 19  | A     | 817 | CLA  | O1A-CGA-O2A-C1  |
| 19  | B     | 804 | CLA  | O1A-CGA-O2A-C1  |
| 19  | B     | 824 | CLA  | O1A-CGA-O2A-C1  |
| 23  | A     | 843 | BCR  | C19-C20-C21-C22 |
| 23  | K     | 201 | BCR  | C15-C16-C17-C18 |
| 19  | 2     | 309 | CLA  | C2A-CAA-CBA-CGA |
| 19  | 3     | 304 | CLA  | C2A-CAA-CBA-CGA |
| 19  | 3     | 306 | CLA  | C2A-CAA-CBA-CGA |

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| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 19  | A     | 839 | CLA  | C2A-CAA-CBA-CGA |
| 19  | B     | 837 | CLA  | C2A-CAA-CBA-CGA |
| 19  | B     | 832 | CLA  | O1D-CGD-O2D-CED |
| 19  | 1     | 312 | CLA  | C5-C6-C7-C8     |
| 19  | 2     | 312 | CLA  | C13-C15-C16-C17 |
| 19  | 3     | 308 | CLA  | C15-C16-C17-C18 |
| 19  | A     | 838 | CLA  | C10-C11-C12-C13 |
| 19  | B     | 812 | CLA  | C10-C11-C12-C13 |
| 19  | B     | 817 | CLA  | C10-C11-C12-C13 |
| 19  | B     | 837 | CLA  | C15-C16-C17-C18 |
| 19  | F     | 302 | CLA  | C15-C16-C17-C18 |
| 23  | 1     | 318 | BCR  | C6-C7-C8-C9     |
| 19  | 2     | 303 | CLA  | O1A-CGA-O2A-C1  |
| 19  | 2     | 304 | CLA  | O1A-CGA-O2A-C1  |
| 19  | A     | 803 | CLA  | O1A-CGA-O2A-C1  |
| 19  | A     | 808 | CLA  | C5-C6-C7-C8     |
| 19  | F     | 301 | CLA  | O1D-CGD-O2D-CED |
| 19  | A     | 824 | CLA  | C3-C5-C6-C7     |
| 19  | B     | 807 | CLA  | C3-C5-C6-C7     |
| 19  | 1     | 321 | CLA  | C10-C11-C12-C13 |
| 19  | 2     | 304 | CLA  | C10-C11-C12-C13 |
| 19  | 4     | 313 | CLA  | C10-C11-C12-C13 |
| 19  | A     | 804 | CLA  | C15-C16-C17-C18 |
| 19  | A     | 824 | CLA  | C15-C16-C17-C18 |
| 19  | A     | 854 | CLA  | C15-C16-C17-C18 |
| 19  | B     | 825 | CLA  | C10-C11-C12-C13 |
| 19  | A     | 829 | CLA  | CBA-CGA-O2A-C1  |
| 19  | 3     | 304 | CLA  | O1A-CGA-O2A-C1  |
| 19  | A     | 809 | CLA  | O1A-CGA-O2A-C1  |
| 19  | B     | 827 | CLA  | O1A-CGA-O2A-C1  |
| 19  | A     | 802 | CLA  | C10-C11-C12-C13 |
| 19  | A     | 836 | CLA  | C10-C11-C12-C13 |
| 19  | B     | 817 | CLA  | C5-C6-C7-C8     |
| 19  | B     | 828 | CLA  | C10-C11-C12-C13 |
| 19  | K     | 202 | CLA  | O1D-CGD-O2D-CED |
| 19  | A     | 851 | CLA  | O1D-CGD-O2D-CED |
| 19  | 4     | 302 | CLA  | C5-C6-C7-C8     |
| 19  | A     | 802 | CLA  | C15-C16-C17-C18 |
| 19  | A     | 807 | CLA  | C15-C16-C17-C18 |
| 19  | A     | 818 | CLA  | C10-C11-C12-C13 |
| 19  | A     | 829 | CLA  | C5-C6-C7-C8     |
| 19  | A     | 852 | CLA  | C10-C11-C12-C13 |

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| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 19  | A     | 853 | CLA  | C8-C10-C11-C12  |
| 19  | B     | 816 | CLA  | C5-C6-C7-C8     |
| 19  | B     | 827 | CLA  | C10-C11-C12-C13 |
| 19  | B     | 830 | CLA  | C10-C11-C12-C13 |
| 19  | F     | 302 | CLA  | C10-C11-C12-C13 |
| 22  | 1     | 317 | LHG  | C4-O6-P-O3      |
| 22  | 2     | 317 | LHG  | C3-O3-P-O6      |
| 22  | A     | 842 | LHG  | C3-O3-P-O6      |
| 22  | B     | 848 | LHG  | C3-O3-P-O6      |
| 19  | B     | 808 | CLA  | C3-C5-C6-C7     |
| 19  | A     | 829 | CLA  | C4-C3-C5-C6     |
| 19  | 3     | 308 | CLA  | C10-C11-C12-C13 |
| 19  | B     | 807 | CLA  | C15-C16-C17-C18 |
| 19  | B     | 832 | CLA  | C15-C16-C17-C18 |
| 19  | F     | 301 | CLA  | C10-C11-C12-C13 |
| 19  | A     | 817 | CLA  | C2A-CAA-CBA-CGA |
| 19  | B     | 803 | CLA  | C2A-CAA-CBA-CGA |
| 19  | B     | 809 | CLA  | C2A-CAA-CBA-CGA |
| 18  | 4     | 306 | CHL  | CBA-CGA-O2A-C1  |
| 19  | 3     | 304 | CLA  | CBA-CGA-O2A-C1  |
| 19  | B     | 827 | CLA  | CBA-CGA-O2A-C1  |
| 19  | A     | 805 | CLA  | C10-C11-C12-C13 |
| 19  | B     | 822 | CLA  | C5-C6-C7-C8     |
| 19  | 2     | 302 | CLA  | O1D-CGD-O2D-CED |
| 19  | B     | 817 | CLA  | C11-C12-C13-C14 |
| 19  | B     | 834 | CLA  | C6-C7-C8-C10    |
| 19  | B     | 820 | CLA  | CBA-CGA-O2A-C1  |
| 19  | A     | 814 | CLA  | O1D-CGD-O2D-CED |
| 19  | A     | 806 | CLA  | C1-C2-C3-C5     |
| 19  | B     | 828 | CLA  | CBD-CGD-O2D-CED |
| 22  | B     | 848 | LHG  | C29-C30-C31-C32 |
| 18  | 1     | 301 | CHL  | C3-C5-C6-C7     |
| 23  | B     | 842 | BCR  | C12-C13-C14-C15 |
| 23  | B     | 842 | BCR  | C16-C17-C18-C19 |
| 23  | J     | 101 | BCR  | C12-C13-C14-C15 |
| 23  | J     | 101 | BCR  | C20-C21-C22-C23 |
| 24  | B     | 847 | LMG  | C2-C1-O1-C7     |
| 19  | A     | 832 | CLA  | C1-C2-C3-C5     |
| 19  | A     | 812 | CLA  | C13-C15-C16-C17 |
| 19  | A     | 829 | CLA  | C13-C15-C16-C17 |
| 19  | F     | 301 | CLA  | O1A-CGA-O2A-C1  |
| 18  | 1     | 301 | CHL  | C6-C7-C8-C9     |

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| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 18  | 4     | 304 | CHL  | C6-C7-C8-C10    |
| 19  | 1     | 312 | CLA  | C11-C12-C13-C15 |
| 19  | A     | 826 | CLA  | C4-C3-C5-C6     |
| 19  | B     | 816 | CLA  | C10-C11-C12-C13 |
| 19  | B     | 826 | CLA  | C2-C3-C5-C6     |
| 19  | 4     | 313 | CLA  | C11-C12-C13-C14 |
| 19  | 4     | 313 | CLA  | C14-C13-C15-C16 |
| 19  | A     | 805 | CLA  | C11-C10-C8-C9   |
| 19  | A     | 828 | CLA  | C6-C7-C8-C9     |
| 19  | A     | 828 | CLA  | C11-C10-C8-C9   |
| 19  | B     | 813 | CLA  | C6-C7-C8-C9     |
| 19  | B     | 835 | CLA  | C11-C12-C13-C14 |
| 19  | B     | 837 | CLA  | C11-C12-C13-C14 |
| 19  | L     | 302 | CLA  | C6-C7-C8-C9     |
| 19  | B     | 822 | CLA  | O1D-CGD-O2D-CED |
| 19  | F     | 301 | CLA  | C15-C16-C17-C18 |
| 19  | A     | 816 | CLA  | C13-C15-C16-C17 |
| 19  | 1     | 312 | CLA  | C2A-CAA-CBA-CGA |
| 19  | 1     | 314 | CLA  | C2A-CAA-CBA-CGA |
| 19  | 4     | 303 | CLA  | C2A-CAA-CBA-CGA |
| 19  | A     | 808 | CLA  | C2A-CAA-CBA-CGA |
| 19  | A     | 838 | CLA  | C5-C6-C7-C8     |
| 19  | 2     | 309 | CLA  | O1D-CGD-O2D-CED |
| 19  | 1     | 310 | CLA  | C6-C7-C8-C9     |
| 19  | 1     | 310 | CLA  | C6-C7-C8-C10    |
| 19  | 4     | 309 | CLA  | C11-C12-C13-C14 |
| 19  | B     | 830 | CLA  | C11-C12-C13-C14 |
| 19  | A     | 820 | CLA  | C15-C16-C17-C18 |
| 19  | A     | 823 | CLA  | O1A-CGA-O2A-C1  |
| 19  | B     | 820 | CLA  | O1A-CGA-O2A-C1  |
| 19  | A     | 803 | CLA  | CBA-CGA-O2A-C1  |
| 18  | 2     | 307 | CHL  | C3A-C2A-CAA-CBA |
| 18  | 4     | 305 | CHL  | C3A-C2A-CAA-CBA |
| 19  | 1     | 311 | CLA  | C3A-C2A-CAA-CBA |
| 19  | 1     | 321 | CLA  | C3A-C2A-CAA-CBA |
| 19  | 2     | 313 | CLA  | C3A-C2A-CAA-CBA |
| 19  | 3     | 302 | CLA  | C3A-C2A-CAA-CBA |
| 19  | 3     | 314 | CLA  | C3A-C2A-CAA-CBA |
| 19  | 4     | 302 | CLA  | C3A-C2A-CAA-CBA |
| 19  | 4     | 309 | CLA  | C3A-C2A-CAA-CBA |
| 19  | A     | 805 | CLA  | C3A-C2A-CAA-CBA |
| 19  | A     | 820 | CLA  | C3A-C2A-CAA-CBA |

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| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 19  | A     | 831 | CLA  | C3A-C2A-CAA-CBA |
| 19  | A     | 835 | CLA  | C3A-C2A-CAA-CBA |
| 19  | B     | 801 | CLA  | C3A-C2A-CAA-CBA |
| 19  | B     | 823 | CLA  | C3A-C2A-CAA-CBA |
| 19  | B     | 830 | CLA  | C3A-C2A-CAA-CBA |
| 19  | B     | 832 | CLA  | C3A-C2A-CAA-CBA |
| 19  | L     | 303 | CLA  | C3A-C2A-CAA-CBA |
| 19  | K     | 203 | CLA  | C3A-C2A-CAA-CBA |
| 19  | A     | 808 | CLA  | C10-C11-C12-C13 |
| 25  | N     | 201 | LMT  | C2-C1-O1'-C1'   |
| 24  | 4     | 318 | LMG  | C11-C12-C13-C14 |
| 19  | B     | 818 | CLA  | C11-C12-C13-C15 |
| 19  | B     | 822 | CLA  | C11-C12-C13-C15 |
| 19  | B     | 834 | CLA  | C6-C7-C8-C9     |
| 19  | A     | 832 | CLA  | O1D-CGD-O2D-CED |
| 19  | B     | 816 | CLA  | O2A-C1-C2-C3    |
| 19  | B     | 819 | CLA  | O2A-C1-C2-C3    |
| 19  | B     | 829 | CLA  | O2A-C1-C2-C3    |
| 19  | A     | 810 | CLA  | C3-C5-C6-C7     |
| 19  | B     | 817 | CLA  | C4-C3-C5-C6     |
| 19  | A     | 807 | CLA  | CBA-CGA-O2A-C1  |
| 19  | A     | 826 | CLA  | C2-C3-C5-C6     |
| 19  | A     | 837 | CLA  | C2-C3-C5-C6     |
| 19  | A     | 838 | CLA  | C2-C3-C5-C6     |
| 19  | B     | 807 | CLA  | C2-C3-C5-C6     |
| 19  | B     | 816 | CLA  | C1-C2-C3-C5     |
| 19  | 3     | 301 | CLA  | C11-C12-C13-C14 |
| 19  | A     | 810 | CLA  | C15-C16-C17-C18 |
| 19  | A     | 831 | CLA  | C5-C6-C7-C8     |
| 19  | A     | 853 | CLA  | C5-C6-C7-C8     |
| 18  | 4     | 306 | CHL  | CBD-CGD-O2D-CED |
| 19  | B     | 802 | CLA  | C15-C16-C17-C18 |
| 19  | A     | 807 | CLA  | O1A-CGA-O2A-C1  |
| 19  | B     | 815 | CLA  | O1A-CGA-O2A-C1  |
| 18  | 4     | 304 | CHL  | C6-C7-C8-C9     |
| 19  | A     | 805 | CLA  | C3-C5-C6-C7     |
| 23  | 1     | 318 | BCR  | C23-C24-C25-C26 |
| 23  | 1     | 318 | BCR  | C23-C24-C25-C30 |
| 23  | A     | 843 | BCR  | C1-C6-C7-C8     |
| 23  | A     | 843 | BCR  | C5-C6-C7-C8     |
| 23  | A     | 845 | BCR  | C1-C6-C7-C8     |
| 23  | B     | 841 | BCR  | C1-C6-C7-C8     |

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| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 23  | B     | 841 | BCR  | C5-C6-C7-C8     |
| 23  | J     | 101 | BCR  | C1-C6-C7-C8     |
| 23  | J     | 101 | BCR  | C5-C6-C7-C8     |
| 23  | J     | 104 | BCR  | C1-C6-C7-C8     |
| 23  | J     | 104 | BCR  | C5-C6-C7-C8     |
| 23  | J     | 104 | BCR  | C23-C24-C25-C30 |
| 23  | K     | 201 | BCR  | C23-C24-C25-C26 |
| 19  | 2     | 303 | CLA  | CBA-CGA-O2A-C1  |
| 19  | B     | 817 | CLA  | CBA-CGA-O2A-C1  |
| 19  | A     | 805 | CLA  | C15-C16-C17-C18 |
| 19  | B     | 817 | CLA  | C8-C10-C11-C12  |
| 19  | B     | 826 | CLA  | C5-C6-C7-C8     |
| 19  | B     | 828 | CLA  | C8-C10-C11-C12  |
| 19  | F     | 301 | CLA  | C5-C6-C7-C8     |
| 24  | B     | 847 | LMG  | C21-C22-C23-C24 |
| 19  | B     | 806 | CLA  | O1A-CGA-O2A-C1  |
| 19  | B     | 828 | CLA  | O1A-CGA-O2A-C1  |
| 19  | 1     | 309 | CLA  | C5-C6-C7-C8     |
| 19  | A     | 812 | CLA  | C10-C11-C12-C13 |
| 19  | A     | 832 | CLA  | C10-C11-C12-C13 |
| 19  | B     | 826 | CLA  | C13-C15-C16-C17 |
| 19  | 4     | 313 | CLA  | C4-C3-C5-C6     |
| 19  | A     | 837 | CLA  | C4-C3-C5-C6     |
| 19  | A     | 838 | CLA  | C4-C3-C5-C6     |
| 19  | 1     | 303 | CLA  | C2-C3-C5-C6     |
| 19  | 2     | 304 | CLA  | C2-C3-C5-C6     |
| 19  | 2     | 312 | CLA  | C2-C3-C5-C6     |
| 19  | 2     | 312 | CLA  | C6-C7-C8-C10    |
| 19  | 2     | 312 | CLA  | C11-C12-C13-C15 |
| 19  | 3     | 308 | CLA  | C11-C12-C13-C15 |
| 19  | 4     | 311 | CLA  | C2-C3-C5-C6     |
| 19  | 4     | 313 | CLA  | C12-C13-C15-C16 |
| 19  | A     | 801 | CLA  | C12-C13-C15-C16 |
| 19  | A     | 805 | CLA  | C11-C10-C8-C7   |
| 19  | A     | 812 | CLA  | C12-C13-C15-C16 |
| 19  | A     | 820 | CLA  | C2-C3-C5-C6     |
| 19  | A     | 826 | CLA  | C12-C13-C15-C16 |
| 19  | A     | 828 | CLA  | C6-C7-C8-C10    |
| 19  | A     | 828 | CLA  | C11-C12-C13-C15 |
| 19  | B     | 805 | CLA  | C12-C13-C15-C16 |
| 19  | B     | 813 | CLA  | C6-C7-C8-C10    |
| 19  | B     | 816 | CLA  | C2-C3-C5-C6     |

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| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 19  | B     | 837 | CLA  | C11-C12-C13-C15 |
| 19  | B     | 838 | CLA  | C11-C10-C8-C7   |
| 19  | B     | 824 | CLA  | C3-C5-C6-C7     |
| 19  | 1     | 310 | CLA  | O1A-CGA-O2A-C1  |
| 19  | A     | 830 | CLA  | O1A-CGA-O2A-C1  |
| 19  | A     | 840 | CLA  | C15-C16-C17-C18 |
| 19  | B     | 811 | CLA  | CBD-CGD-O2D-CED |
| 19  | A     | 809 | CLA  | CBA-CGA-O2A-C1  |
| 19  | B     | 806 | CLA  | CBA-CGA-O2A-C1  |
| 18  | 3     | 307 | CHL  | C2A-CAA-CBA-CGA |
| 19  | B     | 805 | CLA  | C2A-CAA-CBA-CGA |
| 19  | 3     | 308 | CLA  | C5-C6-C7-C8     |
| 19  | 4     | 309 | CLA  | C10-C11-C12-C13 |
| 24  | 1     | 319 | LMG  | C18-C19-C20-C21 |
| 19  | L     | 301 | CLA  | C11-C10-C8-C7   |
| 19  | A     | 818 | CLA  | O1D-CGD-O2D-CED |
| 19  | A     | 826 | CLA  | C10-C11-C12-C13 |
| 22  | 1     | 322 | LHG  | C11-C10-C9-C8   |
| 19  | 3     | 313 | CLA  | O1D-CGD-O2D-CED |
| 19  | B     | 826 | CLA  | O1A-CGA-O2A-C1  |
| 19  | A     | 810 | CLA  | C16-C17-C18-C20 |
| 19  | A     | 828 | CLA  | C16-C17-C18-C20 |
| 24  | B     | 847 | LMG  | O6-C1-O1-C7     |
| 19  | B     | 823 | CLA  | C13-C15-C16-C17 |
| 19  | B     | 827 | CLA  | C13-C15-C16-C17 |
| 22  | A     | 842 | LHG  | C24-C25-C26-C27 |
| 19  | B     | 824 | CLA  | C10-C11-C12-C13 |
| 22  | 1     | 322 | LHG  | C24-C25-C26-C27 |
| 19  | A     | 831 | CLA  | C3-C5-C6-C7     |
| 24  | 1     | 319 | LMG  | C2-C1-O1-C7     |
| 19  | A     | 838 | CLA  | CBA-CGA-O2A-C1  |
| 19  | 1     | 307 | CLA  | O1D-CGD-O2D-CED |
| 19  | 1     | 312 | CLA  | C11-C12-C13-C14 |
| 19  | B     | 817 | CLA  | C11-C12-C13-C15 |
| 24  | B     | 847 | LMG  | O6-C5-C6-O5     |
| 25  | 2     | 318 | LMT  | O5'-C5'-C6'-O6' |
| 18  | 4     | 304 | CHL  | C2-C3-C5-C6     |
| 19  | A     | 808 | CLA  | C2-C3-C5-C6     |
| 19  | 1     | 302 | CLA  | C11-C10-C8-C9   |
| 19  | 1     | 303 | CLA  | C6-C7-C8-C9     |
| 19  | 2     | 312 | CLA  | C6-C7-C8-C9     |
| 19  | 3     | 308 | CLA  | C11-C12-C13-C14 |

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| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 19  | A     | 818 | CLA  | C6-C7-C8-C9     |
| 19  | A     | 828 | CLA  | C11-C12-C13-C14 |
| 19  | A     | 829 | CLA  | C14-C13-C15-C16 |
| 19  | A     | 836 | CLA  | C6-C7-C8-C9     |
| 19  | A     | 852 | CLA  | C11-C12-C13-C14 |
| 19  | A     | 854 | CLA  | C11-C12-C13-C14 |
| 19  | B     | 805 | CLA  | C14-C13-C15-C16 |
| 19  | B     | 812 | CLA  | C11-C12-C13-C14 |
| 19  | B     | 823 | CLA  | C11-C10-C8-C9   |
| 19  | B     | 823 | CLA  | C14-C13-C15-C16 |
| 19  | B     | 827 | CLA  | C11-C10-C8-C9   |
| 19  | F     | 302 | CLA  | C11-C12-C13-C14 |
| 19  | A     | 817 | CLA  | CBD-CGD-O2D-CED |
| 19  | B     | 831 | CLA  | C10-C11-C12-C13 |
| 19  | 2     | 304 | CLA  | C3-C5-C6-C7     |
| 19  | 2     | 313 | CLA  | C2A-CAA-CBA-CGA |
| 19  | 3     | 313 | CLA  | C2A-CAA-CBA-CGA |
| 19  | B     | 813 | CLA  | C2A-CAA-CBA-CGA |
| 19  | L     | 301 | CLA  | C2A-CAA-CBA-CGA |
| 19  | A     | 840 | CLA  | O1D-CGD-O2D-CED |
| 19  | A     | 813 | CLA  | CBD-CGD-O2D-CED |
| 19  | 4     | 313 | CLA  | O1D-CGD-O2D-CED |
| 18  | 2     | 301 | CHL  | C1A-C2A-CAA-CBA |
| 18  | 2     | 306 | CHL  | C1A-C2A-CAA-CBA |
| 18  | 3     | 307 | CHL  | C1A-C2A-CAA-CBA |
| 18  | 4     | 305 | CHL  | C1A-C2A-CAA-CBA |
| 19  | 1     | 307 | CLA  | C1A-C2A-CAA-CBA |
| 19  | 1     | 311 | CLA  | C1A-C2A-CAA-CBA |
| 19  | 3     | 302 | CLA  | C1A-C2A-CAA-CBA |
| 19  | 3     | 314 | CLA  | C1A-C2A-CAA-CBA |
| 19  | 4     | 302 | CLA  | C1A-C2A-CAA-CBA |
| 19  | 4     | 303 | CLA  | C1A-C2A-CAA-CBA |
| 19  | 4     | 313 | CLA  | C1A-C2A-CAA-CBA |
| 19  | A     | 807 | CLA  | C1A-C2A-CAA-CBA |
| 19  | A     | 817 | CLA  | C1A-C2A-CAA-CBA |
| 19  | A     | 823 | CLA  | C1A-C2A-CAA-CBA |
| 19  | A     | 831 | CLA  | C1A-C2A-CAA-CBA |
| 19  | A     | 832 | CLA  | C1A-C2A-CAA-CBA |
| 19  | A     | 835 | CLA  | C1A-C2A-CAA-CBA |
| 19  | B     | 801 | CLA  | C1A-C2A-CAA-CBA |
| 19  | B     | 817 | CLA  | C1A-C2A-CAA-CBA |
| 19  | L     | 303 | CLA  | C1A-C2A-CAA-CBA |

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| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 19  | 3     | 301 | CLA  | C11-C12-C13-C15 |
| 19  | 4     | 309 | CLA  | C11-C12-C13-C15 |
| 19  | A     | 828 | CLA  | C16-C17-C18-C19 |
| 19  | B     | 810 | CLA  | C6-C7-C8-C9     |
| 19  | B     | 810 | CLA  | C6-C7-C8-C10    |
| 19  | B     | 830 | CLA  | C11-C12-C13-C15 |
| 19  | 2     | 304 | CLA  | C13-C15-C16-C17 |
| 19  | B     | 802 | CLA  | C13-C15-C16-C17 |
| 19  | 1     | 304 | CLA  | C1-C2-C3-C5     |
| 24  | 1     | 319 | LMG  | O6-C5-C6-O5     |
| 19  | A     | 823 | CLA  | CBA-CGA-O2A-C1  |
| 24  | 4     | 318 | LMG  | O6-C5-C6-O5     |
| 18  | 1     | 301 | CHL  | C6-C7-C8-C10    |
| 19  | L     | 301 | CLA  | CBD-CGD-O2D-CED |
| 19  | B     | 834 | CLA  | CBA-CGA-O2A-C1  |
| 19  | A     | 809 | CLA  | C10-C11-C12-C13 |
| 19  | A     | 853 | CLA  | C10-C11-C12-C13 |
| 19  | A     | 801 | CLA  | O1A-CGA-O2A-C1  |
| 19  | A     | 834 | CLA  | O1A-CGA-O2A-C1  |
| 19  | 4     | 307 | CLA  | C2A-CAA-CBA-CGA |
| 19  | L     | 302 | CLA  | C2A-CAA-CBA-CGA |
| 19  | A     | 840 | CLA  | C16-C17-C18-C20 |
| 19  | B     | 805 | CLA  | C3-C5-C6-C7     |
| 24  | B     | 847 | LMG  | O1-C7-C8-C9     |
| 19  | 3     | 305 | CLA  | O1D-CGD-O2D-CED |
| 19  | L     | 302 | CLA  | C10-C11-C12-C13 |
| 19  | B     | 822 | CLA  | C11-C12-C13-C14 |
| 19  | A     | 804 | CLA  | C4-C3-C5-C6     |
| 19  | A     | 831 | CLA  | C4-C3-C5-C6     |
| 19  | B     | 807 | CLA  | C4-C3-C5-C6     |
| 19  | B     | 826 | CLA  | C4-C3-C5-C6     |
| 19  | 1     | 310 | CLA  | CBA-CGA-O2A-C1  |
| 19  | B     | 815 | CLA  | CBA-CGA-O2A-C1  |
| 19  | L     | 302 | CLA  | CBA-CGA-O2A-C1  |
| 19  | A     | 807 | CLA  | C8-C10-C11-C12  |
| 19  | A     | 832 | CLA  | C5-C6-C7-C8     |
| 19  | B     | 826 | CLA  | C15-C16-C17-C18 |
| 19  | L     | 302 | CLA  | C5-C6-C7-C8     |
| 18  | 2     | 306 | CHL  | C2A-CAA-CBA-CGA |
| 19  | B     | 830 | CLA  | C5-C6-C7-C8     |
| 19  | A     | 803 | CLA  | C1-C2-C3-C4     |
| 19  | A     | 811 | CLA  | C2-C1-O2A-CGA   |

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| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 19  | L     | 303 | CLA  | C1-C2-C3-C4     |
| 19  | 2     | 313 | CLA  | C10-C11-C12-C13 |
| 19  | 1     | 303 | CLA  | C10-C11-C12-C13 |
| 19  | B     | 816 | CLA  | C11-C12-C13-C14 |
| 19  | A     | 811 | CLA  | C5-C6-C7-C8     |
| 19  | A     | 820 | CLA  | CBA-CGA-O2A-C1  |
| 19  | A     | 827 | CLA  | CBA-CGA-O2A-C1  |
| 19  | A     | 834 | CLA  | CBA-CGA-O2A-C1  |
| 19  | B     | 828 | CLA  | CBA-CGA-O2A-C1  |
| 19  | 1     | 321 | CLA  | CAA-CBA-CGA-O2A |
| 19  | B     | 838 | CLA  | CAA-CBA-CGA-O2A |
| 19  | 4     | 302 | CLA  | C11-C12-C13-C15 |
| 19  | A     | 840 | CLA  | C16-C17-C18-C19 |
| 22  | 1     | 322 | LHG  | C10-C11-C12-C13 |
| 22  | A     | 842 | LHG  | O7-C5-C6-O8     |
| 19  | B     | 813 | CLA  | O1A-CGA-O2A-C1  |
| 18  | 1     | 301 | CHL  | C4-C3-C5-C6     |
| 19  | 4     | 311 | CLA  | O1D-CGD-O2D-CED |
| 19  | 1     | 302 | CLA  | C11-C10-C8-C7   |
| 19  | 1     | 303 | CLA  | C6-C7-C8-C10    |
| 19  | 2     | 304 | CLA  | C12-C13-C15-C16 |
| 19  | 2     | 312 | CLA  | C12-C13-C15-C16 |
| 19  | 3     | 301 | CLA  | C11-C10-C8-C7   |
| 19  | A     | 805 | CLA  | C6-C7-C8-C10    |
| 19  | A     | 808 | CLA  | C11-C10-C8-C7   |
| 19  | A     | 809 | CLA  | C11-C10-C8-C7   |
| 19  | A     | 812 | CLA  | C11-C12-C13-C15 |
| 19  | A     | 816 | CLA  | C11-C10-C8-C7   |
| 19  | A     | 820 | CLA  | C12-C13-C15-C16 |
| 19  | A     | 826 | CLA  | C11-C12-C13-C15 |
| 19  | A     | 829 | CLA  | C12-C13-C15-C16 |
| 19  | A     | 836 | CLA  | C6-C7-C8-C10    |
| 19  | A     | 853 | CLA  | C11-C10-C8-C7   |
| 19  | B     | 802 | CLA  | C11-C12-C13-C15 |
| 19  | B     | 807 | CLA  | C11-C12-C13-C15 |
| 19  | B     | 809 | CLA  | C6-C7-C8-C10    |
| 19  | B     | 812 | CLA  | C11-C10-C8-C7   |
| 19  | B     | 812 | CLA  | C11-C12-C13-C15 |
| 19  | B     | 813 | CLA  | C12-C13-C15-C16 |
| 19  | B     | 818 | CLA  | C11-C10-C8-C7   |
| 19  | B     | 823 | CLA  | C11-C10-C8-C7   |
| 19  | F     | 301 | CLA  | C6-C7-C8-C10    |

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| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 19  | F     | 302 | CLA  | C12-C13-C15-C16 |
| 19  | L     | 301 | CLA  | C6-C7-C8-C10    |
| 26  | A     | 841 | PQN  | C21-C22-C23-C25 |
| 26  | B     | 839 | PQN  | C16-C17-C18-C20 |
| 26  | B     | 839 | PQN  | C22-C23-C25-C26 |
| 19  | 2     | 320 | CLA  | CAA-CBA-CGA-O2A |
| 19  | 2     | 304 | CLA  | C14-C13-C15-C16 |
| 19  | 2     | 312 | CLA  | C14-C13-C15-C16 |
| 19  | 2     | 313 | CLA  | C6-C7-C8-C9     |
| 19  | 3     | 301 | CLA  | C11-C10-C8-C9   |
| 19  | 3     | 308 | CLA  | C14-C13-C15-C16 |
| 19  | A     | 807 | CLA  | C11-C12-C13-C14 |
| 19  | A     | 812 | CLA  | C11-C10-C8-C9   |
| 19  | A     | 812 | CLA  | C14-C13-C15-C16 |
| 19  | A     | 818 | CLA  | C11-C12-C13-C14 |
| 19  | A     | 840 | CLA  | C14-C13-C15-C16 |
| 19  | B     | 804 | CLA  | C11-C12-C13-C14 |
| 19  | B     | 809 | CLA  | C6-C7-C8-C9     |
| 19  | B     | 812 | CLA  | C11-C10-C8-C9   |
| 19  | B     | 825 | CLA  | C6-C7-C8-C9     |
| 19  | B     | 825 | CLA  | C11-C12-C13-C14 |
| 19  | B     | 826 | CLA  | C11-C10-C8-C9   |
| 19  | B     | 832 | CLA  | C6-C7-C8-C9     |
| 19  | B     | 838 | CLA  | C6-C7-C8-C9     |
| 19  | F     | 301 | CLA  | C6-C7-C8-C9     |
| 19  | F     | 302 | CLA  | C11-C10-C8-C9   |
| 19  | F     | 302 | CLA  | C14-C13-C15-C16 |
| 19  | L     | 302 | CLA  | C11-C12-C13-C14 |
| 18  | 1     | 306 | CHL  | C2A-CAA-CBA-CGA |
| 19  | B     | 833 | CLA  | C2A-CAA-CBA-CGA |
| 19  | 1     | 305 | CLA  | O1D-CGD-O2D-CED |
| 23  | J     | 101 | BCR  | C21-C22-C23-C24 |
| 23  | L     | 304 | BCR  | C21-C22-C23-C24 |
| 22  | 1     | 322 | LHG  | C28-C29-C30-C31 |
| 19  | B     | 831 | CLA  | C5-C6-C7-C8     |
| 19  | A     | 809 | CLA  | C11-C12-C13-C14 |
| 19  | L     | 301 | CLA  | C5-C6-C7-C8     |
| 19  | B     | 832 | CLA  | C4-C3-C5-C6     |
| 19  | B     | 817 | CLA  | C2-C3-C5-C6     |
| 19  | F     | 302 | CLA  | C2-C3-C5-C6     |
| 19  | A     | 834 | CLA  | C8-C10-C11-C12  |
| 19  | A     | 852 | CLA  | C15-C16-C17-C18 |

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| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 19  | B     | 831 | CLA  | C3-C5-C6-C7     |
| 19  | 4     | 301 | CLA  | C11-C12-C13-C15 |
| 19  | 1     | 304 | CLA  | CBA-CGA-O2A-C1  |
| 19  | A     | 853 | CLA  | CBA-CGA-O2A-C1  |
| 19  | B     | 822 | CLA  | CBA-CGA-O2A-C1  |
| 19  | 4     | 309 | CLA  | CAA-CBA-CGA-O2A |
| 19  | F     | 301 | CLA  | C16-C17-C18-C19 |
| 22  | 2     | 317 | LHG  | C2-C3-O3-P      |
| 18  | 3     | 307 | CHL  | C3A-C2A-CAA-CBA |
| 19  | 4     | 303 | CLA  | C3A-C2A-CAA-CBA |
| 19  | A     | 807 | CLA  | C3A-C2A-CAA-CBA |
| 19  | A     | 821 | CLA  | C3A-C2A-CAA-CBA |
| 19  | A     | 829 | CLA  | C3A-C2A-CAA-CBA |
| 19  | B     | 812 | CLA  | C3A-C2A-CAA-CBA |
| 19  | B     | 822 | CLA  | C3A-C2A-CAA-CBA |
| 19  | L     | 302 | CLA  | C3A-C2A-CAA-CBA |
| 25  | G     | 201 | LMT  | C2-C1-O1'-C1'   |
| 19  | A     | 852 | CLA  | C8-C10-C11-C12  |
| 24  | 1     | 319 | LMG  | C7-C8-C9-O8     |
| 19  | 4     | 307 | CLA  | O2A-C1-C2-C3    |
| 19  | A     | 825 | CLA  | O2A-C1-C2-C3    |
| 19  | B     | 830 | CLA  | O2A-C1-C2-C3    |
| 19  | A     | 839 | CLA  | C3-C5-C6-C7     |
| 19  | A     | 833 | CLA  | O1D-CGD-O2D-CED |
| 19  | 3     | 308 | CLA  | O1A-CGA-O2A-C1  |
| 19  | 4     | 313 | CLA  | C5-C6-C7-C8     |
| 19  | A     | 832 | CLA  | C4-C3-C5-C6     |
| 18  | 1     | 306 | CHL  | C3C-C2C-CMC-OMC |
| 19  | A     | 839 | CLA  | O1A-CGA-O2A-C1  |
| 19  | B     | 816 | CLA  | O1A-CGA-O2A-C1  |
| 19  | 4     | 313 | CLA  | C3-C5-C6-C7     |
| 19  | L     | 301 | CLA  | C3-C5-C6-C7     |
| 19  | A     | 837 | CLA  | C2A-CAA-CBA-CGA |
| 19  | A     | 838 | CLA  | C2A-CAA-CBA-CGA |
| 19  | B     | 821 | CLA  | C2A-CAA-CBA-CGA |
| 19  | A     | 829 | CLA  | O1A-CGA-O2A-C1  |
| 19  | 4     | 302 | CLA  | C11-C12-C13-C14 |
| 19  | A     | 810 | CLA  | C16-C17-C18-C19 |
| 19  | B     | 802 | CLA  | O1A-CGA-O2A-C1  |
| 24  | B     | 847 | LMG  | O1-C7-C8-O7     |
| 23  | K     | 201 | BCR  | C13-C14-C15-C16 |
| 19  | B     | 818 | CLA  | C11-C12-C13-C14 |

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| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 19  | 3     | 308 | CLA  | C2-C1-O2A-CGA   |
| 19  | 3     | 312 | CLA  | C2-C1-O2A-CGA   |
| 19  | A     | 834 | CLA  | C2-C1-O2A-CGA   |
| 19  | B     | 811 | CLA  | C2-C1-O2A-CGA   |
| 19  | B     | 828 | CLA  | C2-C1-O2A-CGA   |
| 19  | L     | 303 | CLA  | C2-C1-O2A-CGA   |
| 19  | A     | 807 | CLA  | C11-C10-C8-C9   |
| 19  | A     | 809 | CLA  | C11-C10-C8-C9   |
| 19  | A     | 818 | CLA  | C14-C13-C15-C16 |
| 19  | A     | 852 | CLA  | C11-C10-C8-C9   |
| 19  | A     | 853 | CLA  | C6-C7-C8-C9     |
| 26  | B     | 839 | PQN  | C16-C17-C18-C19 |
| 19  | A     | 839 | CLA  | C15-C16-C17-C18 |
| 19  | L     | 302 | CLA  | C13-C15-C16-C17 |
| 19  | 1     | 304 | CLA  | C2A-CAA-CBA-CGA |
| 19  | 2     | 308 | CLA  | C2A-CAA-CBA-CGA |
| 19  | A     | 824 | CLA  | C2A-CAA-CBA-CGA |
| 19  | B     | 826 | CLA  | C2A-CAA-CBA-CGA |
| 20  | 3     | 315 | LUT  | C1-C6-C7-C8     |
| 20  | 4     | 315 | LUT  | C1-C6-C7-C8     |
| 23  | 3     | 317 | BCR  | C23-C24-C25-C26 |
| 23  | 3     | 317 | BCR  | C23-C24-C25-C30 |
| 23  | 4     | 317 | BCR  | C23-C24-C25-C26 |
| 23  | 4     | 317 | BCR  | C23-C24-C25-C30 |
| 23  | B     | 844 | BCR  | C23-C24-C25-C26 |
| 23  | B     | 844 | BCR  | C23-C24-C25-C30 |
| 23  | B     | 845 | BCR  | C1-C6-C7-C8     |
| 23  | B     | 845 | BCR  | C5-C6-C7-C8     |
| 23  | K     | 201 | BCR  | C1-C6-C7-C8     |
| 23  | K     | 201 | BCR  | C5-C6-C7-C8     |
| 19  | A     | 837 | CLA  | O1D-CGD-O2D-CED |
| 19  | B     | 801 | CLA  | C10-C11-C12-C13 |
| 19  | B     | 812 | CLA  | C15-C16-C17-C18 |
| 26  | A     | 841 | PQN  | C25-C26-C27-C28 |
| 19  | L     | 301 | CLA  | C11-C10-C8-C9   |
| 19  | A     | 830 | CLA  | CAA-CBA-CGA-O2A |
| 22  | 2     | 317 | LHG  | C23-C24-C25-C26 |
| 19  | 1     | 321 | CLA  | C12-C13-C15-C16 |
| 19  | 3     | 308 | CLA  | C12-C13-C15-C16 |
| 19  | A     | 802 | CLA  | C11-C12-C13-C15 |
| 19  | A     | 802 | CLA  | C12-C13-C15-C16 |
| 19  | A     | 807 | CLA  | C11-C10-C8-C7   |

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| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 19  | A     | 818 | CLA  | C11-C12-C13-C15 |
| 19  | A     | 825 | CLA  | C11-C12-C13-C15 |
| 19  | A     | 832 | CLA  | C11-C10-C8-C7   |
| 19  | A     | 836 | CLA  | C11-C10-C8-C7   |
| 19  | A     | 838 | CLA  | C11-C10-C8-C7   |
| 19  | A     | 839 | CLA  | C6-C7-C8-C10    |
| 19  | A     | 839 | CLA  | C11-C10-C8-C7   |
| 19  | A     | 839 | CLA  | C12-C13-C15-C16 |
| 19  | A     | 852 | CLA  | C11-C10-C8-C7   |
| 19  | A     | 853 | CLA  | C6-C7-C8-C10    |
| 19  | A     | 854 | CLA  | C12-C13-C15-C16 |
| 19  | B     | 802 | CLA  | C6-C7-C8-C10    |
| 19  | B     | 804 | CLA  | C11-C12-C13-C15 |
| 19  | B     | 812 | CLA  | C12-C13-C15-C16 |
| 19  | B     | 816 | CLA  | C11-C10-C8-C7   |
| 19  | B     | 817 | CLA  | C6-C7-C8-C10    |
| 19  | B     | 822 | CLA  | C6-C7-C8-C10    |
| 19  | B     | 825 | CLA  | C6-C7-C8-C10    |
| 19  | B     | 825 | CLA  | C11-C12-C13-C15 |
| 19  | B     | 826 | CLA  | C11-C10-C8-C7   |
| 19  | B     | 830 | CLA  | C6-C7-C8-C10    |
| 19  | B     | 832 | CLA  | C6-C7-C8-C10    |
| 19  | B     | 832 | CLA  | C12-C13-C15-C16 |
| 19  | B     | 838 | CLA  | C6-C7-C8-C10    |
| 19  | L     | 301 | CLA  | C2-C3-C5-C6     |
| 19  | L     | 302 | CLA  | C11-C10-C8-C7   |
| 19  | A     | 827 | CLA  | C1-C2-C3-C4     |
| 23  | 2     | 319 | BCR  | C9-C10-C11-C12  |
| 23  | K     | 201 | BCR  | C19-C20-C21-C22 |
| 19  | A     | 808 | CLA  | C8-C10-C11-C12  |
| 24  | B     | 847 | LMG  | C12-C13-C14-C15 |
| 19  | 2     | 312 | CLA  | C3-C5-C6-C7     |
| 19  | A     | 854 | CLA  | C16-C17-C18-C19 |
| 19  | A     | 826 | CLA  | C15-C16-C17-C18 |
| 19  | B     | 820 | CLA  | C5-C6-C7-C8     |
| 18  | 2     | 301 | CHL  | CAD-CBD-CGD-O2D |
| 19  | 2     | 302 | CLA  | CAD-CBD-CGD-O2D |
| 19  | 2     | 309 | CLA  | CAD-CBD-CGD-O2D |
| 19  | 2     | 311 | CLA  | CAD-CBD-CGD-O2D |
| 19  | 3     | 302 | CLA  | CAD-CBD-CGD-O2D |
| 19  | A     | 801 | CLA  | CAD-CBD-CGD-O2D |
| 19  | A     | 803 | CLA  | CAD-CBD-CGD-O2D |

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| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 19  | A     | 806 | CLA  | CAD-CBD-CGD-O2D |
| 19  | A     | 822 | CLA  | CAD-CBD-CGD-O2D |
| 19  | A     | 826 | CLA  | CAD-CBD-CGD-O2D |
| 19  | A     | 839 | CLA  | CAD-CBD-CGD-O2D |
| 19  | B     | 811 | CLA  | CAD-CBD-CGD-O2D |
| 19  | B     | 820 | CLA  | CAD-CBD-CGD-O2D |
| 19  | B     | 825 | CLA  | CAD-CBD-CGD-O2D |
| 19  | H     | 201 | CLA  | CAD-CBD-CGD-O2D |
| 19  | 2     | 309 | CLA  | C5-C6-C7-C8     |
| 19  | B     | 809 | CLA  | C4-C3-C5-C6     |
| 19  | B     | 816 | CLA  | C4-C3-C5-C6     |
| 19  | B     | 808 | CLA  | C16-C17-C18-C20 |
| 25  | N     | 201 | LMT  | O5'-C1'-O1'-C1  |
| 19  | A     | 831 | CLA  | C2-C3-C5-C6     |
| 19  | B     | 835 | CLA  | C5-C6-C7-C8     |
| 19  | 3     | 311 | CLA  | C2A-CAA-CBA-CGA |
| 19  | B     | 801 | CLA  | C2A-CAA-CBA-CGA |
| 19  | B     | 806 | CLA  | C2A-CAA-CBA-CGA |
| 19  | 2     | 303 | CLA  | O1D-CGD-O2D-CED |
| 18  | 1     | 306 | CHL  | CHA-CBD-CGD-O1D |
| 18  | 2     | 314 | CHL  | CHA-CBD-CGD-O1D |
| 19  | 1     | 302 | CLA  | CHA-CBD-CGD-O2D |
| 19  | 1     | 313 | CLA  | CHA-CBD-CGD-O2D |
| 19  | 3     | 310 | CLA  | CHA-CBD-CGD-O2D |
| 19  | 4     | 303 | CLA  | CHA-CBD-CGD-O2D |
| 19  | 4     | 312 | CLA  | CHA-CBD-CGD-O2D |
| 19  | A     | 803 | CLA  | CHA-CBD-CGD-O1D |
| 19  | A     | 807 | CLA  | CHA-CBD-CGD-O1D |
| 19  | A     | 812 | CLA  | CHA-CBD-CGD-O1D |
| 19  | A     | 812 | CLA  | CHA-CBD-CGD-O2D |
| 19  | A     | 814 | CLA  | CHA-CBD-CGD-O1D |
| 19  | A     | 814 | CLA  | CHA-CBD-CGD-O2D |
| 19  | A     | 821 | CLA  | CHA-CBD-CGD-O2D |
| 19  | A     | 829 | CLA  | CHA-CBD-CGD-O1D |
| 19  | A     | 829 | CLA  | CHA-CBD-CGD-O2D |
| 19  | A     | 830 | CLA  | CHA-CBD-CGD-O1D |
| 19  | A     | 834 | CLA  | CHA-CBD-CGD-O1D |
| 19  | B     | 807 | CLA  | CHA-CBD-CGD-O1D |
| 19  | B     | 812 | CLA  | CHA-CBD-CGD-O1D |
| 19  | B     | 815 | CLA  | CHA-CBD-CGD-O1D |
| 19  | B     | 815 | CLA  | CHA-CBD-CGD-O2D |
| 19  | B     | 819 | CLA  | CHA-CBD-CGD-O2D |

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| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 19  | B     | 822 | CLA  | CHA-CBD-CGD-O2D |
| 19  | B     | 823 | CLA  | CHA-CBD-CGD-O1D |
| 19  | B     | 827 | CLA  | CHA-CBD-CGD-O2D |
| 19  | B     | 828 | CLA  | CHA-CBD-CGD-O1D |
| 19  | B     | 831 | CLA  | CHA-CBD-CGD-O2D |
| 19  | B     | 835 | CLA  | CHA-CBD-CGD-O1D |
| 19  | B     | 835 | CLA  | CHA-CBD-CGD-O2D |
| 19  | K     | 202 | CLA  | CHA-CBD-CGD-O1D |
| 19  | 4     | 301 | CLA  | C3-C5-C6-C7     |
| 19  | 1     | 321 | CLA  | O1A-CGA-O2A-C1  |
| 24  | 1     | 319 | LMG  | O7-C8-C9-O8     |
| 19  | 4     | 301 | CLA  | C11-C12-C13-C14 |
| 19  | A     | 805 | CLA  | O1D-CGD-O2D-CED |
| 19  | 2     | 304 | CLA  | C4-C3-C5-C6     |
| 19  | B     | 821 | CLA  | C4-C3-C5-C6     |
| 19  | A     | 832 | CLA  | C6-C7-C8-C9     |
| 19  | A     | 838 | CLA  | C6-C7-C8-C9     |
| 19  | A     | 838 | CLA  | C11-C10-C8-C9   |
| 19  | B     | 802 | CLA  | C6-C7-C8-C9     |
| 19  | B     | 817 | CLA  | C6-C7-C8-C9     |
| 19  | F     | 302 | CLA  | C6-C7-C8-C9     |
| 18  | 2     | 301 | CHL  | O1D-CGD-O2D-CED |
| 28  | B     | 846 | DGD  | CAA-CBA-CCA-CDA |
| 22  | B     | 848 | LHG  | C14-C15-C16-C17 |
| 25  | G     | 201 | LMT  | C5'-C4'-O1B-C1B |
| 19  | A     | 804 | CLA  | C2A-CAA-CBA-CGA |
| 23  | 2     | 319 | BCR  | C11-C12-C13-C14 |
| 28  | B     | 846 | DGD  | C7B-C8B-C9B-CAB |
| 19  | 4     | 309 | CLA  | C1A-C2A-CAA-CBA |
| 19  | B     | 812 | CLA  | C1A-C2A-CAA-CBA |
| 19  | B     | 826 | CLA  | C1A-C2A-CAA-CBA |
| 19  | F     | 301 | CLA  | C1A-C2A-CAA-CBA |
| 19  | F     | 302 | CLA  | C1A-C2A-CAA-CBA |
| 19  | A     | 854 | CLA  | C16-C17-C18-C20 |
| 19  | B     | 804 | CLA  | C13-C15-C16-C17 |
| 19  | 2     | 304 | CLA  | C2-C1-O2A-CGA   |
| 19  | A     | 827 | CLA  | C13-C15-C16-C17 |
| 18  | 1     | 306 | CHL  | O1D-CGD-O2D-CED |
| 19  | B     | 821 | CLA  | C2-C3-C5-C6     |
| 19  | L     | 302 | CLA  | O1A-CGA-O2A-C1  |
| 22  | A     | 842 | LHG  | C3-O3-P-O5      |
| 22  | B     | 848 | LHG  | C4-O6-P-O4      |

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| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 19  | B     | 830 | CLA  | O1D-CGD-O2D-CED |
| 19  | A     | 820 | CLA  | C16-C17-C18-C19 |
| 19  | B     | 812 | CLA  | CBD-CGD-O2D-CED |
| 19  | 4     | 309 | CLA  | C3-C5-C6-C7     |
| 19  | A     | 801 | CLA  | C3-C5-C6-C7     |
| 18  | 4     | 306 | CHL  | O1A-CGA-O2A-C1  |
| 19  | A     | 824 | CLA  | C16-C17-C18-C19 |
| 19  | B     | 812 | CLA  | C16-C17-C18-C19 |
| 19  | A     | 812 | CLA  | CAD-CBD-CGD-O1D |
| 19  | A     | 822 | CLA  | C2-C3-C5-C6     |
| 19  | A     | 830 | CLA  | CAD-CBD-CGD-O1D |
| 19  | A     | 831 | CLA  | CAD-CBD-CGD-O1D |
| 19  | A     | 834 | CLA  | CAD-CBD-CGD-O1D |
| 19  | B     | 812 | CLA  | CAD-CBD-CGD-O1D |
| 19  | B     | 835 | CLA  | CAD-CBD-CGD-O1D |
| 19  | B     | 838 | CLA  | CAD-CBD-CGD-O1D |
| 19  | A     | 829 | CLA  | C15-C16-C17-C18 |
| 19  | B     | 802 | CLA  | C10-C11-C12-C13 |
| 19  | A     | 834 | CLA  | C16-C17-C18-C19 |
| 19  | B     | 805 | CLA  | C16-C17-C18-C19 |
| 19  | B     | 828 | CLA  | C16-C17-C18-C19 |
| 19  | A     | 823 | CLA  | C4-C3-C5-C6     |
| 19  | 1     | 312 | CLA  | C11-C10-C8-C7   |
| 19  | 2     | 302 | CLA  | C11-C10-C8-C7   |
| 19  | 2     | 302 | CLA  | C11-C12-C13-C15 |
| 19  | 2     | 312 | CLA  | C11-C10-C8-C7   |
| 19  | 4     | 309 | CLA  | C11-C10-C8-C7   |
| 19  | A     | 805 | CLA  | C11-C12-C13-C15 |
| 19  | A     | 808 | CLA  | C6-C7-C8-C10    |
| 19  | A     | 810 | CLA  | C11-C12-C13-C15 |
| 19  | A     | 827 | CLA  | C11-C10-C8-C7   |
| 19  | A     | 832 | CLA  | C6-C7-C8-C10    |
| 19  | A     | 838 | CLA  | C6-C7-C8-C10    |
| 19  | A     | 852 | CLA  | C2-C3-C5-C6     |
| 19  | A     | 852 | CLA  | C12-C13-C15-C16 |
| 19  | B     | 805 | CLA  | C11-C12-C13-C15 |
| 19  | B     | 825 | CLA  | C12-C13-C15-C16 |
| 19  | B     | 826 | CLA  | C11-C12-C13-C15 |
| 19  | B     | 831 | CLA  | C6-C7-C8-C10    |
| 19  | B     | 835 | CLA  | C12-C13-C15-C16 |
| 19  | B     | 837 | CLA  | C12-C13-C15-C16 |
| 19  | F     | 301 | CLA  | C11-C10-C8-C7   |

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| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 19  | F     | 302 | CLA  | C6-C7-C8-C10    |
| 22  | 1     | 317 | LHG  | C25-C26-C27-C28 |
| 19  | B     | 802 | CLA  | C2A-CAA-CBA-CGA |
| 19  | B     | 835 | CLA  | C2A-CAA-CBA-CGA |
| 18  | 2     | 305 | CHL  | C1C-C2C-CMC-OMC |
| 18  | 2     | 306 | CHL  | C1C-C2C-CMC-OMC |
| 24  | F     | 307 | LMG  | C10-C11-C12-C13 |
| 19  | B     | 808 | CLA  | C16-C17-C18-C19 |
| 19  | 3     | 308 | CLA  | CBA-CGA-O2A-C1  |
| 19  | 1     | 312 | CLA  | C11-C10-C8-C9   |
| 19  | 2     | 302 | CLA  | C11-C10-C8-C9   |
| 19  | 2     | 304 | CLA  | C11-C12-C13-C14 |
| 19  | A     | 802 | CLA  | C14-C13-C15-C16 |
| 19  | A     | 832 | CLA  | C14-C13-C15-C16 |
| 19  | A     | 839 | CLA  | C6-C7-C8-C9     |
| 19  | A     | 854 | CLA  | C14-C13-C15-C16 |
| 19  | B     | 805 | CLA  | C11-C12-C13-C14 |
| 19  | B     | 808 | CLA  | C11-C12-C13-C14 |
| 19  | B     | 818 | CLA  | C11-C10-C8-C9   |
| 19  | B     | 822 | CLA  | C6-C7-C8-C9     |
| 19  | B     | 826 | CLA  | C11-C12-C13-C14 |
| 19  | B     | 828 | CLA  | C6-C7-C8-C9     |
| 19  | B     | 832 | CLA  | C14-C13-C15-C16 |
| 19  | F     | 301 | CLA  | C14-C13-C15-C16 |
| 26  | B     | 839 | PQN  | C24-C23-C25-C26 |
| 19  | A     | 828 | CLA  | CBD-CGD-O2D-CED |
| 19  | A     | 805 | CLA  | O1A-CGA-O2A-C1  |
| 23  | 1     | 318 | BCR  | C10-C11-C12-C13 |
| 23  | A     | 843 | BCR  | C10-C11-C12-C13 |
| 23  | A     | 843 | BCR  | C18-C19-C20-C21 |
| 23  | A     | 844 | BCR  | C10-C11-C12-C13 |
| 23  | A     | 847 | BCR  | C10-C11-C12-C13 |
| 23  | J     | 101 | BCR  | C18-C19-C20-C21 |
| 23  | L     | 305 | BCR  | C18-C19-C20-C21 |
| 23  | L     | 306 | BCR  | C10-C11-C12-C13 |
| 19  | 3     | 310 | CLA  | O1D-CGD-O2D-CED |
| 19  | A     | 812 | CLA  | C8-C10-C11-C12  |
| 19  | B     | 837 | CLA  | C13-C15-C16-C17 |
| 19  | A     | 832 | CLA  | C13-C15-C16-C17 |
| 19  | 3     | 301 | CLA  | C2-C3-C5-C6     |
| 19  | B     | 826 | CLA  | C8-C10-C11-C12  |
| 19  | A     | 820 | CLA  | C16-C17-C18-C20 |

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| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 19  | A     | 836 | CLA  | C13-C15-C16-C17 |
| 19  | 1     | 321 | CLA  | C2A-CAA-CBA-CGA |
| 19  | 3     | 301 | CLA  | C2A-CAA-CBA-CGA |
| 19  | 3     | 302 | CLA  | C2A-CAA-CBA-CGA |
| 19  | 4     | 302 | CLA  | C2A-CAA-CBA-CGA |
| 19  | B     | 815 | CLA  | C2A-CAA-CBA-CGA |
| 19  | A     | 810 | CLA  | C2-C1-O2A-CGA   |
| 19  | A     | 826 | CLA  | C2-C1-O2A-CGA   |
| 19  | A     | 837 | CLA  | C2-C1-O2A-CGA   |
| 19  | A     | 852 | CLA  | C2-C1-O2A-CGA   |
| 23  | B     | 842 | BCR  | C14-C15-C16-C17 |
| 19  | 2     | 310 | CLA  | O1D-CGD-O2D-CED |
| 19  | B     | 825 | CLA  | C3-C5-C6-C7     |
| 19  | A     | 826 | CLA  | C5-C6-C7-C8     |
| 19  | 3     | 301 | CLA  | CBA-CGA-O2A-C1  |
| 19  | A     | 802 | CLA  | O1A-CGA-O2A-C1  |
| 19  | A     | 826 | CLA  | O1A-CGA-O2A-C1  |
| 19  | A     | 804 | CLA  | CAA-CBA-CGA-O2A |
| 19  | 4     | 303 | CLA  | O1D-CGD-O2D-CED |
| 19  | B     | 811 | CLA  | C6-C7-C8-C9     |
| 19  | A     | 816 | CLA  | C5-C6-C7-C8     |
| 19  | 4     | 311 | CLA  | C4-C3-C5-C6     |
| 19  | A     | 805 | CLA  | C4-C3-C5-C6     |
| 23  | G     | 205 | BCR  | C1-C6-C7-C8     |
| 23  | G     | 205 | BCR  | C5-C6-C7-C8     |
| 19  | 3     | 312 | CLA  | C2-C3-C5-C6     |
| 19  | A     | 826 | CLA  | CBA-CGA-O2A-C1  |
| 19  | 4     | 313 | CLA  | C2A-CAA-CBA-CGA |
| 19  | A     | 830 | CLA  | C2A-CAA-CBA-CGA |
| 28  | B     | 846 | DGD  | C5B-C6B-C7B-C8B |
| 25  | 2     | 318 | LMT  | C1-C2-C3-C4     |
| 19  | A     | 827 | CLA  | C10-C11-C12-C13 |
| 19  | B     | 808 | CLA  | C1-C2-C3-C5     |
| 19  | B     | 831 | CLA  | C1-C2-C3-C5     |
| 22  | 2     | 317 | LHG  | C4-O6-P-O3      |
| 19  | A     | 818 | CLA  | C16-C17-C18-C19 |
| 19  | A     | 804 | CLA  | C6-C7-C8-C10    |
| 19  | A     | 840 | CLA  | C12-C13-C15-C16 |
| 19  | B     | 816 | CLA  | C6-C7-C8-C10    |
| 19  | B     | 822 | CLA  | C2-C3-C5-C6     |
| 19  | B     | 831 | CLA  | C11-C10-C8-C7   |
| 19  | 4     | 309 | CLA  | C11-C10-C8-C9   |

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| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 19  | A     | 801 | CLA  | C14-C13-C15-C16 |
| 19  | A     | 805 | CLA  | C11-C12-C13-C14 |
| 19  | A     | 825 | CLA  | C11-C12-C13-C14 |
| 19  | A     | 827 | CLA  | C11-C10-C8-C9   |
| 19  | A     | 836 | CLA  | C11-C12-C13-C14 |
| 19  | B     | 831 | CLA  | C6-C7-C8-C9     |
| 19  | B     | 837 | CLA  | C14-C13-C15-C16 |
| 23  | L     | 304 | BCR  | C37-C22-C23-C24 |
| 19  | 1     | 302 | CLA  | C11-C12-C13-C14 |
| 19  | 1     | 309 | CLA  | C11-C10-C8-C7   |
| 19  | B     | 804 | CLA  | CAA-CBA-CGA-O2A |
| 19  | 1     | 303 | CLA  | CBA-CGA-O2A-C1  |
| 19  | A     | 828 | CLA  | C10-C11-C12-C13 |
| 19  | B     | 818 | CLA  | C10-C11-C12-C13 |
| 28  | B     | 846 | DGD  | O6D-C5D-C6D-O5D |
| 19  | 1     | 304 | CLA  | O1A-CGA-O2A-C1  |
| 19  | 1     | 310 | CLA  | CBD-CGD-O2D-CED |
| 23  | B     | 842 | BCR  | C13-C14-C15-C16 |
| 19  | 4     | 312 | CLA  | O1D-CGD-O2D-CED |
| 19  | B     | 813 | CLA  | C16-C17-C18-C19 |
| 19  | 2     | 312 | CLA  | C4-C3-C5-C6     |
| 19  | A     | 840 | CLA  | C4-C3-C5-C6     |
| 19  | 2     | 302 | CLA  | C15-C16-C17-C18 |
| 19  | A     | 820 | CLA  | C5-C6-C7-C8     |
| 19  | 3     | 309 | CLA  | C2C-C3C-CAC-CBC |
| 19  | 3     | 308 | CLA  | CBD-CGD-O2D-CED |
| 19  | 2     | 309 | CLA  | C2-C1-O2A-CGA   |
| 19  | A     | 804 | CLA  | C2-C1-O2A-CGA   |
| 19  | A     | 806 | CLA  | C2-C1-O2A-CGA   |
| 19  | A     | 812 | CLA  | C2-C1-O2A-CGA   |
| 19  | F     | 304 | CLA  | C2A-CAA-CBA-CGA |
| 19  | K     | 203 | CLA  | C2A-CAA-CBA-CGA |
| 19  | 1     | 314 | CLA  | C3A-C2A-CAA-CBA |
| 19  | A     | 813 | CLA  | C3A-C2A-CAA-CBA |
| 19  | F     | 301 | CLA  | C3A-C2A-CAA-CBA |
| 19  | A     | 854 | CLA  | CBA-CGA-O2A-C1  |
| 19  | 1     | 308 | CLA  | C6-C7-C8-C9     |
| 19  | 1     | 308 | CLA  | C11-C10-C8-C9   |
| 19  | A     | 810 | CLA  | C14-C13-C15-C16 |
| 19  | A     | 834 | CLA  | C11-C12-C13-C14 |
| 19  | B     | 835 | CLA  | C14-C13-C15-C16 |
| 19  | A     | 812 | CLA  | C16-C17-C18-C20 |

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| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 19  | 1     | 307 | CLA  | CAA-CBA-CGA-O1A |
| 19  | 1     | 313 | CLA  | CAA-CBA-CGA-O2A |
| 19  | 1     | 308 | CLA  | C5-C6-C7-C8     |
| 19  | B     | 801 | CLA  | C8-C10-C11-C12  |
| 21  | 2     | 316 | XAT  | C20-C13-C14-C15 |
| 23  | 1     | 318 | BCR  | C11-C10-C9-C34  |
| 23  | A     | 849 | BCR  | C11-C10-C9-C34  |
| 23  | A     | 849 | BCR  | C16-C17-C18-C36 |
| 23  | B     | 841 | BCR  | C11-C10-C9-C34  |
| 23  | B     | 842 | BCR  | C11-C10-C9-C34  |
| 23  | B     | 842 | BCR  | C20-C21-C22-C37 |
| 23  | F     | 305 | BCR  | C35-C13-C14-C15 |
| 19  | B     | 825 | CLA  | C15-C16-C17-C18 |
| 19  | A     | 826 | CLA  | C16-C17-C18-C20 |
| 19  | B     | 827 | CLA  | C16-C17-C18-C20 |
| 18  | 2     | 301 | CHL  | O2A-C1-C2-C3    |
| 19  | A     | 837 | CLA  | O2A-C1-C2-C3    |
| 19  | A     | 839 | CLA  | O2A-C1-C2-C3    |
| 19  | B     | 820 | CLA  | O2A-C1-C2-C3    |
| 19  | B     | 831 | CLA  | O2A-C1-C2-C3    |
| 19  | 3     | 304 | CLA  | C1A-C2A-CAA-CBA |
| 19  | A     | 812 | CLA  | C1A-C2A-CAA-CBA |
| 19  | A     | 813 | CLA  | C1A-C2A-CAA-CBA |
| 19  | A     | 824 | CLA  | C1A-C2A-CAA-CBA |
| 19  | A     | 829 | CLA  | C1A-C2A-CAA-CBA |
| 19  | B     | 819 | CLA  | C1A-C2A-CAA-CBA |
| 19  | B     | 822 | CLA  | C1A-C2A-CAA-CBA |
| 19  | L     | 302 | CLA  | C1A-C2A-CAA-CBA |
| 19  | A     | 820 | CLA  | C11-C12-C13-C15 |
| 19  | A     | 827 | CLA  | C11-C12-C13-C15 |
| 19  | A     | 829 | CLA  | C11-C12-C13-C15 |
| 19  | B     | 809 | CLA  | C12-C13-C15-C16 |
| 19  | L     | 302 | CLA  | C12-C13-C15-C16 |
| 19  | A     | 851 | CLA  | CAA-CBA-CGA-O1A |
| 18  | 4     | 314 | CHL  | C3C-C2C-CMC-OMC |
| 19  | 3     | 313 | CLA  | CAA-CBA-CGA-O2A |
| 19  | F     | 303 | CLA  | CAA-CBA-CGA-O2A |
| 19  | 1     | 321 | CLA  | C15-C16-C17-C18 |
| 19  | 4     | 310 | CLA  | C2A-CAA-CBA-CGA |
| 19  | A     | 818 | CLA  | C2A-CAA-CBA-CGA |
| 19  | 1     | 303 | CLA  | C5-C6-C7-C8     |
| 19  | B     | 835 | CLA  | C10-C11-C12-C13 |

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| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 19  | B     | 837 | CLA  | C5-C6-C7-C8     |
| 19  | B     | 835 | CLA  | C13-C15-C16-C17 |
| 19  | A     | 836 | CLA  | C8-C10-C11-C12  |
| 19  | B     | 833 | CLA  | CAA-CBA-CGA-O2A |
| 19  | 3     | 301 | CLA  | C4-C3-C5-C6     |
| 19  | A     | 818 | CLA  | C4-C3-C5-C6     |
| 19  | 3     | 301 | CLA  | C8-C10-C11-C12  |
| 19  | 1     | 313 | CLA  | CAA-CBA-CGA-O1A |
| 19  | 3     | 311 | CLA  | CAA-CBA-CGA-O1A |
| 19  | 3     | 311 | CLA  | CAA-CBA-CGA-O2A |
| 19  | 4     | 308 | CLA  | C5-C6-C7-C8     |
| 21  | 2     | 316 | XAT  | C12-C13-C14-C15 |
| 23  | 1     | 318 | BCR  | C11-C10-C9-C8   |
| 23  | A     | 849 | BCR  | C11-C10-C9-C8   |
| 23  | A     | 849 | BCR  | C16-C17-C18-C19 |
| 23  | B     | 841 | BCR  | C11-C10-C9-C8   |
| 23  | B     | 842 | BCR  | C11-C10-C9-C8   |
| 23  | B     | 842 | BCR  | C20-C21-C22-C23 |
| 23  | F     | 305 | BCR  | C12-C13-C14-C15 |
| 19  | B     | 824 | CLA  | C5-C6-C7-C8     |
| 19  | 3     | 303 | CLA  | CAA-CBA-CGA-O1A |
| 19  | B     | 809 | CLA  | C13-C15-C16-C17 |
| 19  | B     | 825 | CLA  | C2A-CAA-CBA-CGA |
| 19  | 2     | 311 | CLA  | CAA-CBA-CGA-O1A |
| 19  | B     | 832 | CLA  | C16-C17-C18-C19 |
| 19  | F     | 302 | CLA  | C13-C15-C16-C17 |
| 18  | 2     | 306 | CHL  | CAA-CBA-CGA-O2A |
| 19  | 1     | 307 | CLA  | CAA-CBA-CGA-O2A |
| 25  | 2     | 318 | LMT  | C4-C5-C6-C7     |
| 19  | B     | 828 | CLA  | C4-C3-C5-C6     |
| 19  | L     | 301 | CLA  | C4-C3-C5-C6     |
| 19  | 1     | 304 | CLA  | C2-C1-O2A-CGA   |
| 19  | A     | 822 | CLA  | C2-C1-O2A-CGA   |
| 19  | A     | 836 | CLA  | C2-C1-O2A-CGA   |
| 19  | B     | 802 | CLA  | C2-C1-O2A-CGA   |
| 19  | 3     | 309 | CLA  | O1A-CGA-O2A-C1  |
| 19  | 4     | 310 | CLA  | CAA-CBA-CGA-O2A |
| 19  | 4     | 307 | CLA  | O1A-CGA-O2A-C1  |
| 19  | 1     | 304 | CLA  | C4-C3-C5-C6     |
| 18  | 4     | 304 | CHL  | O1A-CGA-O2A-C1  |
| 19  | 3     | 303 | CLA  | C2A-CAA-CBA-CGA |
| 19  | A     | 852 | CLA  | C2A-CAA-CBA-CGA |

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| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 19  | B     | 812 | CLA  | C2A-CAA-CBA-CGA |
| 19  | 3     | 308 | CLA  | C16-C17-C18-C19 |
| 19  | 3     | 306 | CLA  | CAA-CBA-CGA-O2A |
| 19  | B     | 806 | CLA  | C3-C5-C6-C7     |
| 23  | 3     | 317 | BCR  | C1-C6-C7-C8     |
| 23  | J     | 103 | BCR  | C23-C24-C25-C30 |
| 23  | L     | 306 | BCR  | C1-C6-C7-C8     |
| 19  | 2     | 304 | CLA  | C15-C16-C17-C18 |
| 19  | A     | 817 | CLA  | CAA-CBA-CGA-O2A |
| 19  | A     | 851 | CLA  | CAA-CBA-CGA-O2A |
| 19  | A     | 852 | CLA  | C16-C17-C18-C19 |
| 19  | 1     | 309 | CLA  | C11-C10-C8-C9   |
| 19  | 4     | 310 | CLA  | O1D-CGD-O2D-CED |
| 19  | 2     | 311 | CLA  | CAA-CBA-CGA-O2A |
| 18  | 2     | 301 | CHL  | C2A-CAA-CBA-CGA |
| 19  | 1     | 311 | CLA  | CAA-CBA-CGA-O2A |
| 19  | F     | 302 | CLA  | C5-C6-C7-C8     |
| 19  | B     | 806 | CLA  | C5-C6-C7-C8     |
| 19  | 1     | 312 | CLA  | C6-C7-C8-C10    |
| 19  | B     | 838 | CLA  | C11-C12-C13-C15 |
| 19  | F     | 301 | CLA  | C12-C13-C15-C16 |
| 18  | 2     | 306 | CHL  | CAA-CBA-CGA-O1A |
| 19  | 3     | 306 | CLA  | CAA-CBA-CGA-O1A |
| 19  | 3     | 309 | CLA  | C4C-C3C-CAC-CBC |
| 19  | 3     | 308 | CLA  | C1-C2-C3-C4     |
| 19  | A     | 807 | CLA  | C1-C2-C3-C4     |
| 19  | B     | 815 | CLA  | C1-C2-C3-C4     |
| 19  | B     | 817 | CLA  | C1-C2-C3-C4     |
| 19  | B     | 820 | CLA  | C1-C2-C3-C4     |
| 19  | B     | 830 | CLA  | C1-C2-C3-C4     |
| 19  | F     | 302 | CLA  | C1-C2-C3-C4     |
| 19  | A     | 831 | CLA  | C15-C16-C17-C18 |
| 19  | 3     | 303 | CLA  | CAA-CBA-CGA-O2A |
| 19  | 1     | 303 | CLA  | CAA-CBA-CGA-O2A |
| 19  | 4     | 301 | CLA  | O1D-CGD-O2D-CED |
| 19  | B     | 803 | CLA  | CAA-CBA-CGA-O2A |
| 22  | 1     | 322 | LHG  | C27-C28-C29-C30 |
| 19  | A     | 809 | CLA  | C4-C3-C5-C6     |
| 19  | A     | 824 | CLA  | C4-C3-C5-C6     |
| 19  | F     | 302 | CLA  | C4-C3-C5-C6     |
| 18  | 1     | 301 | CHL  | C2-C3-C5-C6     |
| 19  | 2     | 302 | CLA  | C2-C3-C5-C6     |

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| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 19  | B     | 835 | CLA  | C2-C3-C5-C6     |
| 19  | A     | 807 | CLA  | CAA-CBA-CGA-O2A |
| 19  | A     | 804 | CLA  | C6-C7-C8-C9     |
| 19  | A     | 808 | CLA  | C11-C12-C13-C14 |
| 19  | A     | 810 | CLA  | C11-C12-C13-C14 |
| 19  | B     | 817 | CLA  | C11-C10-C8-C9   |
| 19  | B     | 824 | CLA  | C6-C7-C8-C9     |
| 19  | B     | 833 | CLA  | CAA-CBA-CGA-O1A |
| 19  | B     | 823 | CLA  | CBD-CGD-O2D-CED |
| 19  | 1     | 304 | CLA  | C3A-C2A-CAA-CBA |
| 19  | A     | 824 | CLA  | C3A-C2A-CAA-CBA |
| 19  | B     | 814 | CLA  | C3A-C2A-CAA-CBA |
| 19  | B     | 838 | CLA  | C3A-C2A-CAA-CBA |
| 19  | 3     | 302 | CLA  | CAA-CBA-CGA-O2A |
| 18  | 2     | 306 | CHL  | CAD-CBD-CGD-O2D |
| 18  | 4     | 305 | CHL  | CAD-CBD-CGD-O2D |
| 19  | 1     | 303 | CLA  | CAD-CBD-CGD-O2D |
| 19  | 1     | 308 | CLA  | CAD-CBD-CGD-O2D |
| 19  | 3     | 304 | CLA  | CAD-CBD-CGD-O2D |
| 19  | 3     | 309 | CLA  | CAD-CBD-CGD-O2D |
| 19  | 3     | 314 | CLA  | CAD-CBD-CGD-O2D |
| 19  | 4     | 302 | CLA  | CAD-CBD-CGD-O2D |
| 19  | 4     | 308 | CLA  | CAD-CBD-CGD-O2D |
| 19  | 4     | 310 | CLA  | CAD-CBD-CGD-O2D |
| 19  | 4     | 312 | CLA  | CAD-CBD-CGD-O2D |
| 19  | A     | 805 | CLA  | CAD-CBD-CGD-O2D |
| 19  | A     | 808 | CLA  | CAD-CBD-CGD-O2D |
| 19  | A     | 810 | CLA  | CAD-CBD-CGD-O2D |
| 19  | A     | 811 | CLA  | CAD-CBD-CGD-O2D |
| 19  | A     | 814 | CLA  | CAD-CBD-CGD-O2D |
| 19  | A     | 817 | CLA  | CAD-CBD-CGD-O2D |
| 19  | A     | 824 | CLA  | CAD-CBD-CGD-O2D |
| 19  | A     | 825 | CLA  | CAD-CBD-CGD-O2D |
| 19  | A     | 834 | CLA  | CAD-CBD-CGD-O2D |
| 19  | B     | 819 | CLA  | CAD-CBD-CGD-O2D |
| 19  | B     | 834 | CLA  | CAD-CBD-CGD-O2D |
| 19  | F     | 302 | CLA  | CAD-CBD-CGD-O2D |
| 19  | G     | 204 | CLA  | CAD-CBD-CGD-O2D |
| 19  | L     | 303 | CLA  | CAD-CBD-CGD-O2D |
| 19  | 2     | 313 | CLA  | C5-C6-C7-C8     |
| 18  | 4     | 306 | CHL  | C1-C2-C3-C5     |
| 19  | L     | 301 | CLA  | C2-C1-O2A-CGA   |

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| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 19  | A     | 816 | CLA  | CAA-CBA-CGA-O2A |
| 19  | A     | 853 | CLA  | C11-C12-C13-C14 |
| 19  | A     | 804 | CLA  | C2-C3-C5-C6     |
| 19  | B     | 827 | CLA  | C2-C3-C5-C6     |
| 19  | 4     | 302 | CLA  | CAA-CBA-CGA-O2A |
| 19  | A     | 835 | CLA  | CAA-CBA-CGA-O2A |
| 19  | B     | 810 | CLA  | CAA-CBA-CGA-O2A |
| 23  | L     | 305 | BCR  | C17-C18-C19-C20 |
| 22  | 1     | 317 | LHG  | C4-C5-C6-O8     |
| 22  | A     | 842 | LHG  | C4-C5-C6-O8     |
| 19  | 4     | 310 | CLA  | CAA-CBA-CGA-O1A |
| 19  | F     | 303 | CLA  | O1D-CGD-O2D-CED |
| 19  | B     | 822 | CLA  | CAA-CBA-CGA-O2A |
| 19  | F     | 303 | CLA  | CAA-CBA-CGA-O1A |
| 19  | 3     | 302 | CLA  | O2A-C1-C2-C3    |
| 19  | A     | 814 | CLA  | O2A-C1-C2-C3    |
| 19  | A     | 822 | CLA  | O2A-C1-C2-C3    |
| 19  | A     | 829 | CLA  | O2A-C1-C2-C3    |
| 19  | B     | 801 | CLA  | O2A-C1-C2-C3    |
| 19  | B     | 809 | CLA  | O2A-C1-C2-C3    |
| 19  | B     | 822 | CLA  | O2A-C1-C2-C3    |
| 19  | B     | 832 | CLA  | O2A-C1-C2-C3    |
| 19  | B     | 837 | CLA  | O2A-C1-C2-C3    |
| 19  | L     | 301 | CLA  | O2A-C1-C2-C3    |
| 19  | A     | 827 | CLA  | C2A-CAA-CBA-CGA |
| 24  | 4     | 318 | LMG  | O7-C10-C11-C12  |
| 19  | 3     | 308 | CLA  | C16-C17-C18-C20 |
| 19  | B     | 832 | CLA  | C16-C17-C18-C20 |
| 18  | 2     | 301 | CHL  | CHA-CBD-CGD-O1D |
| 18  | 2     | 307 | CHL  | CHA-CBD-CGD-O2D |
| 18  | 4     | 306 | CHL  | CHA-CBD-CGD-O2D |
| 19  | 1     | 304 | CLA  | CHA-CBD-CGD-O1D |
| 19  | 2     | 302 | CLA  | CHA-CBD-CGD-O1D |
| 19  | 2     | 304 | CLA  | CHA-CBD-CGD-O1D |
| 19  | 2     | 312 | CLA  | CHA-CBD-CGD-O1D |
| 19  | 3     | 301 | CLA  | CHA-CBD-CGD-O2D |
| 19  | 3     | 310 | CLA  | CHA-CBD-CGD-O1D |
| 19  | 3     | 312 | CLA  | CHA-CBD-CGD-O1D |
| 19  | 3     | 312 | CLA  | CHA-CBD-CGD-O2D |
| 19  | 4     | 301 | CLA  | CHA-CBD-CGD-O2D |
| 19  | 4     | 307 | CLA  | CHA-CBD-CGD-O2D |
| 19  | 4     | 309 | CLA  | CHA-CBD-CGD-O2D |

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| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 19  | 4     | 313 | CLA  | CHA-CBD-CGD-O2D |
| 19  | A     | 805 | CLA  | CHA-CBD-CGD-O1D |
| 19  | A     | 809 | CLA  | CHA-CBD-CGD-O1D |
| 19  | A     | 836 | CLA  | CHA-CBD-CGD-O2D |
| 19  | A     | 837 | CLA  | CHA-CBD-CGD-O2D |
| 19  | A     | 854 | CLA  | CHA-CBD-CGD-O2D |
| 19  | B     | 806 | CLA  | CHA-CBD-CGD-O1D |
| 19  | B     | 806 | CLA  | CHA-CBD-CGD-O2D |
| 19  | B     | 807 | CLA  | CHA-CBD-CGD-O2D |
| 19  | B     | 819 | CLA  | CHA-CBD-CGD-O1D |
| 19  | B     | 821 | CLA  | CHA-CBD-CGD-O1D |
| 19  | B     | 825 | CLA  | CHA-CBD-CGD-O1D |
| 19  | B     | 828 | CLA  | CHA-CBD-CGD-O2D |
| 19  | B     | 829 | CLA  | CHA-CBD-CGD-O2D |
| 19  | F     | 301 | CLA  | CHA-CBD-CGD-O1D |
| 19  | G     | 203 | CLA  | CHA-CBD-CGD-O2D |
| 19  | K     | 202 | CLA  | CHA-CBD-CGD-O2D |
| 22  | 1     | 322 | LHG  | O8-C23-C24-C25  |
| 24  | F     | 307 | LMG  | O1-C7-C8-O7     |
| 19  | 1     | 311 | CLA  | CAA-CBA-CGA-O1A |
| 19  | 2     | 309 | CLA  | CAA-CBA-CGA-O2A |
| 19  | A     | 822 | CLA  | CAA-CBA-CGA-O2A |
| 19  | A     | 853 | CLA  | CAA-CBA-CGA-O2A |
| 19  | B     | 823 | CLA  | CAA-CBA-CGA-O2A |
| 19  | A     | 804 | CLA  | CAA-CBA-CGA-O1A |
| 19  | G     | 204 | CLA  | C2A-CAA-CBA-CGA |
| 19  | B     | 811 | CLA  | CAA-CBA-CGA-O2A |
| 19  | 2     | 302 | CLA  | C12-C13-C15-C16 |
| 19  | 3     | 308 | CLA  | C2-C3-C5-C6     |
| 19  | 3     | 308 | CLA  | C11-C10-C8-C7   |
| 19  | B     | 824 | CLA  | C6-C7-C8-C10    |
| 19  | 1     | 302 | CLA  | O1D-CGD-O2D-CED |
| 24  | 4     | 318 | LMG  | O6-C1-O1-C7     |
| 19  | B     | 802 | CLA  | CAA-CBA-CGA-O2A |
| 19  | A     | 827 | CLA  | C11-C12-C13-C14 |
| 19  | B     | 801 | CLA  | C14-C13-C15-C16 |
| 19  | B     | 838 | CLA  | C11-C12-C13-C14 |
| 19  | L     | 302 | CLA  | C14-C13-C15-C16 |
| 19  | A     | 835 | CLA  | CAA-CBA-CGA-O1A |
| 22  | B     | 848 | LHG  | C15-C16-C17-C18 |
| 22  | A     | 842 | LHG  | O7-C7-C8-C9     |
| 19  | B     | 809 | CLA  | CAA-CBA-CGA-O1A |

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| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 19  | A     | 815 | CLA  | CAA-CBA-CGA-O2A |
| 19  | L     | 303 | CLA  | CAA-CBA-CGA-O1A |
| 19  | A     | 808 | CLA  | CAA-CBA-CGA-O1A |
| 19  | B     | 823 | CLA  | CAA-CBA-CGA-O1A |
| 19  | F     | 302 | CLA  | C3-C5-C6-C7     |
| 19  | 1     | 304 | CLA  | C1A-C2A-CAA-CBA |
| 19  | B     | 814 | CLA  | C1A-C2A-CAA-CBA |
| 19  | B     | 838 | CLA  | C1A-C2A-CAA-CBA |
| 19  | B     | 835 | CLA  | C2-C1-O2A-CGA   |
| 19  | B     | 818 | CLA  | CBA-CGA-O2A-C1  |
| 19  | A     | 807 | CLA  | CAA-CBA-CGA-O1A |
| 22  | 2     | 317 | LHG  | C4-C5-C6-O8     |
| 19  | A     | 835 | CLA  | C2A-CAA-CBA-CGA |
| 19  | B     | 830 | CLA  | C2A-CAA-CBA-CGA |
| 19  | A     | 827 | CLA  | C16-C17-C18-C19 |
| 19  | A     | 829 | CLA  | C16-C17-C18-C19 |
| 19  | 3     | 313 | CLA  | CAA-CBA-CGA-O1A |
| 19  | B     | 827 | CLA  | C4-C3-C5-C6     |
| 18  | 1     | 301 | CHL  | CAA-CBA-CGA-O2A |
| 19  | B     | 827 | CLA  | CAA-CBA-CGA-O1A |
| 24  | 4     | 318 | LMG  | O9-C10-C11-C12  |
| 19  | A     | 816 | CLA  | C2-C3-C5-C6     |
| 19  | A     | 840 | CLA  | C2-C3-C5-C6     |
| 19  | A     | 828 | CLA  | C8-C10-C11-C12  |
| 22  | A     | 842 | LHG  | C4-O6-P-O5      |
| 19  | 1     | 303 | CLA  | CAA-CBA-CGA-O1A |
| 23  | A     | 845 | BCR  | C23-C24-C25-C30 |
| 23  | J     | 103 | BCR  | C23-C24-C25-C26 |
| 23  | L     | 306 | BCR  | C5-C6-C7-C8     |
| 19  | A     | 807 | CLA  | C10-C11-C12-C13 |
| 24  | 1     | 319 | LMG  | C29-C30-C31-C32 |
| 19  | 2     | 302 | CLA  | CAA-CBA-CGA-O2A |
| 19  | A     | 820 | CLA  | C8-C10-C11-C12  |
| 25  | 2     | 318 | LMT  | C5-C6-C7-C8     |
| 19  | 4     | 313 | CLA  | CAA-CBA-CGA-O1A |
| 22  | 1     | 322 | LHG  | O10-C23-C24-C25 |
| 18  | 4     | 305 | CHL  | CAA-CBA-CGA-O2A |
| 19  | 2     | 308 | CLA  | CAA-CBA-CGA-O2A |
| 19  | 4     | 313 | CLA  | CAA-CBA-CGA-O2A |
| 19  | A     | 801 | CLA  | C5-C6-C7-C8     |
| 18  | 4     | 305 | CHL  | CAD-CBD-CGD-O1D |
| 19  | 1     | 313 | CLA  | CAD-CBD-CGD-O1D |

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| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 19  | 2     | 303 | CLA  | CAD-CBD-CGD-O1D |
| 19  | 2     | 320 | CLA  | CAD-CBD-CGD-O1D |
| 19  | 4     | 313 | CLA  | CAD-CBD-CGD-O1D |
| 19  | A     | 813 | CLA  | CAD-CBD-CGD-O1D |
| 19  | A     | 815 | CLA  | CAD-CBD-CGD-O1D |
| 19  | B     | 832 | CLA  | CAD-CBD-CGD-O1D |
| 19  | B     | 837 | CLA  | CAD-CBD-CGD-O1D |
| 19  | F     | 301 | CLA  | CAA-CBA-CGA-O1A |
| 19  | 2     | 302 | CLA  | C14-C13-C15-C16 |
| 19  | 3     | 308 | CLA  | C11-C10-C8-C9   |
| 19  | A     | 801 | CLA  | C11-C12-C13-C14 |
| 19  | A     | 802 | CLA  | C11-C10-C8-C9   |
| 19  | A     | 810 | CLA  | C11-C10-C8-C9   |
| 19  | 2     | 303 | CLA  | C1-C2-C3-C5     |
| 19  | A     | 808 | CLA  | CAA-CBA-CGA-O2A |
| 19  | F     | 301 | CLA  | CAA-CBA-CGA-O2A |
| 19  | H     | 201 | CLA  | CAA-CBA-CGA-O2A |
| 19  | L     | 303 | CLA  | CAA-CBA-CGA-O2A |
| 19  | B     | 805 | CLA  | C8-C10-C11-C12  |
| 19  | B     | 838 | CLA  | C15-C16-C17-C18 |
| 19  | 2     | 303 | CLA  | C2A-CAA-CBA-CGA |
| 19  | 2     | 311 | CLA  | C2A-CAA-CBA-CGA |
| 19  | B     | 807 | CLA  | C2A-CAA-CBA-CGA |
| 18  | 2     | 301 | CHL  | CAA-CBA-CGA-O2A |
| 19  | 1     | 302 | CLA  | CAA-CBA-CGA-O2A |
| 19  | 4     | 301 | CLA  | CAA-CBA-CGA-O2A |
| 19  | A     | 803 | CLA  | CAA-CBA-CGA-O2A |
| 19  | A     | 852 | CLA  | CAA-CBA-CGA-O2A |
| 19  | B     | 822 | CLA  | CAA-CBA-CGA-O1A |
| 28  | B     | 846 | DGD  | C2B-C3B-C4B-C5B |
| 18  | 4     | 304 | CHL  | C4-C3-C5-C6     |
| 19  | 2     | 309 | CLA  | C3A-C2A-CAA-CBA |
| 19  | 4     | 308 | CLA  | C2-C3-C5-C6     |
| 19  | 4     | 308 | CLA  | C11-C10-C8-C7   |
| 19  | A     | 802 | CLA  | C11-C10-C8-C7   |
| 19  | A     | 812 | CLA  | C3A-C2A-CAA-CBA |
| 19  | A     | 816 | CLA  | CHA-CBD-CGD-O1D |
| 19  | A     | 840 | CLA  | C6-C7-C8-C10    |
| 19  | A     | 840 | CLA  | C11-C12-C13-C15 |
| 19  | B     | 804 | CLA  | C12-C13-C15-C16 |
| 19  | B     | 828 | CLA  | C11-C12-C13-C15 |
| 19  | B     | 834 | CLA  | C2-C3-C5-C6     |

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| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 22  | B     | 848 | LHG  | O6-C4-C5-O7     |
| 26  | B     | 839 | PQN  | C21-C22-C23-C25 |
| 19  | 4     | 301 | CLA  | CAA-CBA-CGA-O1A |
| 19  | A     | 840 | CLA  | CAA-CBA-CGA-O2A |
| 22  | 1     | 317 | LHG  | C27-C28-C29-C30 |
| 19  | 2     | 302 | CLA  | CAA-CBA-CGA-O1A |
| 19  | 4     | 302 | CLA  | CAA-CBA-CGA-O1A |
| 19  | B     | 810 | CLA  | CAA-CBA-CGA-O1A |
| 19  | B     | 820 | CLA  | C6-C7-C8-C9     |
| 19  | B     | 827 | CLA  | C16-C17-C18-C19 |
| 19  | B     | 809 | CLA  | CAA-CBA-CGA-O2A |
| 25  | G     | 201 | LMT  | O5'-C1'-O1'-C1  |
| 19  | A     | 840 | CLA  | C8-C10-C11-C12  |
| 19  | B     | 827 | CLA  | CAA-CBA-CGA-O2A |
| 19  | A     | 840 | CLA  | C13-C15-C16-C17 |
| 22  | A     | 842 | LHG  | O9-C7-C8-C9     |
| 19  | 2     | 302 | CLA  | C2A-CAA-CBA-CGA |
| 19  | A     | 821 | CLA  | C2A-CAA-CBA-CGA |
| 19  | A     | 829 | CLA  | C16-C17-C18-C20 |
| 19  | 1     | 314 | CLA  | CAA-CBA-CGA-O1A |
| 19  | A     | 804 | CLA  | C13-C15-C16-C17 |
| 19  | A     | 824 | CLA  | CAA-CBA-CGA-O1A |
| 19  | B     | 812 | CLA  | CAA-CBA-CGA-O1A |
| 19  | 1     | 321 | CLA  | C4-C3-C5-C6     |
| 19  | F     | 304 | CLA  | CAA-CBA-CGA-O1A |

There are no ring outliers.

156 monomers are involved in 290 short contacts:

| Mol | Chain | Res | Type | Clashes | Symm-Clashes |
|-----|-------|-----|------|---------|--------------|
| 19  | B     | 808 | CLA  | 1       | 0            |
| 18  | 2     | 307 | CHL  | 1       | 0            |
| 18  | 4     | 304 | CHL  | 1       | 0            |
| 19  | 3     | 304 | CLA  | 1       | 0            |
| 19  | A     | 811 | CLA  | 1       | 0            |
| 19  | B     | 810 | CLA  | 1       | 0            |
| 22  | 1     | 322 | LHG  | 4       | 0            |
| 19  | 2     | 309 | CLA  | 3       | 0            |
| 19  | 3     | 308 | CLA  | 4       | 0            |
| 19  | A     | 837 | CLA  | 1       | 0            |
| 19  | 1     | 313 | CLA  | 1       | 0            |
| 19  | A     | 807 | CLA  | 5       | 0            |

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| Mol | Chain | Res | Type | Clashes | Symm-Clashes |
|-----|-------|-----|------|---------|--------------|
| 19  | B     | 806 | CLA  | 2       | 0            |
| 19  | B     | 819 | CLA  | 1       | 0            |
| 19  | B     | 827 | CLA  | 2       | 0            |
| 23  | K     | 201 | BCR  | 2       | 0            |
| 23  | B     | 841 | BCR  | 1       | 0            |
| 19  | B     | 818 | CLA  | 3       | 0            |
| 23  | A     | 844 | BCR  | 9       | 0            |
| 25  | N     | 201 | LMT  | 2       | 0            |
| 19  | F     | 303 | CLA  | 1       | 0            |
| 23  | B     | 840 | BCR  | 3       | 0            |
| 18  | 2     | 301 | CHL  | 2       | 0            |
| 19  | 1     | 305 | CLA  | 2       | 0            |
| 19  | B     | 805 | CLA  | 4       | 0            |
| 19  | A     | 817 | CLA  | 3       | 0            |
| 19  | 4     | 302 | CLA  | 2       | 0            |
| 19  | K     | 202 | CLA  | 2       | 0            |
| 23  | G     | 205 | BCR  | 2       | 0            |
| 23  | J     | 103 | BCR  | 3       | 0            |
| 22  | B     | 848 | LHG  | 3       | 0            |
| 19  | A     | 804 | CLA  | 5       | 0            |
| 19  | 1     | 309 | CLA  | 2       | 0            |
| 19  | 4     | 313 | CLA  | 4       | 0            |
| 19  | A     | 827 | CLA  | 2       | 0            |
| 19  | B     | 828 | CLA  | 2       | 0            |
| 23  | 1     | 318 | BCR  | 2       | 0            |
| 19  | B     | 811 | CLA  | 5       | 0            |
| 19  | 2     | 304 | CLA  | 2       | 0            |
| 19  | B     | 825 | CLA  | 2       | 0            |
| 19  | B     | 809 | CLA  | 1       | 0            |
| 19  | A     | 809 | CLA  | 2       | 0            |
| 19  | A     | 825 | CLA  | 2       | 0            |
| 19  | B     | 823 | CLA  | 2       | 0            |
| 19  | F     | 304 | CLA  | 1       | 0            |
| 18  | 3     | 307 | CHL  | 2       | 0            |
| 20  | 4     | 315 | LUT  | 5       | 0            |
| 24  | B     | 847 | LMG  | 1       | 0            |
| 19  | B     | 830 | CLA  | 2       | 0            |
| 18  | 1     | 306 | CHL  | 2       | 0            |
| 19  | A     | 836 | CLA  | 3       | 0            |
| 19  | A     | 852 | CLA  | 2       | 0            |
| 19  | B     | 831 | CLA  | 3       | 0            |
| 23  | A     | 849 | BCR  | 1       | 0            |

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| Mol | Chain | Res | Type | Clashes | Symm-Clashes |
|-----|-------|-----|------|---------|--------------|
| 19  | 1     | 302 | CLA  | 1       | 0            |
| 19  | B     | 838 | CLA  | 1       | 0            |
| 19  | A     | 822 | CLA  | 1       | 0            |
| 19  | A     | 823 | CLA  | 3       | 0            |
| 19  | B     | 832 | CLA  | 1       | 0            |
| 19  | K     | 204 | CLA  | 1       | 0            |
| 19  | A     | 824 | CLA  | 3       | 0            |
| 19  | A     | 812 | CLA  | 4       | 0            |
| 19  | A     | 806 | CLA  | 1       | 0            |
| 19  | A     | 854 | CLA  | 2       | 0            |
| 19  | B     | 801 | CLA  | 1       | 0            |
| 19  | A     | 808 | CLA  | 3       | 0            |
| 19  | B     | 813 | CLA  | 7       | 0            |
| 19  | A     | 801 | CLA  | 4       | 0            |
| 19  | A     | 810 | CLA  | 3       | 0            |
| 19  | 2     | 312 | CLA  | 1       | 0            |
| 19  | B     | 807 | CLA  | 1       | 0            |
| 21  | 4     | 316 | XAT  | 2       | 0            |
| 24  | 1     | 319 | LMG  | 3       | 0            |
| 20  | 1     | 315 | LUT  | 3       | 0            |
| 19  | 1     | 321 | CLA  | 2       | 0            |
| 25  | 2     | 318 | LMT  | 5       | 0            |
| 19  | A     | 853 | CLA  | 3       | 0            |
| 23  | 3     | 317 | BCR  | 1       | 0            |
| 18  | 4     | 305 | CHL  | 1       | 0            |
| 18  | 1     | 301 | CHL  | 1       | 0            |
| 23  | J     | 104 | BCR  | 3       | 0            |
| 19  | J     | 102 | CLA  | 1       | 0            |
| 19  | A     | 839 | CLA  | 1       | 0            |
| 23  | L     | 304 | BCR  | 2       | 0            |
| 19  | B     | 816 | CLA  | 3       | 0            |
| 28  | B     | 846 | DGD  | 4       | 0            |
| 19  | A     | 831 | CLA  | 1       | 0            |
| 19  | A     | 814 | CLA  | 2       | 0            |
| 19  | 4     | 308 | CLA  | 1       | 0            |
| 23  | A     | 848 | BCR  | 3       | 0            |
| 19  | A     | 829 | CLA  | 2       | 0            |
| 19  | H     | 201 | CLA  | 2       | 0            |
| 23  | L     | 306 | BCR  | 2       | 0            |
| 23  | L     | 305 | BCR  | 6       | 0            |
| 23  | I     | 101 | BCR  | 1       | 0            |
| 19  | 2     | 310 | CLA  | 1       | 0            |

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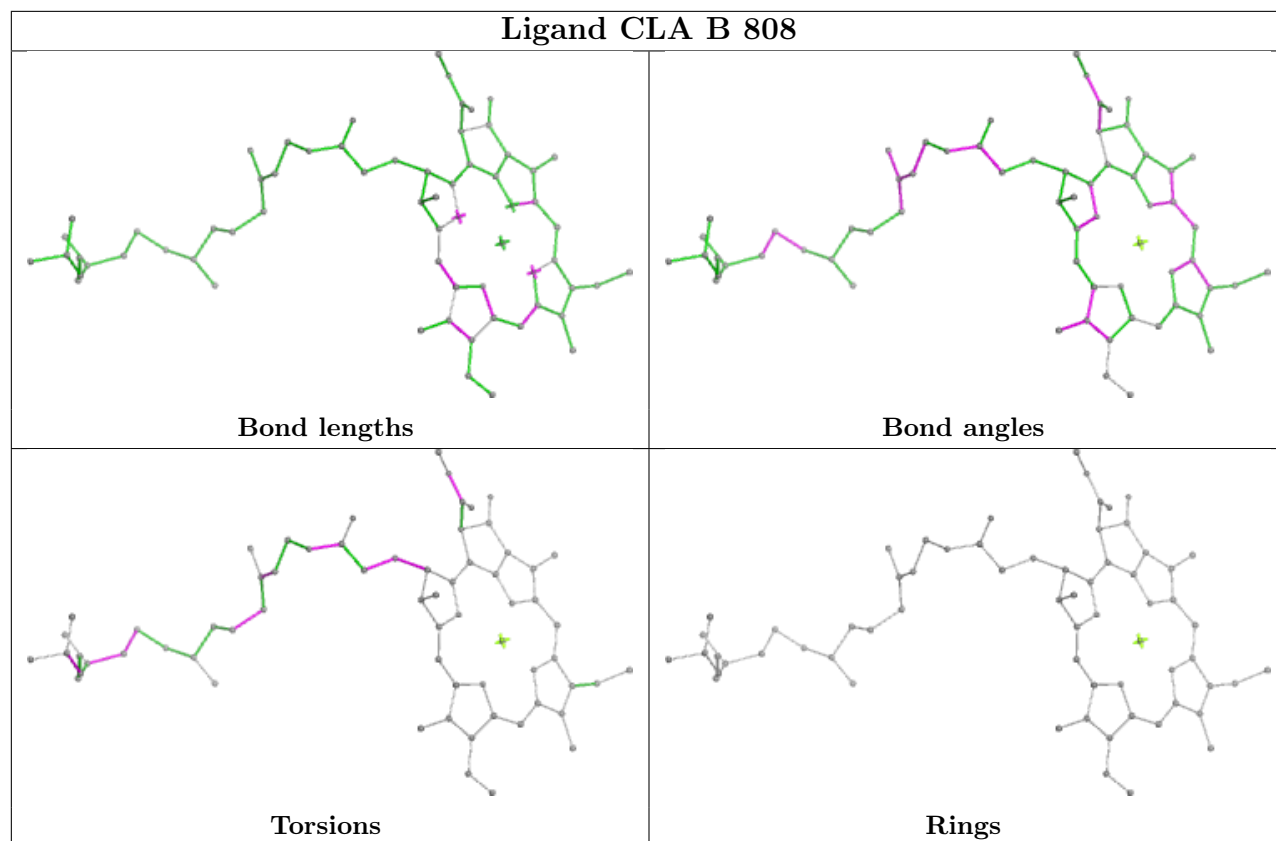
| Mol | Chain | Res | Type | Clashes | Symm-Clashes |
|-----|-------|-----|------|---------|--------------|
| 23  | F     | 306 | BCR  | 3       | 0            |
| 24  | F     | 307 | LMG  | 1       | 0            |
| 19  | 3     | 302 | CLA  | 2       | 0            |
| 23  | B     | 843 | BCR  | 1       | 0            |
| 19  | A     | 840 | CLA  | 1       | 0            |
| 19  | A     | 832 | CLA  | 4       | 0            |
| 19  | B     | 835 | CLA  | 1       | 0            |
| 19  | A     | 813 | CLA  | 1       | 0            |
| 19  | B     | 821 | CLA  | 1       | 0            |
| 19  | 4     | 301 | CLA  | 3       | 0            |
| 23  | A     | 843 | BCR  | 5       | 0            |
| 19  | B     | 822 | CLA  | 4       | 0            |
| 19  | G     | 203 | CLA  | 1       | 0            |
| 19  | 1     | 311 | CLA  | 1       | 0            |
| 19  | B     | 833 | CLA  | 1       | 0            |
| 20  | 3     | 315 | LUT  | 2       | 0            |
| 23  | 2     | 319 | BCR  | 3       | 0            |
| 20  | 2     | 315 | LUT  | 3       | 0            |
| 19  | F     | 302 | CLA  | 2       | 0            |
| 19  | 4     | 311 | CLA  | 3       | 0            |
| 19  | L     | 303 | CLA  | 1       | 0            |
| 19  | 2     | 320 | CLA  | 2       | 0            |
| 23  | J     | 101 | BCR  | 6       | 0            |
| 23  | A     | 847 | BCR  | 4       | 0            |
| 21  | 3     | 316 | XAT  | 1       | 0            |
| 22  | 1     | 317 | LHG  | 2       | 0            |
| 19  | 1     | 308 | CLA  | 3       | 0            |
| 19  | A     | 821 | CLA  | 1       | 0            |
| 18  | 4     | 306 | CHL  | 2       | 0            |
| 19  | L     | 301 | CLA  | 1       | 0            |
| 19  | A     | 851 | CLA  | 1       | 0            |
| 19  | K     | 203 | CLA  | 1       | 0            |
| 20  | 1     | 320 | LUT  | 5       | 0            |
| 23  | F     | 305 | BCR  | 3       | 0            |
| 19  | 2     | 303 | CLA  | 2       | 0            |
| 19  | B     | 804 | CLA  | 1       | 0            |
| 19  | A     | 833 | CLA  | 2       | 0            |
| 23  | 4     | 317 | BCR  | 2       | 0            |
| 23  | A     | 846 | BCR  | 3       | 0            |
| 23  | B     | 844 | BCR  | 2       | 0            |
| 23  | A     | 845 | BCR  | 2       | 0            |
| 23  | B     | 842 | BCR  | 4       | 0            |

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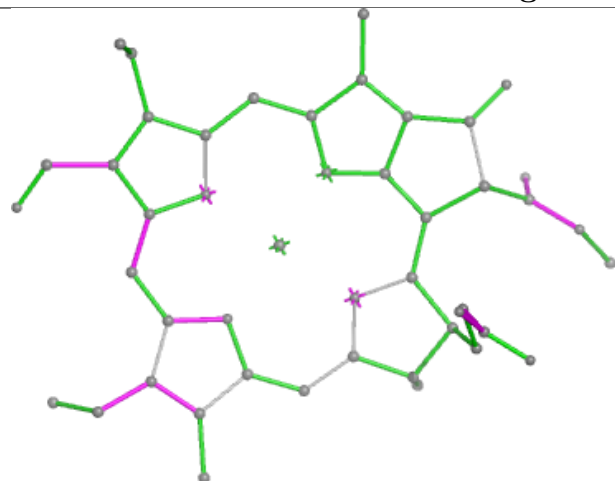
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| Mol | Chain | Res | Type | Clashes | Symm-Clashes |
|-----|-------|-----|------|---------|--------------|
| 19  | 3     | 306 | CLA  | 1       | 0            |
| 19  | A     | 834 | CLA  | 4       | 0            |
| 19  | B     | 815 | CLA  | 1       | 0            |
| 21  | 1     | 316 | XAT  | 1       | 0            |
| 19  | 3     | 309 | CLA  | 2       | 0            |
| 19  | A     | 805 | CLA  | 1       | 0            |
| 19  | B     | 837 | CLA  | 2       | 0            |
| 19  | 1     | 312 | CLA  | 5       | 0            |
| 19  | A     | 828 | CLA  | 1       | 0            |
| 21  | 2     | 316 | XAT  | 2       | 0            |
| 19  | A     | 826 | CLA  | 4       | 0            |
| 19  | L     | 302 | CLA  | 5       | 0            |
| 19  | 2     | 313 | CLA  | 1       | 0            |
| 26  | B     | 839 | PQN  | 1       | 0            |
| 19  | B     | 812 | CLA  | 1       | 0            |
| 19  | B     | 826 | CLA  | 2       | 0            |
| 19  | A     | 818 | CLA  | 2       | 0            |
| 22  | 2     | 317 | LHG  | 1       | 0            |

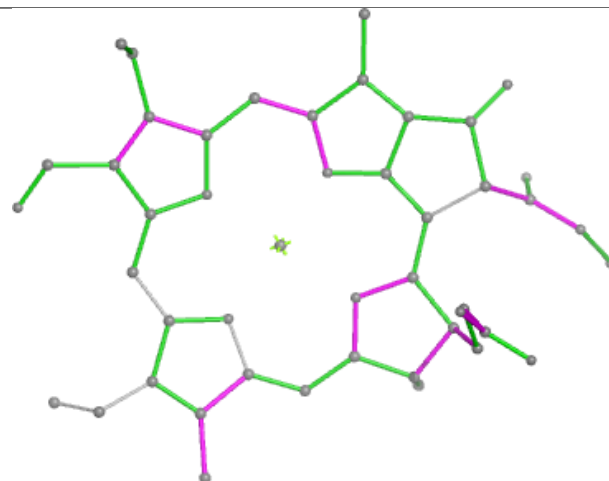
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. 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.



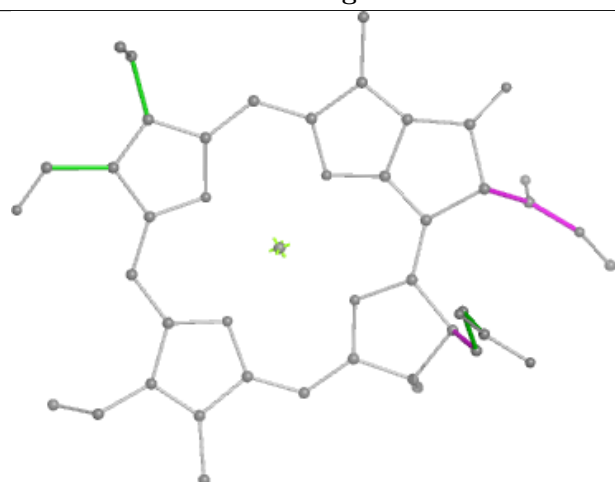
## Ligand CHL 2 307



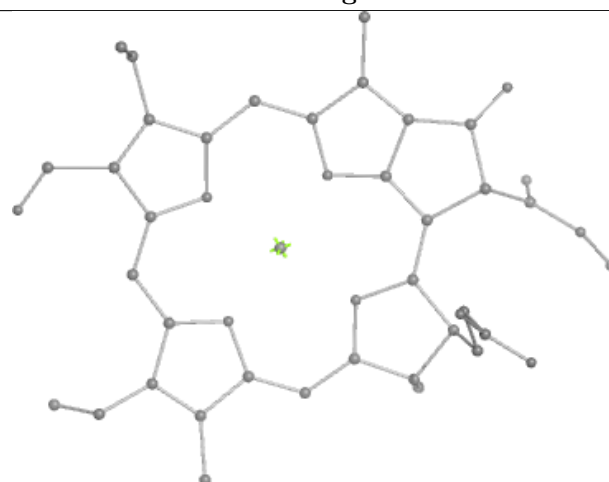
Bond lengths



Bond angles

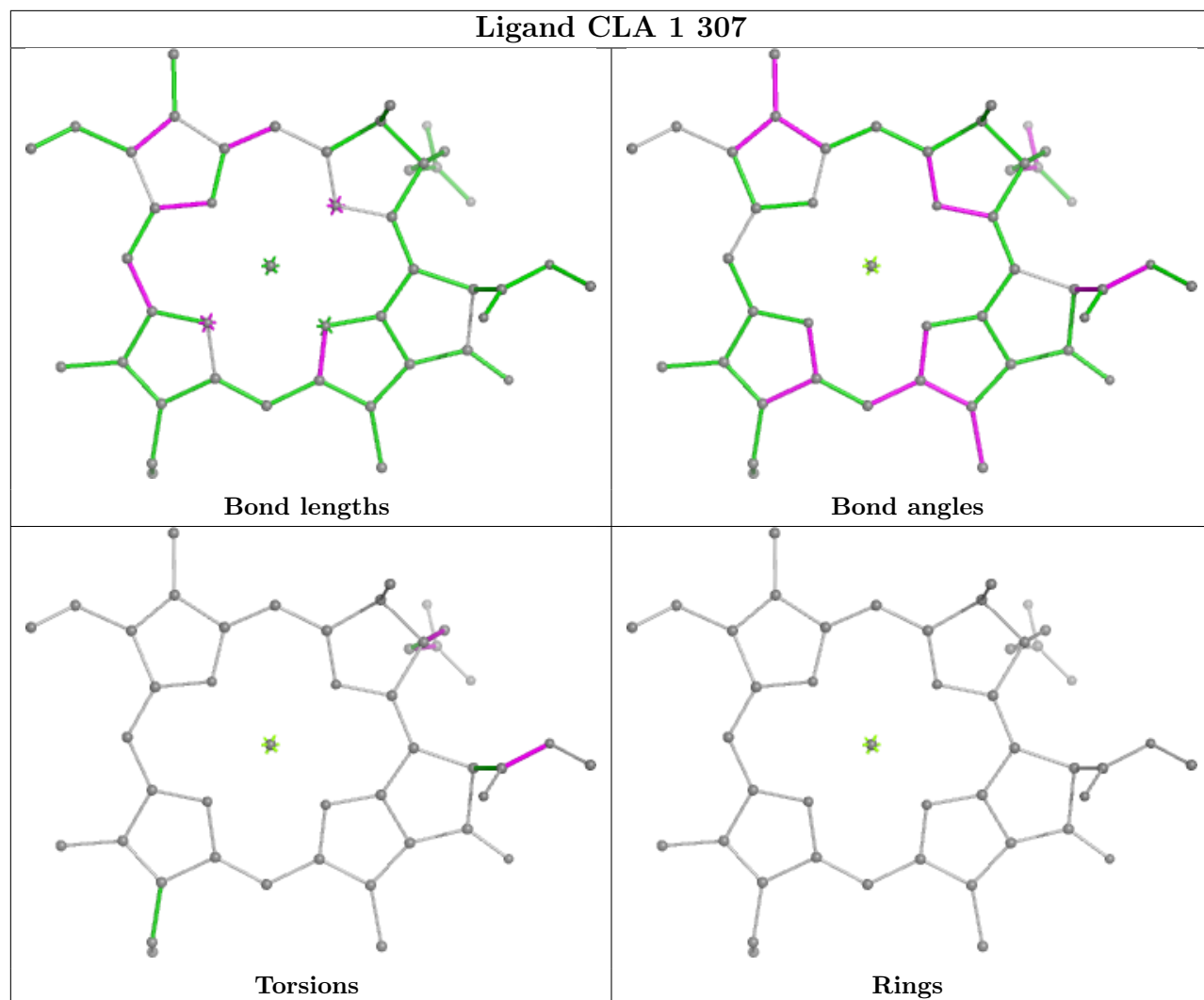


Torsions

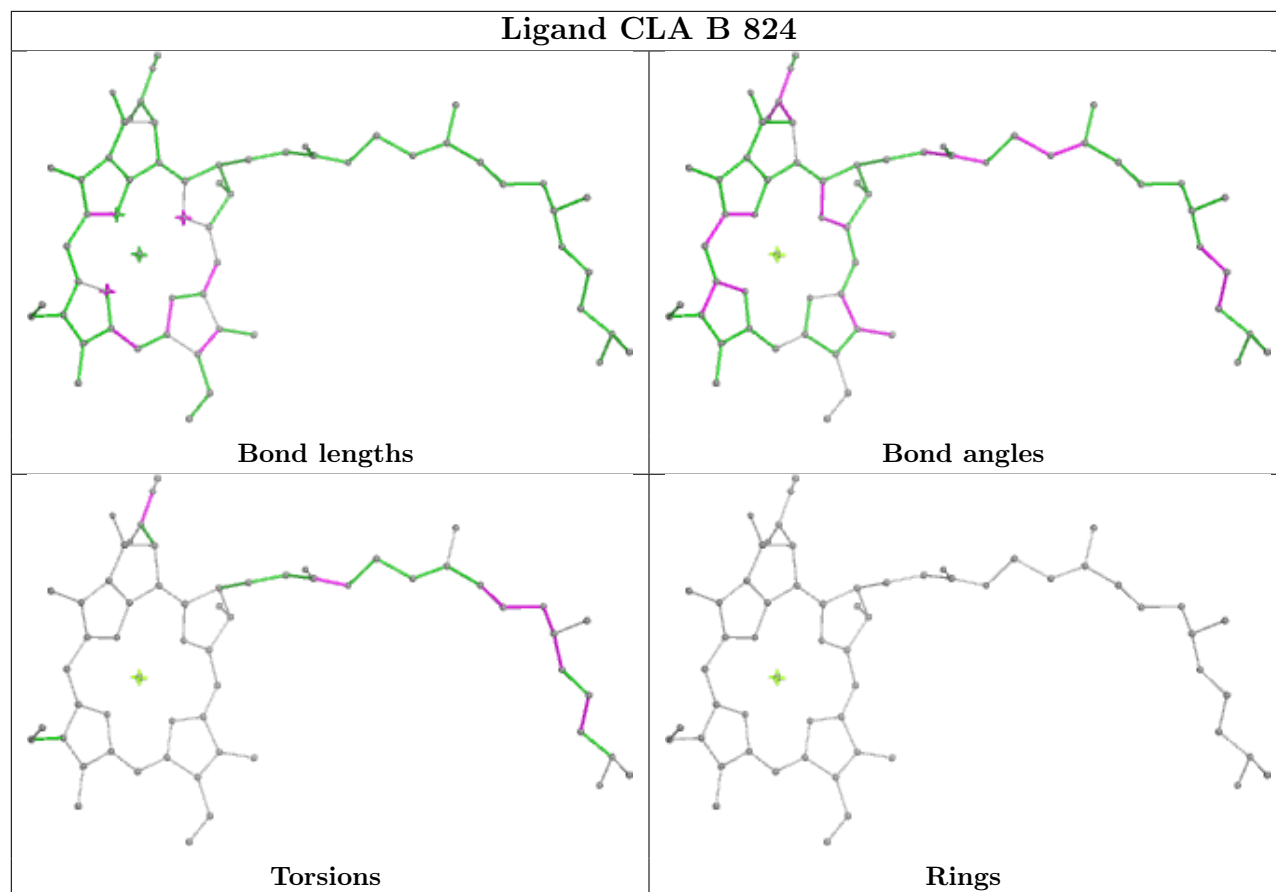


Rings

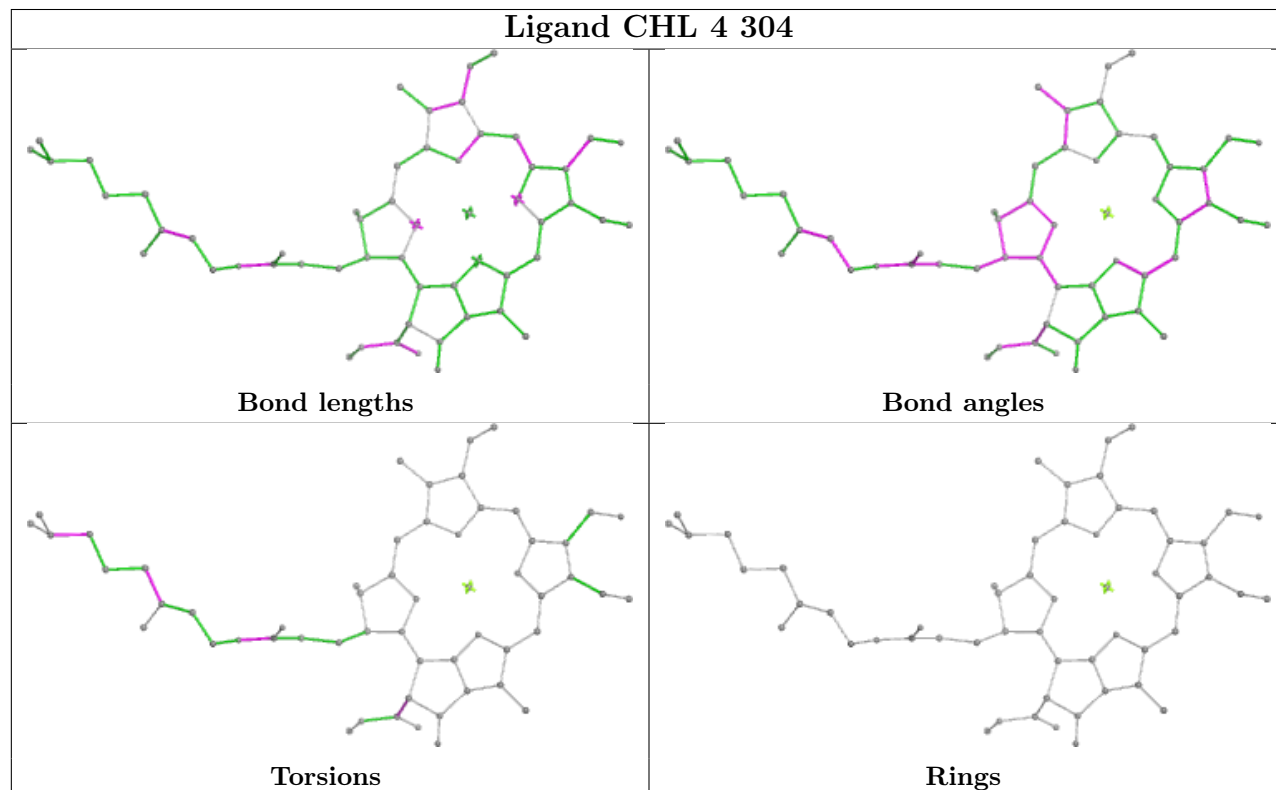
## Ligand CLA 1 307



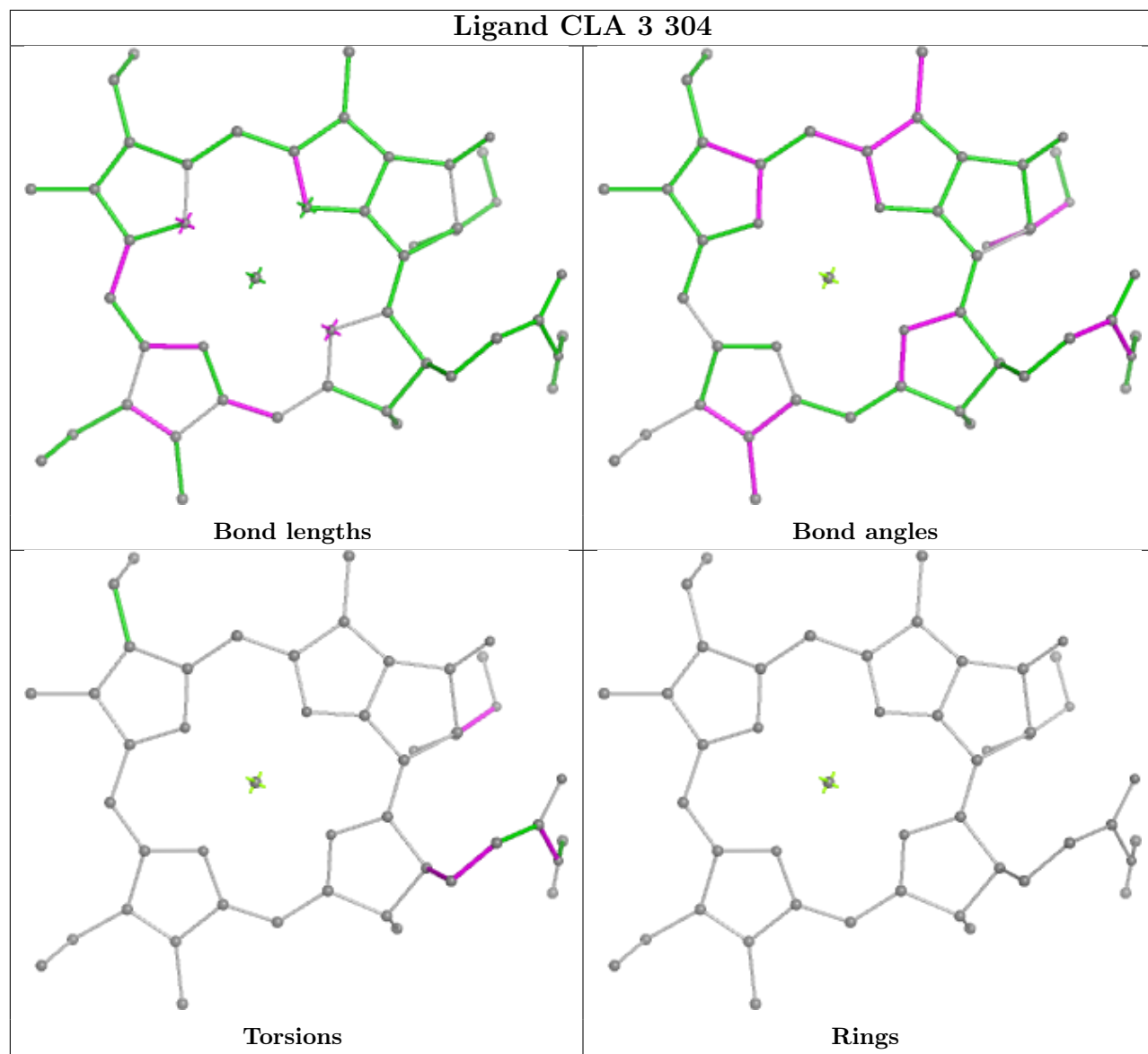
## Ligand CLA B 824

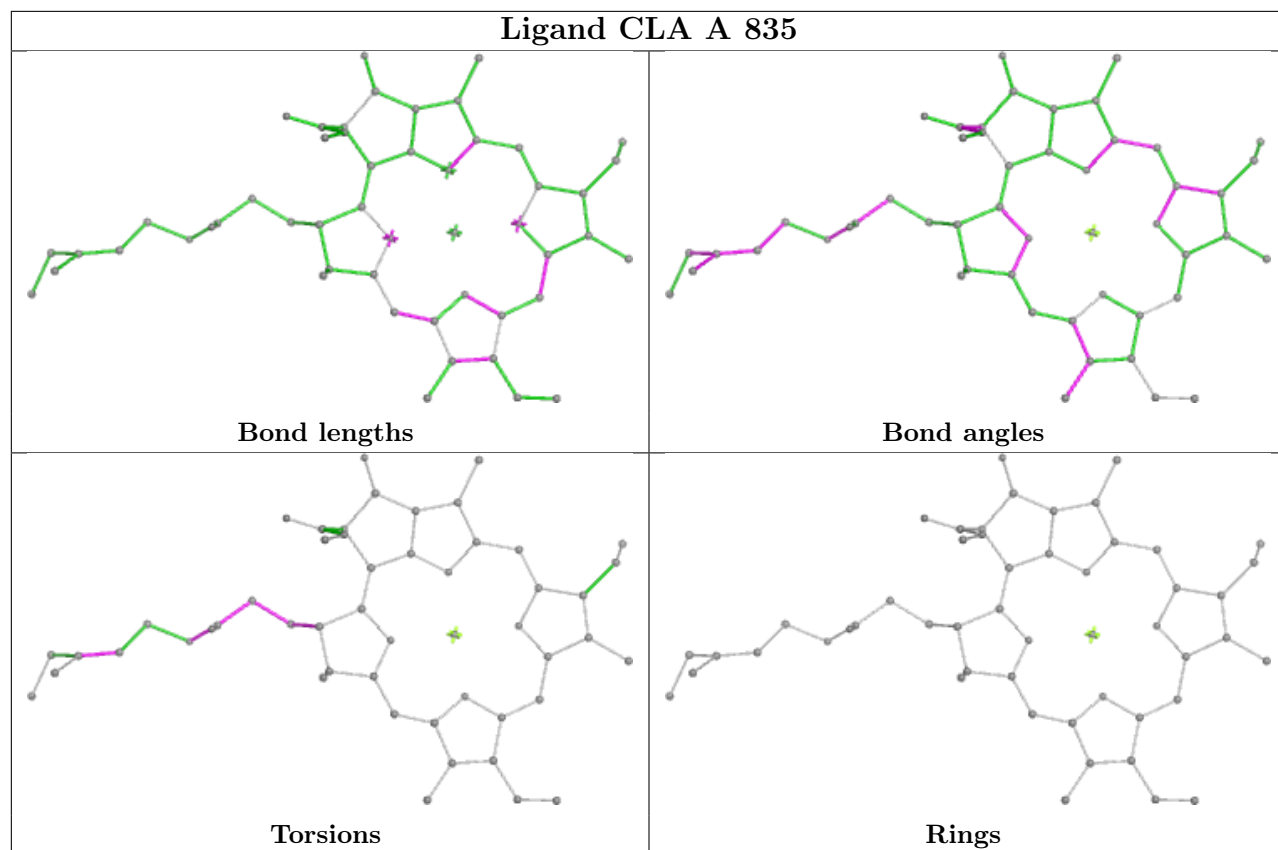


## Ligand CHL 4 304

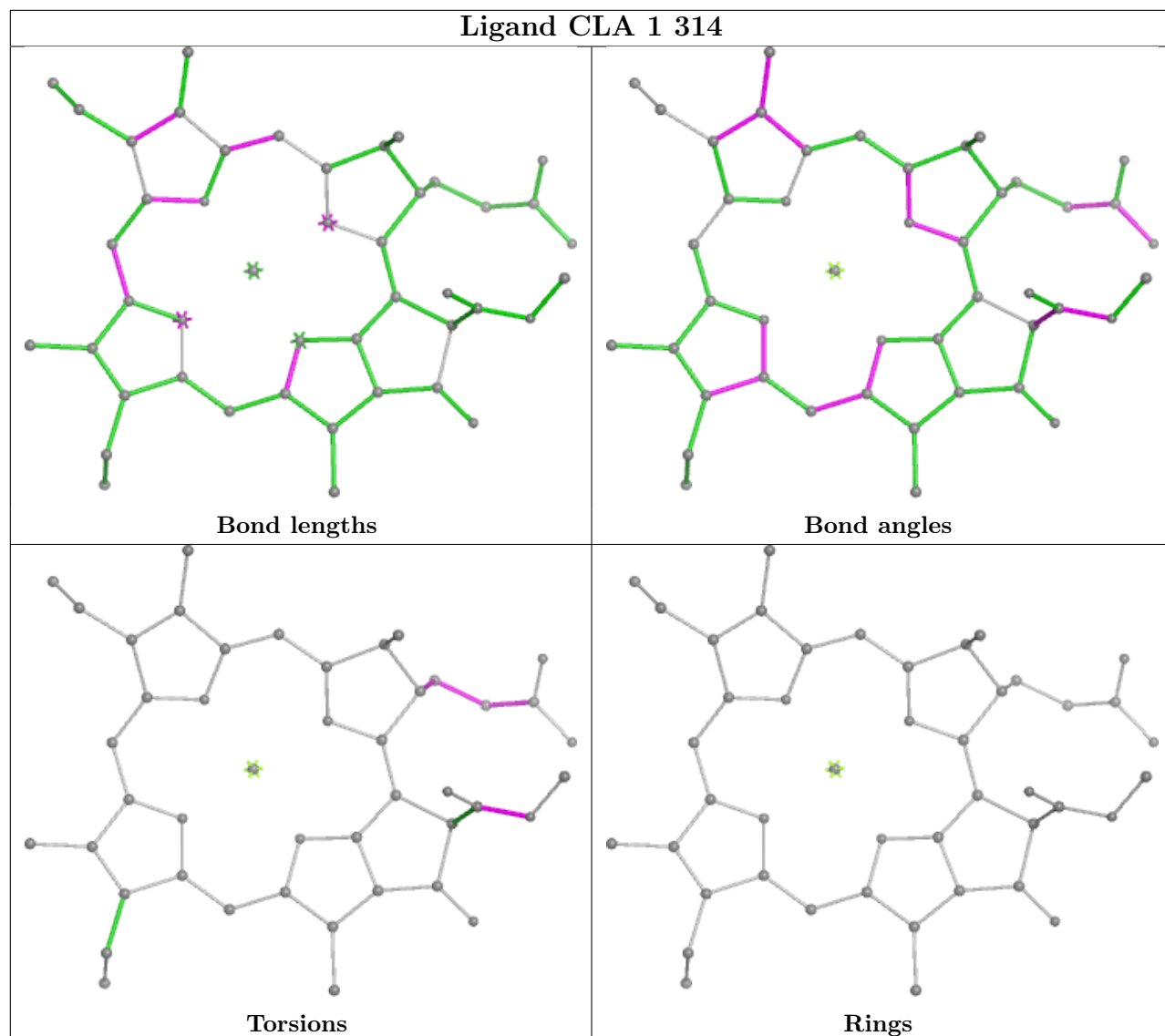


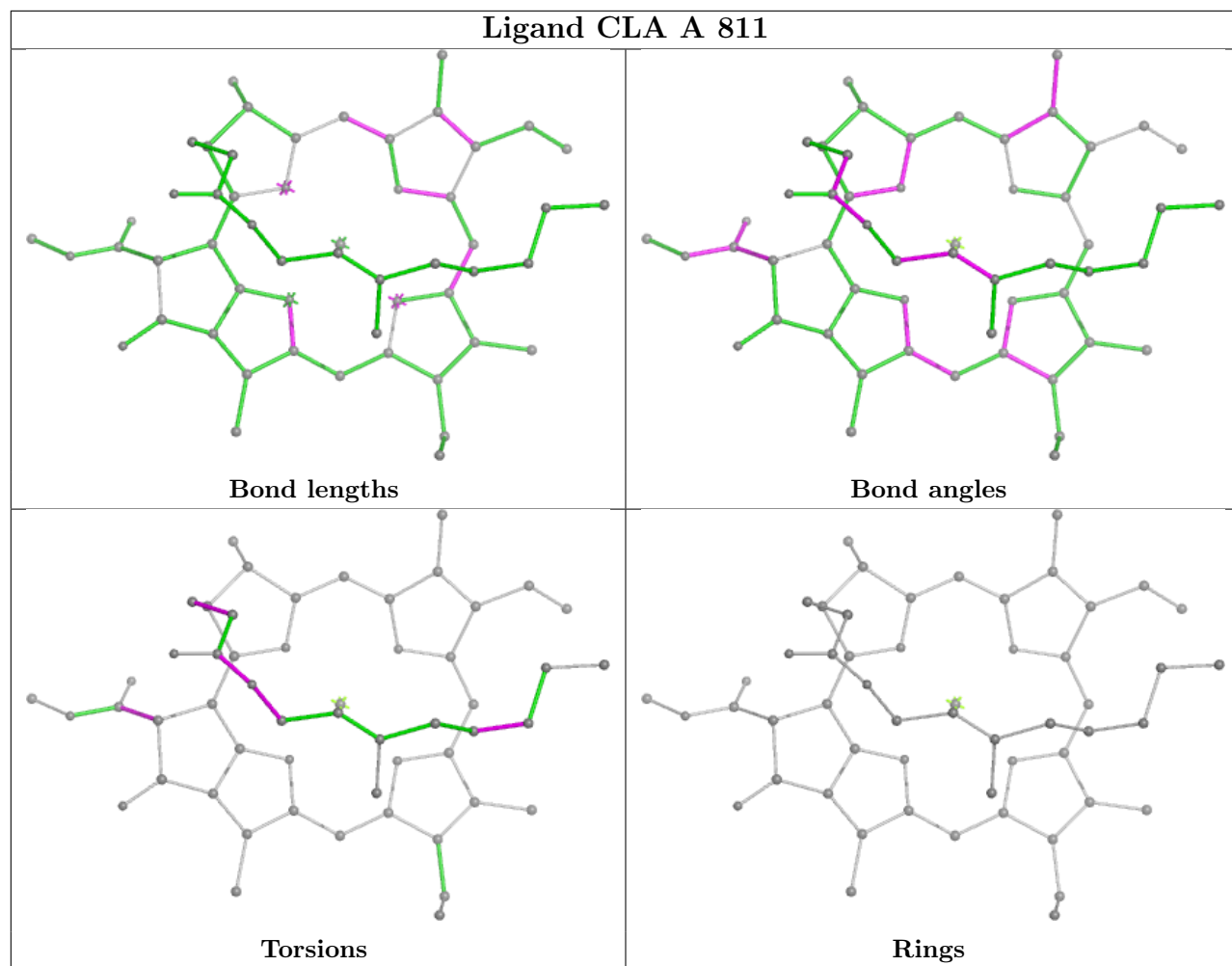
## Ligand CLA 3 304

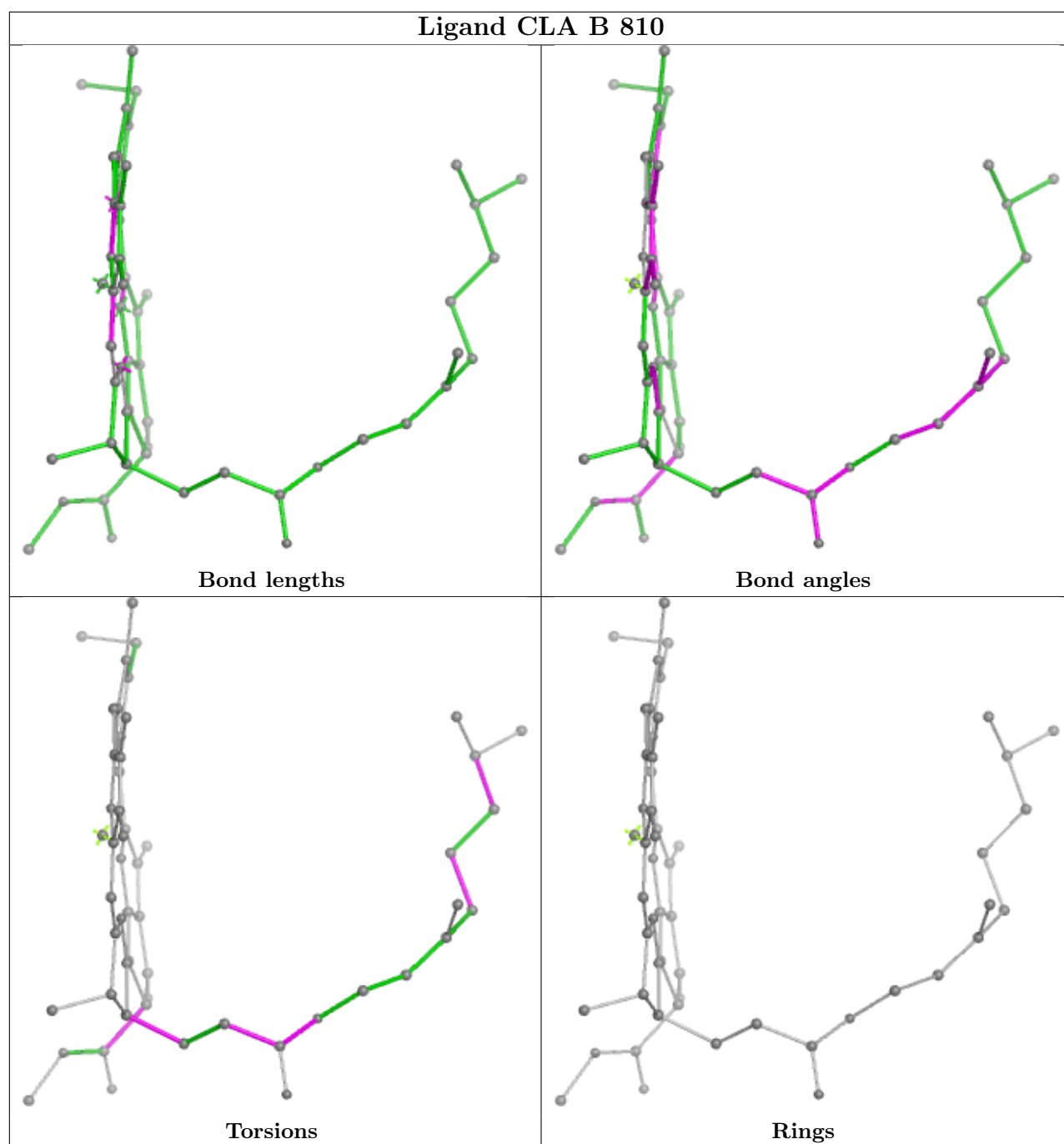


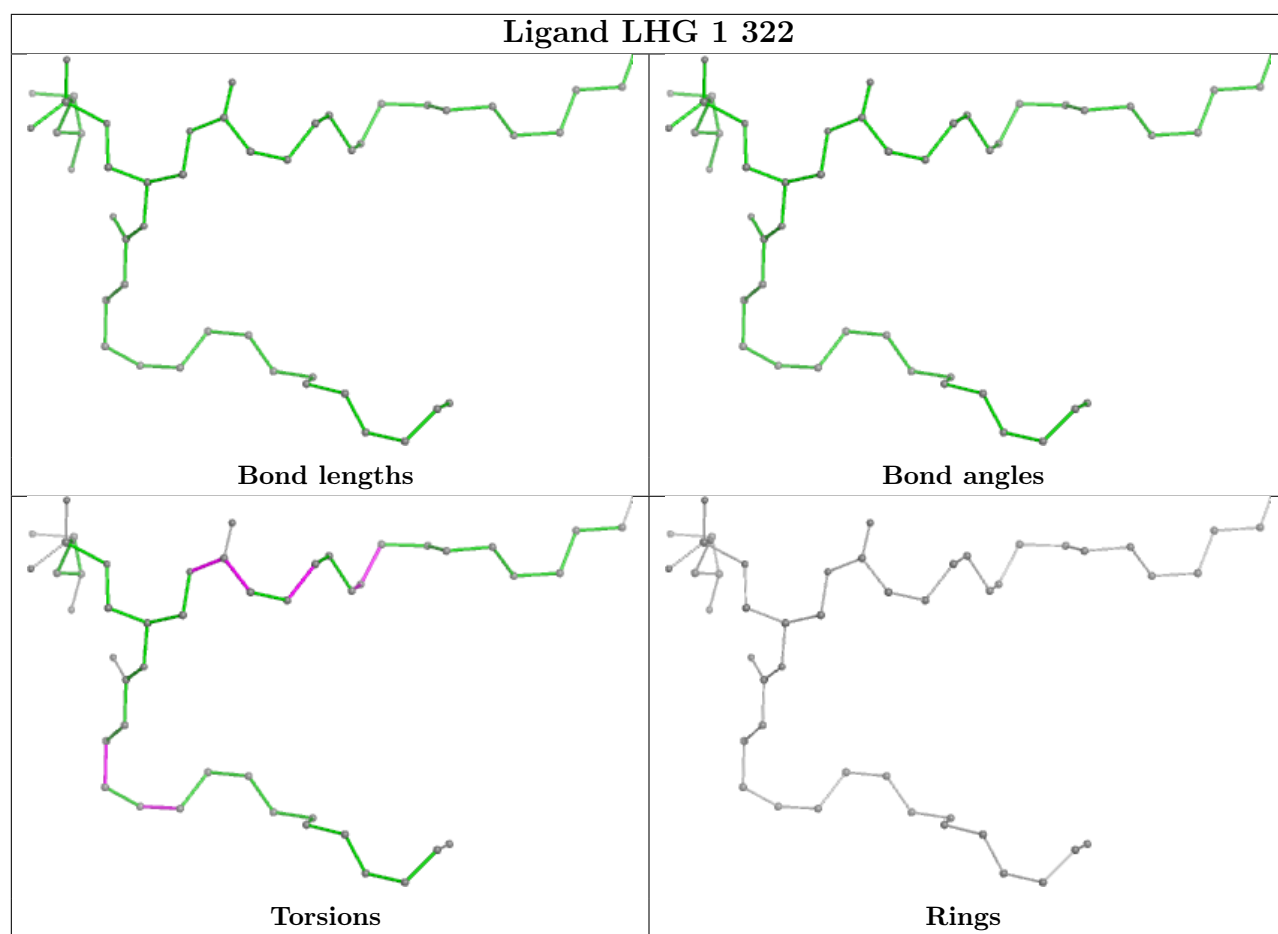


## Ligand CLA 1 314

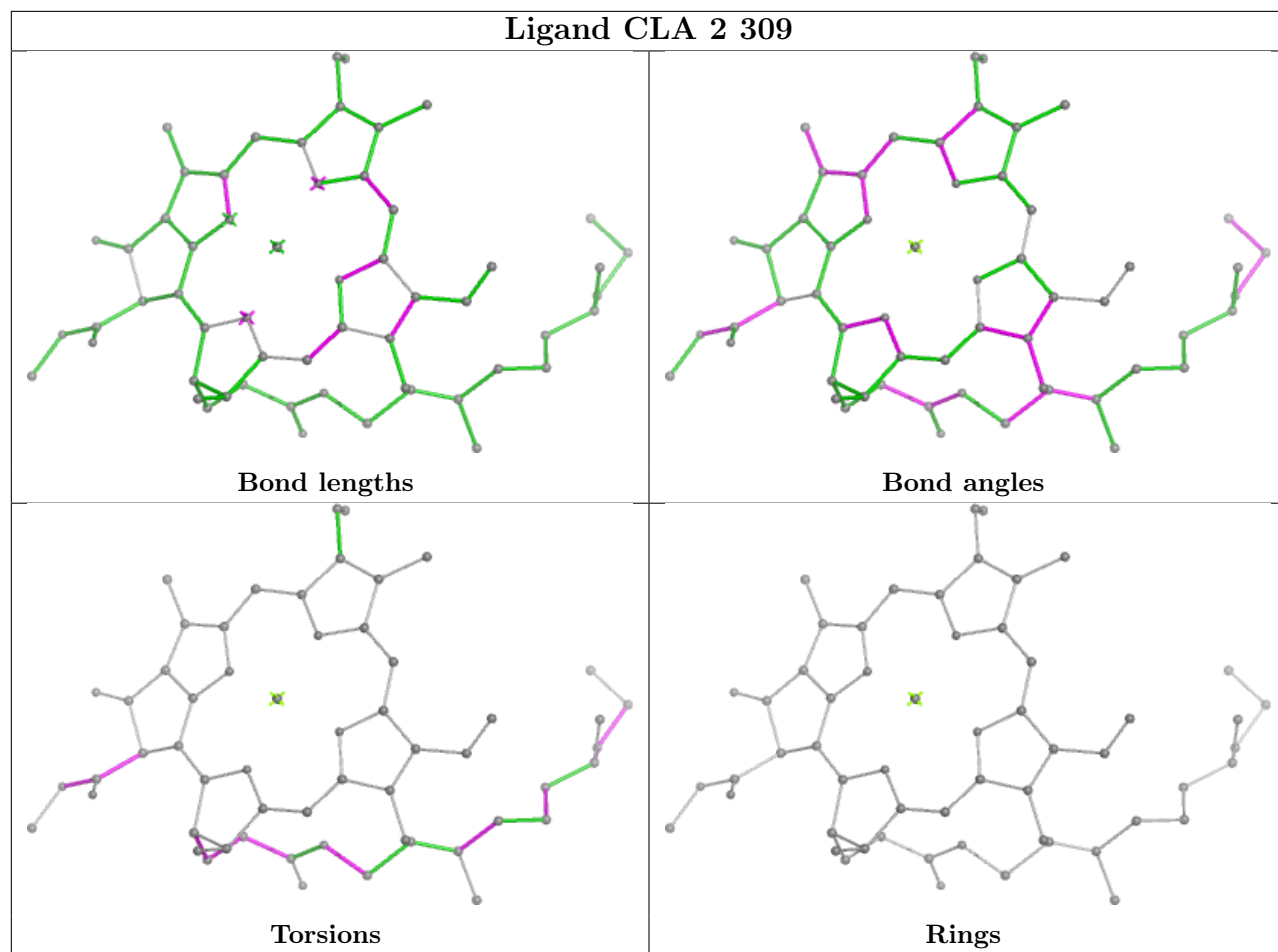


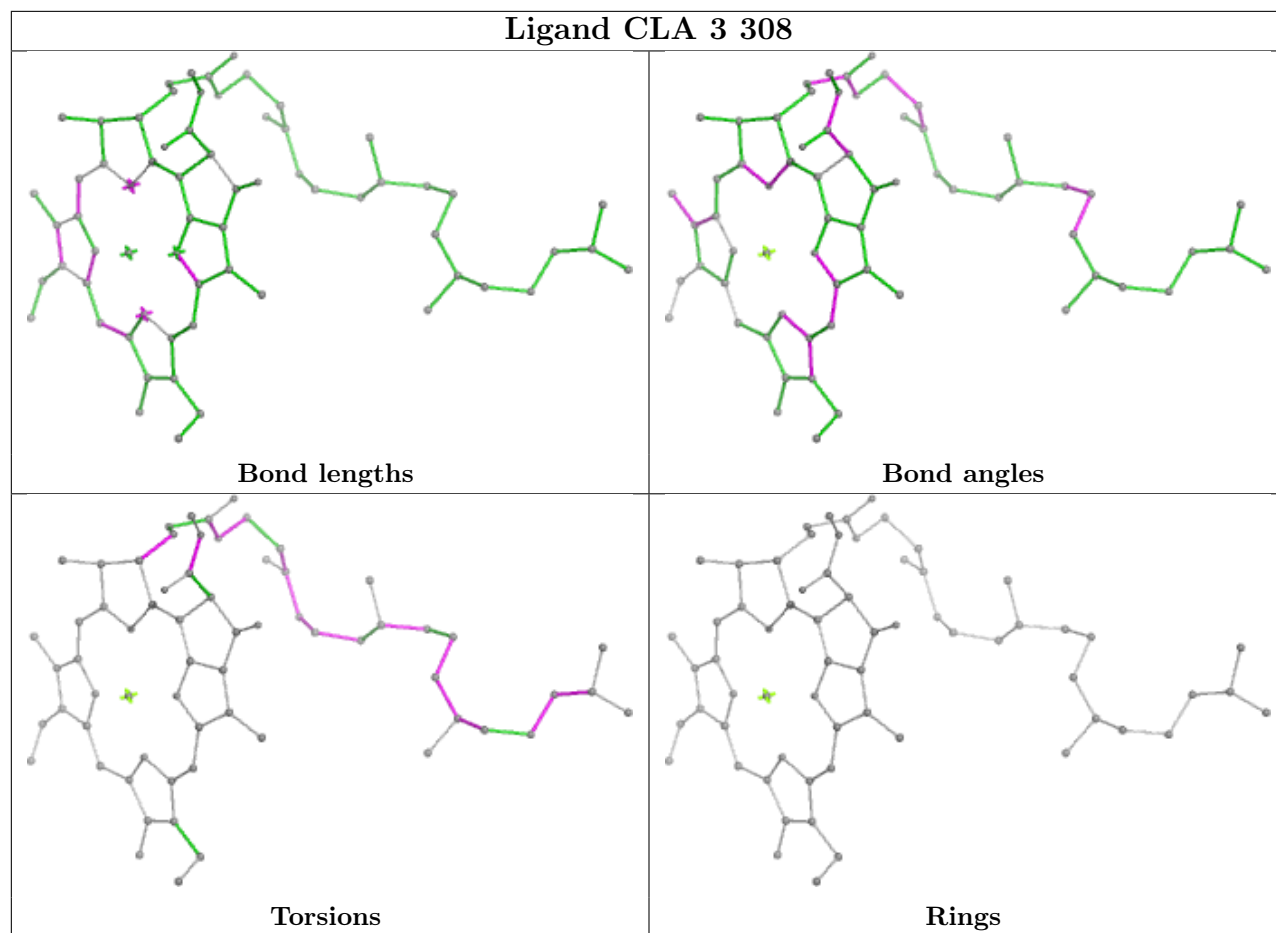




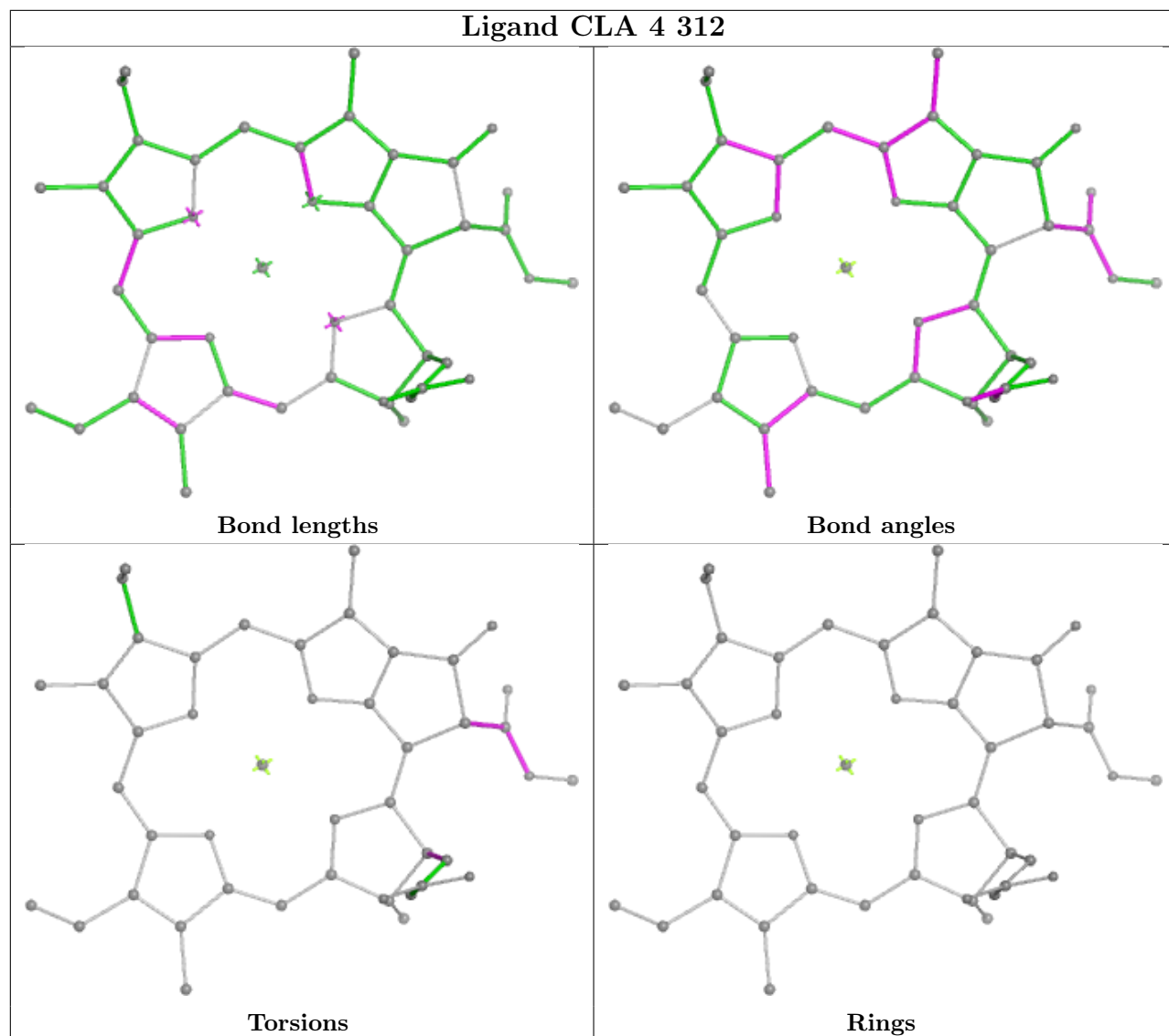


## Ligand CLA 2 309

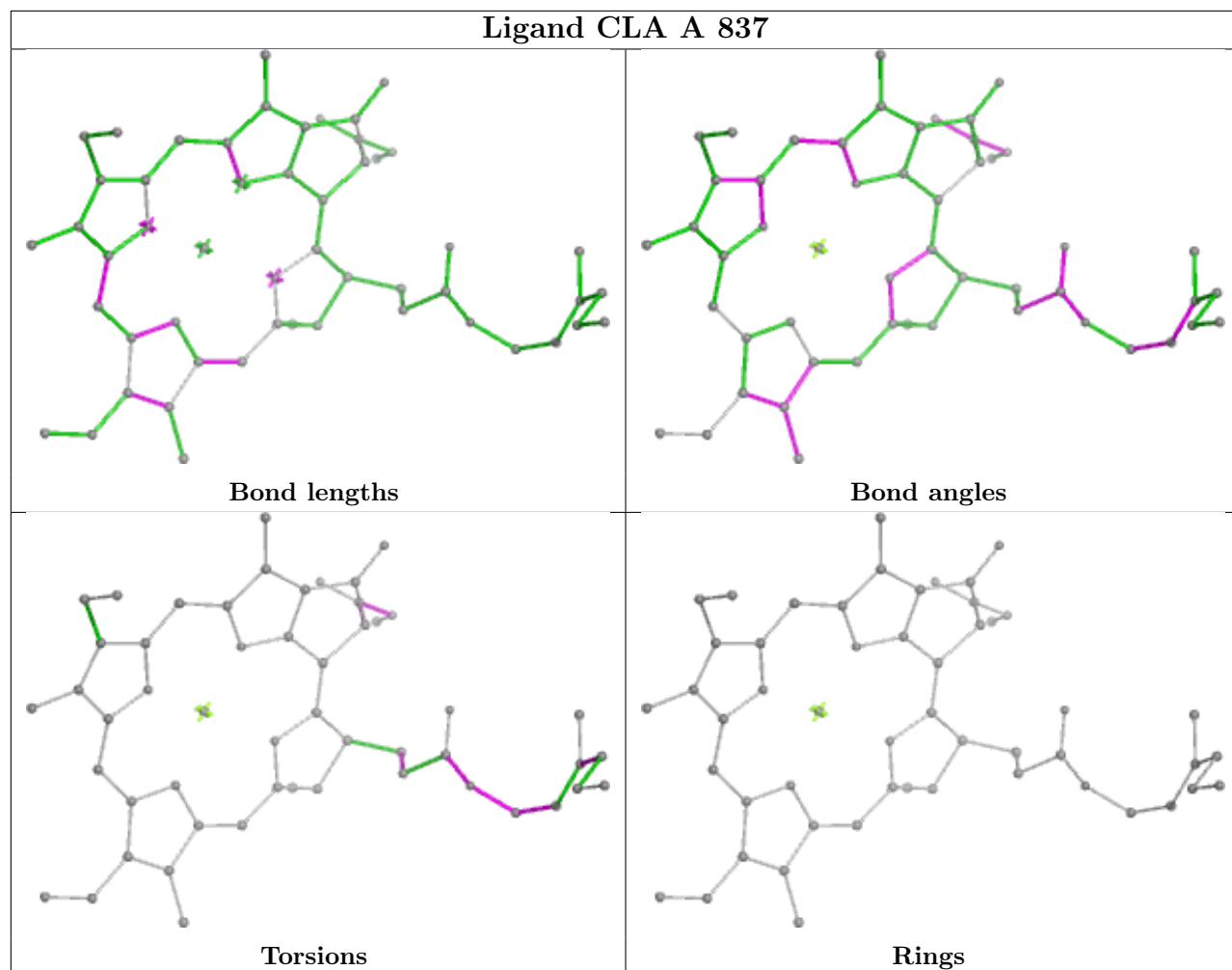




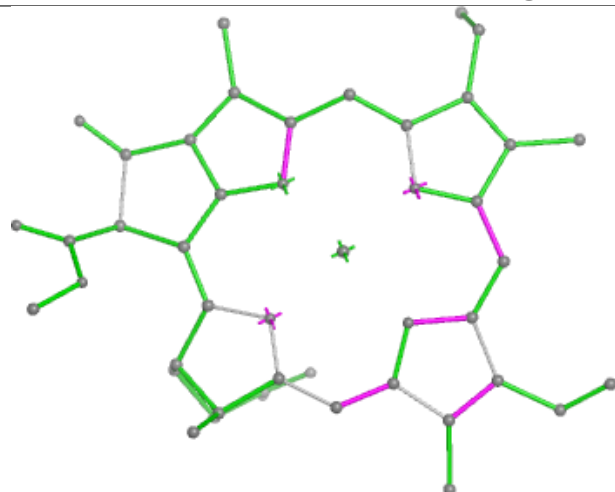
## Ligand CLA 4 312



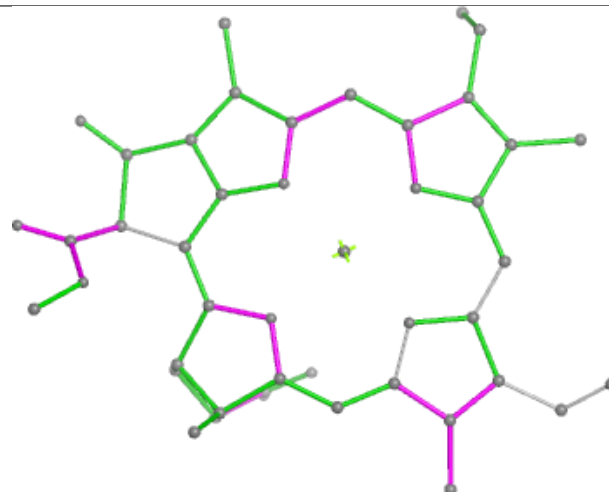
## Ligand CLA A 837



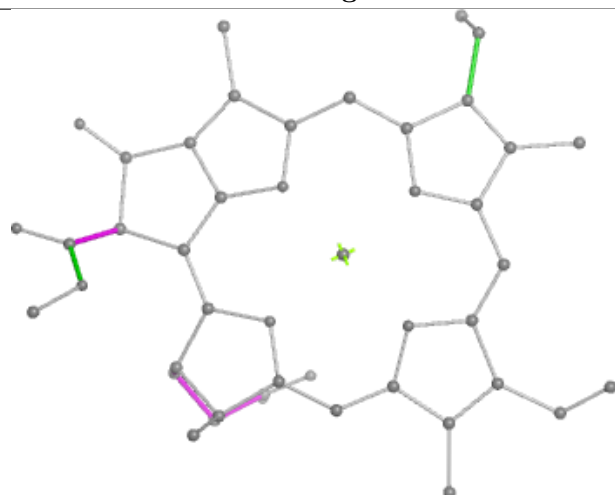
## Ligand CLA 1 313



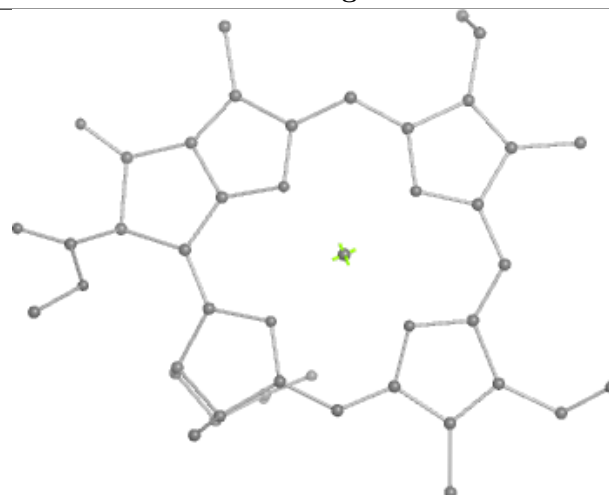
Bond lengths



Bond angles

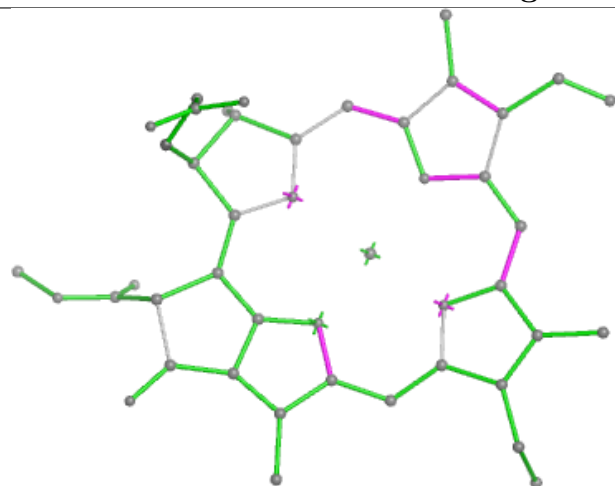


Torsions

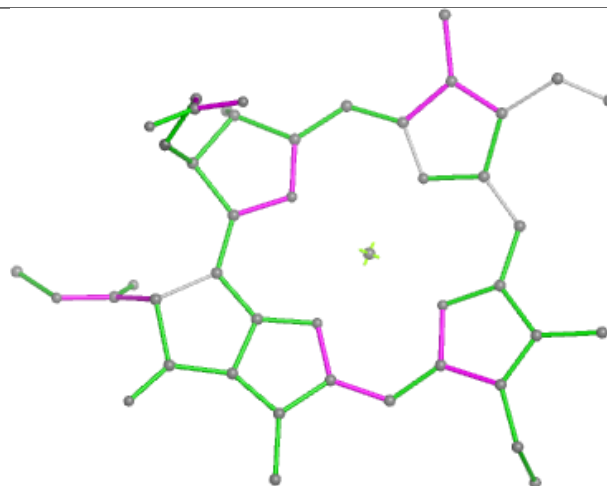


Rings

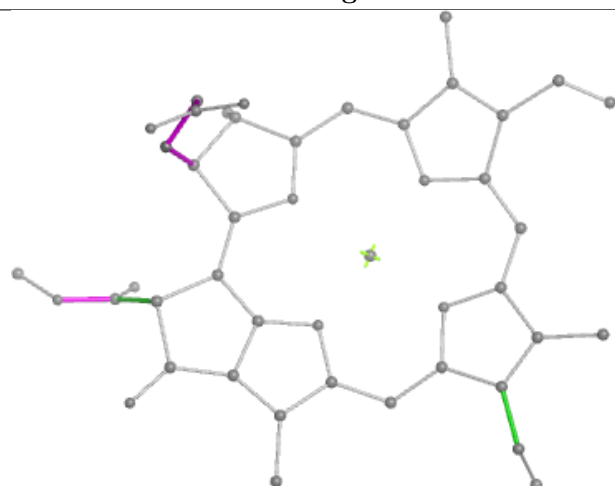
## Ligand CLA 2 308



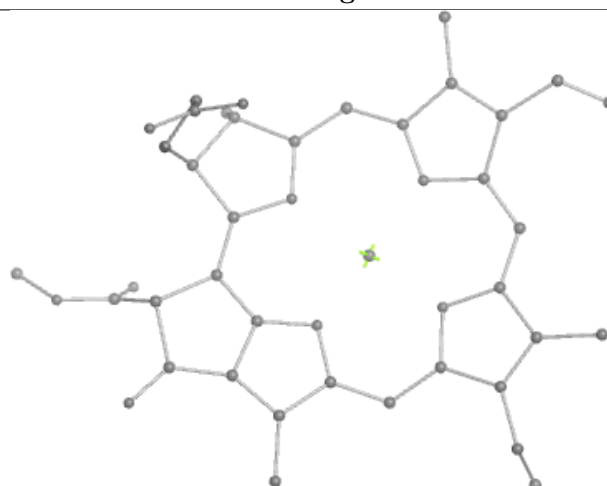
Bond lengths



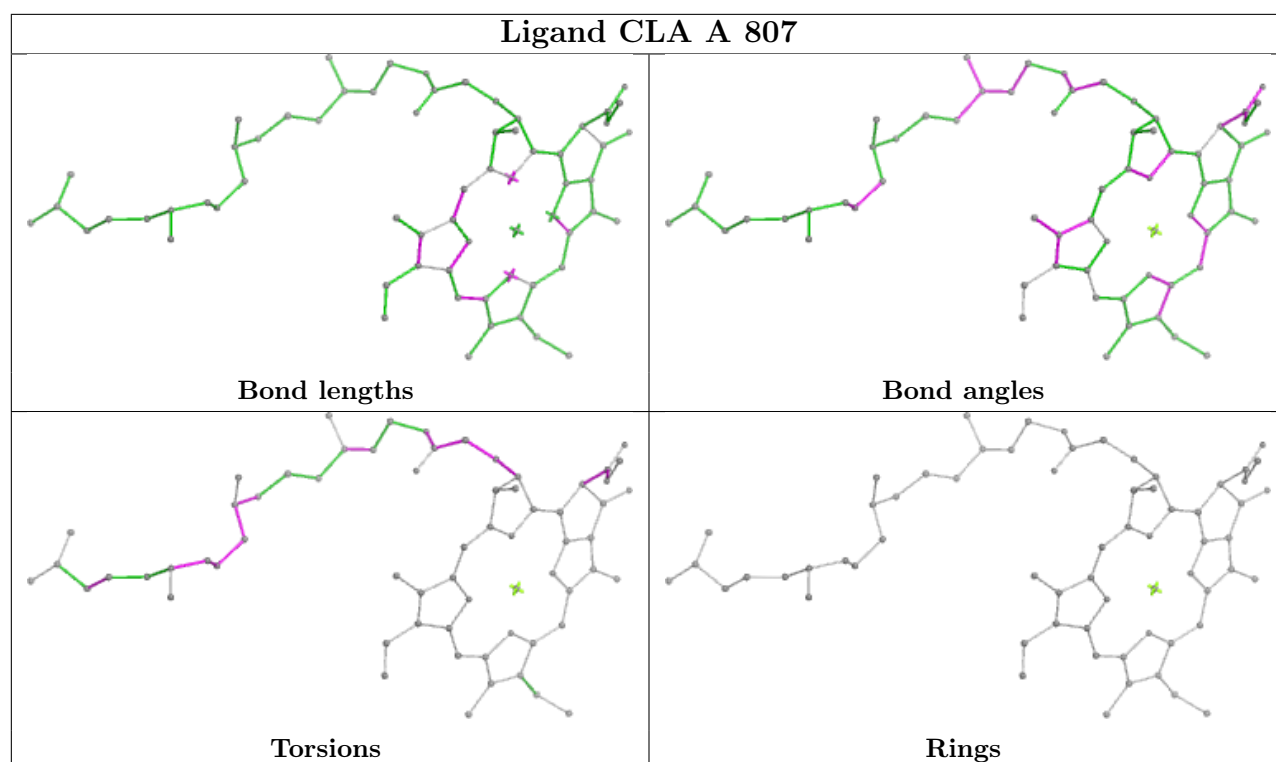
Bond angles



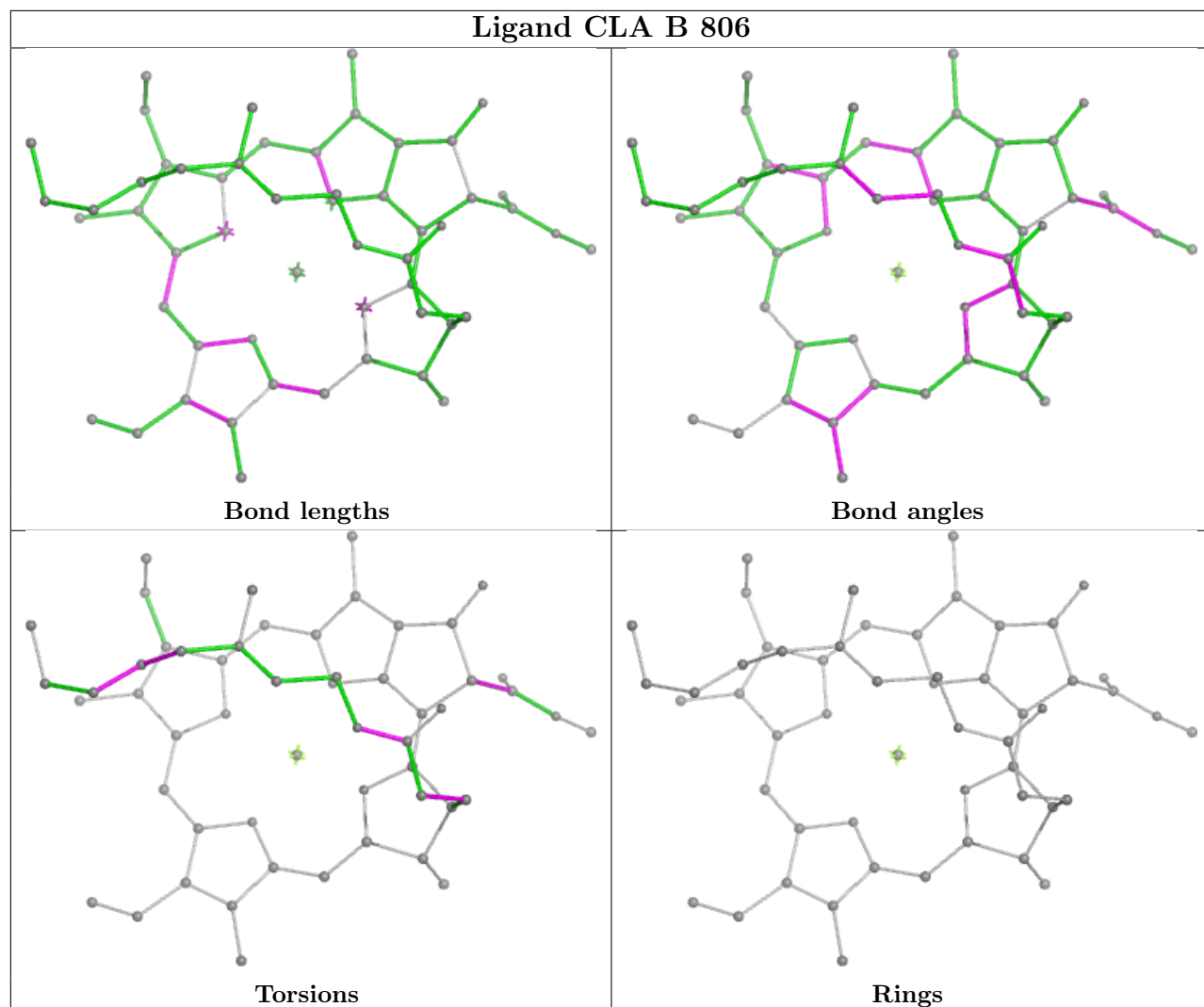
Torsions

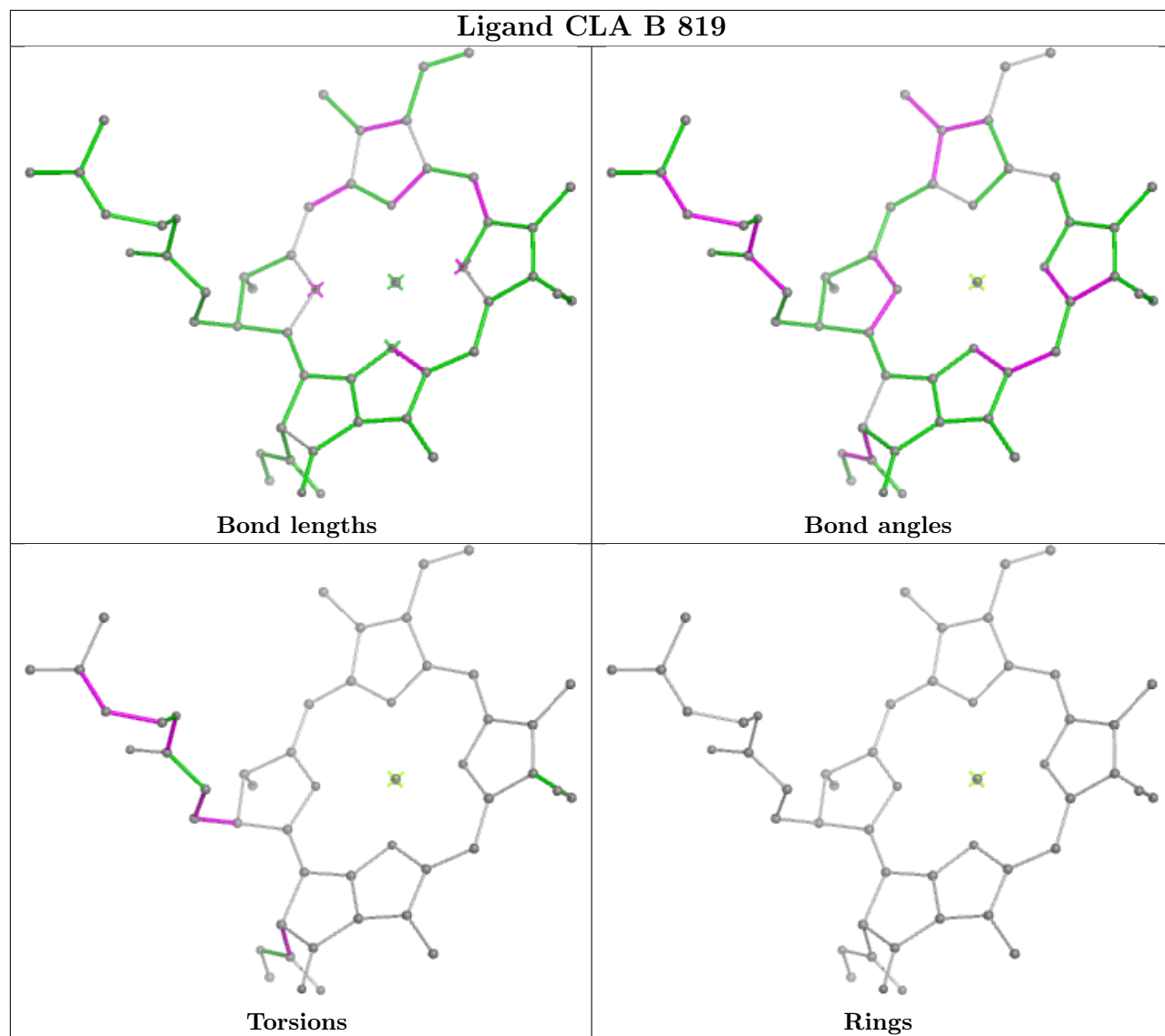


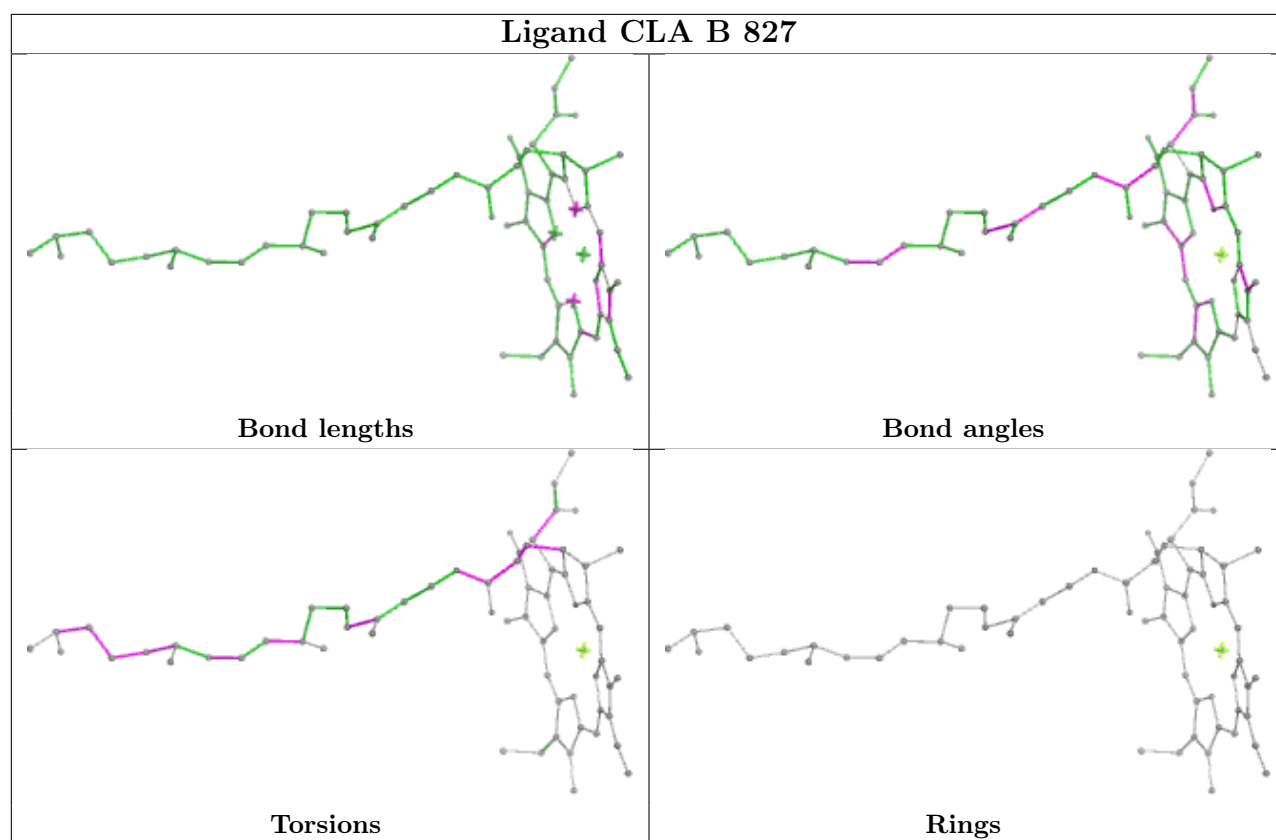
Rings



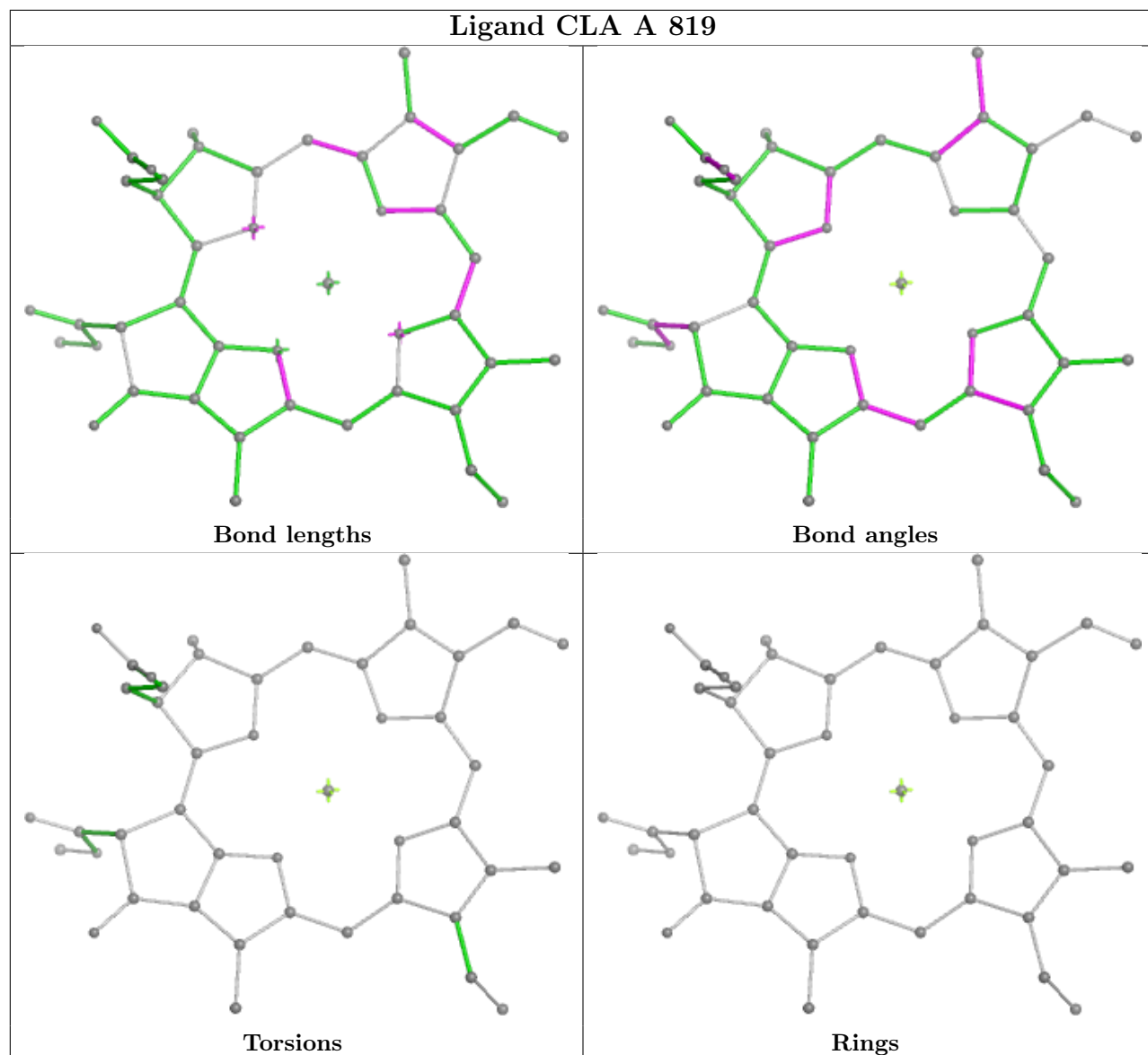
## Ligand CLA B 806

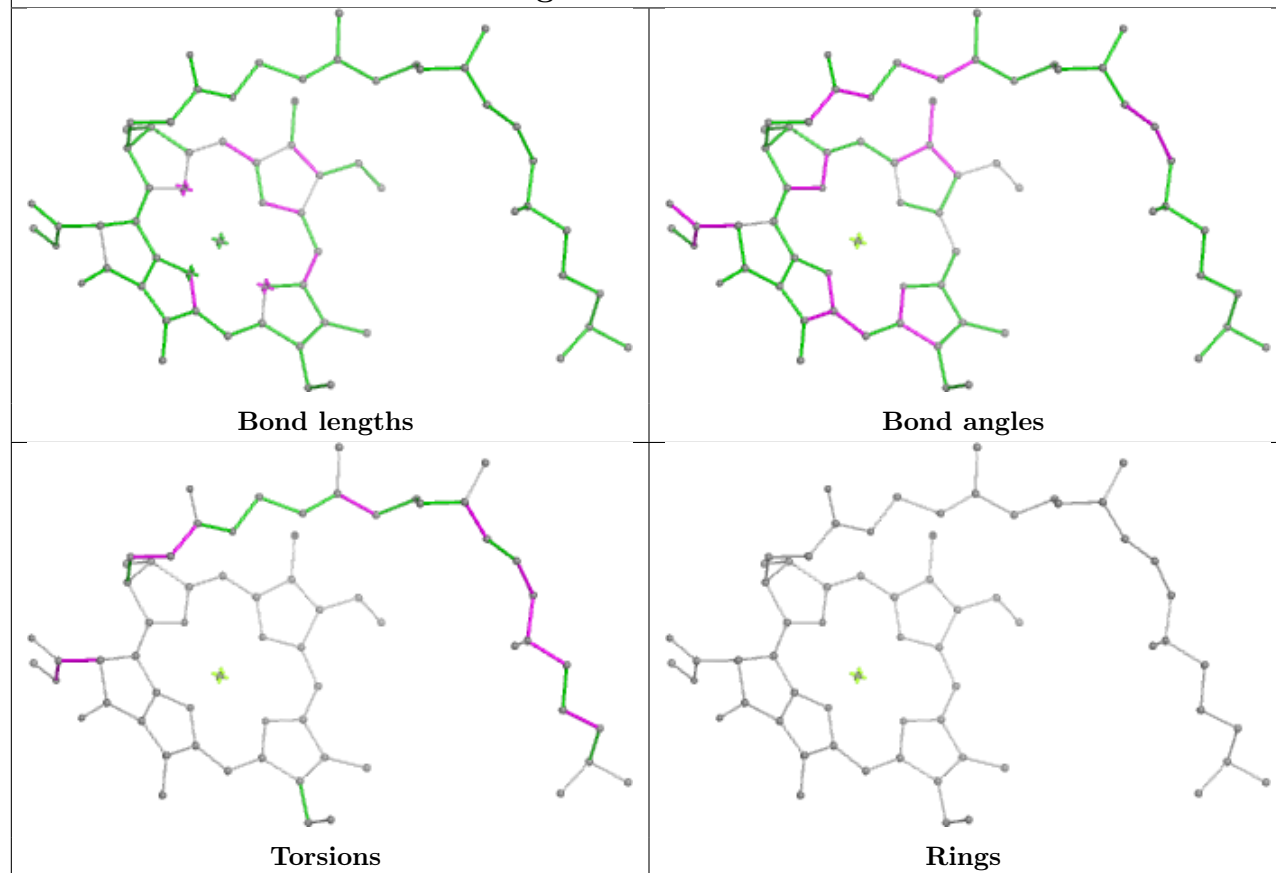
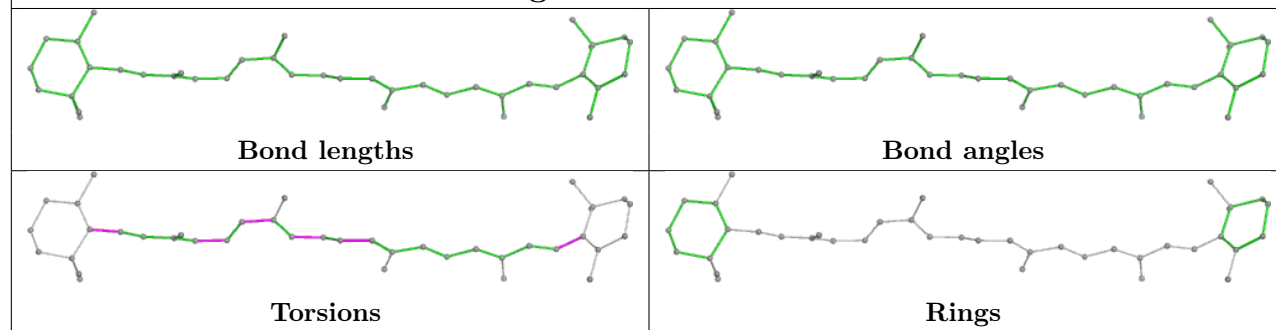


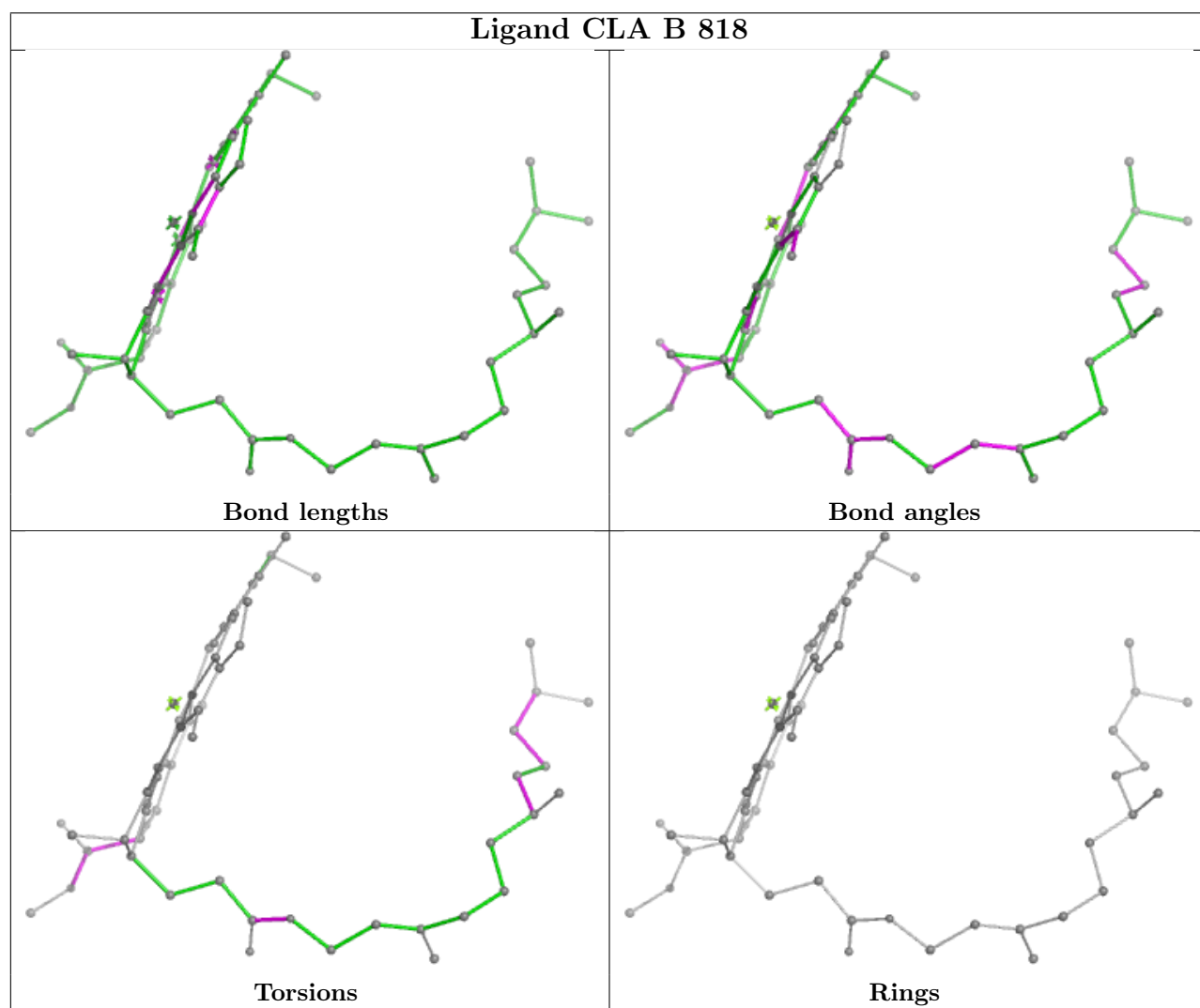
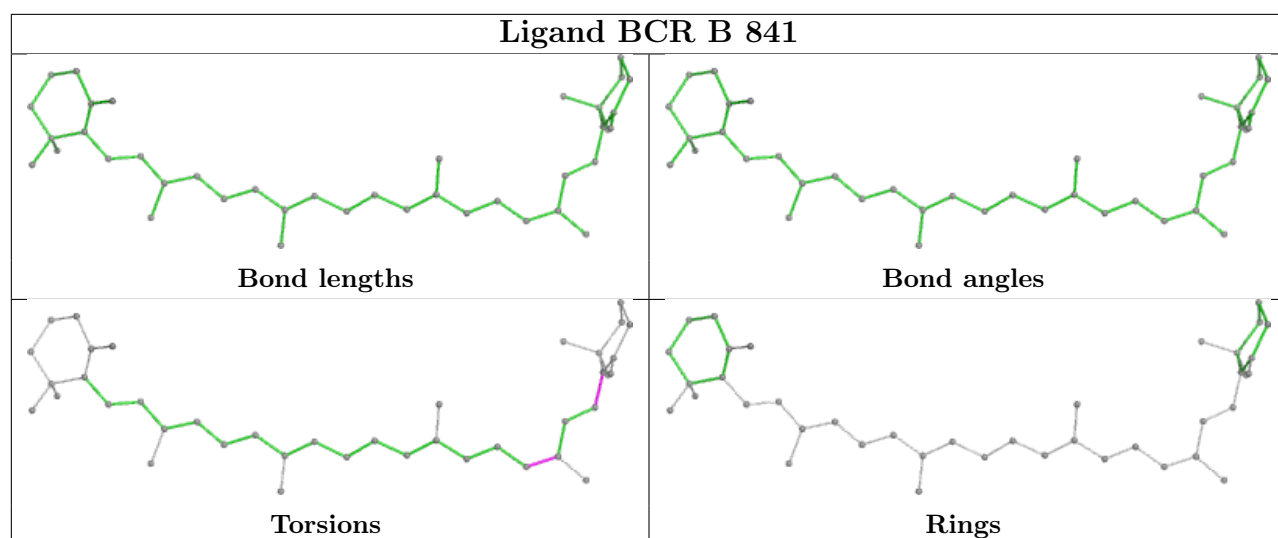


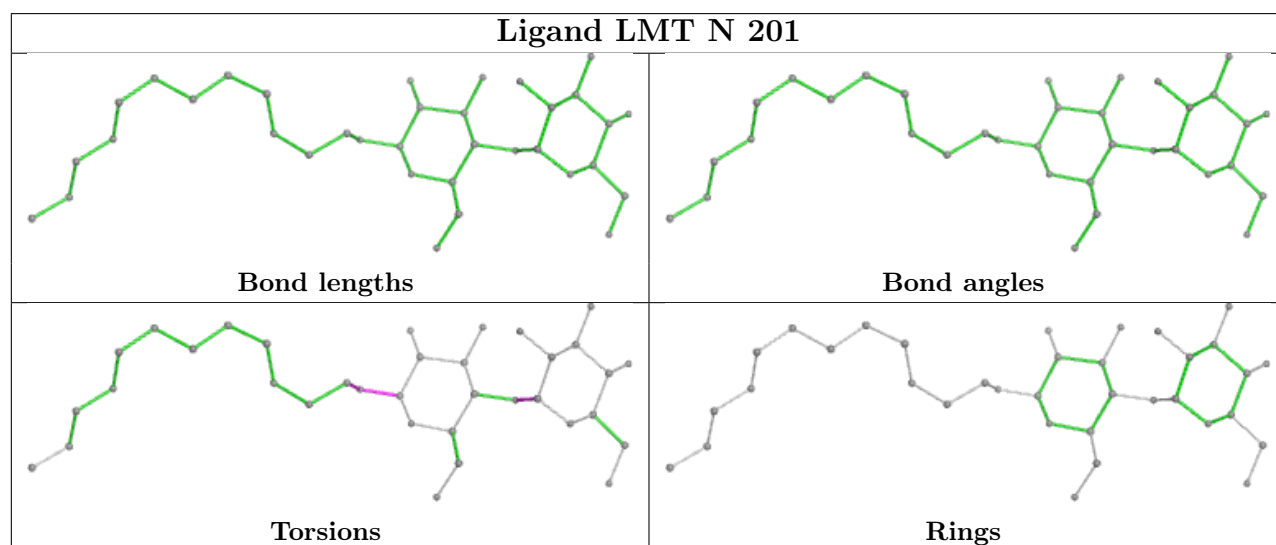
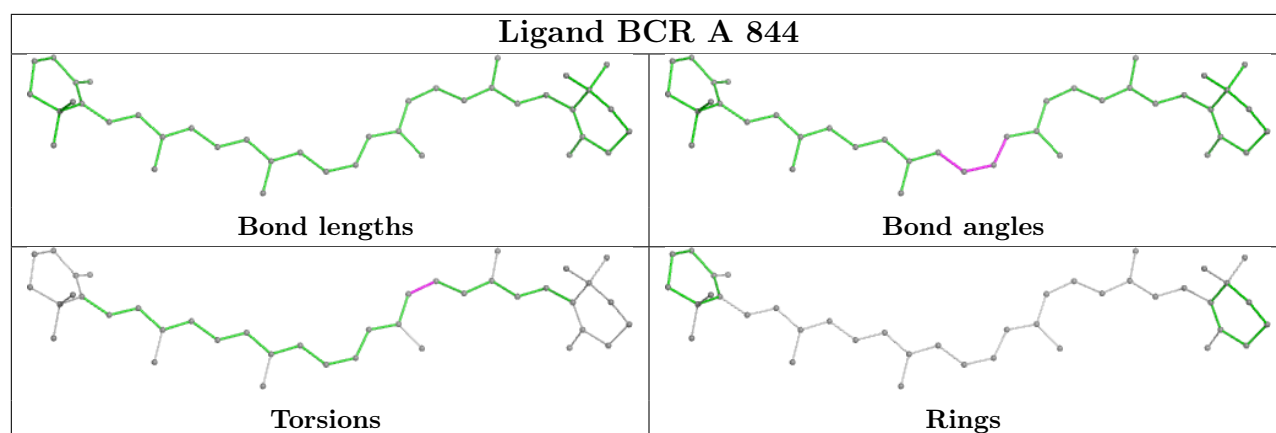


## Ligand CLA A 819

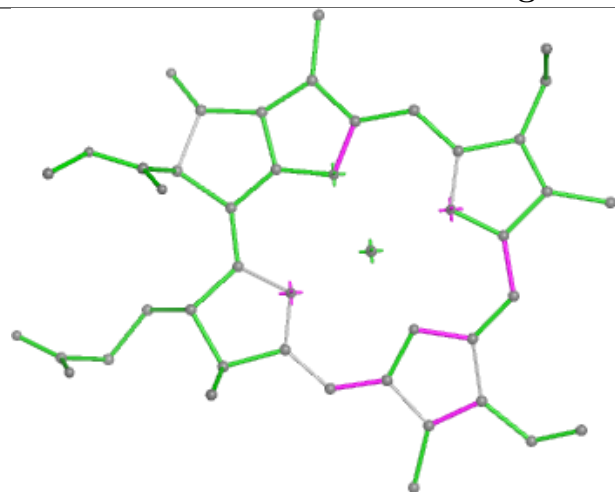


**Ligand CLA 2 302****Ligand BCR K 201**

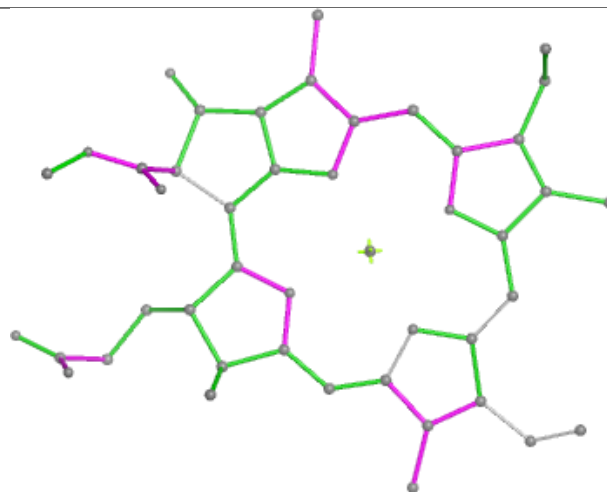




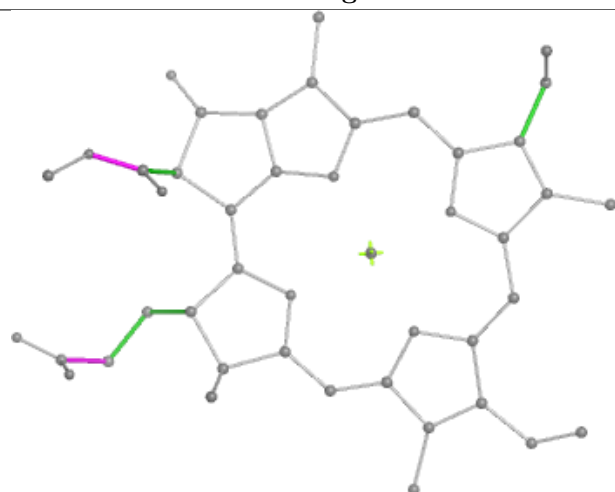
## Ligand CLA F 303



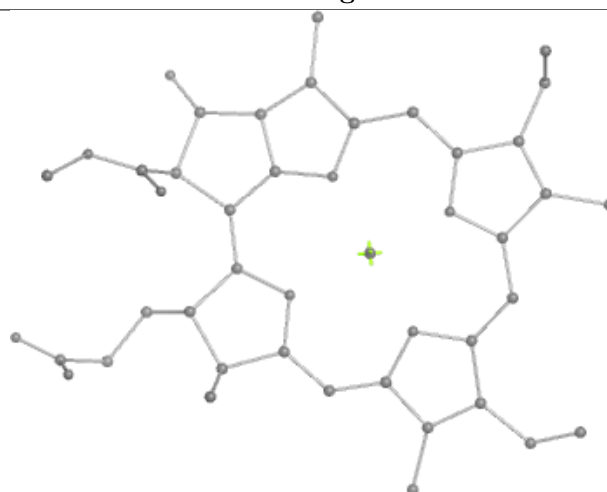
Bond lengths



Bond angles

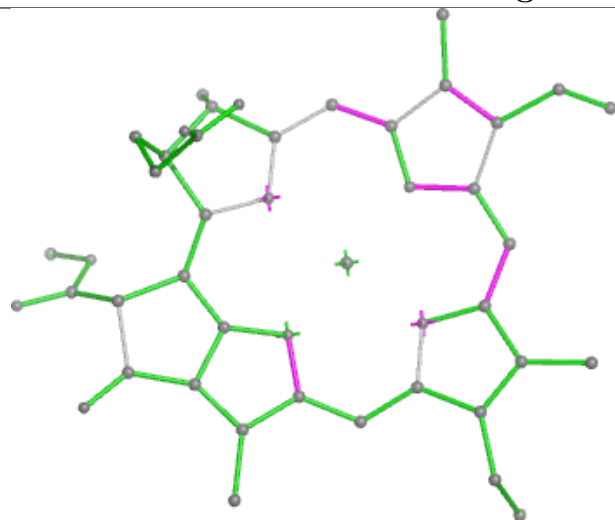


Torsions

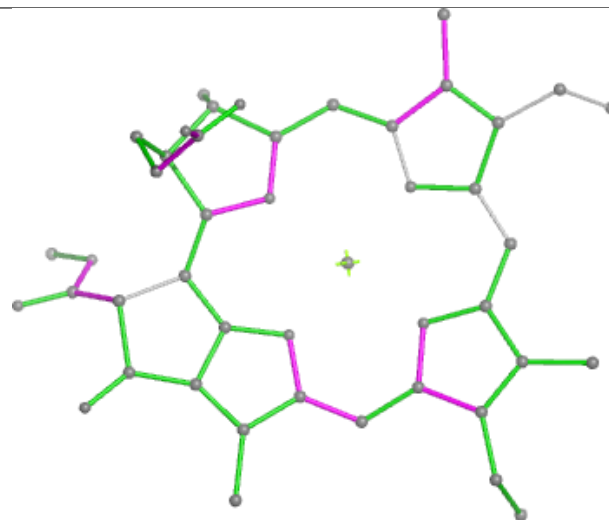


Rings

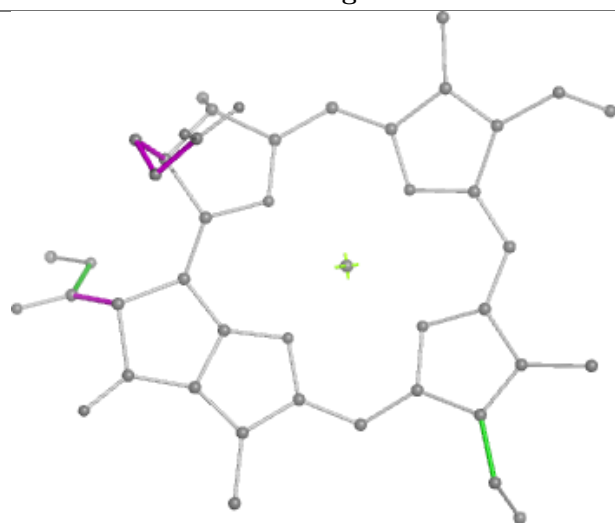
## Ligand CLA B 803



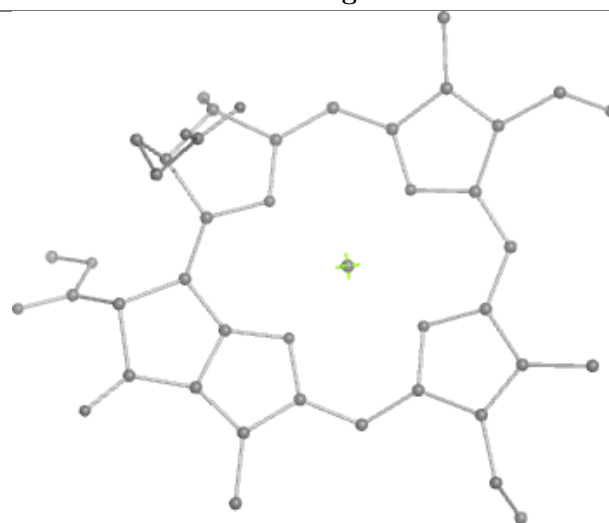
Bond lengths



Bond angles

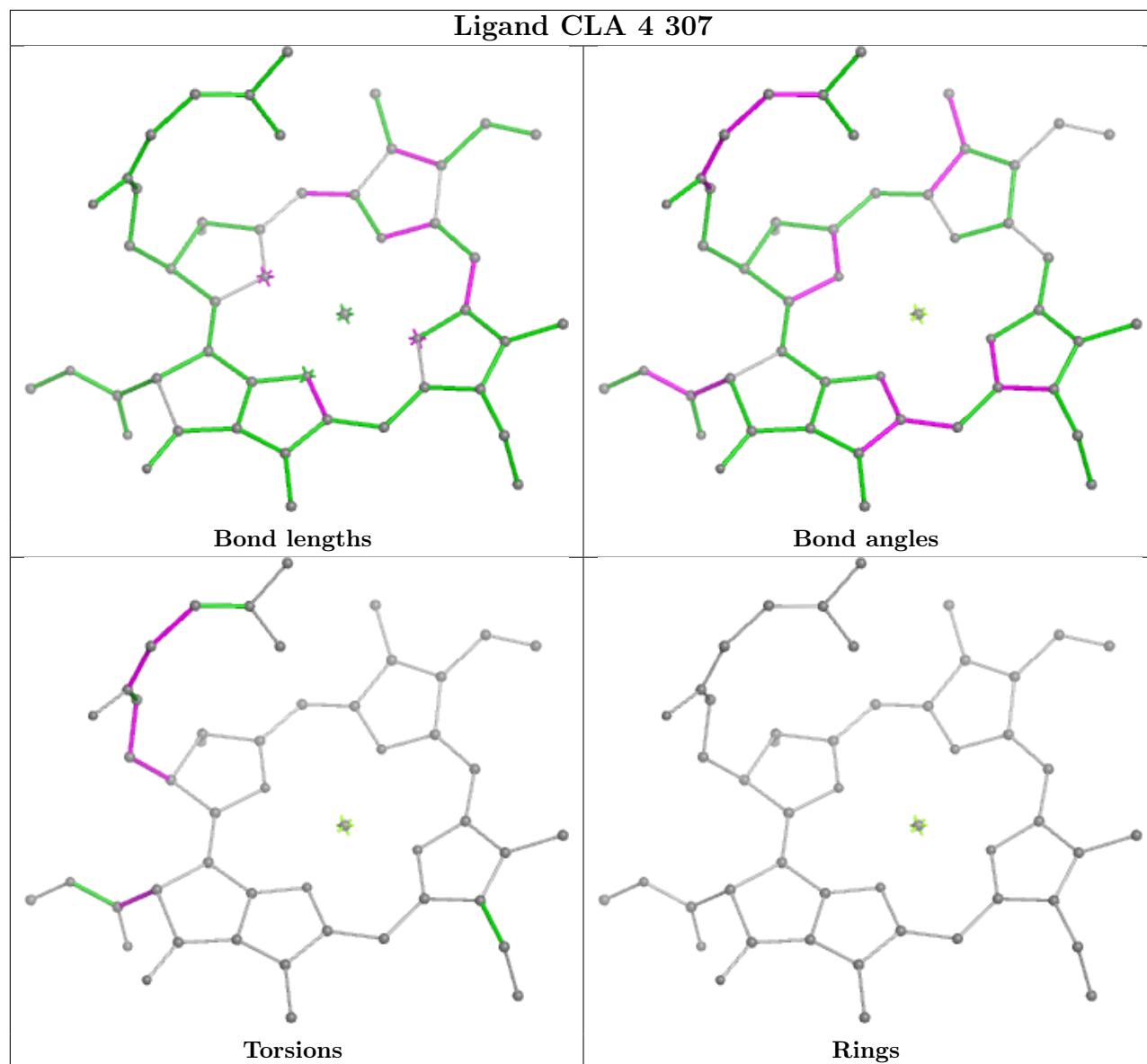


Torsions

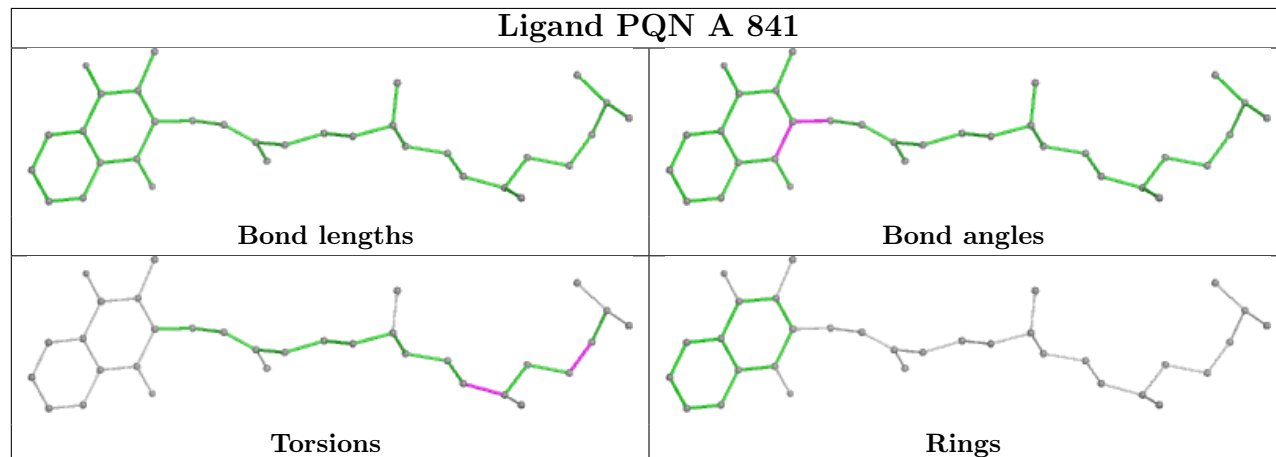


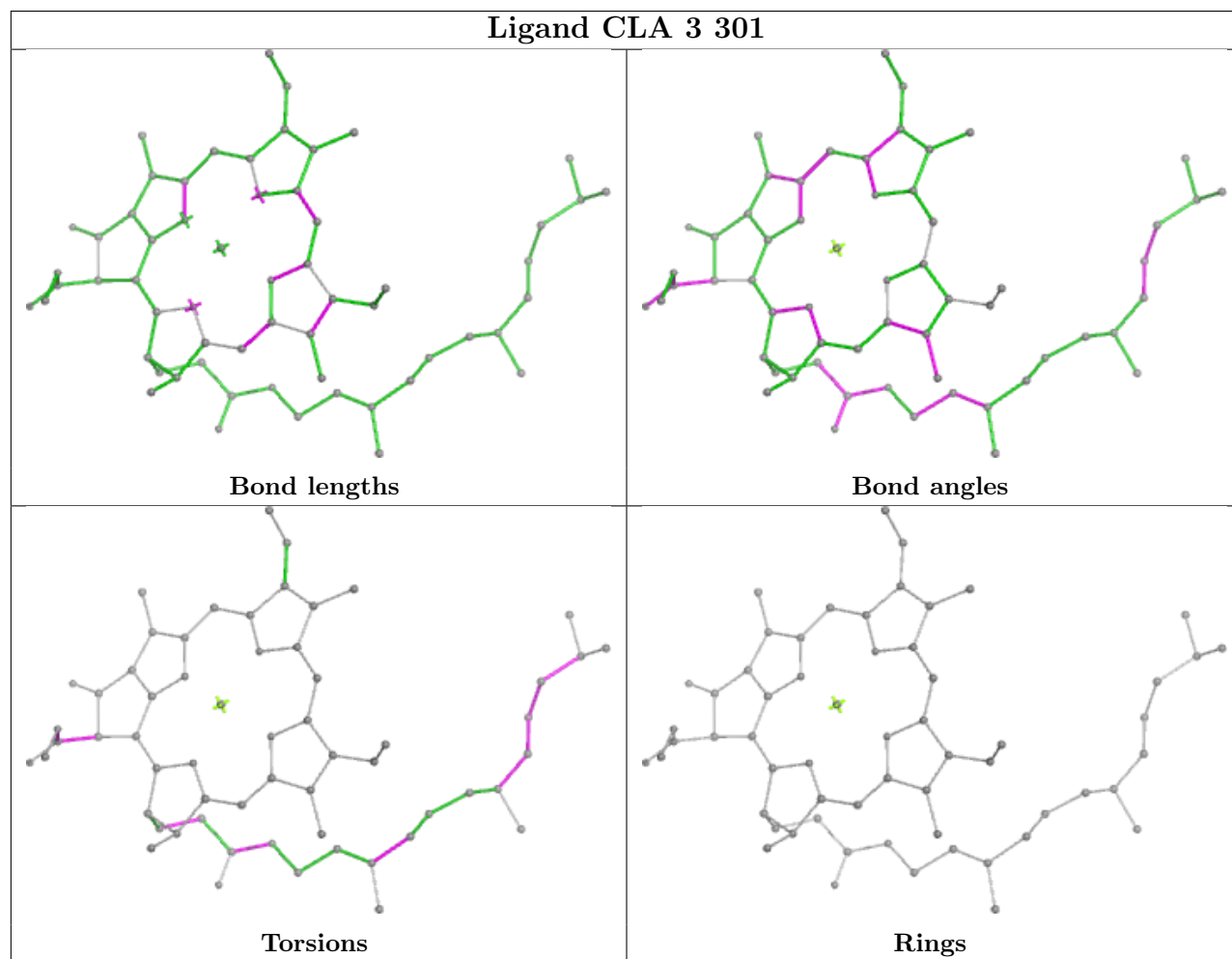
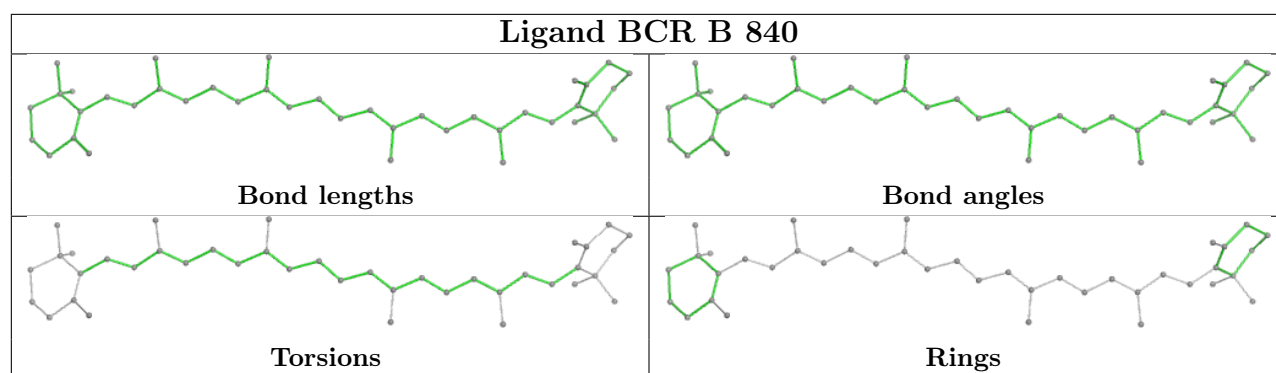
Rings

## Ligand CLA 4 307

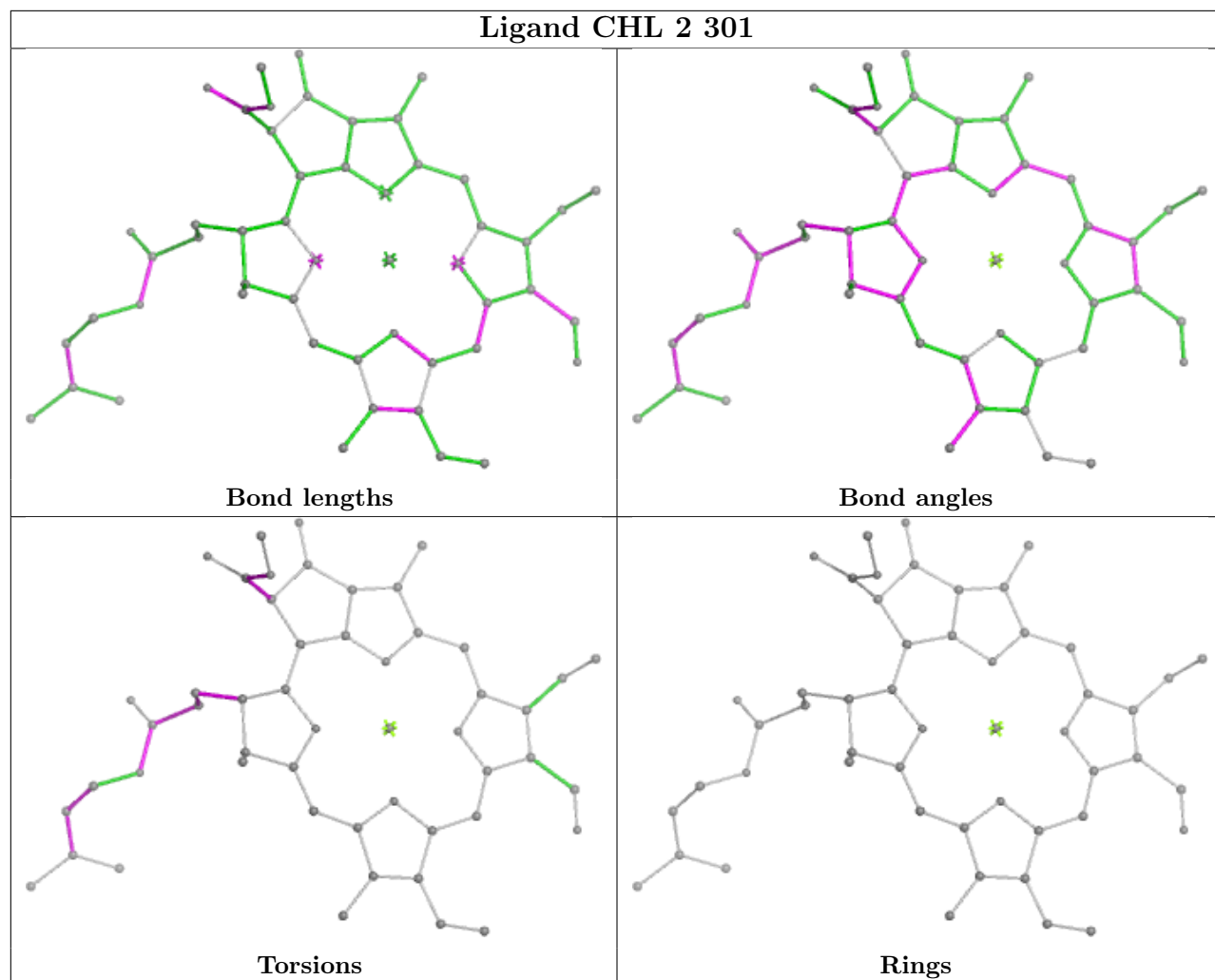


## Ligand PQN A 841

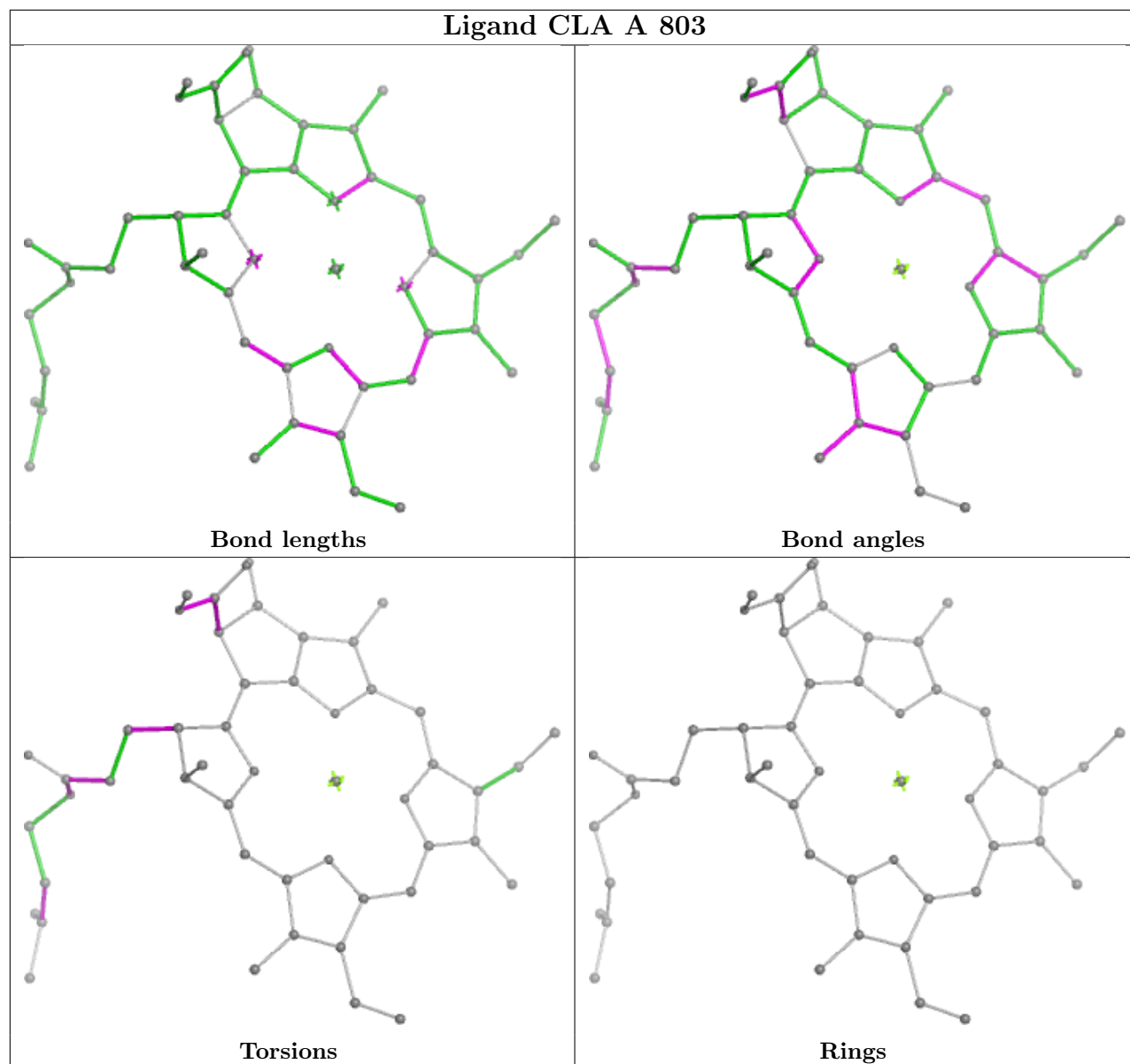




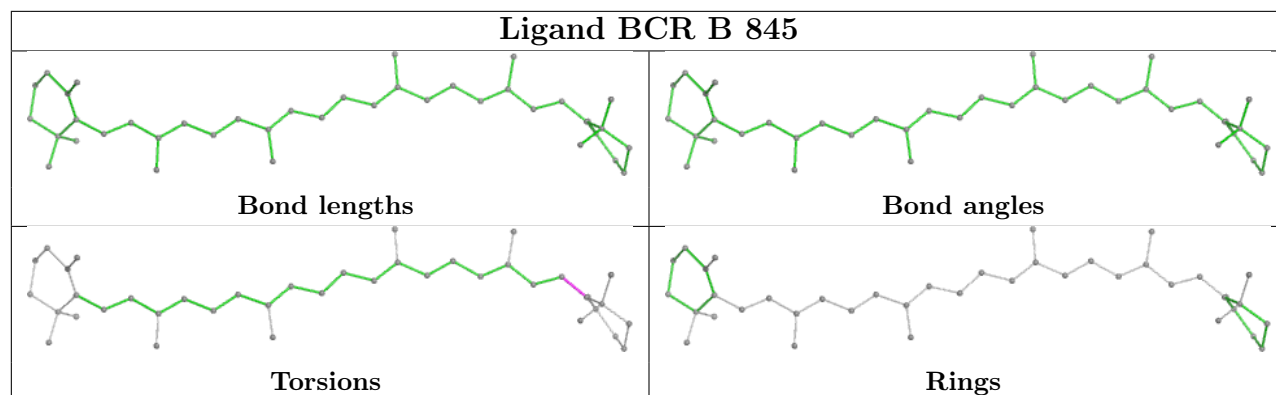
## Ligand CHL 2 301



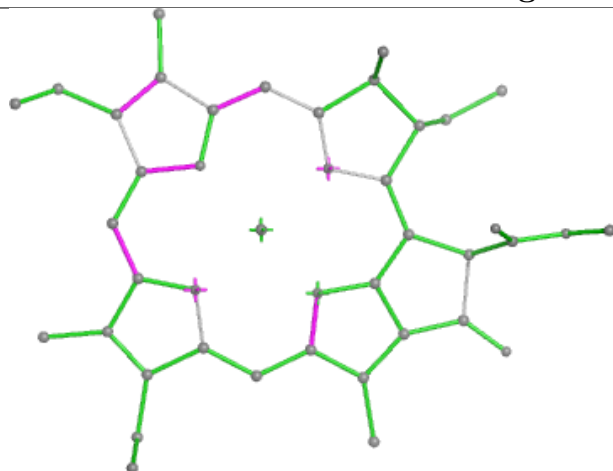
## Ligand CLA A 803



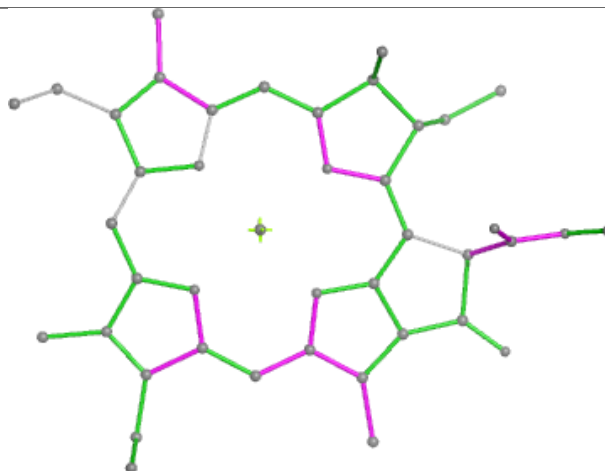
## Ligand BCR B 845



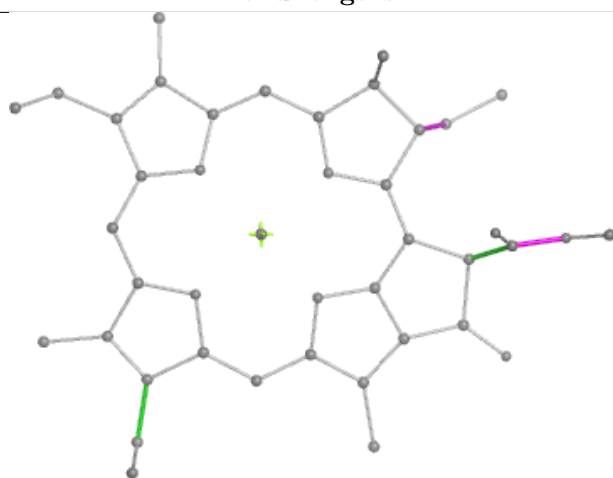
## Ligand CLA 1 305



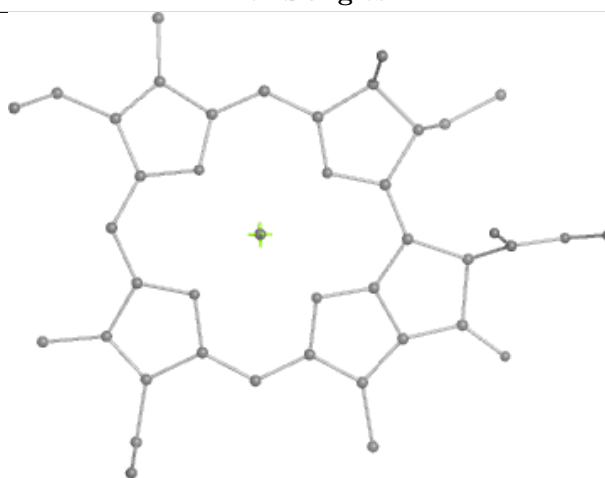
Bond lengths



Bond angles

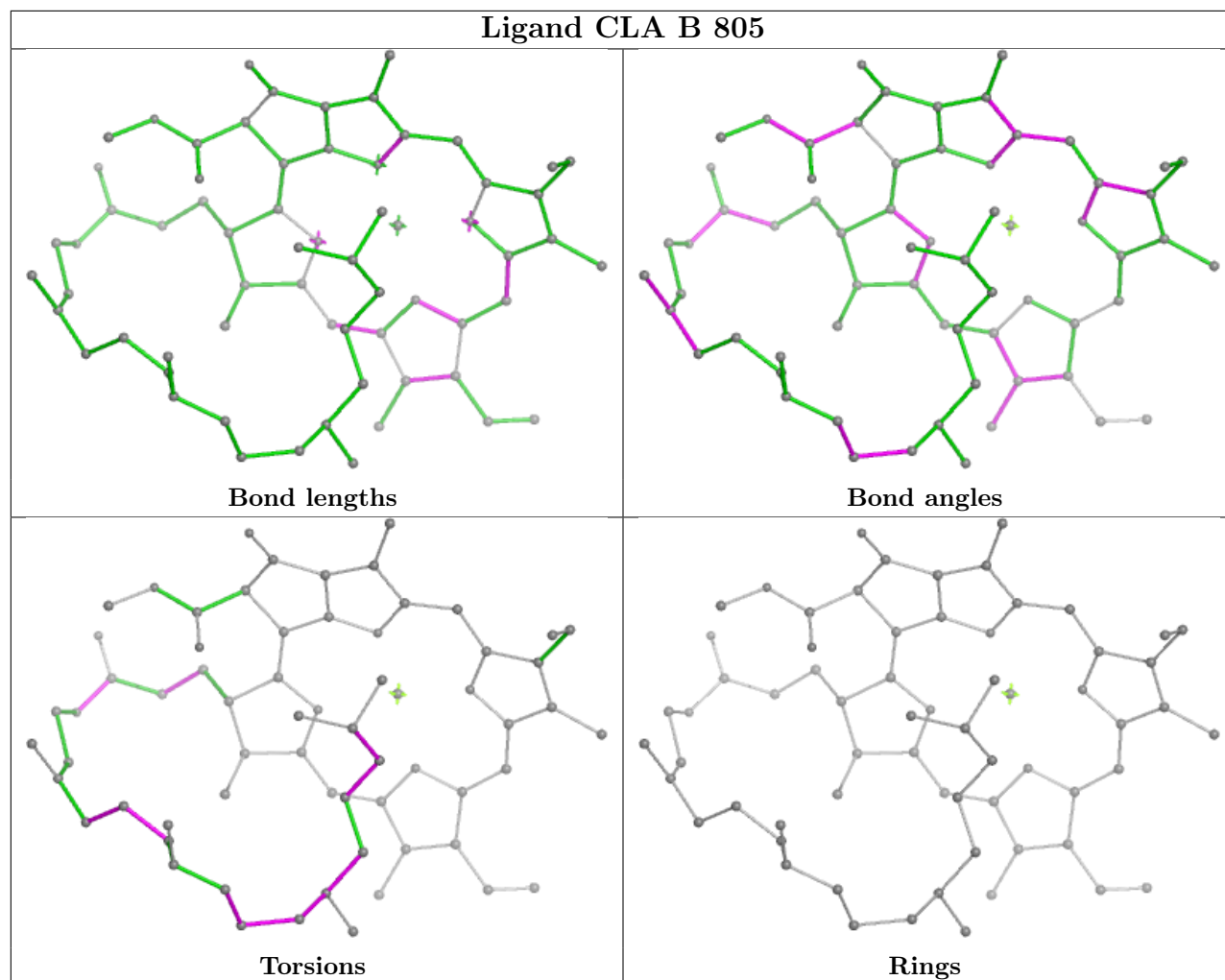


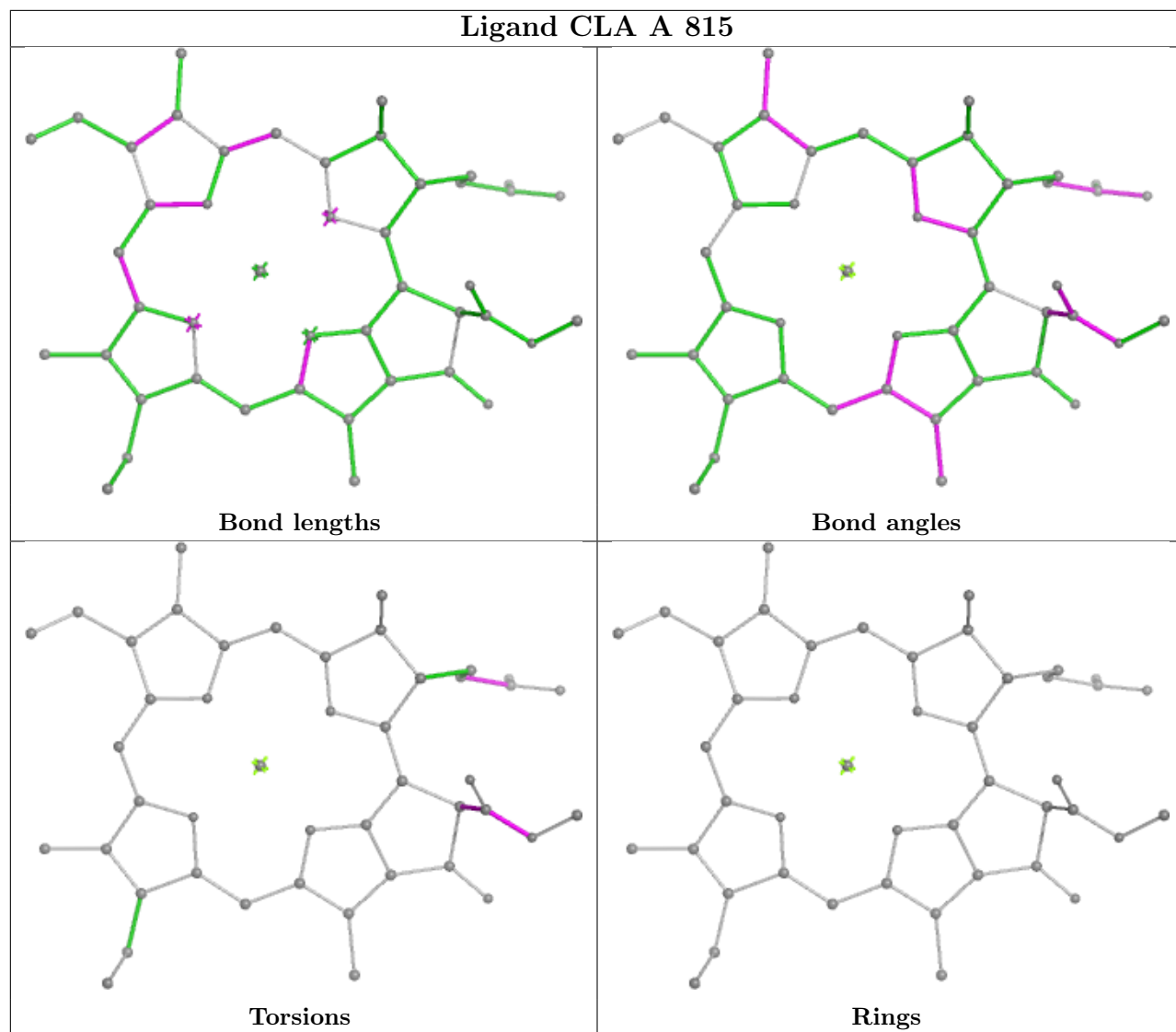
Torsions



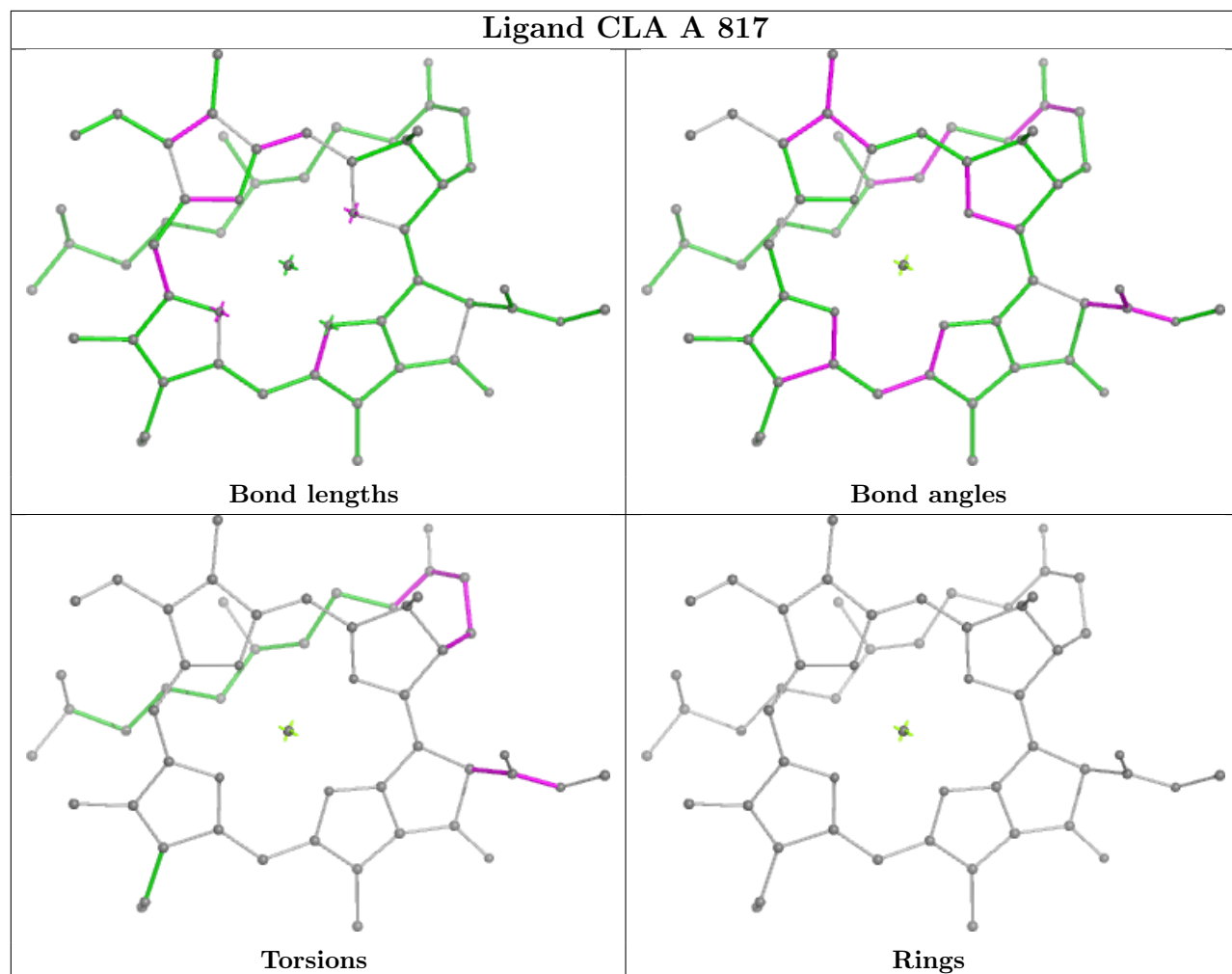
Rings

## Ligand CLA B 805

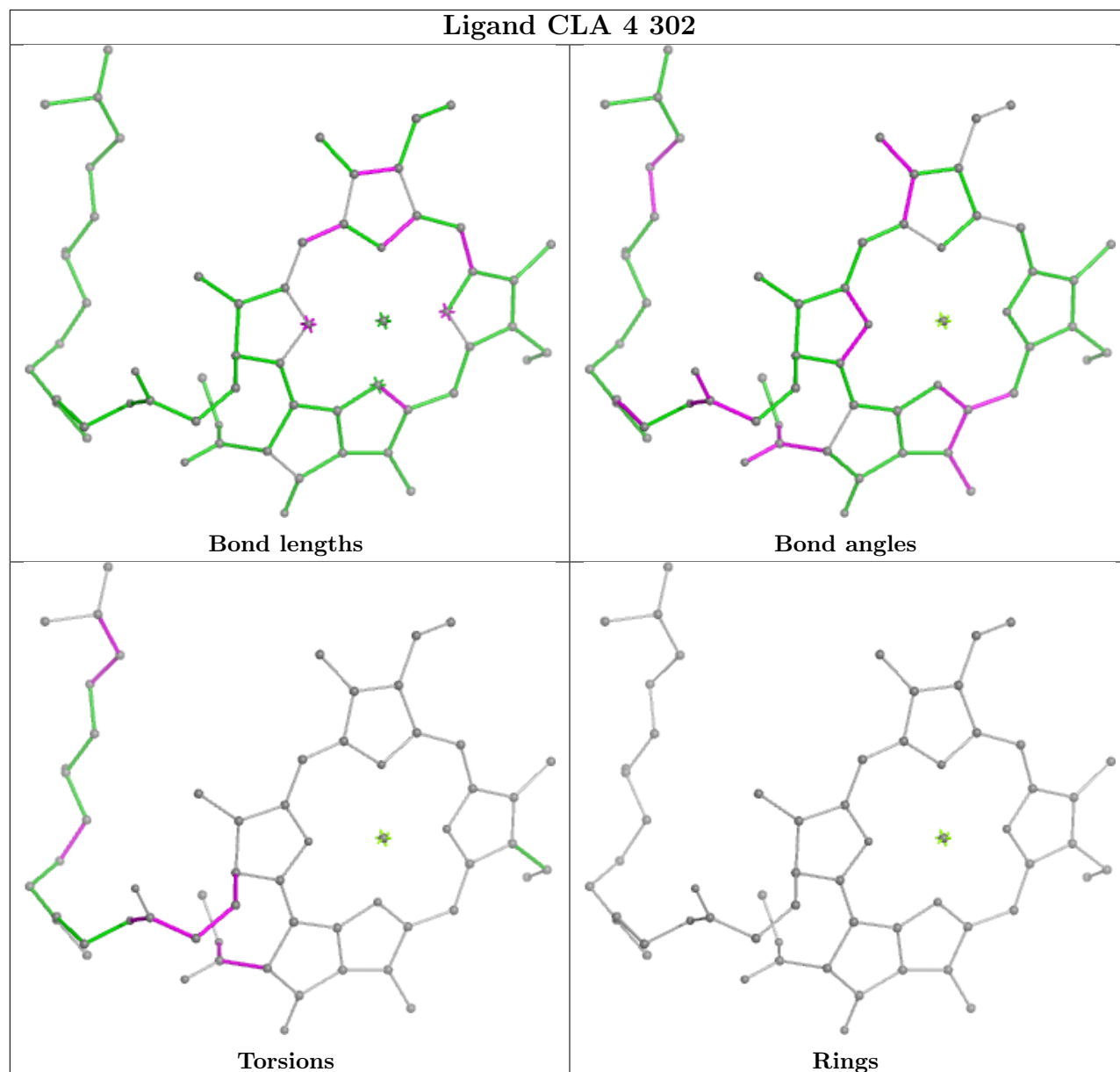


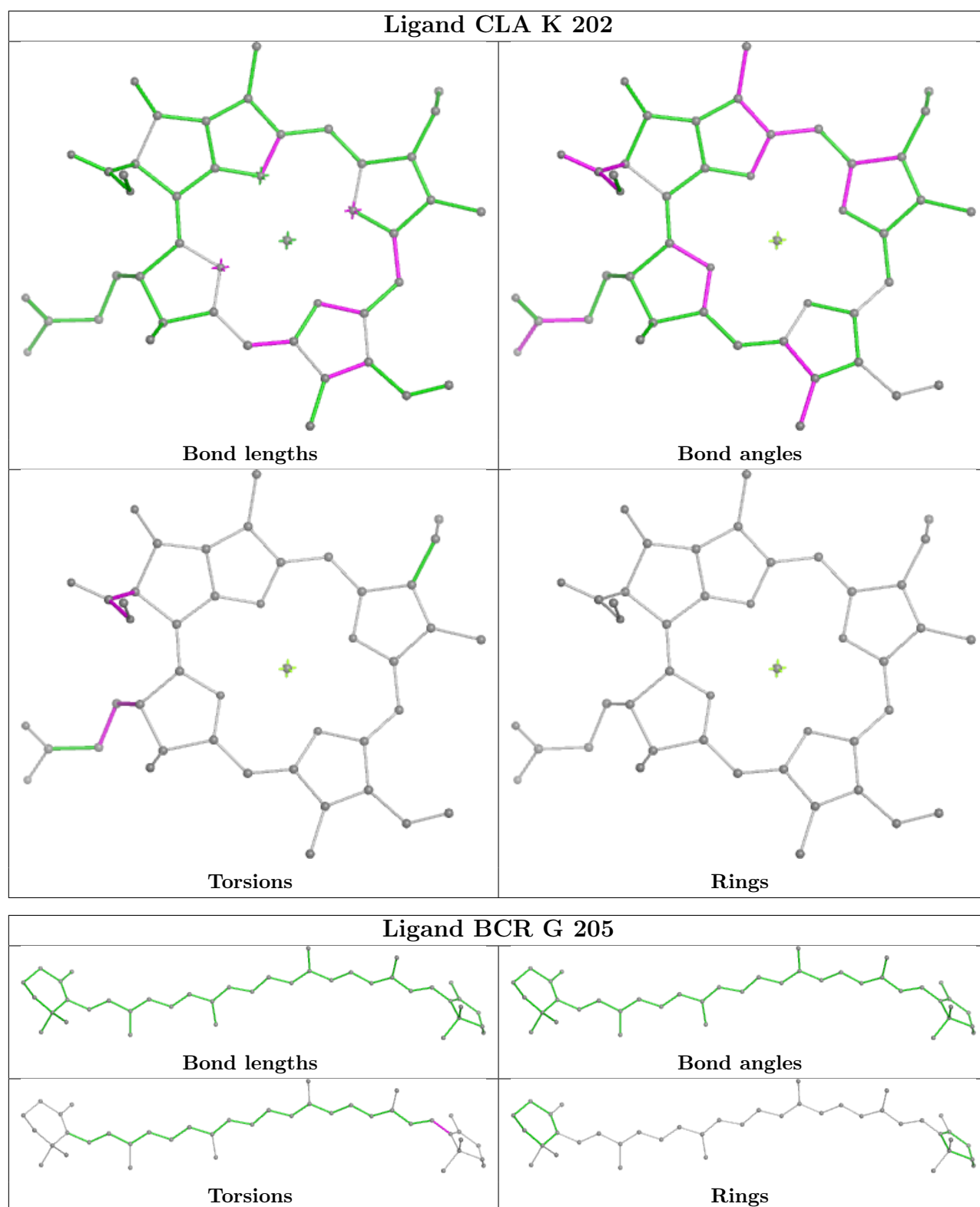


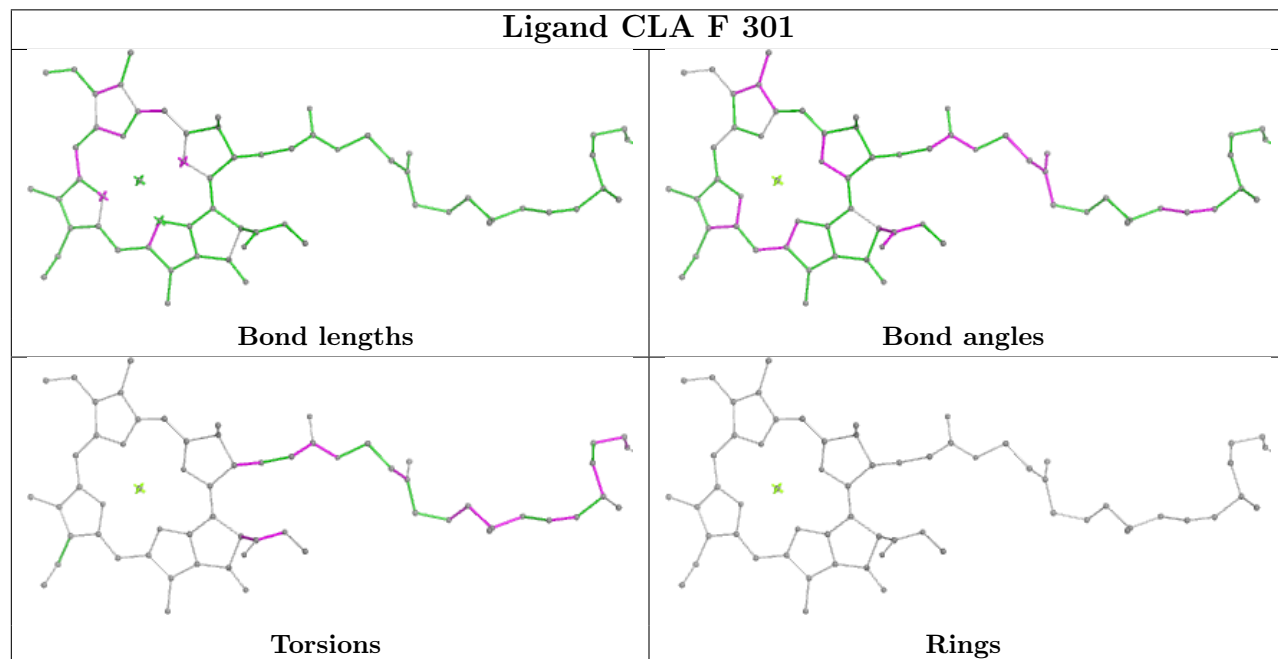
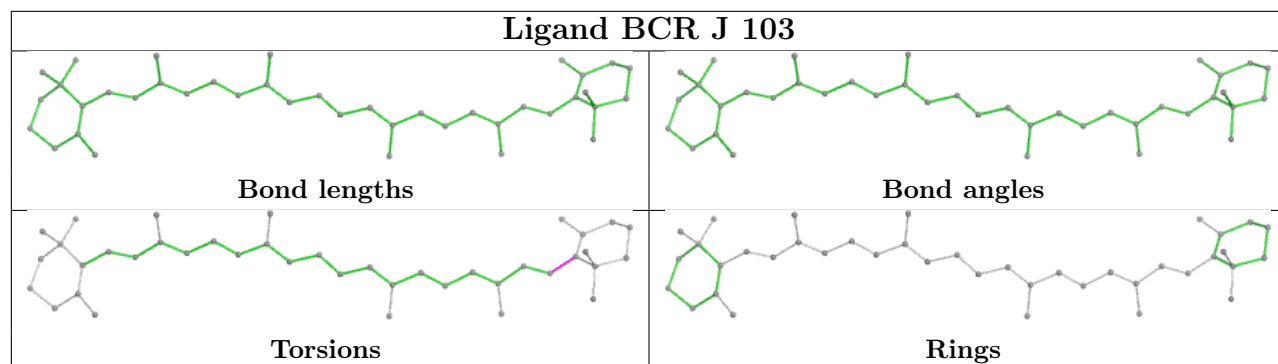
## Ligand CLA A 817

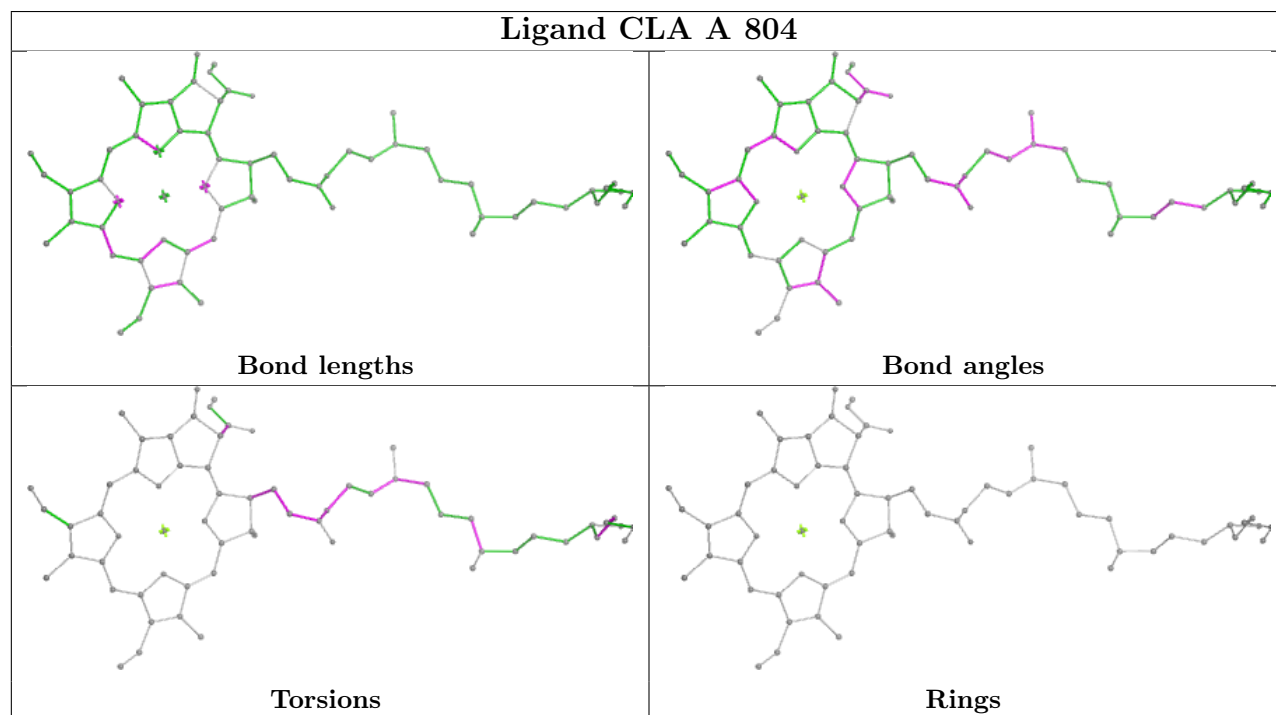
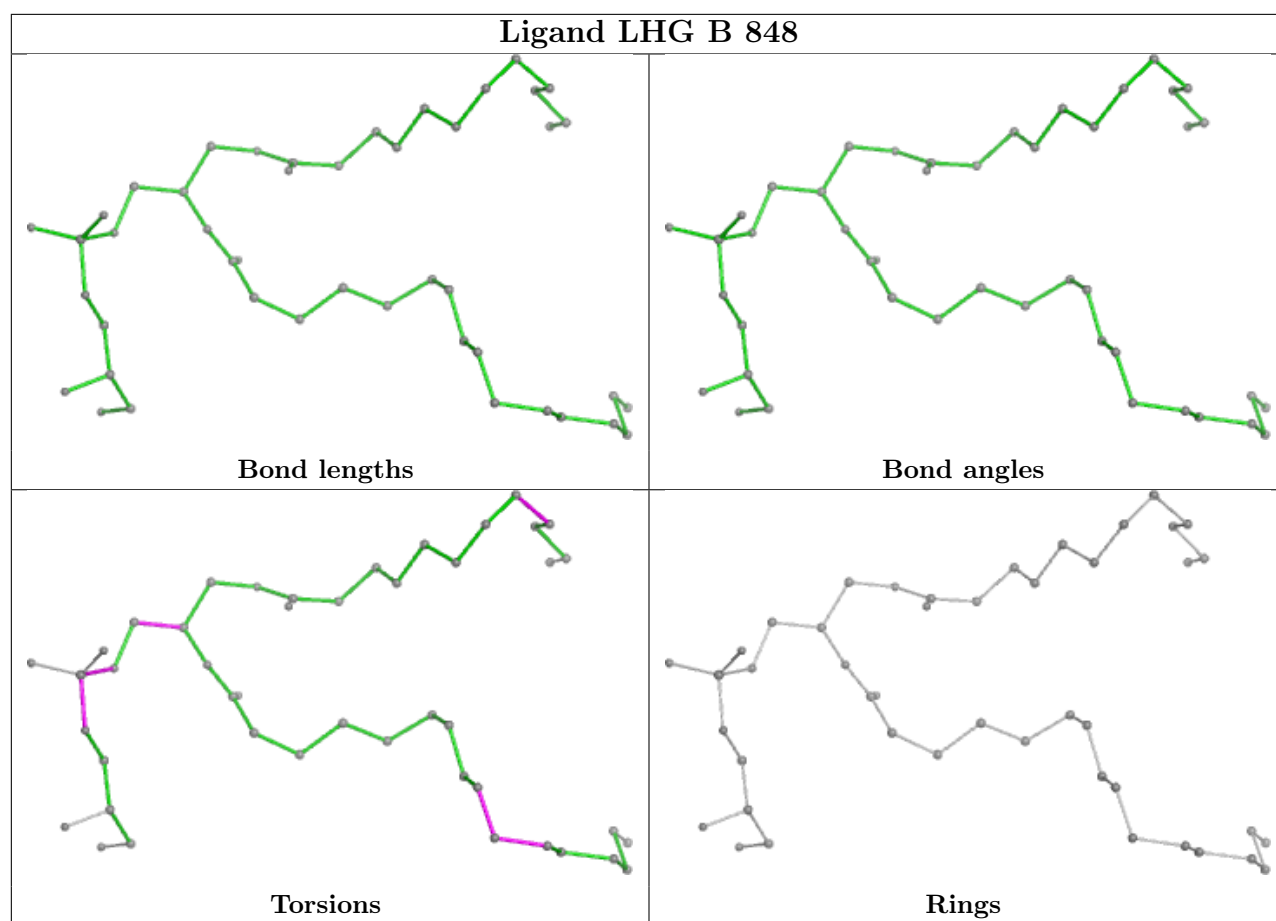


## Ligand CLA 4 302

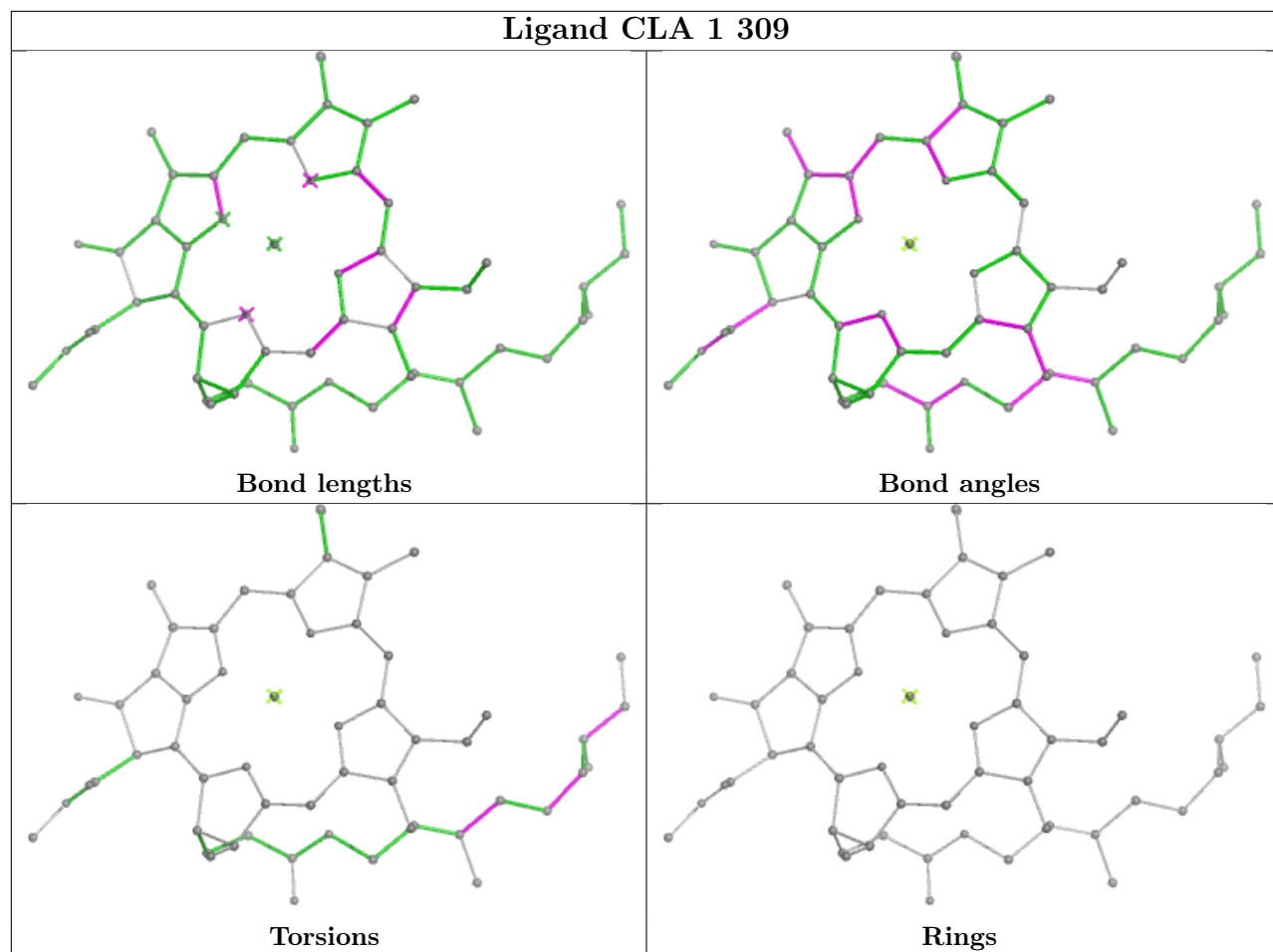




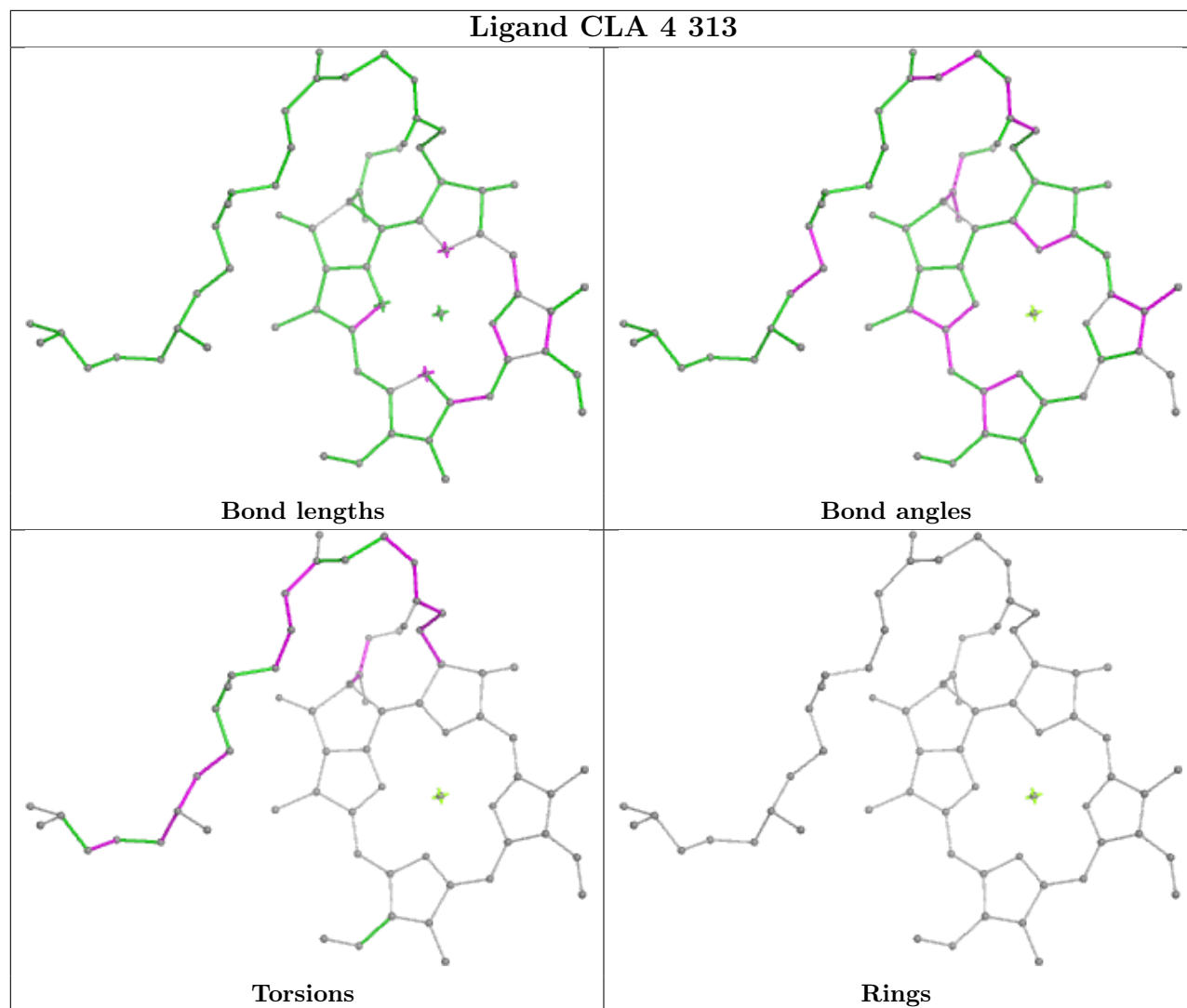




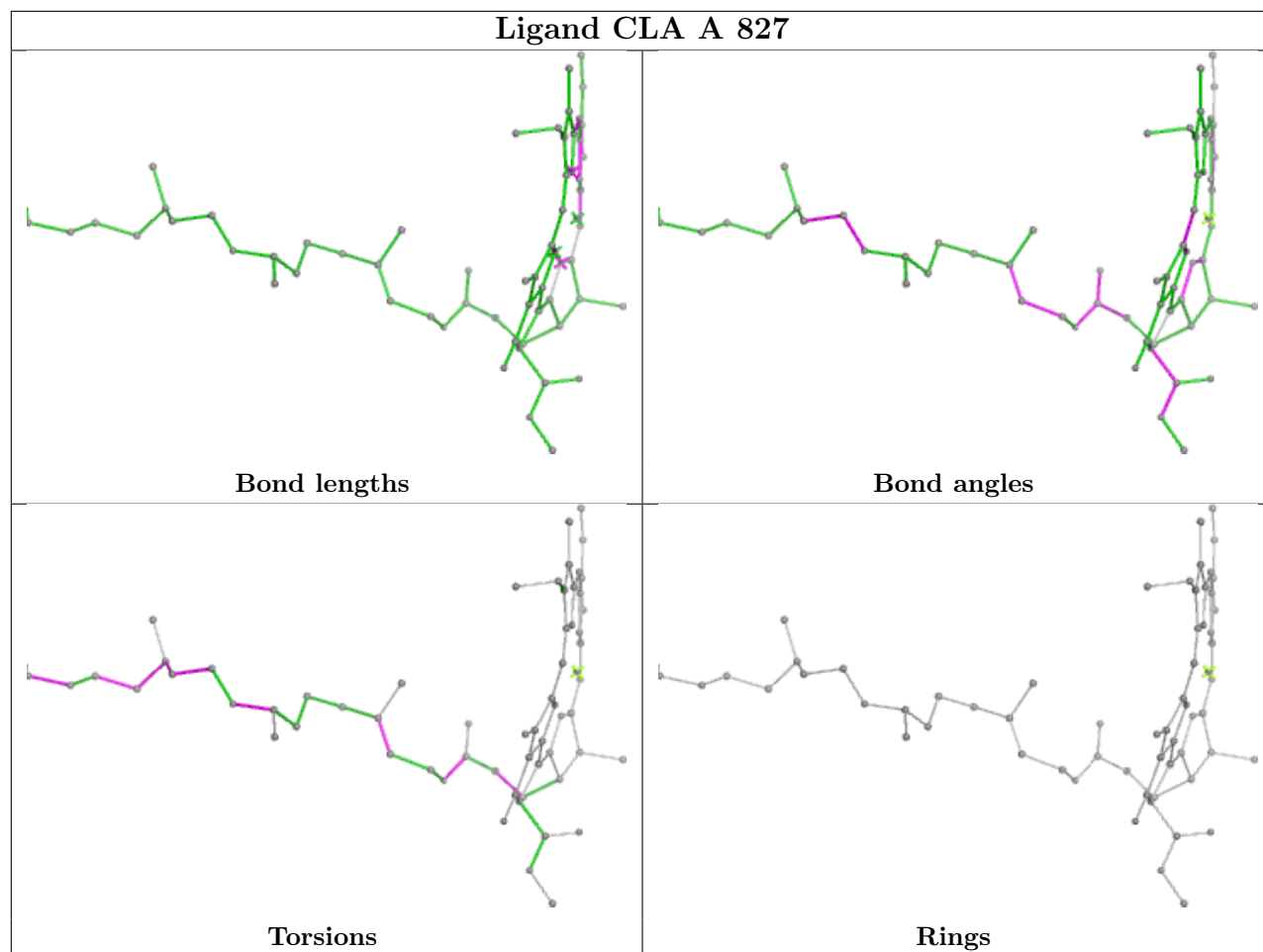
## Ligand CLA 1 309



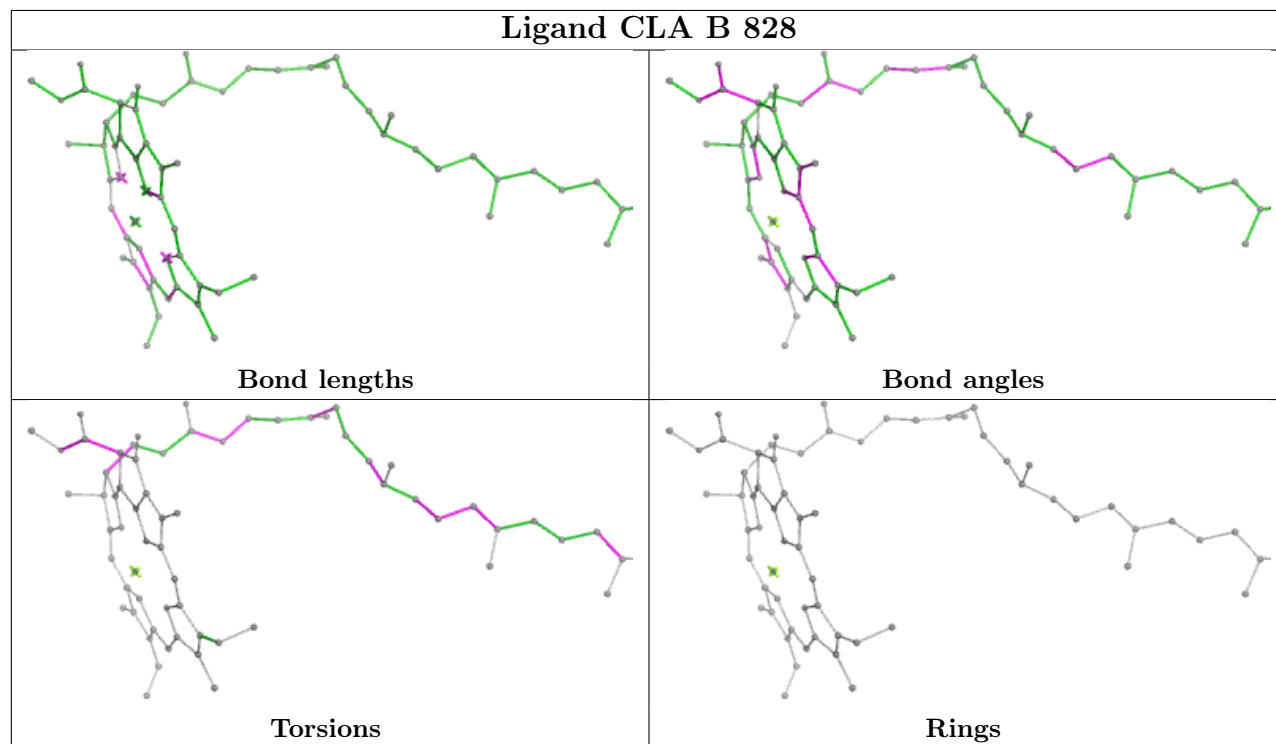
## Ligand CLA 4 313

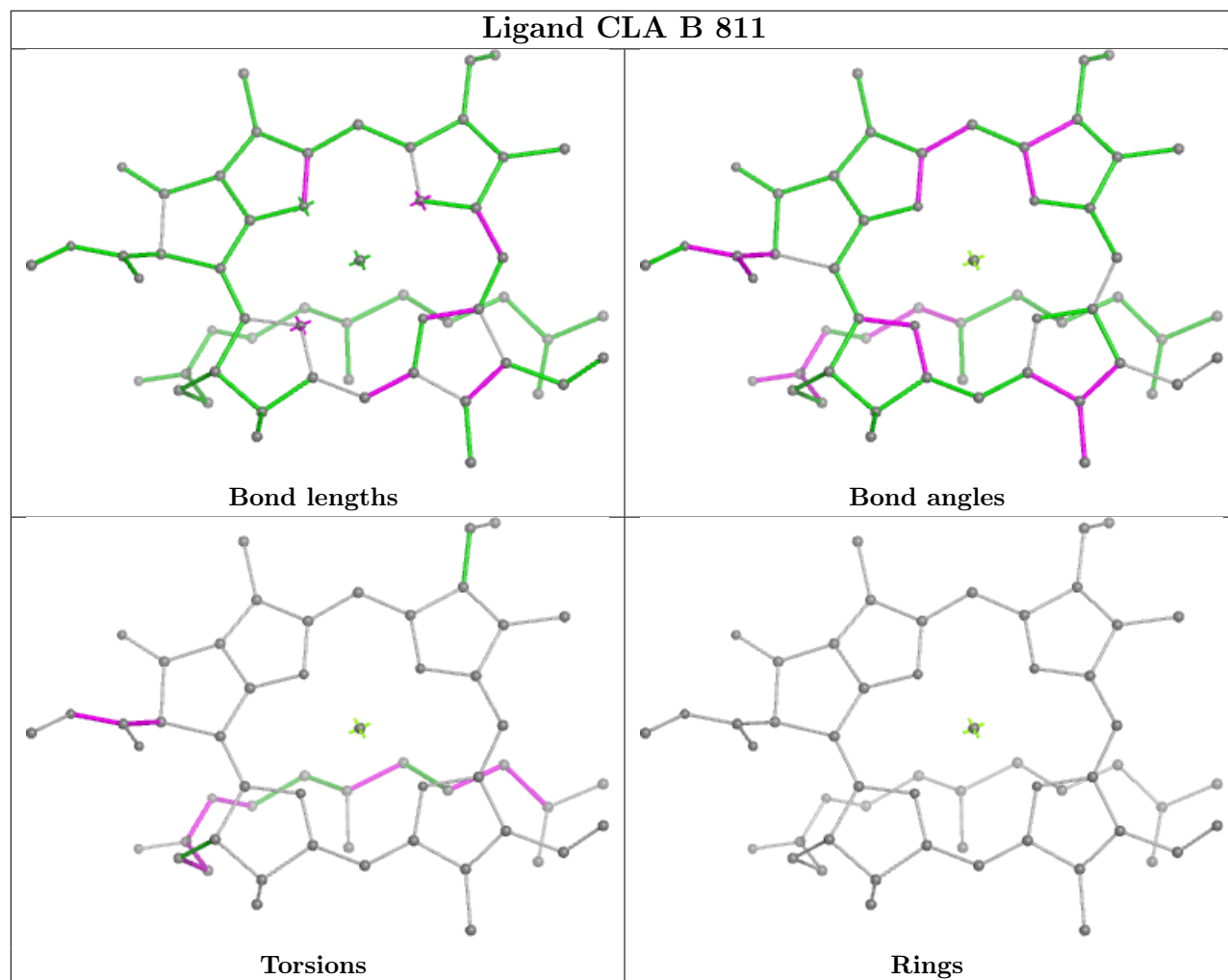
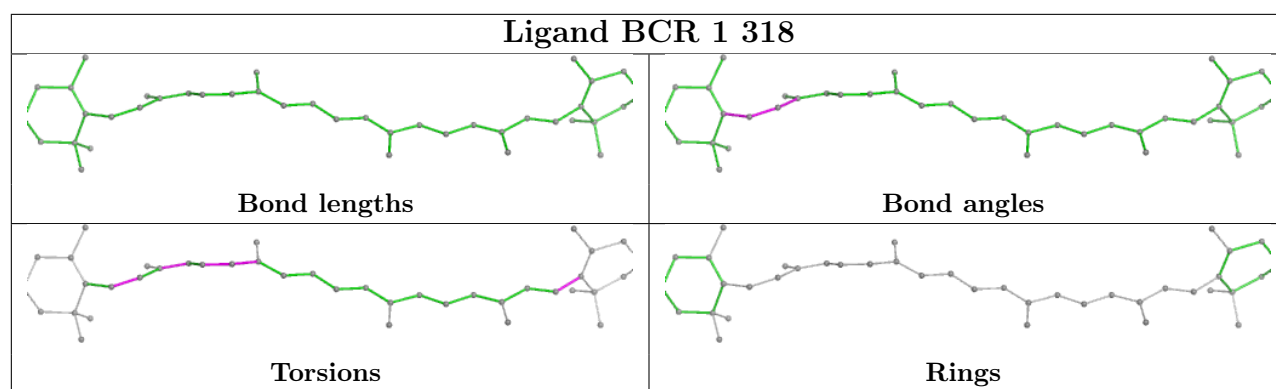


## Ligand CLA A 827

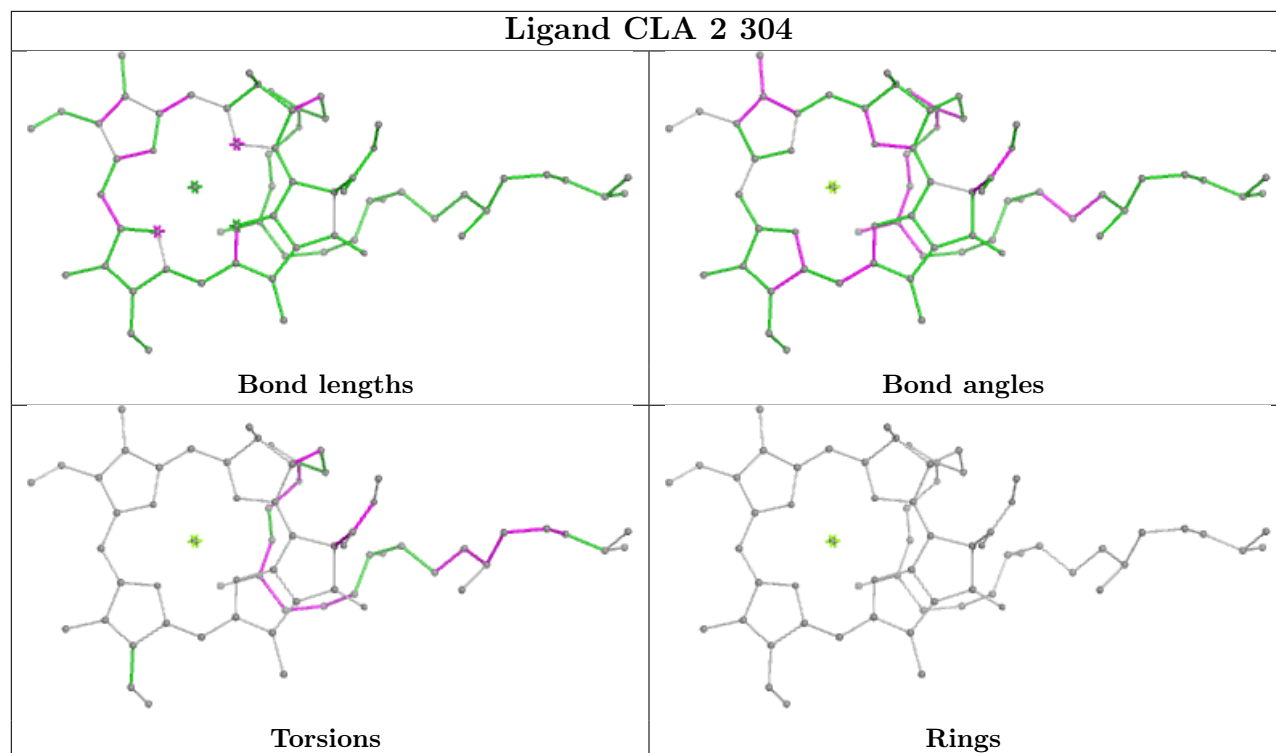


## Ligand CLA B 828

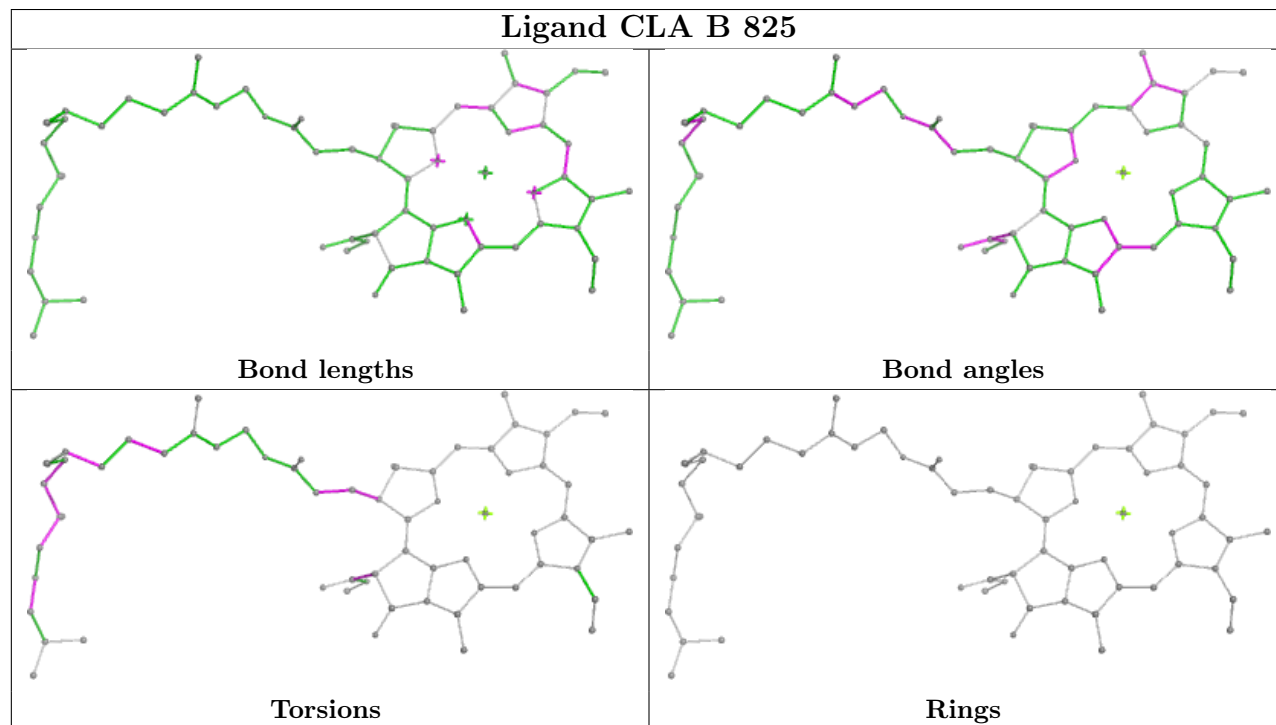


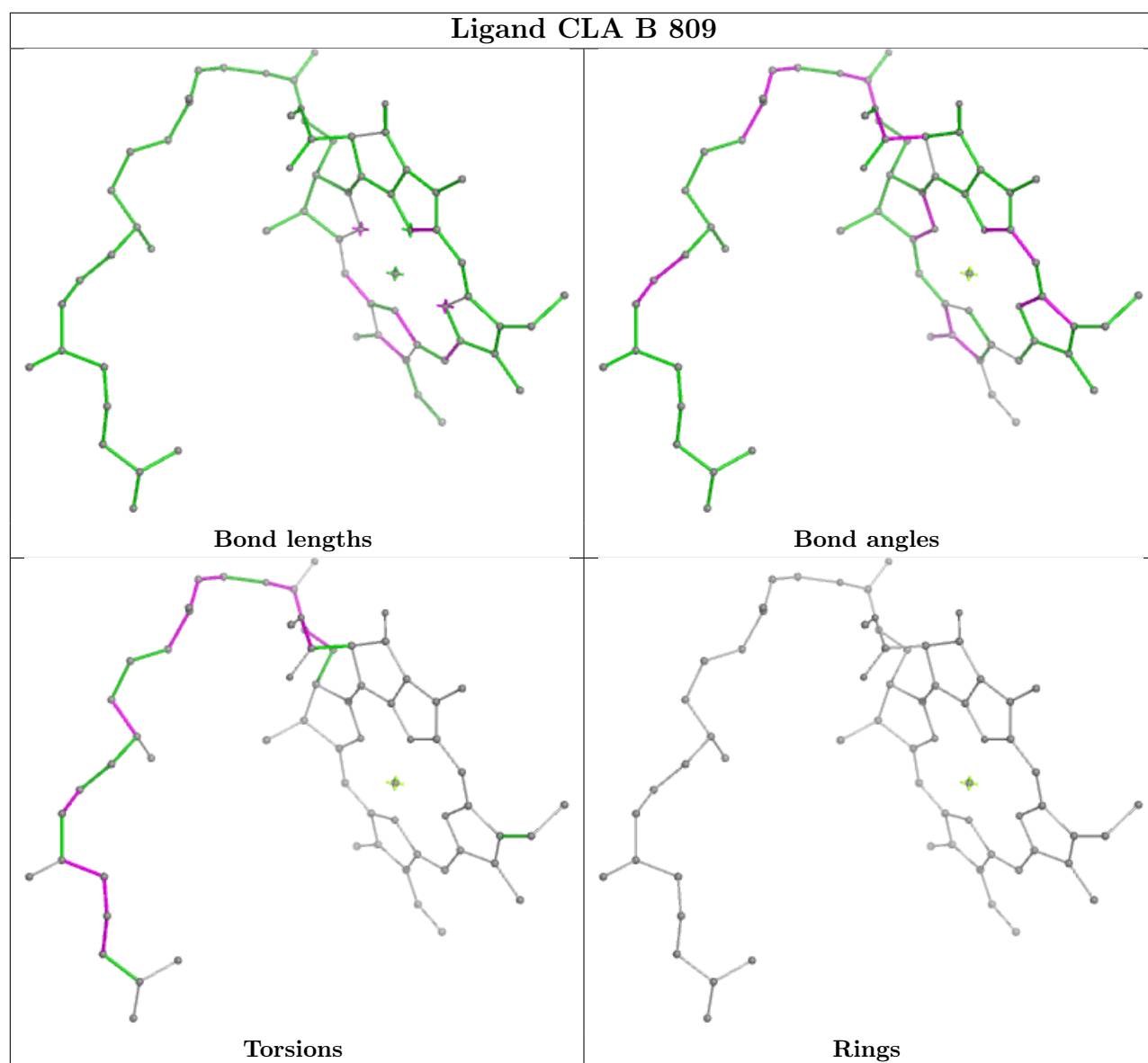


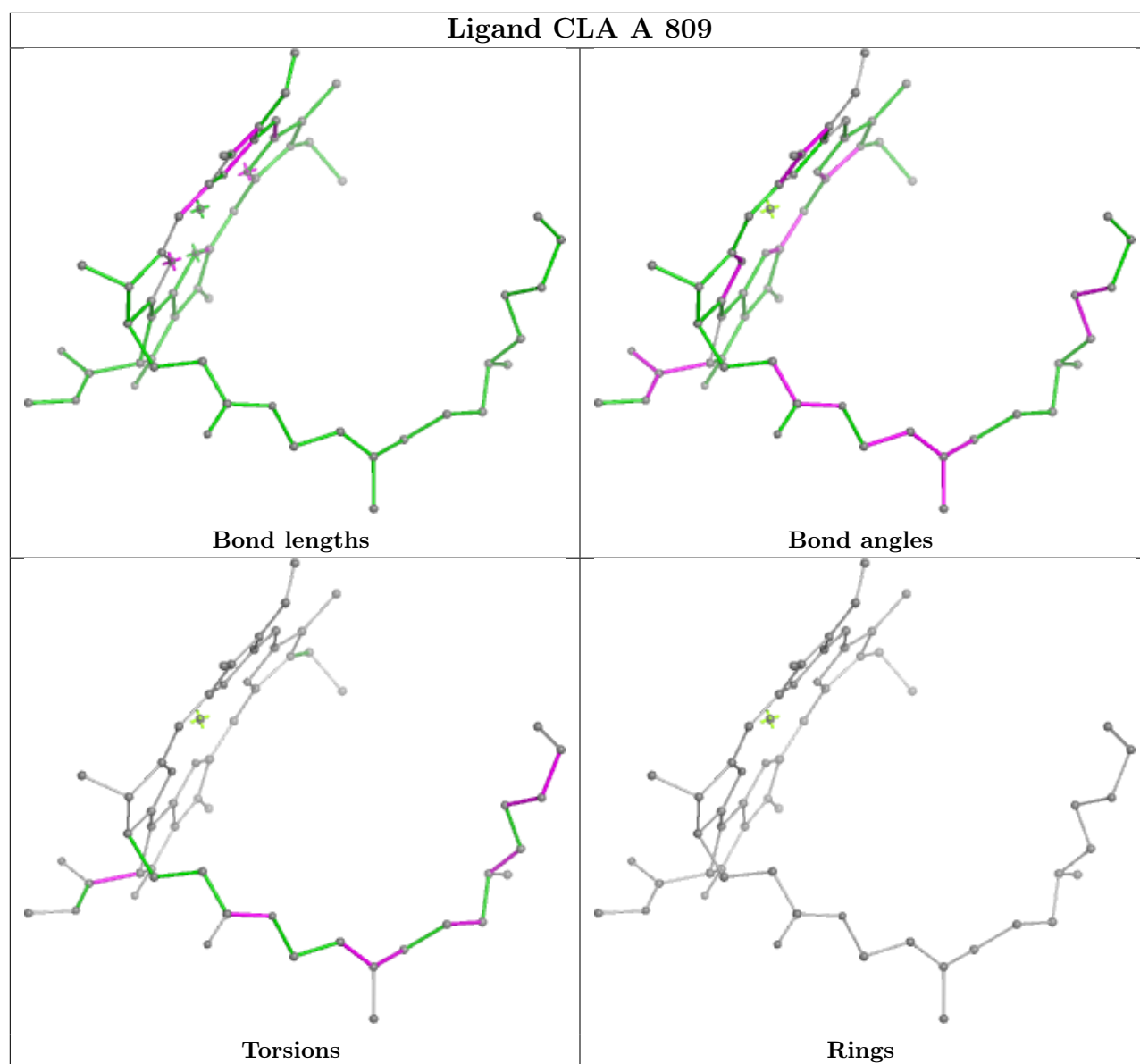
## Ligand CLA 2 304



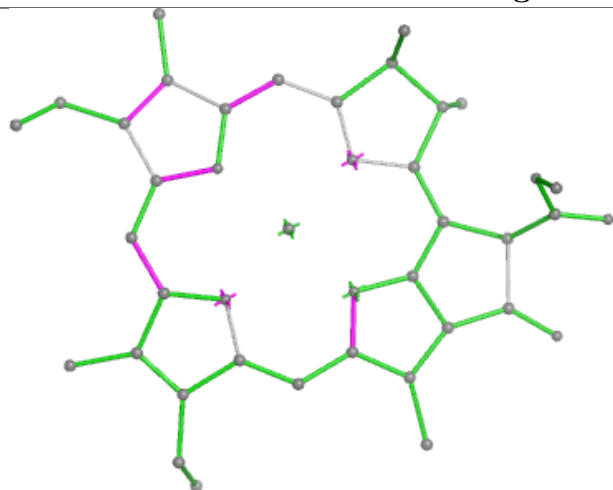
## Ligand CLA B 825



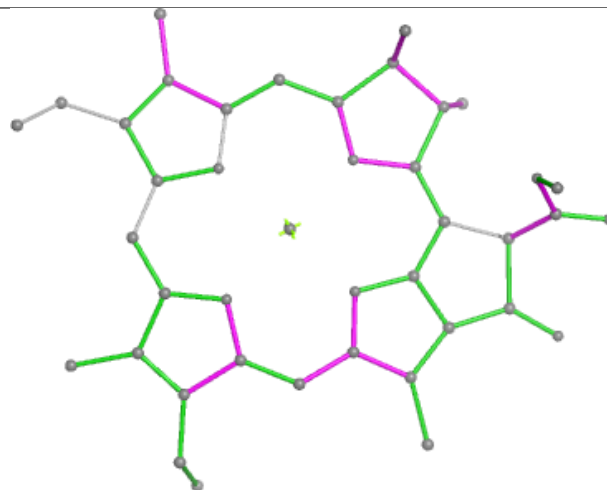




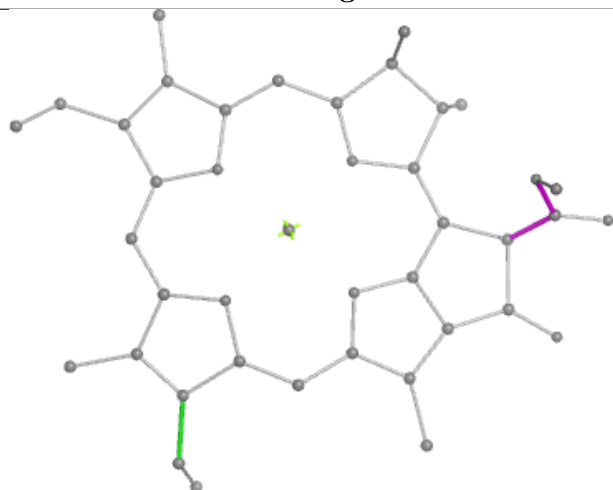
## Ligand CLA G 202



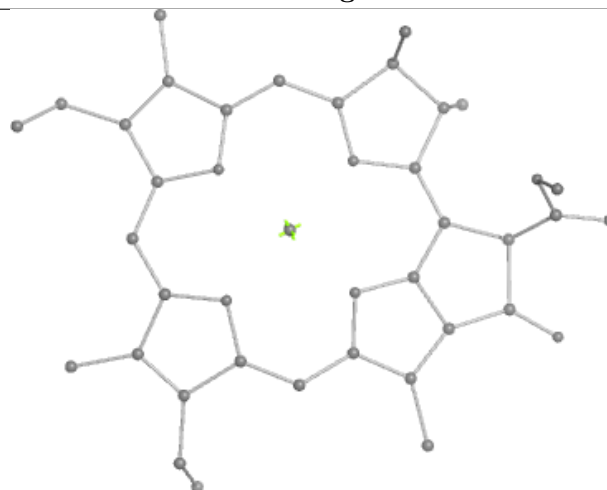
Bond lengths



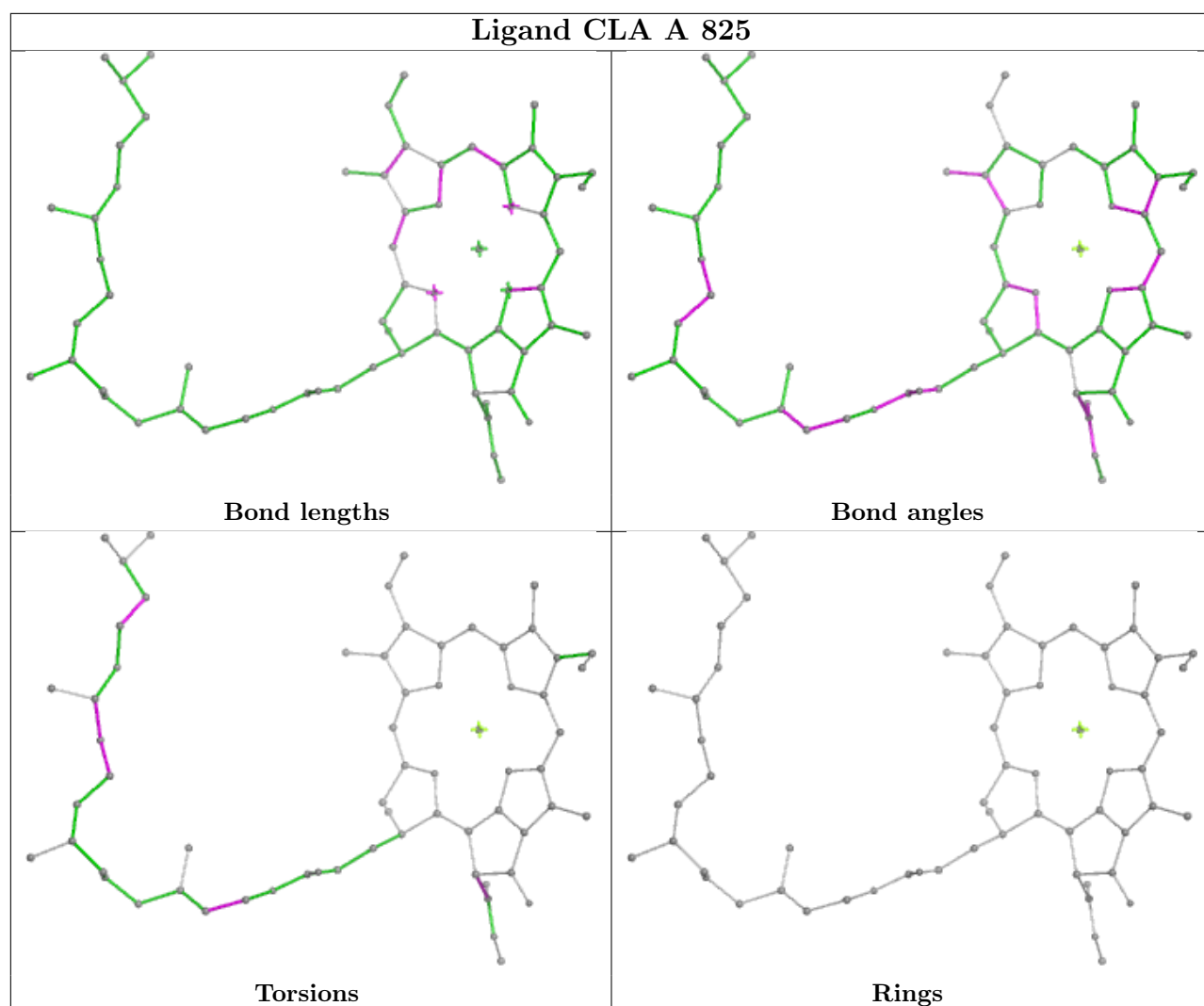
Bond angles

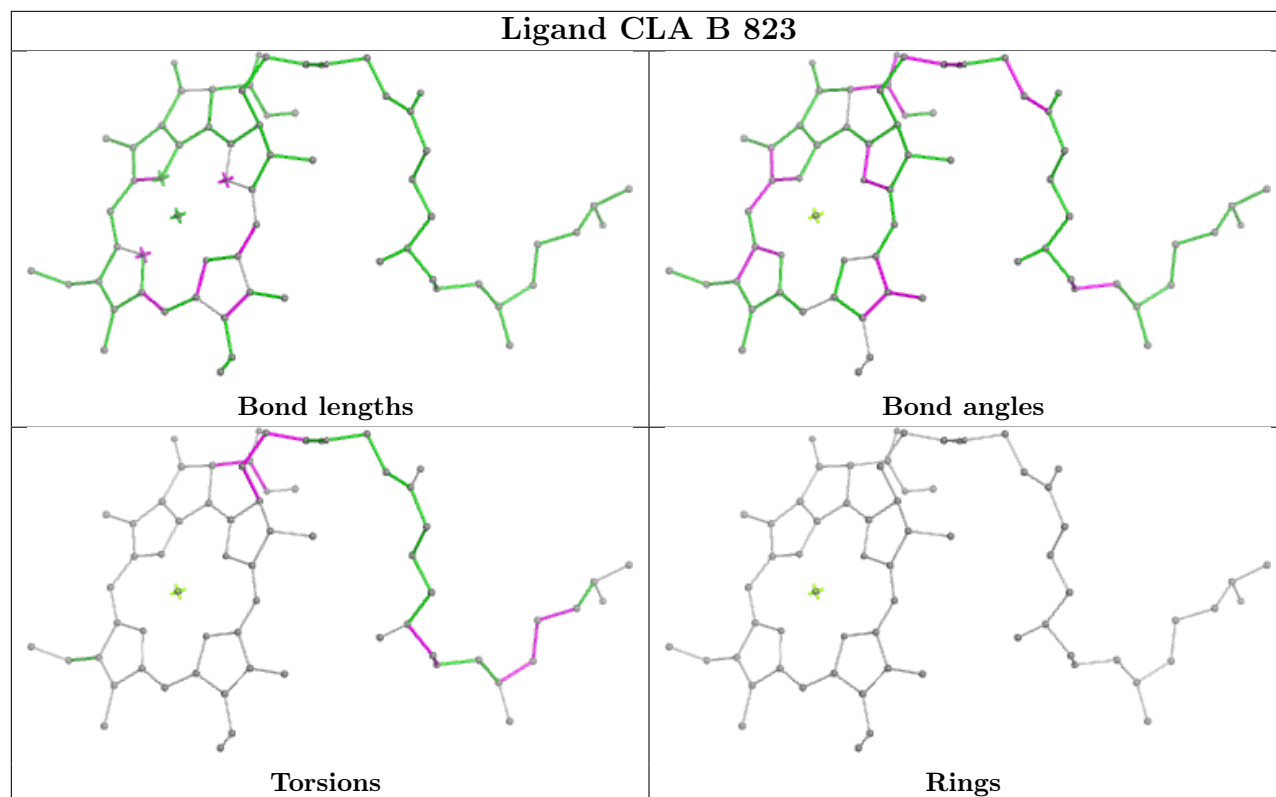


Torsions

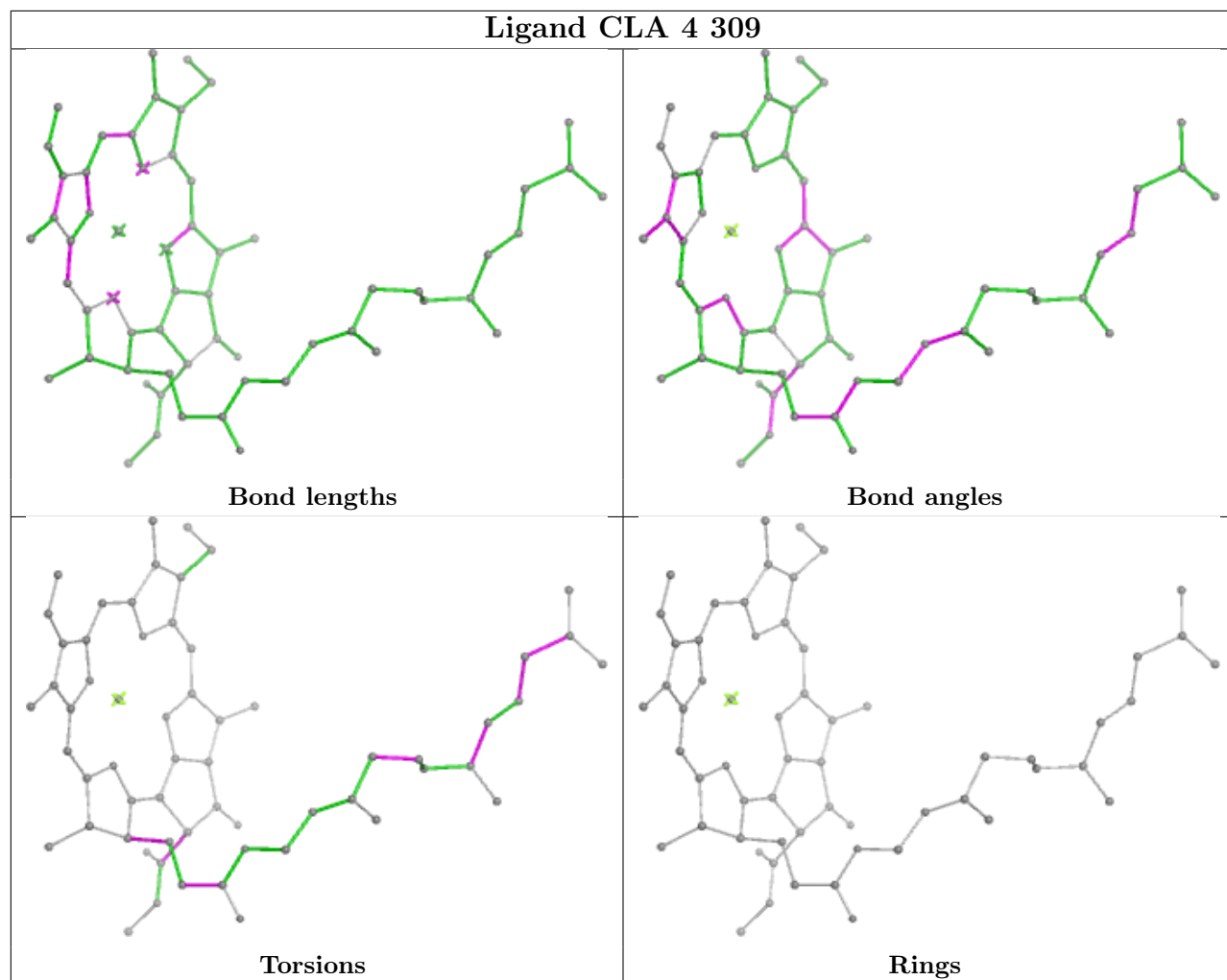


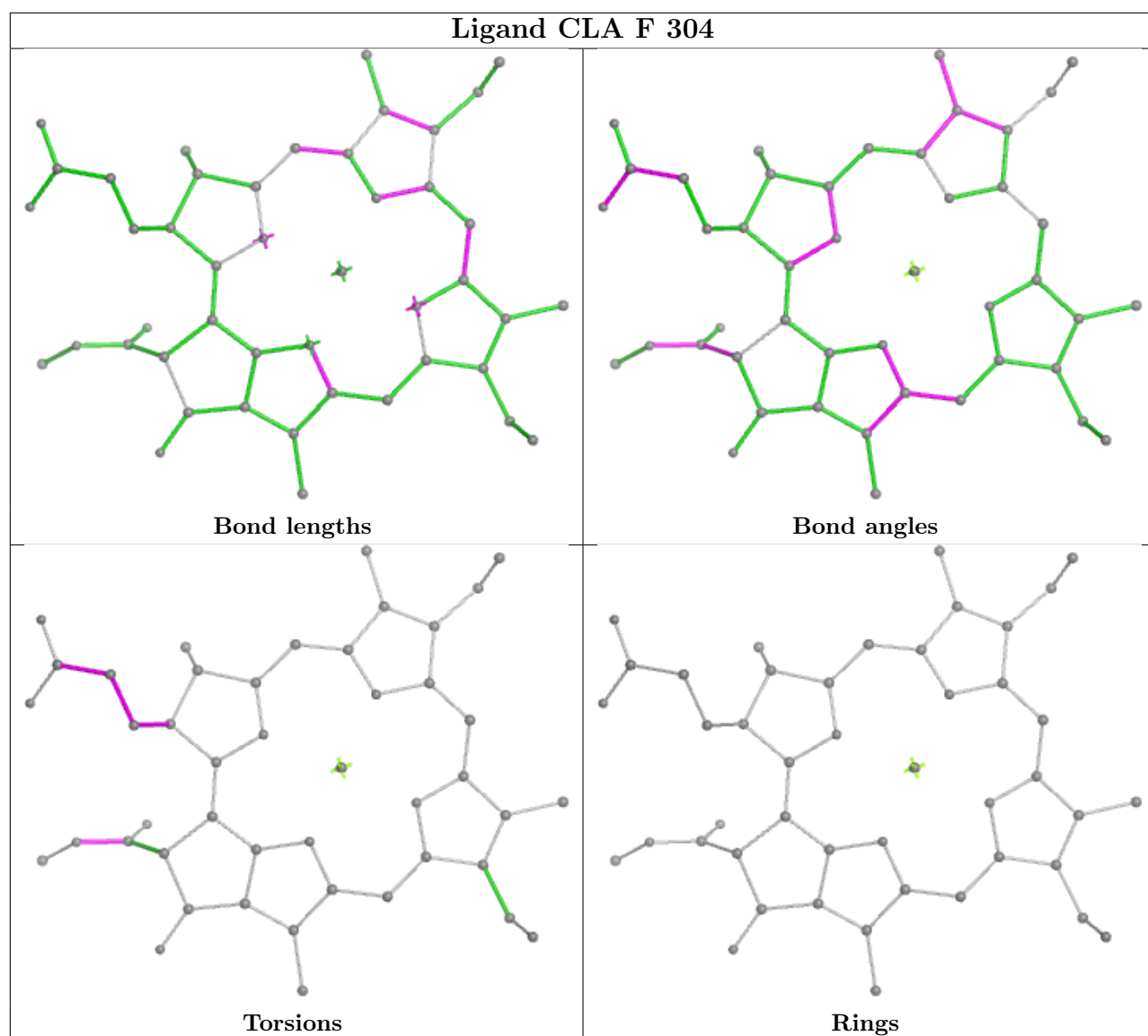
Rings



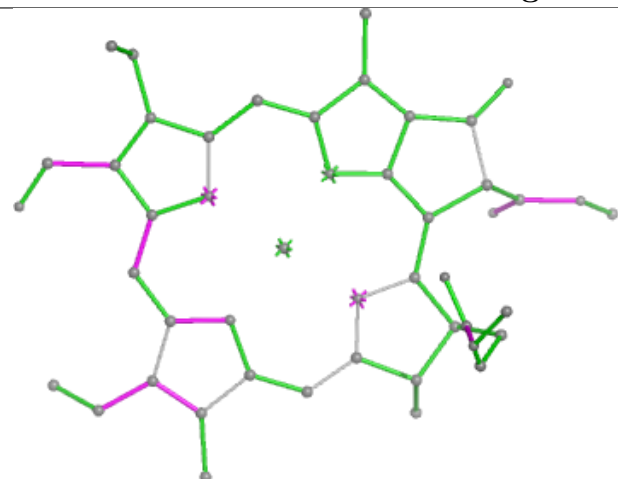


## Ligand CLA 4 309

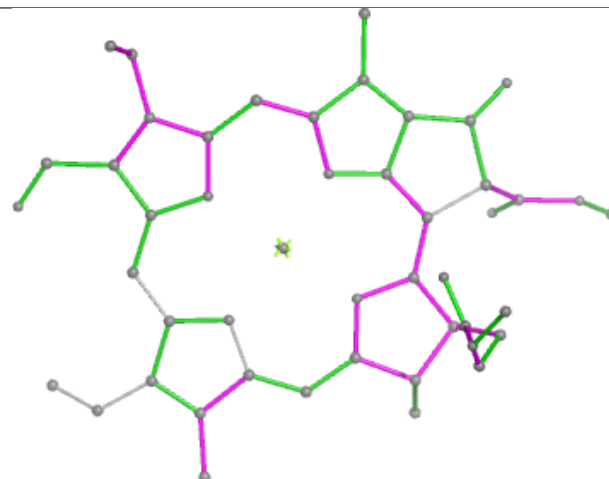




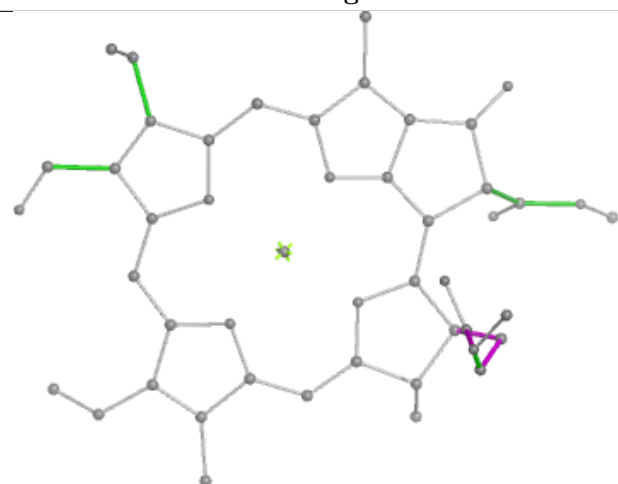
## Ligand CHL 3 307



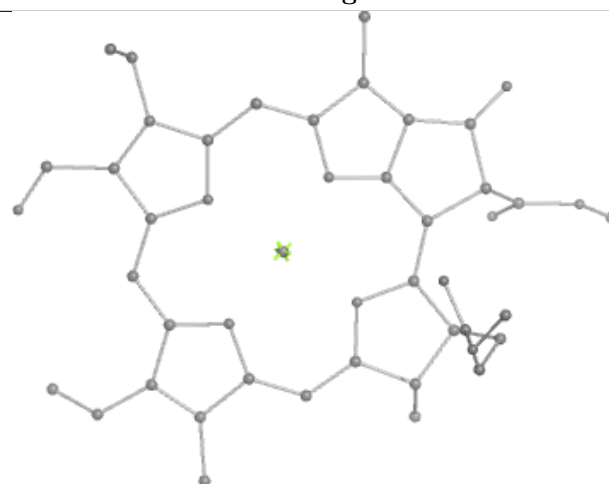
Bond lengths



Bond angles

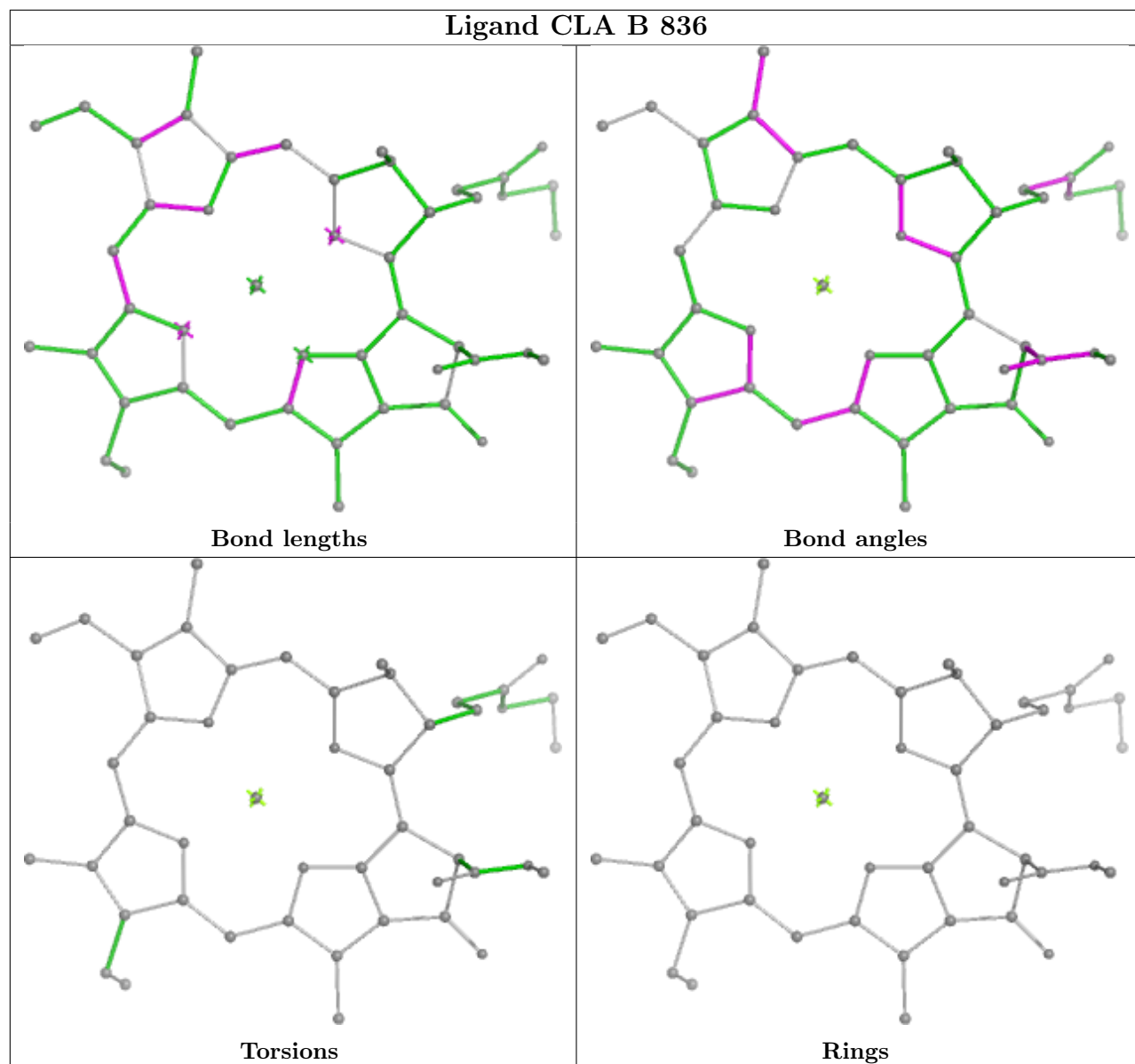


Torsions

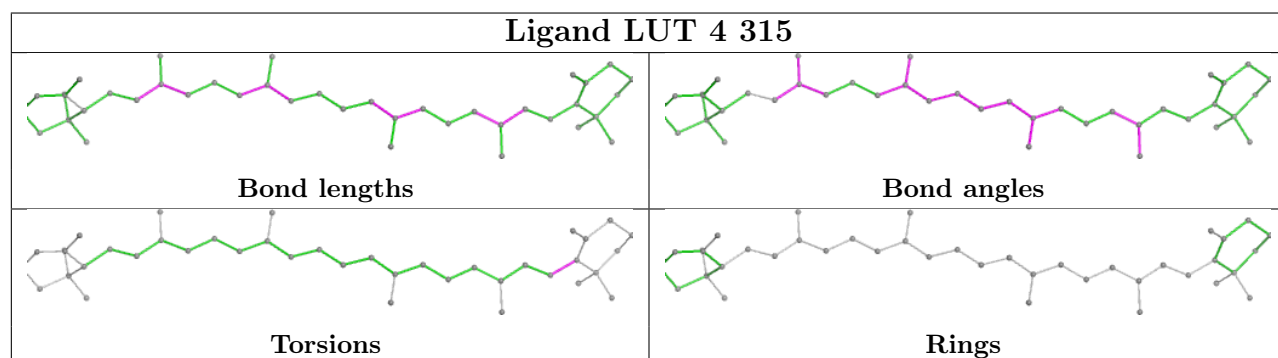


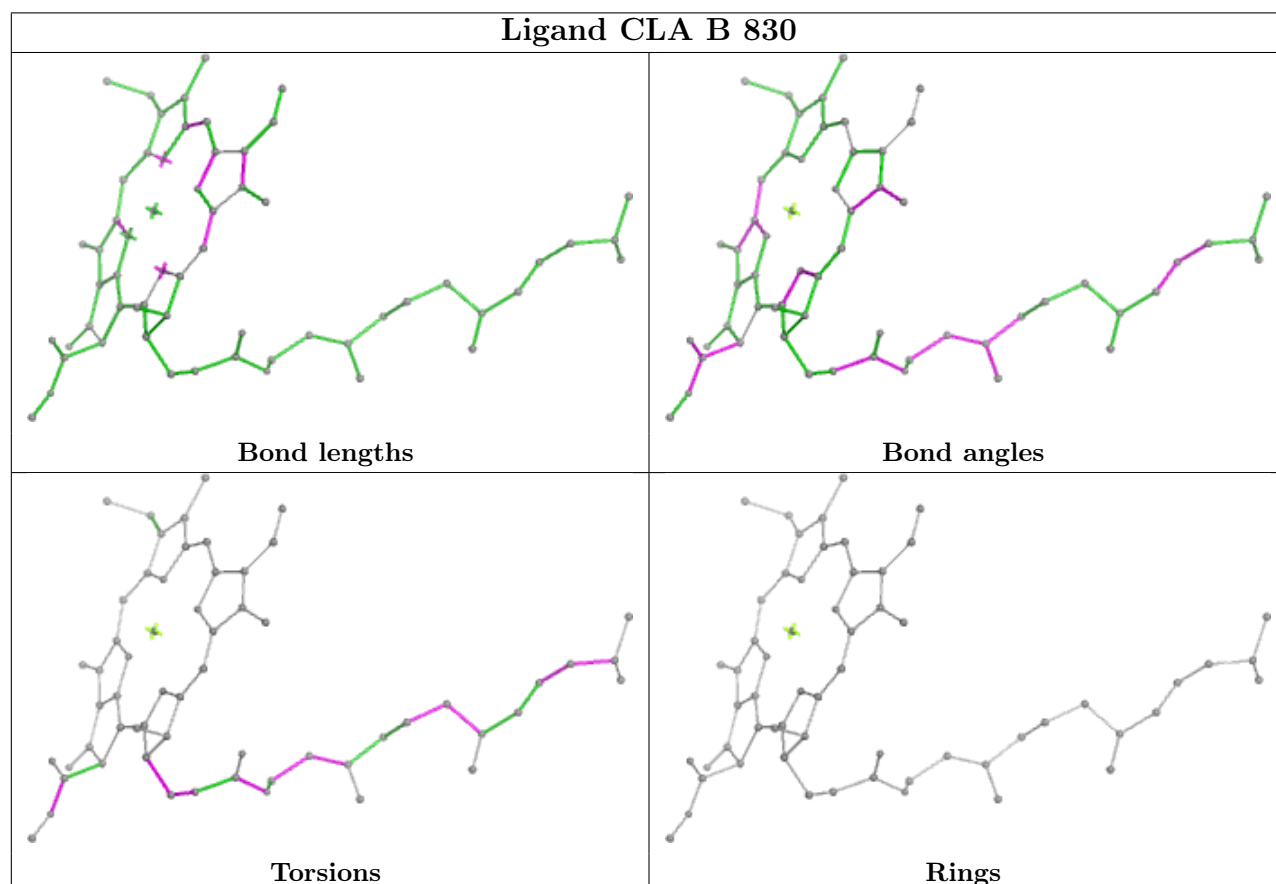
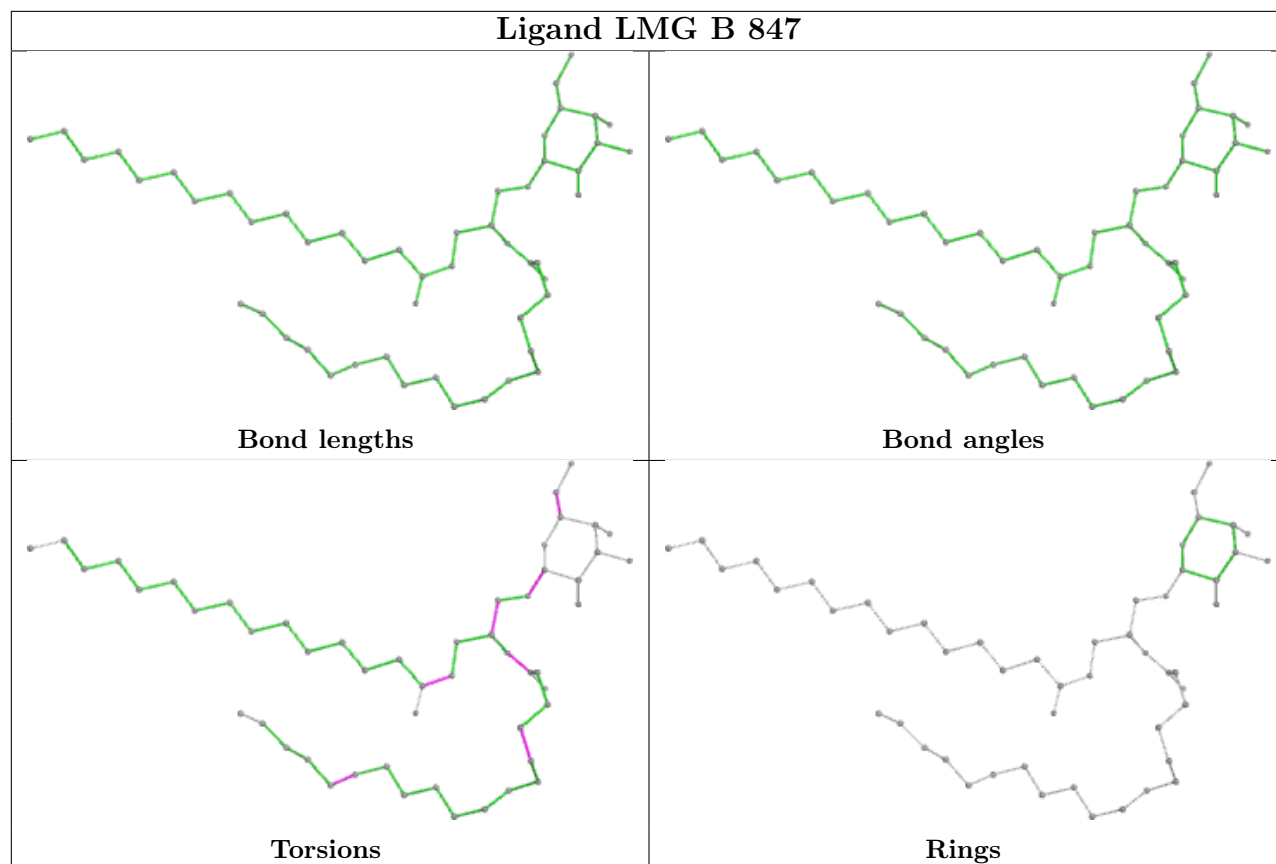
Rings

## Ligand CLA B 836

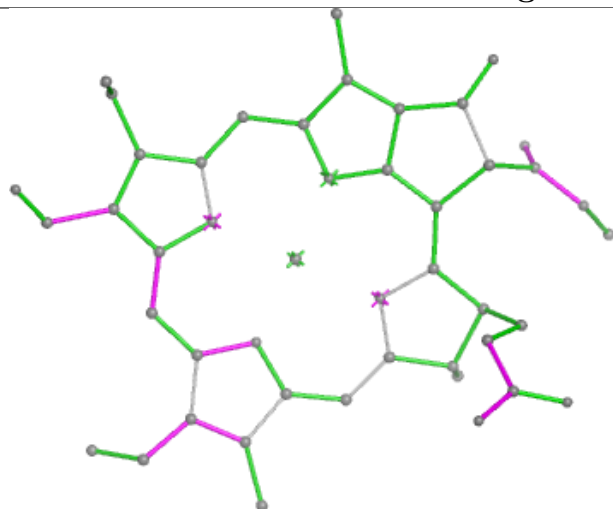


## Ligand LUT 4 315

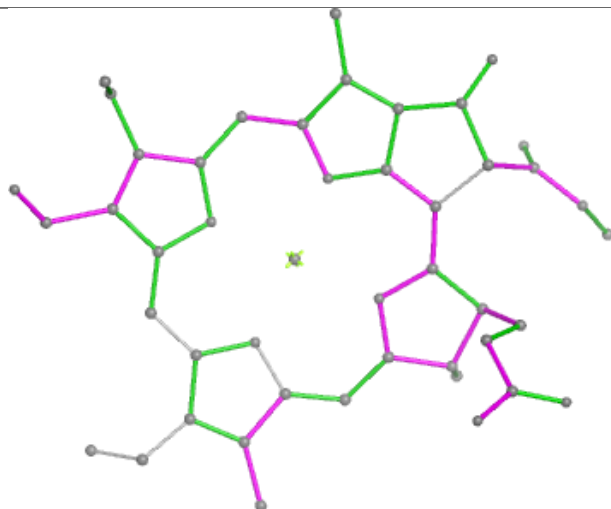




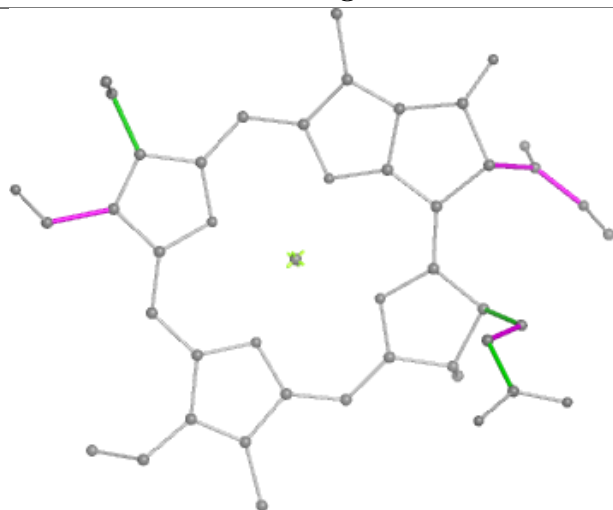
## Ligand CHL 1 306



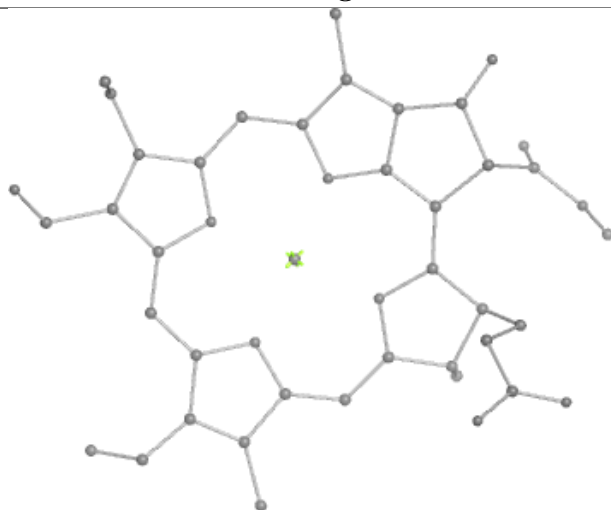
Bond lengths



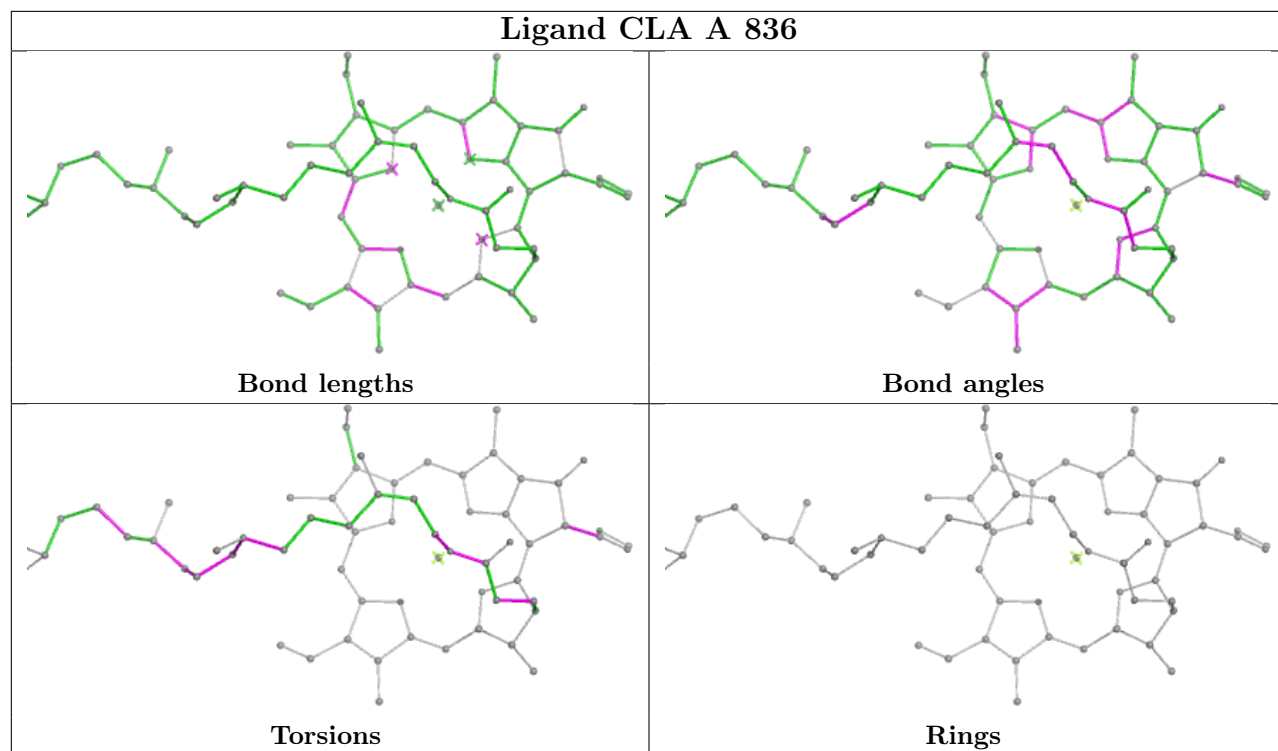
Bond angles

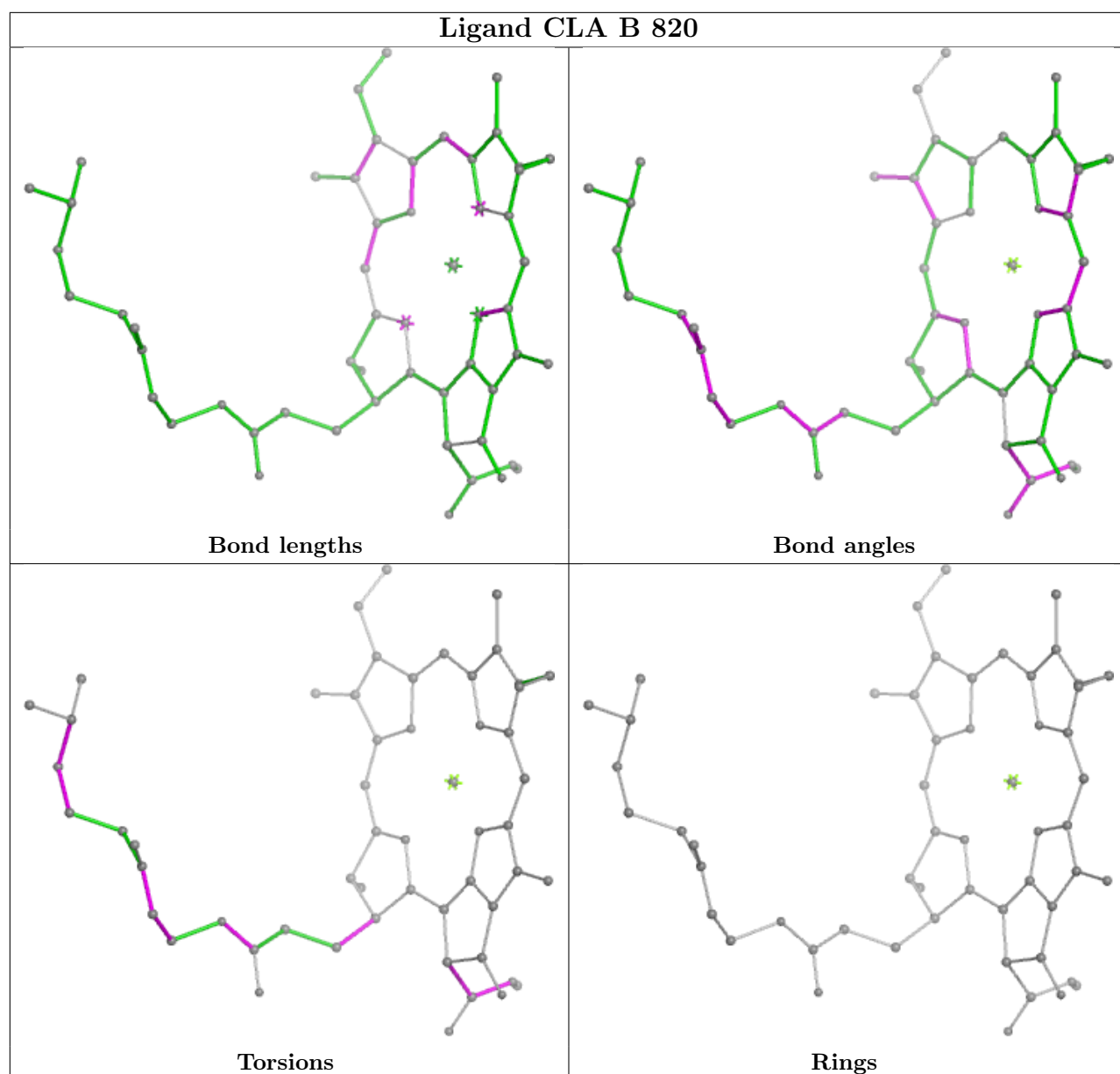


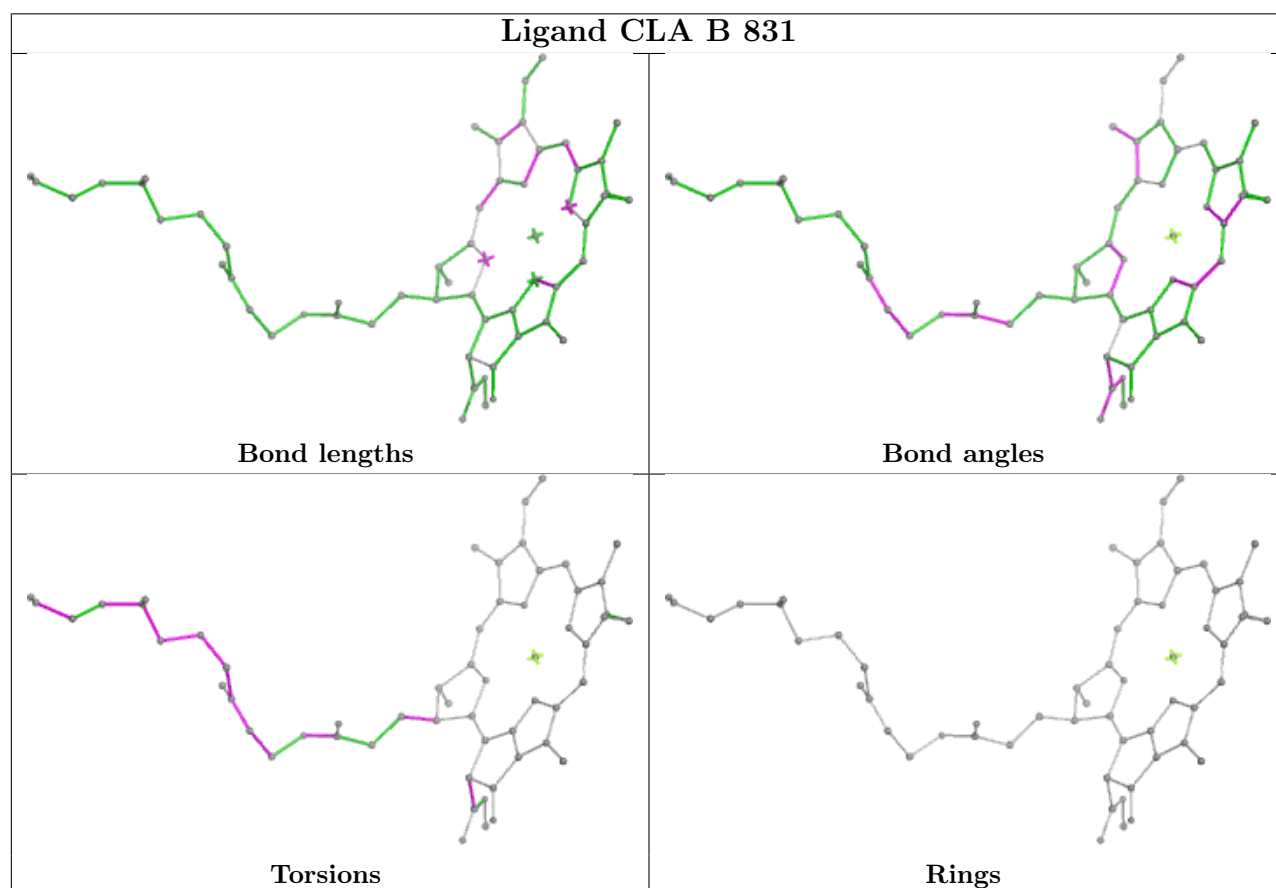
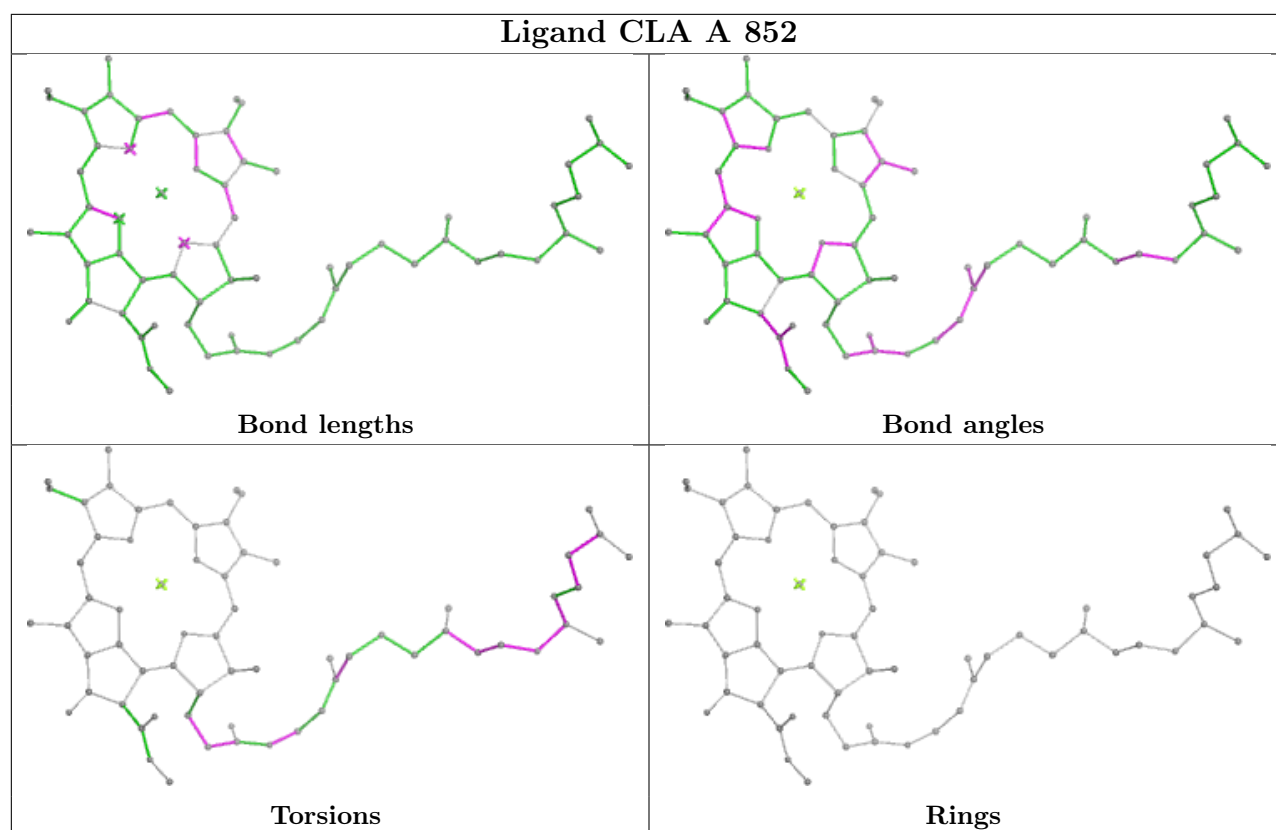
Torsions

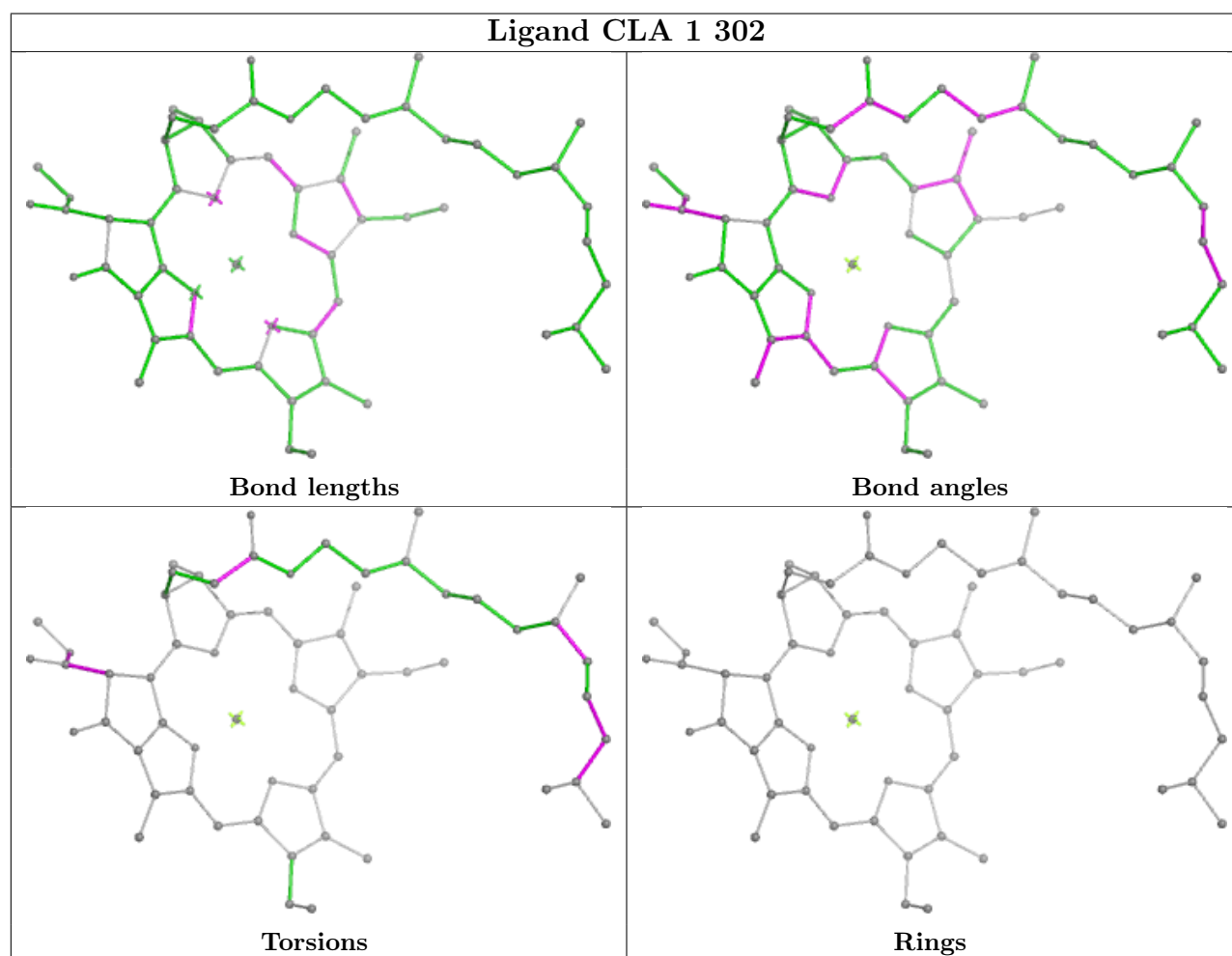
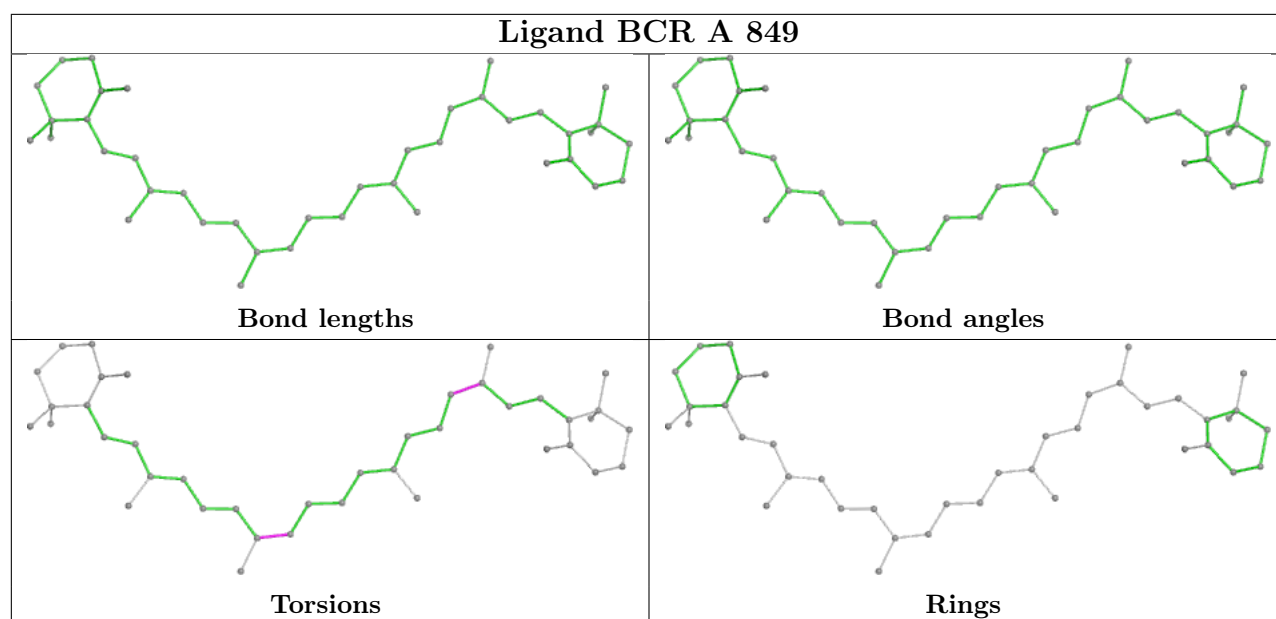


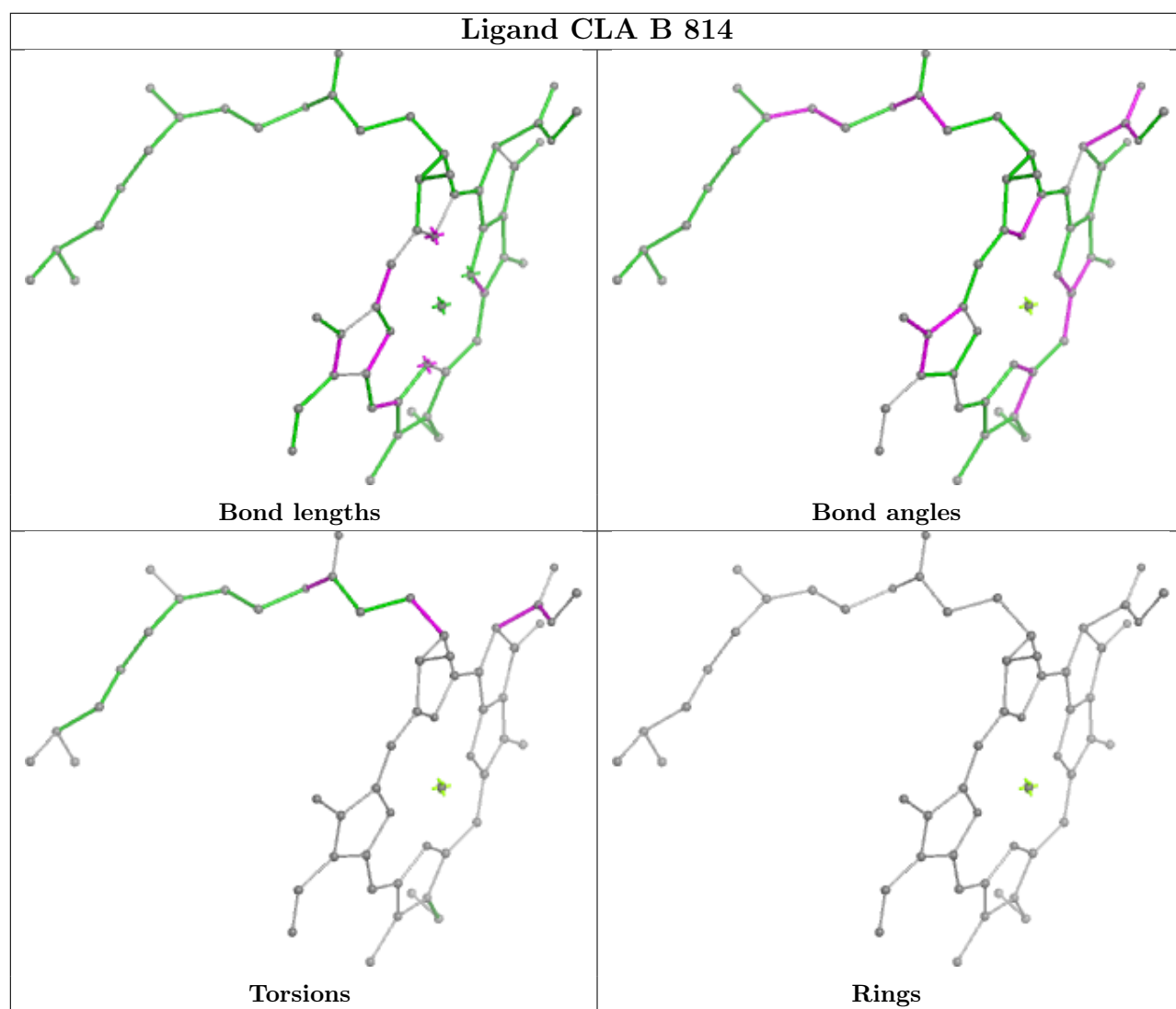
Rings

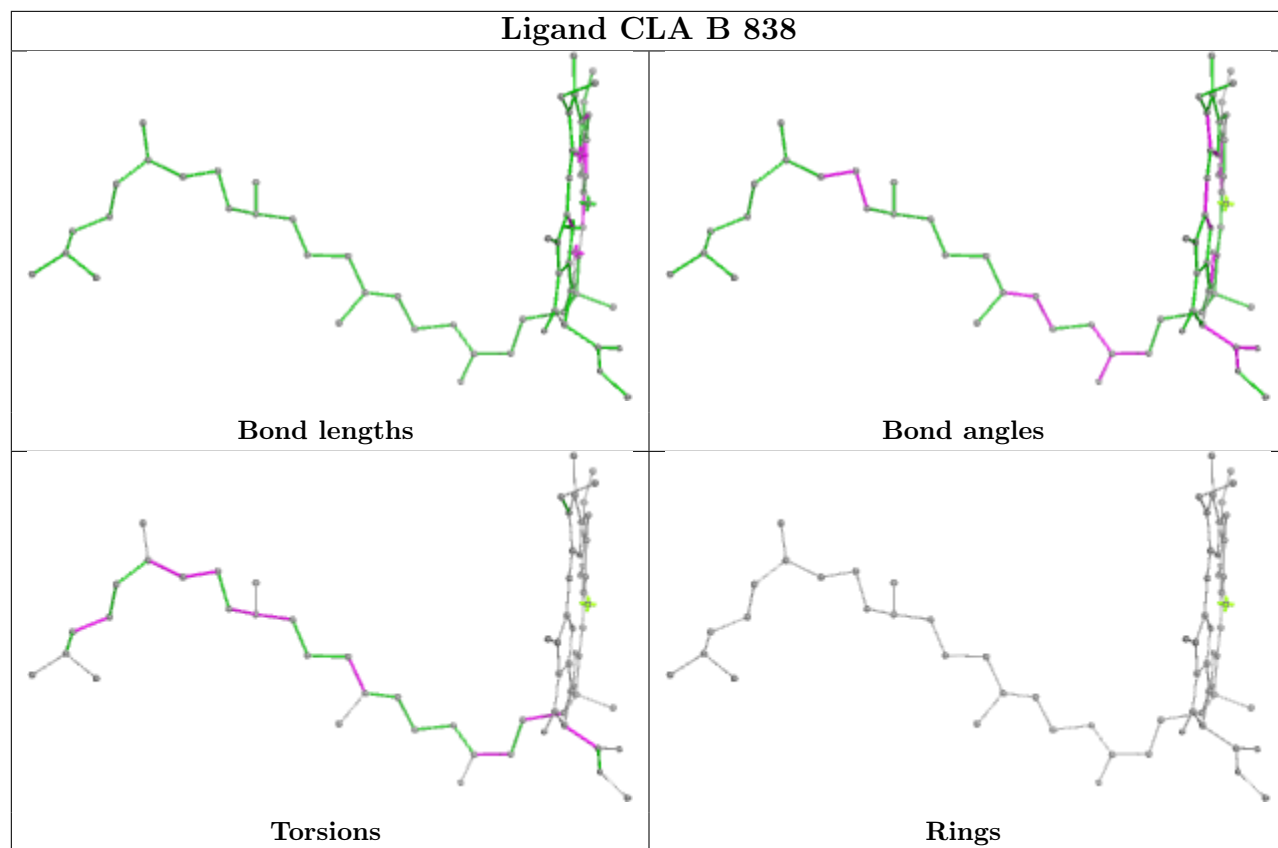


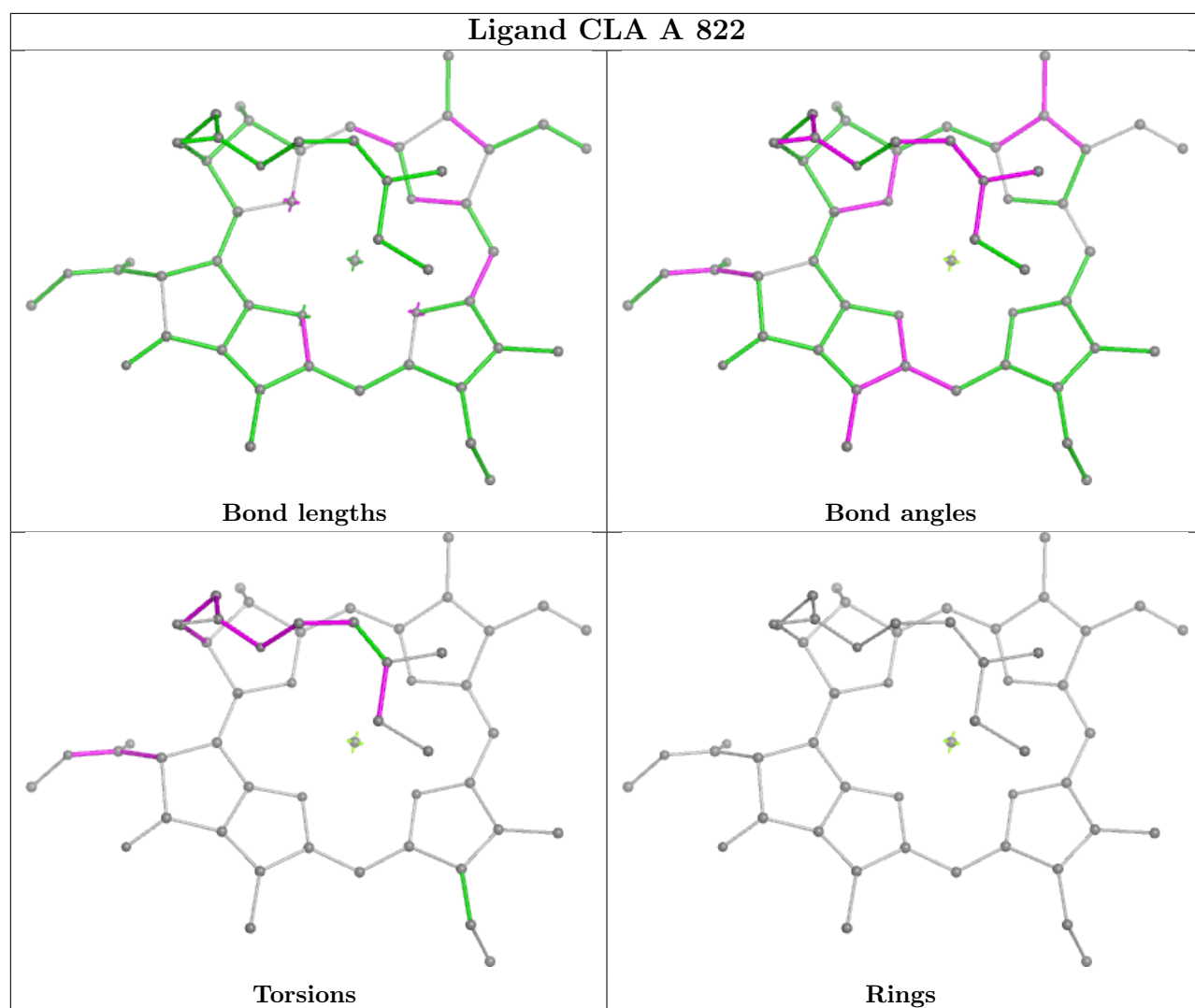


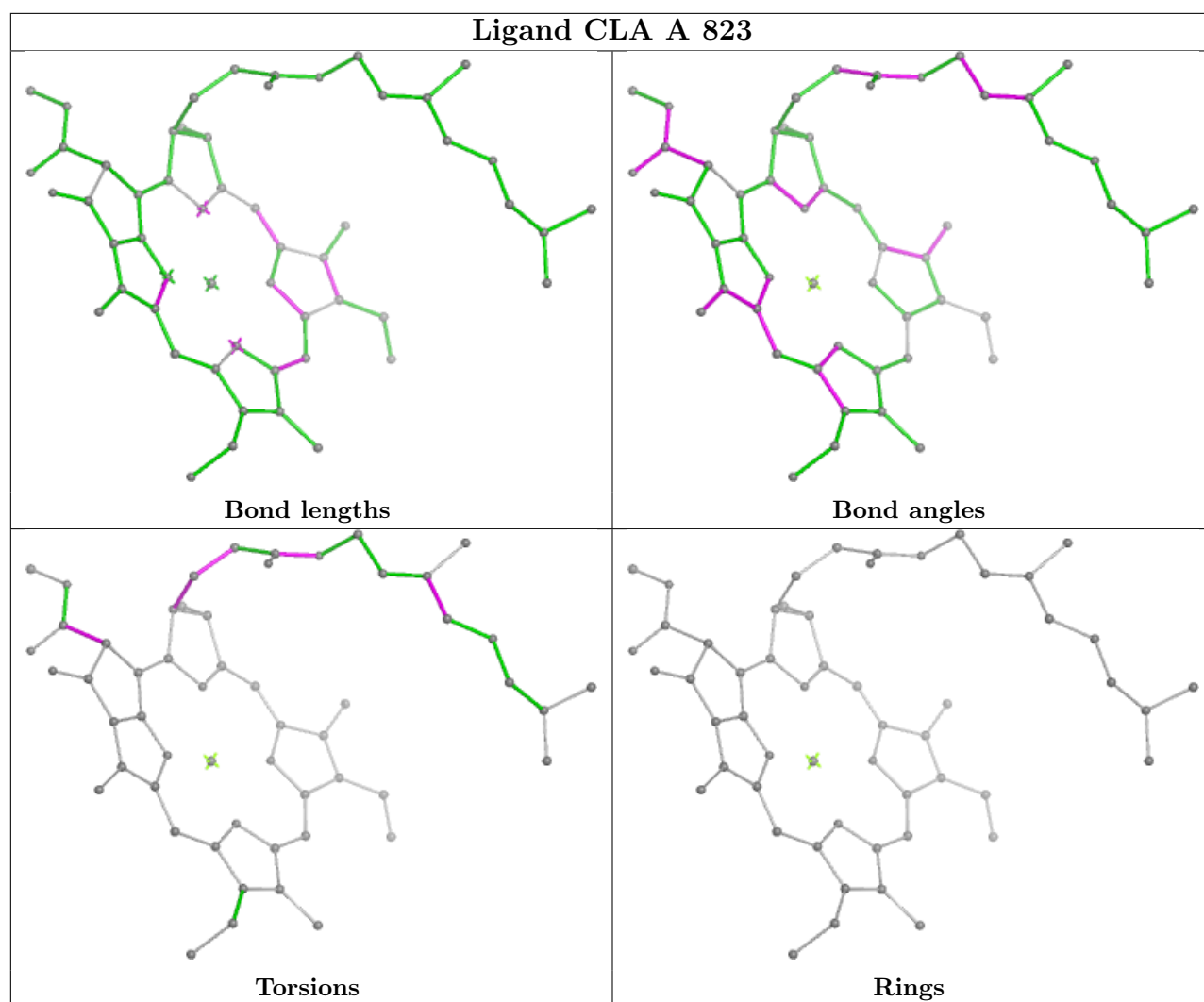


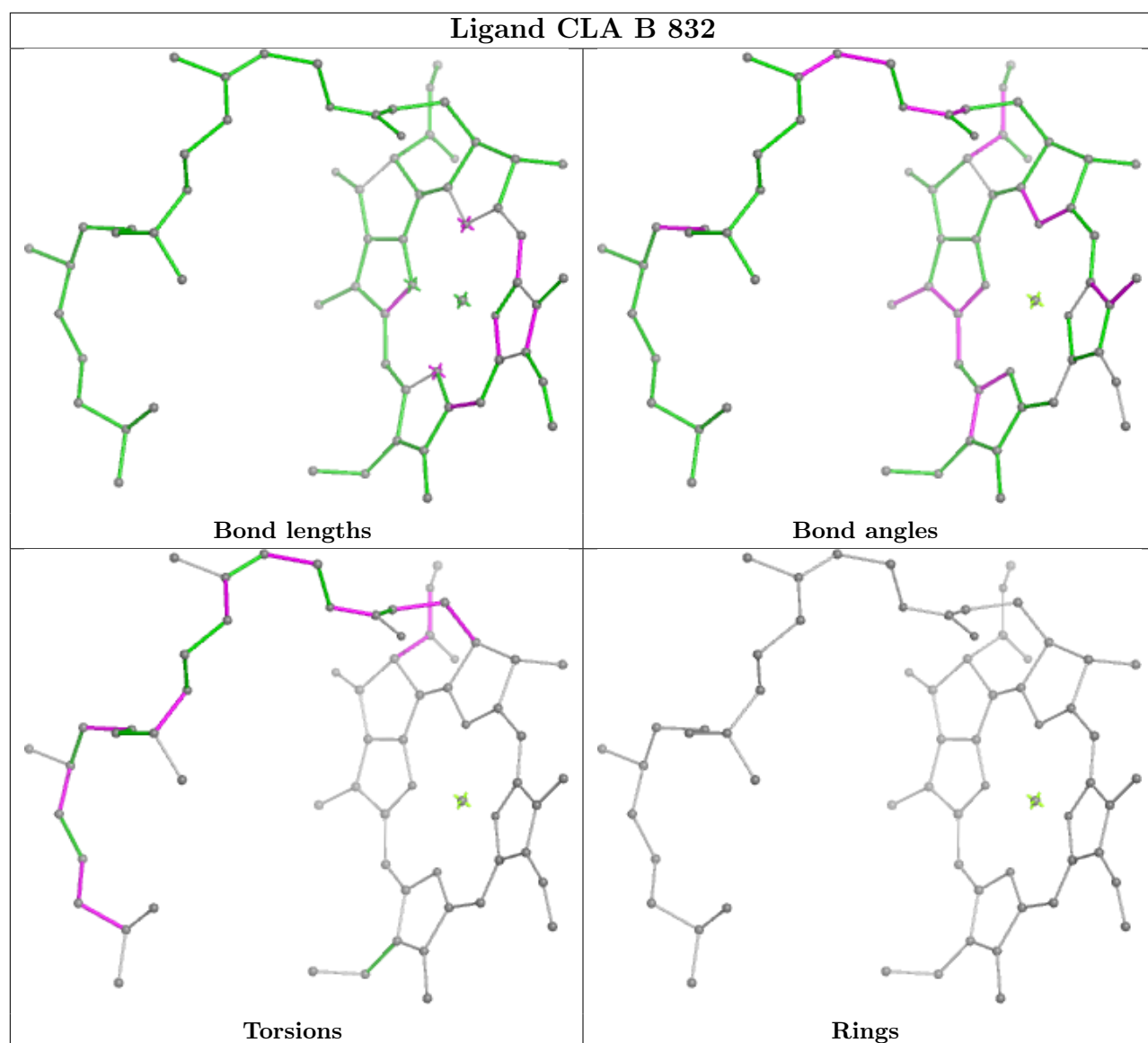


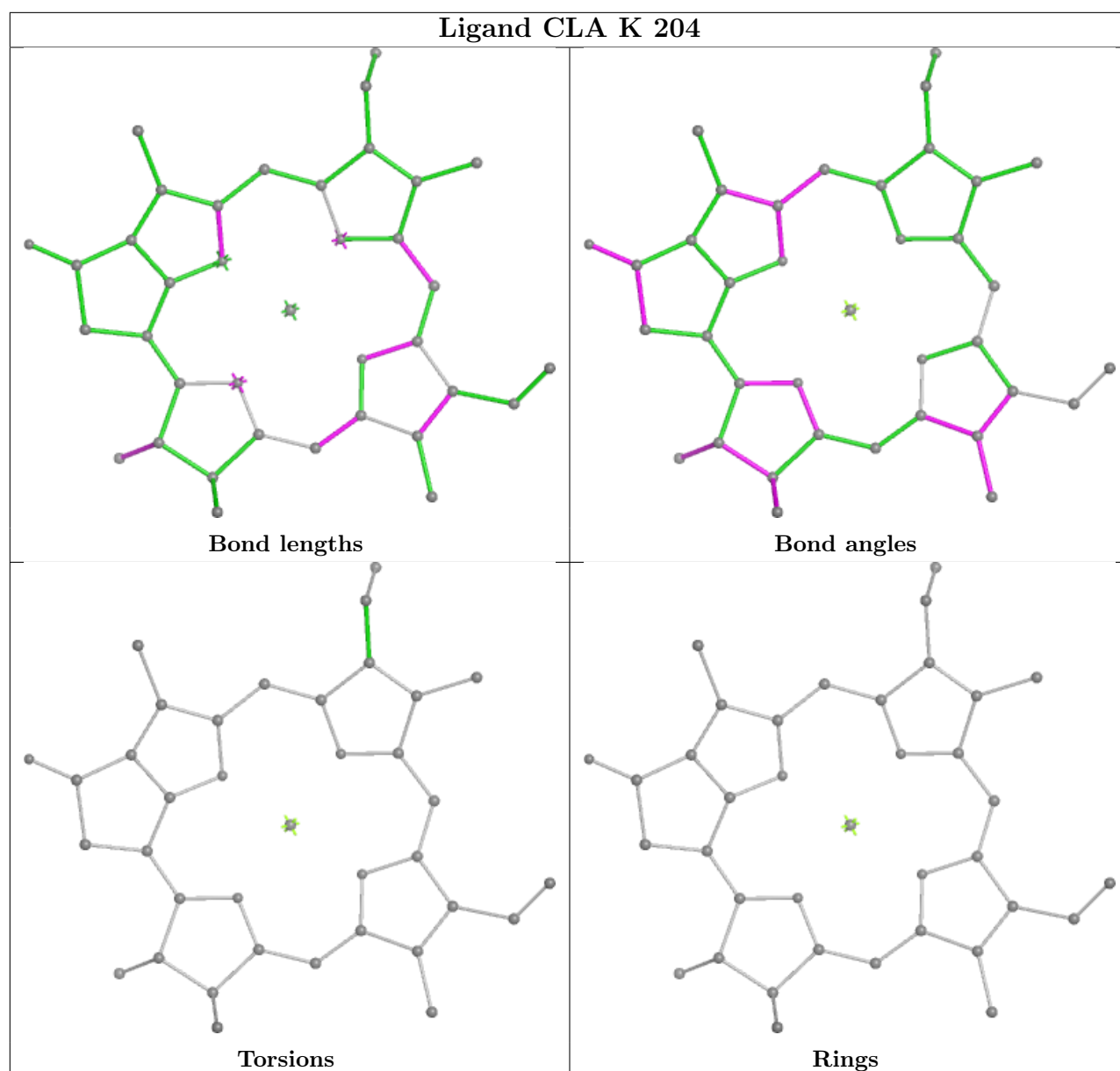


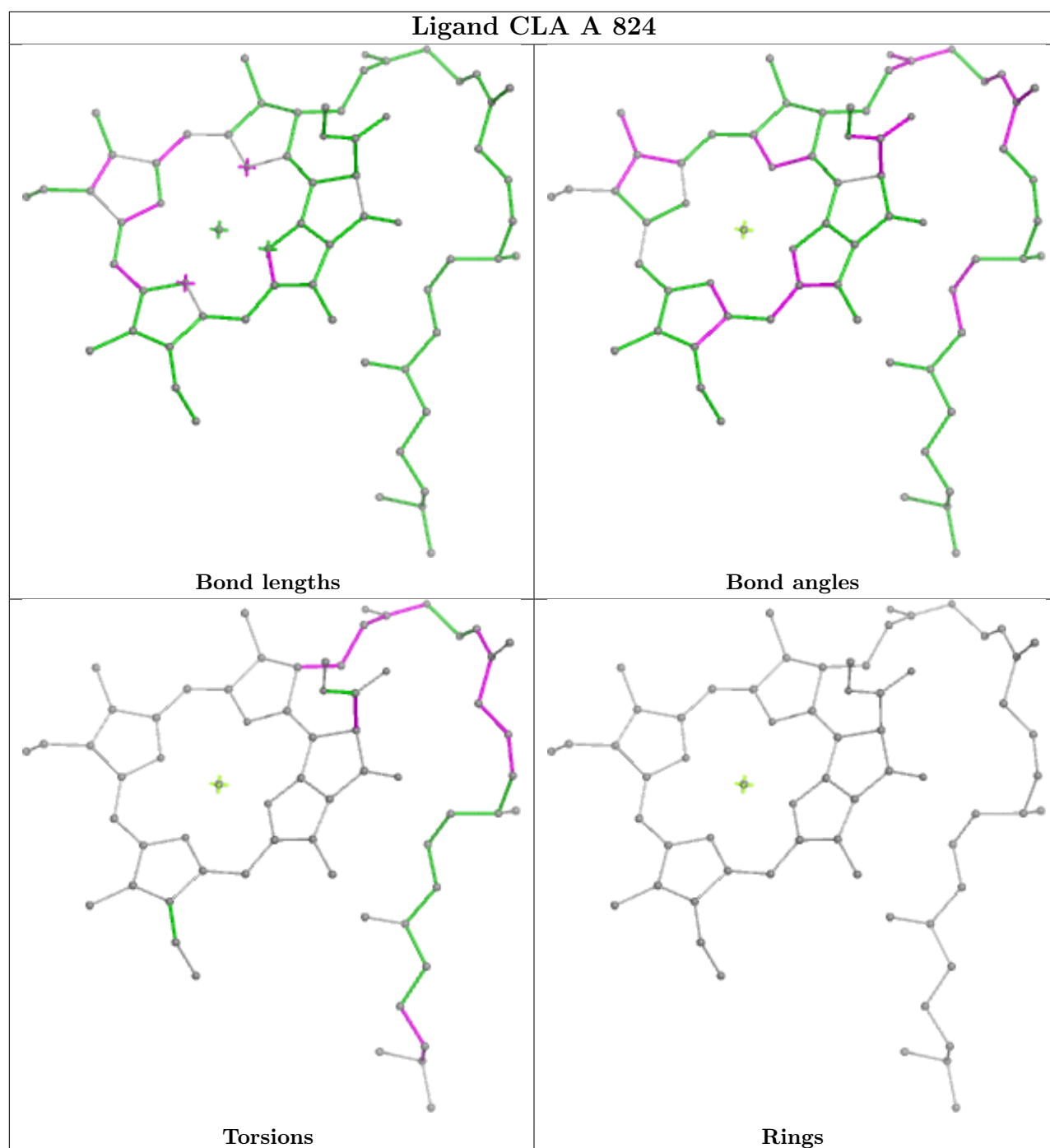


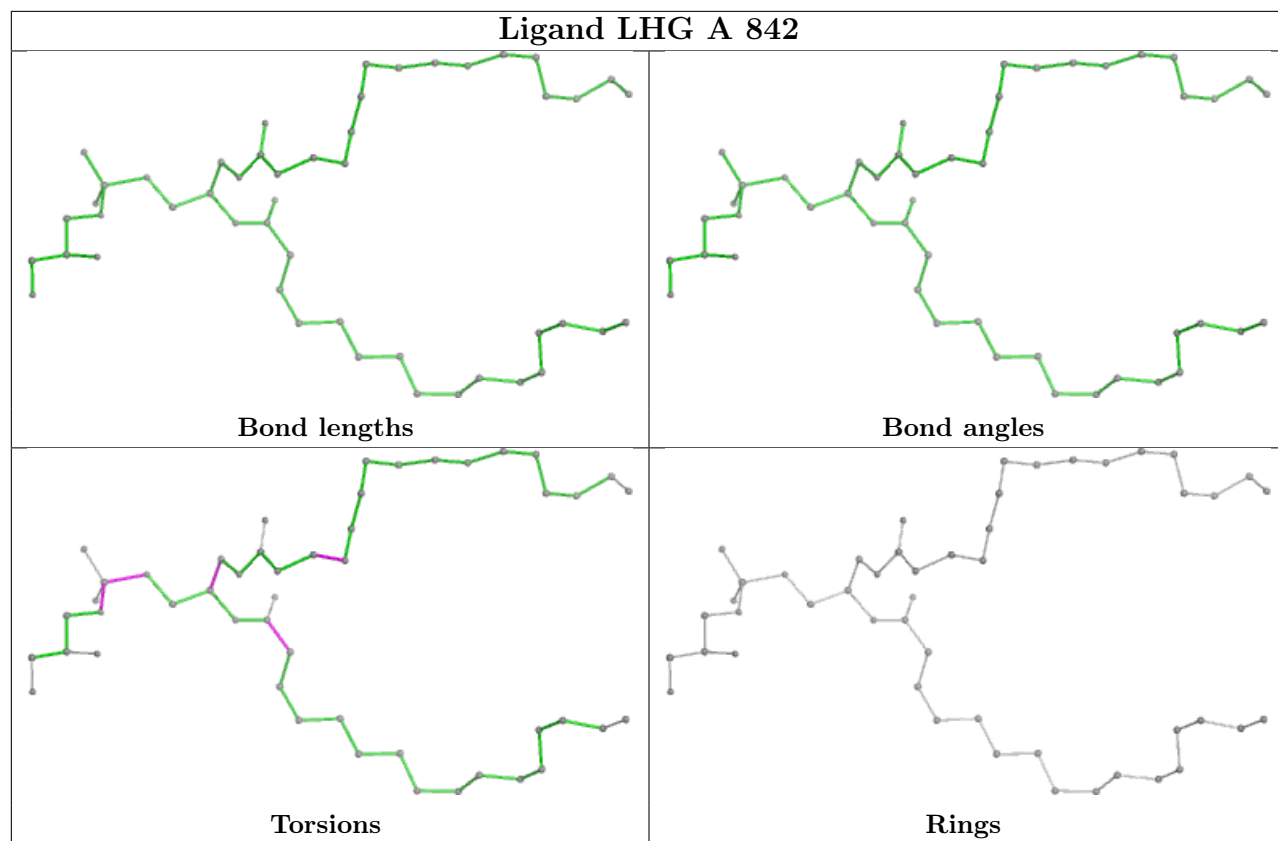




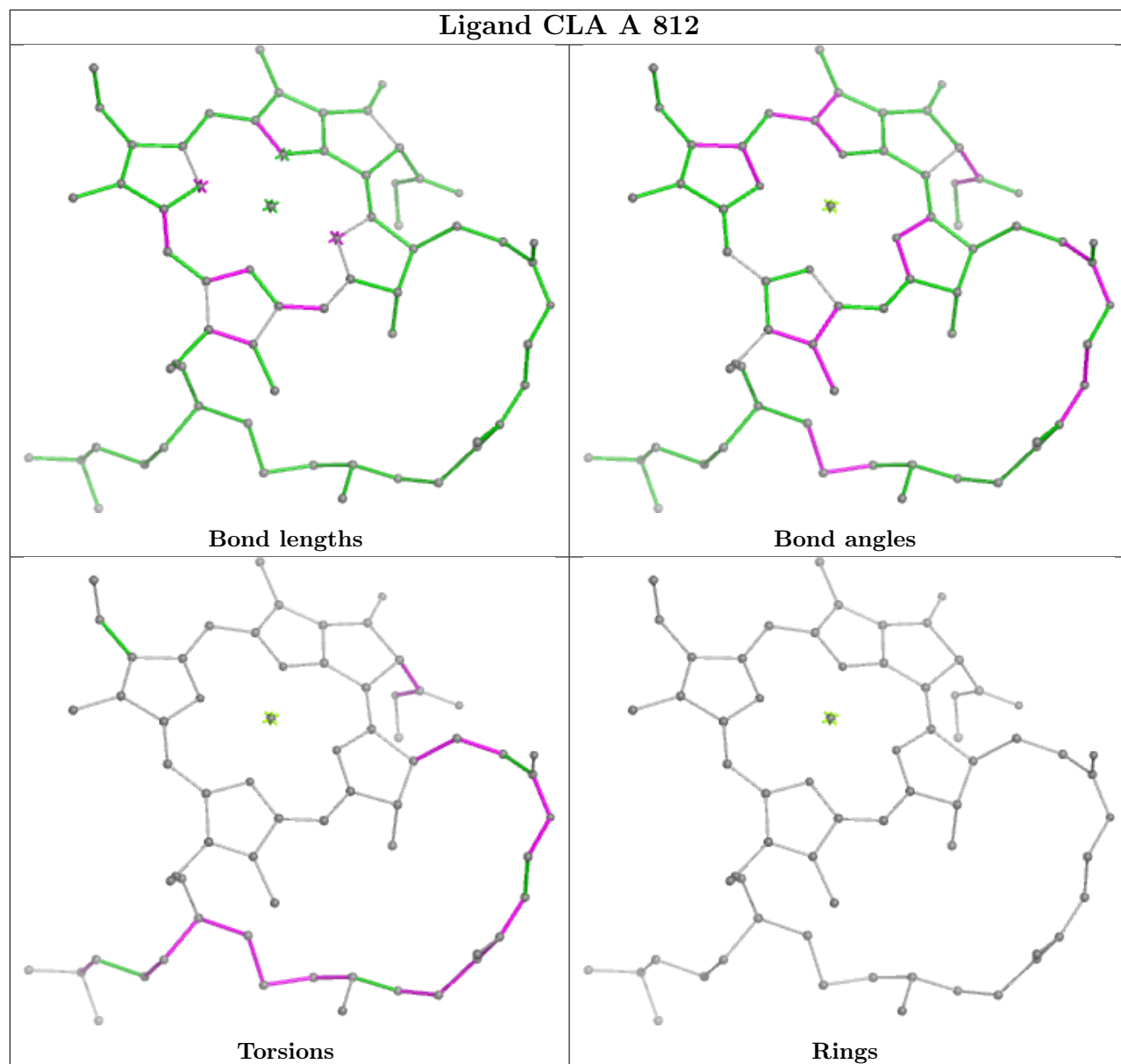




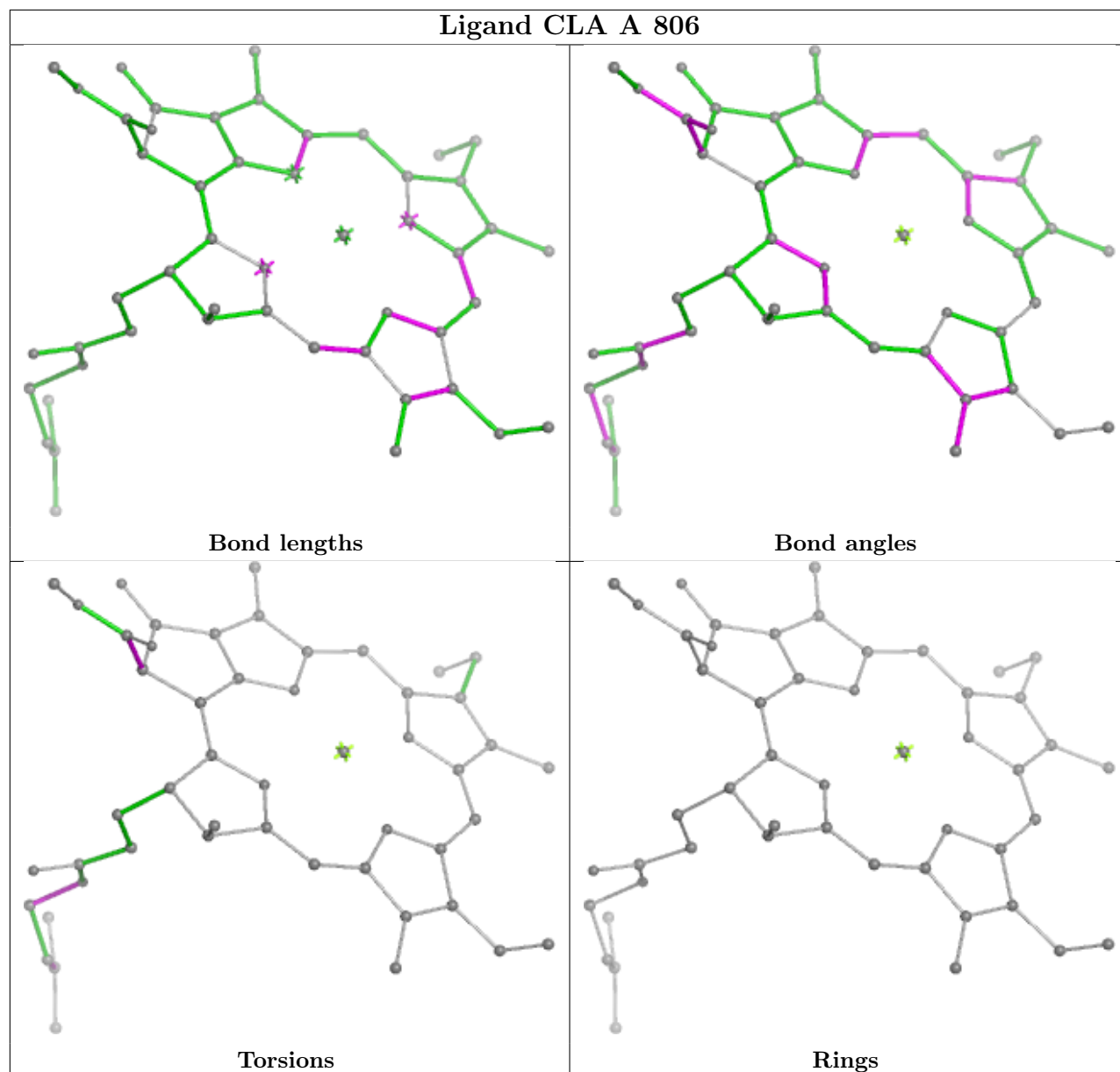


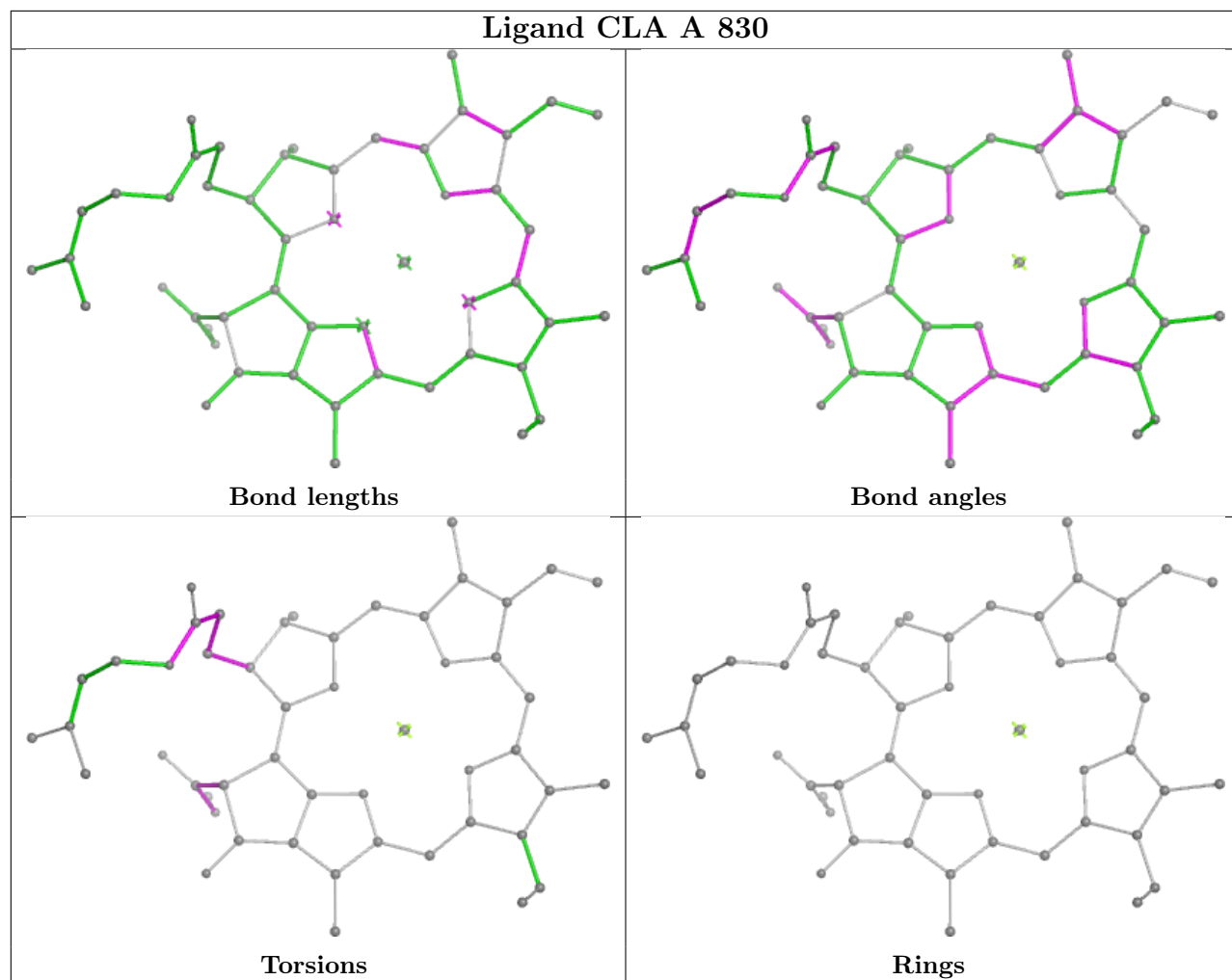


## Ligand CLA A 812

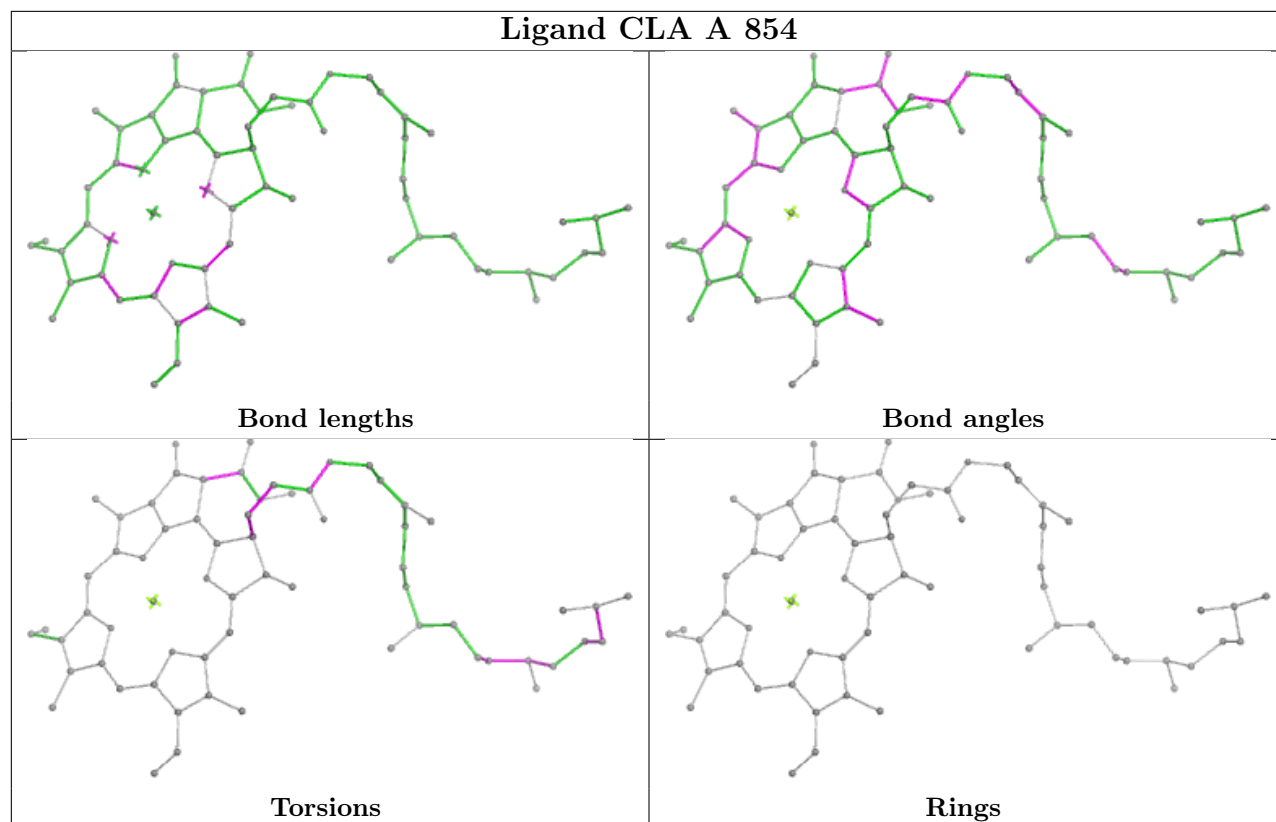


## Ligand CLA A 806

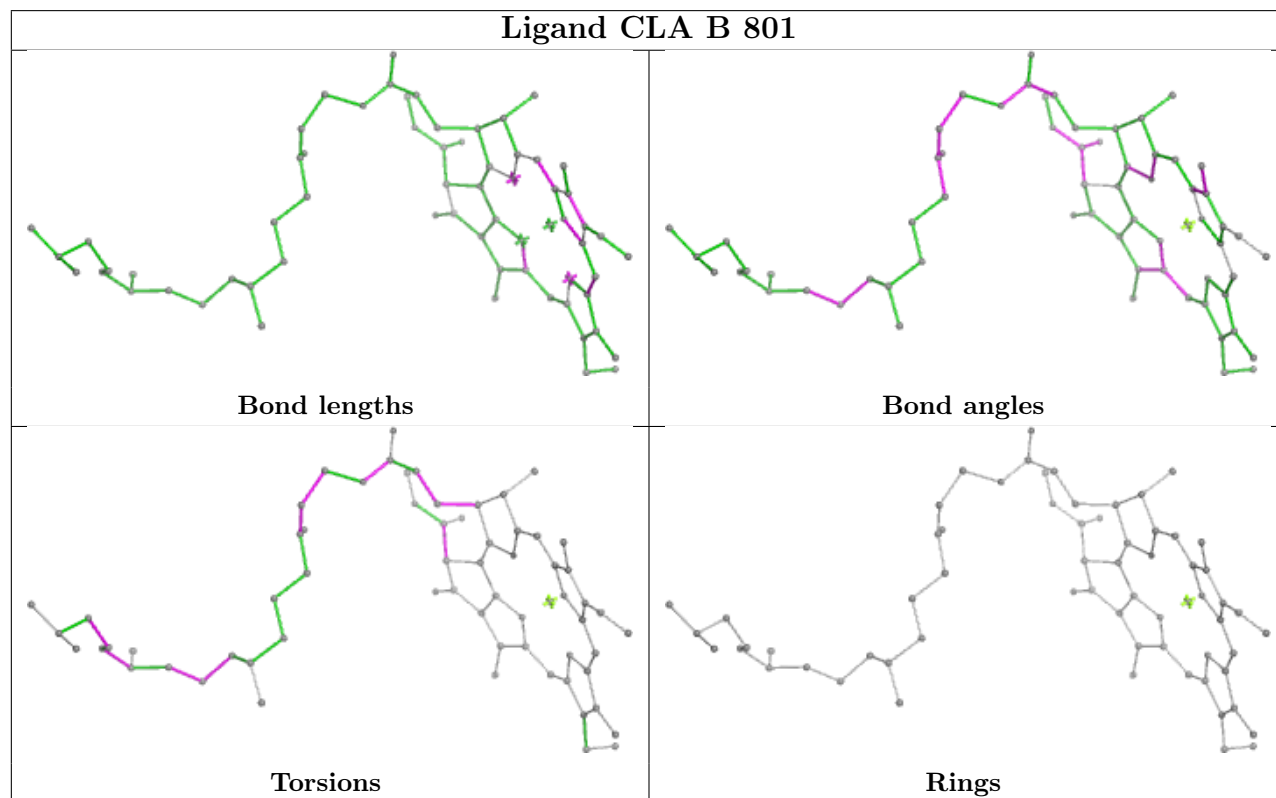


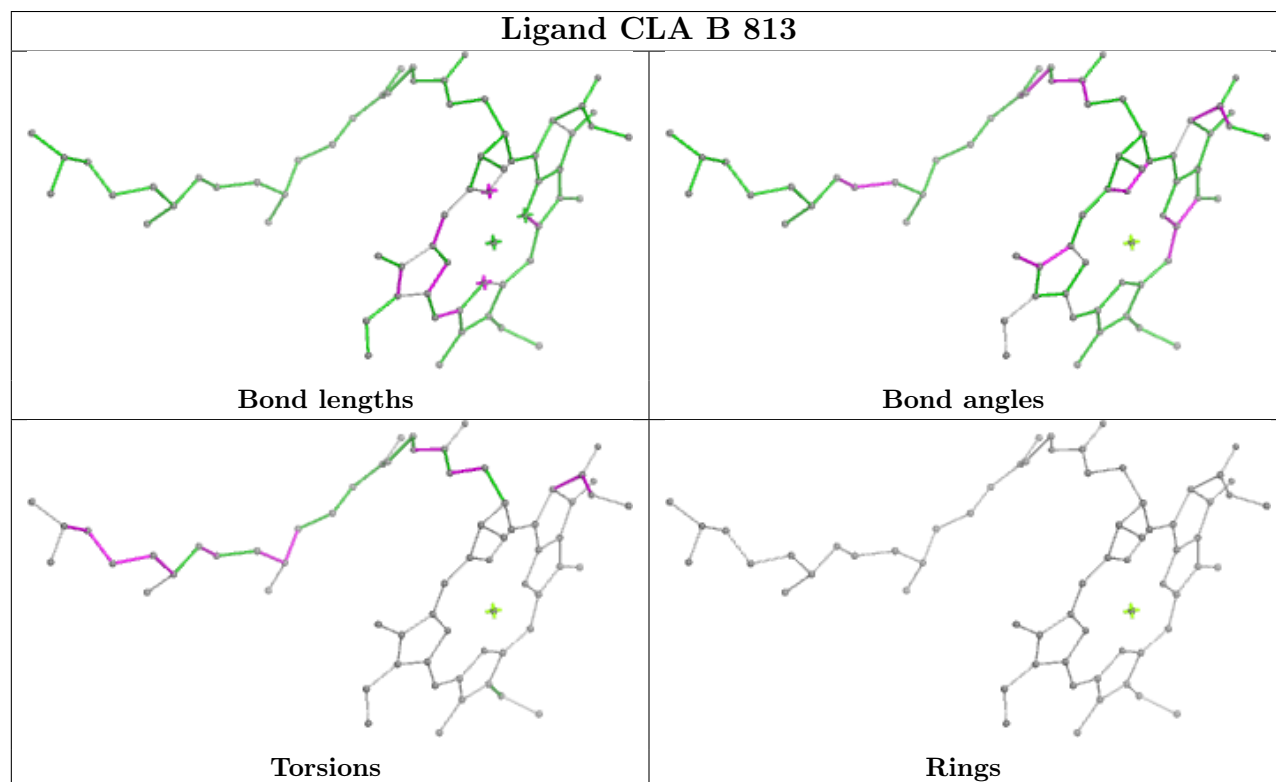
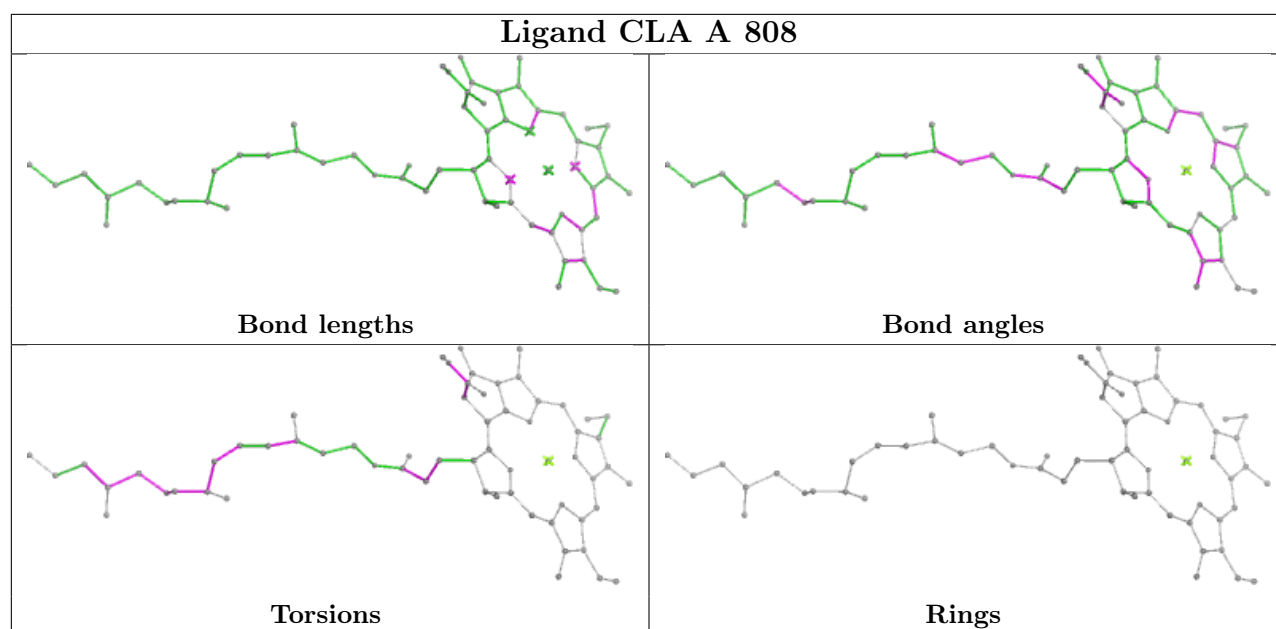


## Ligand CLA A 854

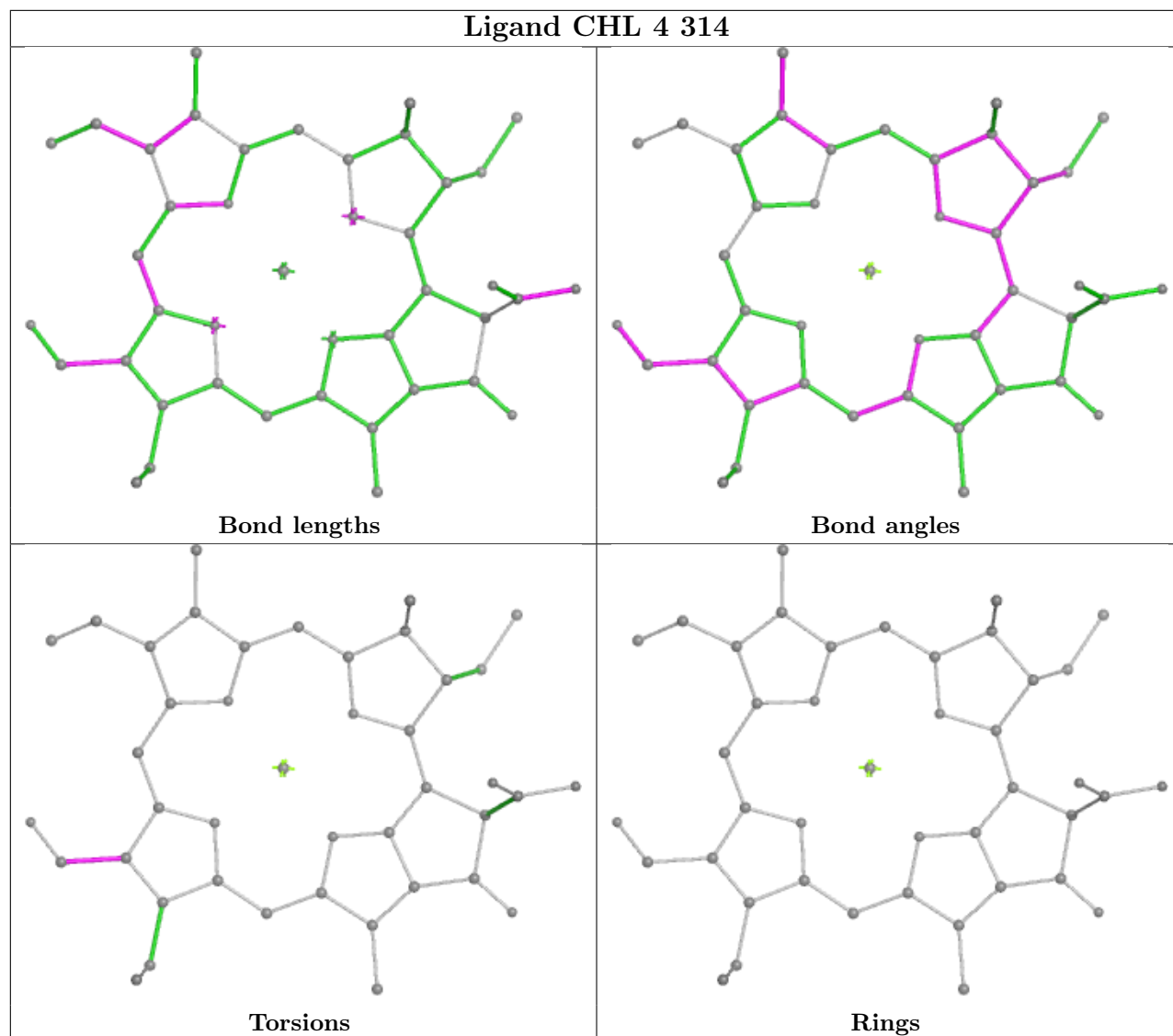


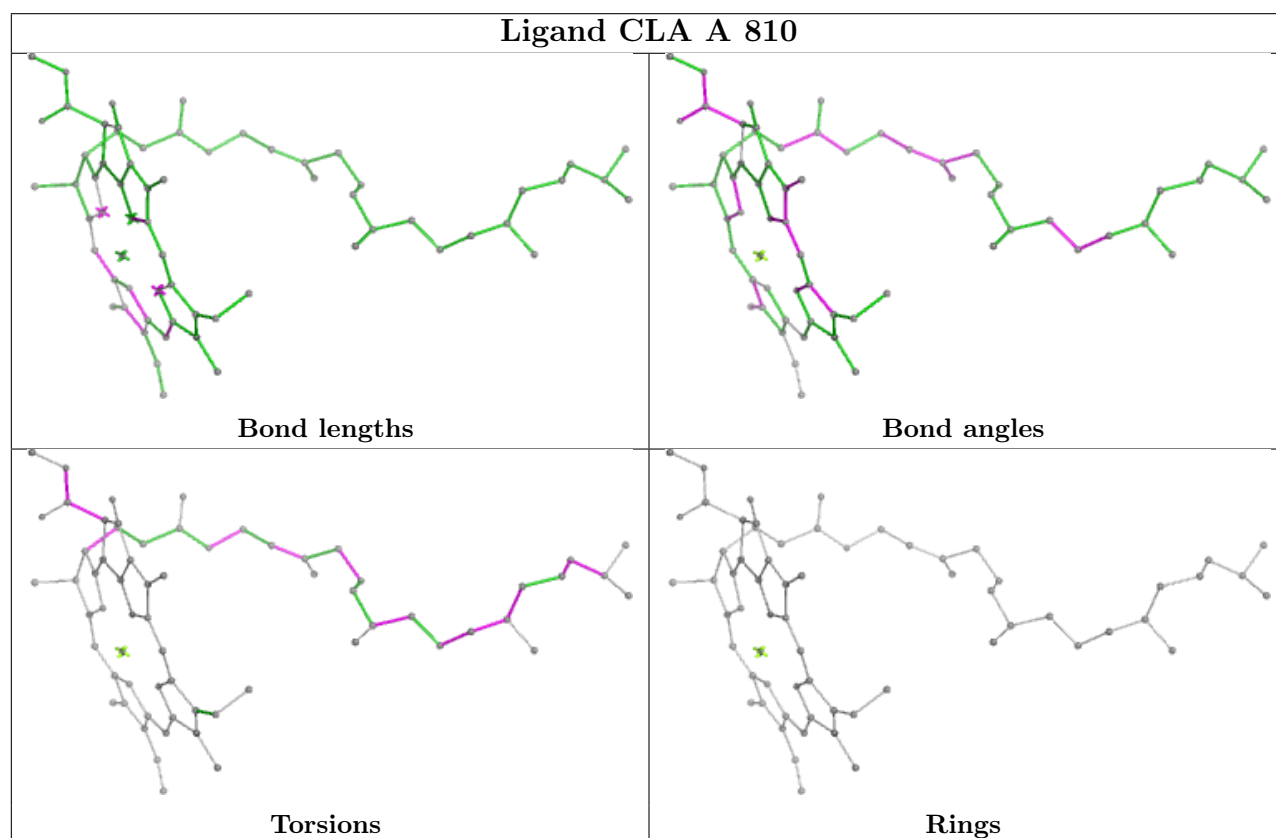
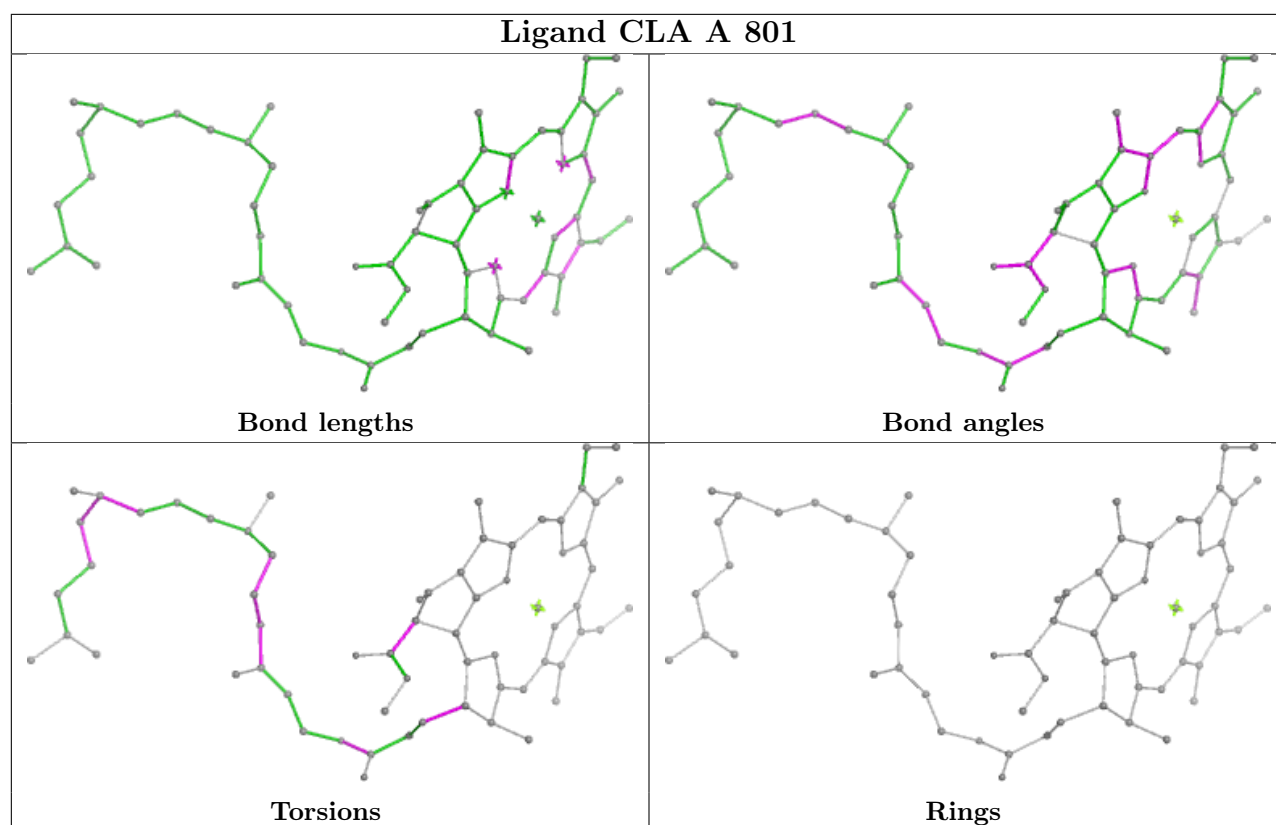
## Ligand CLA B 801



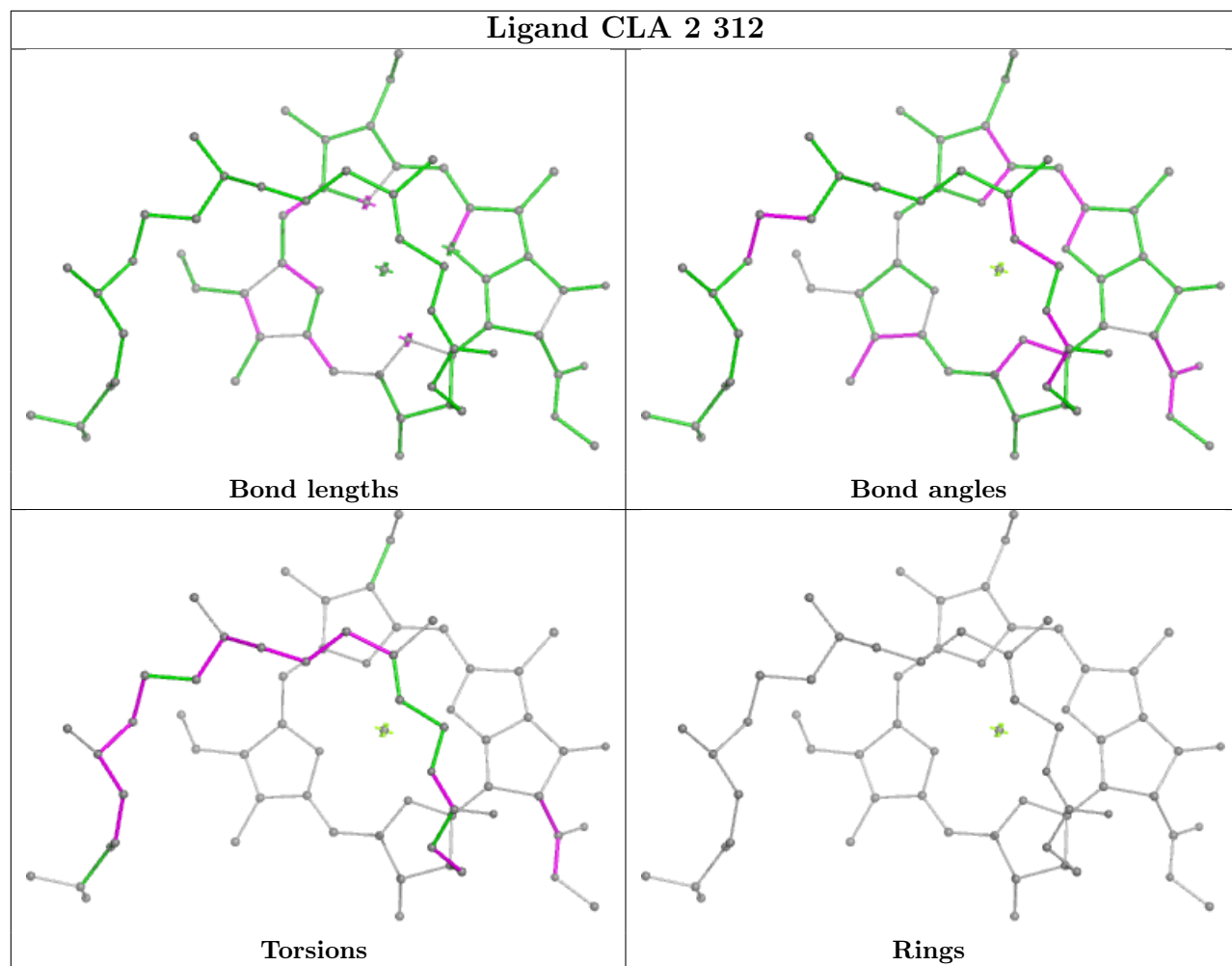


## Ligand CHL 4 314

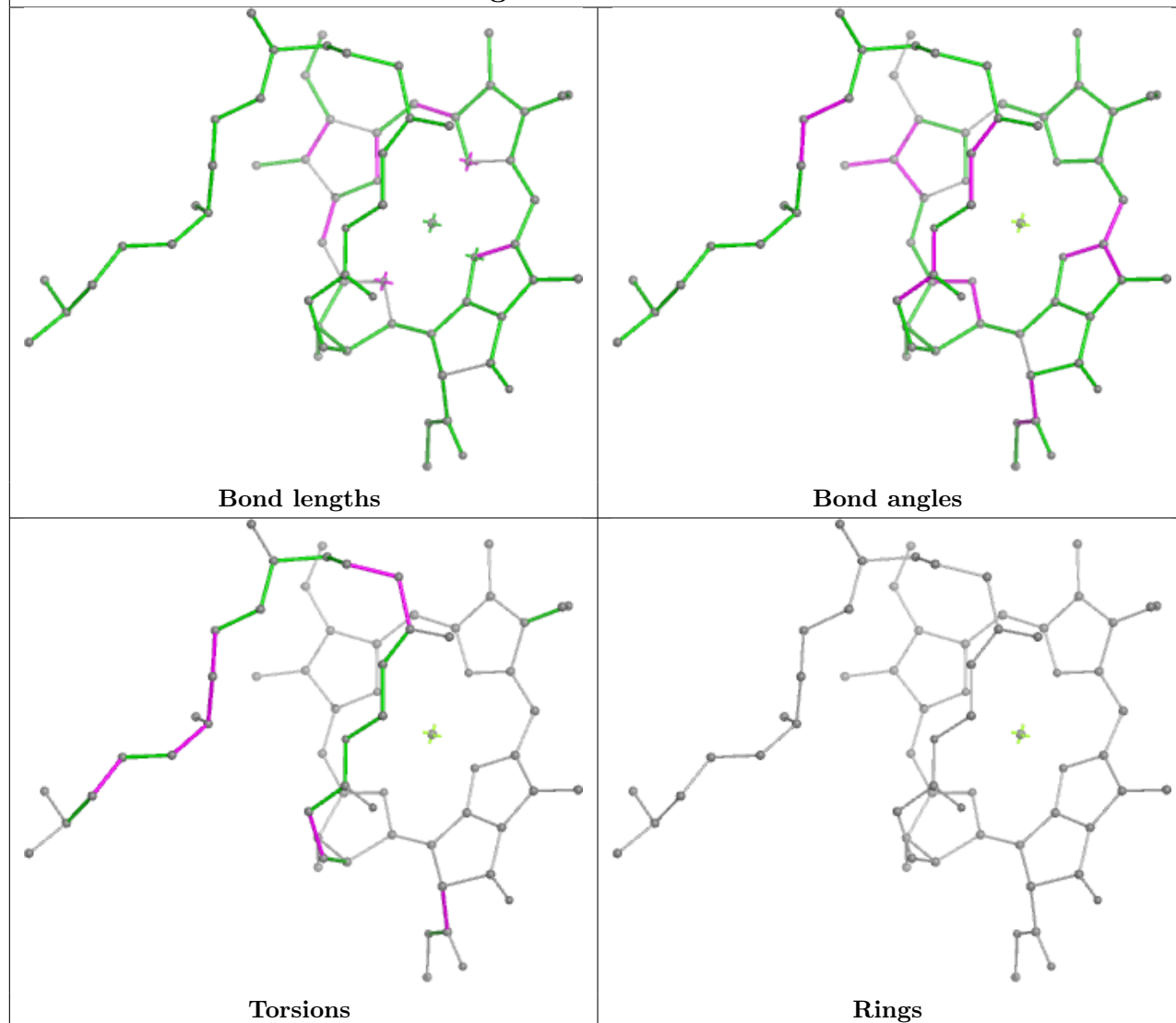




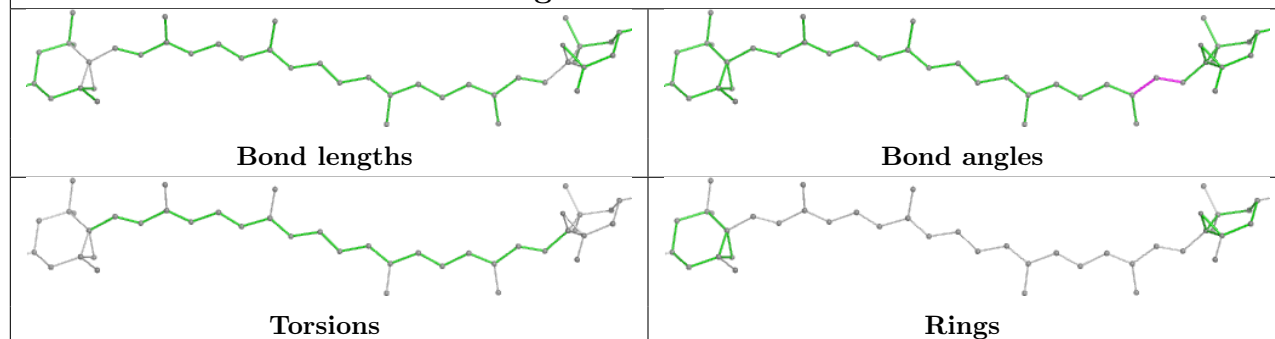
## Ligand CLA 2 312



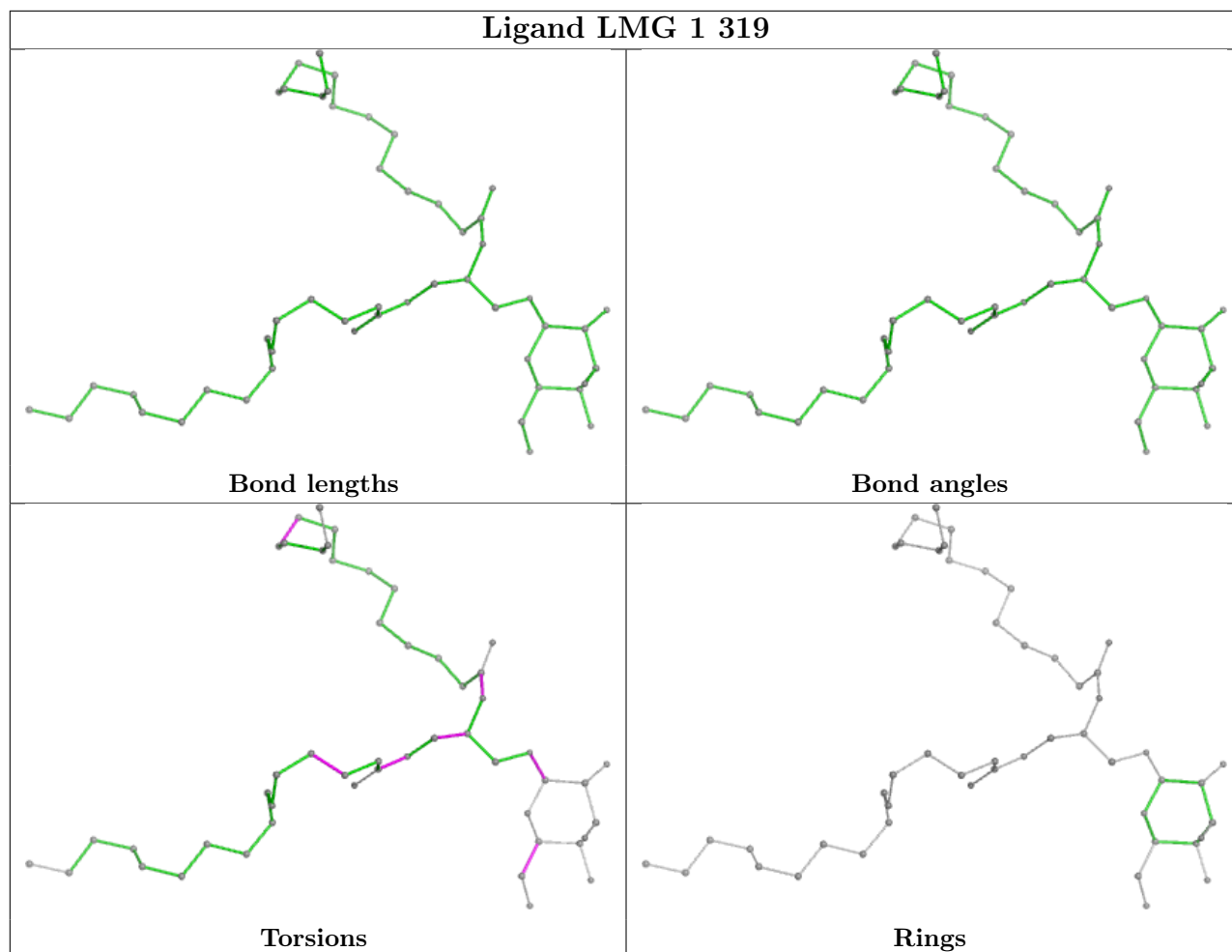
## Ligand CLA B 807



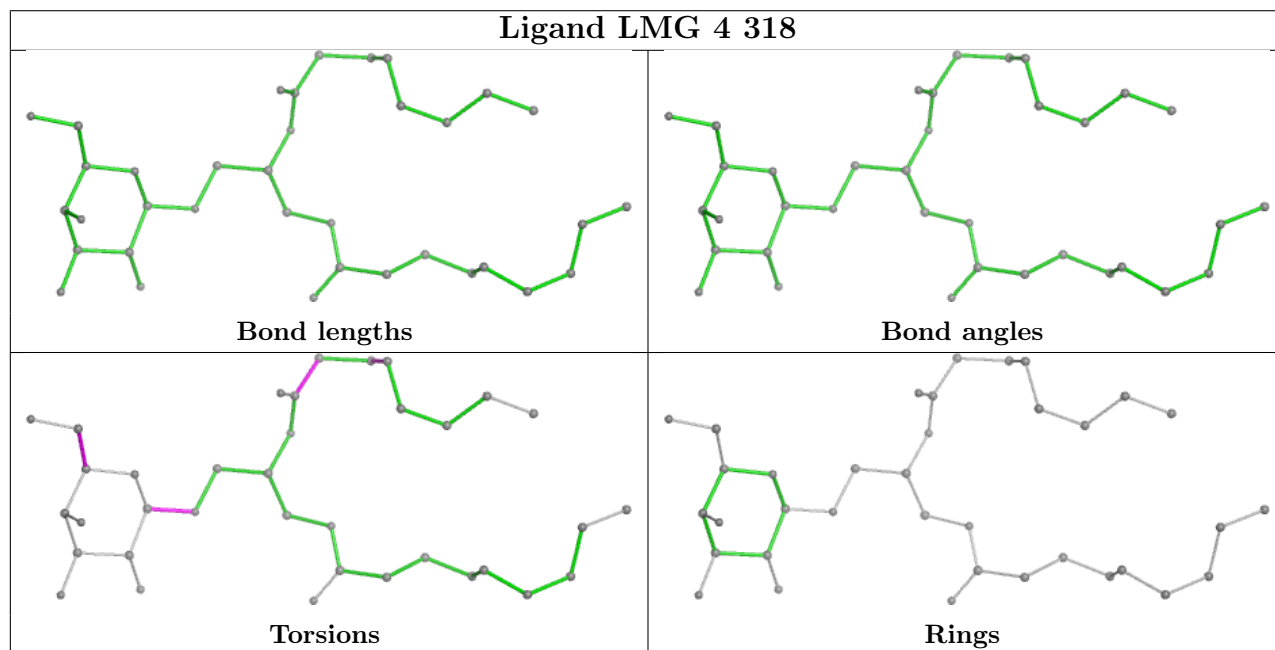
## Ligand XAT 4 316

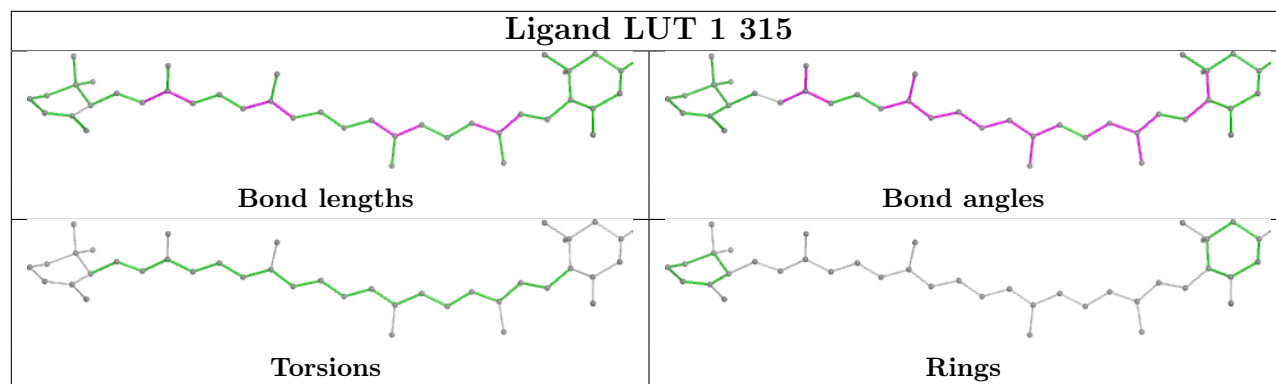
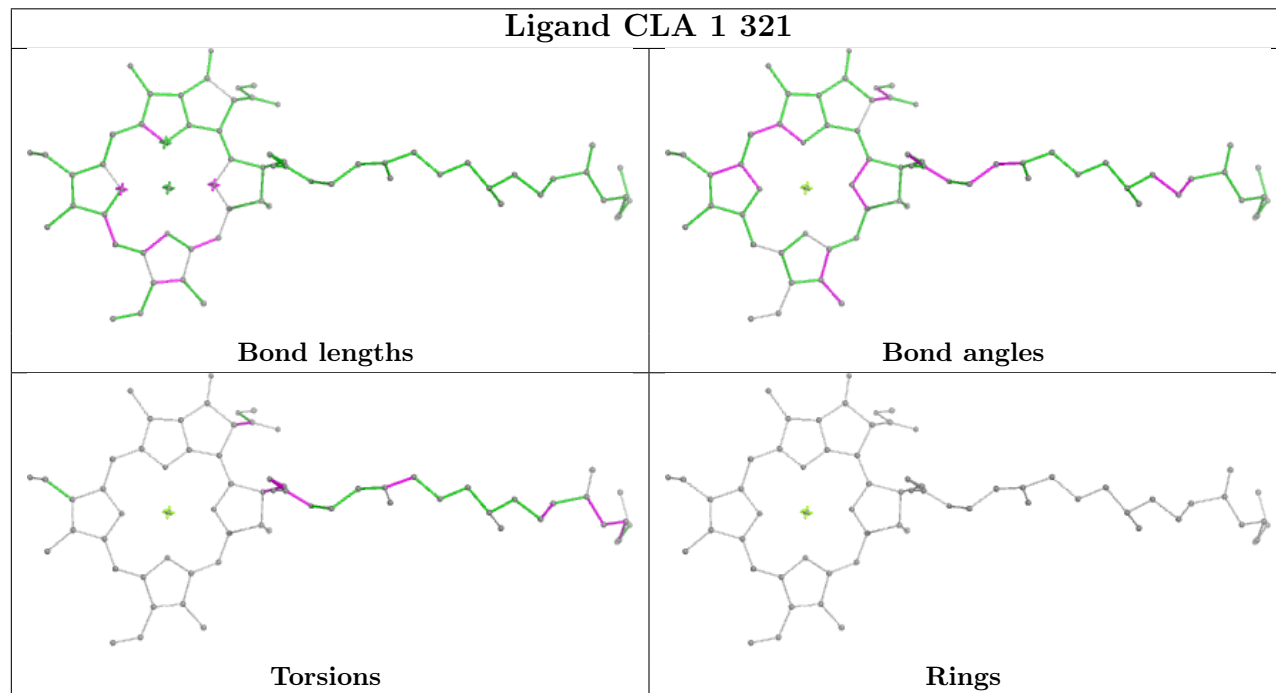


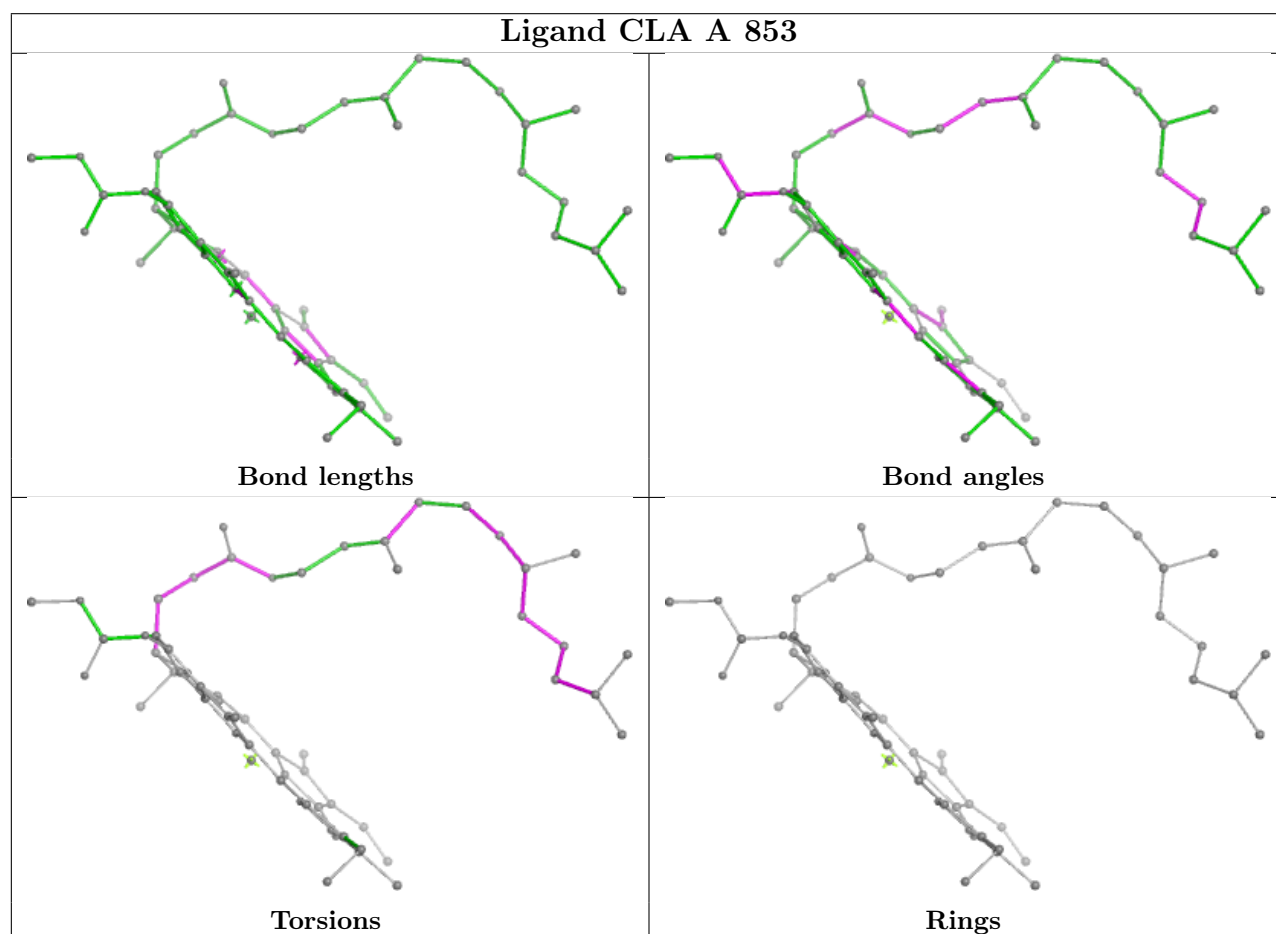
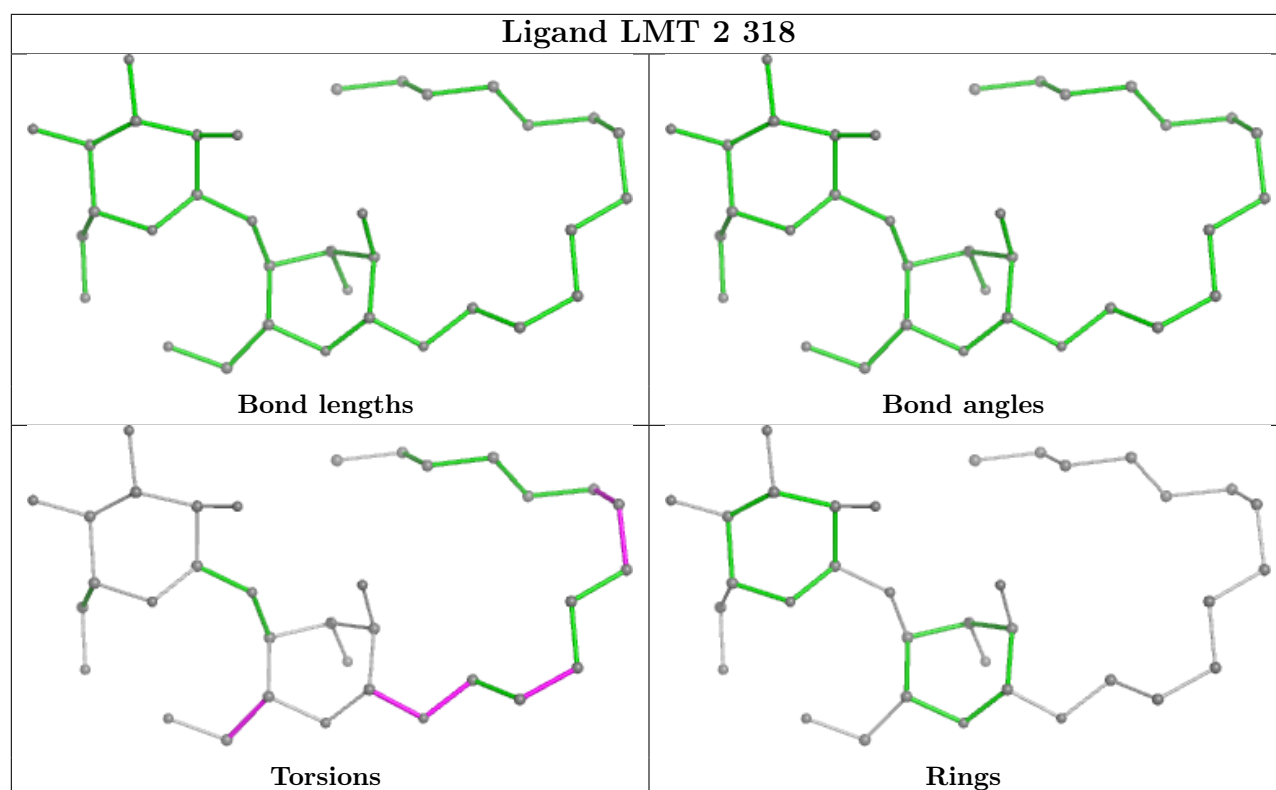
## Ligand LMG 1 319

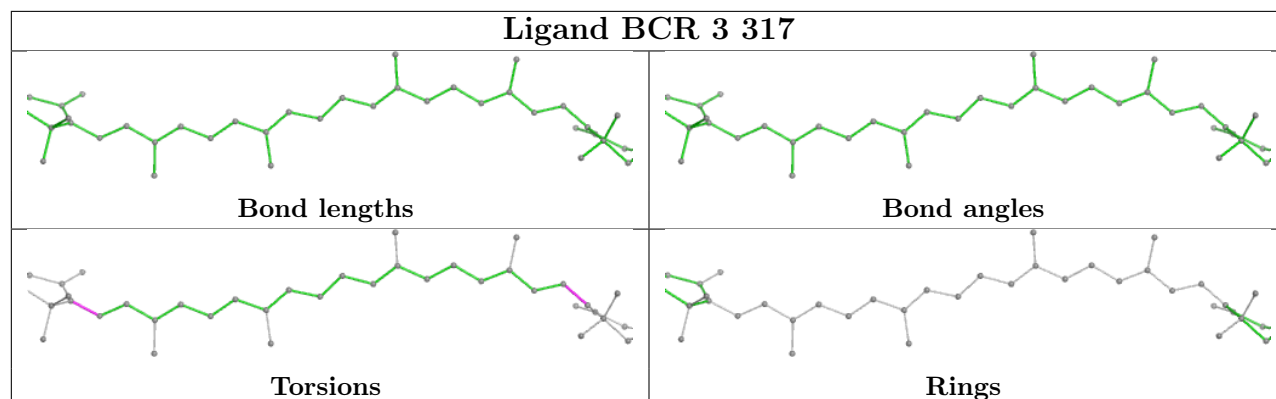
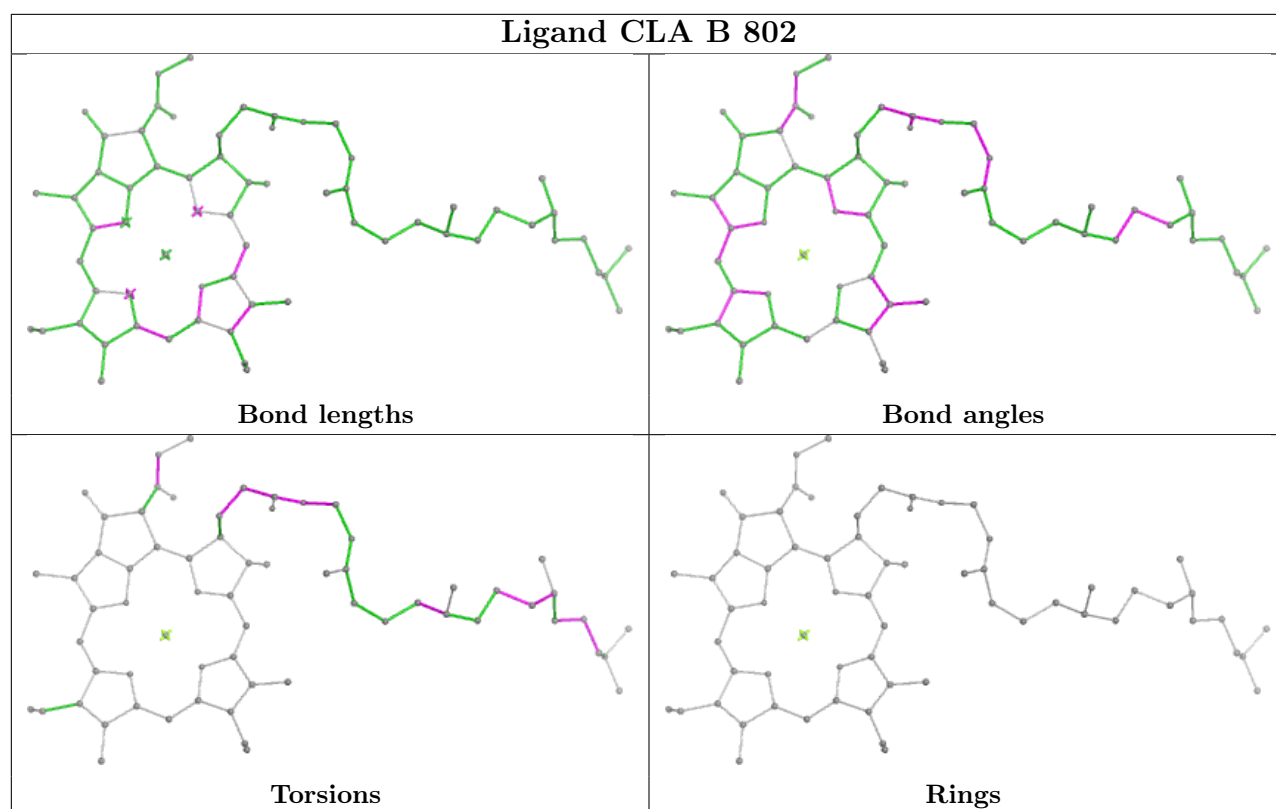


## Ligand LMG 4 318

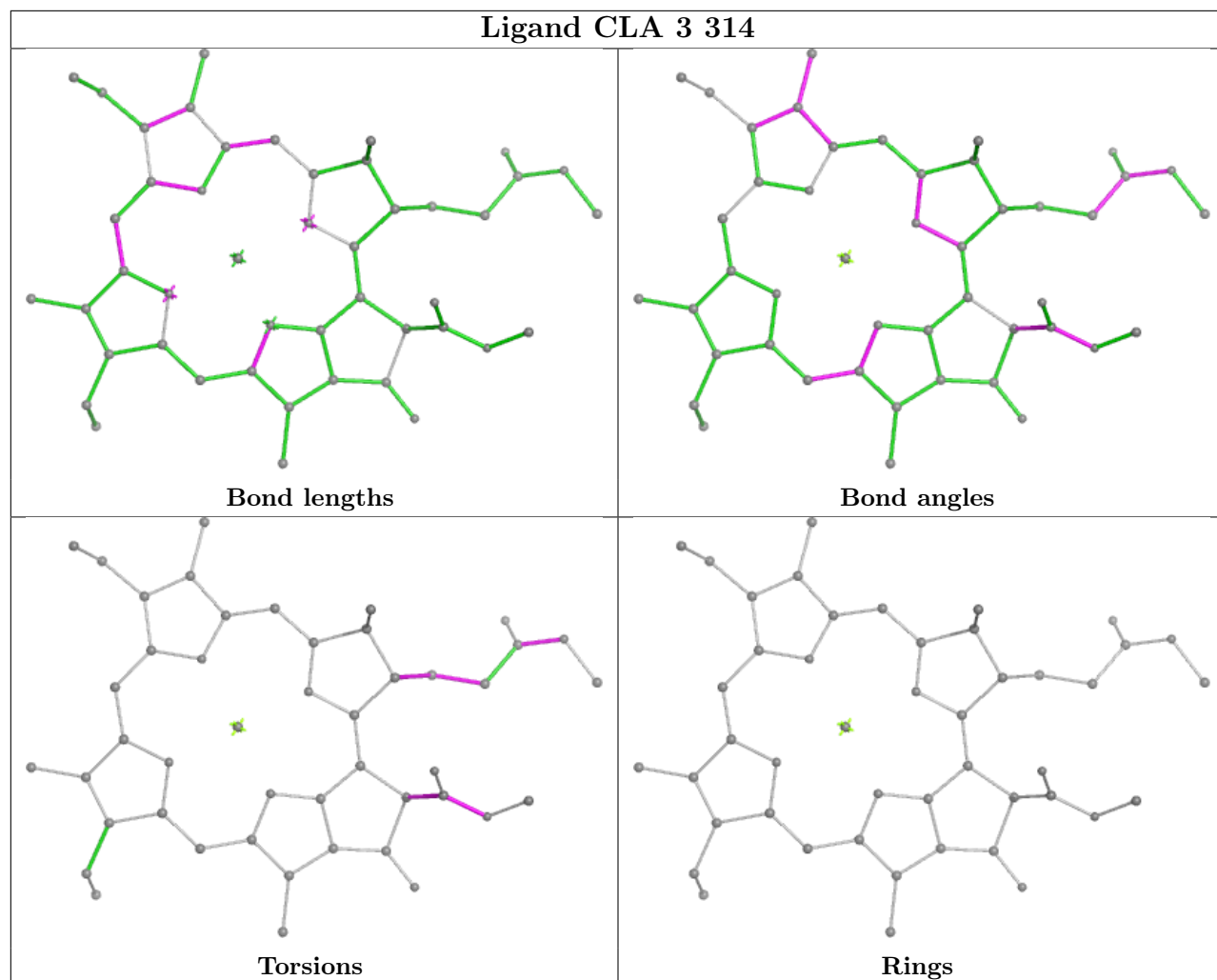


**Ligand LUT 1 315****Ligand CLA 1 321**

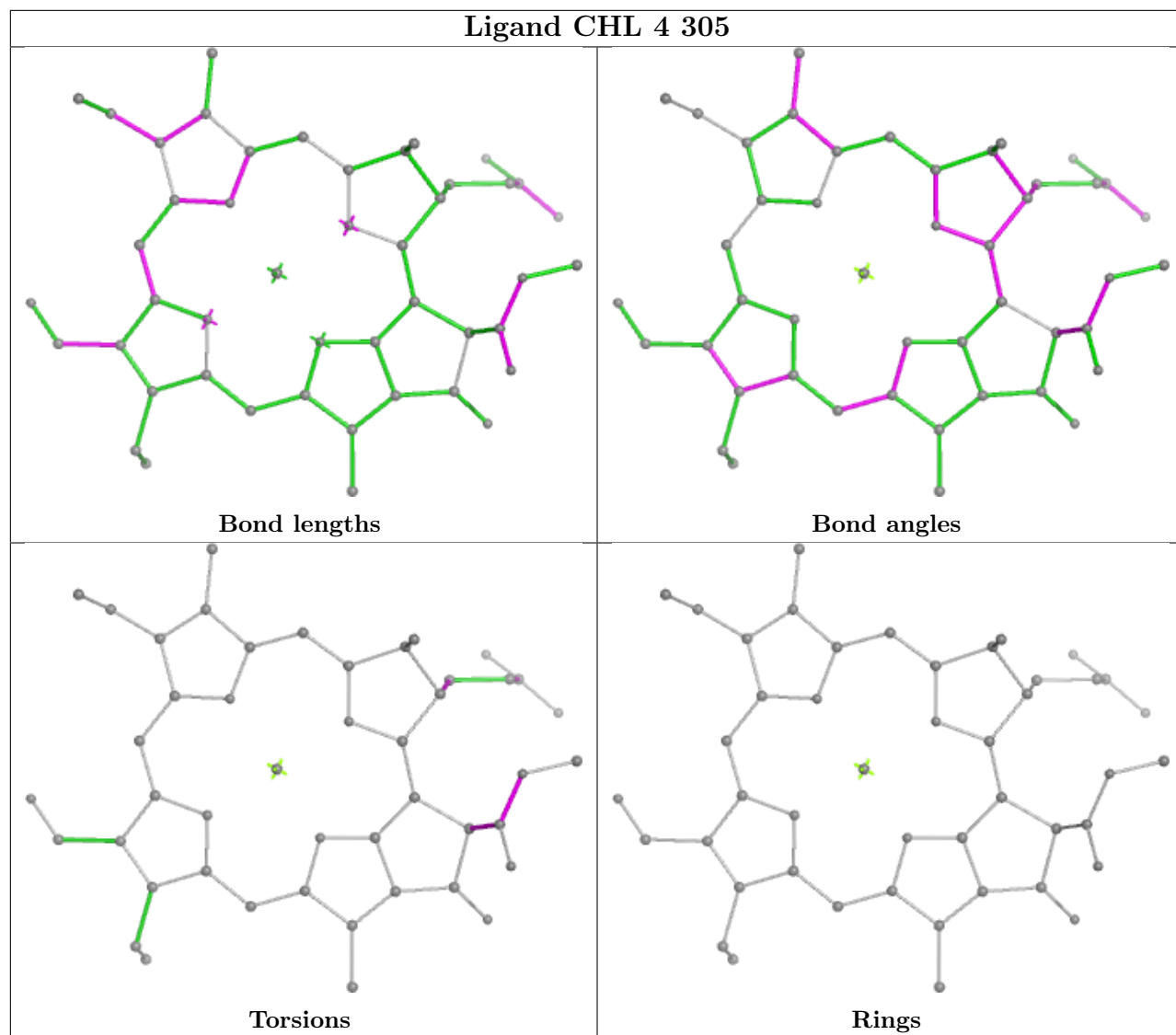




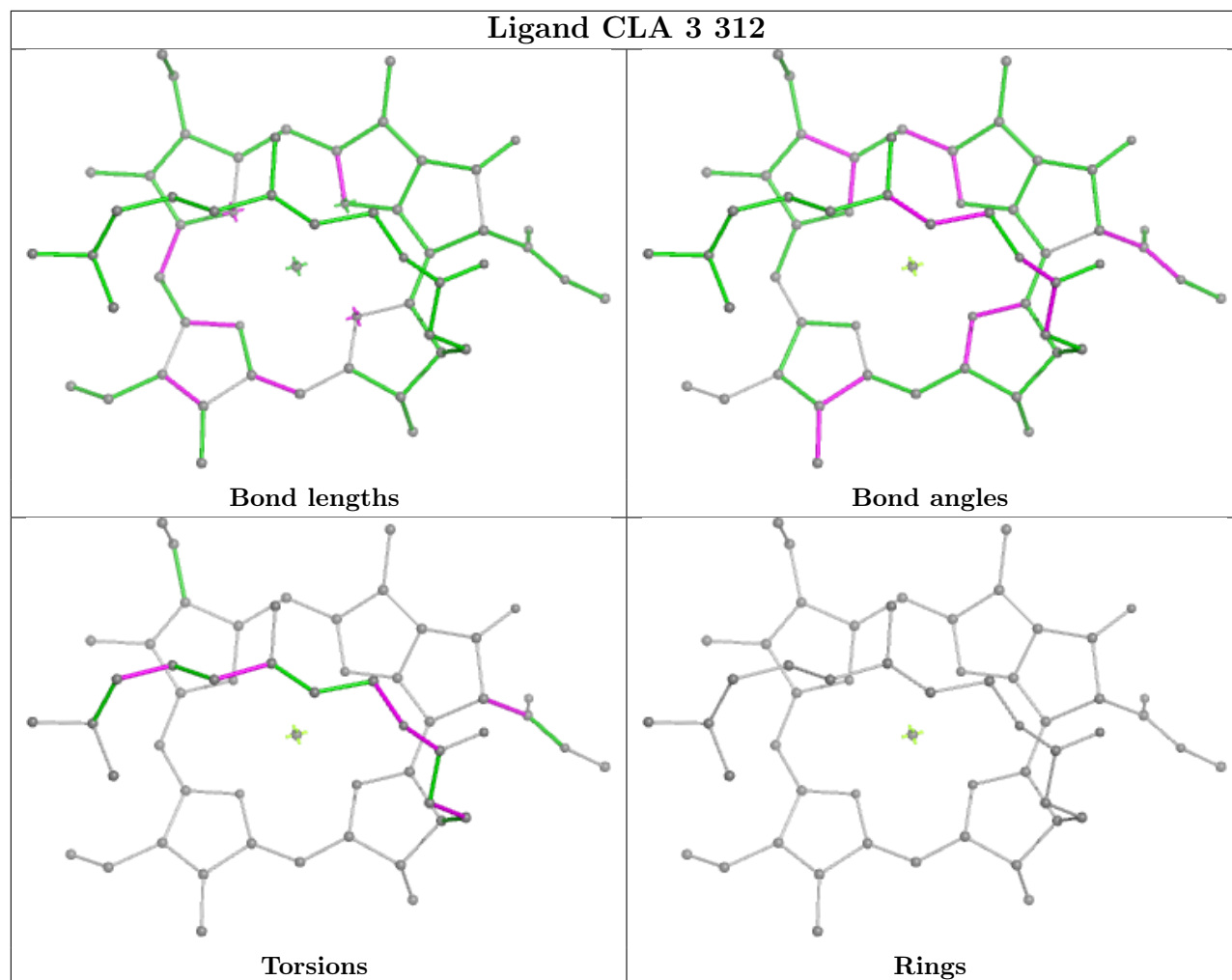
## Ligand CLA 3 314



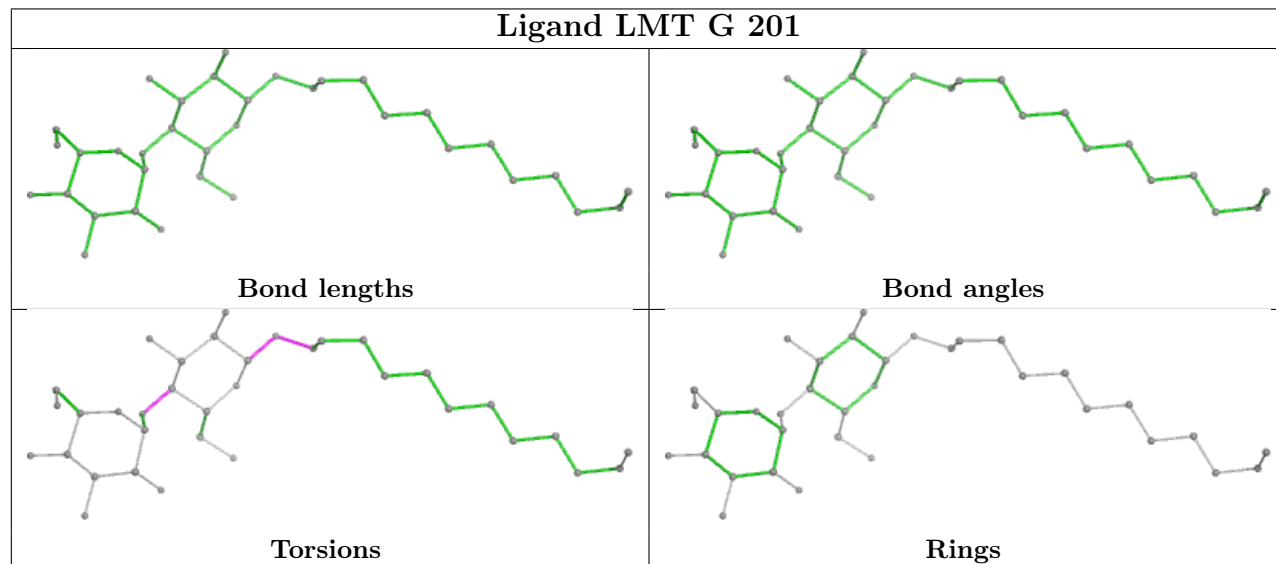
## Ligand CHL 4 305

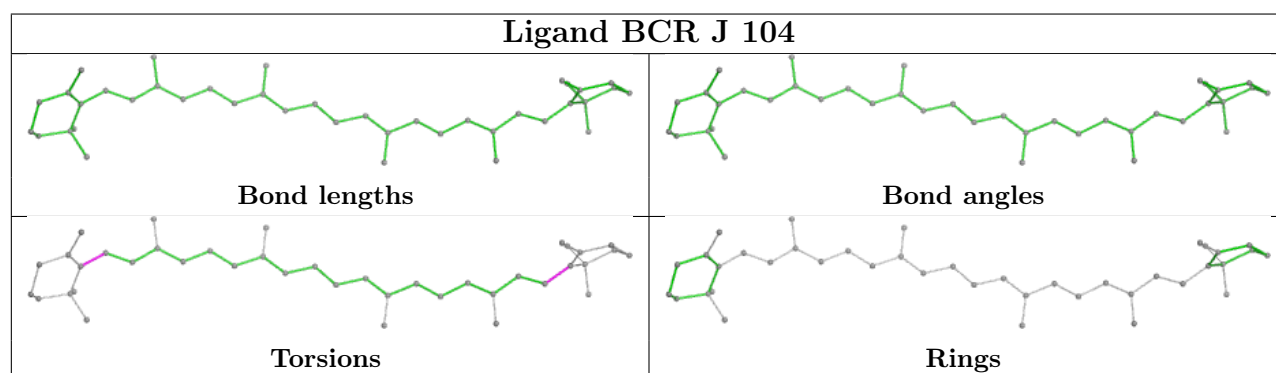
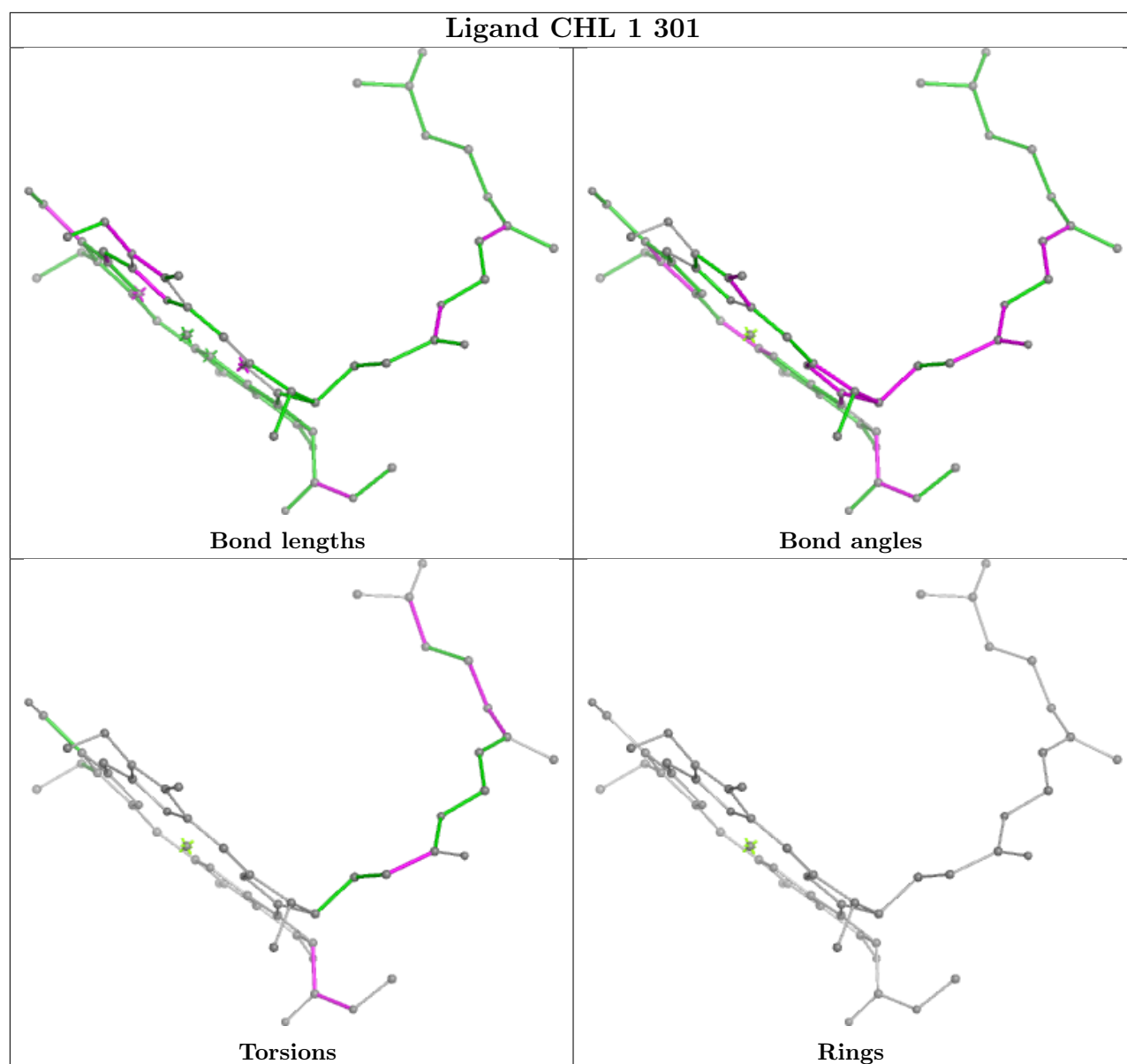


## Ligand CLA 3 312

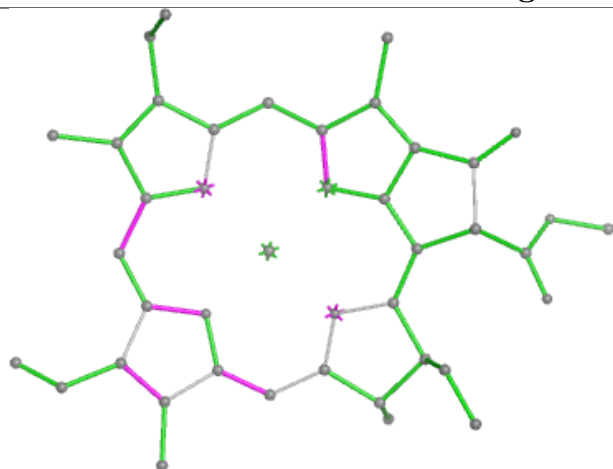


## Ligand LMT G 201

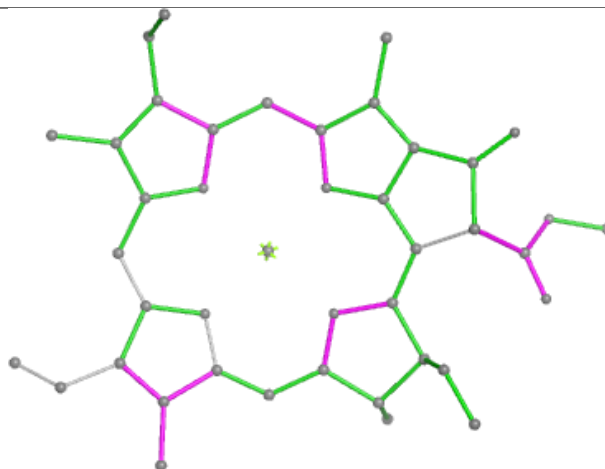




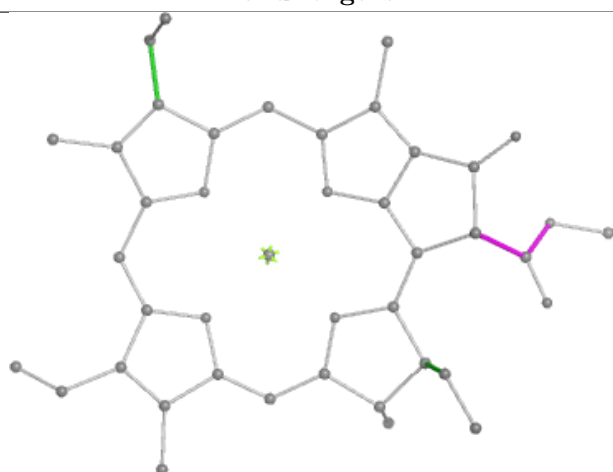
## Ligand CLA J 102



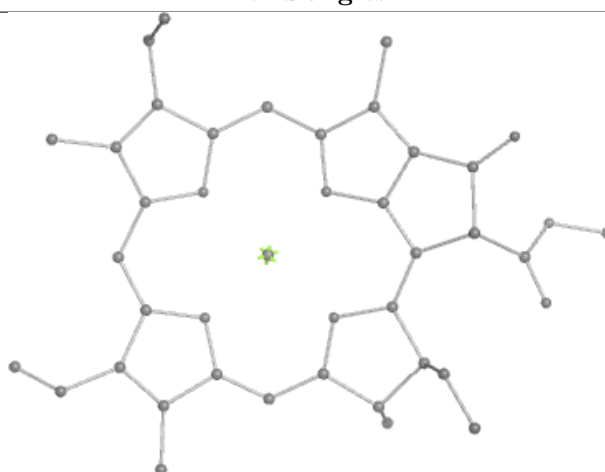
Bond lengths



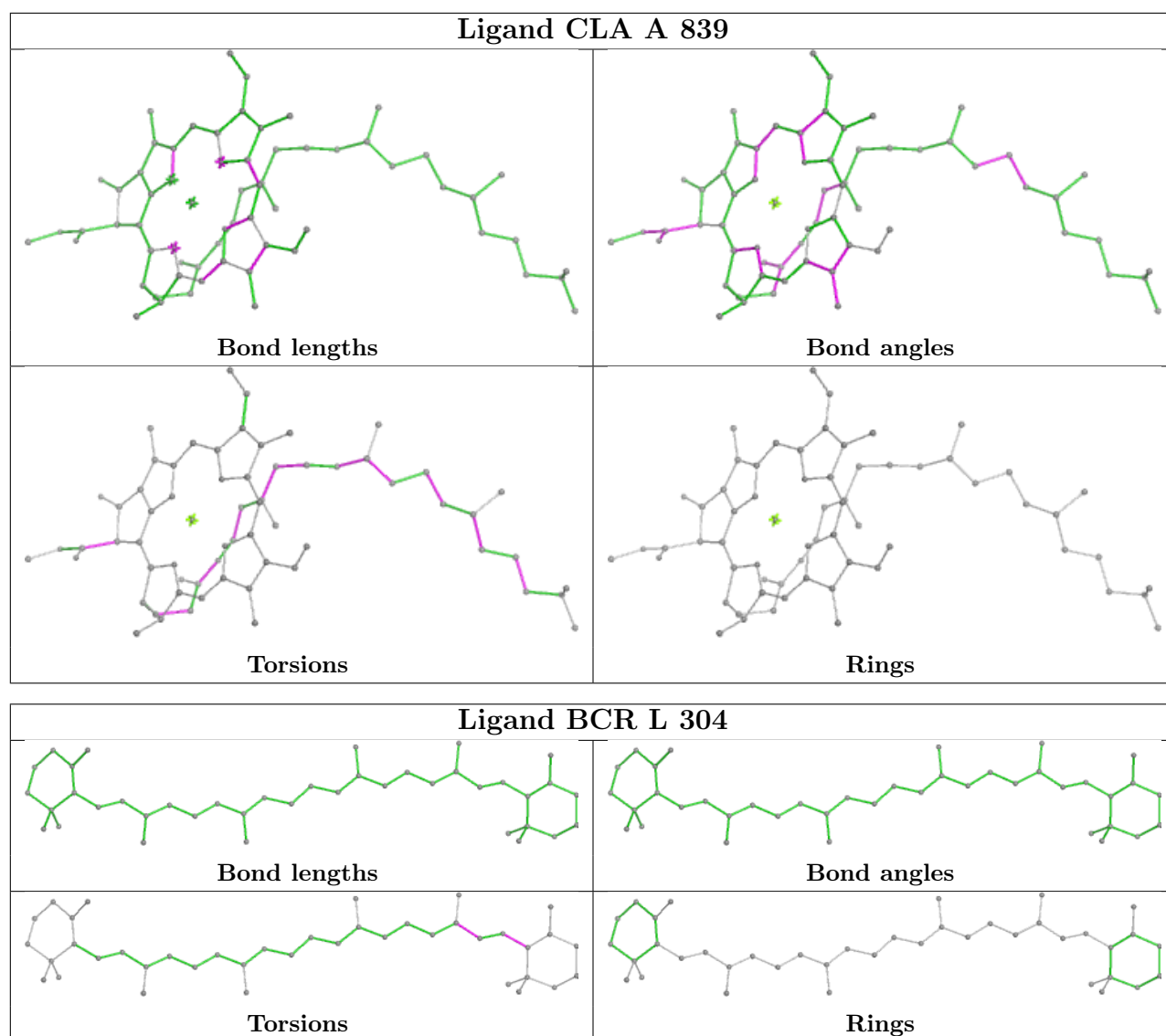
Bond angles



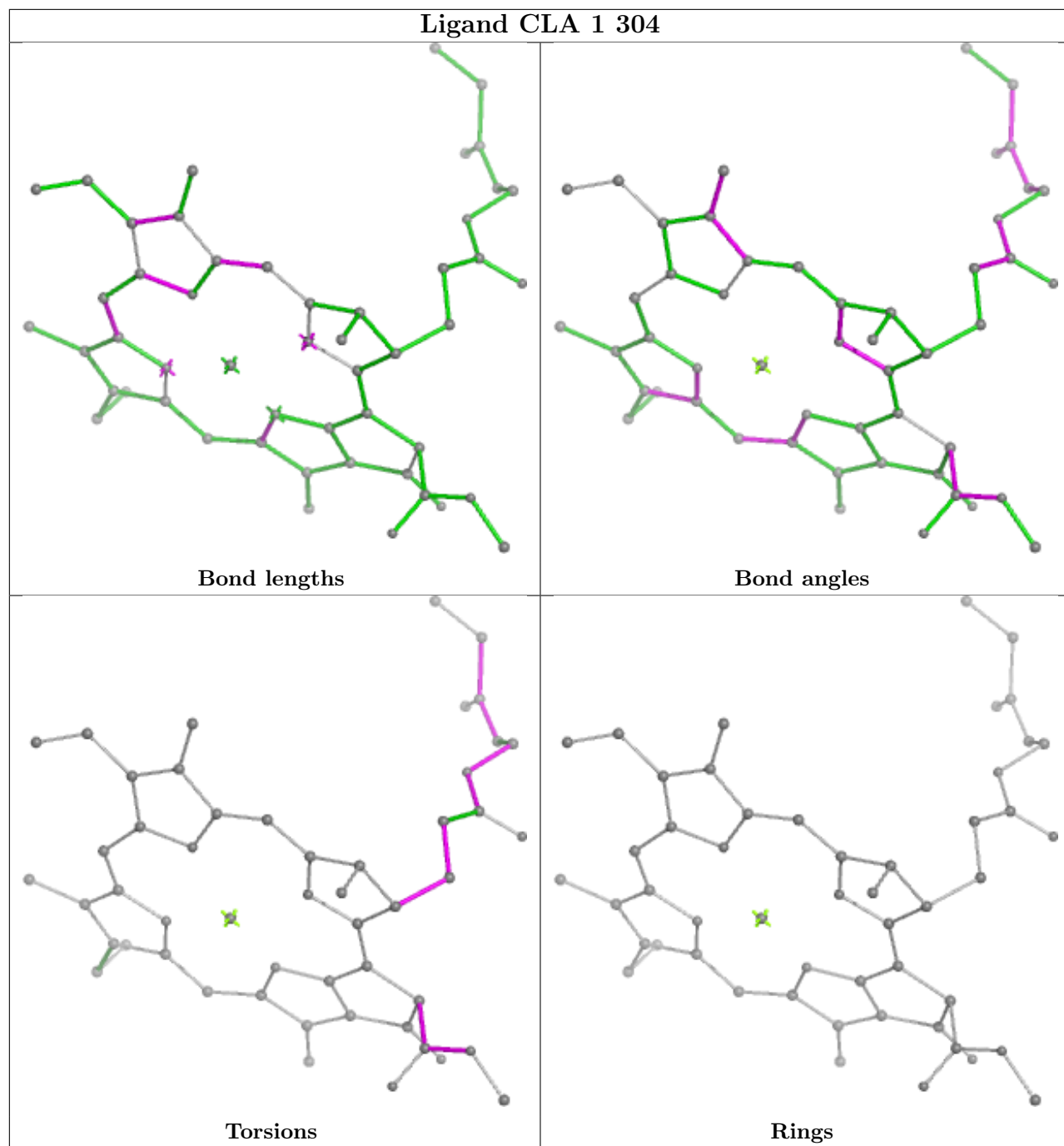
Torsions



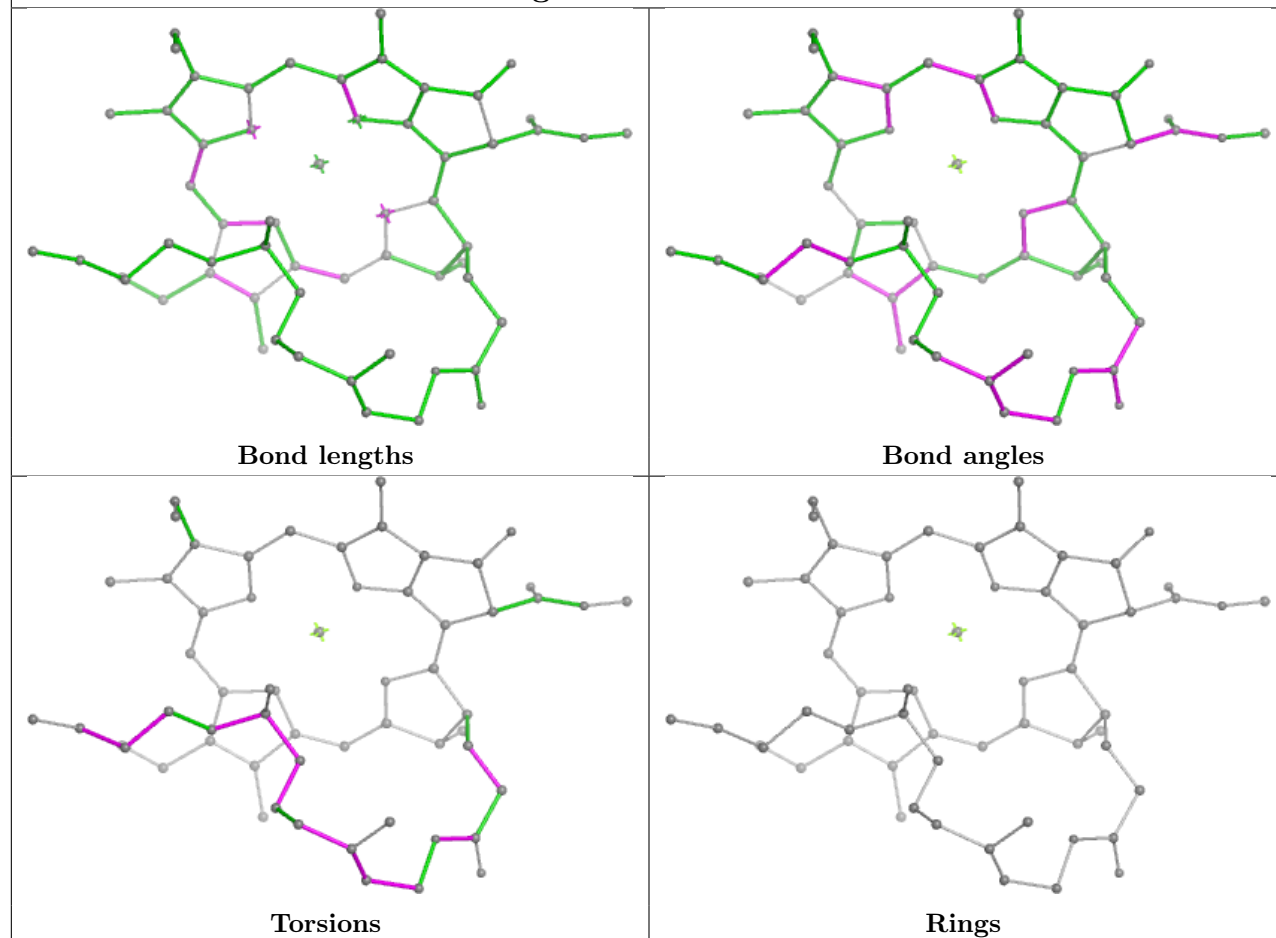
Rings



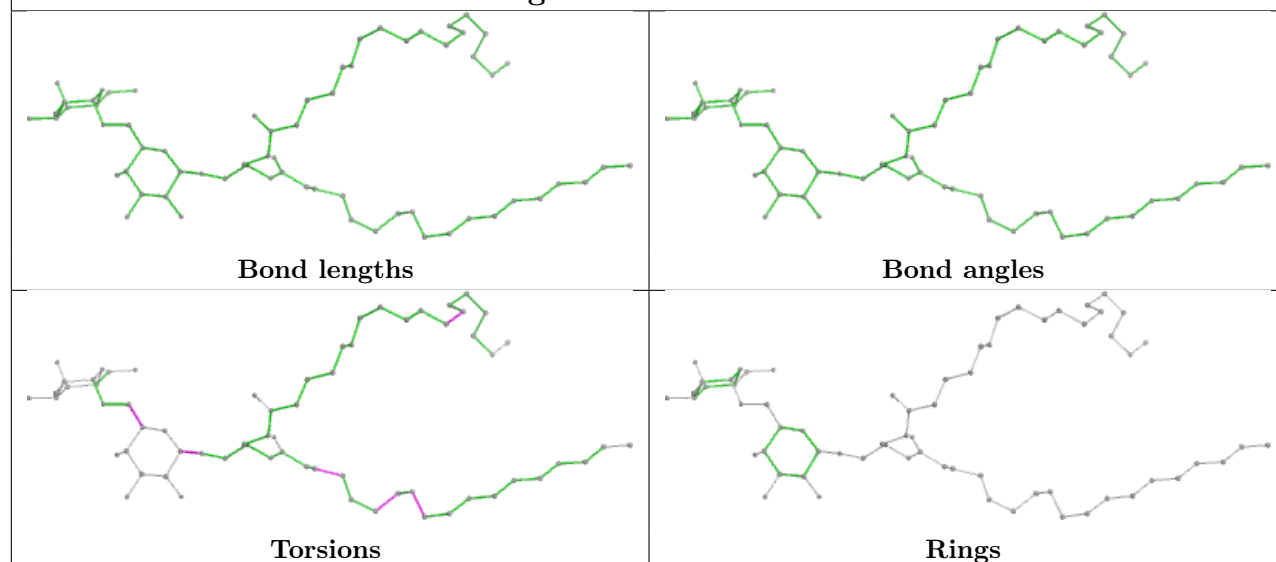
## Ligand CLA 1 304

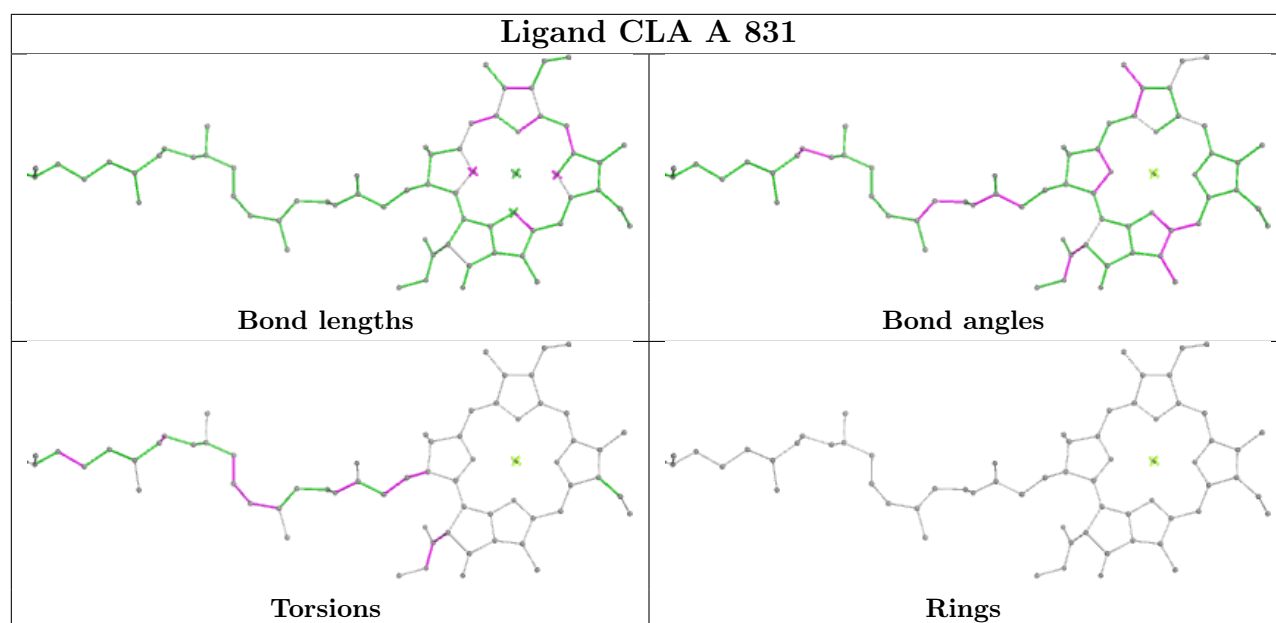


## Ligand CLA B 816

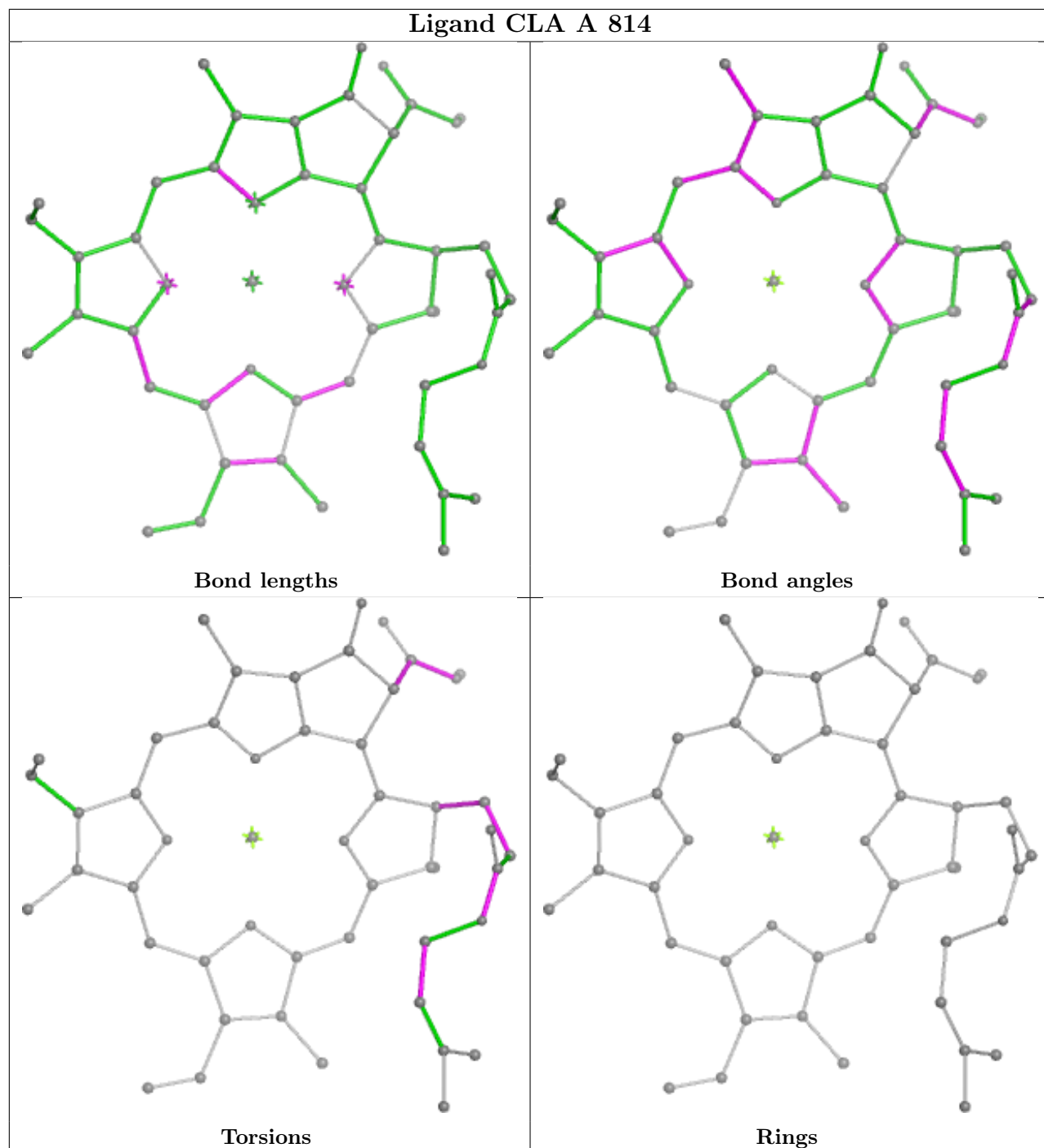


## Ligand DGD B 846

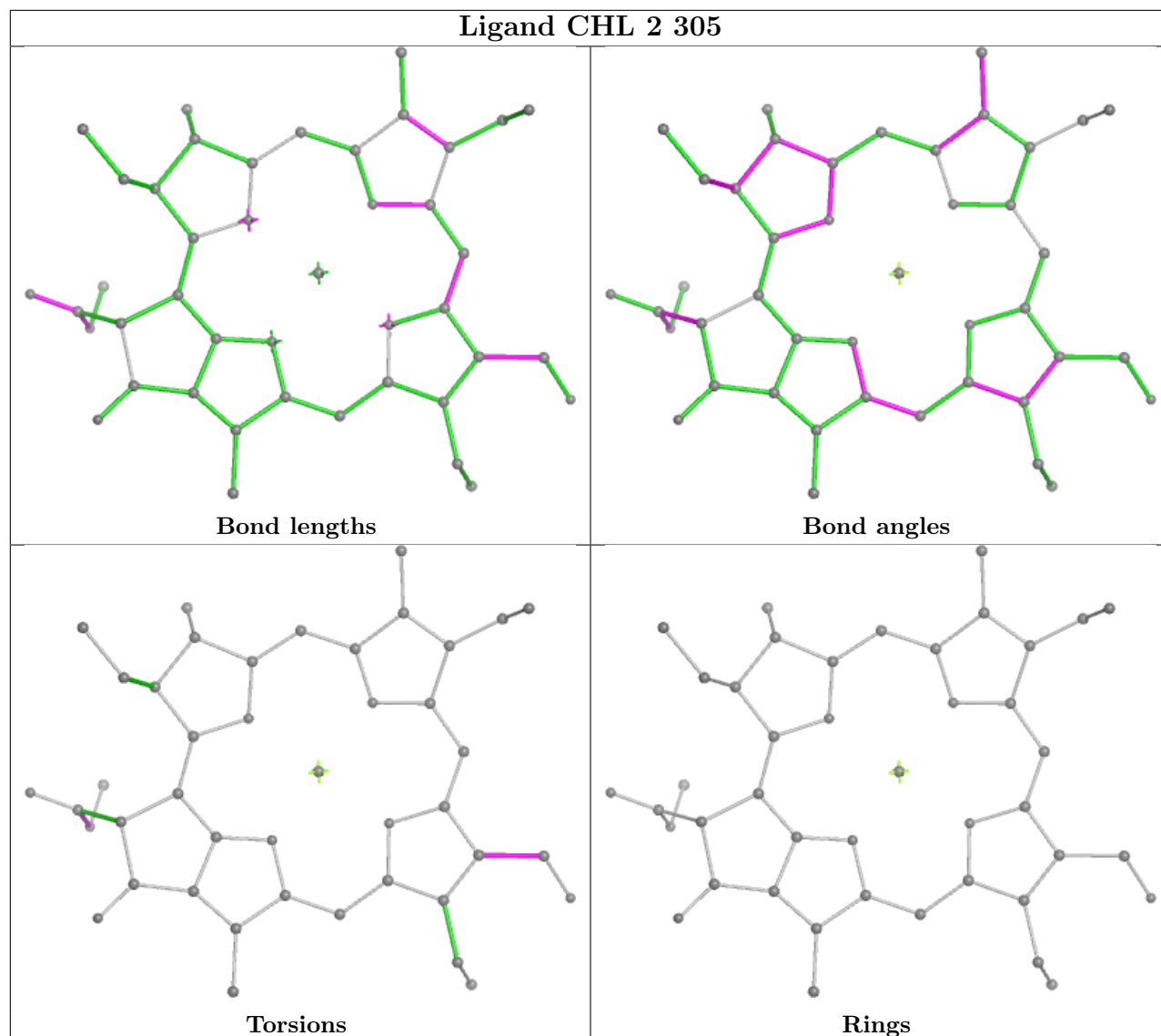




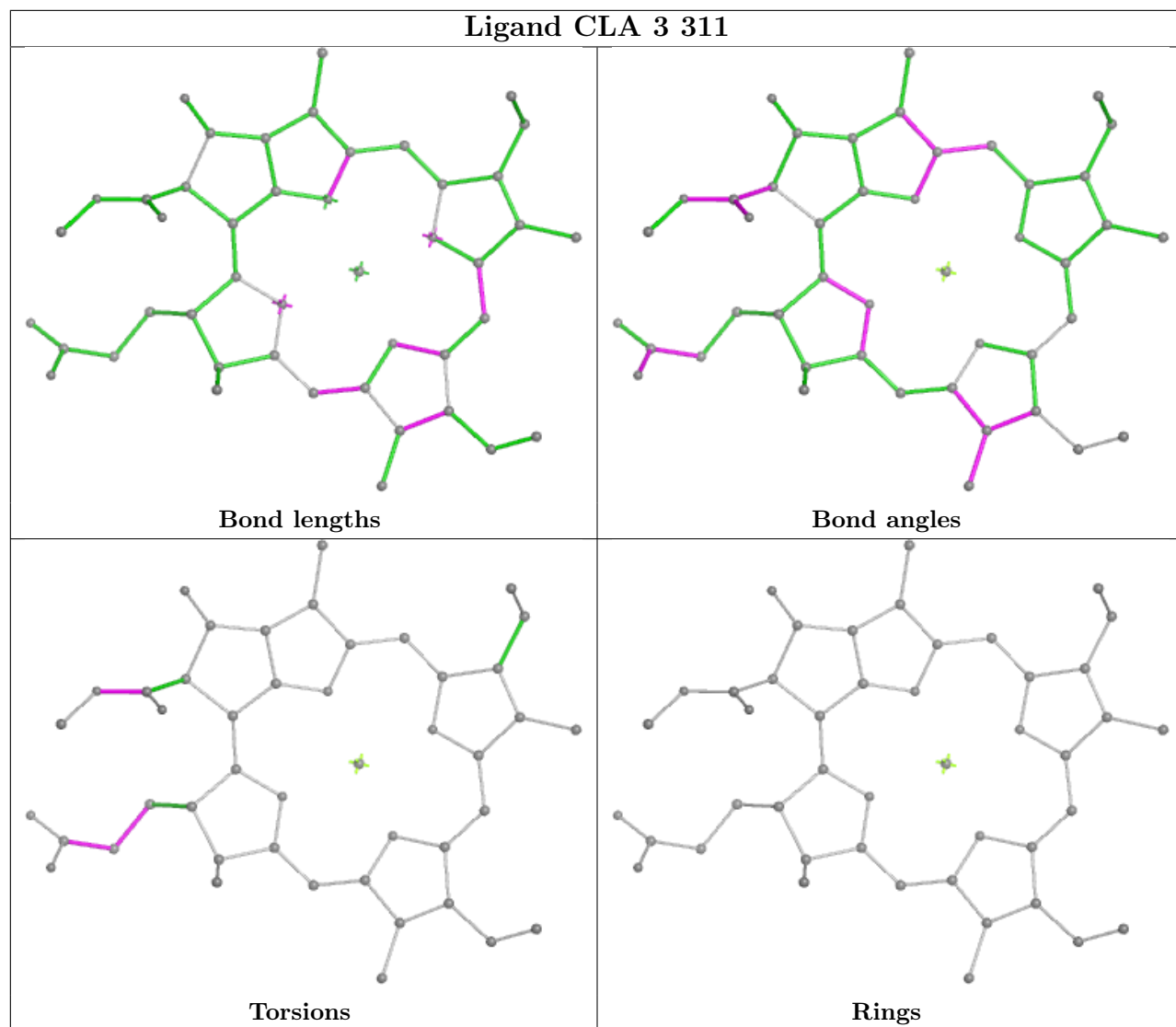
## Ligand CLA A 814

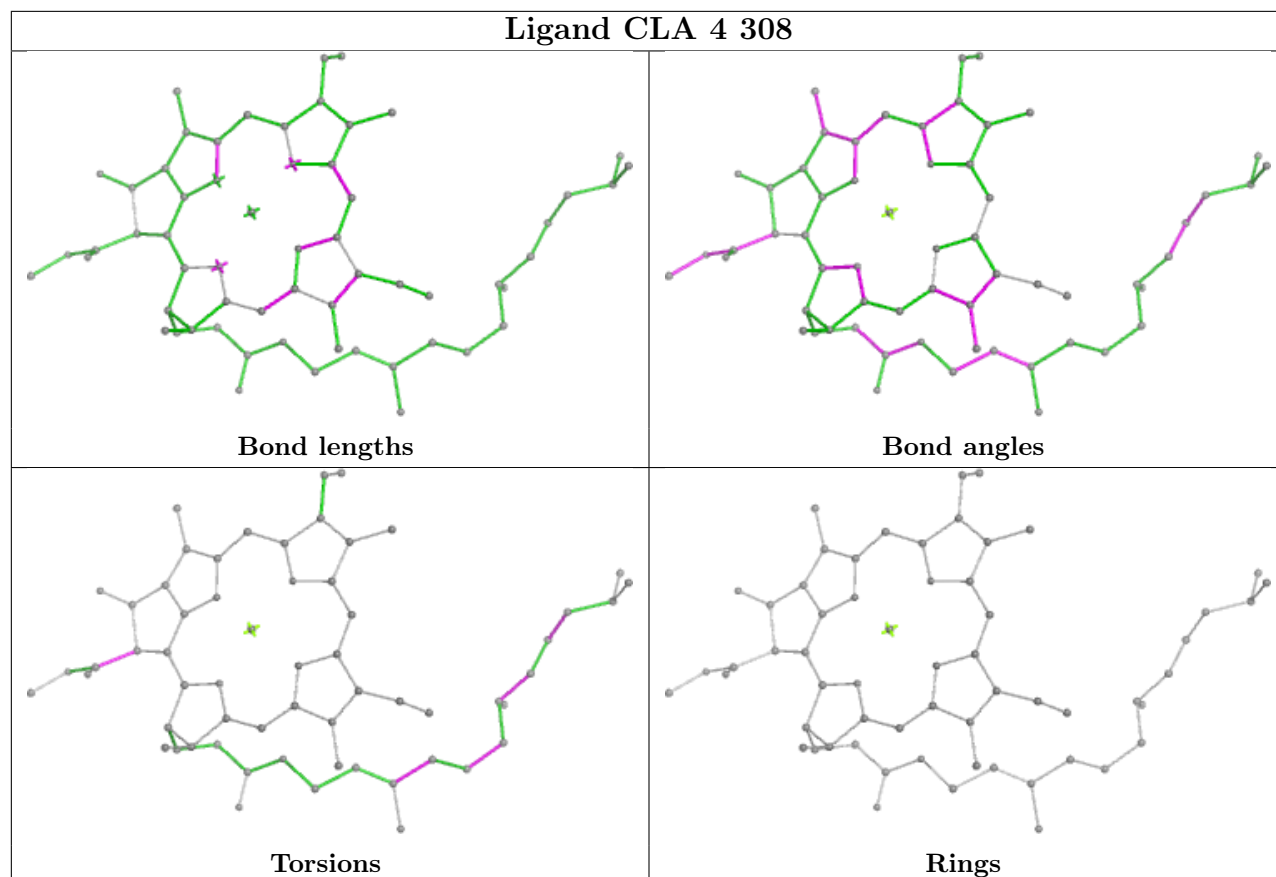
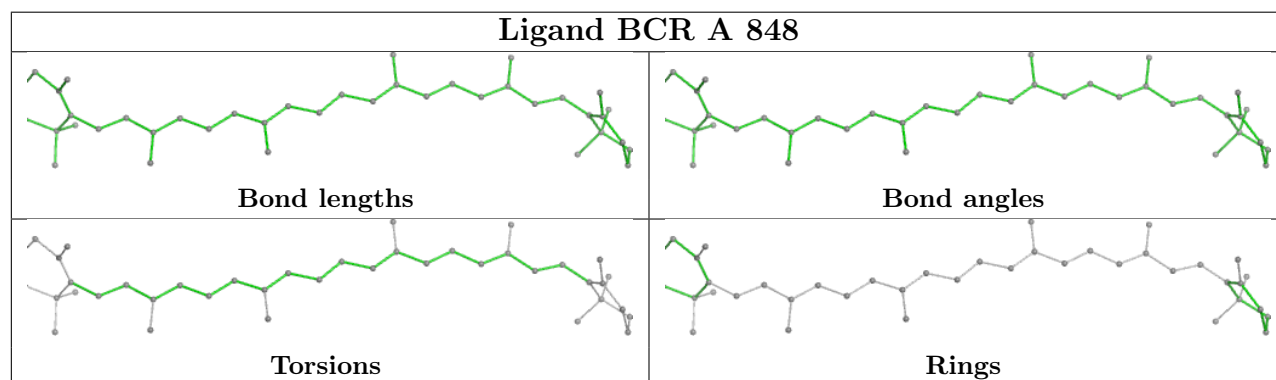


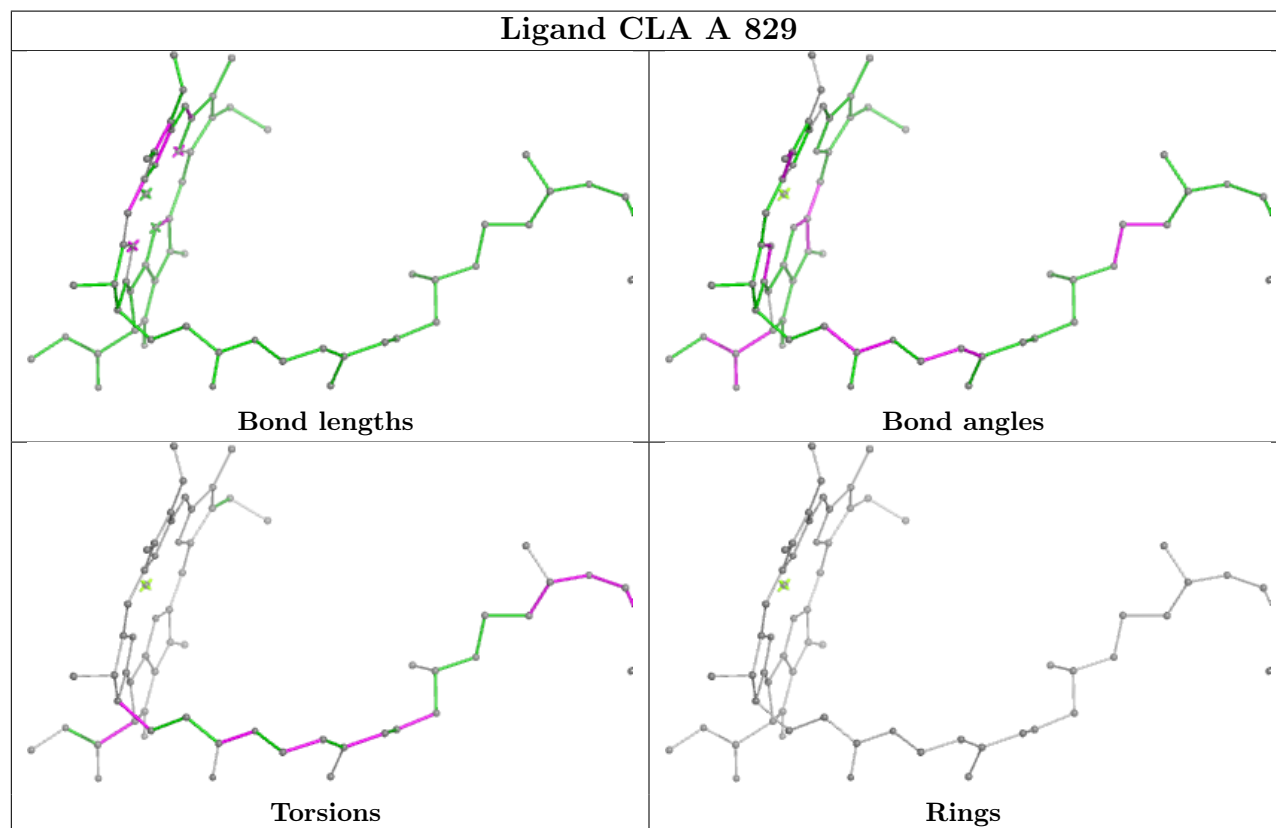
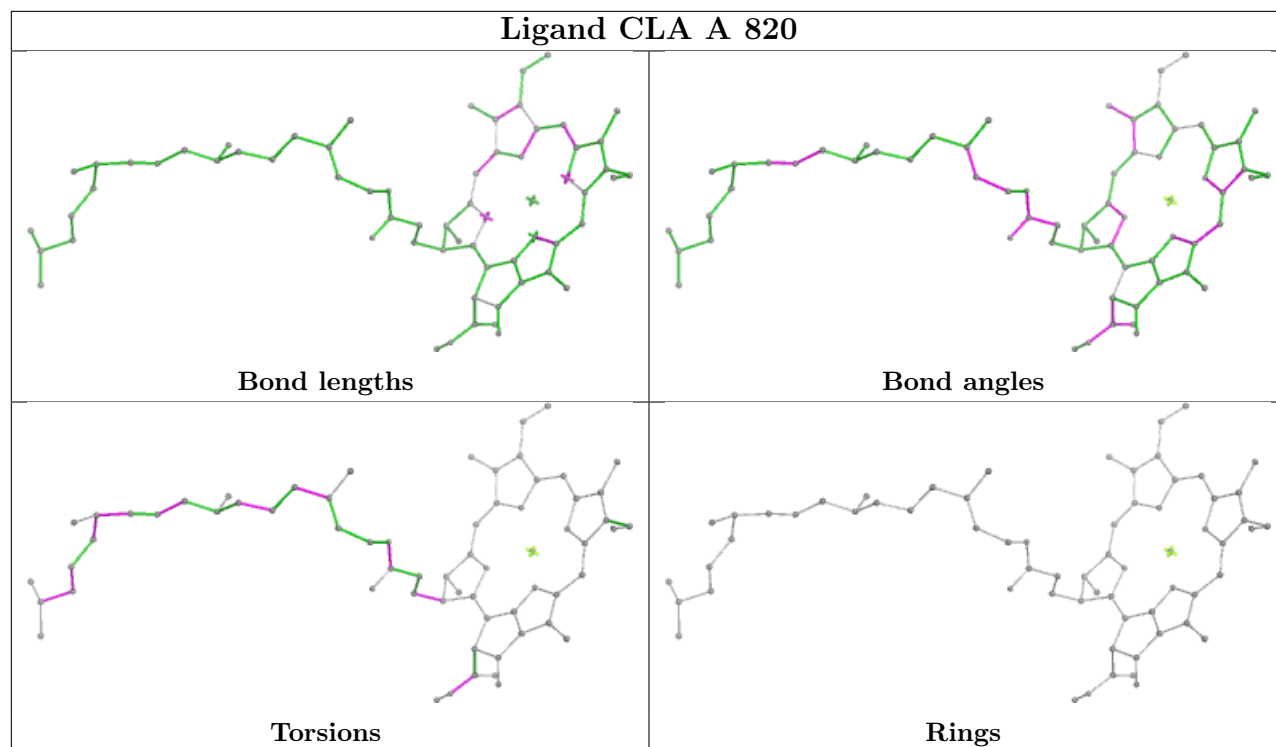
## Ligand CHL 2 305



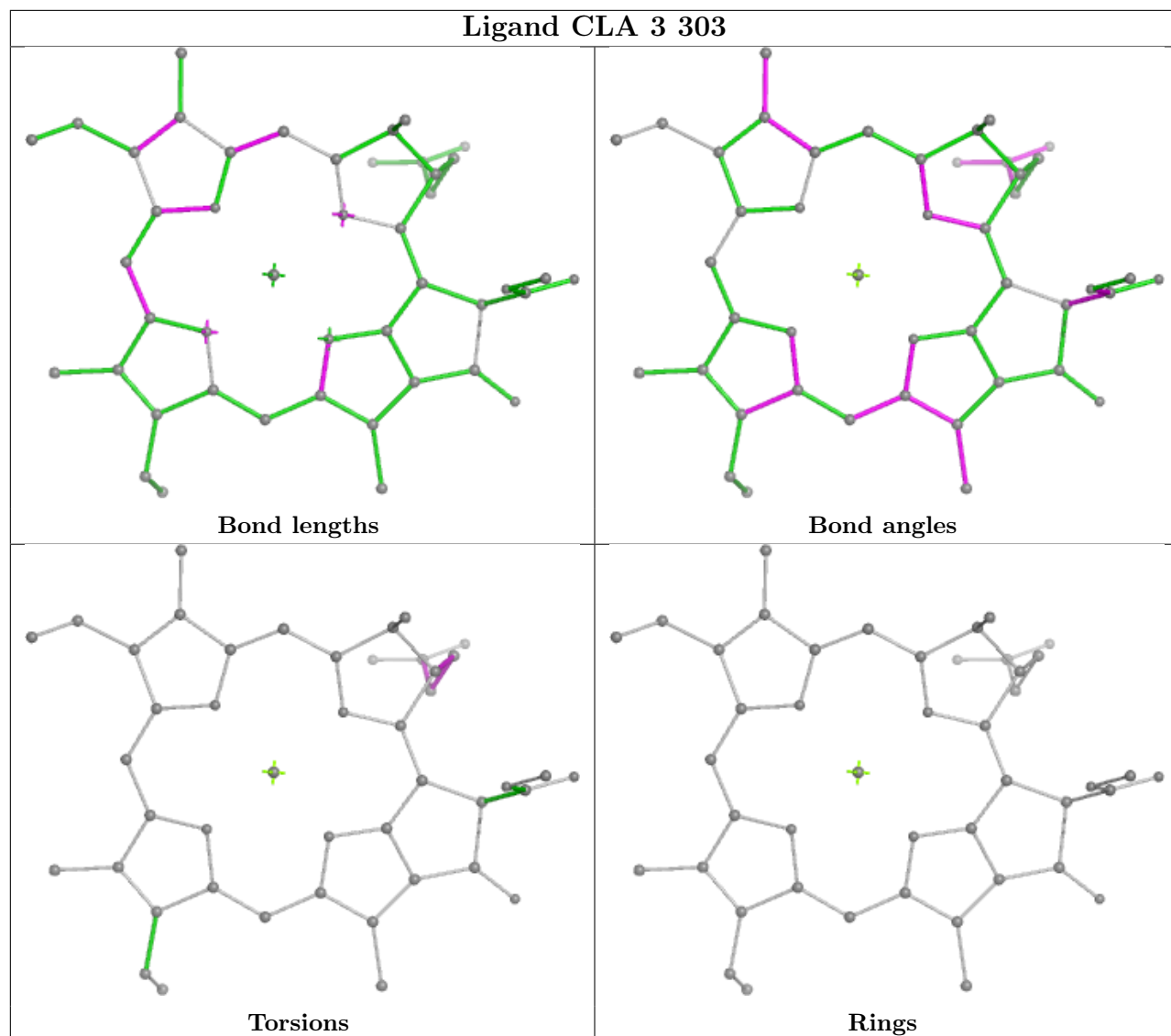
## Ligand CLA 3 311



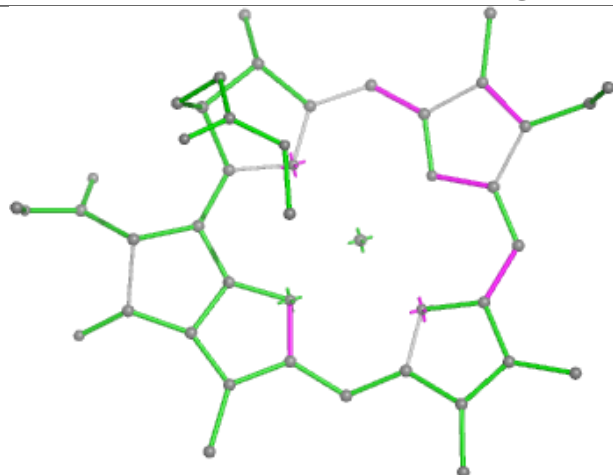
**Ligand CLA 4 308****Ligand BCR A 848**



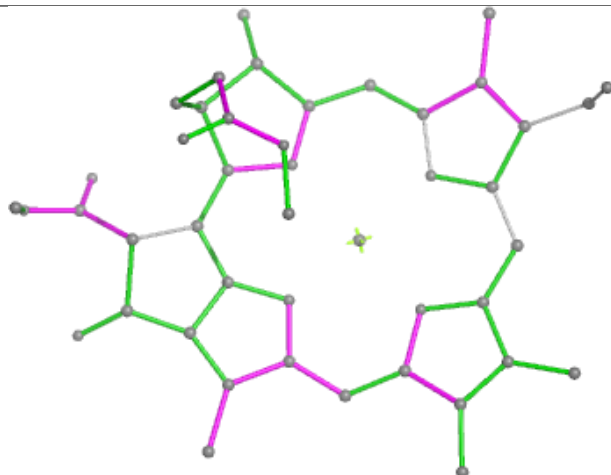
## Ligand CLA 3 303



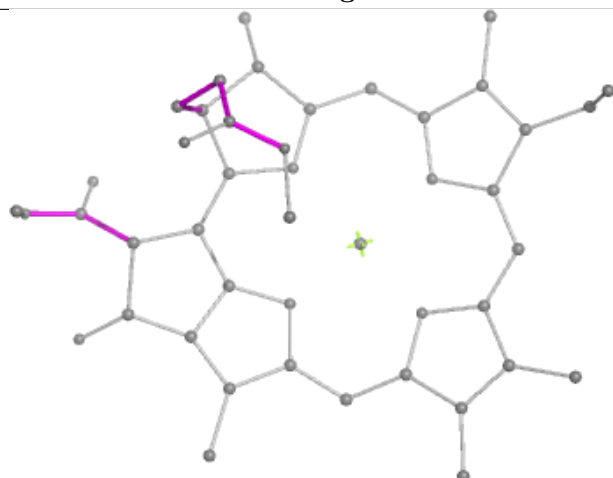
## Ligand CLA H 201



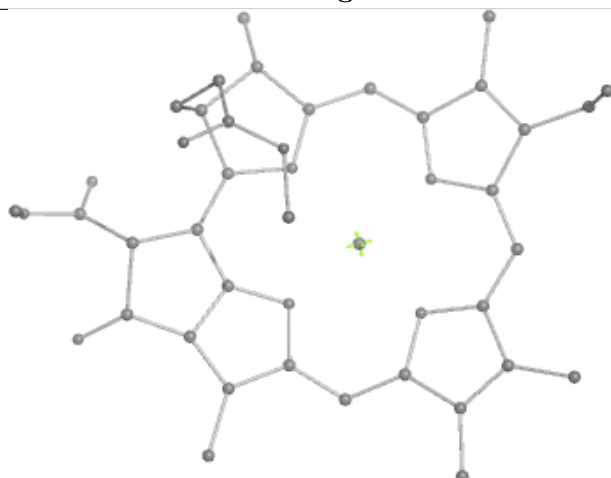
Bond lengths



Bond angles

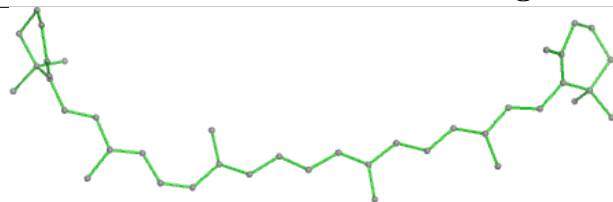


Torsions

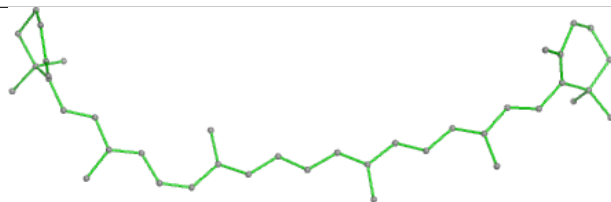


Rings

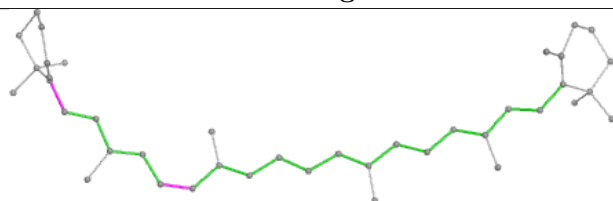
## Ligand BCR L 306



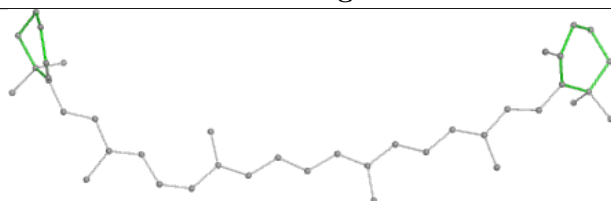
Bond lengths



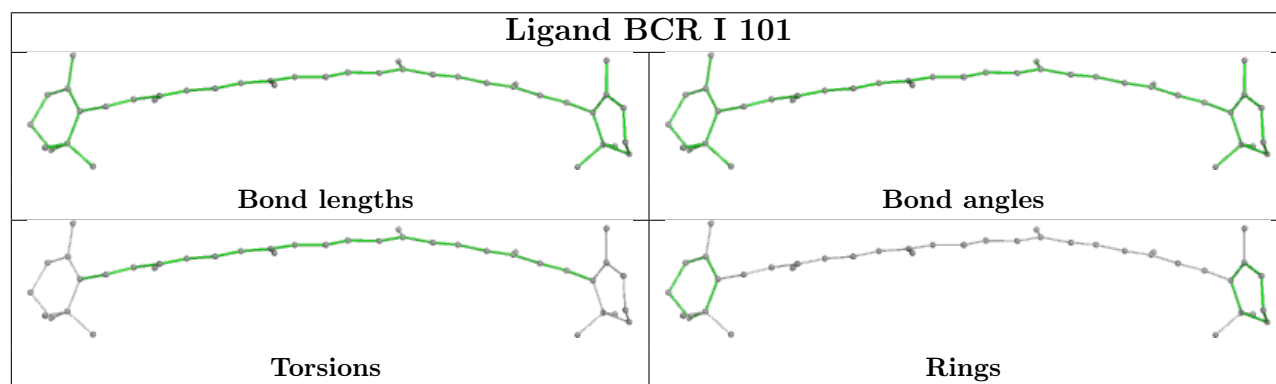
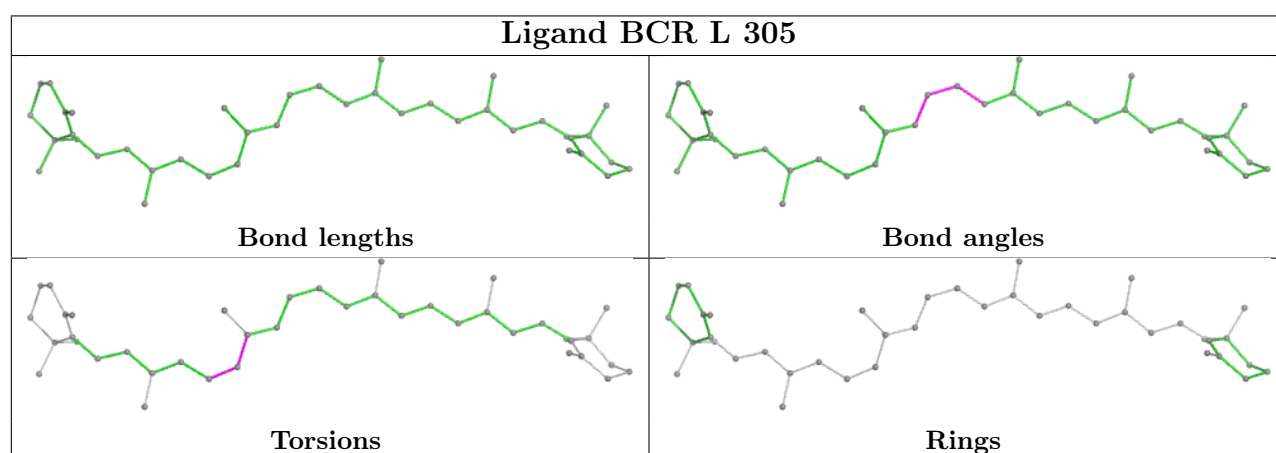
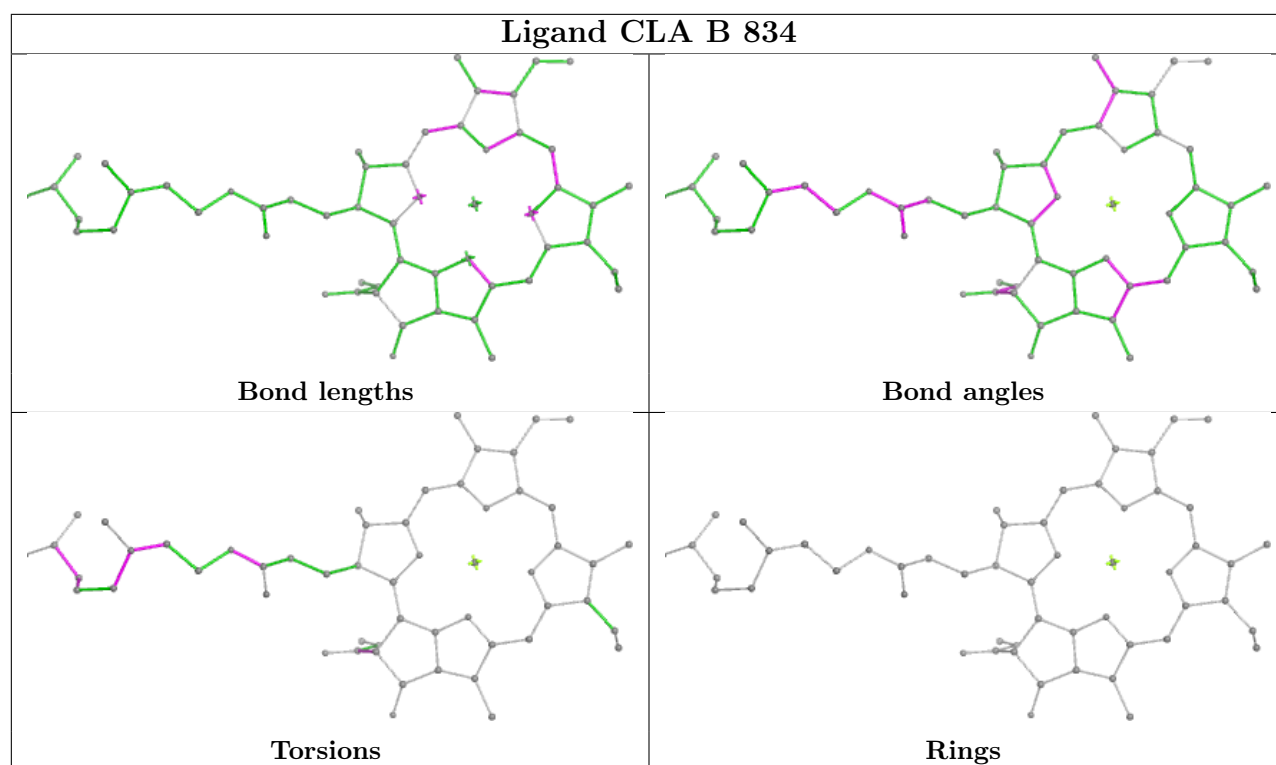
Bond angles



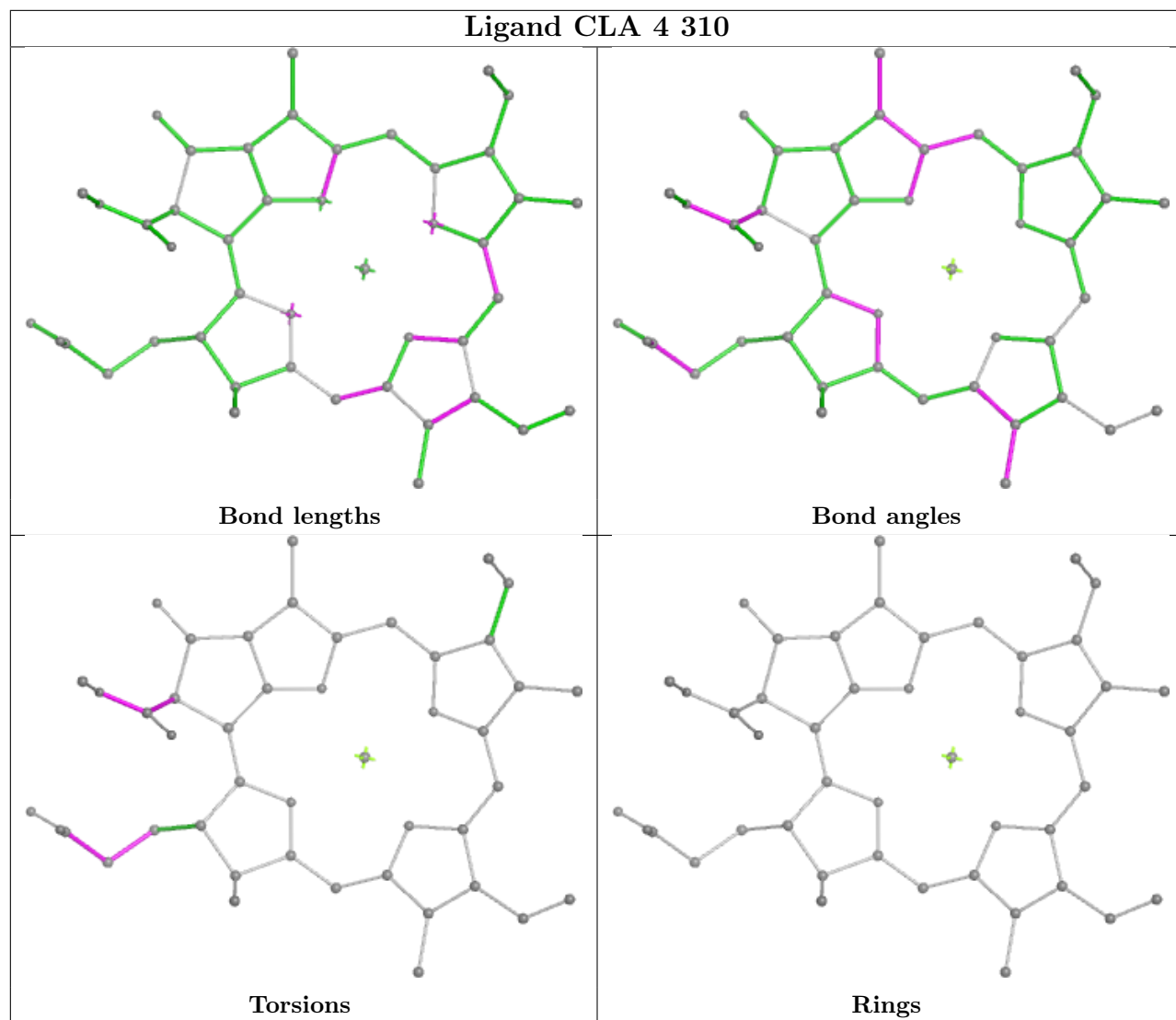
Torsions



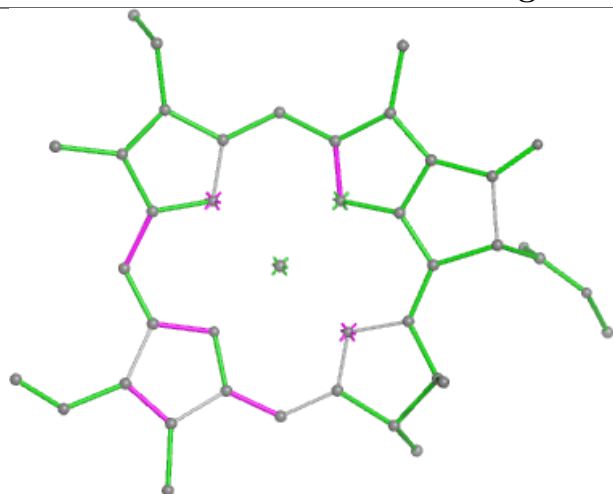
Rings



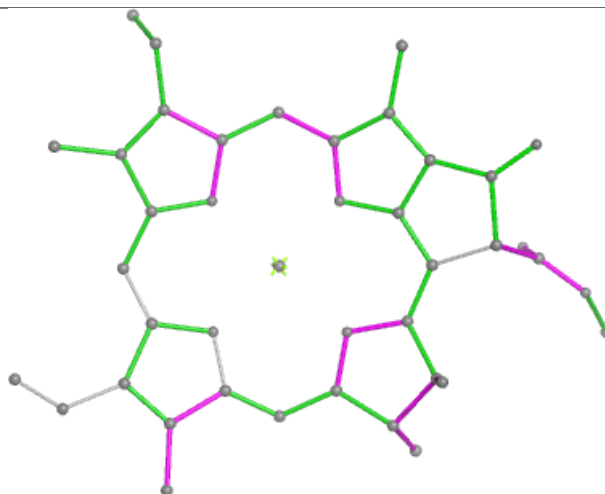
## Ligand CLA 4 310



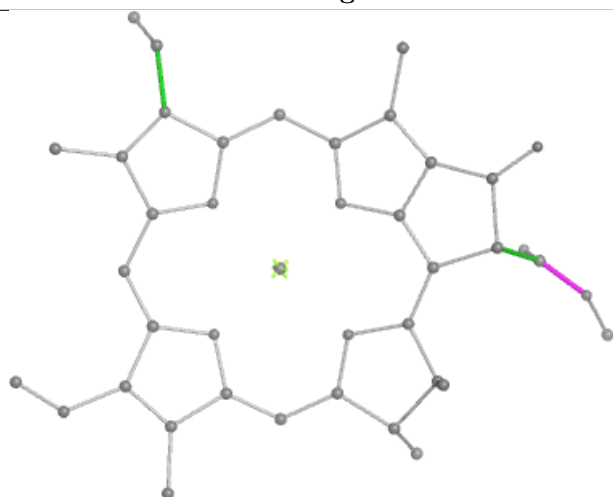
## Ligand CLA 2 310



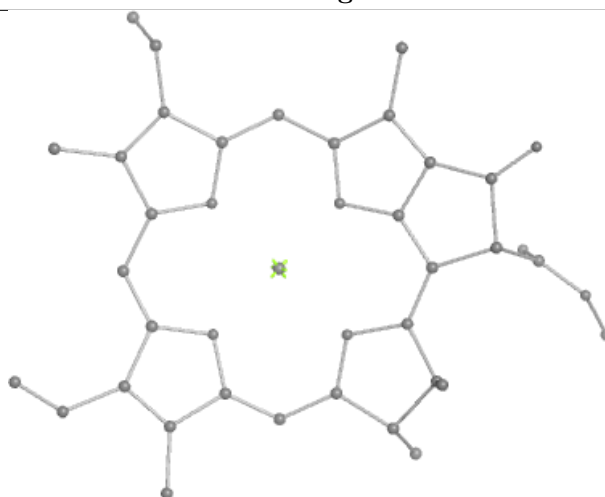
Bond lengths



Bond angles

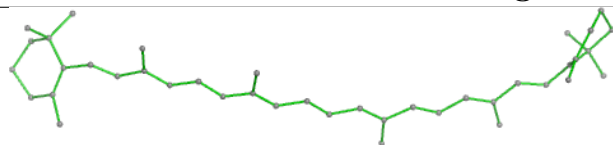


Torsions

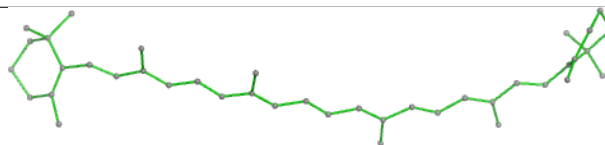


Rings

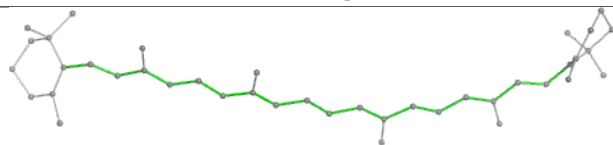
## Ligand BCR F 306



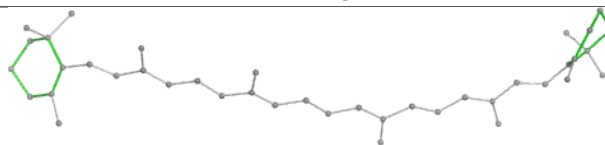
Bond lengths



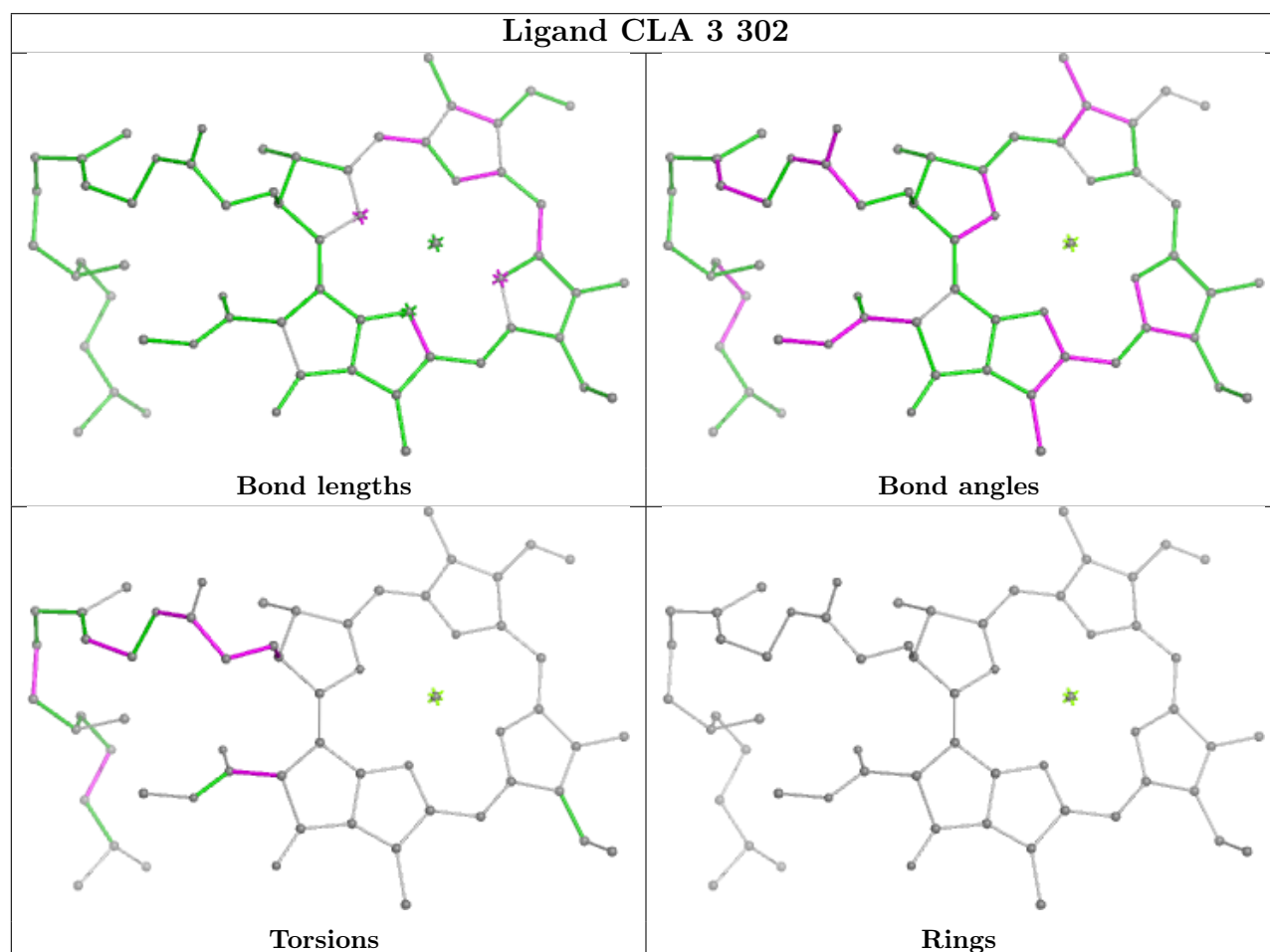
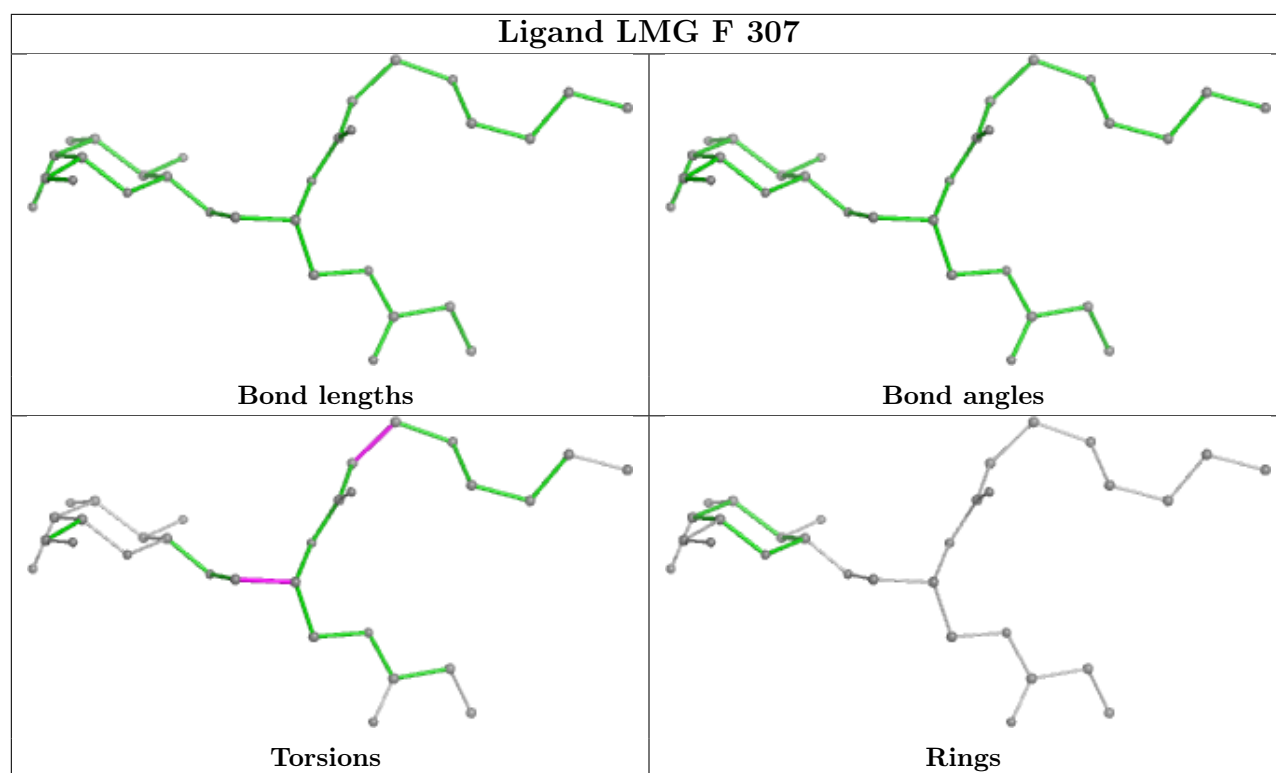
Bond angles

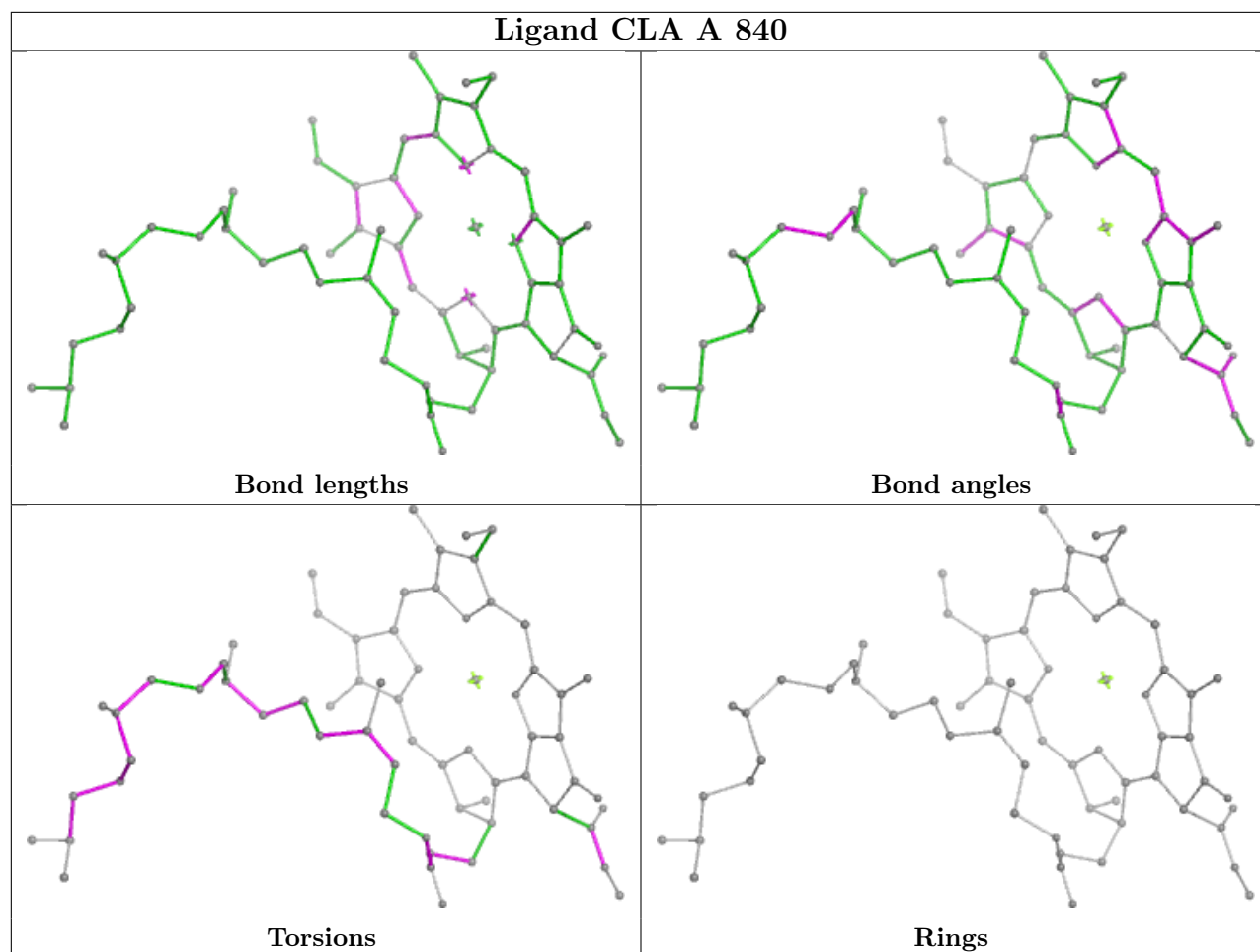
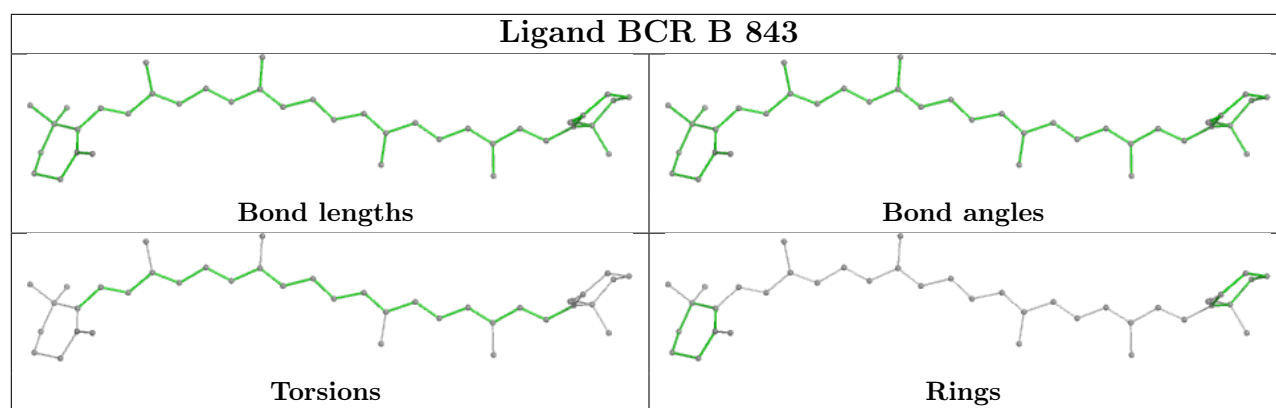


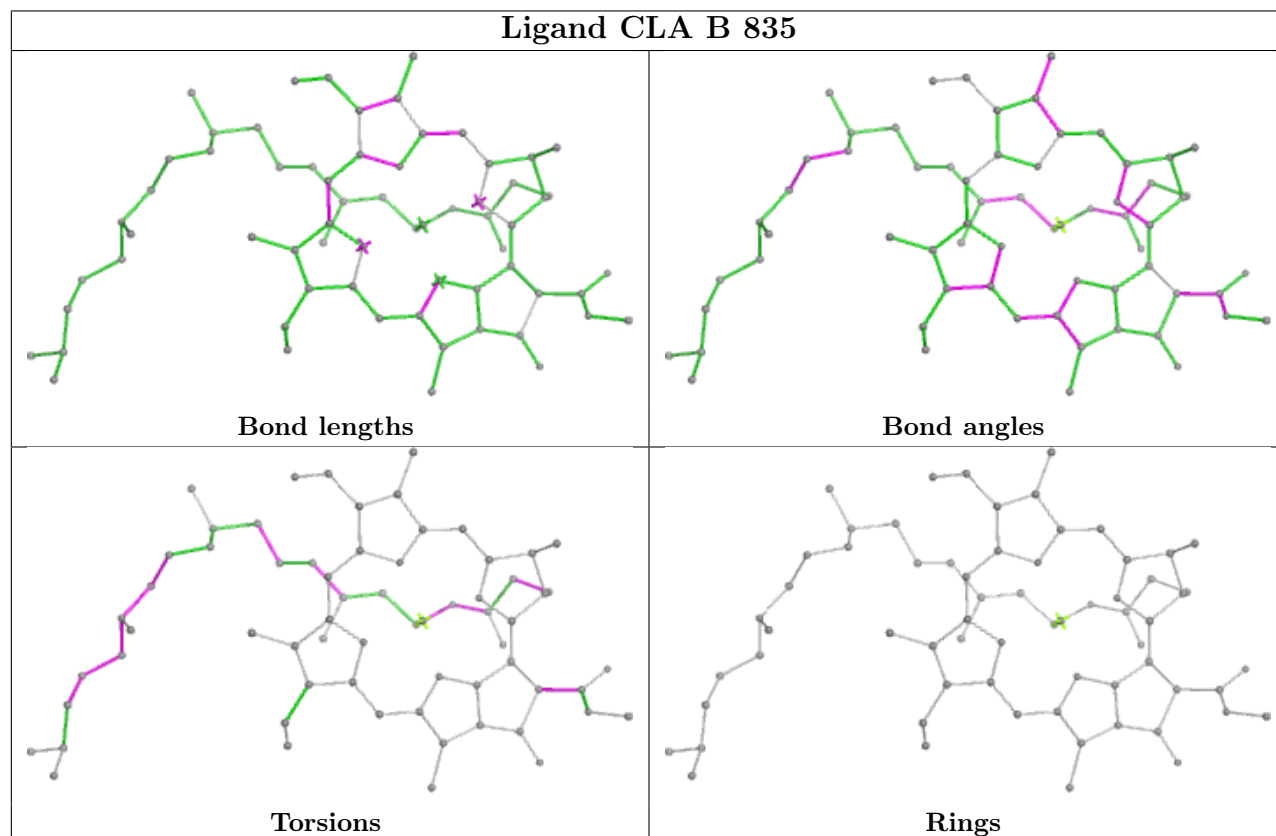
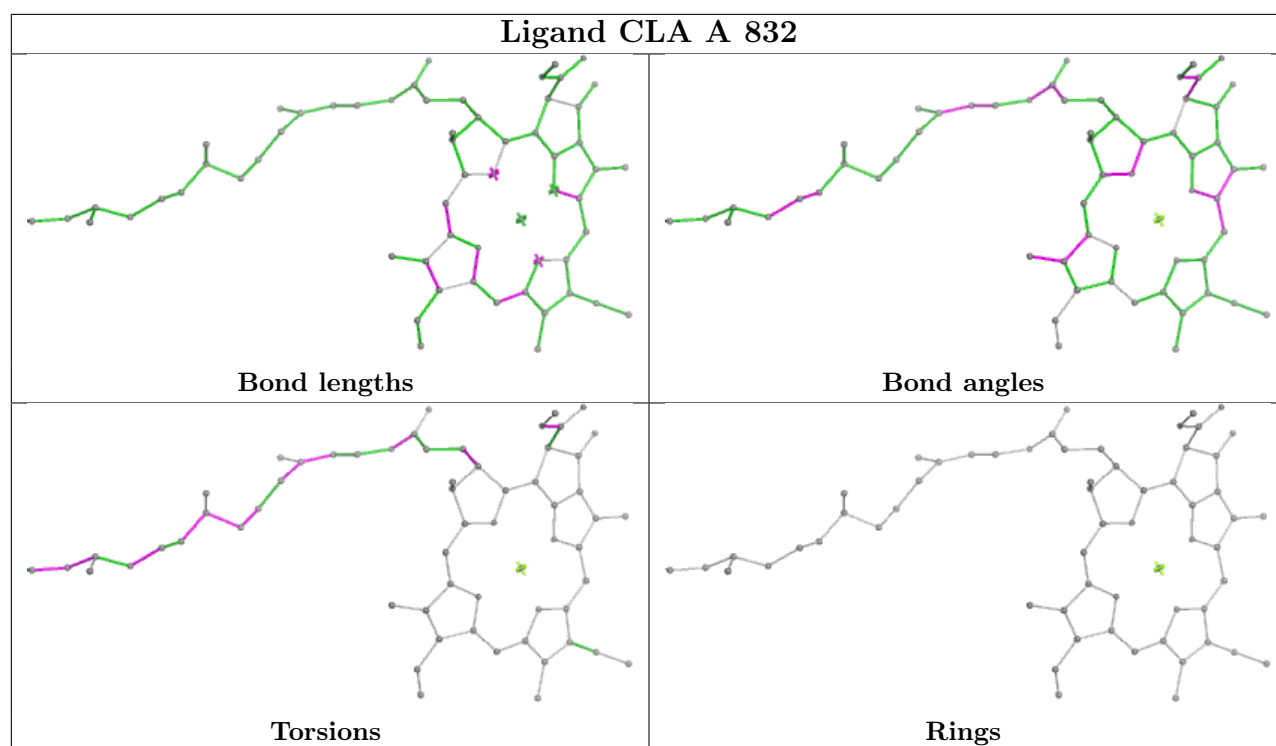
Torsions



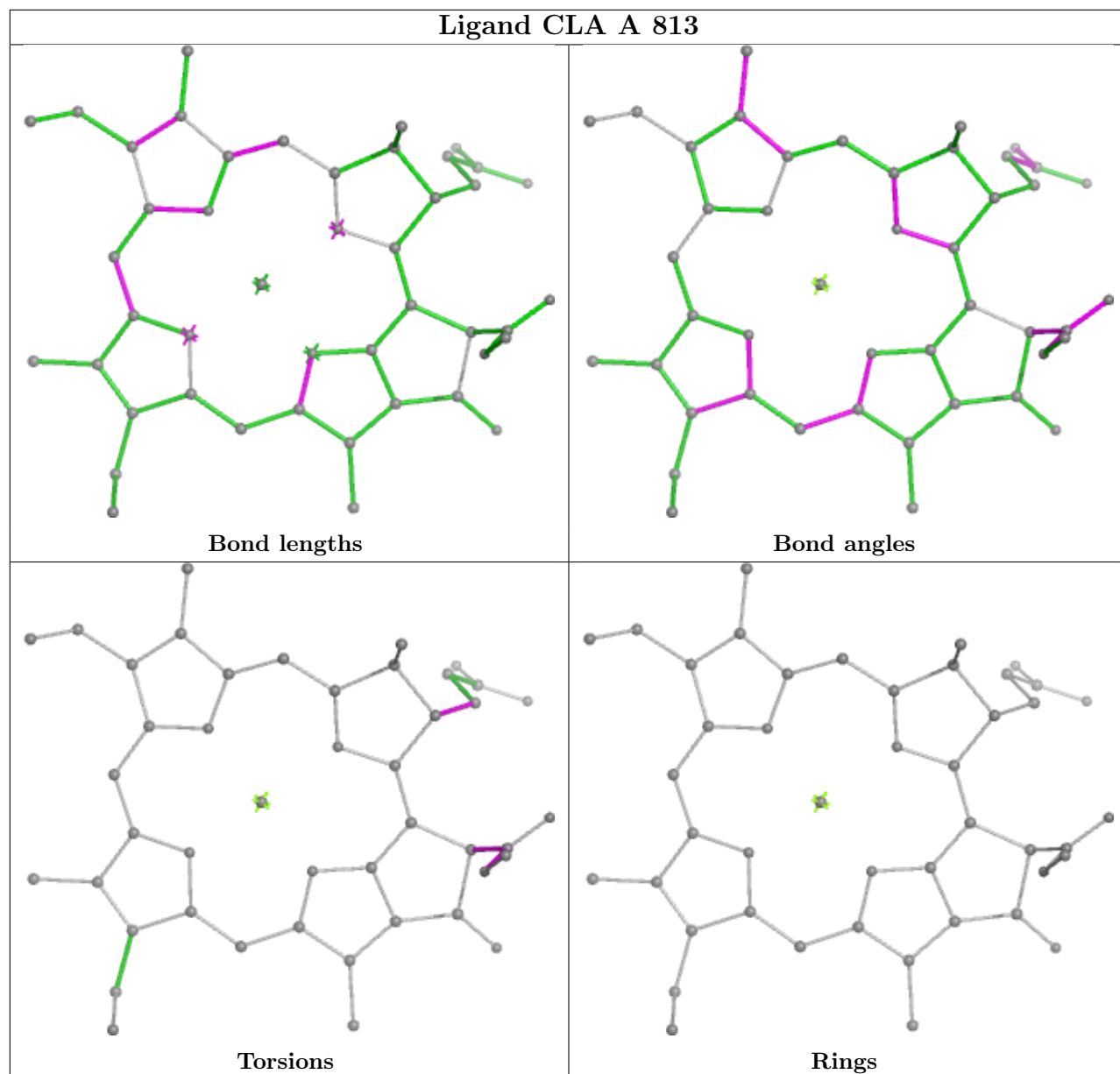
Rings



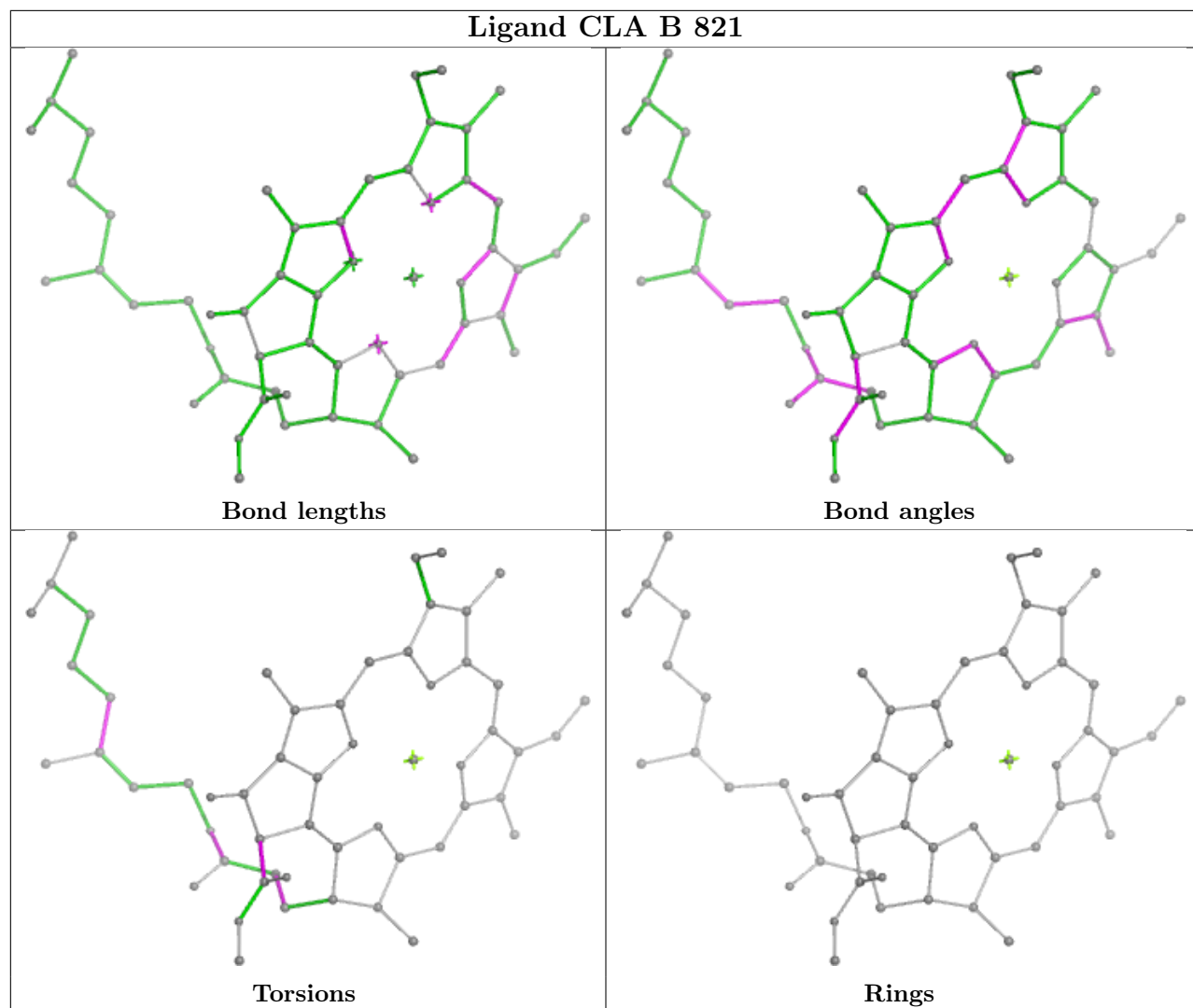




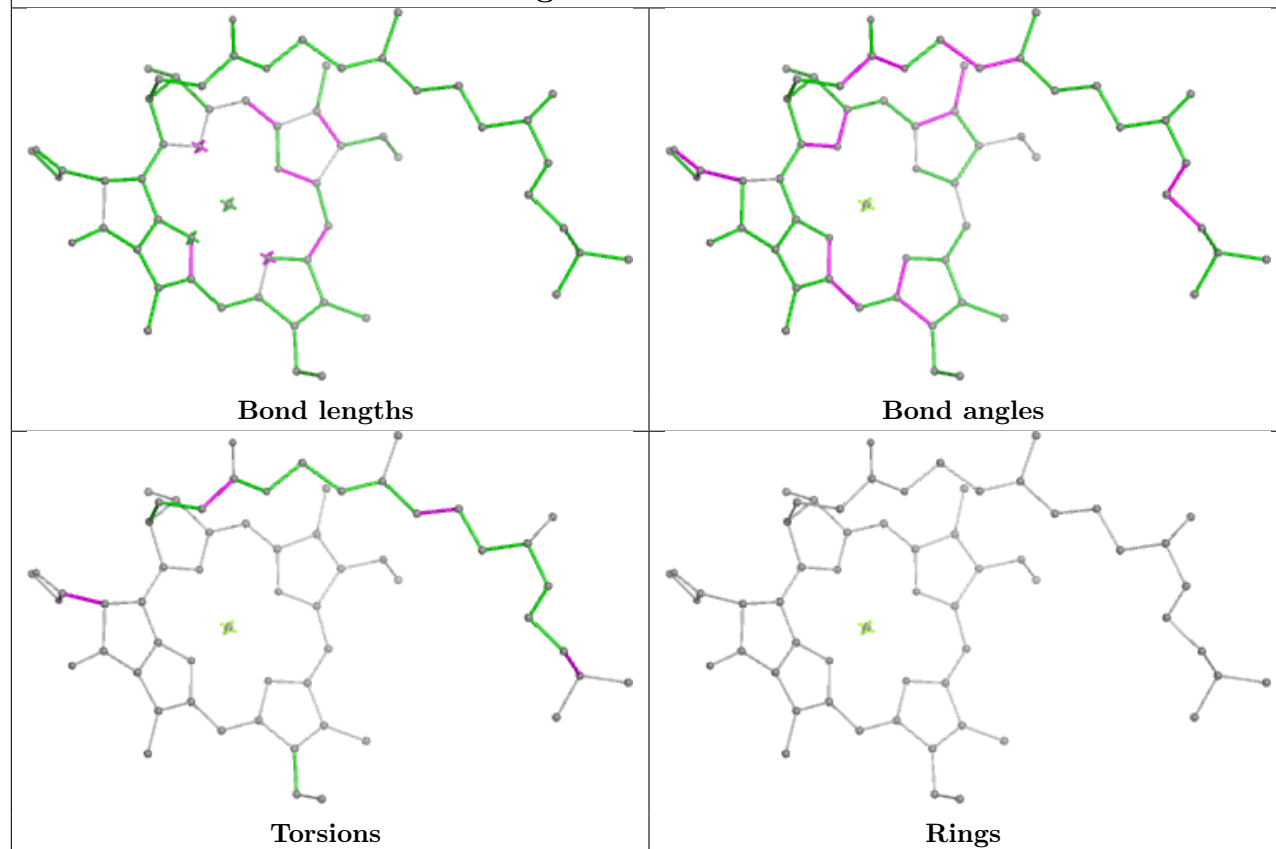
## Ligand CLA A 813



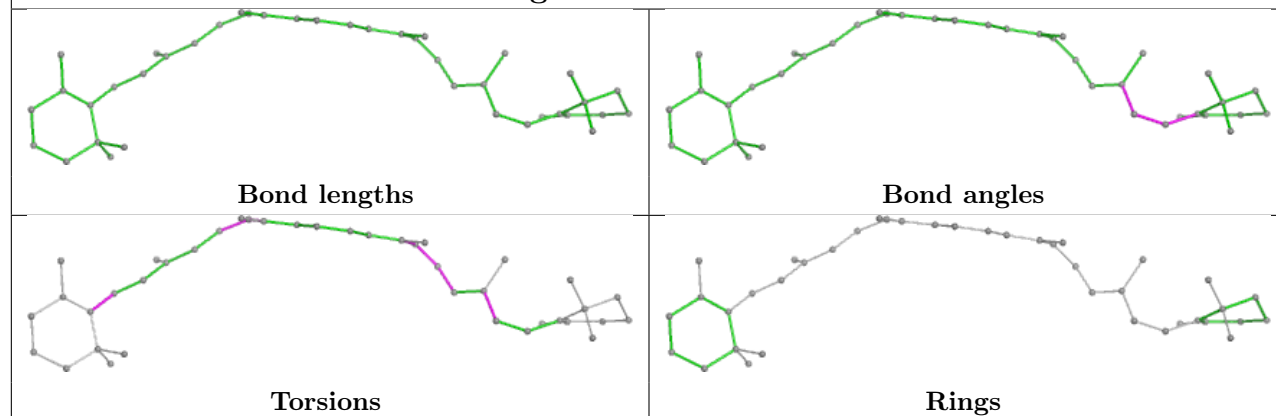
## Ligand CLA B 821



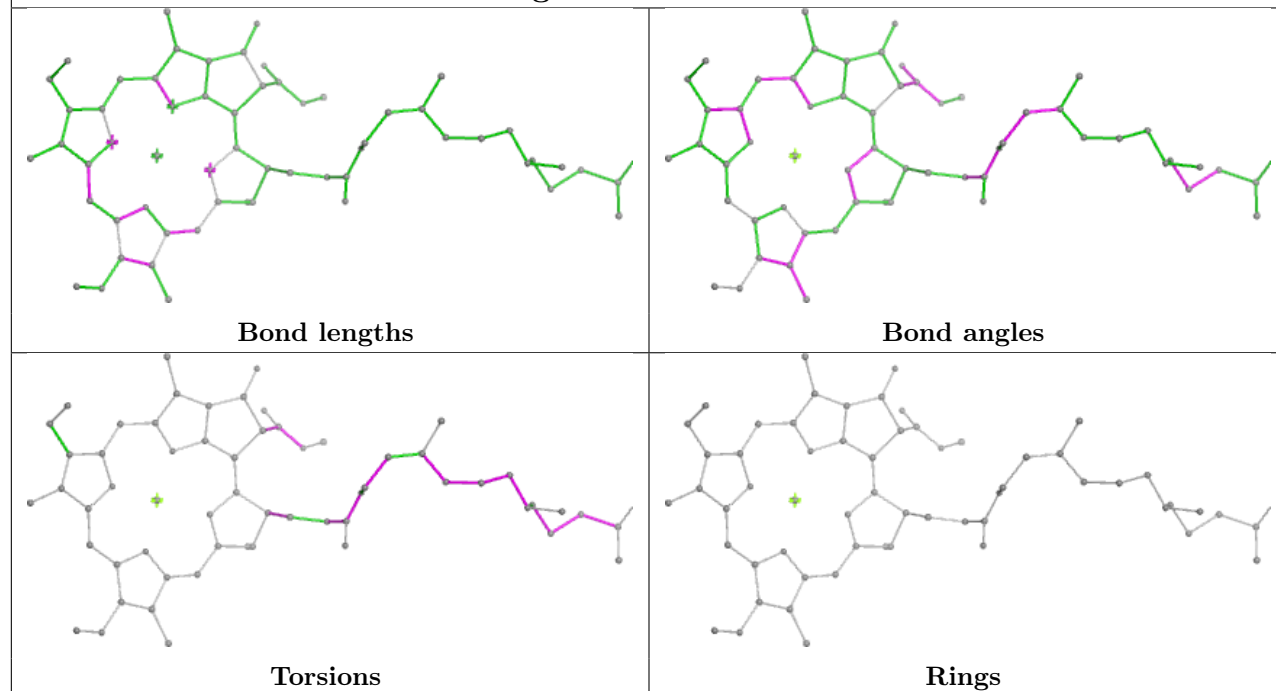
## Ligand CLA 4 301



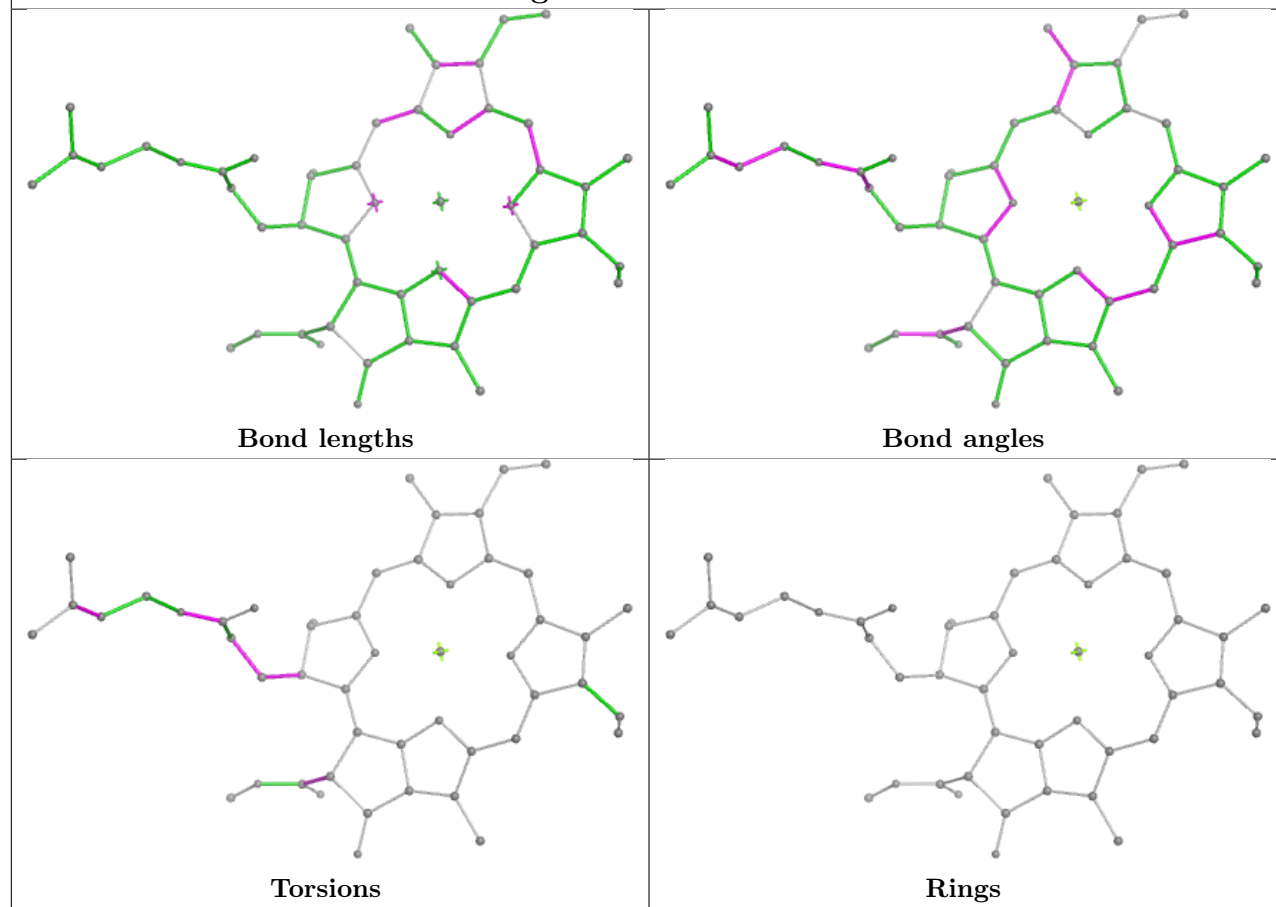
## Ligand BCR A 843



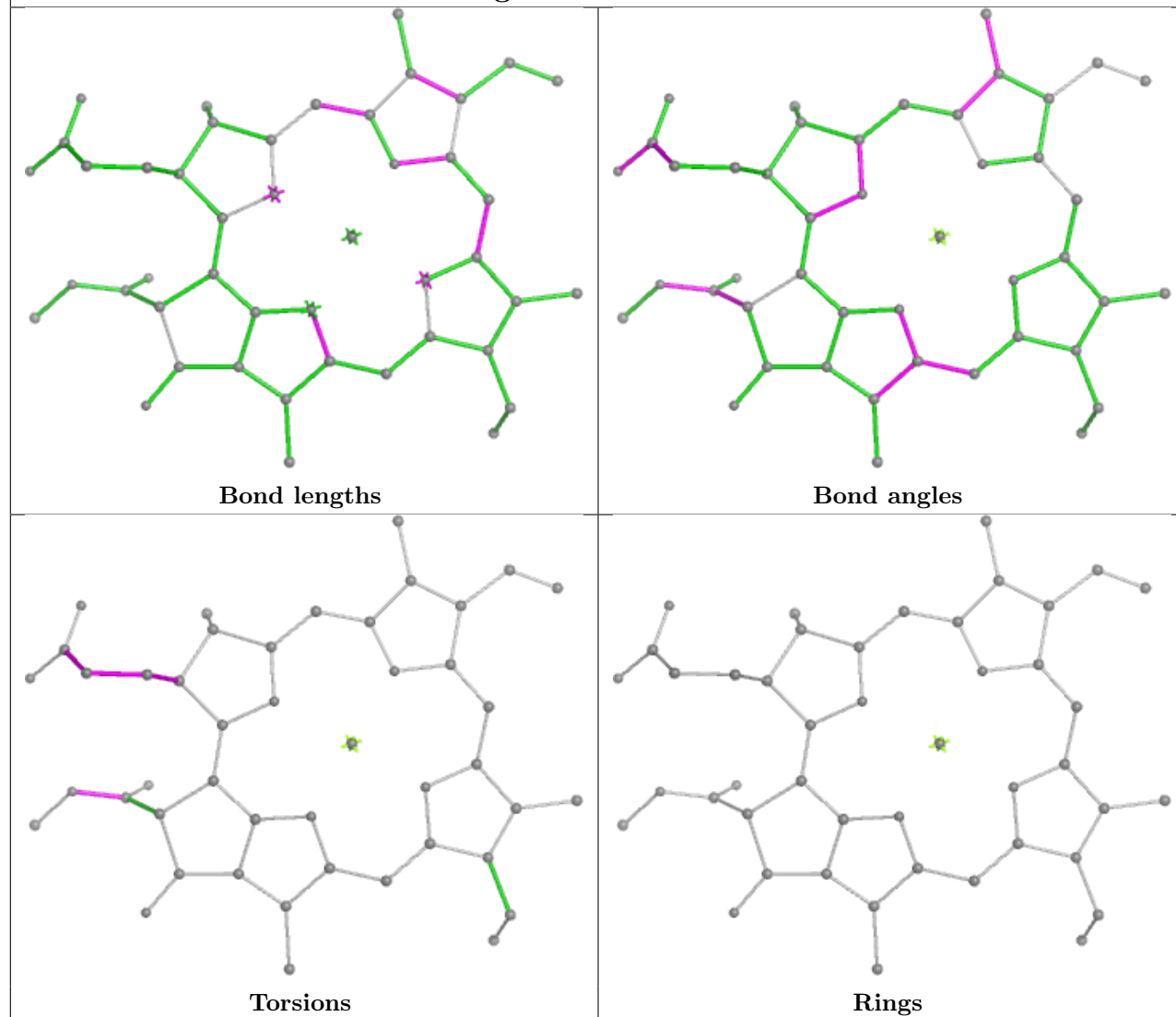
## Ligand CLA B 822



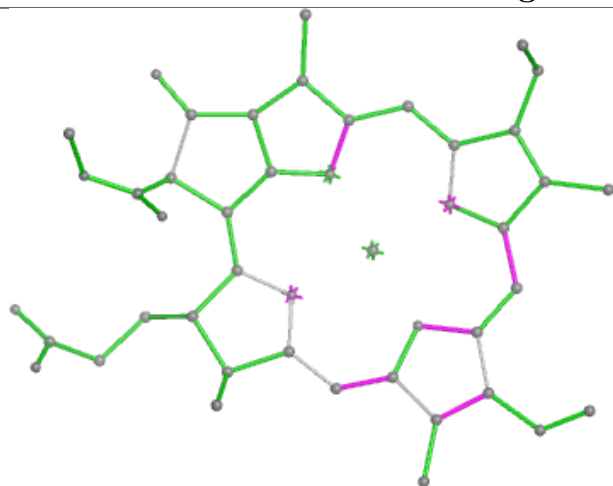
## Ligand CLA G 203



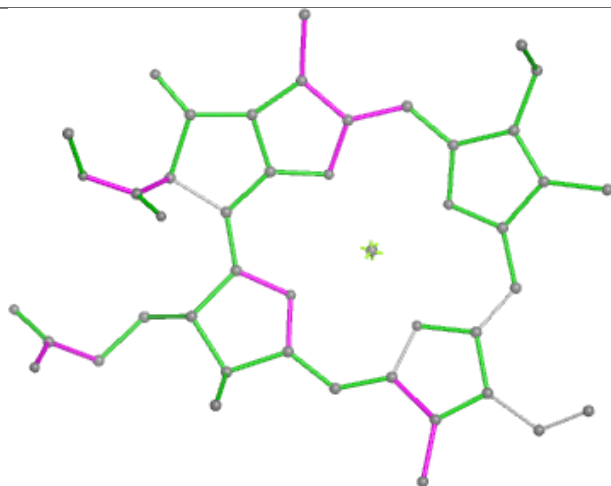
## Ligand CLA 1 311



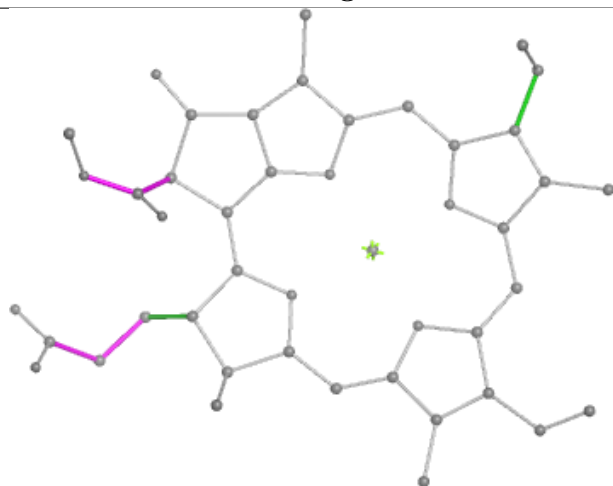
## Ligand CLA 2 311



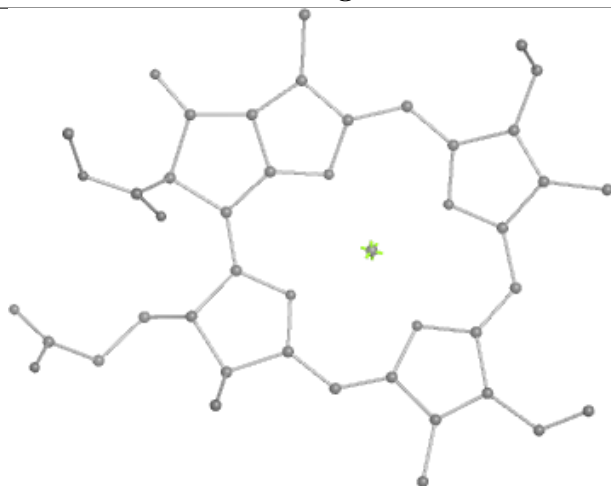
Bond lengths



Bond angles

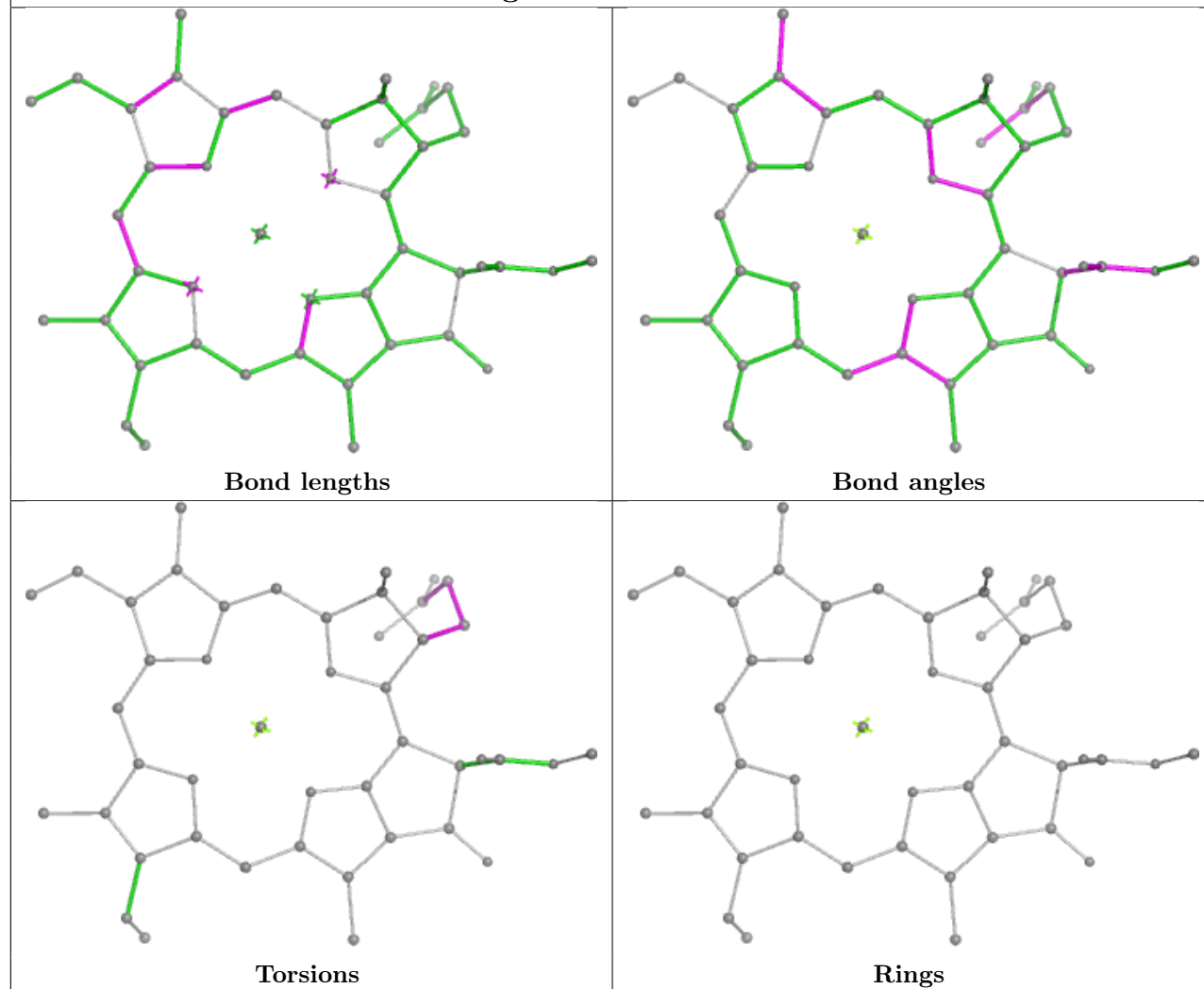


Torsions

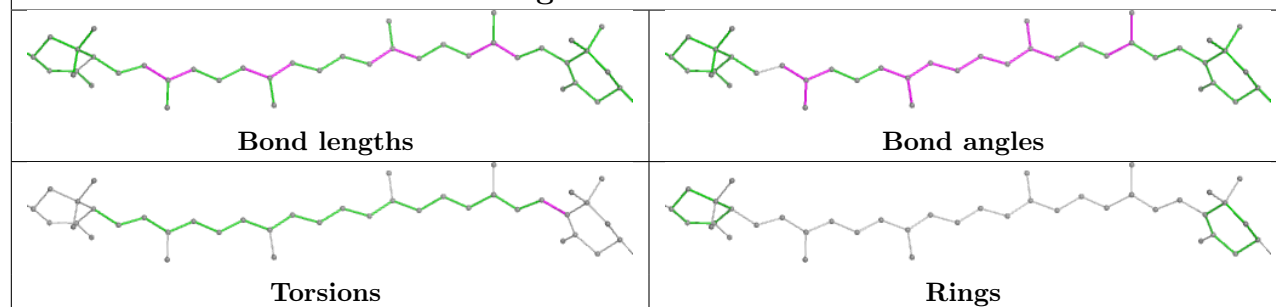


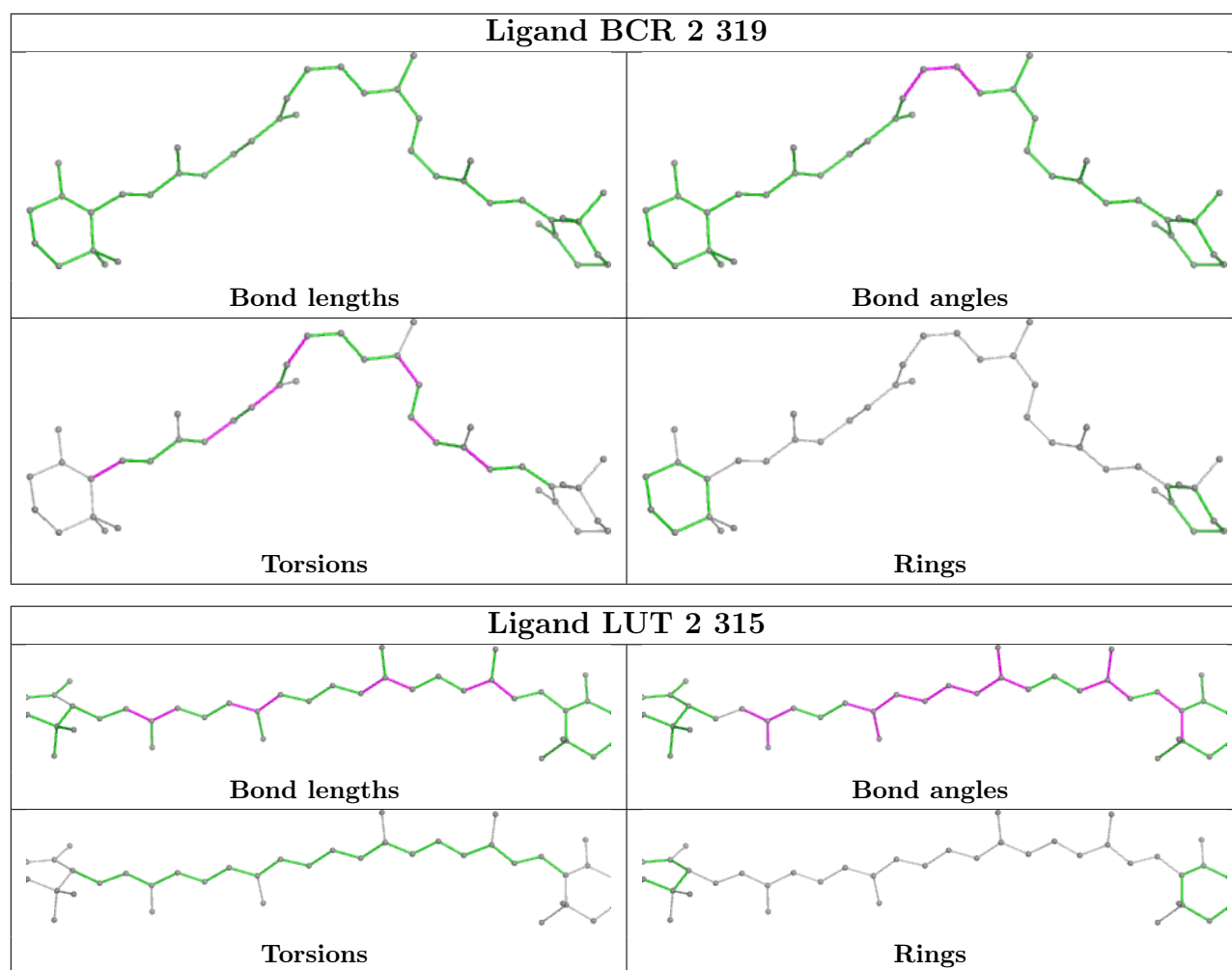
Rings

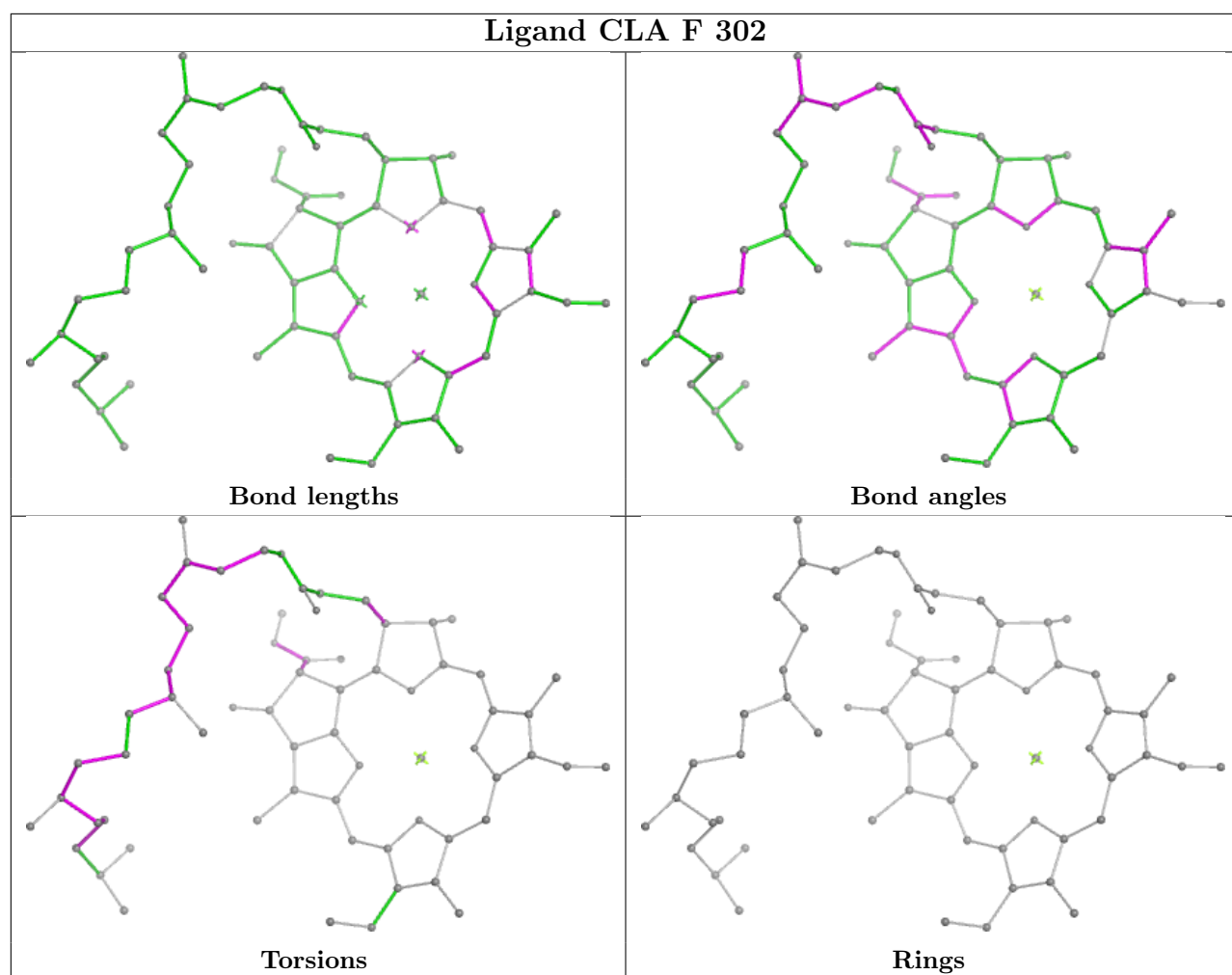
## Ligand CLA B 833



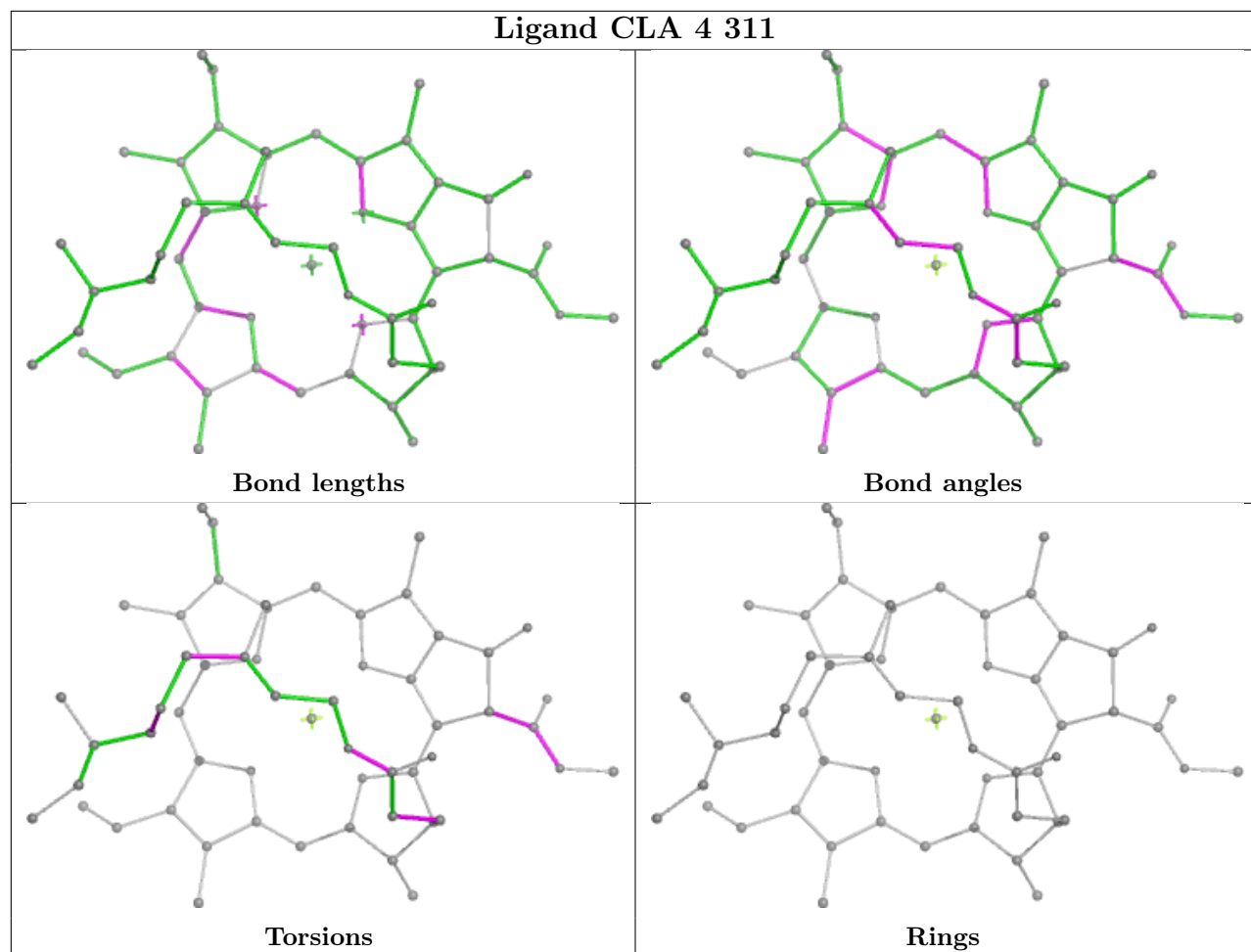
## Ligand LUT 3 315

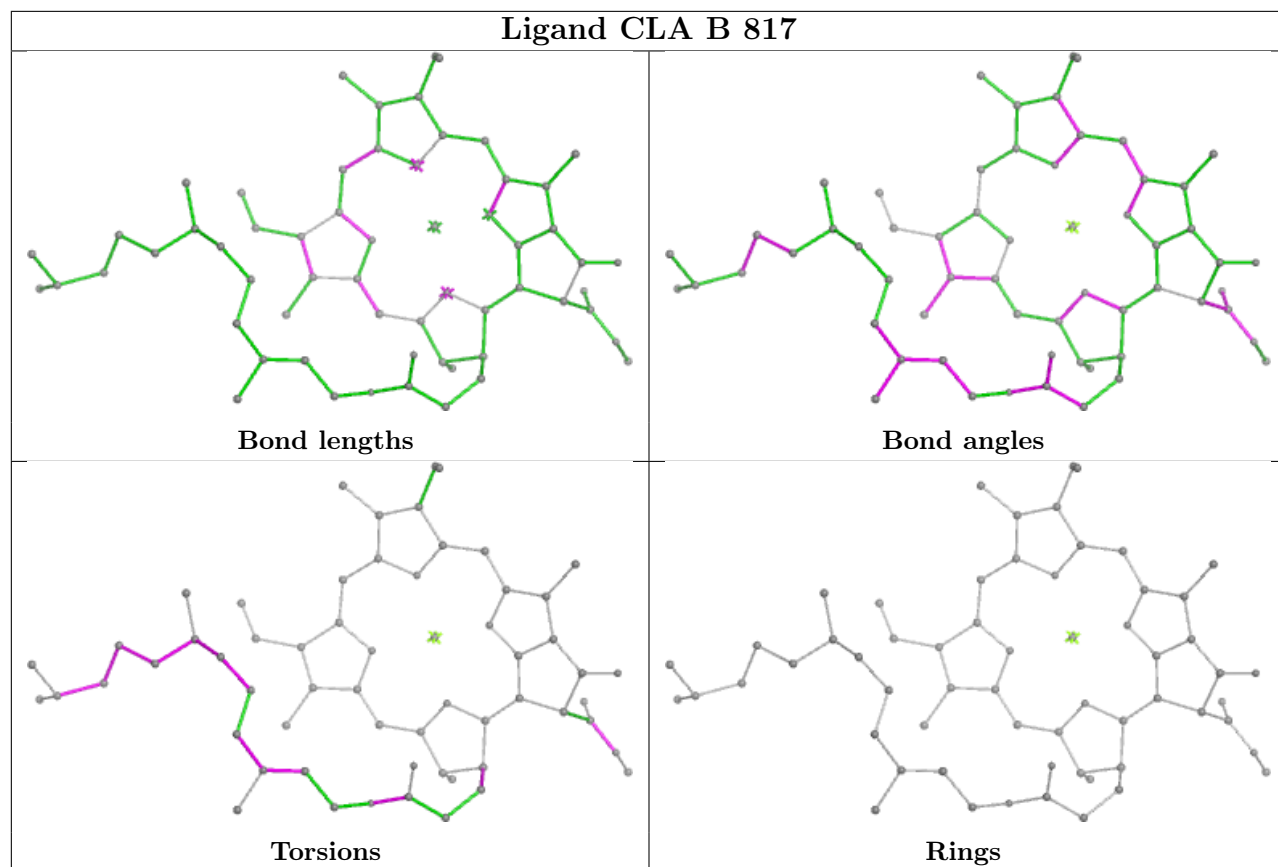




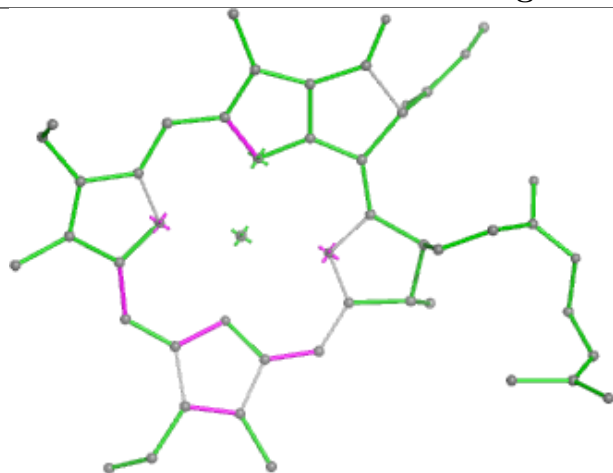


## Ligand CLA 4 311

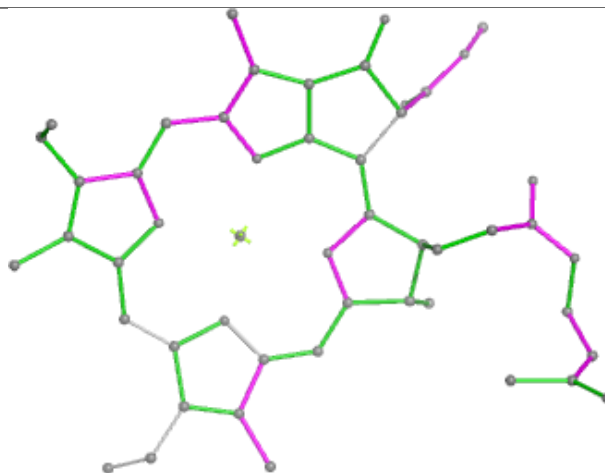




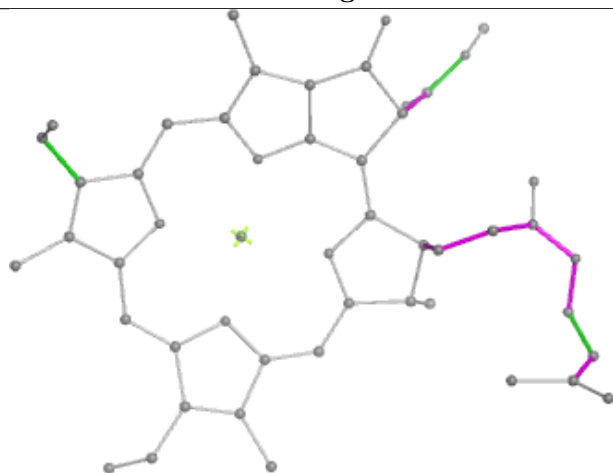
## Ligand CLA L 303



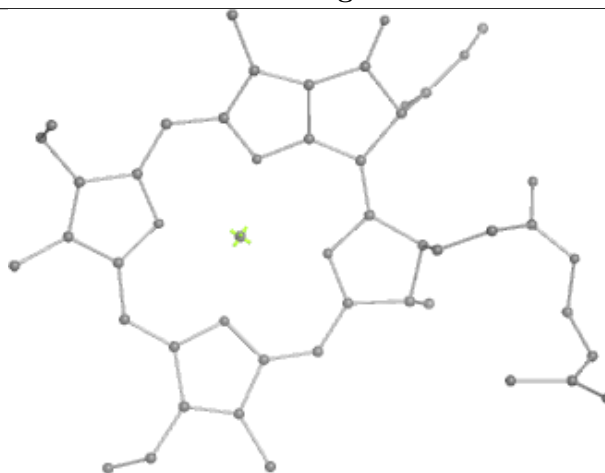
Bond lengths



Bond angles

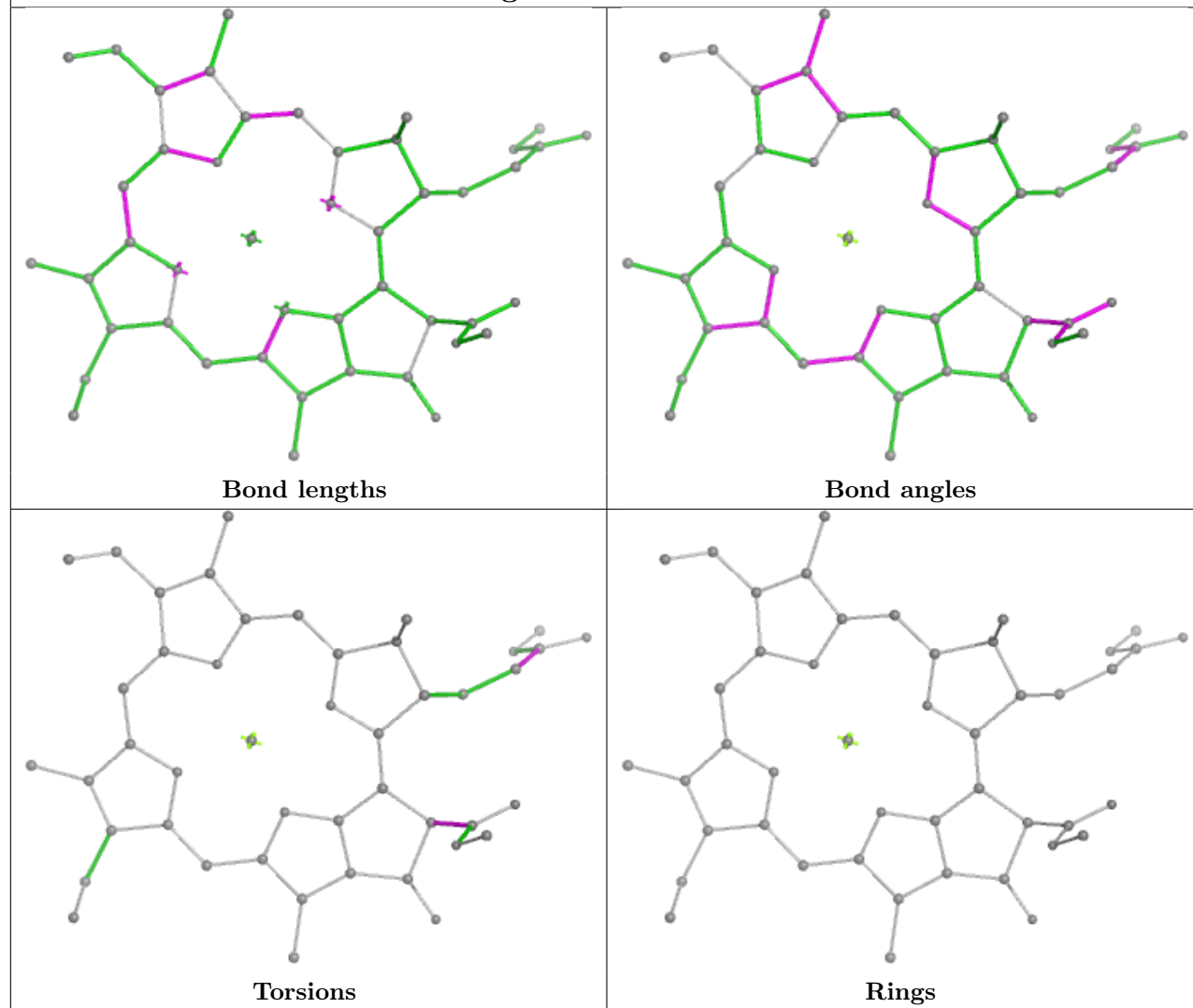


Torsions

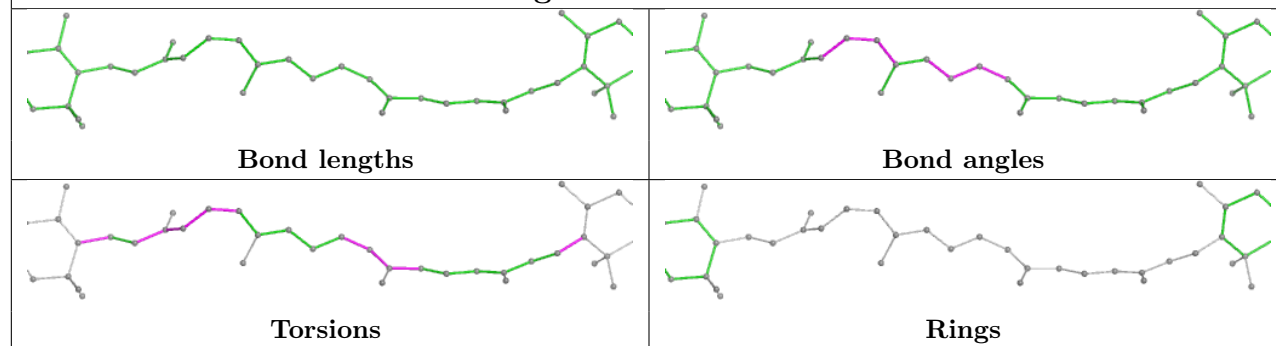


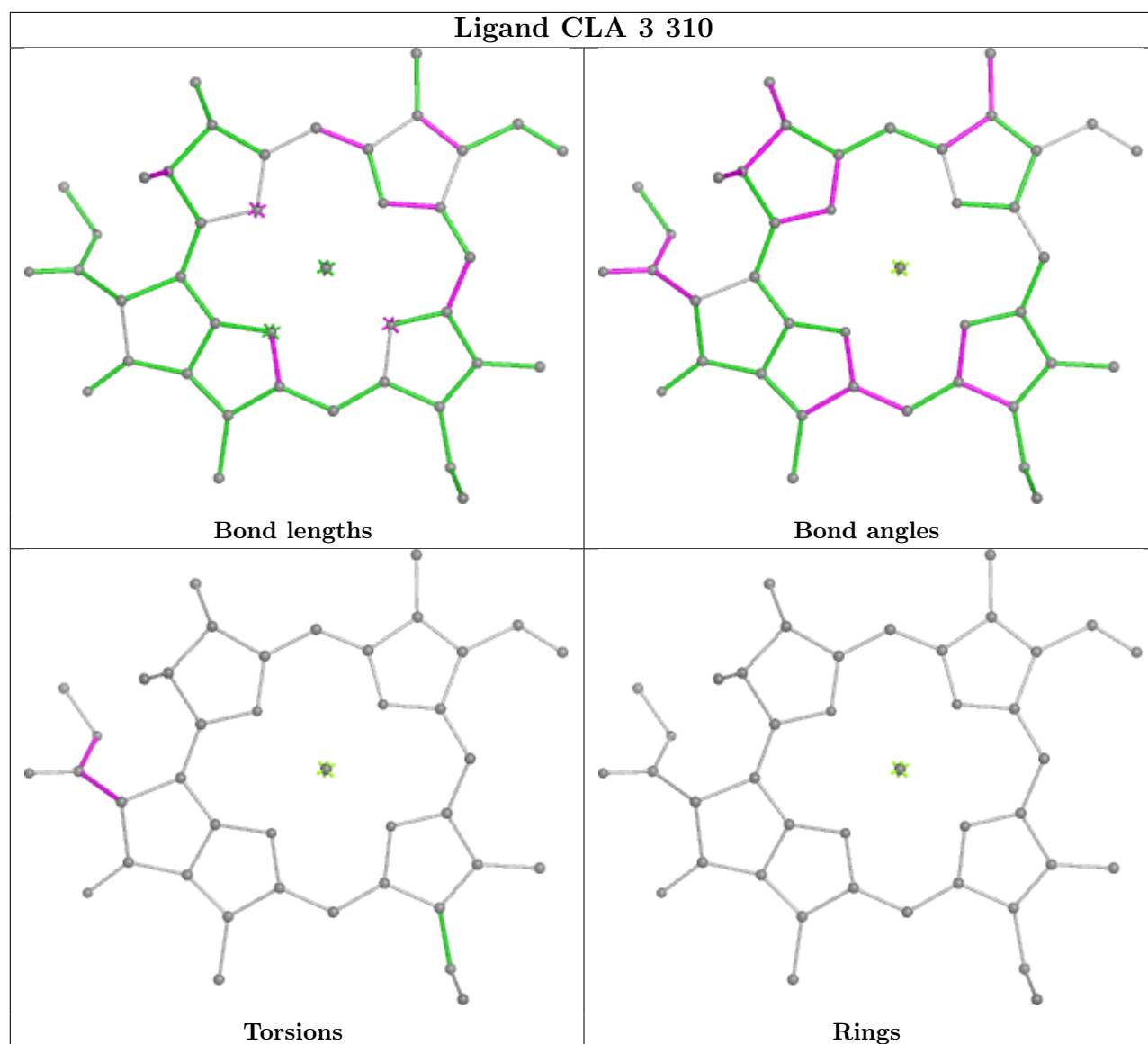
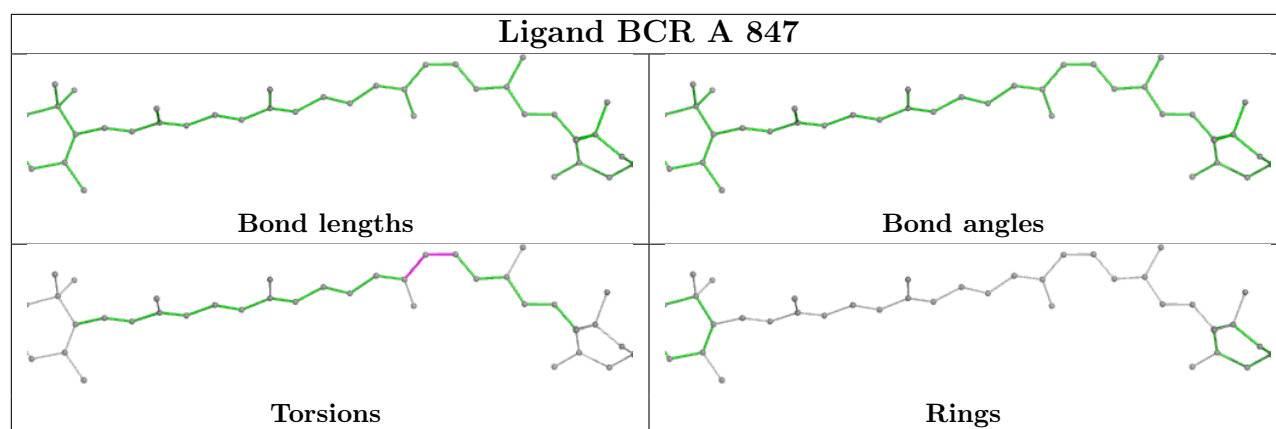
Rings

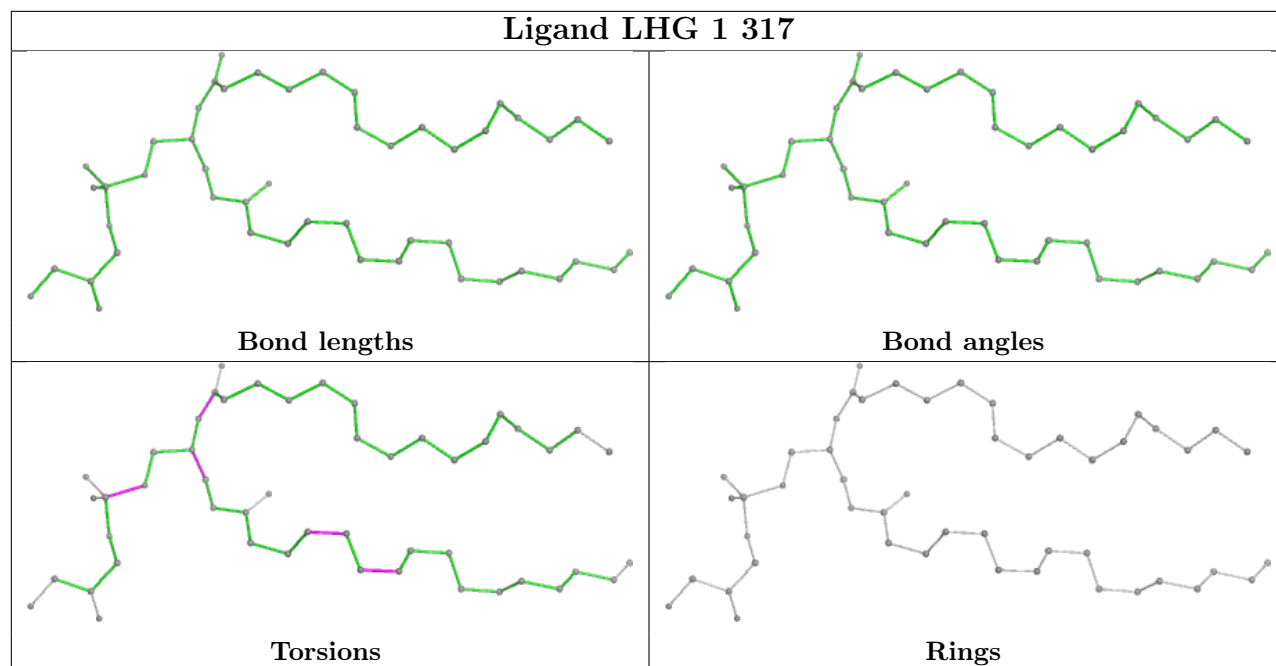
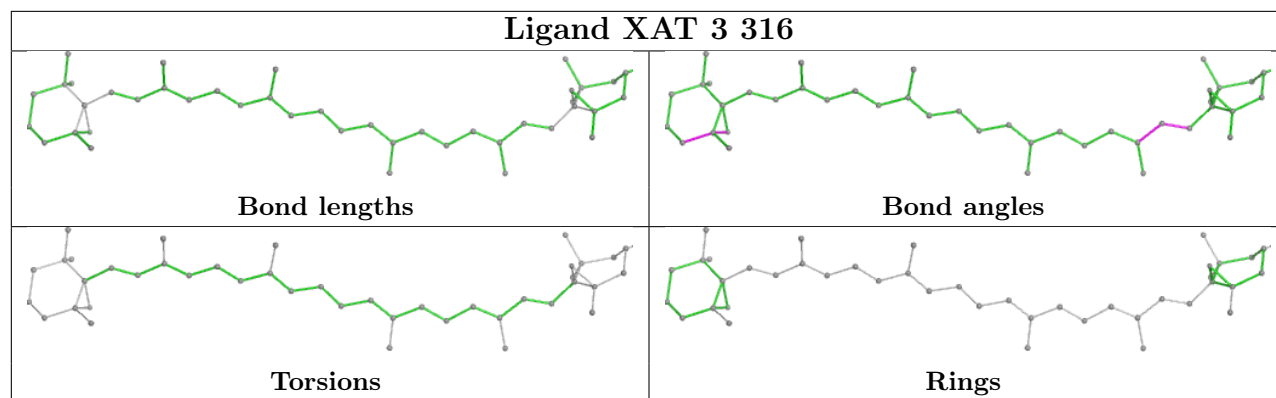
## Ligand CLA 2 320

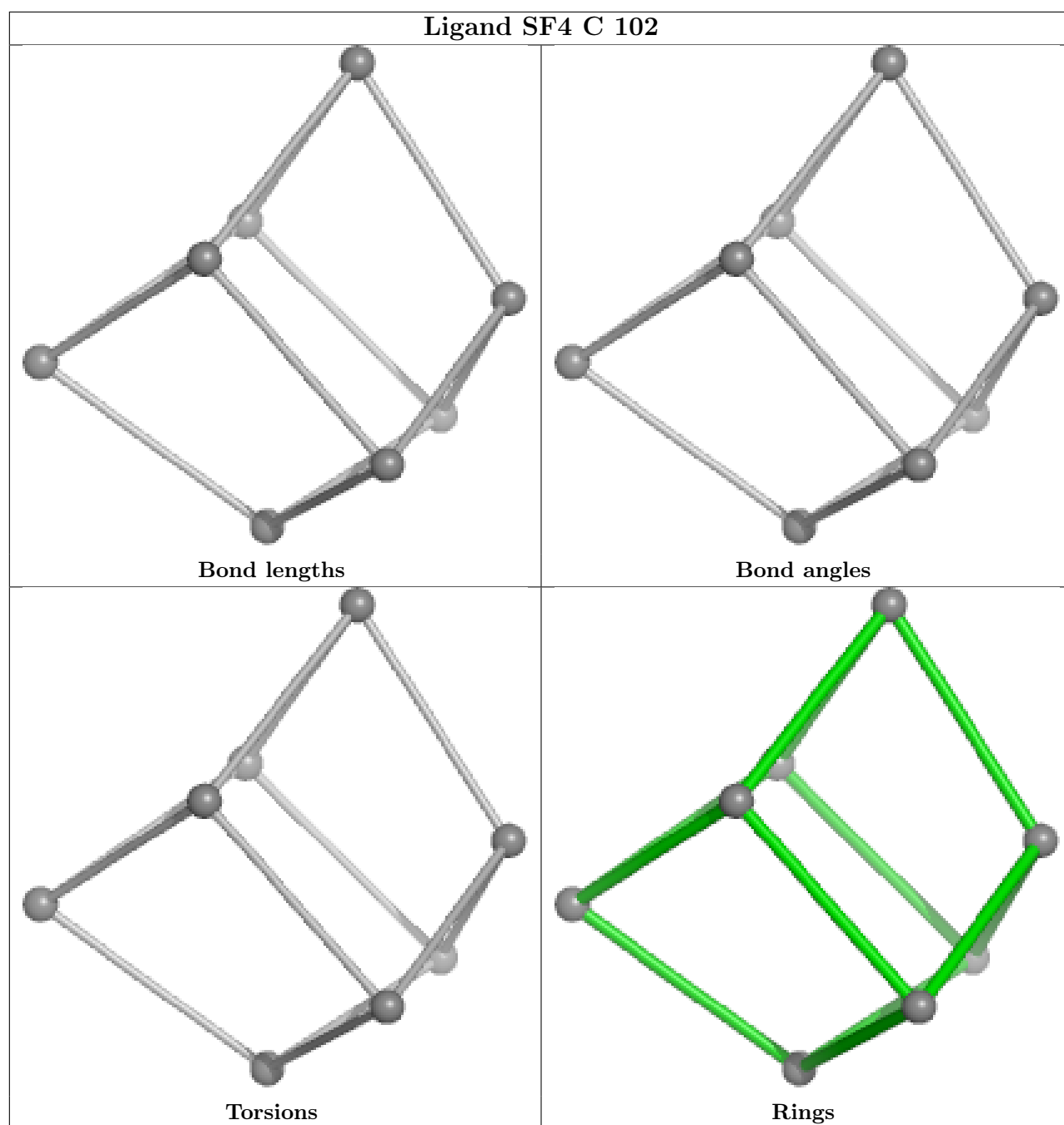


## Ligand BCR J 101

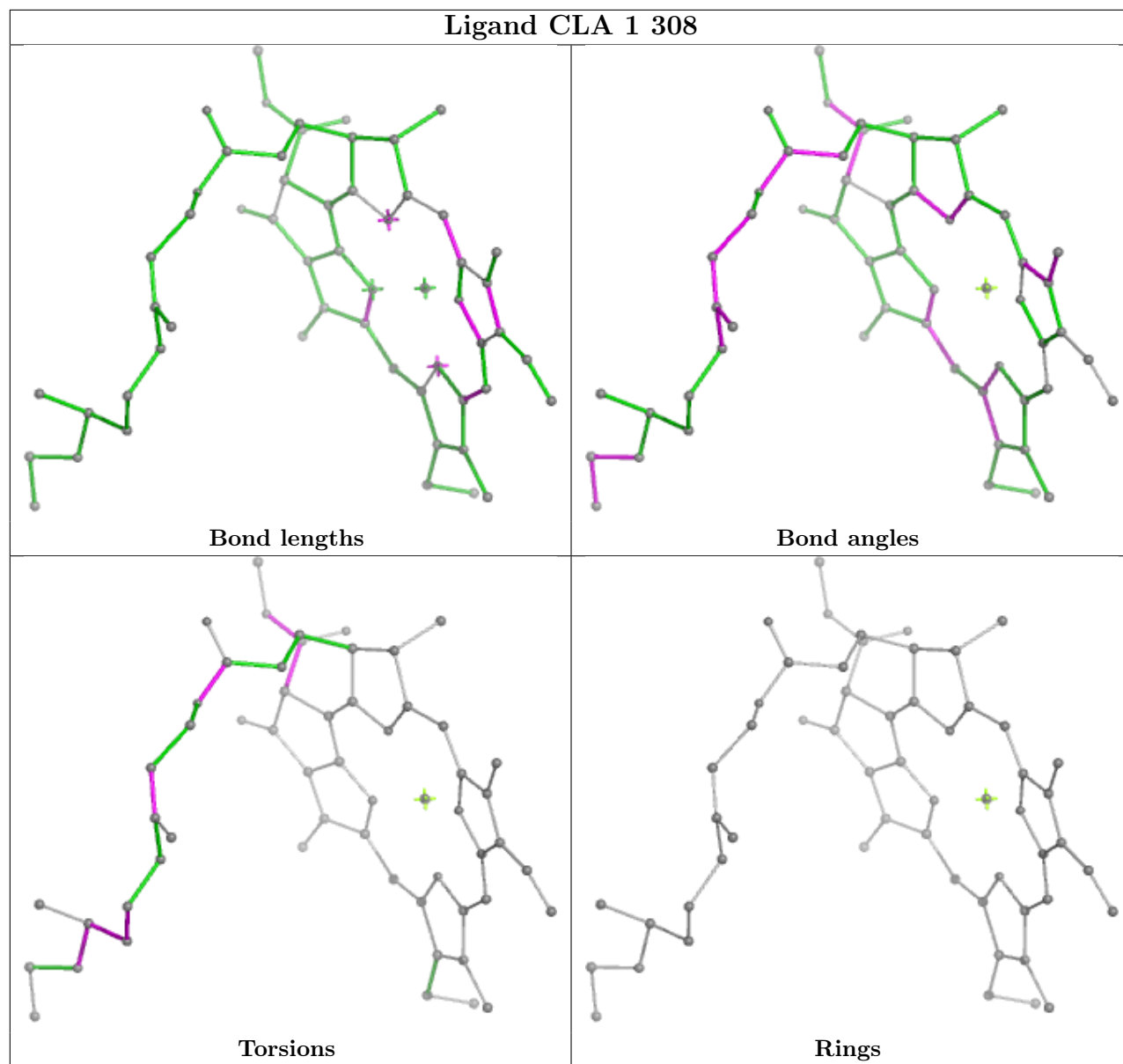


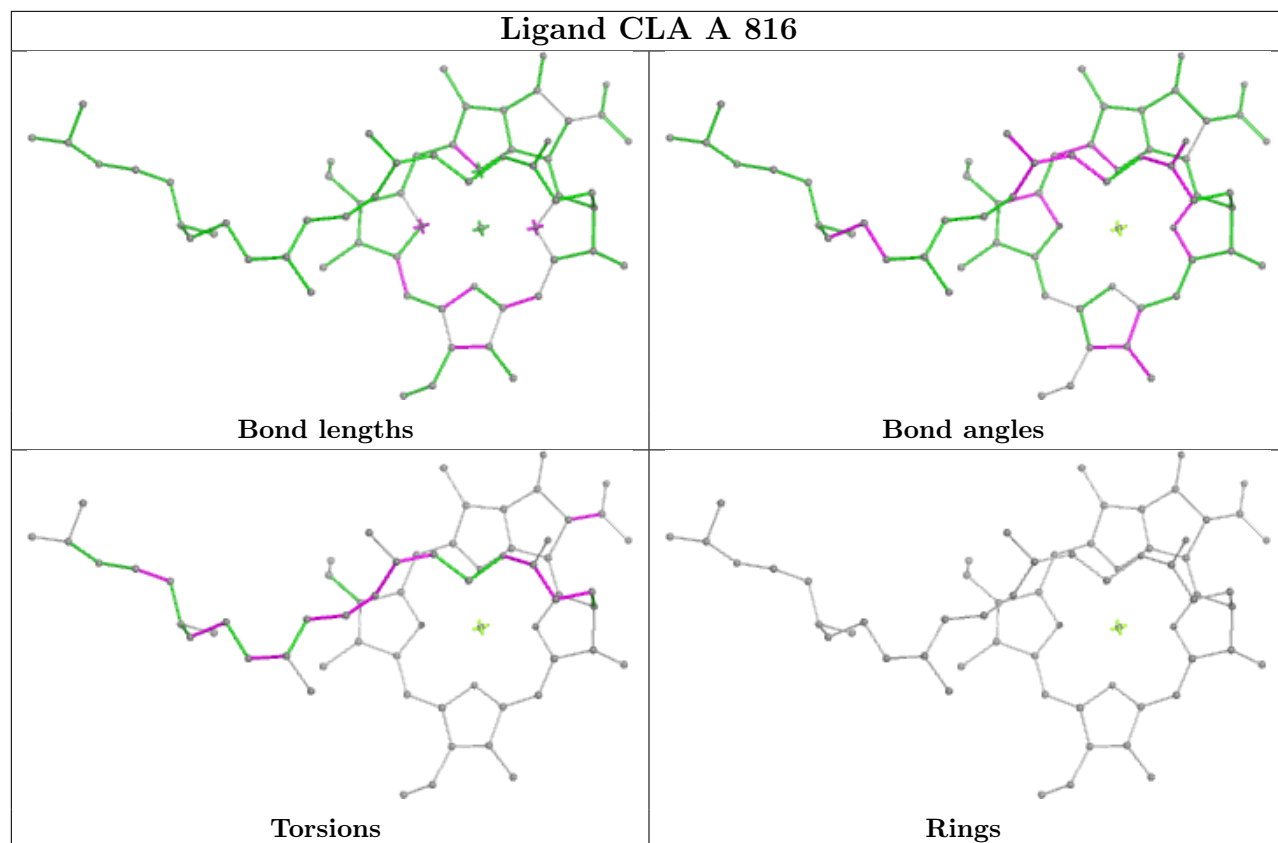




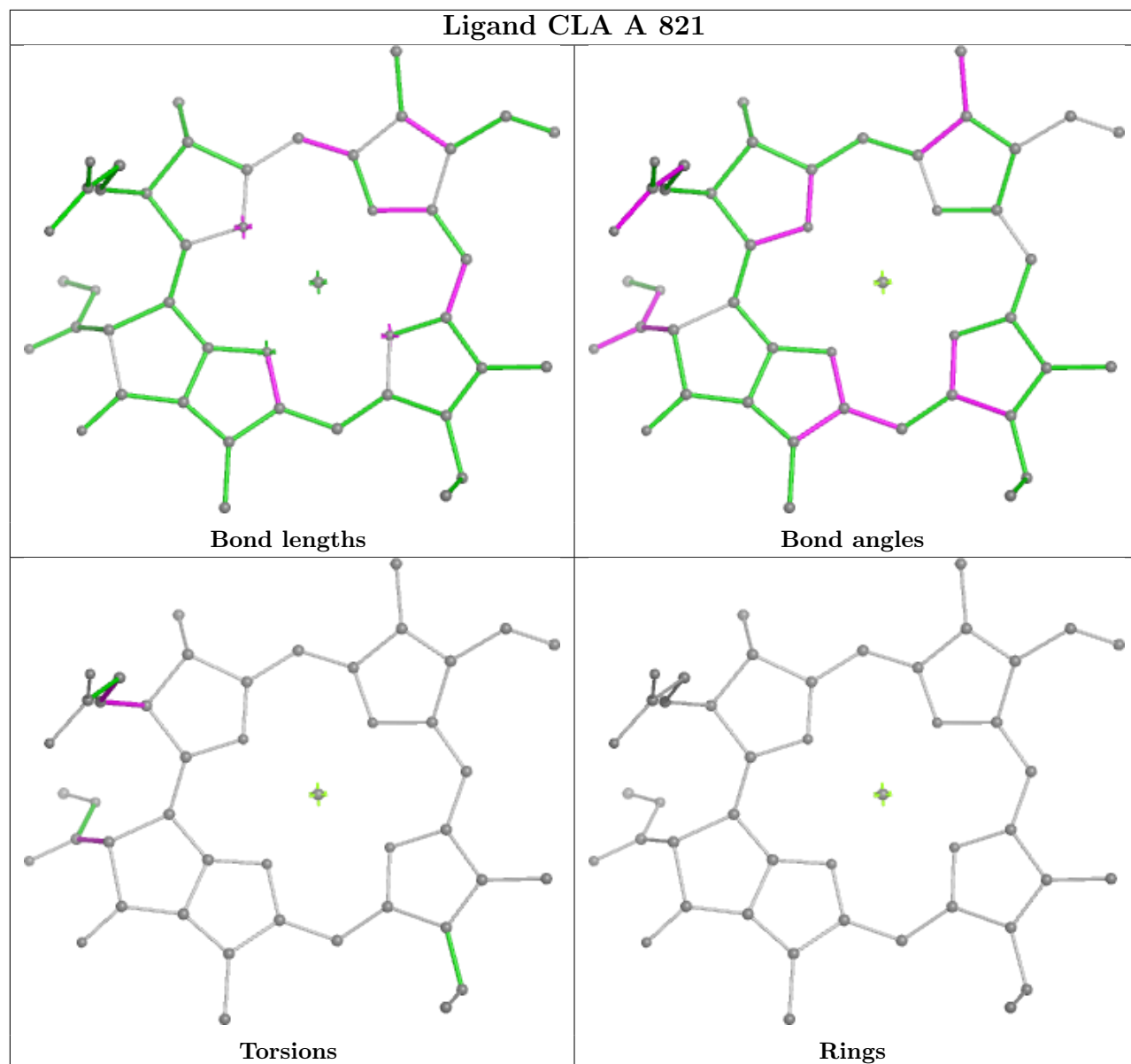


## Ligand CLA 1 308

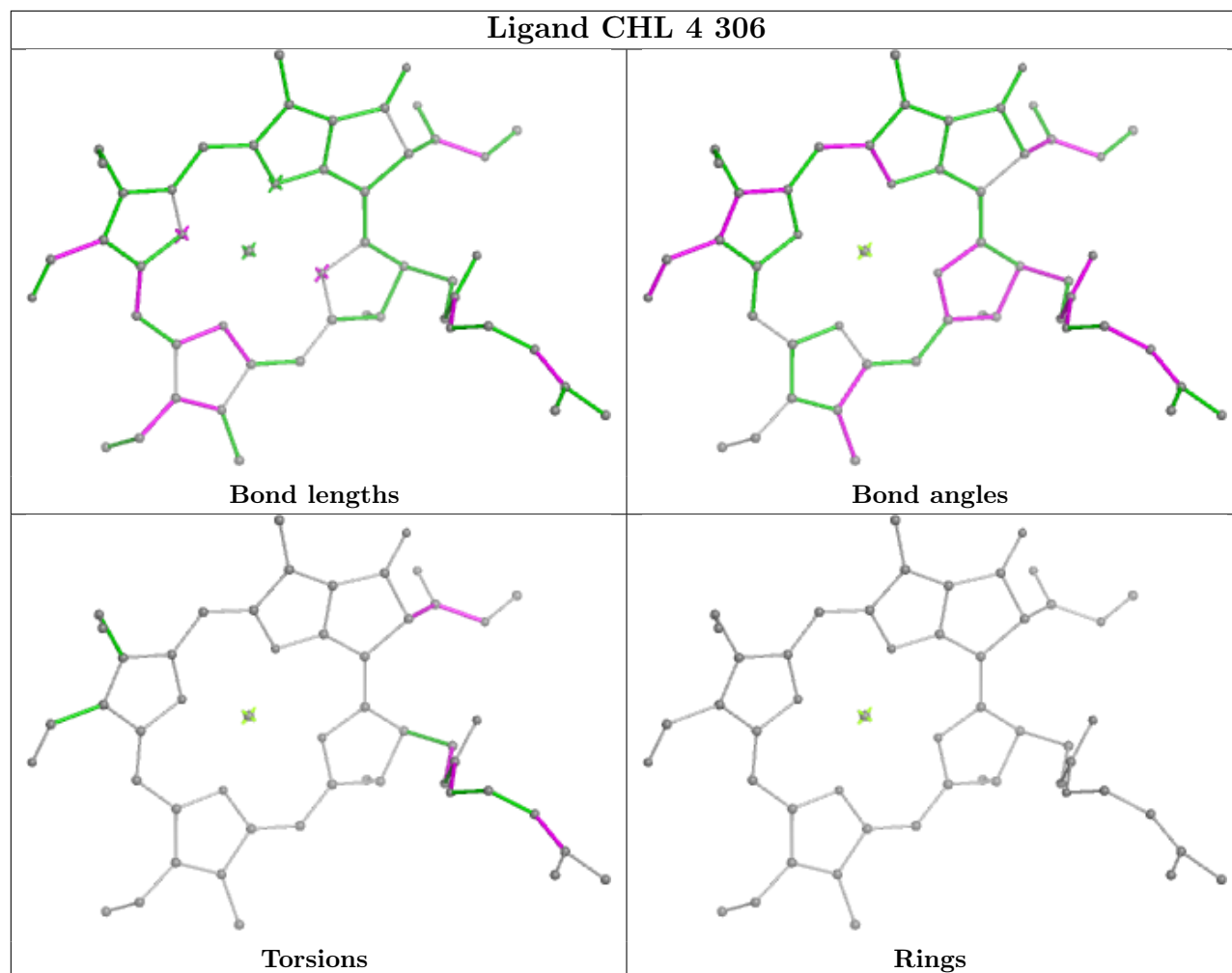




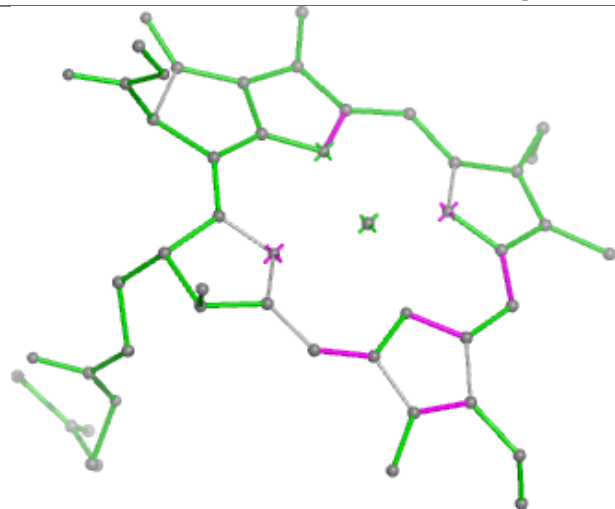
## Ligand CLA A 821



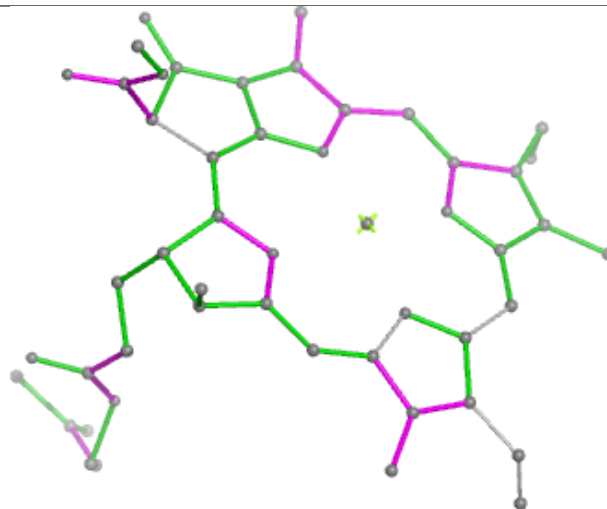
## Ligand CHL 4 306



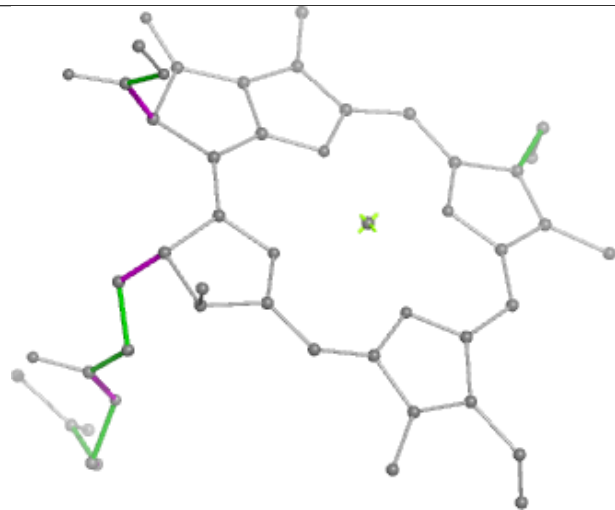
## Ligand CLA B 829



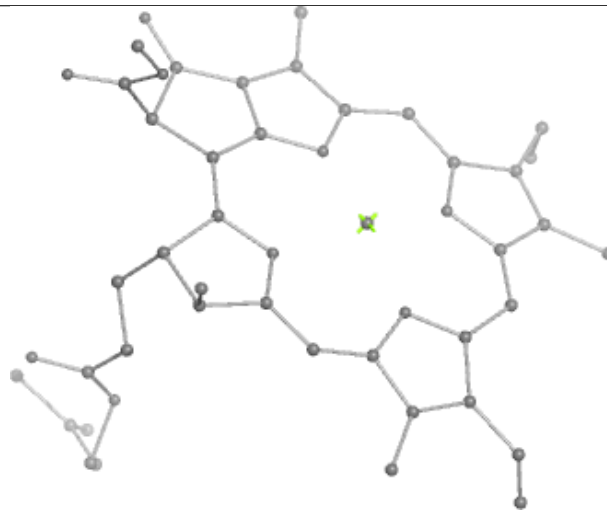
Bond lengths



Bond angles

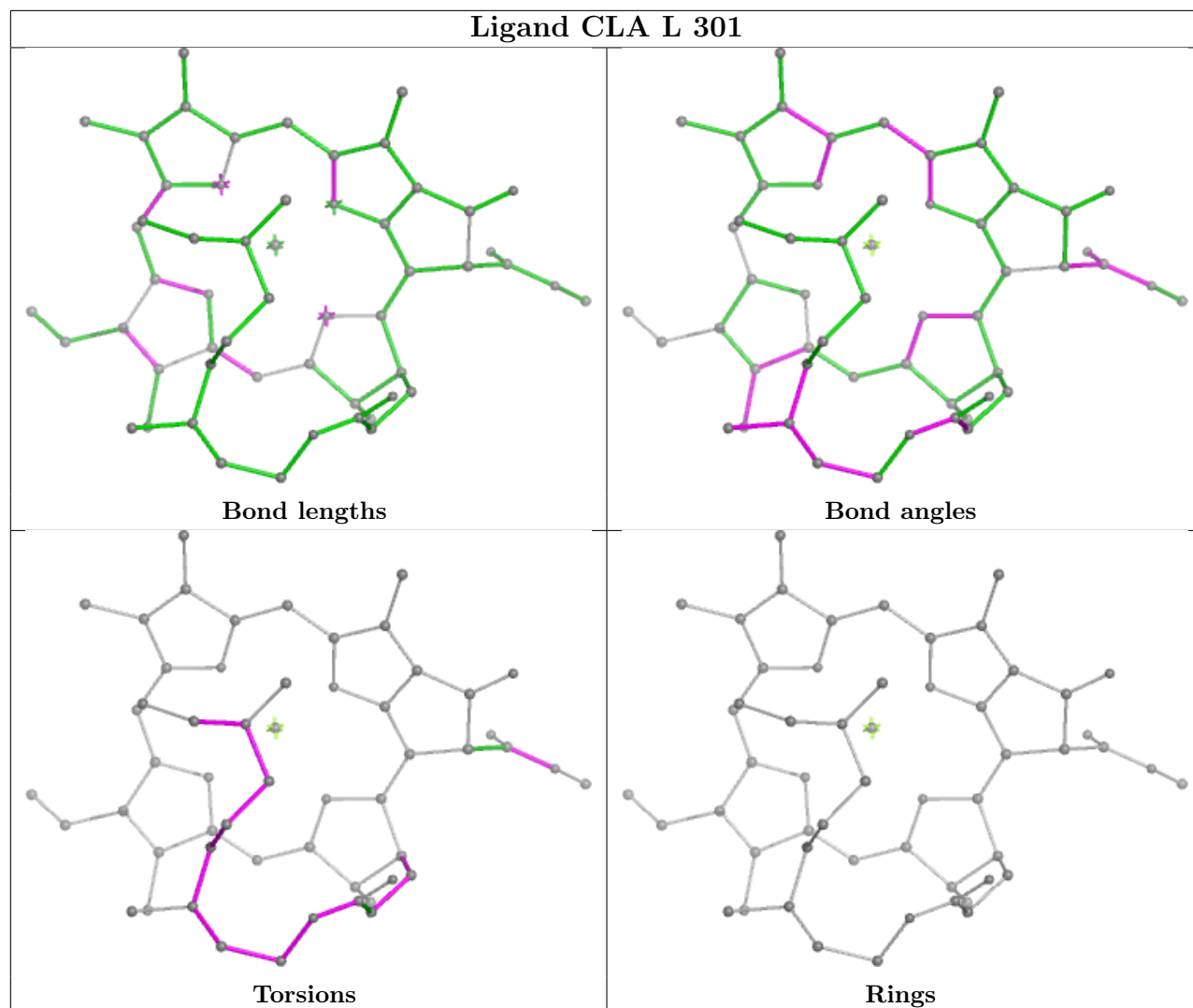


Torsions

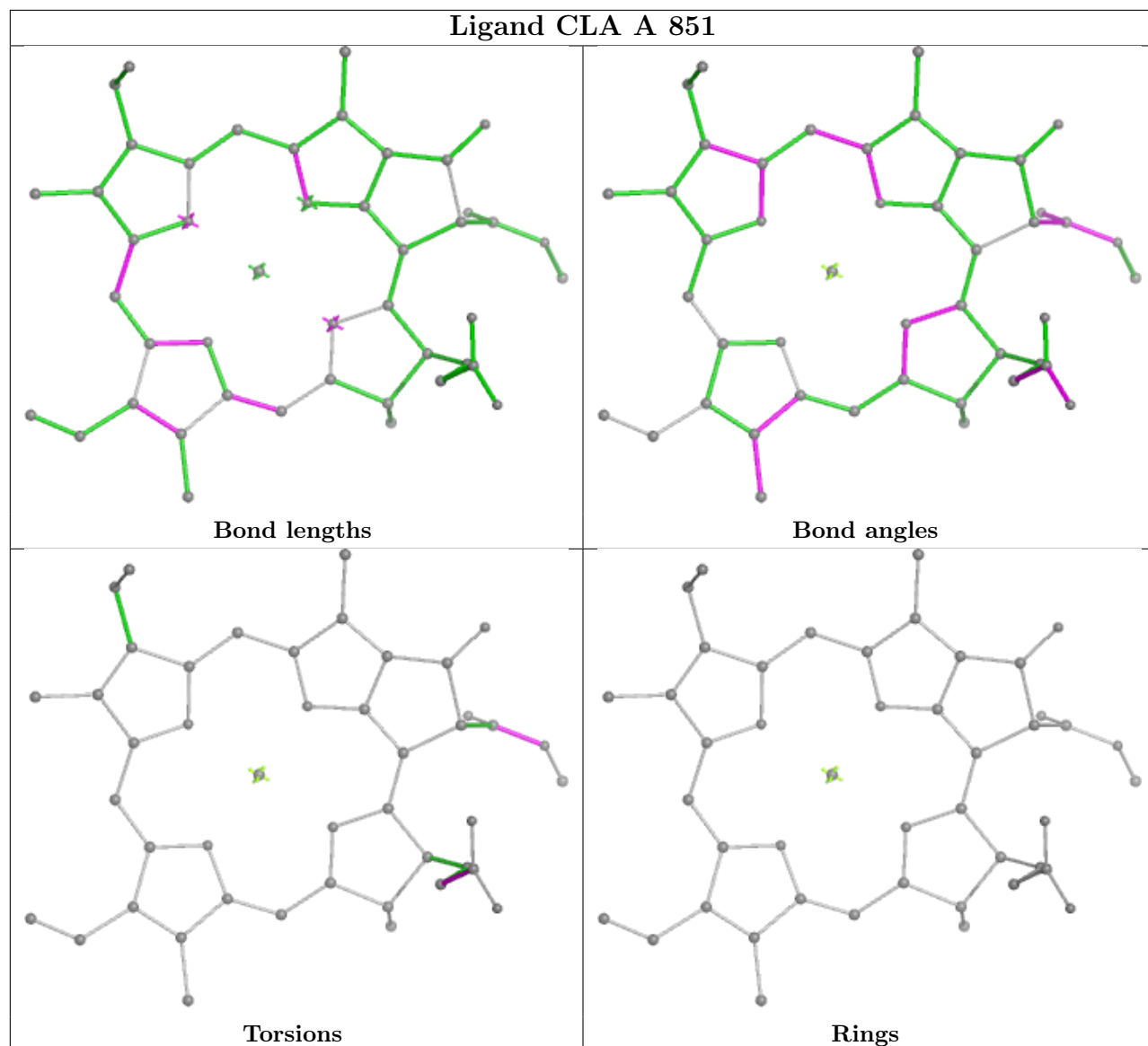


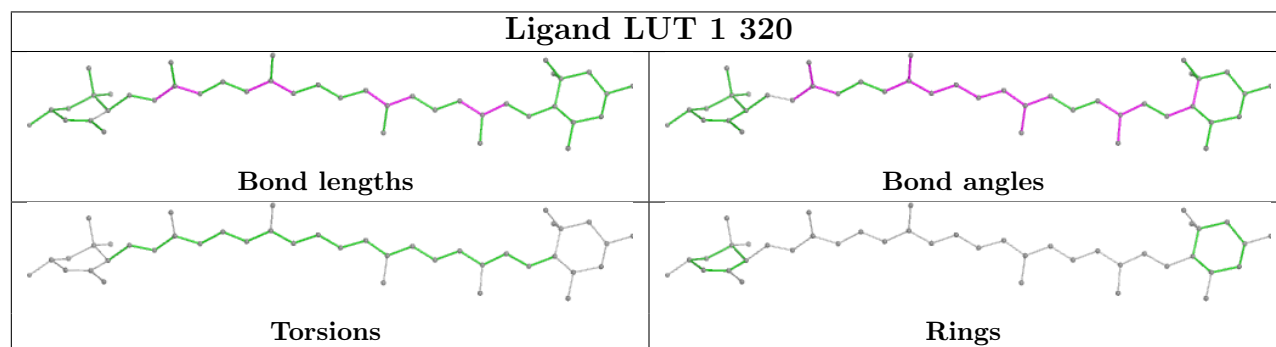
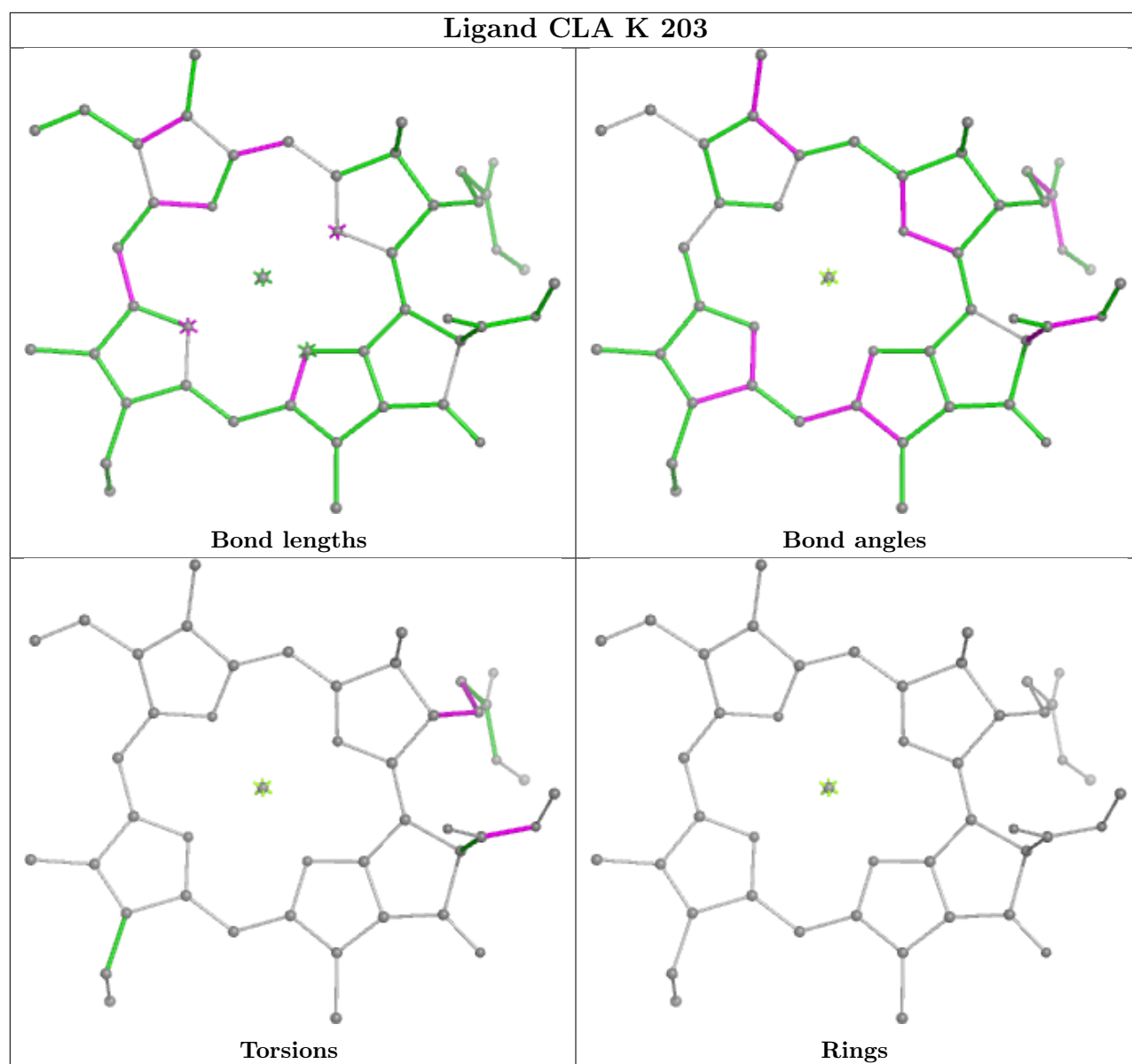
Rings

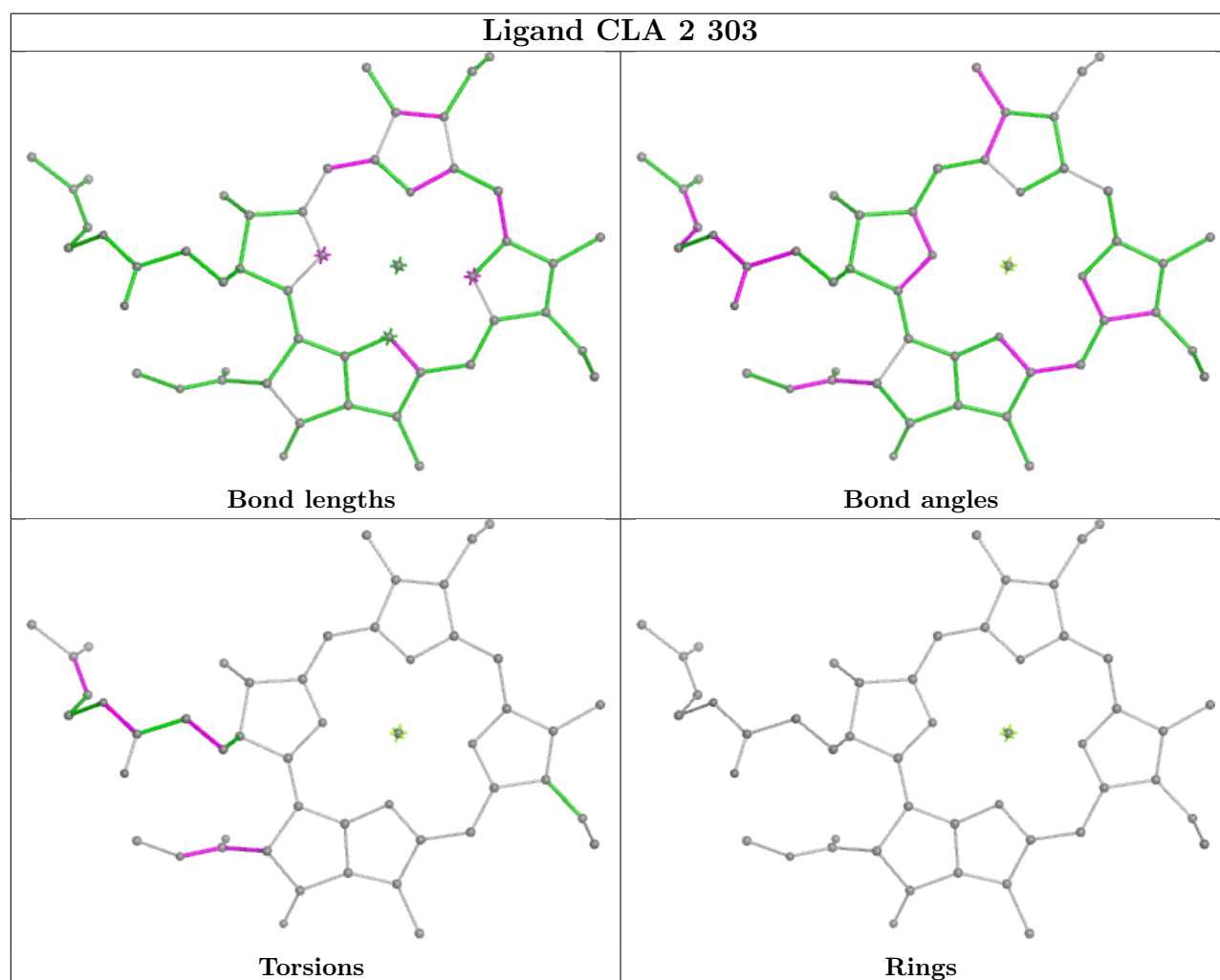
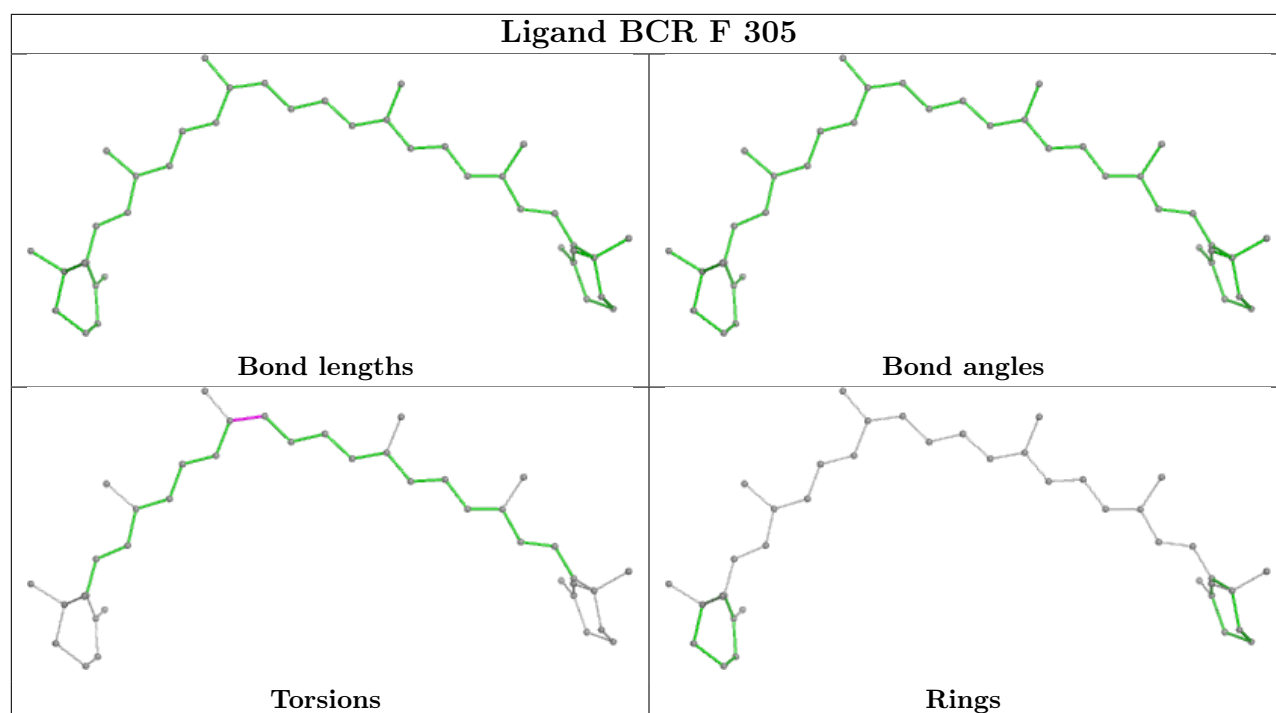
## Ligand CLA L 301

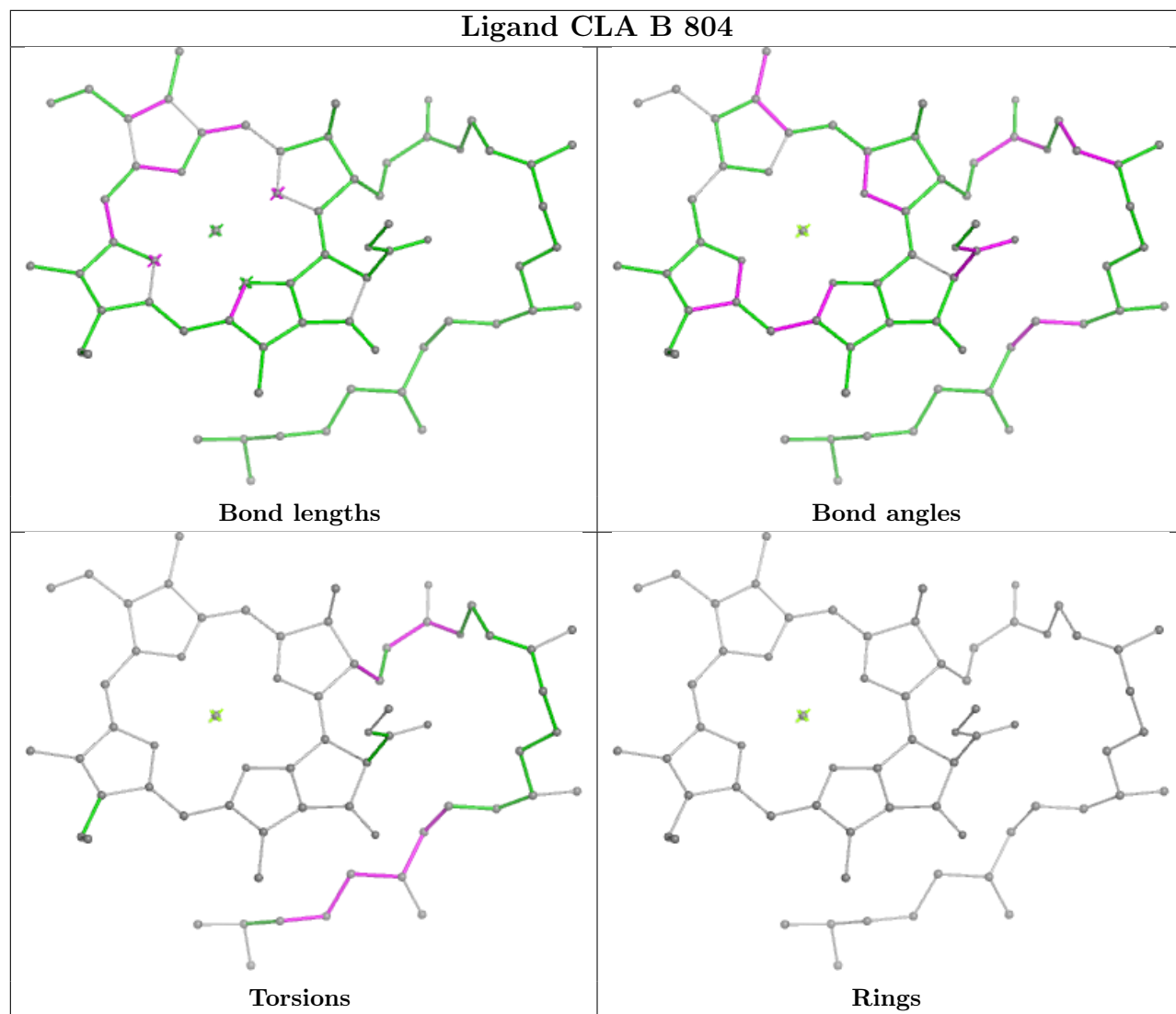


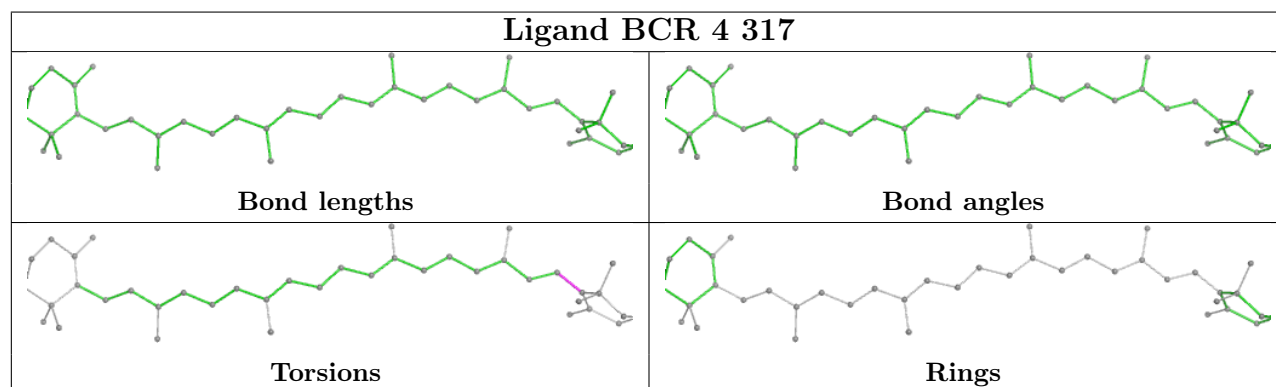
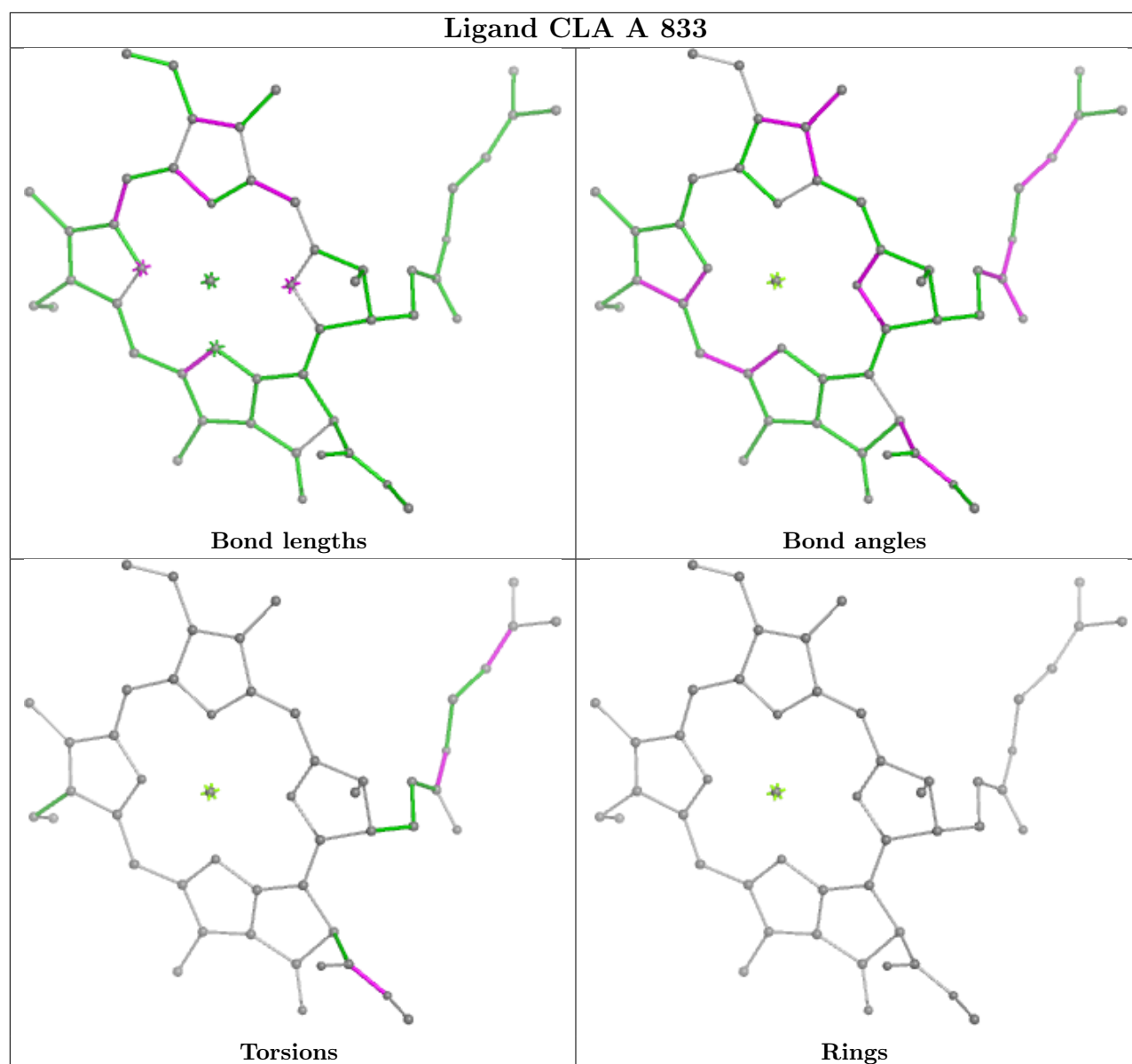
## Ligand CLA A 851

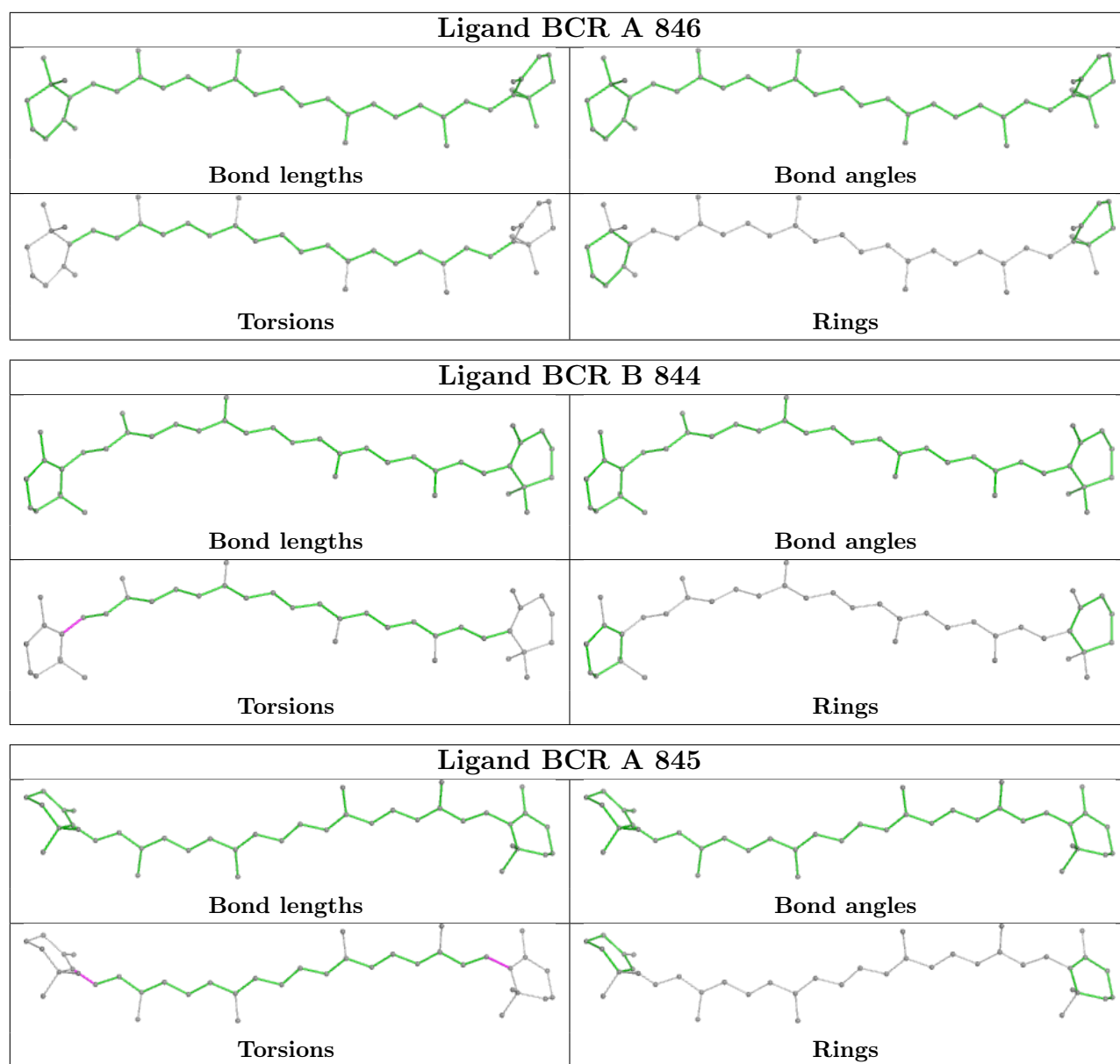


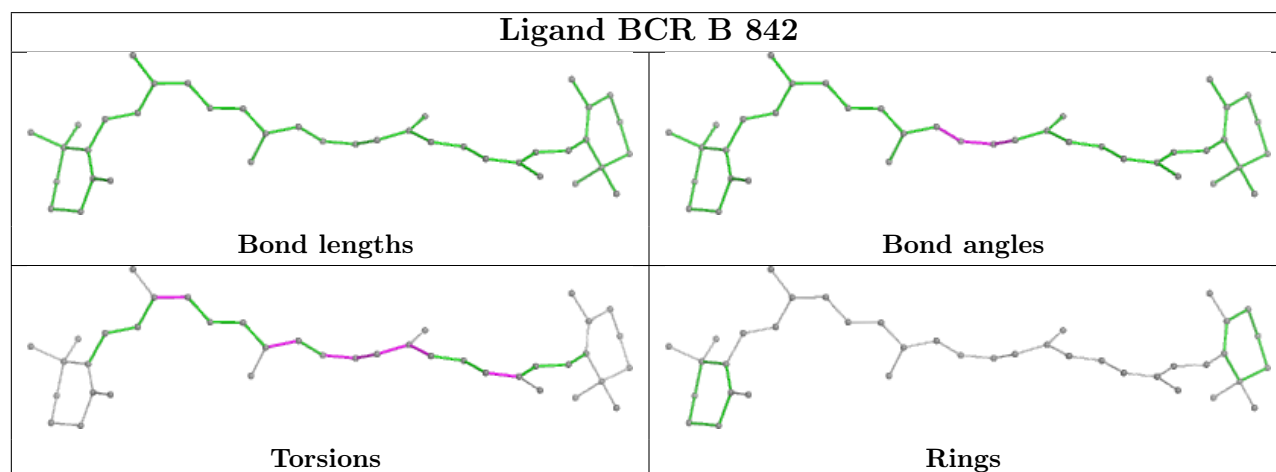
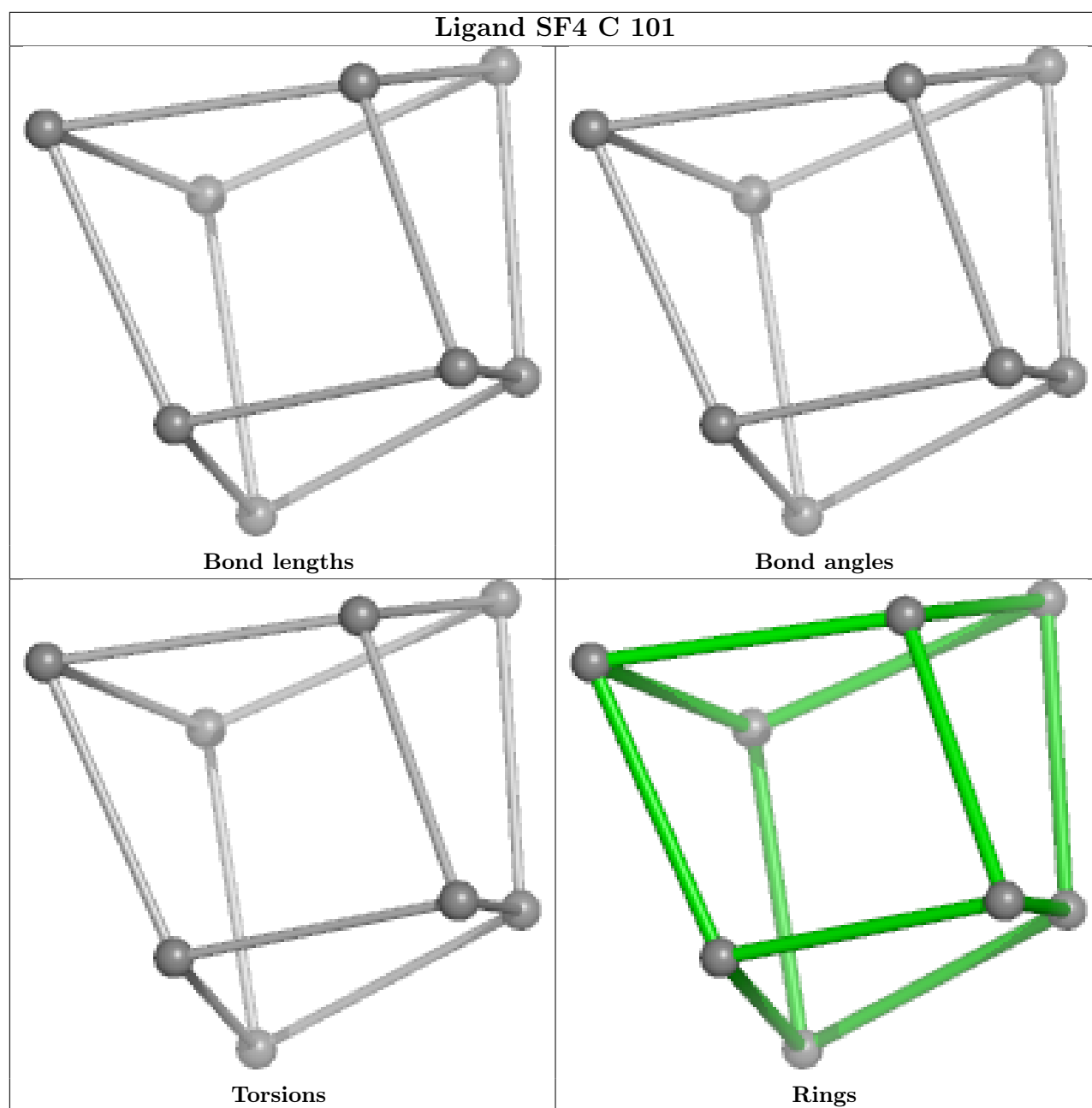




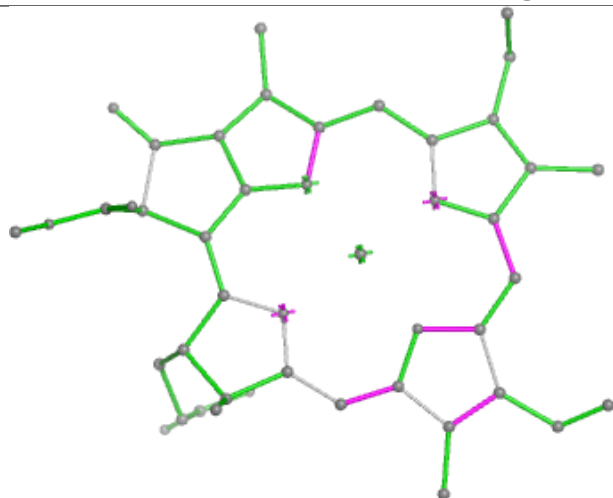




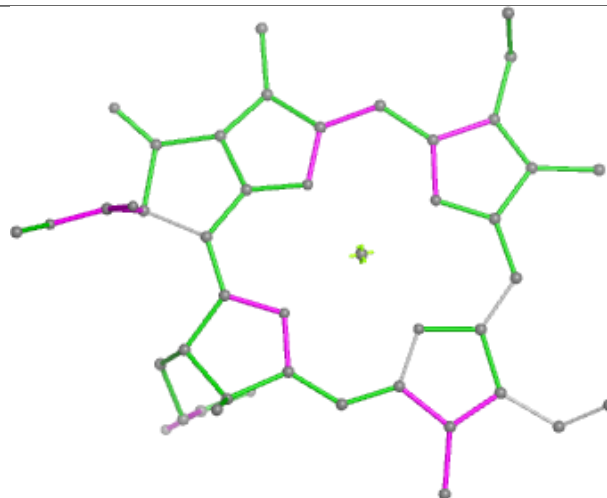




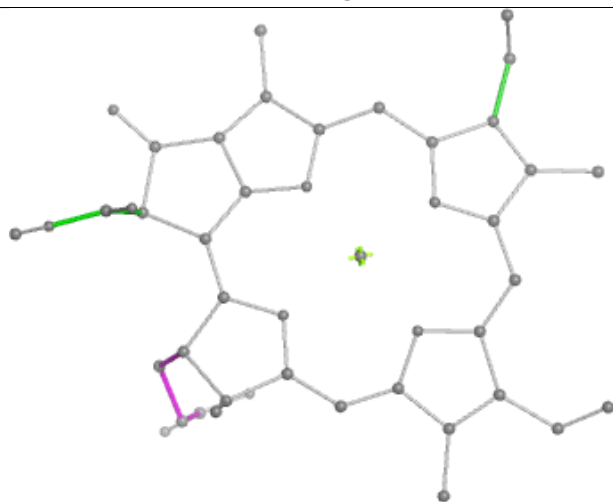
## Ligand CLA 3 306



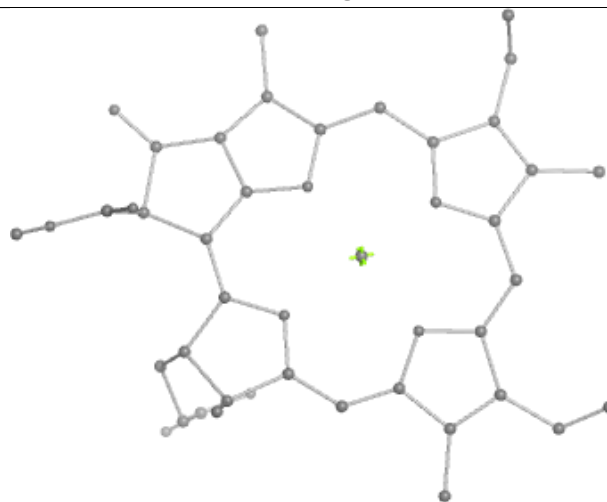
Bond lengths



Bond angles

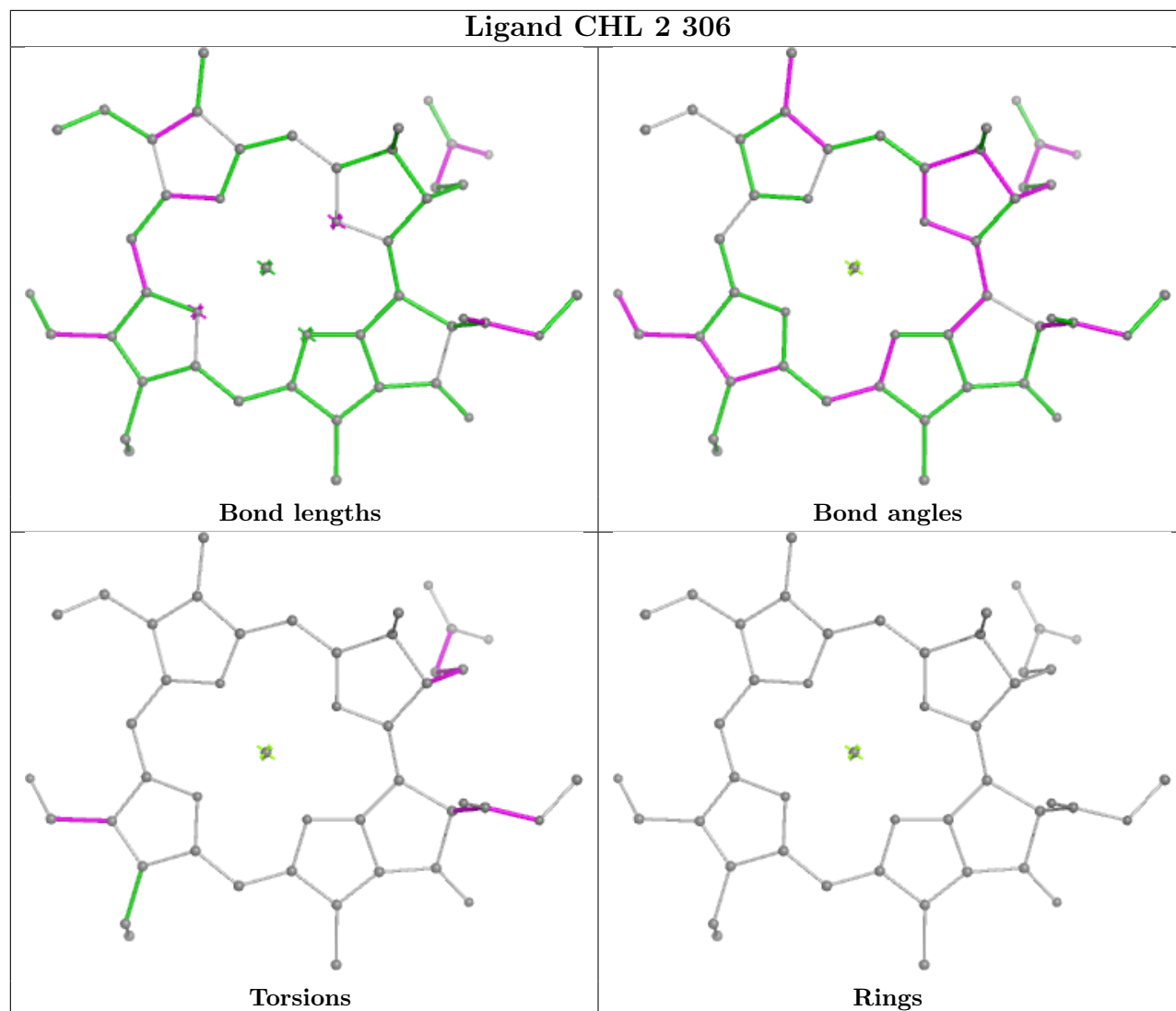


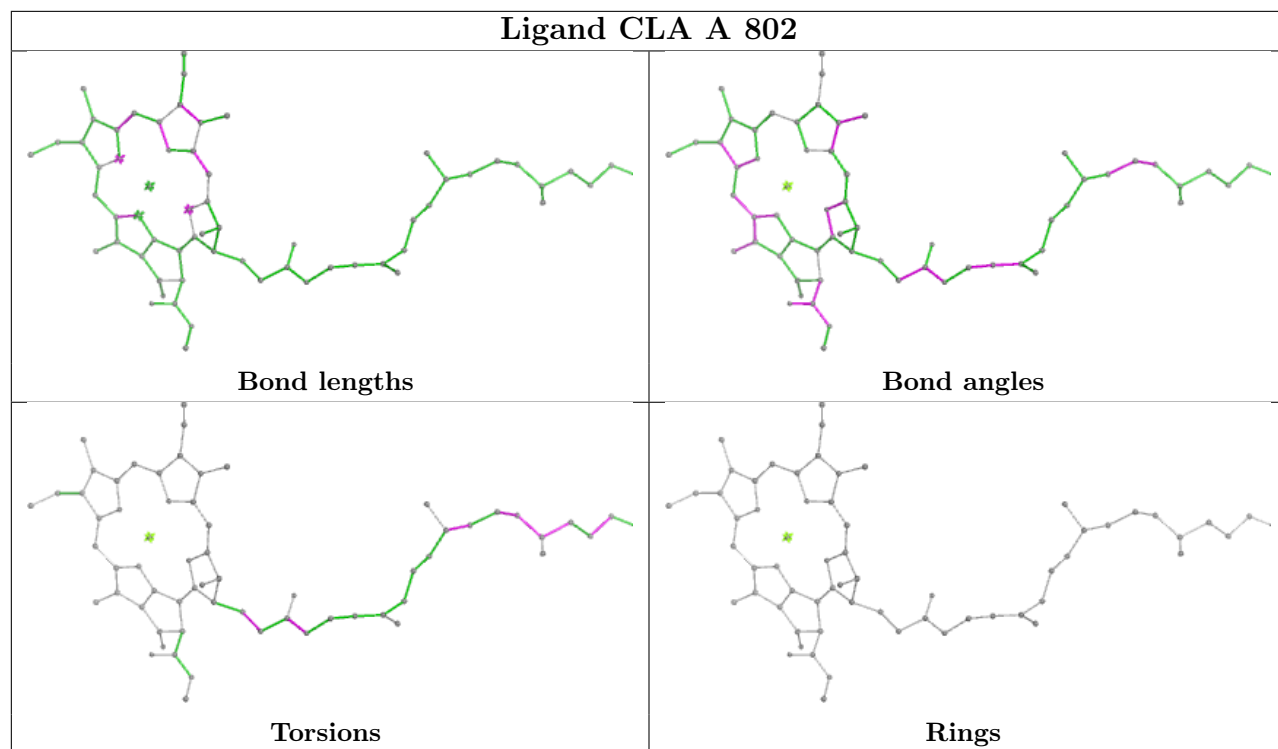
Torsions



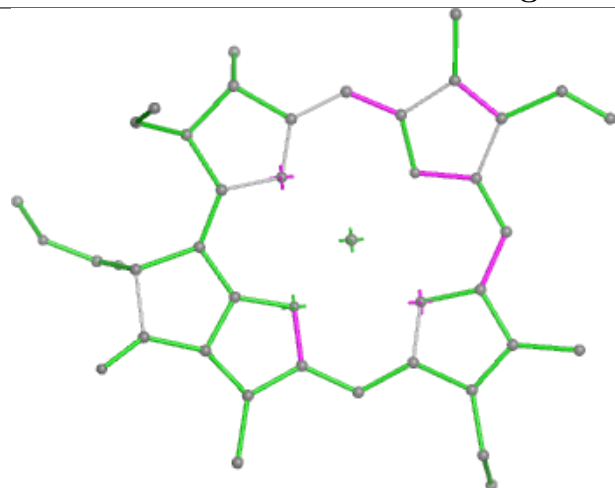
Rings

## Ligand CHL 2 306

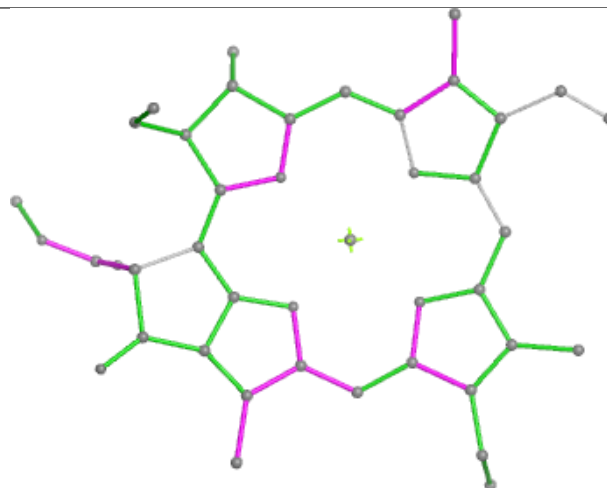




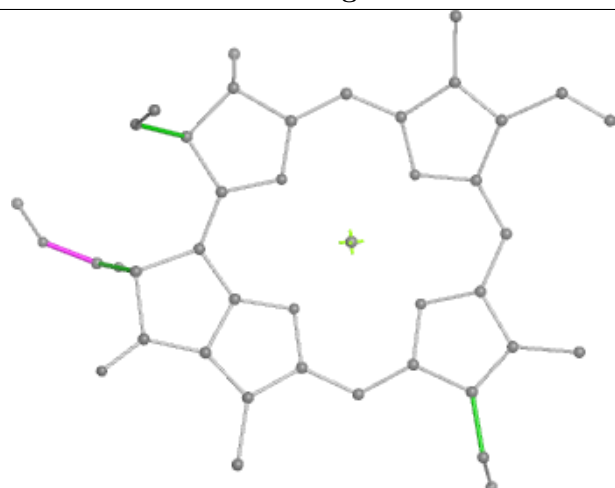
## Ligand CLA 3 305



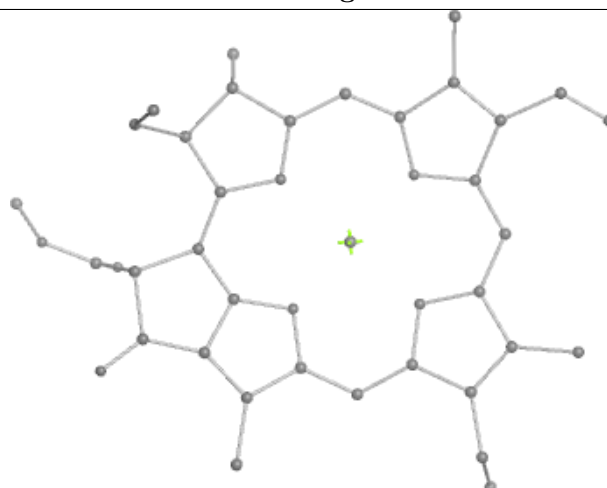
Bond lengths



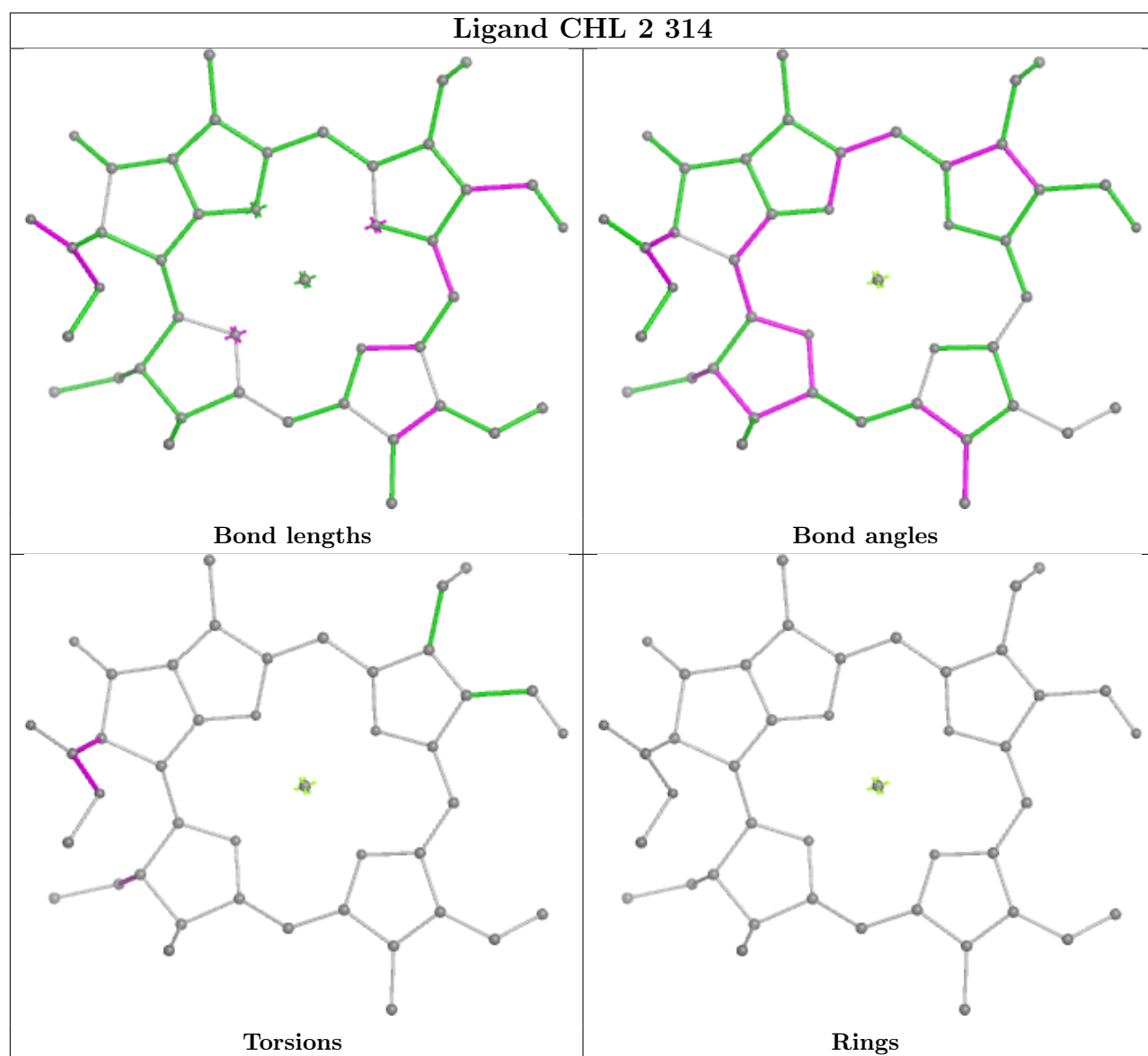
Bond angles



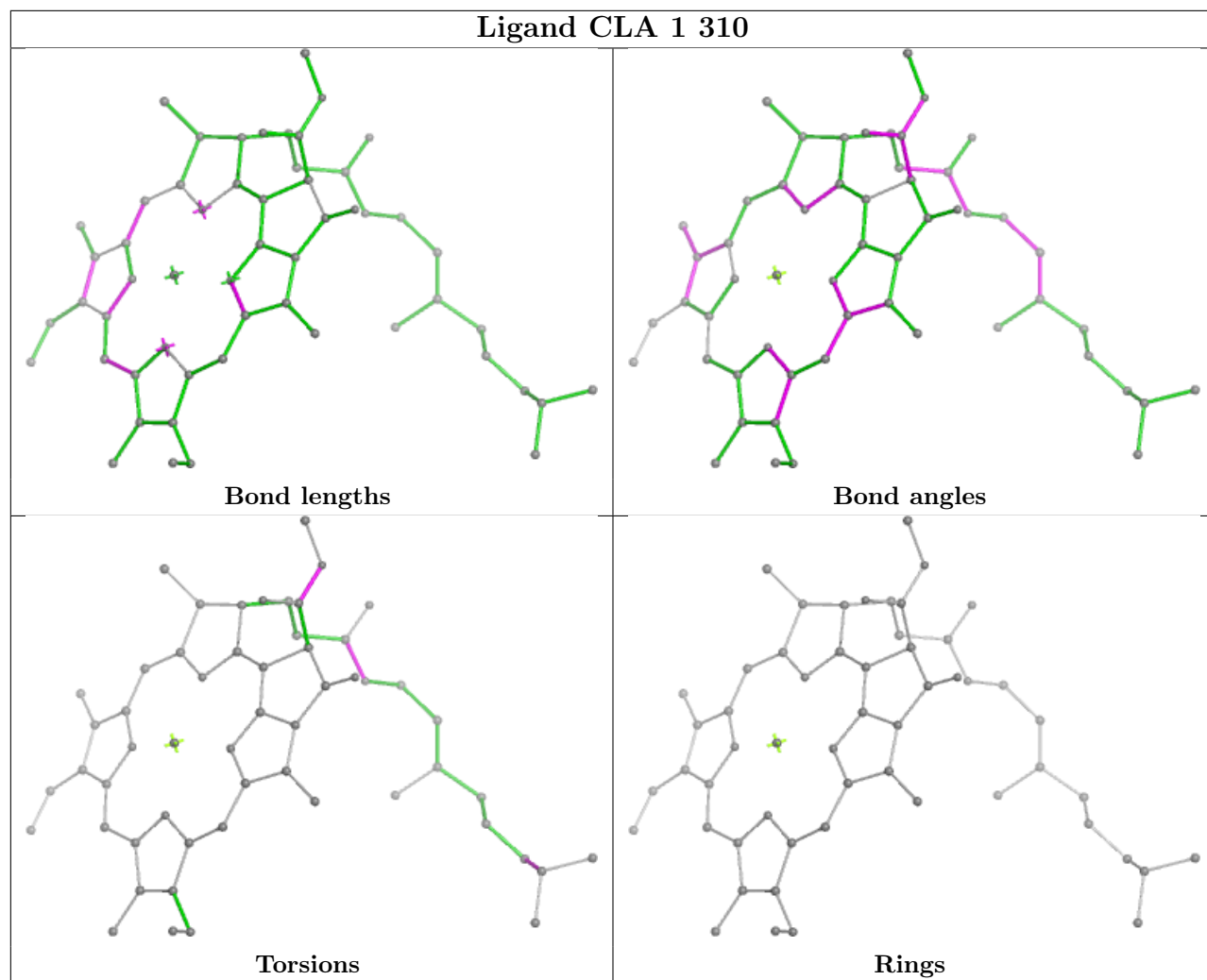
Torsions



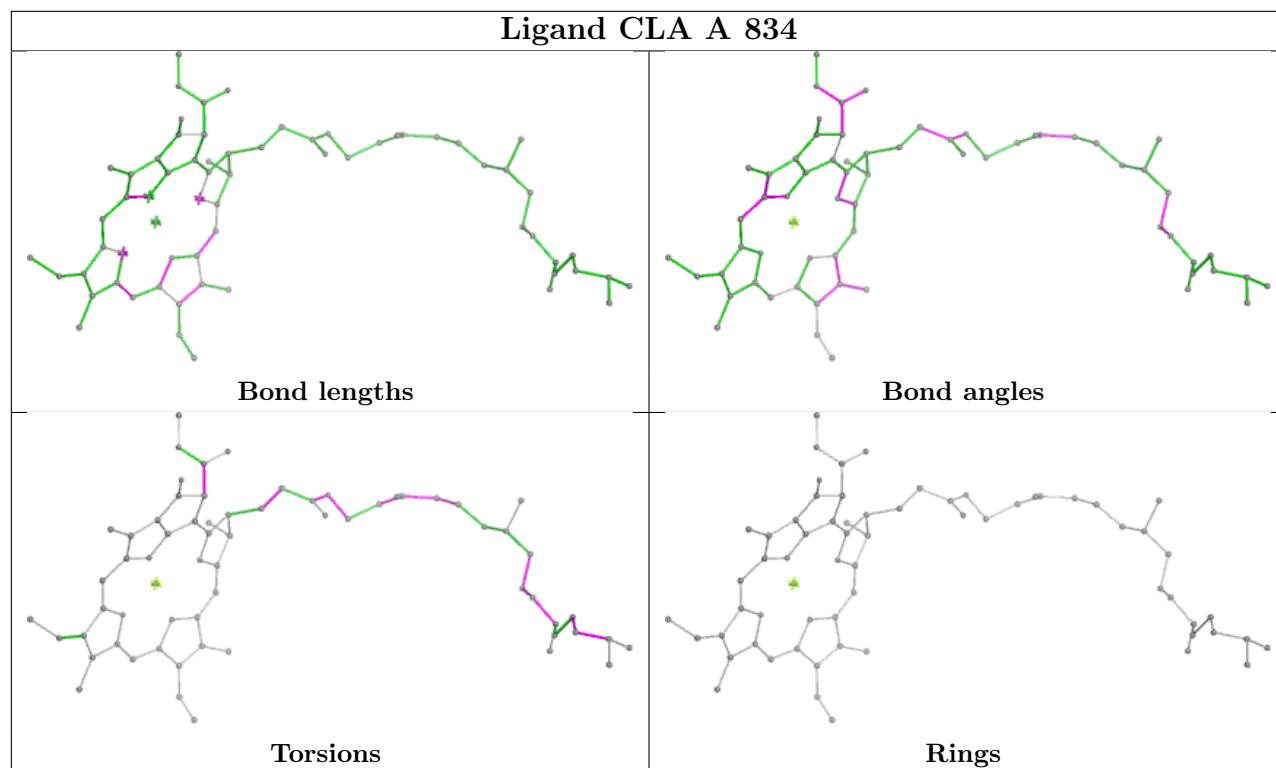
Rings



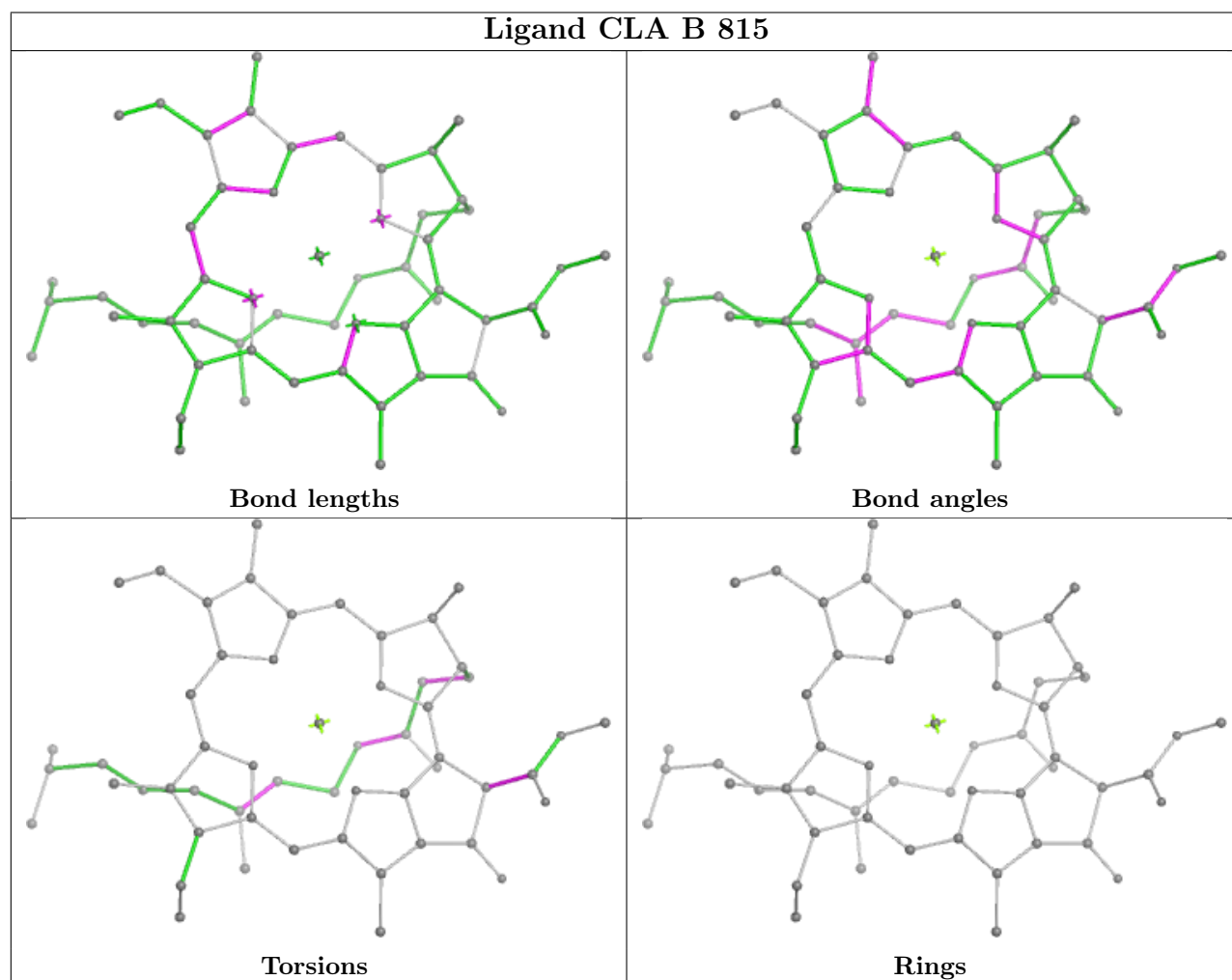
## Ligand CLA 1 310



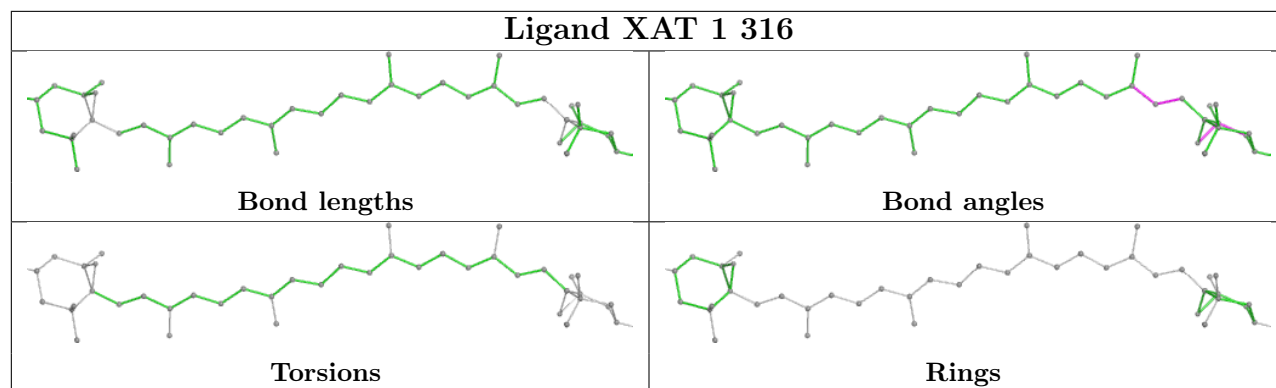
## Ligand CLA A 834



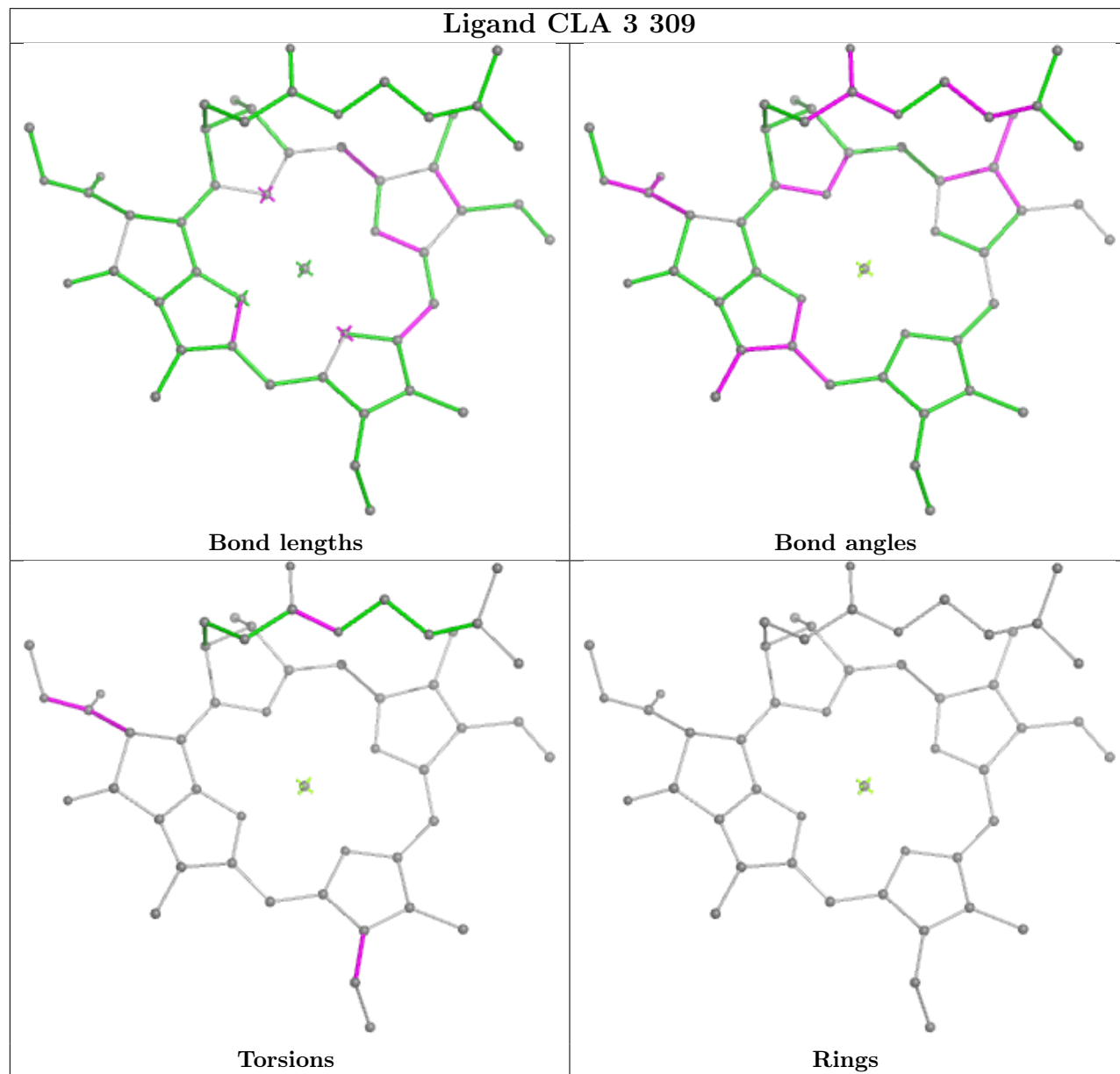
## Ligand CLA B 815

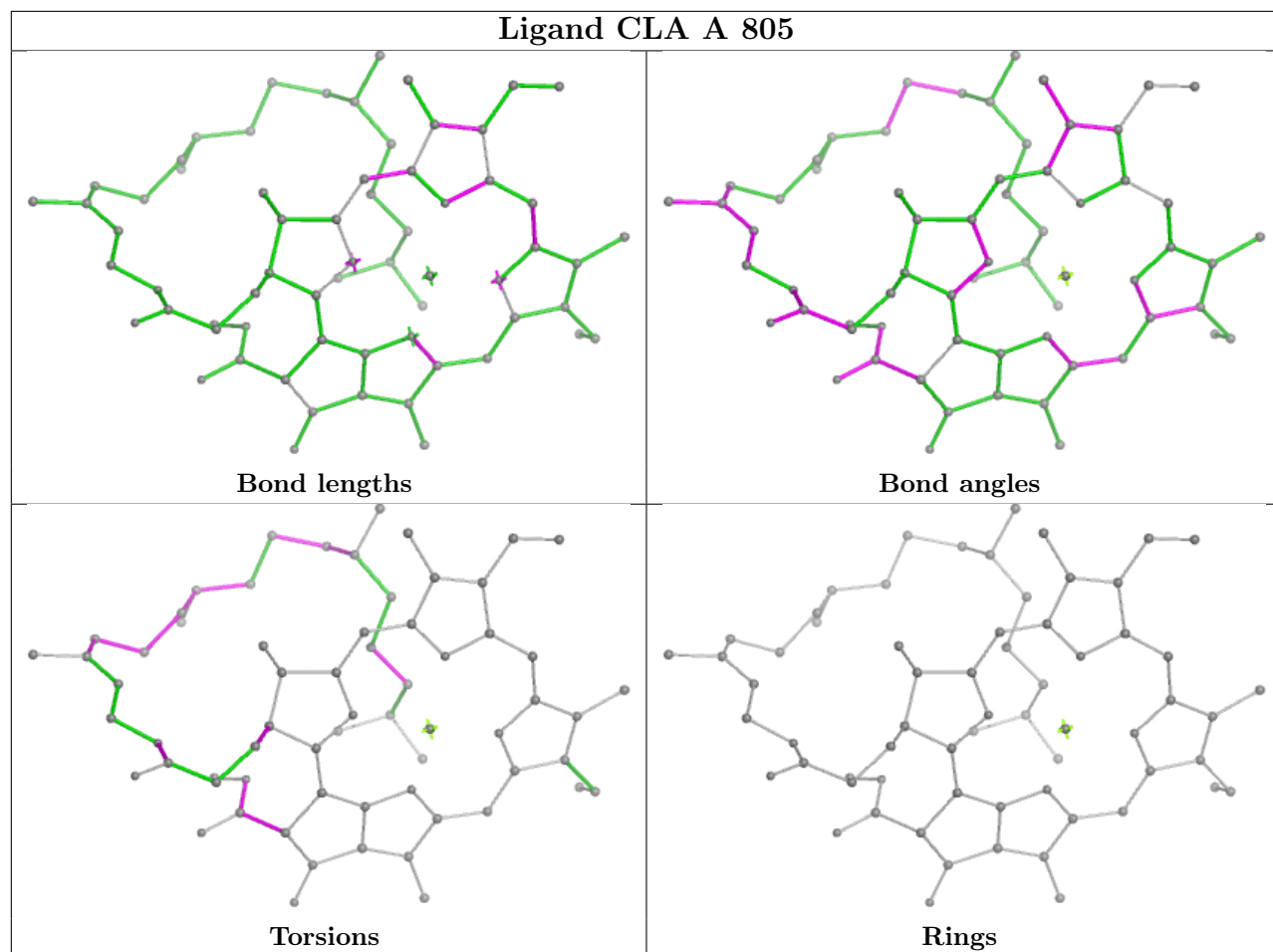


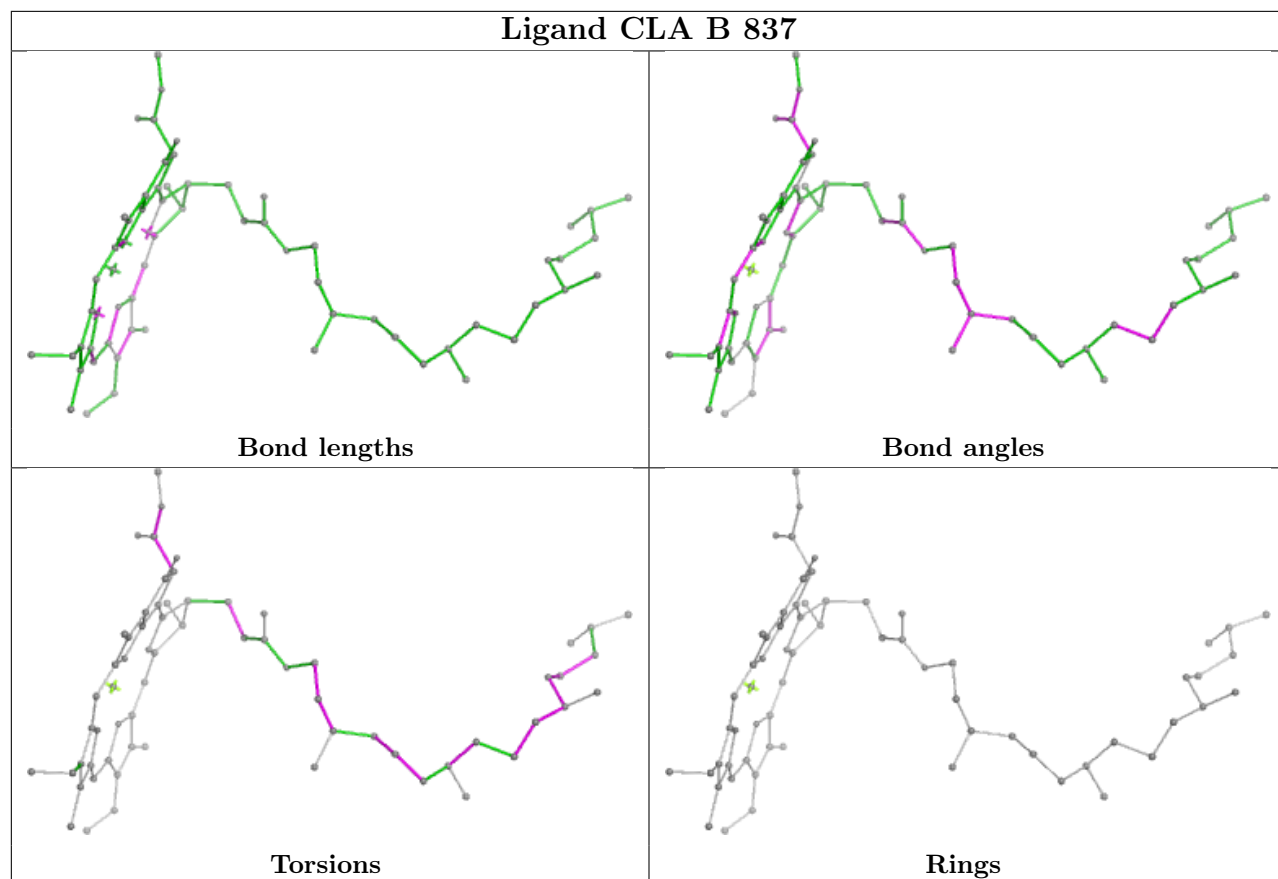
## Ligand XAT 1 316



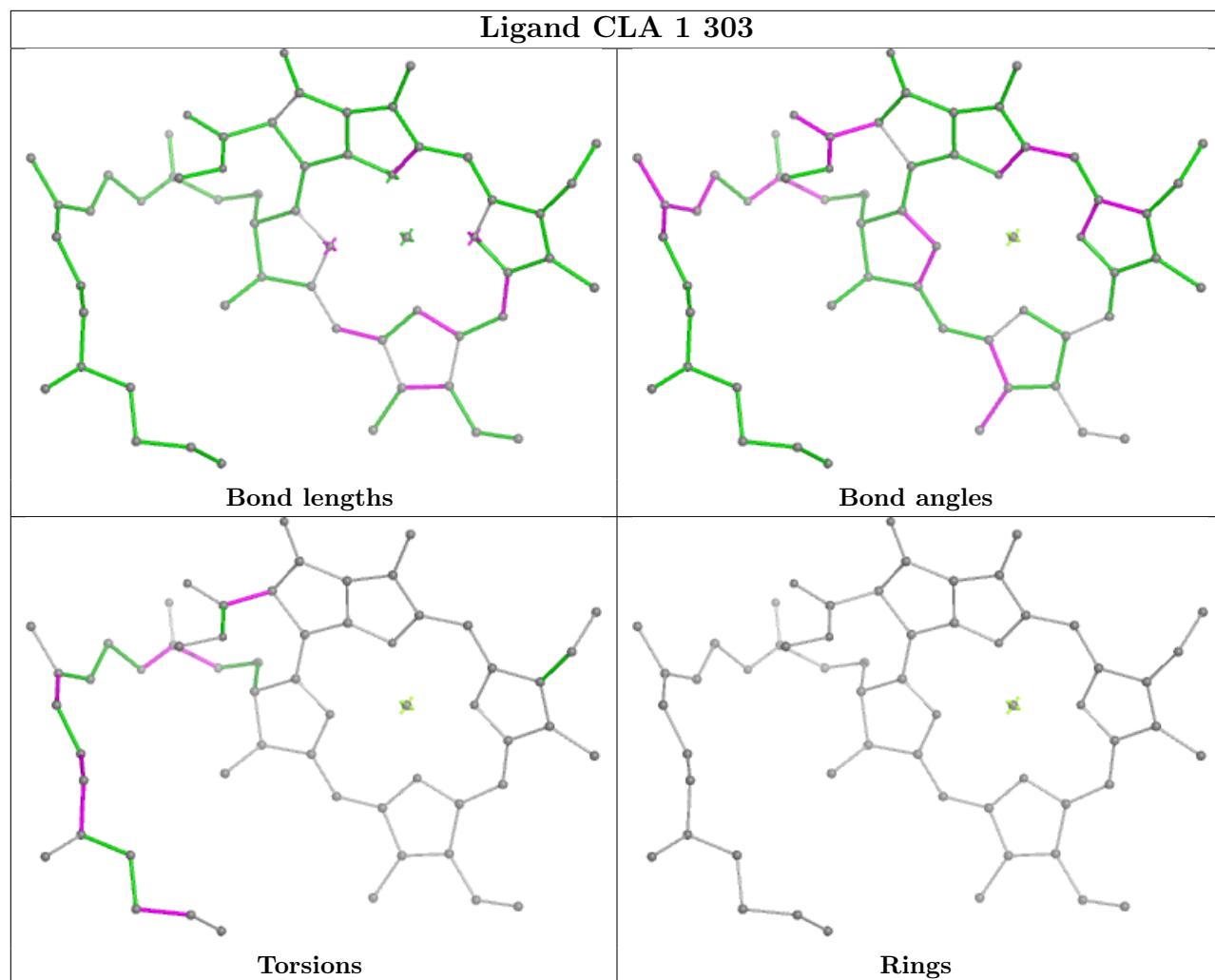
## Ligand CLA 3 309

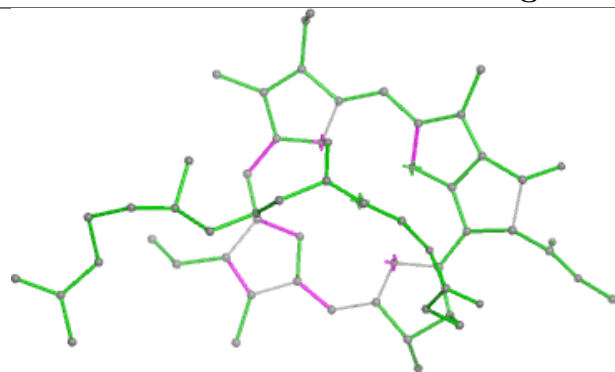
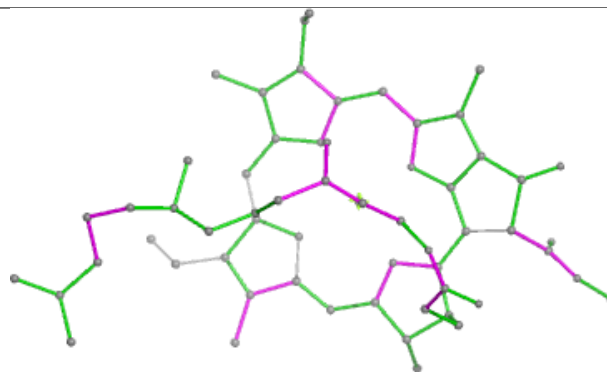
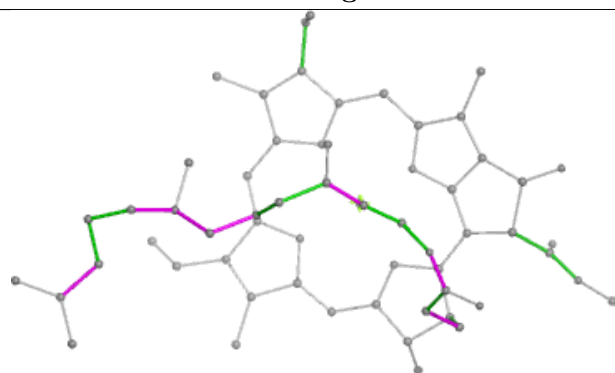
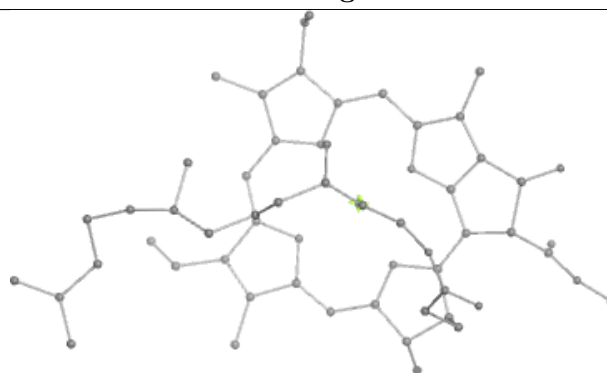




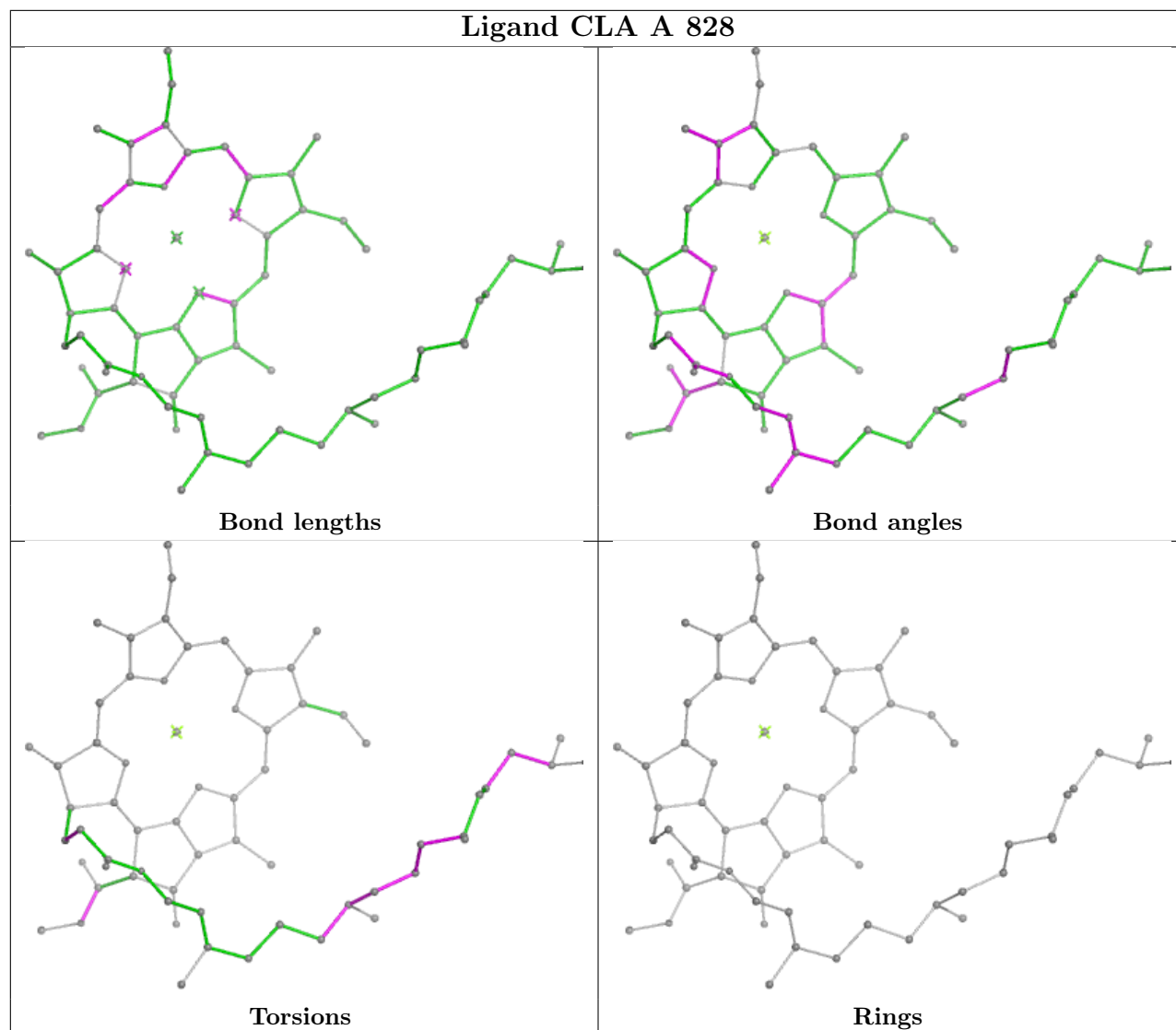


## Ligand CLA 1 303

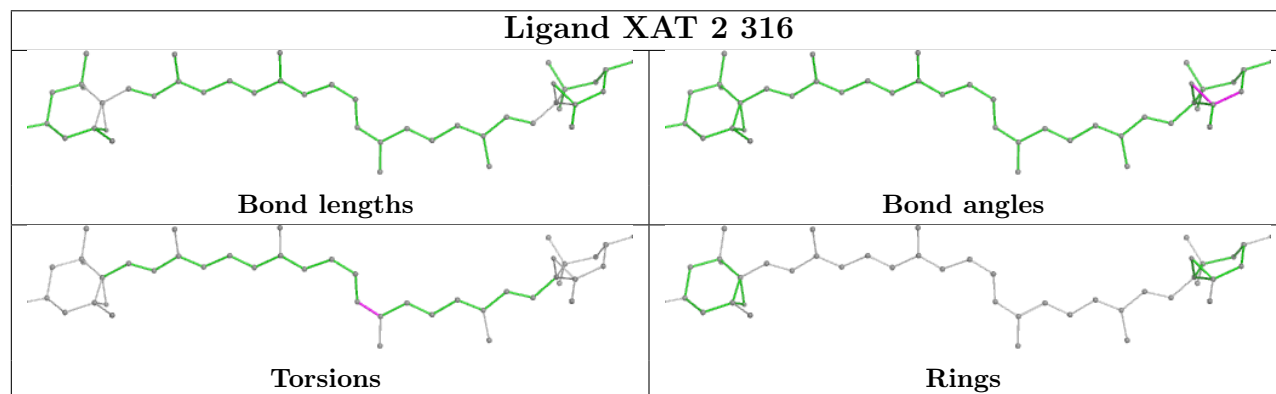


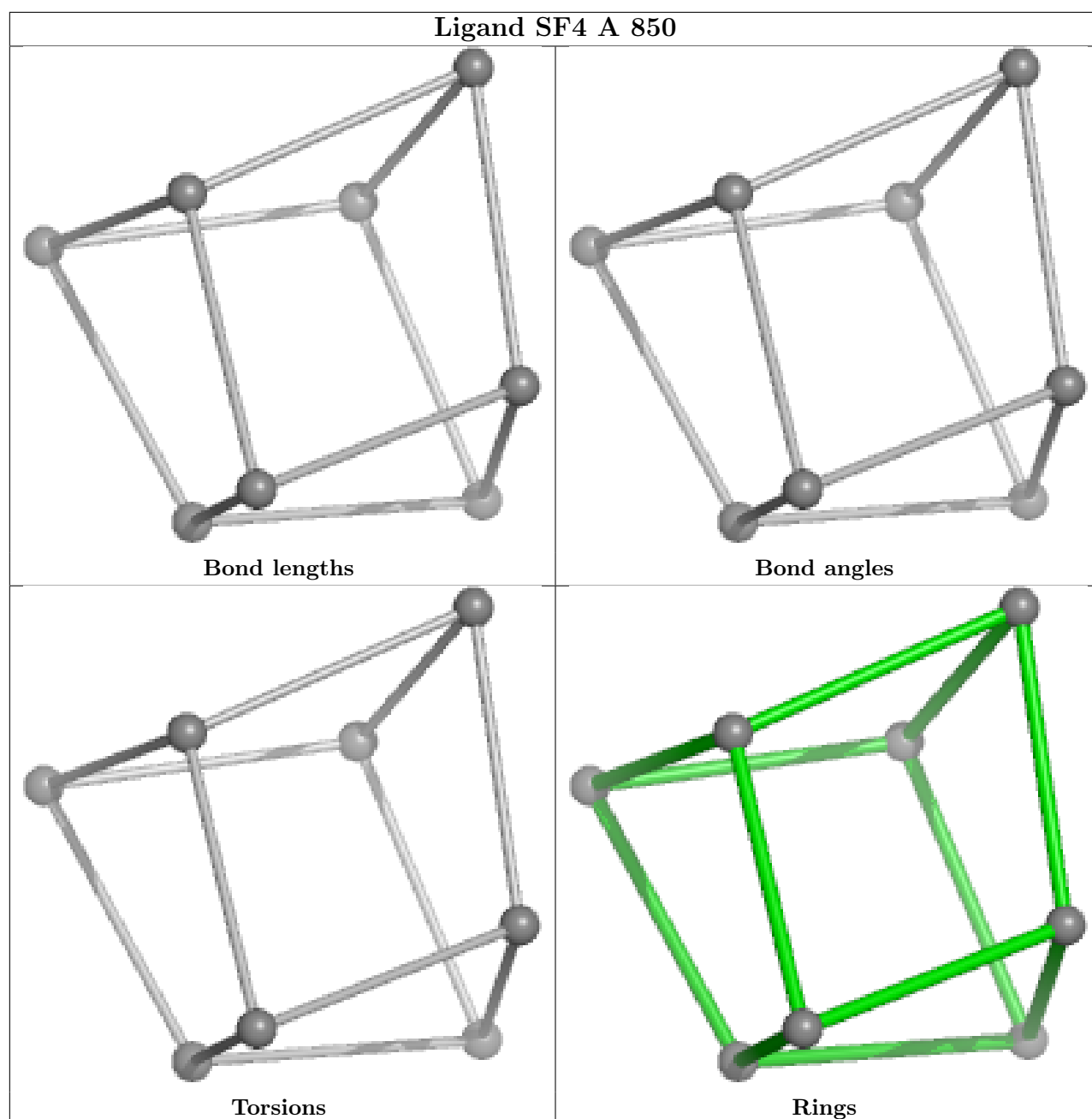
**Ligand CLA 1 312****Bond lengths****Bond angles****Torsions****Rings**

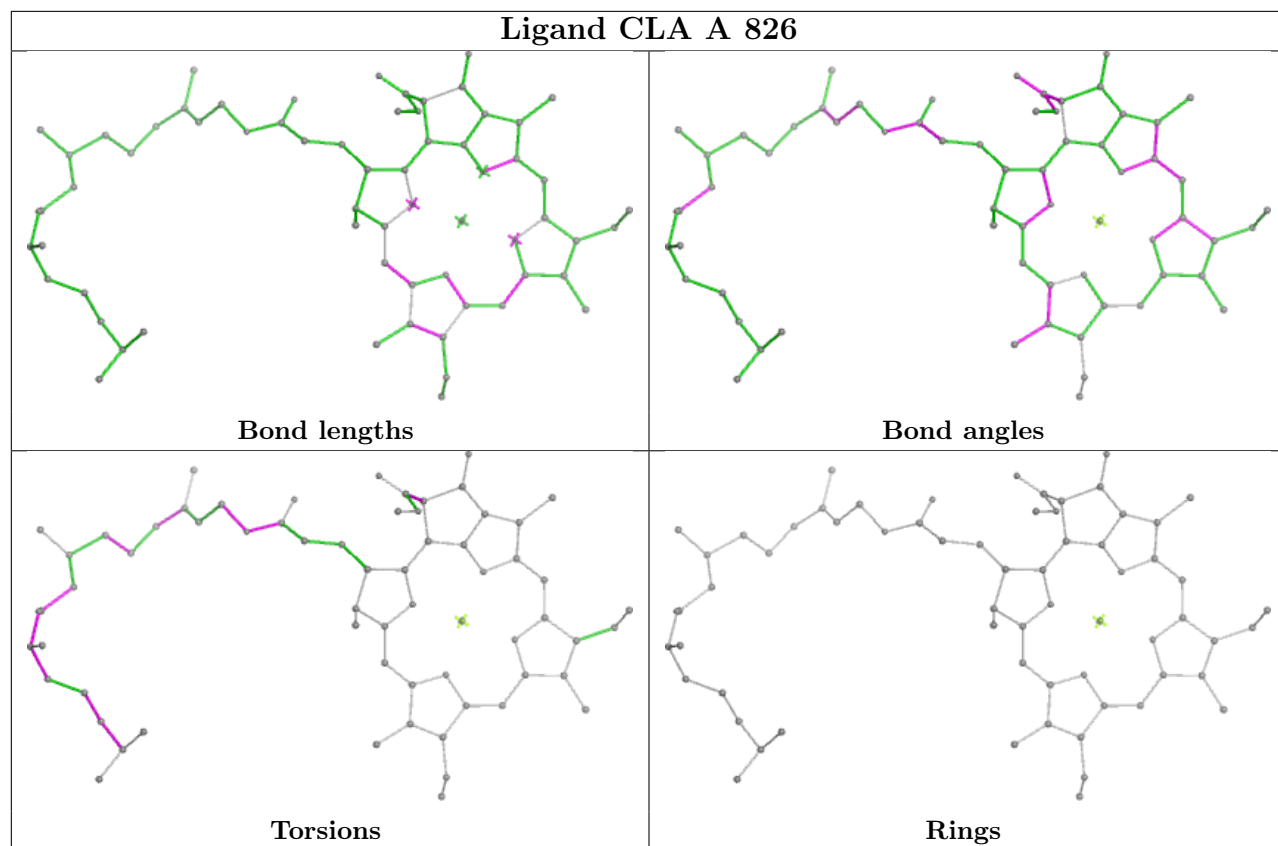
## Ligand CLA A 828



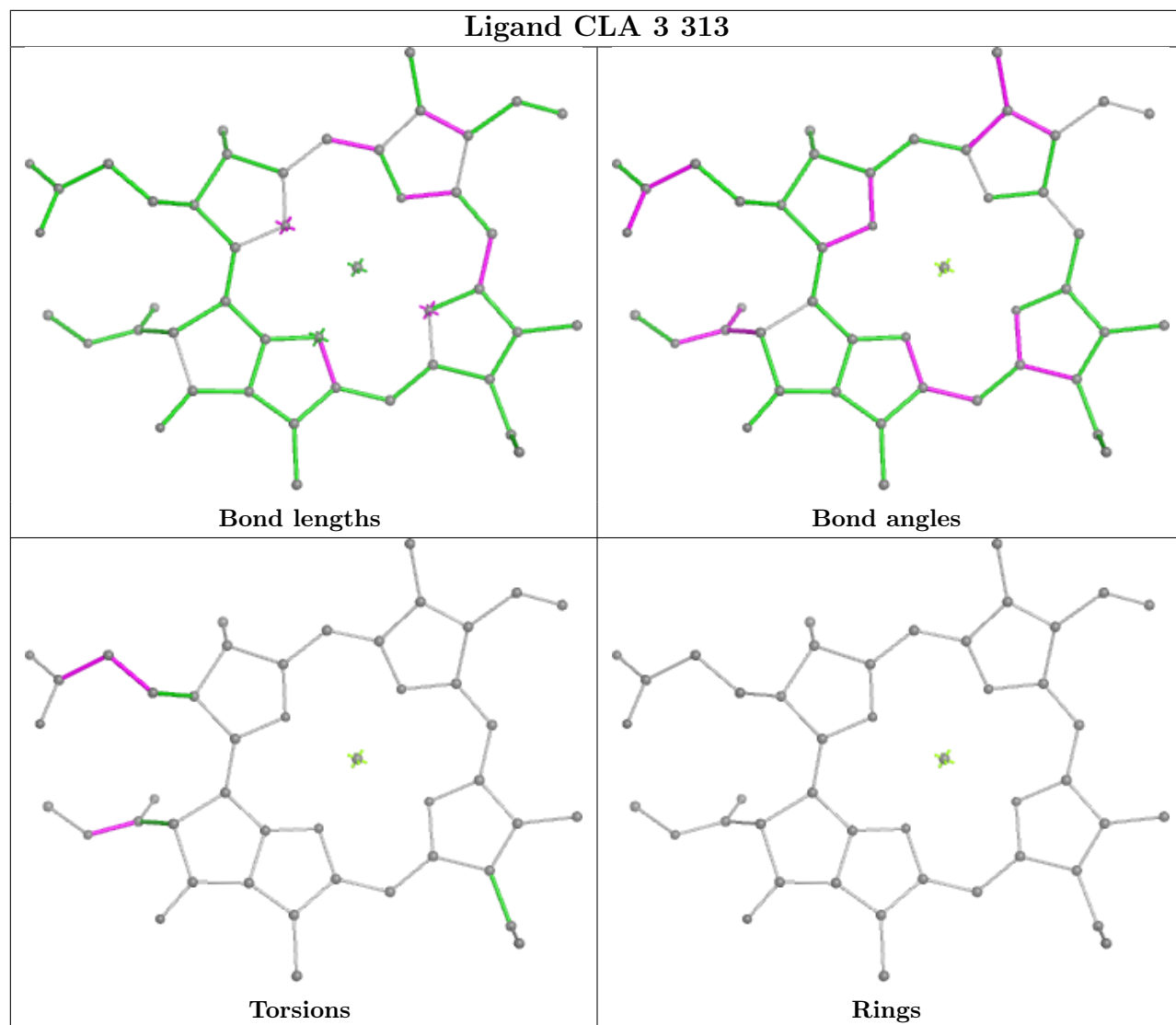
## Ligand XAT 2 316

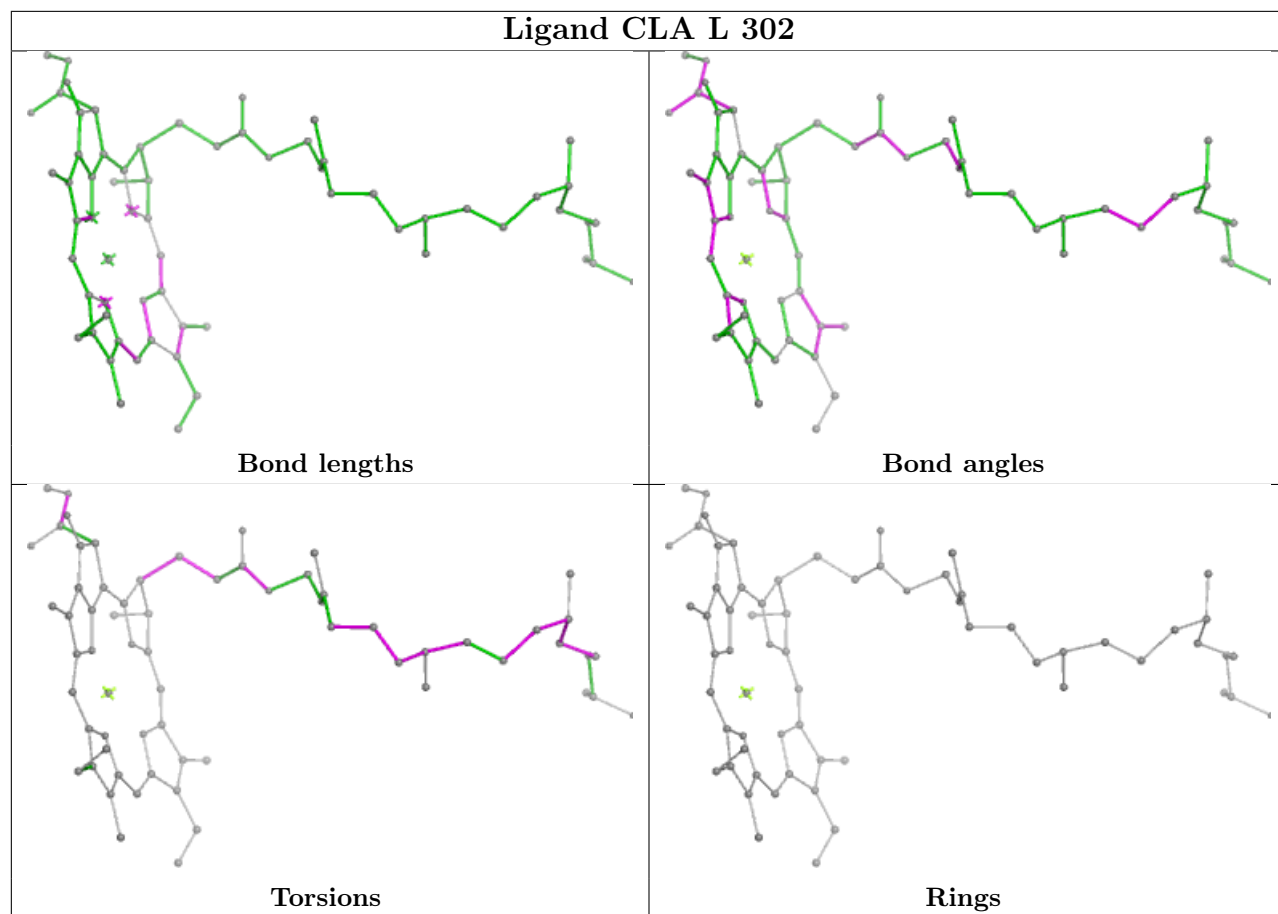




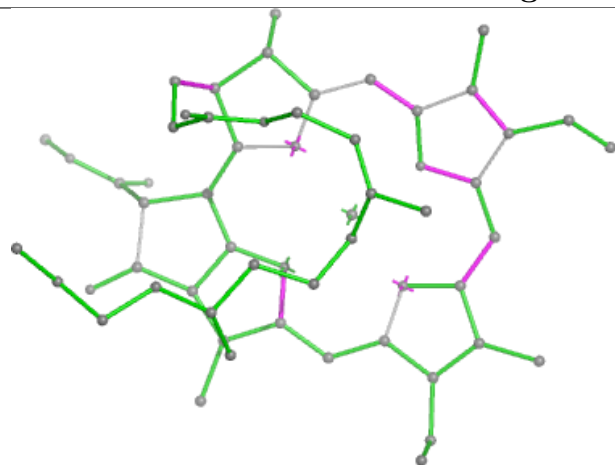


## Ligand CLA 3 313

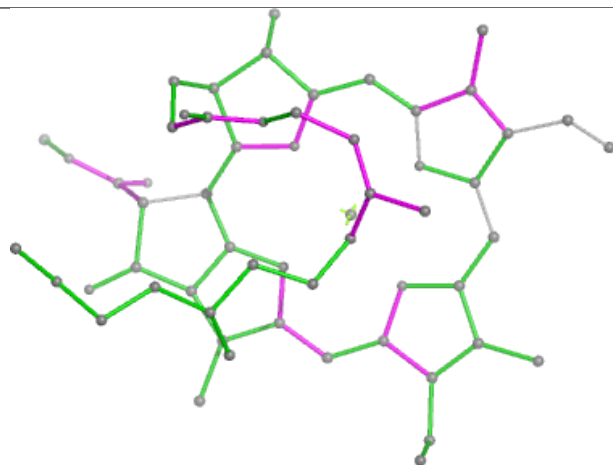




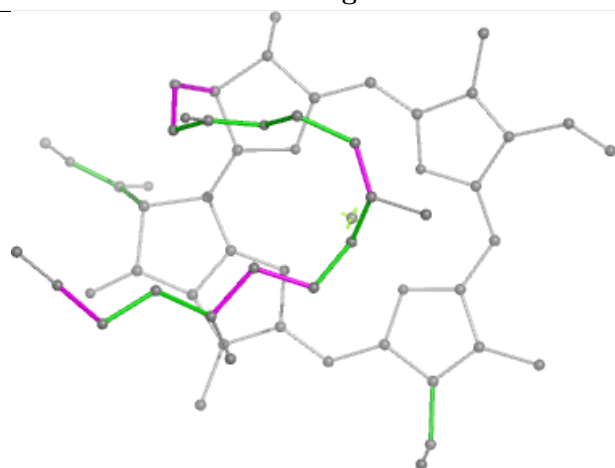
## Ligand CLA 2 313



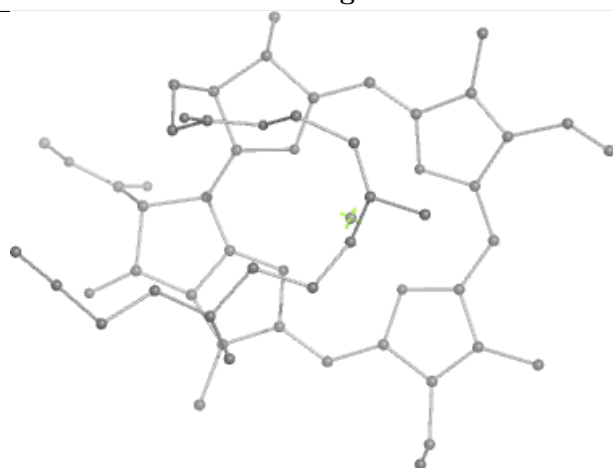
Bond lengths



Bond angles

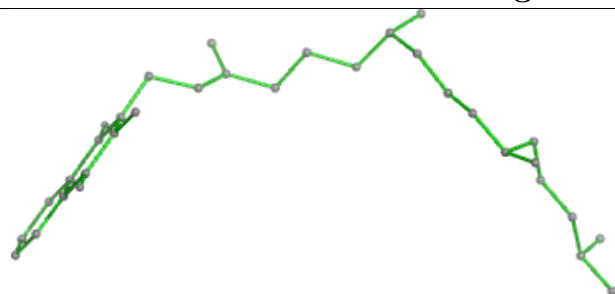


Torsions

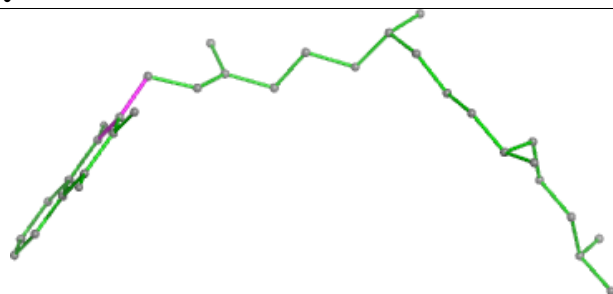


Rings

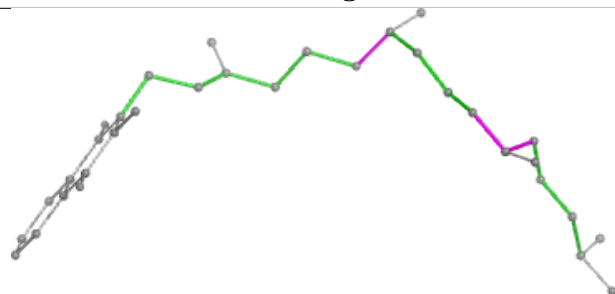
## Ligand PQN B 839



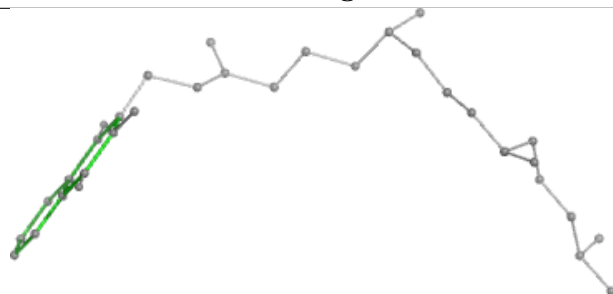
Bond lengths



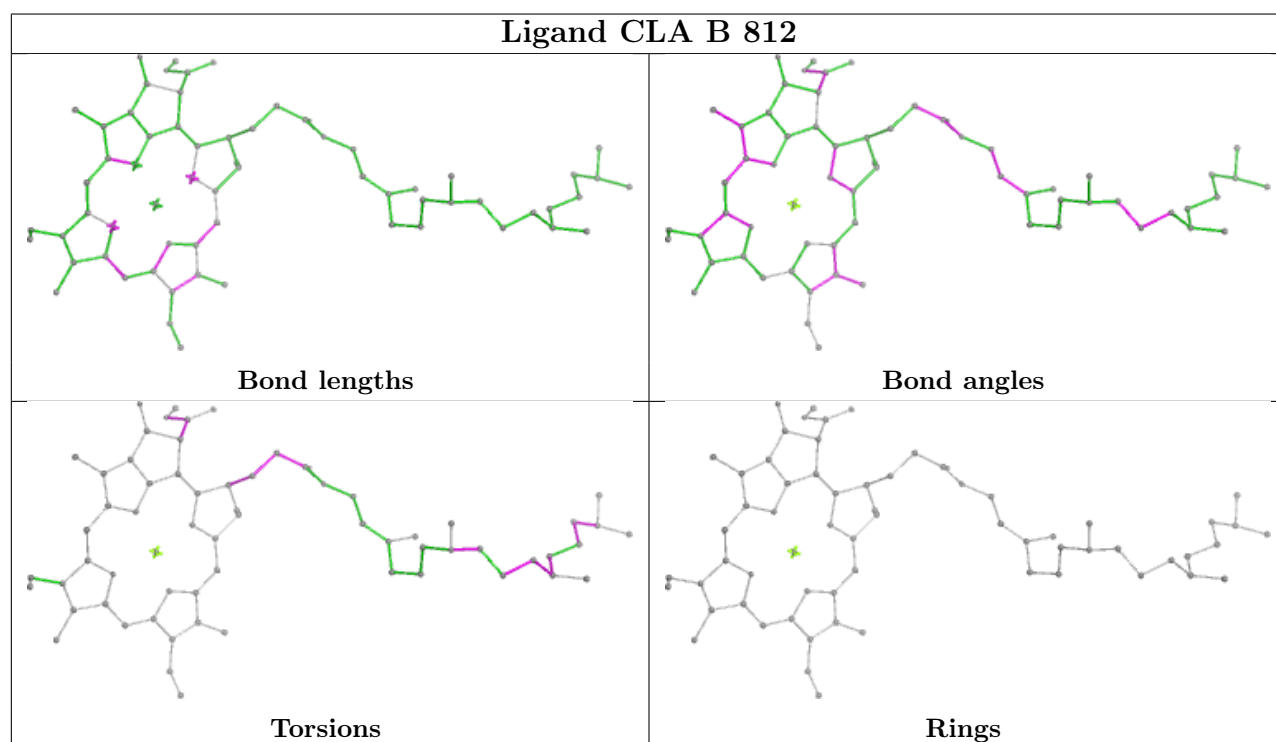
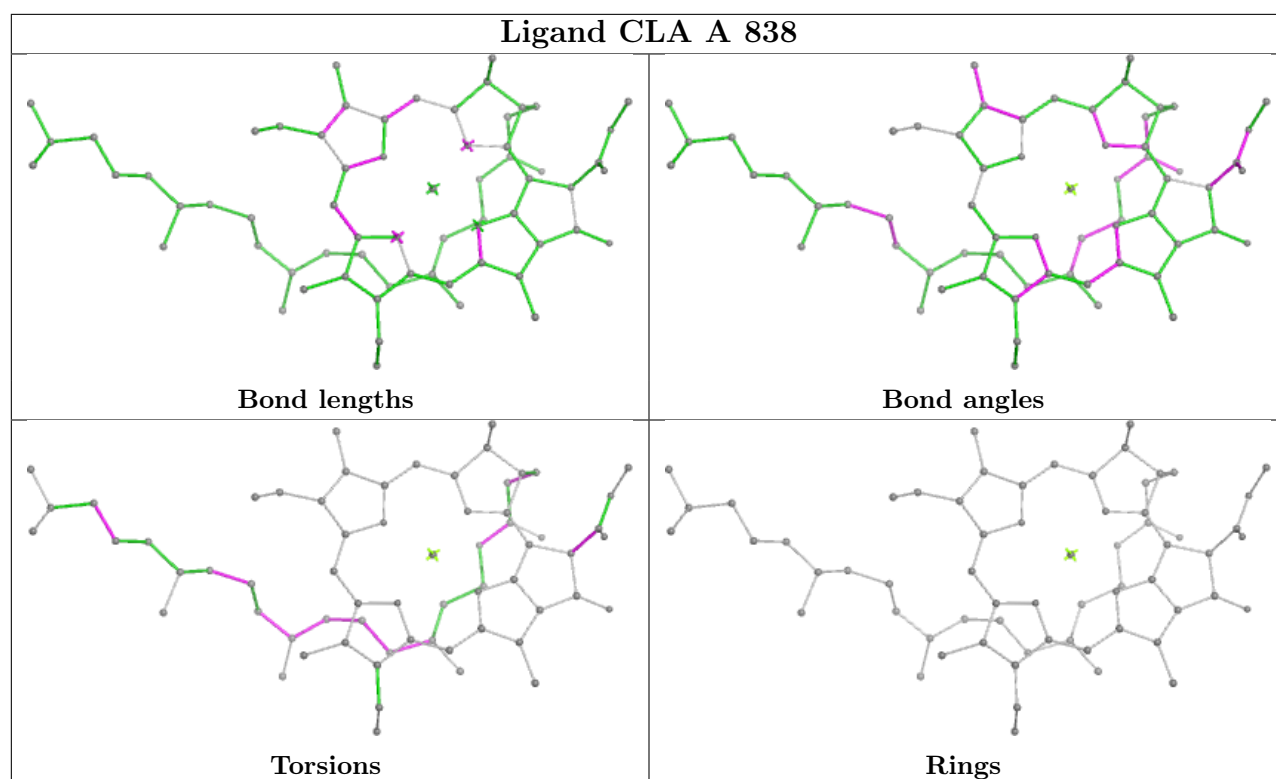
Bond angles



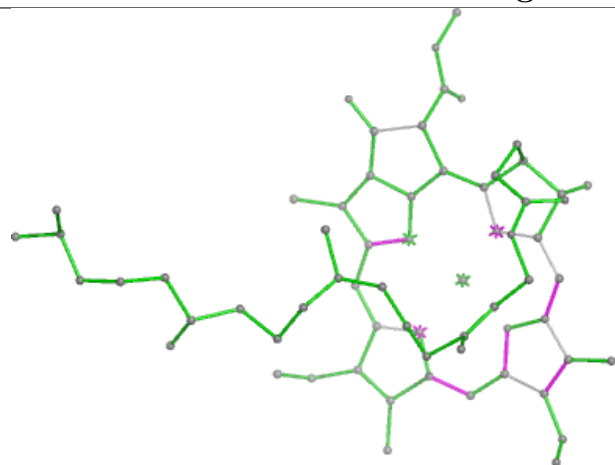
Torsions



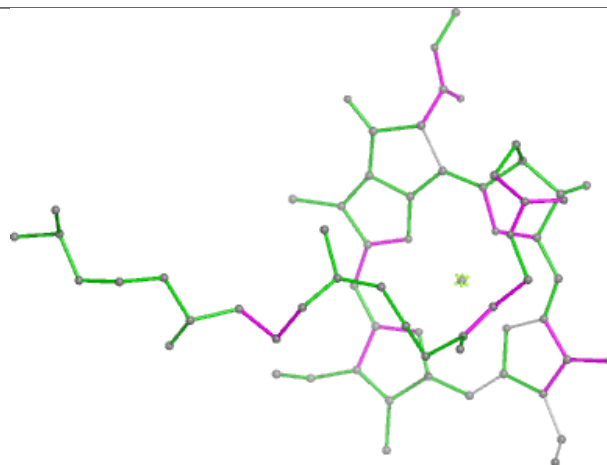
Rings



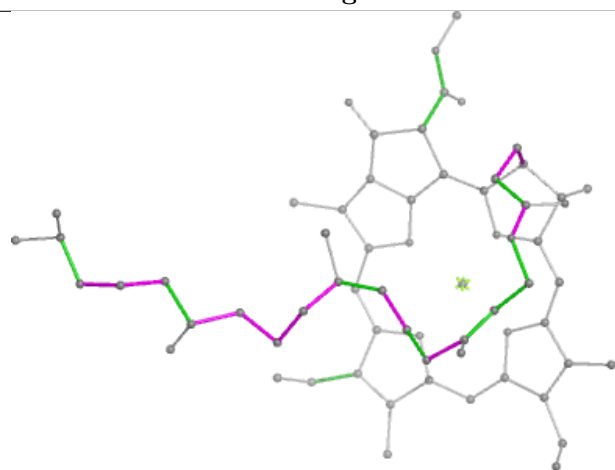
## Ligand CLA B 826



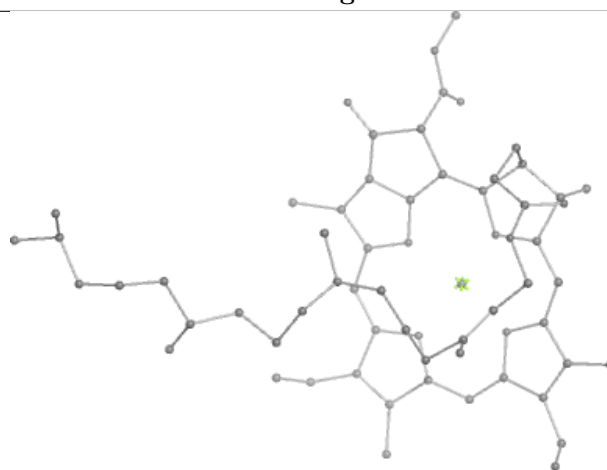
Bond lengths



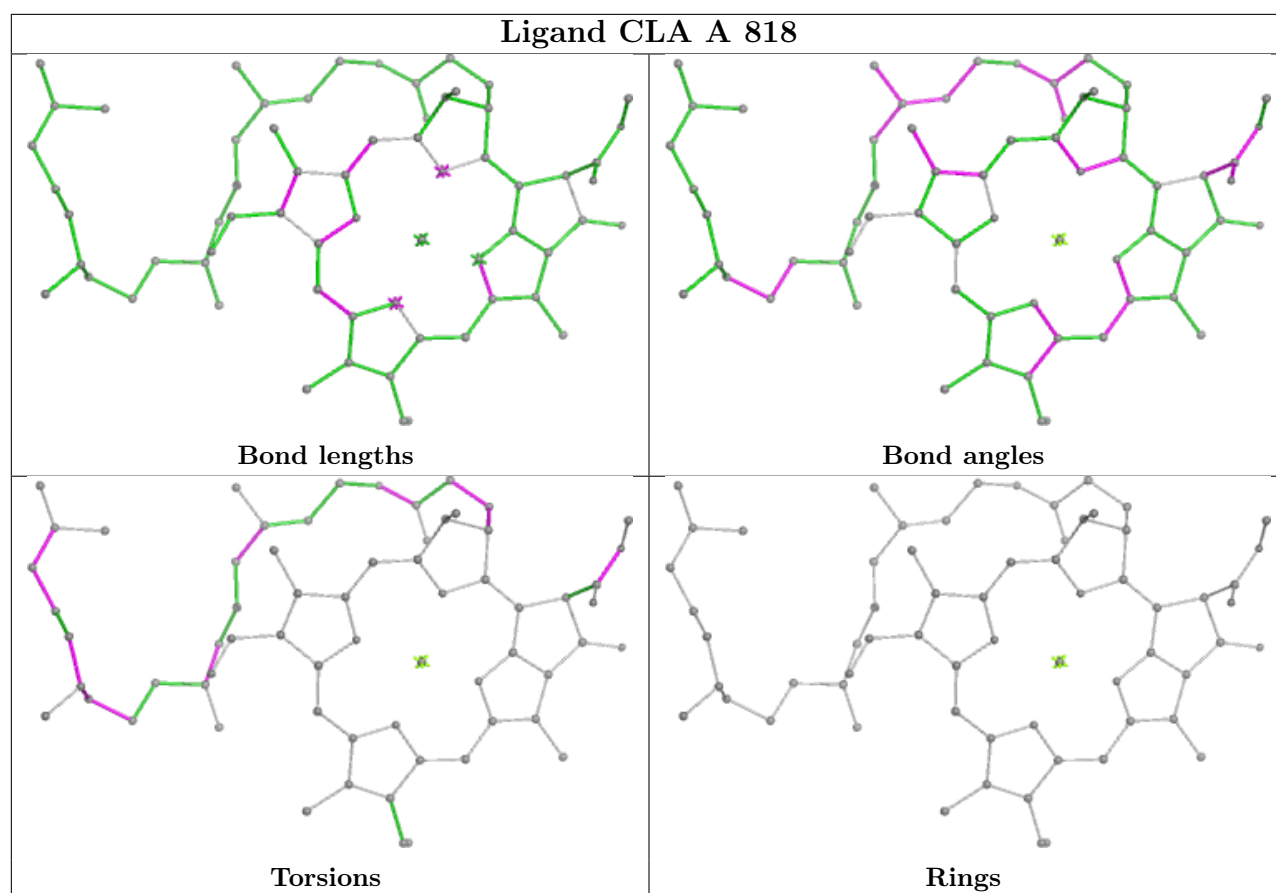
Bond angles



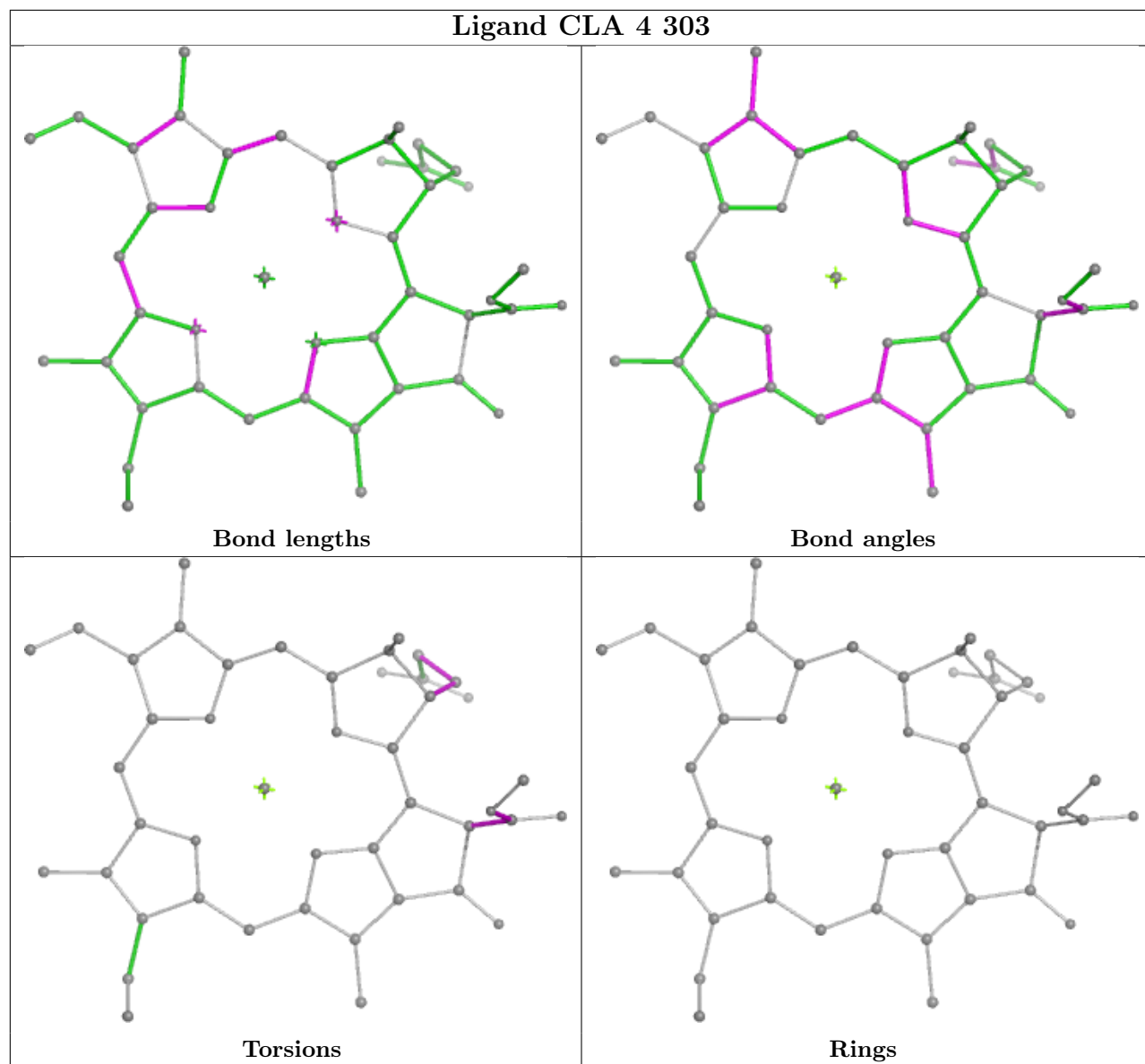
Torsions

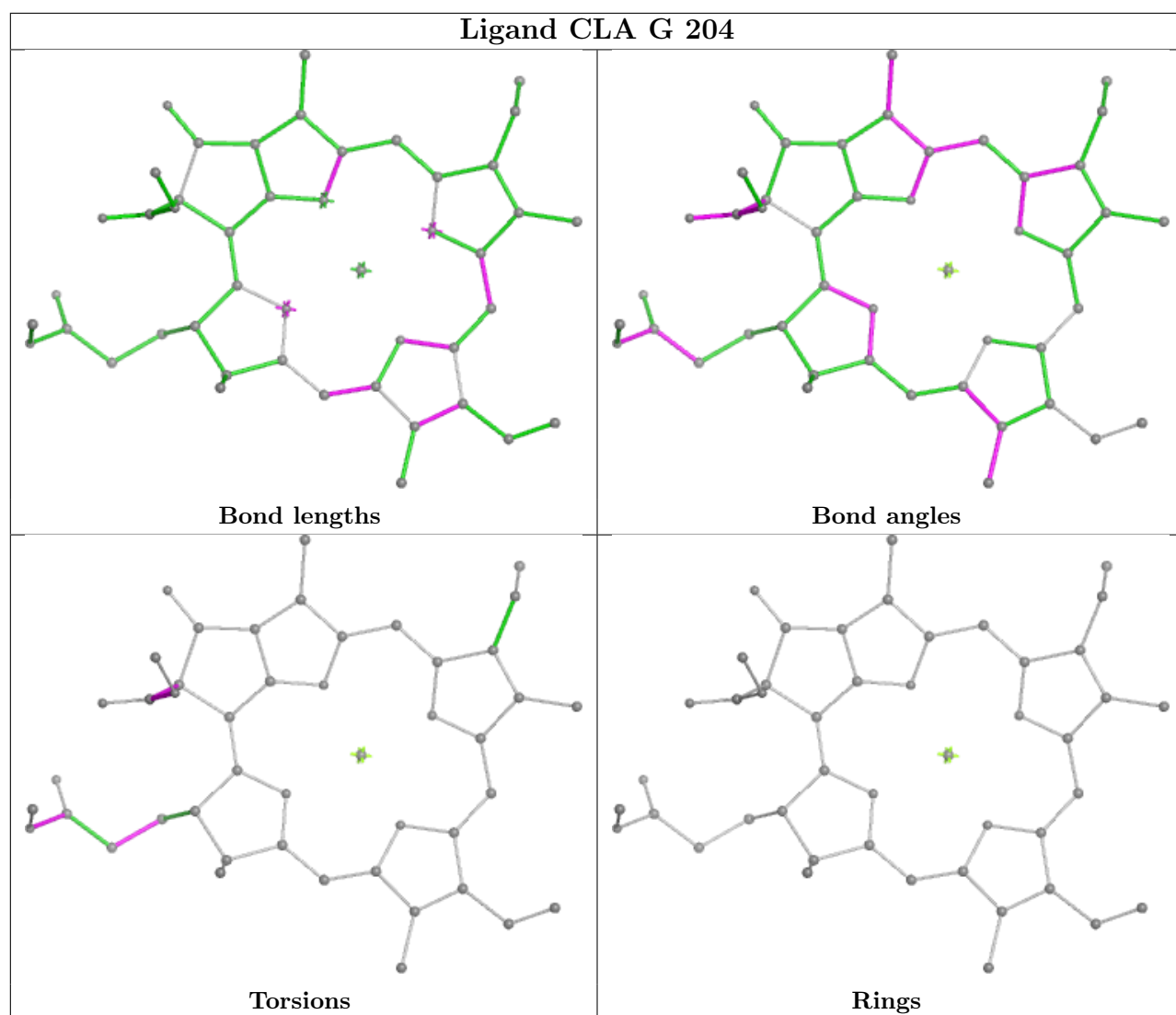


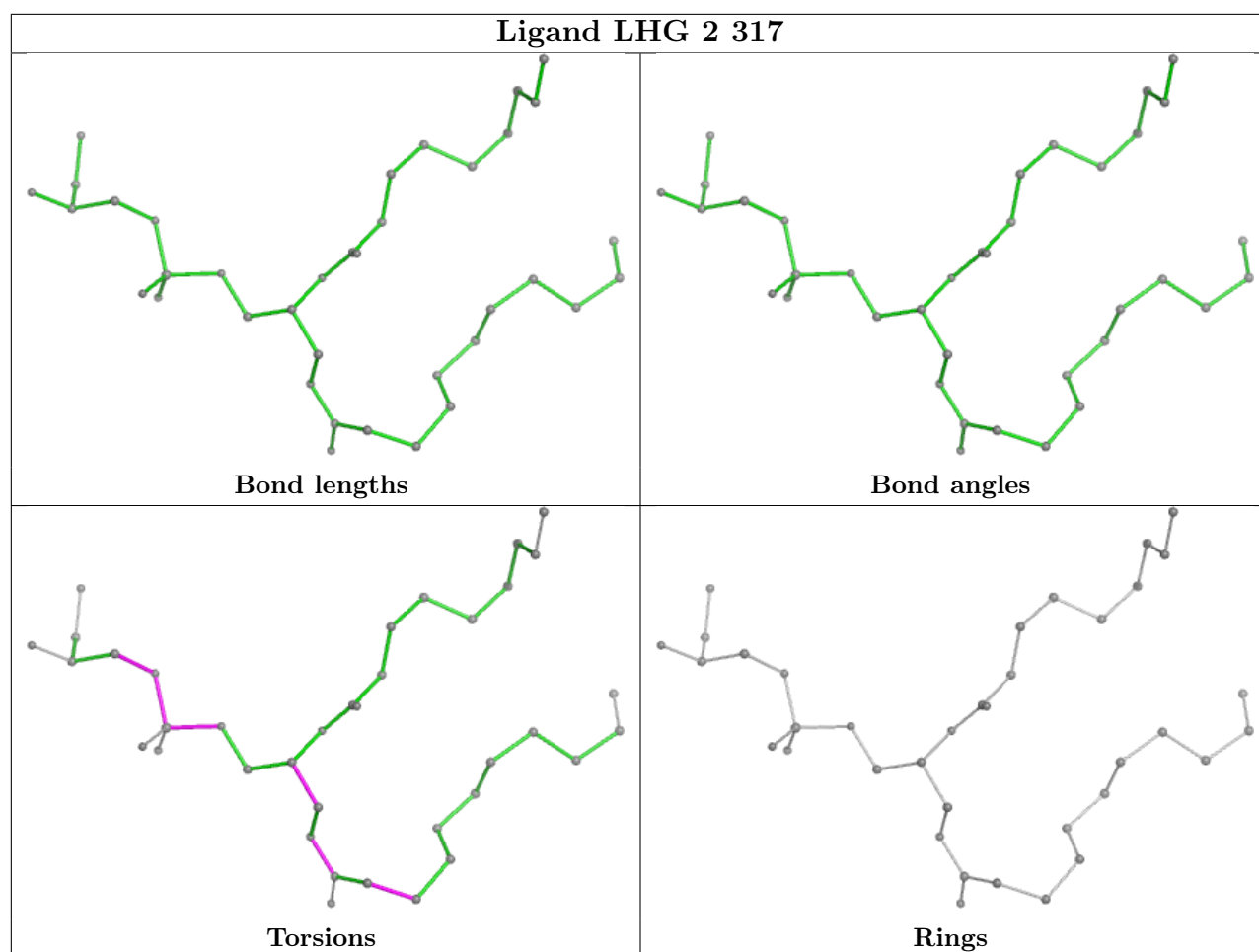
Rings



## Ligand CLA 4 303







## 5.7 Other polymers [i](#)

There are no such residues in this entry.

## 5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

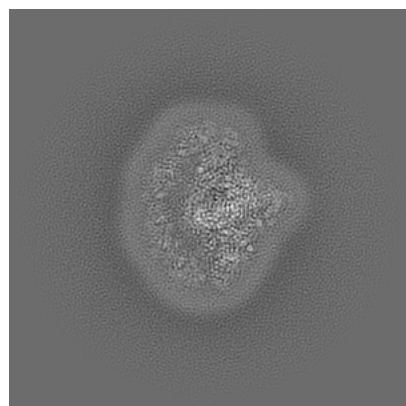
## 6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-51219. These allow visual inspection of the internal detail of the map and identification of artifacts.

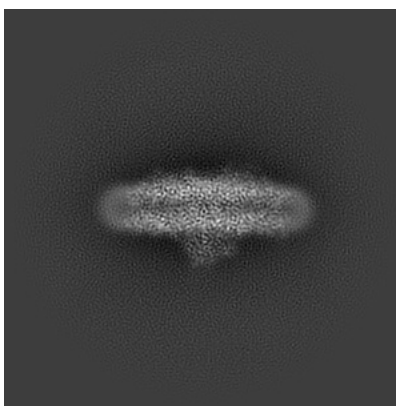
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

### 6.1 Orthogonal projections [i](#)

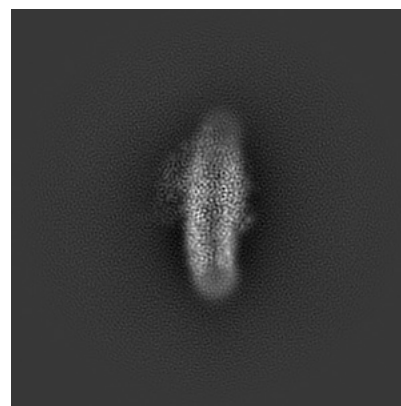
#### 6.1.1 Primary map



X

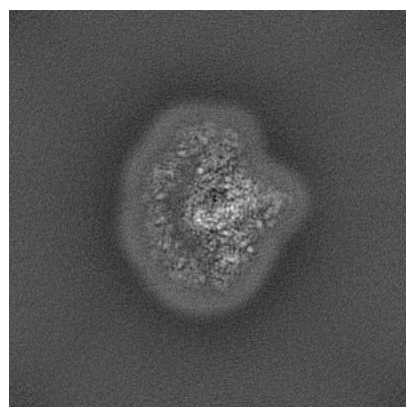


Y

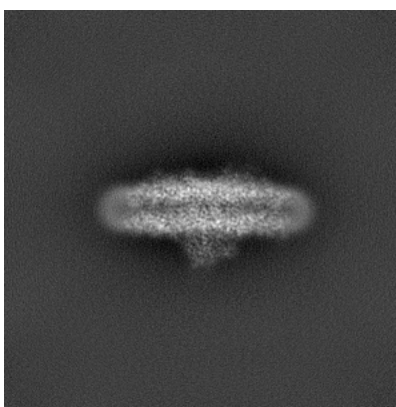


Z

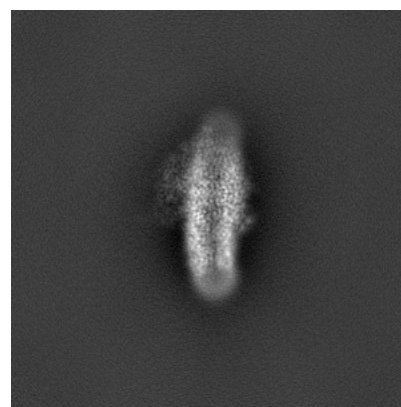
#### 6.1.2 Raw map



X



Y

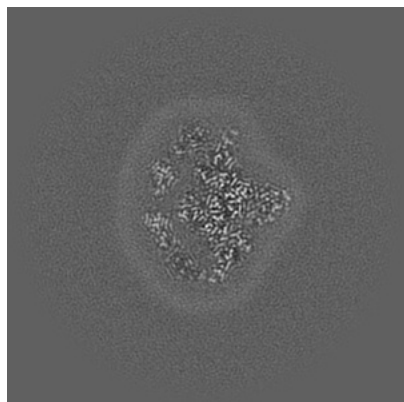


Z

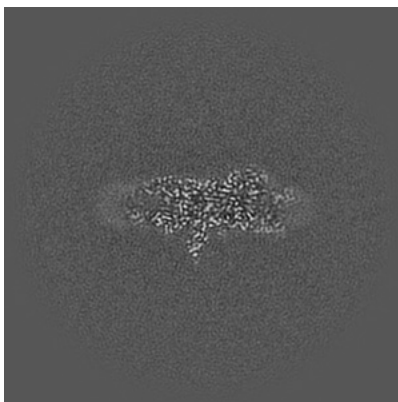
The images above show the map projected in three orthogonal directions.

## 6.2 Central slices [i](#)

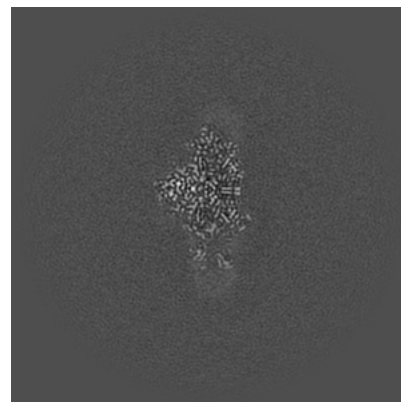
### 6.2.1 Primary map



X Index: 224

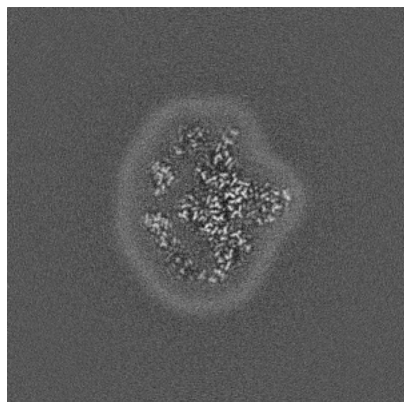


Y Index: 224

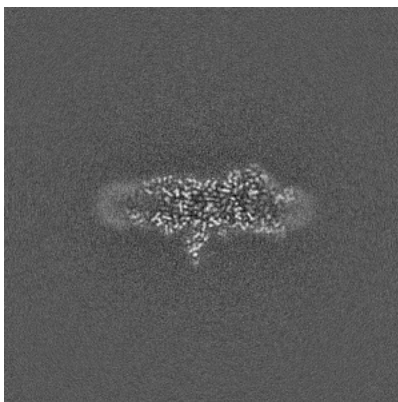


Z Index: 224

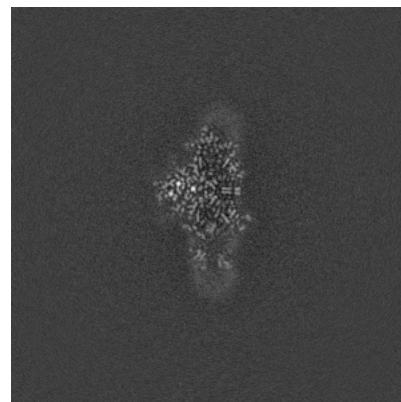
### 6.2.2 Raw map



X Index: 224



Y Index: 224

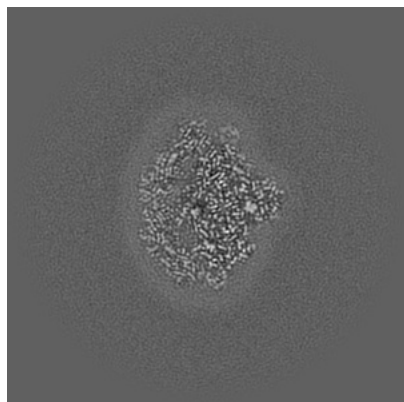


Z Index: 224

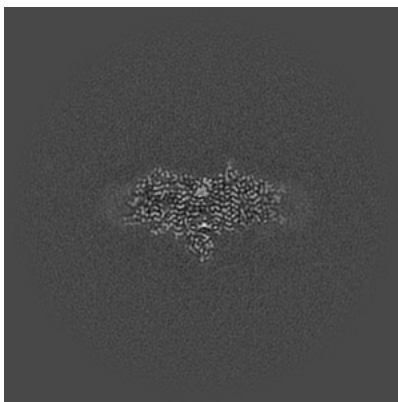
The images above show central slices of the map in three orthogonal directions.

## 6.3 Largest variance slices [i](#)

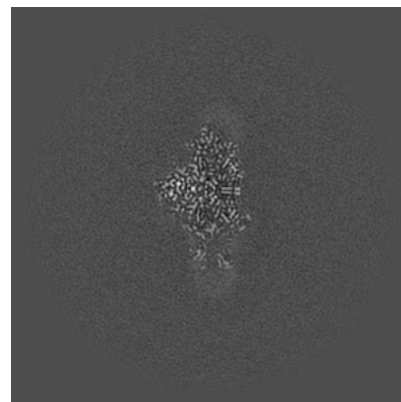
### 6.3.1 Primary map



X Index: 212

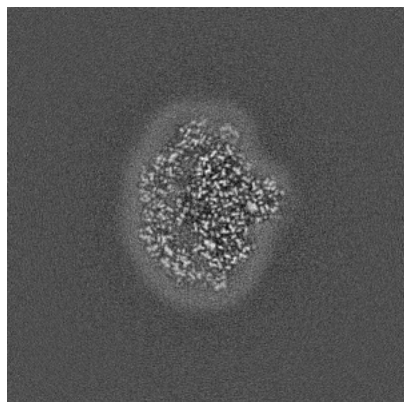


Y Index: 244

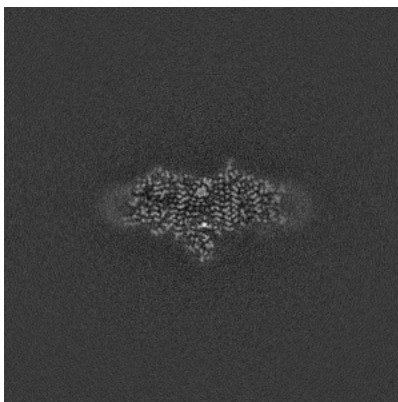


Z Index: 224

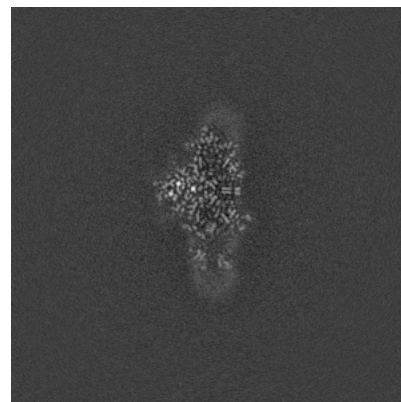
### 6.3.2 Raw map



X Index: 211



Y Index: 244

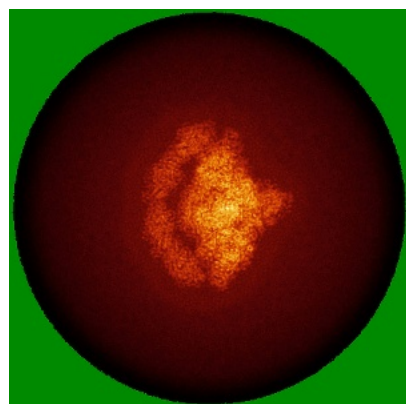


Z Index: 224

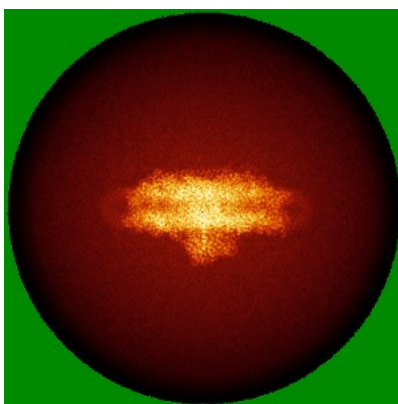
The images above show the largest variance slices of the map in three orthogonal directions.

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

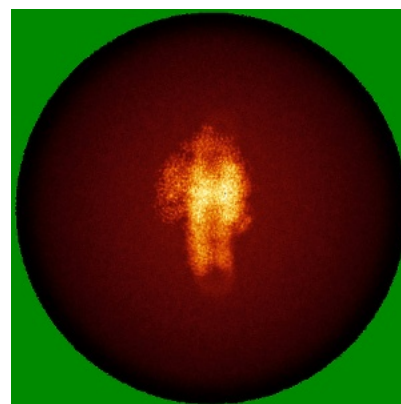
### 6.4.1 Primary map



X

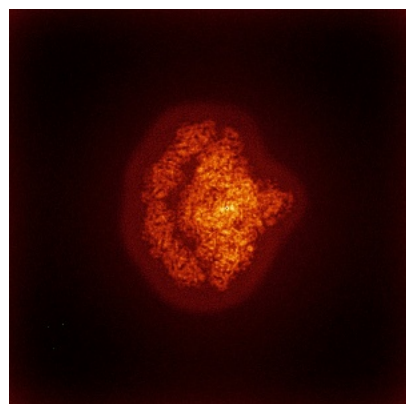


Y

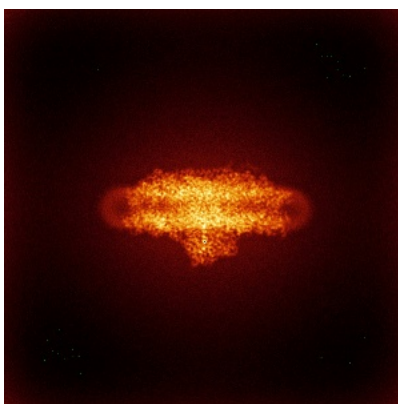


Z

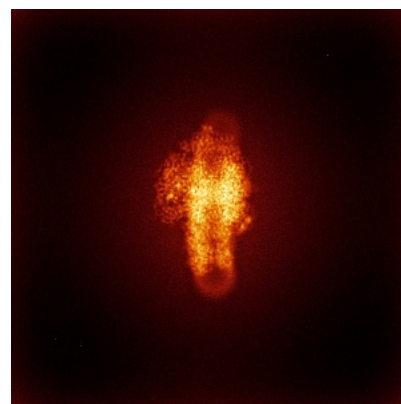
### 6.4.2 Raw map



X



Y

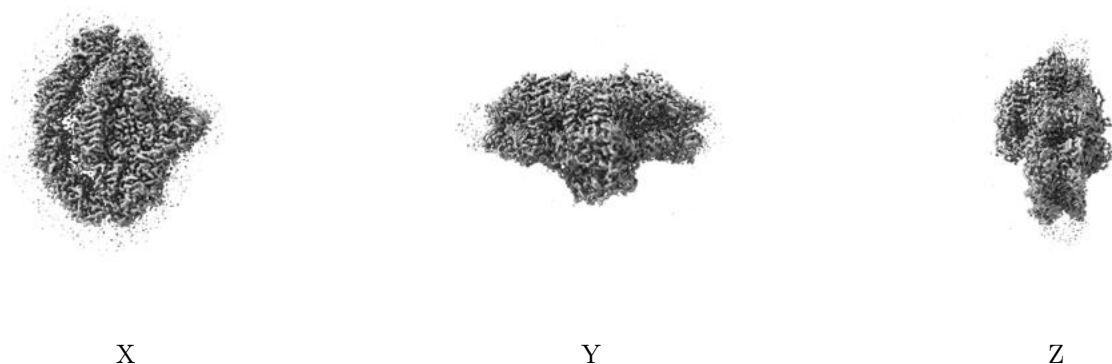


Z

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

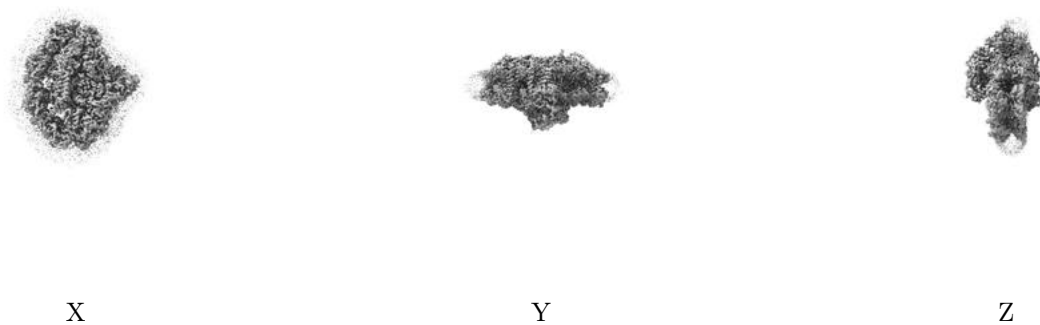
## 6.5 Orthogonal surface views [i](#)

### 6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.5. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

### 6.5.2 Raw map



These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

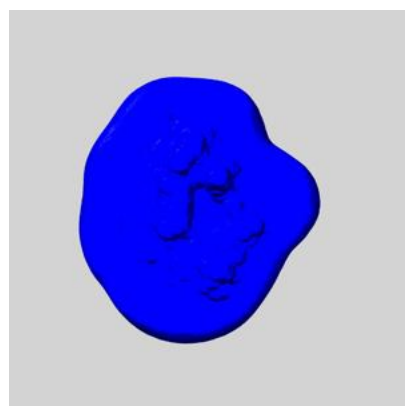
## 6.6 Mask visualisation [i](#)

This section shows the 3D surface view of the primary map at 50% transparency overlaid with the specified mask at 0% transparency

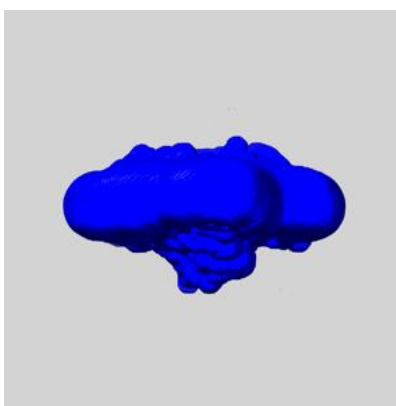
A mask typically either:

- Encompasses the whole structure
- Separates out a domain, a functional unit, a monomer or an area of interest from a larger structure

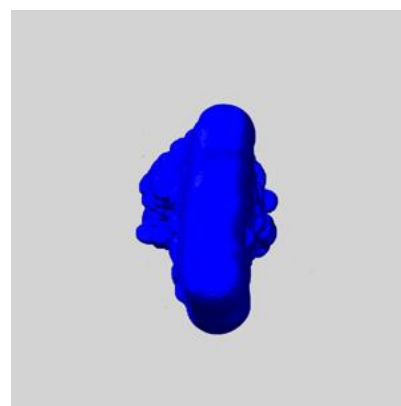
### 6.6.1 emd\_51219\_msk\_1.map [i](#)



X



Y

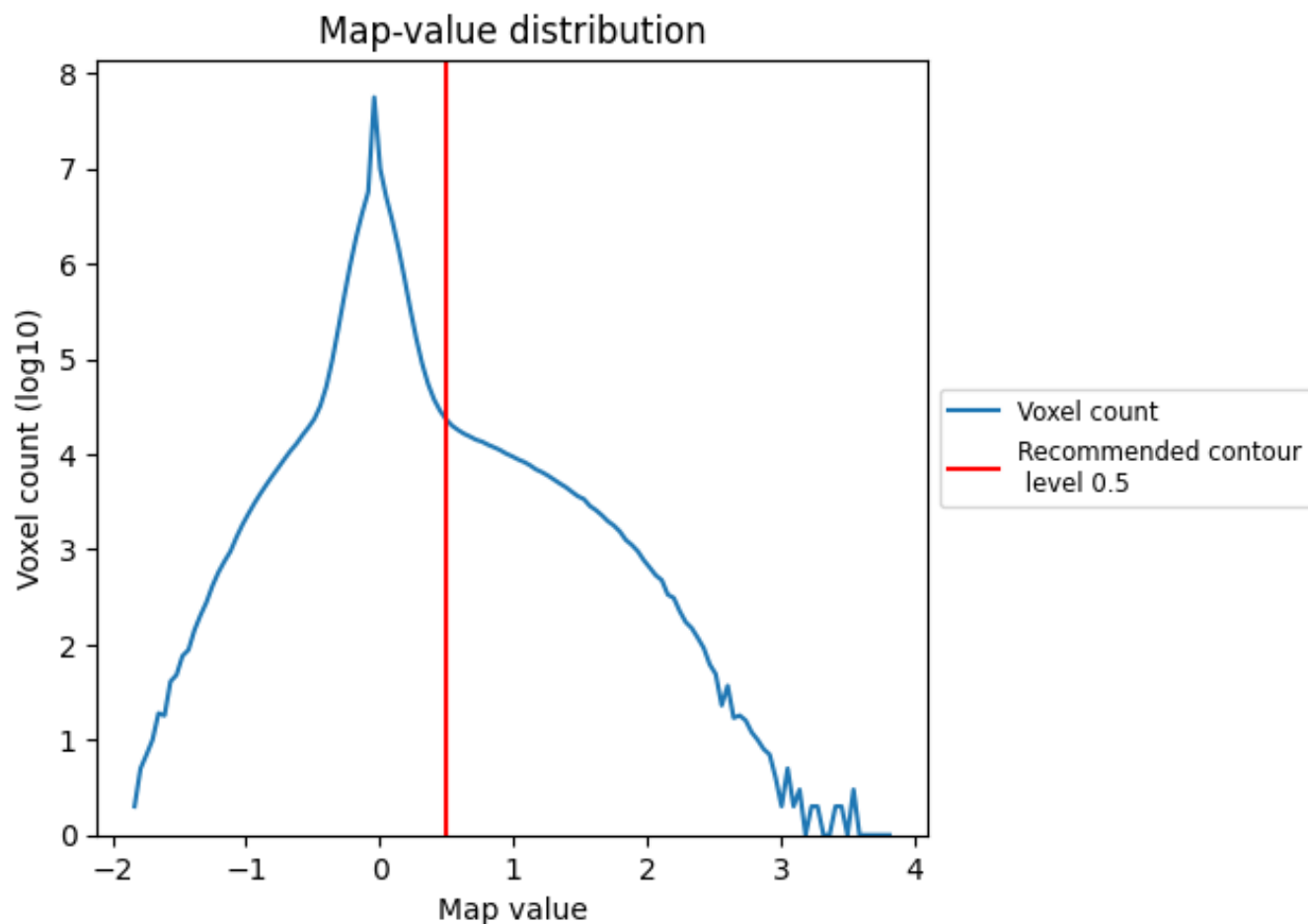


Z

## 7 Map analysis [i](#)

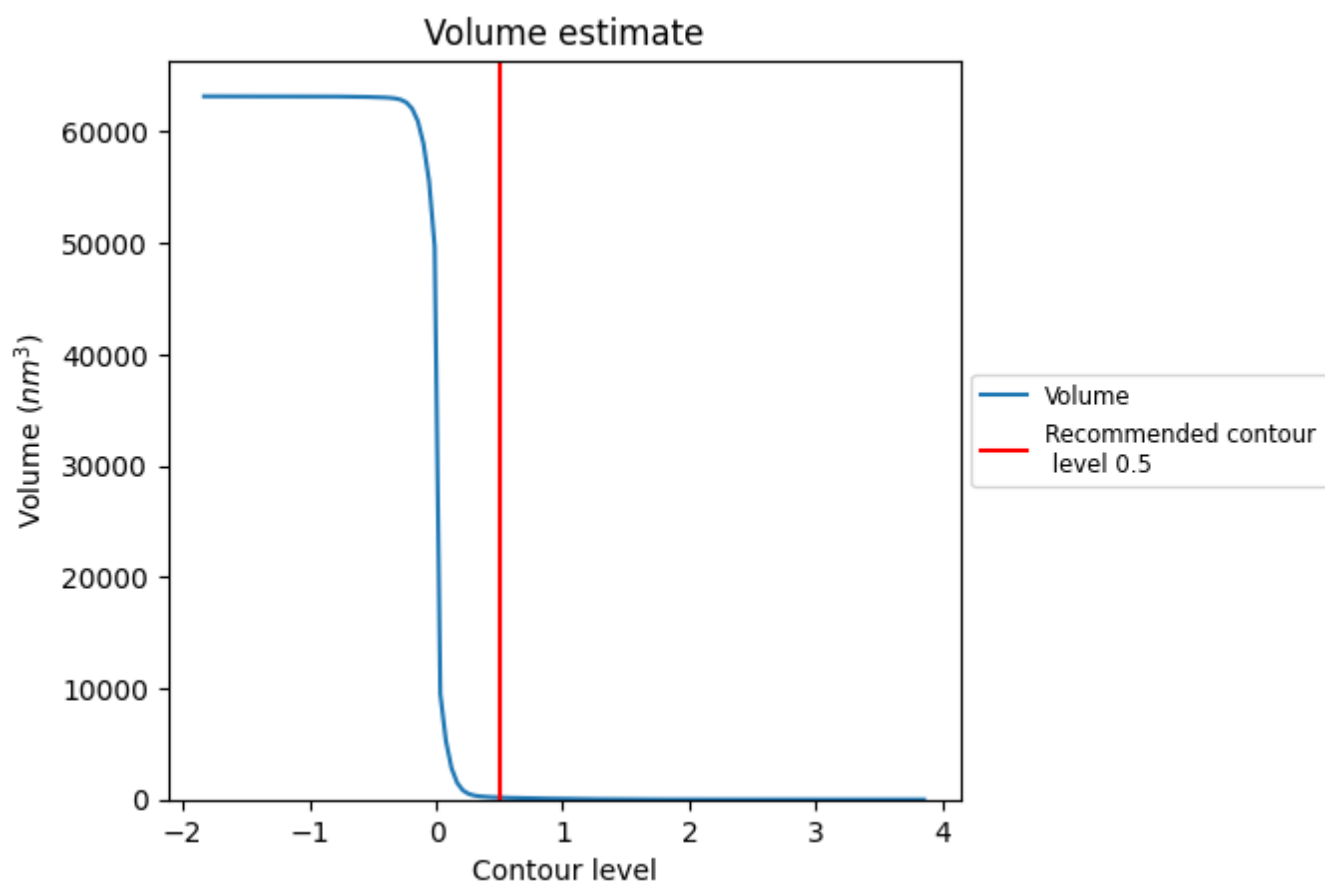
This section contains the results of statistical analysis of the map.

### 7.1 Map-value distribution [i](#)



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

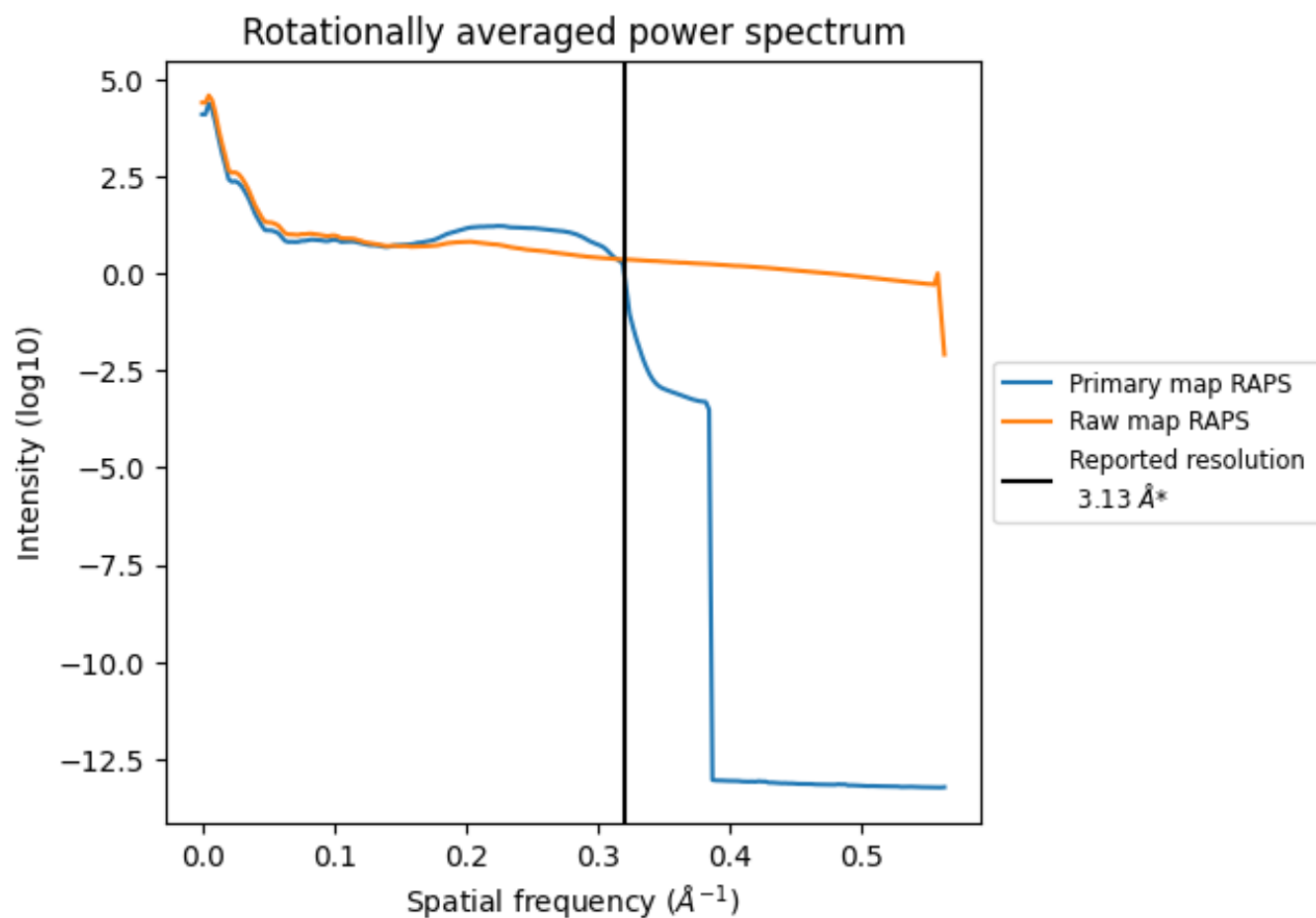
## 7.2 Volume estimate [i](#)



The volume at the recommended contour level is 185  $\text{nm}^3$ ; this corresponds to an approximate mass of 167 kDa.

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

### 7.3 Rotationally averaged power spectrum ⓘ

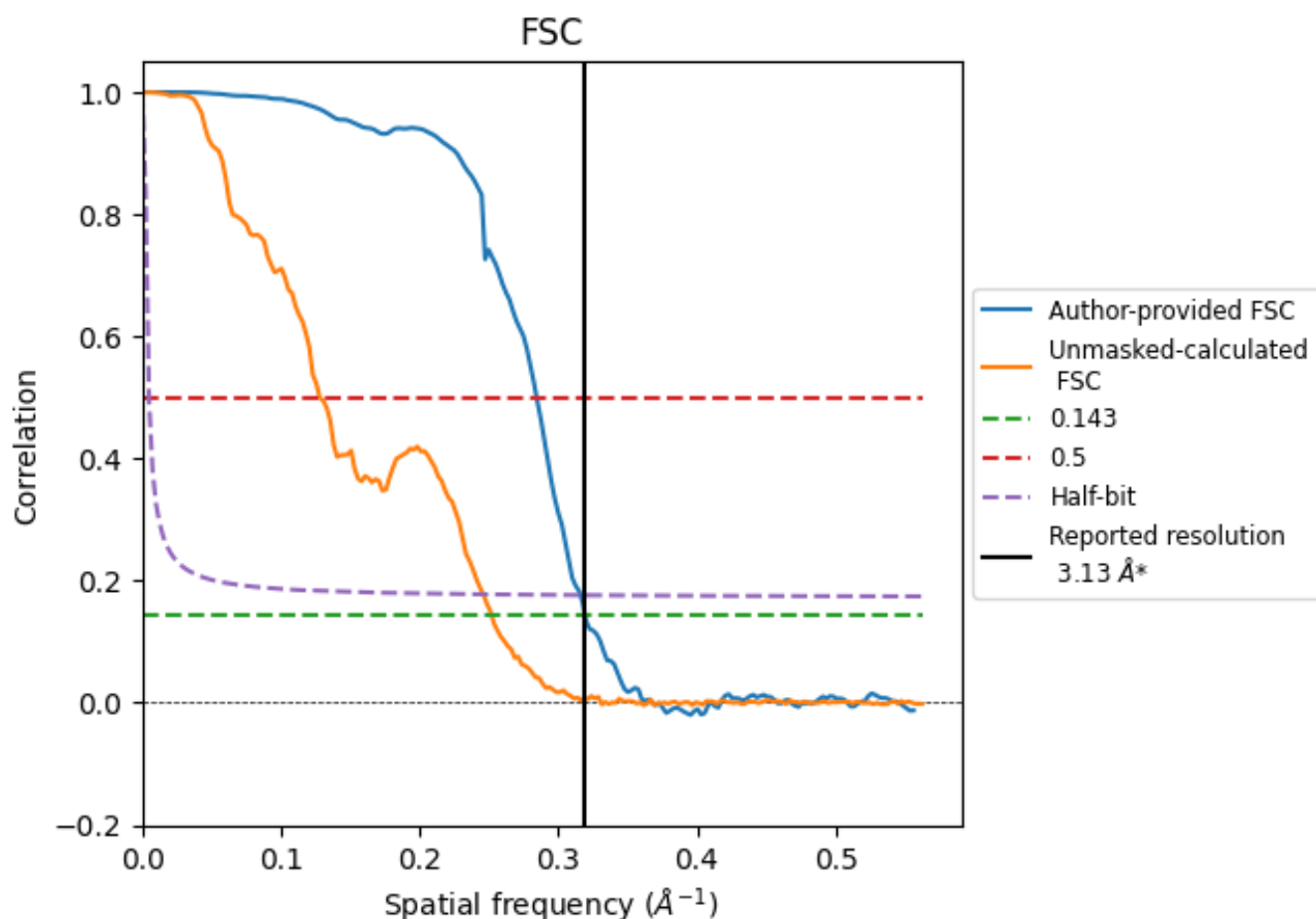


\*Reported resolution corresponds to spatial frequency of 0.319 Å<sup>-1</sup>

## 8 Fourier-Shell correlation [i](#)

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

### 8.1 FSC [i](#)



\*Reported resolution corresponds to spatial frequency of  $0.319 \text{ \AA}^{-1}$

## 8.2 Resolution estimates [i](#)

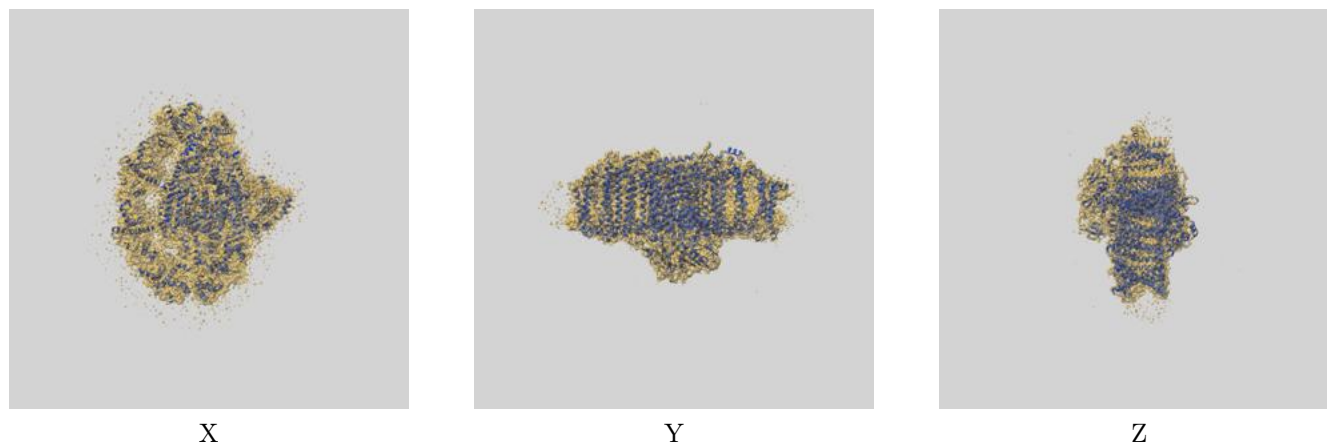
| Resolution estimate (Å)   | Estimation criterion (FSC cut-off) |      |          |
|---------------------------|------------------------------------|------|----------|
|                           | 0.143                              | 0.5  | Half-bit |
| Reported by author        | 3.13                               | -    | -        |
| Author-provided FSC curve | 3.13                               | 3.52 | 3.16     |
| Unmasked-calculated*      | 3.97                               | 7.82 | 4.07     |

\*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 3.97 differs from the reported value 3.13 by more than 10 %

## 9 Map-model fit [i](#)

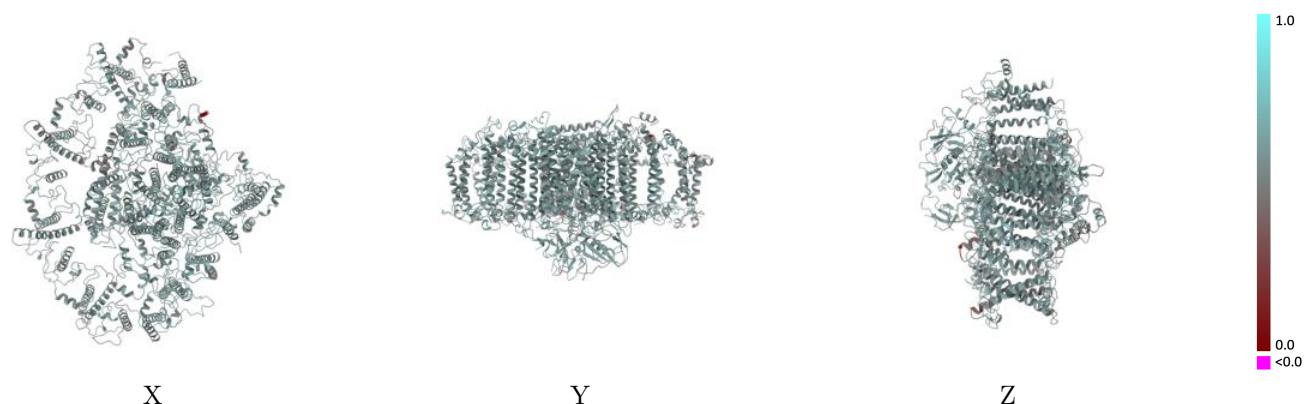
This section contains information regarding the fit between EMDB map EMD-51219 and PDB model 9GBI. Per-residue inclusion information can be found in section [3](#) on page [27](#).

### 9.1 Map-model overlay [i](#)



The images above show the 3D surface view of the map at the recommended contour level 0.5 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

## 9.2 Q-score mapped to coordinate model [i](#)



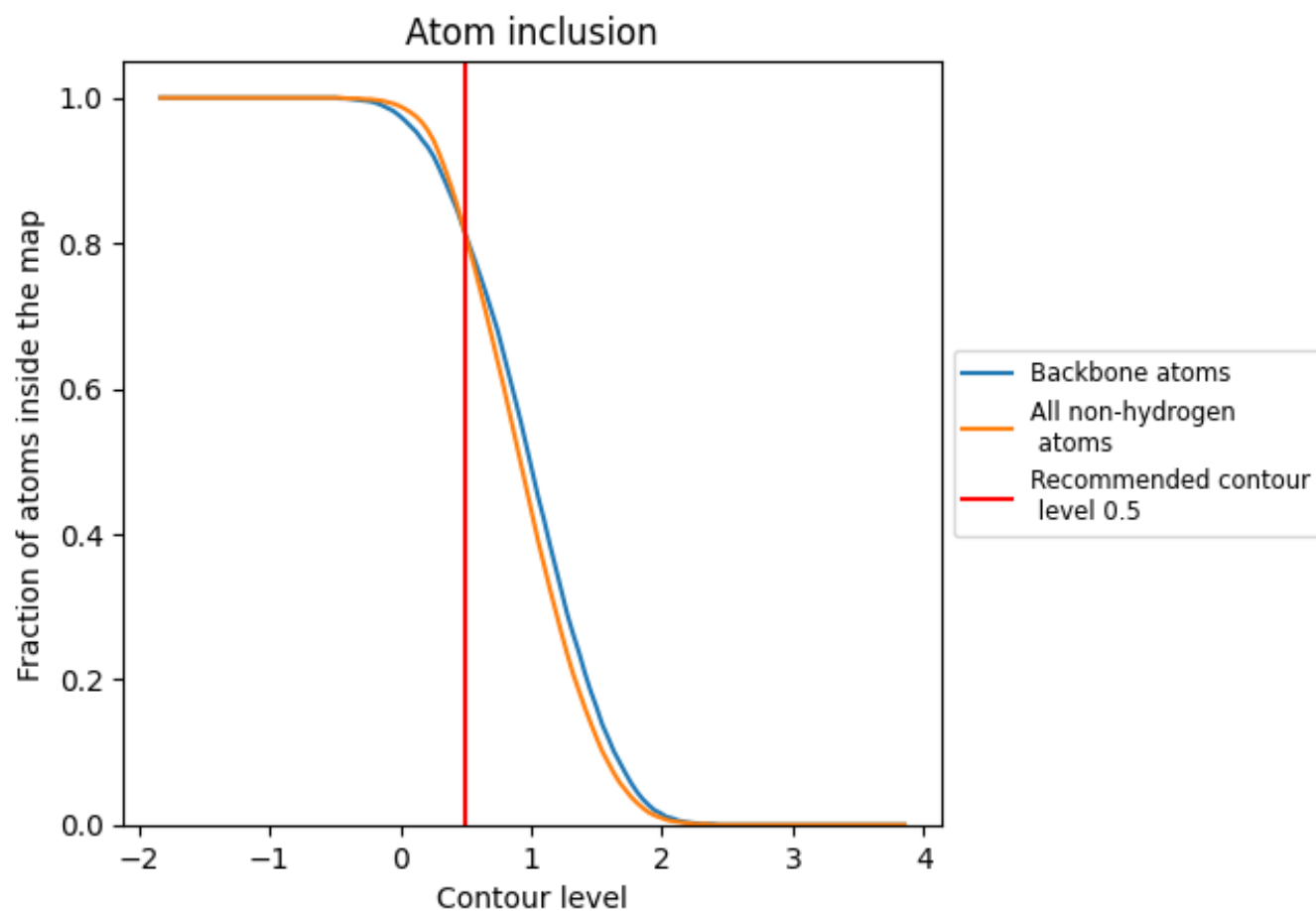
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

## 9.3 Atom inclusion mapped to coordinate model [i](#)



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.5).

## 9.4 Atom inclusion [i](#)



At the recommended contour level, 81% of all backbone atoms, 81% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary ⓘ

The table lists the average atom inclusion at the recommended contour level (0.5) and Q-score for the entire model and for each chain.

| Chain | Atom inclusion     | Q-score            |
|-------|--------------------|--------------------|
| All   | <div></div> 0.8100 | <div></div> 0.5720 |
| 1     | <div></div> 0.7480 | <div></div> 0.5530 |
| 2     | <div></div> 0.7420 | <div></div> 0.5490 |
| 3     | <div></div> 0.7740 | <div></div> 0.5550 |
| 4     | <div></div> 0.7570 | <div></div> 0.5570 |
| A     | <div></div> 0.8570 | <div></div> 0.5870 |
| B     | <div></div> 0.8660 | <div></div> 0.5900 |
| C     | <div></div> 0.8880 | <div></div> 0.5820 |
| D     | <div></div> 0.8120 | <div></div> 0.5720 |
| E     | <div></div> 0.7580 | <div></div> 0.5670 |
| F     | <div></div> 0.8020 | <div></div> 0.5720 |
| G     | <div></div> 0.7750 | <div></div> 0.5630 |
| H     | <div></div> 0.7410 | <div></div> 0.5500 |
| I     | <div></div> 0.8190 | <div></div> 0.5630 |
| J     | <div></div> 0.7680 | <div></div> 0.5590 |
| K     | <div></div> 0.6570 | <div></div> 0.5110 |
| L     | <div></div> 0.8080 | <div></div> 0.5620 |
| N     | <div></div> 0.4300 | <div></div> 0.5010 |

