



## wwPDB EM Validation Summary Report ⓘ

Sep 23, 2025 – 09:54 pm BST

PDB ID : 6TRD / pdb\_00006trd  
EMDB ID : EMD-10559  
Title : Cryo- EM structure of the Thermosynechococcus elongatus photosystem I in the presence of cytochrome c6  
Authors : Koelsch, A.; Radon, C.; Baumert, A.; Buerger, J.; Mielke, T.; Lisdat, F.; Zouni, A.; Wendler, P.  
Deposited on : 2019-12-18  
Resolution : 3.16 Å(reported)  
Based on initial model : 1JB0

This is a wwPDB EM Validation Summary 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:

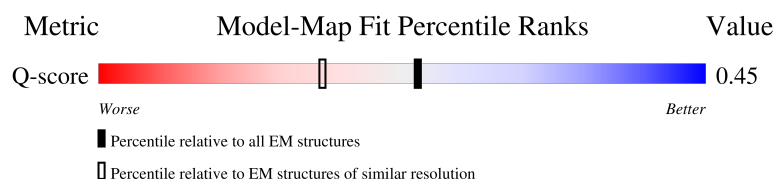
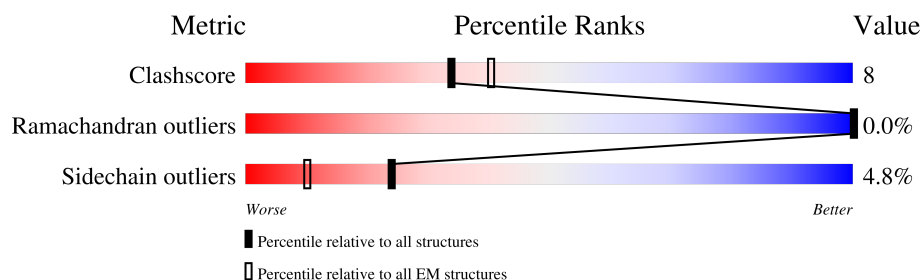
EMDB validation analysis : 0.0.1.dev129  
Mogul : 1.8.4, CSD as541be (2020)  
MolProbity : 4-5-2 with Phenix2.0  
buster-report : 1.1.7 (2018)  
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)  
EM percentile statistics : 202505.v01 (Using data in the EMDB archive 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 3.16 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                       | 14474 ( 2.66 - 3.66 )                                    |

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     | 755    | <div> <div>27%</div> <div>76%</div> <div>22%</div> <div>..</div> </div> |
| 1   | A     | 755    | <div> <div>33%</div> <div>76%</div> <div>21%</div> <div>..</div> </div> |
| 1   | a     | 755    | <div> <div>36%</div> <div>76%</div> <div>21%</div> <div>..</div> </div> |

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| Mol | Chain | Length | Quality of chain                                                                     |
|-----|-------|--------|--------------------------------------------------------------------------------------|
| 2   | 2     | 741    | <div> <div>24%</div> <div>81%</div> <div>18%</div> <div>.</div> </div>               |
| 2   | B     | 741    | <div> <div>34%</div> <div>82%</div> <div>17%</div> <div>.</div> </div>               |
| 2   | b     | 741    | <div> <div>22%</div> <div>81%</div> <div>18%</div> <div>.</div> </div>               |
| 3   | 3     | 81     | <div> <div>16%</div> <div>81%</div> <div>17%</div> <div>.</div> </div>               |
| 3   | C     | 81     | <div> <div>11%</div> <div>81%</div> <div>17%</div> <div>.</div> </div>               |
| 3   | c     | 81     | <div> <div>12%</div> <div>85%</div> <div>14%</div> <div>.</div> </div>               |
| 4   | 4     | 139    | <div> <div>24%</div> <div>76%</div> <div>22%</div> <div>..</div> </div>              |
| 4   | D     | 139    | <div> <div>28%</div> <div>76%</div> <div>22%</div> <div>..</div> </div>              |
| 4   | d     | 139    | <div> <div>35%</div> <div>77%</div> <div>21%</div> <div>..</div> </div>              |
| 5   | 5     | 76     | <div> <div>51%</div> <div>70%</div> <div>20%</div> <div>.</div> <div>8%</div> </div> |
| 5   | E     | 76     | <div> <div>58%</div> <div>74%</div> <div>17%</div> <div>.</div> <div>8%</div> </div> |
| 5   | e     | 76     | <div> <div>58%</div> <div>72%</div> <div>17%</div> <div>.</div> <div>8%</div> </div> |
| 6   | 6     | 141    | <div> <div>80%</div> <div>56%</div> <div>38%</div> <div>6%</div> </div>              |
| 6   | F     | 141    | <div> <div>96%</div> <div>57%</div> <div>39%</div> <div>.</div> </div>               |
| 6   | f     | 141    | <div> <div>91%</div> <div>57%</div> <div>37%</div> <div>6%</div> </div>              |
| 7   | 7     | 38     | <div> <div>16%</div> <div>79%</div> <div>21%</div> </div>                            |
| 7   | I     | 38     | <div> <div>8%</div> <div>79%</div> <div>21%</div> </div>                             |
| 7   | i     | 38     | <div> <div>11%</div> <div>79%</div> <div>21%</div> </div>                            |
| 8   | 8     | 41     | <div> <div>76%</div> <div>73%</div> <div>20%</div> <div>5%</div> <div>.</div> </div> |
| 8   | J     | 41     | <div> <div>95%</div> <div>73%</div> <div>20%</div> <div>5%</div> <div>.</div> </div> |
| 8   | j     | 41     | <div> <div>83%</div> <div>68%</div> <div>24%</div> <div>5%</div> <div>.</div> </div> |
| 9   | 9     | 83     | <div> <div>88%</div> <div>59%</div> <div>33%</div> <div>.</div> <div>5%</div> </div> |
| 9   | K     | 83     | <div> <div>87%</div> <div>64%</div> <div>28%</div> <div>.</div> <div>5%</div> </div> |
| 9   | k     | 83     | <div> <div>94%</div> <div>64%</div> <div>28%</div> <div>.</div> <div>5%</div> </div> |
| 10  | 0     | 155    | <div> <div>10%</div> <div>76%</div> <div>22%</div> <div>.</div> </div>               |

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| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|------------------|
| 10  | L     | 155    |                  |
| 10  | l     | 155    |                  |
| 11  | M     | 31     |                  |
| 11  | m     | 31     |                  |
| 11  | y     | 31     |                  |
| 12  | X     | 36     |                  |
| 12  | x     | 36     |                  |
| 12  | z     | 36     |                  |

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 |
|-----|------|-------|------|-----------|----------|---------|------------------|
| 13  | CL0  | 1     | 1602 | X         | -        | -       | -                |
| 13  | CL0  | A     | 801  | X         | -        | -       | -                |
| 13  | CL0  | a     | 801  | X         | -        | -       | -                |
| 14  | CLA  | 0     | 205  | X         | -        | -       | -                |
| 14  | CLA  | 0     | 206  | X         | -        | -       | -                |
| 14  | CLA  | 0     | 207  | X         | -        | -       | -                |
| 14  | CLA  | 1     | 1601 | X         | -        | -       | -                |
| 14  | CLA  | 1     | 1603 | X         | -        | -       | -                |
| 14  | CLA  | 1     | 1604 | X         | -        | -       | -                |
| 14  | CLA  | 1     | 1605 | X         | -        | -       | -                |
| 14  | CLA  | 1     | 1606 | X         | -        | -       | -                |
| 14  | CLA  | 1     | 1607 | X         | -        | -       | -                |
| 14  | CLA  | 1     | 1608 | X         | -        | -       | -                |
| 14  | CLA  | 1     | 1609 | X         | -        | -       | -                |
| 14  | CLA  | 1     | 1610 | X         | -        | -       | -                |
| 14  | CLA  | 1     | 1611 | X         | -        | -       | -                |
| 14  | CLA  | 1     | 1612 | X         | -        | -       | -                |
| 14  | CLA  | 1     | 1613 | X         | -        | -       | -                |
| 14  | CLA  | 1     | 1614 | X         | -        | -       | -                |
| 14  | CLA  | 1     | 1615 | X         | -        | -       | -                |
| 14  | CLA  | 1     | 1616 | X         | -        | -       | -                |
| 14  | CLA  | 1     | 1617 | X         | -        | -       | -                |
| 14  | CLA  | 1     | 1618 | X         | -        | -       | -                |

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| Mol | Type | Chain | Res  | Chirality | Geometry | Clashes | Electron density |
|-----|------|-------|------|-----------|----------|---------|------------------|
| 14  | CLA  | 1     | 1619 | X         | -        | -       | -                |
| 14  | CLA  | 1     | 1620 | X         | -        | -       | -                |
| 14  | CLA  | 1     | 1621 | X         | -        | -       | -                |
| 14  | CLA  | 1     | 1622 | X         | -        | -       | -                |
| 14  | CLA  | 1     | 1623 | X         | -        | -       | -                |
| 14  | CLA  | 1     | 1624 | X         | -        | -       | -                |
| 14  | CLA  | 1     | 1625 | X         | -        | -       | -                |
| 14  | CLA  | 1     | 1626 | X         | -        | -       | -                |
| 14  | CLA  | 1     | 1627 | X         | -        | -       | -                |
| 14  | CLA  | 1     | 1628 | X         | -        | -       | -                |
| 14  | CLA  | 1     | 1629 | X         | -        | -       | -                |
| 14  | CLA  | 1     | 1630 | X         | -        | -       | -                |
| 14  | CLA  | 1     | 1631 | X         | -        | -       | -                |
| 14  | CLA  | 1     | 1632 | X         | -        | -       | -                |
| 14  | CLA  | 1     | 1633 | X         | -        | -       | -                |
| 14  | CLA  | 1     | 1634 | X         | -        | -       | -                |
| 14  | CLA  | 1     | 1635 | X         | -        | -       | -                |
| 14  | CLA  | 1     | 1636 | X         | -        | -       | -                |
| 14  | CLA  | 1     | 1637 | X         | -        | -       | -                |
| 14  | CLA  | 1     | 1638 | X         | -        | -       | -                |
| 14  | CLA  | 1     | 1639 | X         | -        | -       | -                |
| 14  | CLA  | 1     | 1640 | X         | -        | -       | -                |
| 14  | CLA  | 1     | 1641 | X         | -        | -       | -                |
| 14  | CLA  | 1     | 1642 | X         | -        | -       | -                |
| 14  | CLA  | 1     | 1643 | X         | -        | -       | -                |
| 14  | CLA  | 1     | 1644 | X         | -        | -       | -                |
| 14  | CLA  | 1     | 1645 | X         | -        | -       | -                |
| 14  | CLA  | 2     | 802  | X         | -        | -       | -                |
| 14  | CLA  | 2     | 803  | X         | -        | -       | -                |
| 14  | CLA  | 2     | 804  | X         | -        | -       | -                |
| 14  | CLA  | 2     | 805  | X         | -        | -       | -                |
| 14  | CLA  | 2     | 806  | X         | -        | -       | -                |
| 14  | CLA  | 2     | 807  | X         | -        | -       | -                |
| 14  | CLA  | 2     | 808  | X         | -        | -       | -                |
| 14  | CLA  | 2     | 809  | X         | -        | -       | -                |
| 14  | CLA  | 2     | 810  | X         | -        | -       | -                |
| 14  | CLA  | 2     | 811  | X         | -        | -       | -                |
| 14  | CLA  | 2     | 812  | X         | -        | -       | -                |
| 14  | CLA  | 2     | 813  | X         | -        | -       | -                |
| 14  | CLA  | 2     | 814  | X         | -        | -       | -                |
| 14  | CLA  | 2     | 815  | X         | -        | -       | -                |
| 14  | CLA  | 2     | 816  | X         | -        | -       | -                |

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| Mol | Type | Chain | Res  | Chirality | Geometry | Clashes | Electron density |
|-----|------|-------|------|-----------|----------|---------|------------------|
| 14  | CLA  | 2     | 817  | X         | -        | -       | -                |
| 14  | CLA  | 2     | 818  | X         | -        | -       | -                |
| 14  | CLA  | 2     | 819  | X         | -        | -       | -                |
| 14  | CLA  | 2     | 820  | X         | -        | -       | -                |
| 14  | CLA  | 2     | 821  | X         | -        | -       | -                |
| 14  | CLA  | 2     | 822  | X         | -        | -       | -                |
| 14  | CLA  | 2     | 823  | X         | -        | -       | -                |
| 14  | CLA  | 2     | 824  | X         | -        | -       | -                |
| 14  | CLA  | 2     | 825  | X         | -        | -       | -                |
| 14  | CLA  | 2     | 826  | X         | -        | -       | -                |
| 14  | CLA  | 2     | 827  | X         | -        | -       | -                |
| 14  | CLA  | 2     | 828  | X         | -        | -       | -                |
| 14  | CLA  | 2     | 829  | X         | -        | -       | -                |
| 14  | CLA  | 2     | 830  | X         | -        | -       | -                |
| 14  | CLA  | 2     | 831  | X         | -        | -       | -                |
| 14  | CLA  | 2     | 832  | X         | -        | -       | -                |
| 14  | CLA  | 2     | 833  | X         | -        | -       | -                |
| 14  | CLA  | 2     | 834  | X         | -        | -       | -                |
| 14  | CLA  | 2     | 835  | X         | -        | -       | -                |
| 14  | CLA  | 2     | 836  | X         | -        | -       | -                |
| 14  | CLA  | 2     | 837  | X         | -        | -       | -                |
| 14  | CLA  | 2     | 838  | X         | -        | -       | -                |
| 14  | CLA  | 2     | 839  | X         | -        | -       | -                |
| 14  | CLA  | 2     | 841  | X         | -        | -       | -                |
| 14  | CLA  | 2     | 842  | X         | -        | -       | -                |
| 14  | CLA  | 6     | 201  | X         | -        | -       | -                |
| 14  | CLA  | 6     | 203  | X         | -        | -       | -                |
| 14  | CLA  | 8     | 1301 | X         | -        | -       | -                |
| 14  | CLA  | 8     | 1302 | X         | -        | -       | -                |
| 14  | CLA  | 8     | 1303 | X         | -        | -       | -                |
| 14  | CLA  | 9     | 101  | X         | -        | -       | -                |
| 14  | CLA  | 9     | 103  | X         | -        | -       | -                |
| 14  | CLA  | A     | 802  | X         | -        | -       | -                |
| 14  | CLA  | A     | 803  | X         | -        | -       | -                |
| 14  | CLA  | A     | 804  | X         | -        | -       | -                |
| 14  | CLA  | A     | 805  | X         | -        | -       | -                |
| 14  | CLA  | A     | 806  | X         | -        | -       | -                |
| 14  | CLA  | A     | 807  | X         | -        | -       | -                |
| 14  | CLA  | A     | 808  | X         | -        | -       | -                |
| 14  | CLA  | A     | 809  | X         | -        | -       | -                |
| 14  | CLA  | A     | 810  | X         | -        | -       | -                |
| 14  | CLA  | A     | 811  | X         | -        | -       | -                |

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| Mol | Type | Chain | Res | Chirality | Geometry | Clashes | Electron density |
|-----|------|-------|-----|-----------|----------|---------|------------------|
| 14  | CLA  | A     | 812 | X         | -        | -       | -                |
| 14  | CLA  | A     | 813 | X         | -        | -       | -                |
| 14  | CLA  | A     | 814 | X         | -        | -       | -                |
| 14  | CLA  | A     | 815 | X         | -        | -       | -                |
| 14  | CLA  | A     | 816 | X         | -        | -       | -                |
| 14  | CLA  | A     | 817 | X         | -        | -       | -                |
| 14  | CLA  | A     | 818 | X         | -        | -       | -                |
| 14  | CLA  | A     | 819 | X         | -        | -       | -                |
| 14  | CLA  | A     | 820 | X         | -        | -       | -                |
| 14  | CLA  | A     | 821 | X         | -        | -       | -                |
| 14  | CLA  | A     | 822 | X         | -        | -       | -                |
| 14  | CLA  | A     | 823 | X         | -        | -       | -                |
| 14  | CLA  | A     | 824 | X         | -        | -       | -                |
| 14  | CLA  | A     | 825 | X         | -        | -       | -                |
| 14  | CLA  | A     | 826 | X         | -        | -       | -                |
| 14  | CLA  | A     | 827 | X         | -        | -       | -                |
| 14  | CLA  | A     | 828 | X         | -        | -       | -                |
| 14  | CLA  | A     | 829 | X         | -        | -       | -                |
| 14  | CLA  | A     | 830 | X         | -        | -       | -                |
| 14  | CLA  | A     | 831 | X         | -        | -       | -                |
| 14  | CLA  | A     | 832 | X         | -        | -       | -                |
| 14  | CLA  | A     | 833 | X         | -        | -       | -                |
| 14  | CLA  | A     | 834 | X         | -        | -       | -                |
| 14  | CLA  | A     | 835 | X         | -        | -       | -                |
| 14  | CLA  | A     | 836 | X         | -        | -       | -                |
| 14  | CLA  | A     | 837 | X         | -        | -       | -                |
| 14  | CLA  | A     | 838 | X         | -        | -       | -                |
| 14  | CLA  | A     | 839 | X         | -        | -       | -                |
| 14  | CLA  | A     | 840 | X         | -        | -       | -                |
| 14  | CLA  | A     | 841 | X         | -        | -       | -                |
| 14  | CLA  | A     | 842 | X         | -        | -       | -                |
| 14  | CLA  | A     | 843 | X         | -        | -       | -                |
| 14  | CLA  | A     | 844 | X         | -        | -       | -                |
| 14  | CLA  | A     | 855 | X         | -        | -       | -                |
| 14  | CLA  | A     | 857 | X         | -        | -       | -                |
| 14  | CLA  | B     | 802 | X         | -        | -       | -                |
| 14  | CLA  | B     | 803 | X         | -        | -       | -                |
| 14  | CLA  | B     | 804 | X         | -        | -       | -                |
| 14  | CLA  | B     | 805 | X         | -        | -       | -                |
| 14  | CLA  | B     | 806 | X         | -        | -       | -                |
| 14  | CLA  | B     | 807 | X         | -        | -       | -                |
| 14  | CLA  | B     | 808 | X         | -        | -       | -                |

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| Mol | Type | Chain | Res | Chirality | Geometry | Clashes | Electron density |
|-----|------|-------|-----|-----------|----------|---------|------------------|
| 14  | CLA  | B     | 809 | X         | -        | -       | -                |
| 14  | CLA  | B     | 810 | X         | -        | -       | -                |
| 14  | CLA  | B     | 811 | X         | -        | -       | -                |
| 14  | CLA  | B     | 812 | X         | -        | -       | -                |
| 14  | CLA  | B     | 813 | X         | -        | -       | -                |
| 14  | CLA  | B     | 814 | X         | -        | -       | -                |
| 14  | CLA  | B     | 815 | X         | -        | -       | -                |
| 14  | CLA  | B     | 816 | X         | -        | -       | -                |
| 14  | CLA  | B     | 817 | X         | -        | -       | -                |
| 14  | CLA  | B     | 818 | X         | -        | -       | -                |
| 14  | CLA  | B     | 819 | X         | -        | -       | -                |
| 14  | CLA  | B     | 820 | X         | -        | -       | -                |
| 14  | CLA  | B     | 821 | X         | -        | -       | -                |
| 14  | CLA  | B     | 822 | X         | -        | -       | -                |
| 14  | CLA  | B     | 823 | X         | -        | -       | -                |
| 14  | CLA  | B     | 824 | X         | -        | -       | -                |
| 14  | CLA  | B     | 825 | X         | -        | -       | -                |
| 14  | CLA  | B     | 826 | X         | -        | -       | -                |
| 14  | CLA  | B     | 827 | X         | -        | -       | -                |
| 14  | CLA  | B     | 828 | X         | -        | -       | -                |
| 14  | CLA  | B     | 829 | X         | -        | -       | -                |
| 14  | CLA  | B     | 830 | X         | -        | -       | -                |
| 14  | CLA  | B     | 831 | X         | -        | -       | -                |
| 14  | CLA  | B     | 832 | X         | -        | -       | -                |
| 14  | CLA  | B     | 833 | X         | -        | -       | -                |
| 14  | CLA  | B     | 834 | X         | -        | -       | -                |
| 14  | CLA  | B     | 835 | X         | -        | -       | -                |
| 14  | CLA  | B     | 836 | X         | -        | -       | -                |
| 14  | CLA  | B     | 837 | X         | -        | -       | -                |
| 14  | CLA  | B     | 838 | X         | -        | -       | -                |
| 14  | CLA  | B     | 840 | X         | -        | -       | -                |
| 14  | CLA  | B     | 841 | X         | -        | -       | -                |
| 14  | CLA  | F     | 201 | X         | -        | -       | -                |
| 14  | CLA  | F     | 203 | X         | -        | -       | -                |
| 14  | CLA  | F     | 204 | X         | -        | -       | -                |
| 14  | CLA  | J     | 101 | X         | -        | -       | -                |
| 14  | CLA  | J     | 102 | X         | -        | -       | -                |
| 14  | CLA  | K     | 101 | X         | -        | -       | -                |
| 14  | CLA  | K     | 103 | X         | -        | -       | -                |
| 14  | CLA  | L     | 203 | X         | -        | -       | -                |
| 14  | CLA  | L     | 204 | X         | -        | -       | -                |
| 14  | CLA  | L     | 205 | X         | -        | -       | -                |

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| Mol | Type | Chain | Res  | Chirality | Geometry | Clashes | Electron density |
|-----|------|-------|------|-----------|----------|---------|------------------|
| 14  | CLA  | M     | 102  | X         | -        | -       | -                |
| 14  | CLA  | X     | 1701 | X         | -        | -       | -                |
| 14  | CLA  | a     | 802  | X         | -        | -       | -                |
| 14  | CLA  | a     | 803  | X         | -        | -       | -                |
| 14  | CLA  | a     | 804  | X         | -        | -       | -                |
| 14  | CLA  | a     | 805  | X         | -        | -       | -                |
| 14  | CLA  | a     | 806  | X         | -        | -       | -                |
| 14  | CLA  | a     | 807  | X         | -        | -       | -                |
| 14  | CLA  | a     | 808  | X         | -        | -       | -                |
| 14  | CLA  | a     | 809  | X         | -        | -       | -                |
| 14  | CLA  | a     | 810  | X         | -        | -       | -                |
| 14  | CLA  | a     | 811  | X         | -        | -       | -                |
| 14  | CLA  | a     | 812  | X         | -        | -       | -                |
| 14  | CLA  | a     | 813  | X         | -        | -       | -                |
| 14  | CLA  | a     | 814  | X         | -        | -       | -                |
| 14  | CLA  | a     | 815  | X         | -        | -       | -                |
| 14  | CLA  | a     | 816  | X         | -        | -       | -                |
| 14  | CLA  | a     | 817  | X         | -        | -       | -                |
| 14  | CLA  | a     | 818  | X         | -        | -       | -                |
| 14  | CLA  | a     | 819  | X         | -        | -       | -                |
| 14  | CLA  | a     | 820  | X         | -        | -       | -                |
| 14  | CLA  | a     | 821  | X         | -        | -       | -                |
| 14  | CLA  | a     | 822  | X         | -        | -       | -                |
| 14  | CLA  | a     | 823  | X         | -        | -       | -                |
| 14  | CLA  | a     | 824  | X         | -        | -       | -                |
| 14  | CLA  | a     | 825  | X         | -        | -       | -                |
| 14  | CLA  | a     | 826  | X         | -        | -       | -                |
| 14  | CLA  | a     | 827  | X         | -        | -       | -                |
| 14  | CLA  | a     | 828  | X         | -        | -       | -                |
| 14  | CLA  | a     | 829  | X         | -        | -       | -                |
| 14  | CLA  | a     | 830  | X         | -        | -       | -                |
| 14  | CLA  | a     | 831  | X         | -        | -       | -                |
| 14  | CLA  | a     | 832  | X         | -        | -       | -                |
| 14  | CLA  | a     | 833  | X         | -        | -       | -                |
| 14  | CLA  | a     | 834  | X         | -        | -       | -                |
| 14  | CLA  | a     | 835  | X         | -        | -       | -                |
| 14  | CLA  | a     | 836  | X         | -        | -       | -                |
| 14  | CLA  | a     | 837  | X         | -        | -       | -                |
| 14  | CLA  | a     | 838  | X         | -        | -       | -                |
| 14  | CLA  | a     | 839  | X         | -        | -       | -                |
| 14  | CLA  | a     | 840  | X         | -        | -       | -                |
| 14  | CLA  | a     | 841  | X         | -        | -       | -                |

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| Mol | Type | Chain | Res | Chirality | Geometry | Clashes | Electron density |
|-----|------|-------|-----|-----------|----------|---------|------------------|
| 14  | CLA  | a     | 842 | X         | -        | -       | -                |
| 14  | CLA  | a     | 843 | X         | -        | -       | -                |
| 14  | CLA  | a     | 844 | X         | -        | -       | -                |
| 14  | CLA  | b     | 802 | X         | -        | -       | -                |
| 14  | CLA  | b     | 803 | X         | -        | -       | -                |
| 14  | CLA  | b     | 804 | X         | -        | -       | -                |
| 14  | CLA  | b     | 805 | X         | -        | -       | -                |
| 14  | CLA  | b     | 806 | X         | -        | -       | -                |
| 14  | CLA  | b     | 807 | X         | -        | -       | -                |
| 14  | CLA  | b     | 808 | X         | -        | -       | -                |
| 14  | CLA  | b     | 809 | X         | -        | -       | -                |
| 14  | CLA  | b     | 810 | X         | -        | -       | -                |
| 14  | CLA  | b     | 811 | X         | -        | -       | -                |
| 14  | CLA  | b     | 812 | X         | -        | -       | -                |
| 14  | CLA  | b     | 813 | X         | -        | -       | -                |
| 14  | CLA  | b     | 814 | X         | -        | -       | -                |
| 14  | CLA  | b     | 815 | X         | -        | -       | -                |
| 14  | CLA  | b     | 816 | X         | -        | -       | -                |
| 14  | CLA  | b     | 817 | X         | -        | -       | -                |
| 14  | CLA  | b     | 818 | X         | -        | -       | -                |
| 14  | CLA  | b     | 819 | X         | -        | -       | -                |
| 14  | CLA  | b     | 820 | X         | -        | -       | -                |
| 14  | CLA  | b     | 821 | X         | -        | -       | -                |
| 14  | CLA  | b     | 822 | X         | -        | -       | -                |
| 14  | CLA  | b     | 823 | X         | -        | -       | -                |
| 14  | CLA  | b     | 824 | X         | -        | -       | -                |
| 14  | CLA  | b     | 825 | X         | -        | -       | -                |
| 14  | CLA  | b     | 826 | X         | -        | -       | -                |
| 14  | CLA  | b     | 827 | X         | -        | -       | -                |
| 14  | CLA  | b     | 828 | X         | -        | -       | -                |
| 14  | CLA  | b     | 829 | X         | -        | -       | -                |
| 14  | CLA  | b     | 830 | X         | -        | -       | -                |
| 14  | CLA  | b     | 831 | X         | -        | -       | -                |
| 14  | CLA  | b     | 832 | X         | -        | -       | -                |
| 14  | CLA  | b     | 833 | X         | -        | -       | -                |
| 14  | CLA  | b     | 834 | X         | -        | -       | -                |
| 14  | CLA  | b     | 835 | X         | -        | -       | -                |
| 14  | CLA  | b     | 836 | X         | -        | -       | -                |
| 14  | CLA  | b     | 837 | X         | -        | -       | -                |
| 14  | CLA  | b     | 838 | X         | -        | -       | -                |
| 14  | CLA  | b     | 839 | X         | -        | -       | -                |
| 14  | CLA  | b     | 841 | X         | -        | -       | -                |

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| Mol | Type | Chain | Res  | Chirality | Geometry | Clashes | Electron density |
|-----|------|-------|------|-----------|----------|---------|------------------|
| 14  | CLA  | b     | 842  | X         | -        | -       | -                |
| 14  | CLA  | f     | 201  | X         | -        | -       | -                |
| 14  | CLA  | f     | 203  | X         | -        | -       | -                |
| 14  | CLA  | j     | 1301 | X         | -        | -       | -                |
| 14  | CLA  | j     | 1302 | X         | -        | -       | -                |
| 14  | CLA  | j     | 1303 | X         | -        | -       | -                |
| 14  | CLA  | k     | 101  | X         | -        | -       | -                |
| 14  | CLA  | k     | 103  | X         | -        | -       | -                |
| 14  | CLA  | l     | 204  | X         | -        | -       | -                |
| 14  | CLA  | l     | 205  | X         | -        | -       | -                |
| 14  | CLA  | l     | 206  | X         | -        | -       | -                |
| 14  | CLA  | x     | 1701 | X         | -        | -       | -                |
| 14  | CLA  | z     | 102  | X         | -        | -       | -                |

## 2 Entry composition [i](#)

There are 21 unique types of molecules in this entry. The entry contains 74991 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 Photosystem I P700 chlorophyll a apoprotein A1.

| Mol | Chain | Residues | Atoms |      |     |     |    | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|----|---------|-------|
| 1   | A     | 746      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 5826  | 3823 | 995 | 982 | 26 |         |       |
| 1   | a     | 746      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 5826  | 3823 | 995 | 982 | 26 |         |       |
| 1   | 1     | 746      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 5826  | 3823 | 995 | 982 | 26 |         |       |

- Molecule 2 is a protein called Photosystem I P700 chlorophyll a apoprotein A2.

| Mol | Chain | Residues | Atoms |      |     |      |    | AltConf | Trace |
|-----|-------|----------|-------|------|-----|------|----|---------|-------|
| 2   | B     | 740      | Total | C    | N   | O    | S  | 0       | 0     |
|     |       |          | 5894  | 3878 | 988 | 1007 | 21 |         |       |
| 2   | b     | 740      | Total | C    | N   | O    | S  | 0       | 0     |
|     |       |          | 5894  | 3878 | 988 | 1007 | 21 |         |       |
| 2   | 2     | 740      | Total | C    | N   | O    | S  | 0       | 0     |
|     |       |          | 5894  | 3878 | 988 | 1007 | 21 |         |       |

- Molecule 3 is a protein called Photosystem I iron-sulfur center.

| Mol | Chain | Residues | Atoms |     |     |     |    | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 3   | C     | 80       | Total | C   | N   | O   | S  | 0       | 0     |
|     |       |          | 598   | 367 | 103 | 117 | 11 |         |       |
| 3   | c     | 80       | Total | C   | N   | O   | S  | 0       | 0     |
|     |       |          | 598   | 367 | 103 | 117 | 11 |         |       |
| 3   | 3     | 80       | Total | C   | N   | O   | S  | 0       | 0     |
|     |       |          | 598   | 367 | 103 | 117 | 11 |         |       |

- Molecule 4 is a protein called Photosystem I reaction center subunit II.

| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 4   | D     | 138      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1075  | 682 | 186 | 204 | 3 |         |       |

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| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 4   | d     | 138      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1075  | 682 | 186 | 204 | 3 |         |       |
| 4   | 4     | 138      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1075  | 682 | 186 | 204 | 3 |         |       |

- Molecule 5 is a protein called Photosystem I reaction center subunit IV.

| Mol | Chain | Residues | Atoms |     |    |     |  | AltConf | Trace |
|-----|-------|----------|-------|-----|----|-----|--|---------|-------|
| 5   | E     | 70       | Total | C   | N  | O   |  | 0       | 0     |
|     |       |          | 546   | 347 | 94 | 105 |  |         |       |
| 5   | e     | 70       | Total | C   | N  | O   |  | 0       | 0     |
|     |       |          | 546   | 347 | 94 | 105 |  |         |       |
| 5   | 5     | 70       | Total | C   | N  | O   |  | 0       | 0     |
|     |       |          | 546   | 347 | 94 | 105 |  |         |       |

- Molecule 6 is a protein called Photosystem I reaction center subunit III.

| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 6   | F     | 141      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1065  | 680 | 184 | 197 | 4 |         |       |
| 6   | f     | 141      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1065  | 680 | 184 | 197 | 4 |         |       |
| 6   | 6     | 141      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1065  | 680 | 184 | 197 | 4 |         |       |

- Molecule 7 is a protein called Photosystem I reaction center subunit VIII.

| Mol | Chain | Residues | Atoms |     |    |    |   | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|-------|
| 7   | I     | 38       | Total | C   | N  | O  | S | 0       | 0     |
|     |       |          | 303   | 209 | 40 | 49 | 5 |         |       |
| 7   | i     | 38       | Total | C   | N  | O  | S | 0       | 0     |
|     |       |          | 303   | 209 | 40 | 49 | 5 |         |       |
| 7   | 7     | 38       | Total | C   | N  | O  | S | 0       | 0     |
|     |       |          | 303   | 209 | 40 | 49 | 5 |         |       |

- Molecule 8 is a protein called Photosystem I reaction center subunit IX.

| Mol | Chain | Residues | Atoms |     |    |    |   | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|-------|
| 8   | J     | 41       | Total | C   | N  | O  | S | 0       | 0     |
|     |       |          | 340   | 232 | 51 | 55 | 2 |         |       |
| 8   | j     | 41       | Total | C   | N  | O  | S | 0       | 0     |
|     |       |          | 340   | 232 | 51 | 55 | 2 |         |       |

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| Mol | Chain | Residues | Atoms |     |    |    |   | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|-------|
| 8   | 8     | 41       | Total | C   | N  | O  | S | 0       | 0     |
|     |       |          | 340   | 232 | 51 | 55 | 2 |         |       |

- Molecule 9 is a protein called Photosystem I reaction center subunit PsaK.

| Mol | Chain | Residues | Atoms |     |    |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|----|-----|---|---------|-------|
| 9   | K     | 79       | Total | C   | N  | O   | S | 0       | 0     |
|     |       |          | 571   | 377 | 92 | 101 | 1 |         |       |
| 9   | k     | 79       | Total | C   | N  | O   | S | 0       | 0     |
|     |       |          | 571   | 377 | 92 | 101 | 1 |         |       |
| 9   | 9     | 79       | Total | C   | N  | O   | S | 0       | 0     |
|     |       |          | 571   | 377 | 92 | 101 | 1 |         |       |

- Molecule 10 is a protein called Photosystem I reaction center subunit XI.

| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 10  | L     | 152      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1124  | 738 | 180 | 202 | 4 |         |       |
| 10  | l     | 152      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1124  | 738 | 180 | 202 | 4 |         |       |
| 10  | 0     | 152      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1124  | 738 | 180 | 202 | 4 |         |       |

There are 3 discrepancies between the modelled and reference sequences:

| Chain | Residue | Modelled | Actual | Comment  | Reference  |
|-------|---------|----------|--------|----------|------------|
| L     | 143     | LEU      | SER    | conflict | UNP Q8DGB4 |
| l     | 143     | LEU      | SER    | conflict | UNP Q8DGB4 |
| 0     | 143     | LEU      | SER    | conflict | UNP Q8DGB4 |

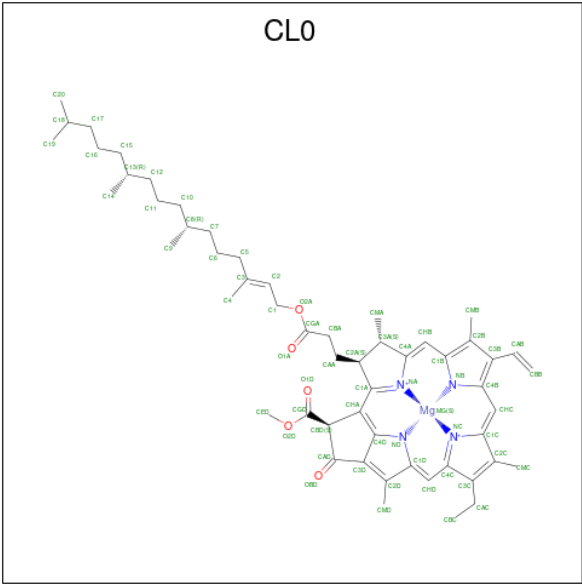
- Molecule 11 is a protein called Photosystem I reaction center subunit XII.

| Mol | Chain | Residues | Atoms |     |    |    |   | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|-------|
| 11  | M     | 31       | Total | C   | N  | O  | S | 0       | 0     |
|     |       |          | 241   | 161 | 36 | 43 | 1 |         |       |
| 11  | m     | 31       | Total | C   | N  | O  | S | 0       | 0     |
|     |       |          | 241   | 161 | 36 | 43 | 1 |         |       |
| 11  | y     | 31       | Total | C   | N  | O  | S | 0       | 0     |
|     |       |          | 241   | 161 | 36 | 43 | 1 |         |       |

- Molecule 12 is a protein called Photosystem I 4.8K protein.

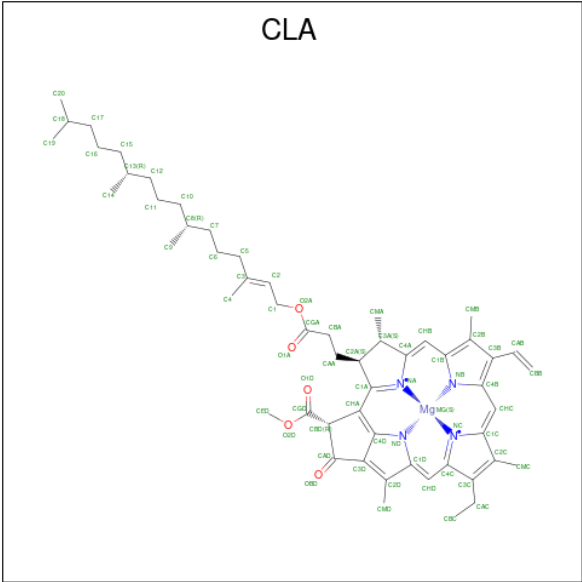
| Mol | Chain | Residues | Atoms |     |    |    | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---------|-------|
| 12  | X     | 27       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 228   | 163 | 33 | 32 |         |       |
| 12  | x     | 27       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 228   | 163 | 33 | 32 |         |       |
| 12  | z     | 27       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 228   | 163 | 33 | 32 |         |       |

- Molecule 13 is CHLOROPHYLL A ISOMER (CCD ID: CL0) (formula: C<sub>55</sub>H<sub>72</sub>MgN<sub>4</sub>O<sub>5</sub>).



| Mol | Chain | Residues | Atoms |    |    |   |   | AltConf |
|-----|-------|----------|-------|----|----|---|---|---------|
| 13  | A     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 13  | a     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 13  | 1     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |

- Molecule 14 is CHLOROPHYLL A (CCD ID: CLA) (formula: C<sub>55</sub>H<sub>72</sub>MgN<sub>4</sub>O<sub>5</sub>).



| Mol | Chain | Residues | Atoms |    |    |   |   | AltConf |
|-----|-------|----------|-------|----|----|---|---|---------|
| 14  | A     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 14  | A     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 14  | A     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 14  | A     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 59    | 49 | 1  | 4 | 5 |         |
| 14  | A     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 14  | A     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 14  | A     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 51    | 41 | 1  | 4 | 5 |         |
| 14  | A     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 14  | A     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 14  | A     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 49    | 39 | 1  | 4 | 5 |         |
| 14  | A     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 14  | A     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 45    | 35 | 1  | 4 | 5 |         |
| 14  | A     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 14  | A     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |

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| Mol | Chain | Residues | Atoms       |         |         |        |        | AltConf |
|-----|-------|----------|-------------|---------|---------|--------|--------|---------|
| 14  | A     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | A     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | A     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | A     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | A     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | A     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | A     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | A     | 1        | Total<br>45 | C<br>35 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | A     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | A     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | A     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | A     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | A     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | A     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | A     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | A     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | A     | 1        | Total<br>60 | C<br>50 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | A     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | A     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | A     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 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 |
|-----|-------|----------|-------------|---------|---------|--------|--------|---------|
| 14  | A     | 1        | Total<br>45 | C<br>35 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | A     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | A     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | A     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | A     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | A     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | A     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | A     | 1        | Total<br>45 | C<br>35 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | A     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | A     | 1        | Total<br>36 | C<br>30 | Mg<br>1 | N<br>4 | O<br>1 | 0       |
| 14  | B     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | B     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | B     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | B     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | B     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | B     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | B     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | B     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | B     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | B     | 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 |
|-----|-------|----------|-------------|---------|---------|--------|--------|---------|
| 14  | B     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | B     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | B     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | B     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | B     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | B     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | B     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | B     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | B     | 1        | Total<br>45 | C<br>35 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | B     | 1        | Total<br>55 | C<br>45 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | B     | 1        | Total<br>45 | C<br>35 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | B     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | B     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | B     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | B     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | B     | 1        | Total<br>55 | C<br>45 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | B     | 1        | Total<br>49 | C<br>39 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | B     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | B     | 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 |
|-----|-------|----------|-------------|---------|---------|--------|--------|---------|
| 14  | B     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | B     | 1        | Total<br>50 | C<br>40 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | B     | 1        | Total<br>45 | C<br>35 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | B     | 1        | Total<br>60 | C<br>50 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | B     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | B     | 1        | Total<br>47 | C<br>37 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | B     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | B     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | F     | 1        | Total<br>58 | C<br>48 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | F     | 1        | Total<br>45 | C<br>35 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | F     | 1        | Total<br>50 | C<br>40 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | J     | 1        | Total<br>45 | C<br>35 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | J     | 1        | Total<br>37 | C<br>31 | Mg<br>1 | N<br>4 | O<br>1 | 0       |
| 14  | K     | 1        | Total<br>46 | C<br>36 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | K     | 1        | Total<br>58 | C<br>48 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | L     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | L     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | L     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | M     | 1        | Total<br>36 | C<br>30 | Mg<br>1 | N<br>4 | O<br>1 | 0       |
| 14  | X     | 1        | Total<br>45 | C<br>35 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 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 |
|-----|-------|----------|-------------|---------|---------|--------|--------|---------|
| 14  | a     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | a     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | a     | 1        | Total<br>59 | C<br>49 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | a     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | a     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | a     | 1        | Total<br>51 | C<br>41 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | a     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | a     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | a     | 1        | Total<br>49 | C<br>39 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | a     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | a     | 1        | Total<br>45 | C<br>35 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | a     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | a     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | a     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | a     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | a     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | a     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | a     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | a     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | a     | 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 |
|-----|-------|----------|-------------|---------|---------|--------|--------|---------|
| 14  | a     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | a     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | a     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | a     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | a     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | a     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | a     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | a     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | a     | 1        | Total<br>60 | C<br>50 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | a     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | a     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | a     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | a     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | a     | 1        | Total<br>45 | C<br>35 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | a     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | a     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | a     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | a     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | a     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | a     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | a     | 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 |
|-----|-------|----------|-------------|---------|---------|--------|--------|---------|
| 14  | b     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | b     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | b     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | b     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | b     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | b     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | b     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | b     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | b     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | b     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | b     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | b     | 1        | Total<br>45 | C<br>35 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | b     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | b     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | b     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | b     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | b     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | b     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | b     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | b     | 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 |
|-----|-------|----------|-------------|---------|---------|--------|--------|---------|
| 14  | b     | 1        | Total<br>55 | C<br>45 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | b     | 1        | Total<br>45 | C<br>35 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | b     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | b     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | b     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | b     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | b     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | b     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | b     | 1        | Total<br>55 | C<br>45 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | b     | 1        | Total<br>49 | C<br>39 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | b     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | b     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | b     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | b     | 1        | Total<br>50 | C<br>40 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | b     | 1        | Total<br>45 | C<br>35 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | b     | 1        | Total<br>60 | C<br>50 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | b     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | b     | 1        | Total<br>47 | C<br>37 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | b     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | b     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | f     | 1        | Total<br>58 | C<br>48 | Mg<br>1 | N<br>4 | O<br>5 | 0       |

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| Mol | Chain | Residues | Atoms       |         |         |        |        | AltConf |
|-----|-------|----------|-------------|---------|---------|--------|--------|---------|
| 14  | f     | 1        | Total<br>50 | C<br>40 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | j     | 1        | Total<br>45 | C<br>35 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | j     | 1        | Total<br>45 | C<br>35 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | j     | 1        | Total<br>37 | C<br>31 | Mg<br>1 | N<br>4 | O<br>1 | 0       |
| 14  | k     | 1        | Total<br>46 | C<br>36 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | k     | 1        | Total<br>58 | C<br>48 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | l     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | l     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | l     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | x     | 1        | Total<br>45 | C<br>35 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 1     | 1        | Total<br>36 | C<br>30 | Mg<br>1 | N<br>4 | O<br>1 | 0       |
| 14  | 1     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 1     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 1     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 1     | 1        | Total<br>59 | C<br>49 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 1     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 1     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 1     | 1        | Total<br>51 | C<br>41 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 1     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 1     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 1     | 1        | Total<br>49 | C<br>39 | Mg<br>1 | N<br>4 | O<br>5 | 0       |

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| Mol | Chain | Residues | Atoms       |         |         |        |        | AltConf |
|-----|-------|----------|-------------|---------|---------|--------|--------|---------|
| 14  | 1     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 1     | 1        | Total<br>45 | C<br>35 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 1     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 1     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 1     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 1     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 1     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 1     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 1     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 1     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 1     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 1     | 1        | Total<br>45 | C<br>35 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 1     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 1     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 1     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 1     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 1     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 1     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 1     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 1     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 1     | 1        | Total<br>60 | C<br>50 | Mg<br>1 | N<br>4 | O<br>5 | 0       |

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| Mol | Chain | Residues | Atoms       |         |         |        |        | AltConf |
|-----|-------|----------|-------------|---------|---------|--------|--------|---------|
| 14  | 1     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 1     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 1     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 1     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 1     | 1        | Total<br>45 | C<br>35 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 1     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 1     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 1     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 1     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 1     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 1     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 1     | 1        | Total<br>45 | C<br>35 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 2     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 2     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 2     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 2     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 2     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 2     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 2     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 2     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 2     | 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 |
|-----|-------|----------|-------|----|----|---|---|---------|
| 14  | 2     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 14  | 2     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 14  | 2     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 45    | 35 | 1  | 4 | 5 |         |
| 14  | 2     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 14  | 2     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 14  | 2     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 14  | 2     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 14  | 2     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 14  | 2     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 14  | 2     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 14  | 2     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 45    | 35 | 1  | 4 | 5 |         |
| 14  | 2     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 55    | 45 | 1  | 4 | 5 |         |
| 14  | 2     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 45    | 35 | 1  | 4 | 5 |         |
| 14  | 2     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 14  | 2     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 14  | 2     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 14  | 2     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 14  | 2     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 65    | 55 | 1  | 4 | 5 |         |
| 14  | 2     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 55    | 45 | 1  | 4 | 5 |         |

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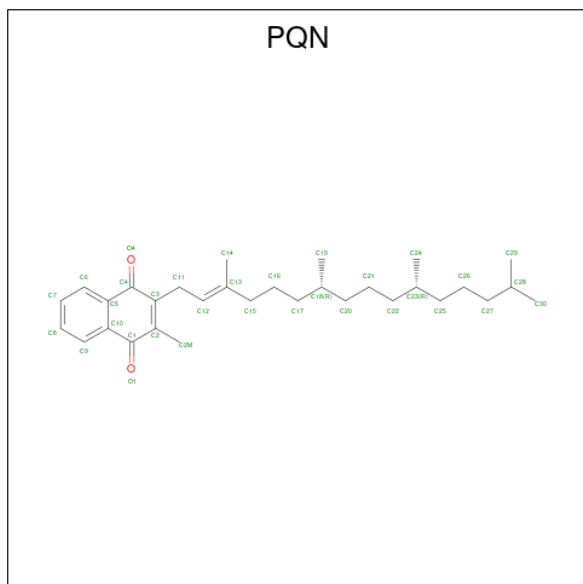
| Mol | Chain | Residues | Atoms       |         |         |        |        | AltConf |
|-----|-------|----------|-------------|---------|---------|--------|--------|---------|
| 14  | 2     | 1        | Total<br>49 | C<br>39 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 2     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 2     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 2     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 2     | 1        | Total<br>50 | C<br>40 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 2     | 1        | Total<br>45 | C<br>35 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 2     | 1        | Total<br>60 | C<br>50 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 2     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 2     | 1        | Total<br>47 | C<br>37 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 2     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 2     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 6     | 1        | Total<br>58 | C<br>48 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 6     | 1        | Total<br>50 | C<br>40 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 8     | 1        | Total<br>45 | C<br>35 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 8     | 1        | Total<br>45 | C<br>35 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 8     | 1        | Total<br>37 | C<br>31 | Mg<br>1 | N<br>4 | O<br>1 | 0       |
| 14  | 9     | 1        | Total<br>46 | C<br>36 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 9     | 1        | Total<br>58 | C<br>48 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 0     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 0     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |
| 14  | 0     | 1        | Total<br>65 | C<br>55 | Mg<br>1 | N<br>4 | O<br>5 | 0       |

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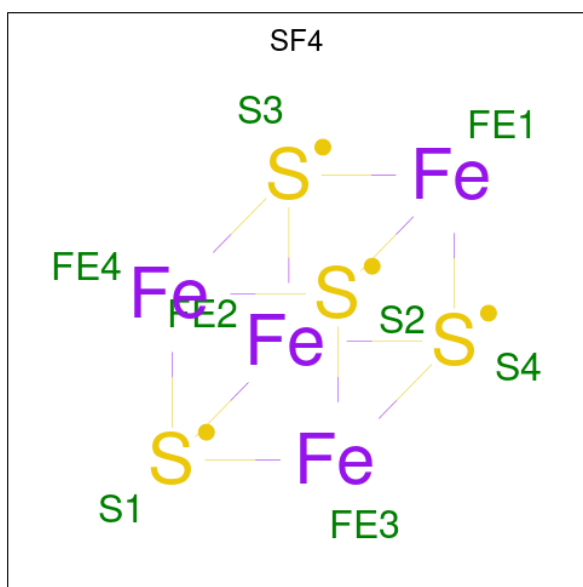
| Mol | Chain | Residues | Atoms |    |    |   |   | AltConf |
|-----|-------|----------|-------|----|----|---|---|---------|
| 14  | z     | 1        | Total | C  | Mg | N | O | 0       |
|     |       |          | 45    | 35 | 1  | 4 | 5 |         |

- Molecule 15 is PHYLLOQUINONE (CCD ID: PQN) (formula:  $C_{31}H_{46}O_2$ ).



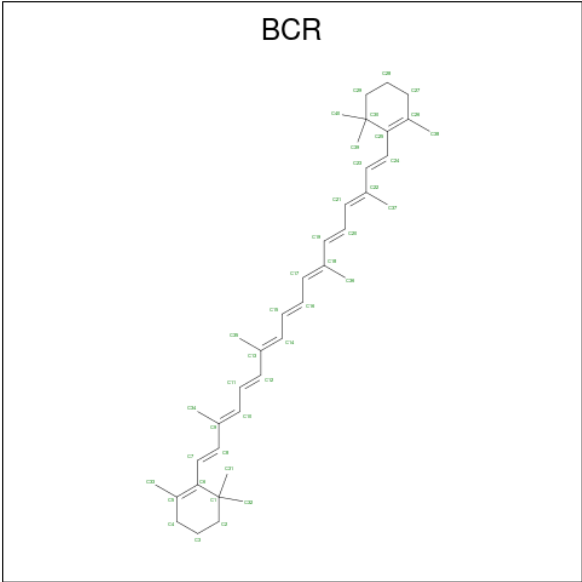
| Mol | Chain | Residues | Atoms |    |   | AltConf |
|-----|-------|----------|-------|----|---|---------|
| 15  | A     | 1        | Total | C  | O | 0       |
|     |       |          | 33    | 31 | 2 |         |
| 15  | B     | 1        | Total | C  | O | 0       |
|     |       |          | 33    | 31 | 2 |         |
| 15  | a     | 1        | Total | C  | O | 0       |
|     |       |          | 33    | 31 | 2 |         |
| 15  | b     | 1        | Total | C  | O | 0       |
|     |       |          | 33    | 31 | 2 |         |
| 15  | 1     | 1        | Total | C  | O | 0       |
|     |       |          | 33    | 31 | 2 |         |
| 15  | 2     | 1        | Total | C  | O | 0       |
|     |       |          | 33    | 31 | 2 |         |

- Molecule 16 is IRON/SULFUR CLUSTER (CCD ID: SF4) (formula:  $Fe_4S_4$ ).



| Mol | Chain | Residues | Atoms |    |   | AltConf |
|-----|-------|----------|-------|----|---|---------|
| 16  | A     | 1        | Total | Fe | S | 0       |
|     |       |          | 8     | 4  | 4 |         |
| 16  | C     | 1        | Total | Fe | S | 0       |
|     |       |          | 8     | 4  | 4 |         |
| 16  | C     | 1        | Total | Fe | S | 0       |
|     |       |          | 8     | 4  | 4 |         |
| 16  | a     | 1        | Total | Fe | S | 0       |
|     |       |          | 8     | 4  | 4 |         |
| 16  | c     | 1        | Total | Fe | S | 0       |
|     |       |          | 8     | 4  | 4 |         |
| 16  | c     | 1        | Total | Fe | S | 0       |
|     |       |          | 8     | 4  | 4 |         |
| 16  | 1     | 1        | Total | Fe | S | 0       |
|     |       |          | 8     | 4  | 4 |         |
| 16  | 3     | 1        | Total | Fe | S | 0       |
|     |       |          | 8     | 4  | 4 |         |
| 16  | 3     | 1        | Total | Fe | S | 0       |
|     |       |          | 8     | 4  | 4 |         |

- Molecule 17 is BETA-CAROTENE (CCD ID: BCR) (formula:  $C_{40}H_{56}$ ).



| Mol | Chain | Residues | Atoms            | AltConf |
|-----|-------|----------|------------------|---------|
| 17  | A     | 1        | Total C<br>40 40 | 0       |
| 17  | A     | 1        | Total C<br>40 40 | 0       |
| 17  | A     | 1        | Total C<br>40 40 | 0       |
| 17  | A     | 1        | Total C<br>40 40 | 0       |
| 17  | A     | 1        | Total C<br>40 40 | 0       |
| 17  | A     | 1        | Total C<br>25 25 | 0       |
| 17  | A     | 1        | Total C<br>40 40 | 0       |
| 17  | B     | 1        | Total C<br>40 40 | 0       |
| 17  | B     | 1        | Total C<br>40 40 | 0       |
| 17  | B     | 1        | Total C<br>40 40 | 0       |
| 17  | B     | 1        | Total C<br>40 40 | 0       |
| 17  | B     | 1        | Total C<br>40 40 | 0       |
| 17  | B     | 1        | Total C<br>40 40 | 0       |
| 17  | B     | 1        | Total C<br>40 40 | 0       |

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| Mol | Chain | Residues | Atoms            | AltConf |
|-----|-------|----------|------------------|---------|
| 17  | F     | 1        | Total C<br>40 40 | 0       |
| 17  | F     | 1        | Total C<br>40 40 | 0       |
| 17  | I     | 1        | Total C<br>40 40 | 0       |
| 17  | J     | 1        | Total C<br>40 40 | 0       |
| 17  | K     | 1        | Total C<br>40 40 | 0       |
| 17  | K     | 1        | Total C<br>25 25 | 0       |
| 17  | L     | 1        | Total C<br>40 40 | 0       |
| 17  | L     | 1        | Total C<br>40 40 | 0       |
| 17  | L     | 1        | Total C<br>40 40 | 0       |
| 17  | M     | 1        | Total C<br>40 40 | 0       |
| 17  | a     | 1        | Total C<br>40 40 | 0       |
| 17  | a     | 1        | Total C<br>40 40 | 0       |
| 17  | a     | 1        | Total C<br>40 40 | 0       |
| 17  | a     | 1        | Total C<br>40 40 | 0       |
| 17  | a     | 1        | Total C<br>40 40 | 0       |
| 17  | a     | 1        | Total C<br>25 25 | 0       |
| 17  | b     | 1        | Total C<br>40 40 | 0       |
| 17  | b     | 1        | Total C<br>40 40 | 0       |
| 17  | b     | 1        | Total C<br>40 40 | 0       |
| 17  | b     | 1        | Total C<br>40 40 | 0       |
| 17  | b     | 1        | Total C<br>40 40 | 0       |

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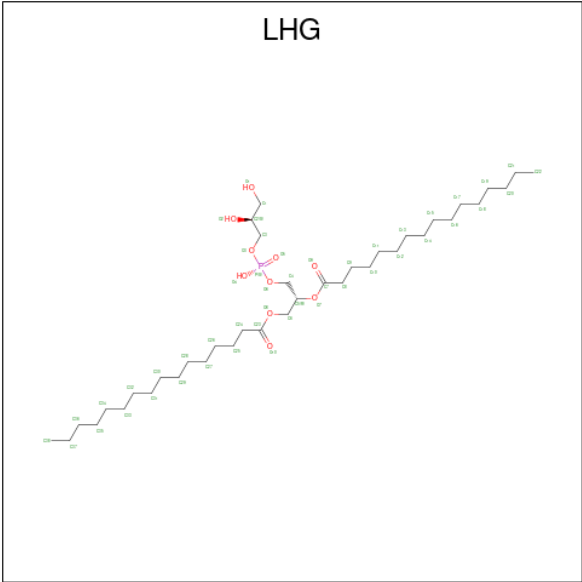
| Mol | Chain | Residues | Atoms            | AltConf |
|-----|-------|----------|------------------|---------|
| 17  | b     | 1        | Total C<br>40 40 | 0       |
| 17  | b     | 1        | Total C<br>40 40 | 0       |
| 17  | f     | 1        | Total C<br>40 40 | 0       |
| 17  | f     | 1        | Total C<br>40 40 | 0       |
| 17  | i     | 1        | Total C<br>40 40 | 0       |
| 17  | j     | 1        | Total C<br>40 40 | 0       |
| 17  | j     | 1        | Total C<br>40 40 | 0       |
| 17  | k     | 1        | Total C<br>40 40 | 0       |
| 17  | k     | 1        | Total C<br>25 25 | 0       |
| 17  | l     | 1        | Total C<br>40 40 | 0       |
| 17  | l     | 1        | Total C<br>40 40 | 0       |
| 17  | m     | 1        | Total C<br>40 40 | 0       |
| 17  | 1     | 1        | Total C<br>40 40 | 0       |
| 17  | 1     | 1        | Total C<br>40 40 | 0       |
| 17  | 1     | 1        | Total C<br>40 40 | 0       |
| 17  | 1     | 1        | Total C<br>40 40 | 0       |
| 17  | 1     | 1        | Total C<br>40 40 | 0       |
| 17  | 1     | 1        | Total C<br>25 25 | 0       |
| 17  | 2     | 1        | Total C<br>40 40 | 0       |
| 17  | 2     | 1        | Total C<br>40 40 | 0       |
| 17  | 2     | 1        | Total C<br>40 40 | 0       |

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| Mol | Chain | Residues | Atoms            | AltConf |
|-----|-------|----------|------------------|---------|
| 17  | 2     | 1        | Total C<br>40 40 | 0       |
| 17  | 2     | 1        | Total C<br>40 40 | 0       |
| 17  | 2     | 1        | Total C<br>40 40 | 0       |
| 17  | 6     | 1        | Total C<br>40 40 | 0       |
| 17  | 6     | 1        | Total C<br>40 40 | 0       |
| 17  | 7     | 1        | Total C<br>40 40 | 0       |
| 17  | 8     | 1        | Total C<br>40 40 | 0       |
| 17  | 8     | 1        | Total C<br>40 40 | 0       |
| 17  | 8     | 1        | Total C<br>40 40 | 0       |
| 17  | 9     | 1        | Total C<br>40 40 | 0       |
| 17  | 9     | 1        | Total C<br>25 25 | 0       |
| 17  | 0     | 1        | Total C<br>40 40 | 0       |
| 17  | 0     | 1        | Total C<br>40 40 | 0       |
| 17  | 0     | 1        | Total C<br>40 40 | 0       |
| 17  | 0     | 1        | Total C<br>40 40 | 0       |
| 17  | y     | 1        | Total C<br>40 40 | 0       |

- Molecule 18 is 1,2-DIPALMITOYL-PHOSPHATIDYL-GLYCEROLE (CCD ID: LHG) (formula: C<sub>38</sub>H<sub>75</sub>O<sub>10</sub>P).



| Mol | Chain | Residues | Atoms |    |    |   | AltConf |
|-----|-------|----------|-------|----|----|---|---------|
| 18  | A     | 1        | Total | C  | O  | P | 0       |
|     |       |          | 49    | 38 | 10 | 1 |         |
| 18  | A     | 1        | Total | C  | O  | P | 0       |
|     |       |          | 41    | 30 | 10 | 1 |         |
| 18  | B     | 1        | Total | C  | O  | P | 0       |
|     |       |          | 49    | 38 | 10 | 1 |         |
| 18  | L     | 1        | Total | C  | O  | P | 0       |
|     |       |          | 39    | 28 | 10 | 1 |         |
| 18  | M     | 1        | Total | C  | O  | P | 0       |
|     |       |          | 49    | 38 | 10 | 1 |         |
| 18  | a     | 1        | Total | C  | O  | P | 0       |
|     |       |          | 49    | 38 | 10 | 1 |         |
| 18  | a     | 1        | Total | C  | O  | P | 0       |
|     |       |          | 41    | 30 | 10 | 1 |         |
| 18  | b     | 1        | Total | C  | O  | P | 0       |
|     |       |          | 49    | 38 | 10 | 1 |         |
| 18  | l     | 1        | Total | C  | O  | P | 0       |
|     |       |          | 39    | 28 | 10 | 1 |         |
| 18  | m     | 1        | Total | C  | O  | P | 0       |
|     |       |          | 49    | 38 | 10 | 1 |         |
| 18  | 1     | 1        | Total | C  | O  | P | 0       |
|     |       |          | 49    | 38 | 10 | 1 |         |
| 18  | 1     | 1        | Total | C  | O  | P | 0       |
|     |       |          | 41    | 30 | 10 | 1 |         |
| 18  | 0     | 1        | Total | C  | O  | P | 0       |
|     |       |          | 39    | 28 | 10 | 1 |         |
| 18  | y     | 1        | Total | C  | O  | P | 0       |
|     |       |          | 49    | 38 | 10 | 1 |         |

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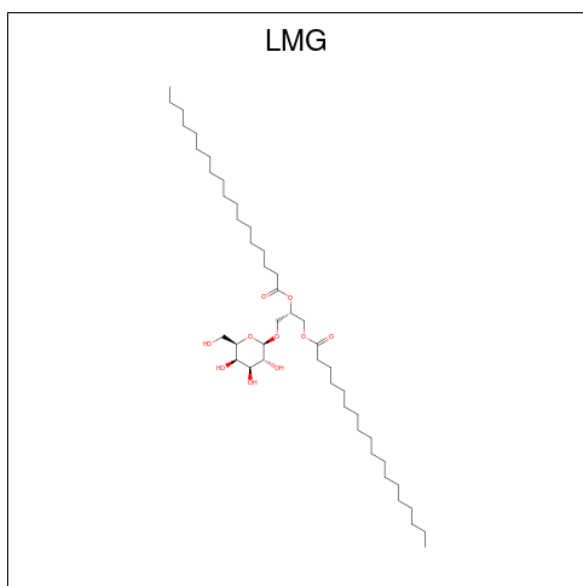
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| Mol | Chain | Residues | Atoms |    |    |   | AltConf |
|-----|-------|----------|-------|----|----|---|---------|
| 18  | z     | 1        | Total | C  | O  | P | 0       |
|     |       |          | 49    | 38 | 10 | 1 |         |

- Molecule 19 is CALCIUM ION (CCD ID: CA) (formula: Ca).

| Mol | Chain | Residues | Atoms |    | AltConf |
|-----|-------|----------|-------|----|---------|
| 19  | B     | 1        | Total | Ca | 0       |
|     |       |          | 1     | 1  |         |
| 19  | L     | 1        | Total | Ca | 0       |
|     |       |          | 1     | 1  |         |
| 19  | b     | 1        | Total | Ca | 0       |
|     |       |          | 1     | 1  |         |
| 19  | 1     | 1        | Total | Ca | 0       |
|     |       |          | 1     | 1  |         |
| 19  | 2     | 1        | Total | Ca | 0       |
|     |       |          | 1     | 1  |         |
| 19  | 0     | 1        | Total | Ca | 0       |
|     |       |          | 1     | 1  |         |

- Molecule 20 is 1,2-DISTEAROYL-MONOGALACTOSYL-DIGLYCERIDE (CCD ID: LMG) (formula: C<sub>45</sub>H<sub>86</sub>O<sub>10</sub>).



| Mol | Chain | Residues | Atoms |    |    | AltConf |
|-----|-------|----------|-------|----|----|---------|
| 20  | B     | 1        | Total | C  | O  | 0       |
|     |       |          | 55    | 45 | 10 |         |
| 20  | b     | 1        | Total | C  | O  | 0       |
|     |       |          | 55    | 45 | 10 |         |

*Continued on next page...*

*Continued from previous page...*

| Mol | Chain | Residues | Atoms |    |    | AltConf |
|-----|-------|----------|-------|----|----|---------|
| 20  | 2     | 1        | Total | C  | O  | 0       |
|     |       |          | 55    | 45 | 10 |         |

- Molecule 21 is water.

| Mol | Chain | Residues | Atoms |   | AltConf |
|-----|-------|----------|-------|---|---------|
| 21  | A     | 5        | Total | O | 0       |
|     |       |          | 5     | 5 |         |
| 21  | B     | 8        | Total | O | 0       |
|     |       |          | 8     | 8 |         |
| 21  | F     | 1        | Total | O | 0       |
|     |       |          | 1     | 1 |         |
| 21  | J     | 1        | Total | O | 0       |
|     |       |          | 1     | 1 |         |
| 21  | K     | 1        | Total | O | 0       |
|     |       |          | 1     | 1 |         |
| 21  | L     | 1        | Total | O | 0       |
|     |       |          | 1     | 1 |         |
| 21  | a     | 5        | Total | O | 0       |
|     |       |          | 5     | 5 |         |
| 21  | b     | 8        | Total | O | 0       |
|     |       |          | 8     | 8 |         |
| 21  | f     | 1        | Total | O | 0       |
|     |       |          | 1     | 1 |         |
| 21  | j     | 1        | Total | O | 0       |
|     |       |          | 1     | 1 |         |
| 21  | k     | 1        | Total | O | 0       |
|     |       |          | 1     | 1 |         |
| 21  | l     | 1        | Total | O | 0       |
|     |       |          | 1     | 1 |         |
| 21  | 1     | 5        | Total | O | 0       |
|     |       |          | 5     | 5 |         |
| 21  | 2     | 8        | Total | O | 0       |
|     |       |          | 8     | 8 |         |
| 21  | 6     | 1        | Total | O | 0       |
|     |       |          | 1     | 1 |         |
| 21  | 8     | 1        | Total | O | 0       |
|     |       |          | 1     | 1 |         |
| 21  | 9     | 1        | Total | O | 0       |
|     |       |          | 1     | 1 |         |
| 21  | 0     | 1        | Total | O | 0       |
|     |       |          | 1     | 1 |         |

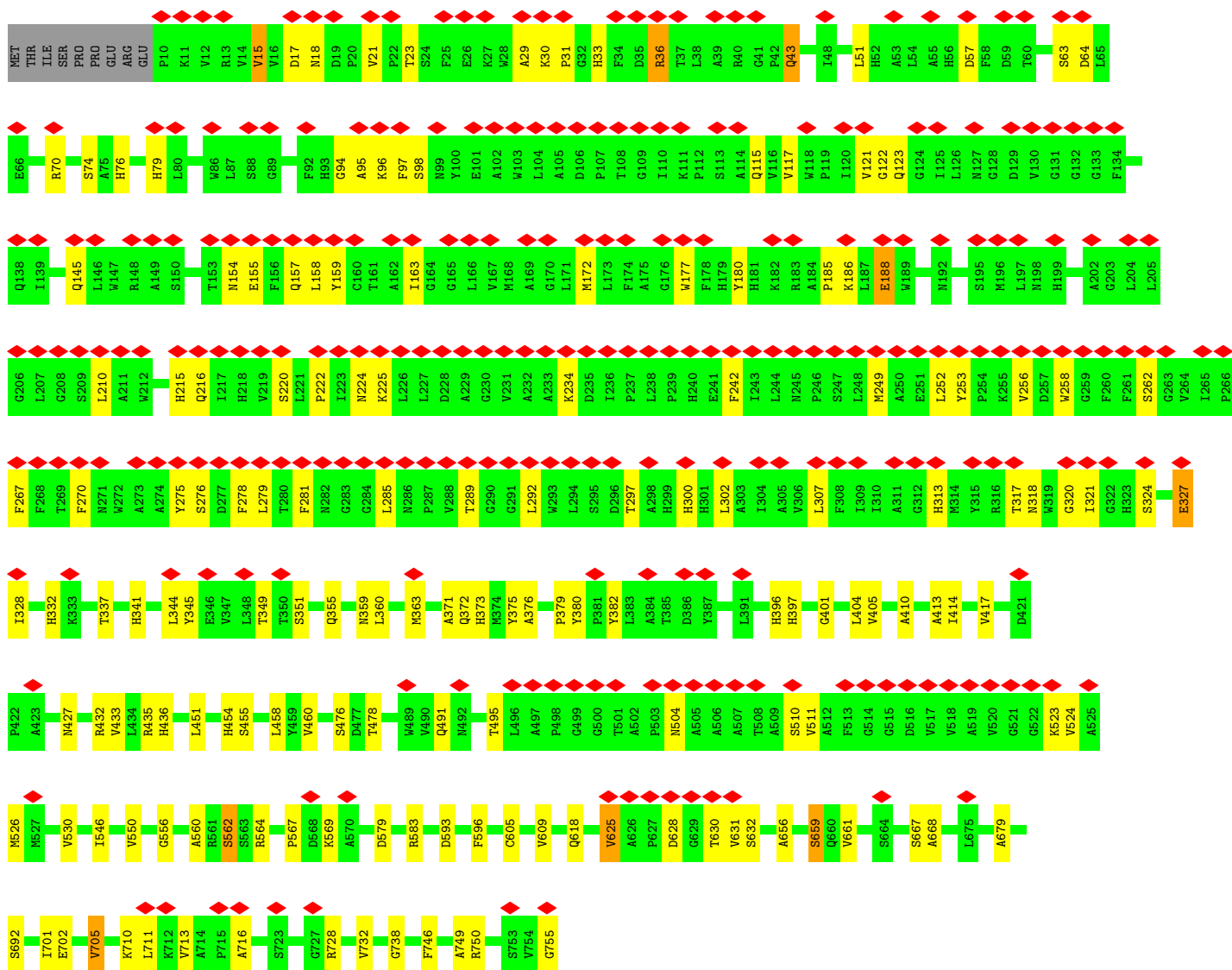
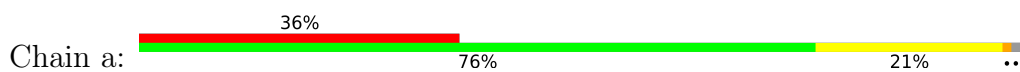
### 3 Residue-property plots

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.

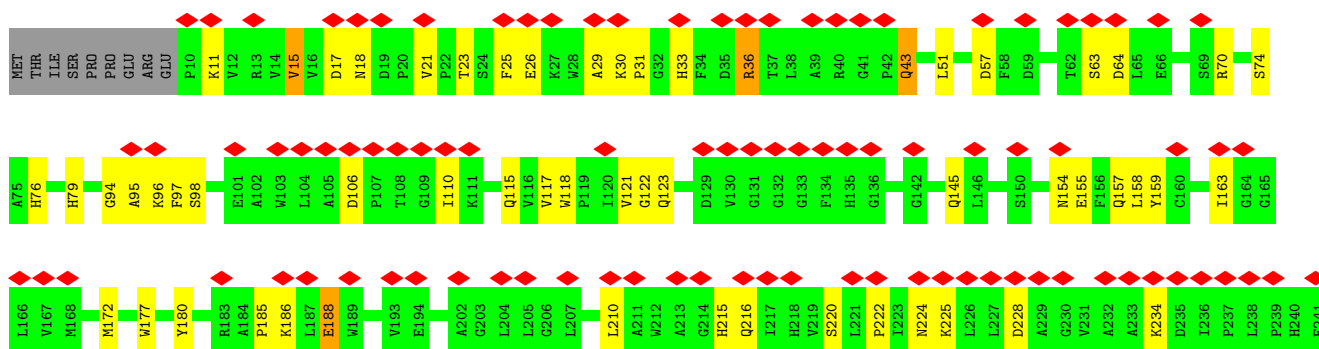
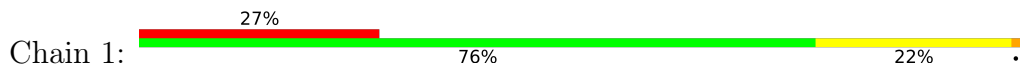
- Molecule 1: Photosystem I P700 chlorophyll a apoprotein A1

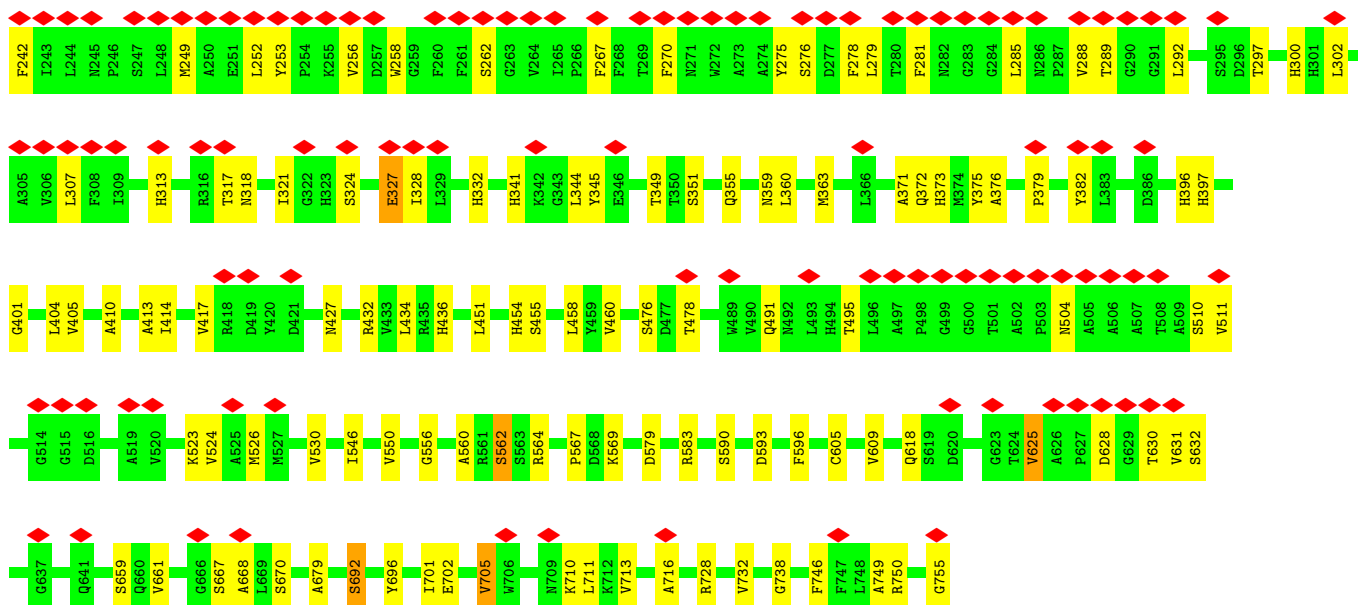


- Molecule 1: Photosystem I P700 chlorophyll a apoprotein A1

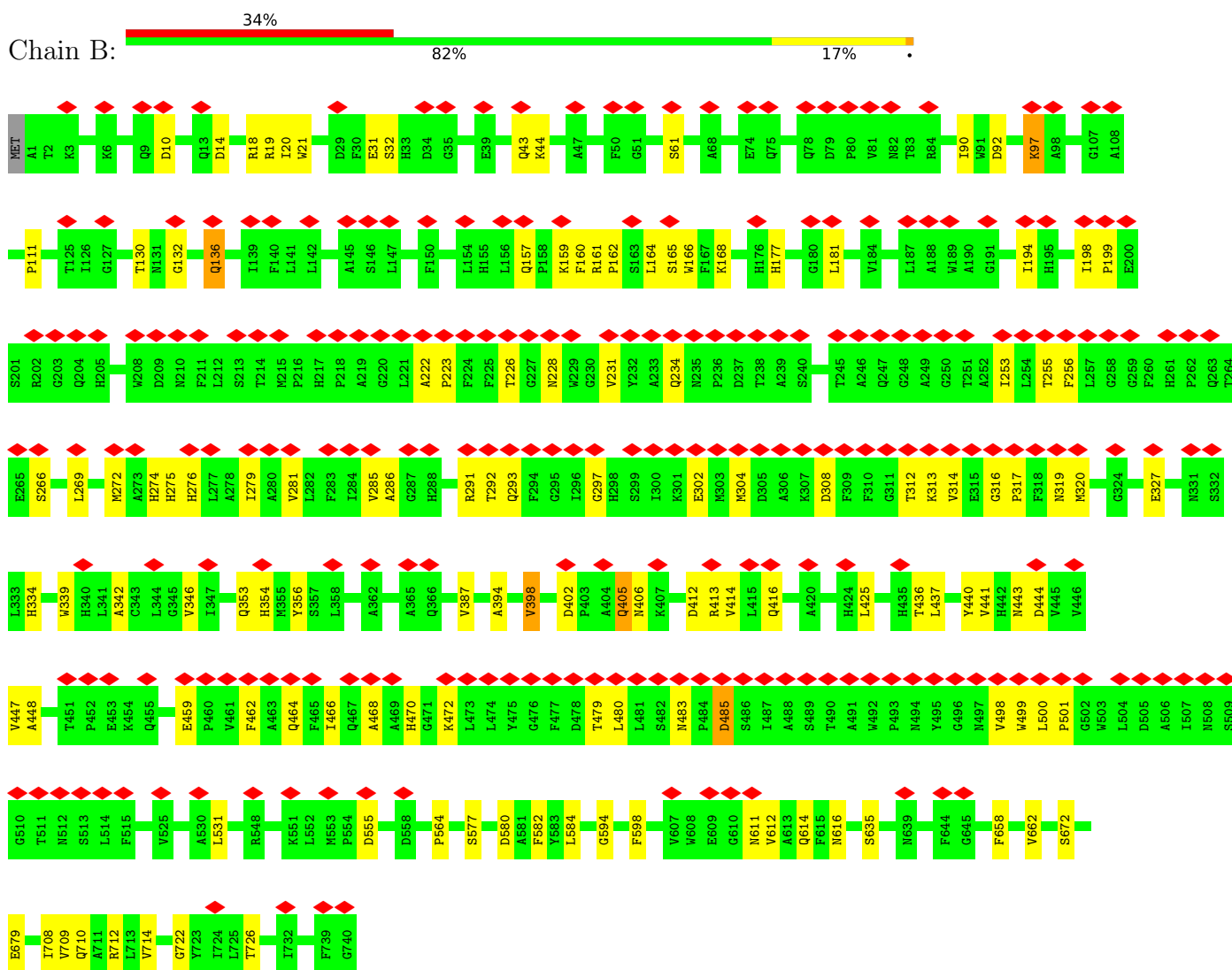


• Molecule 1: Photosystem I P700 chlorophyll a apoprotein A1

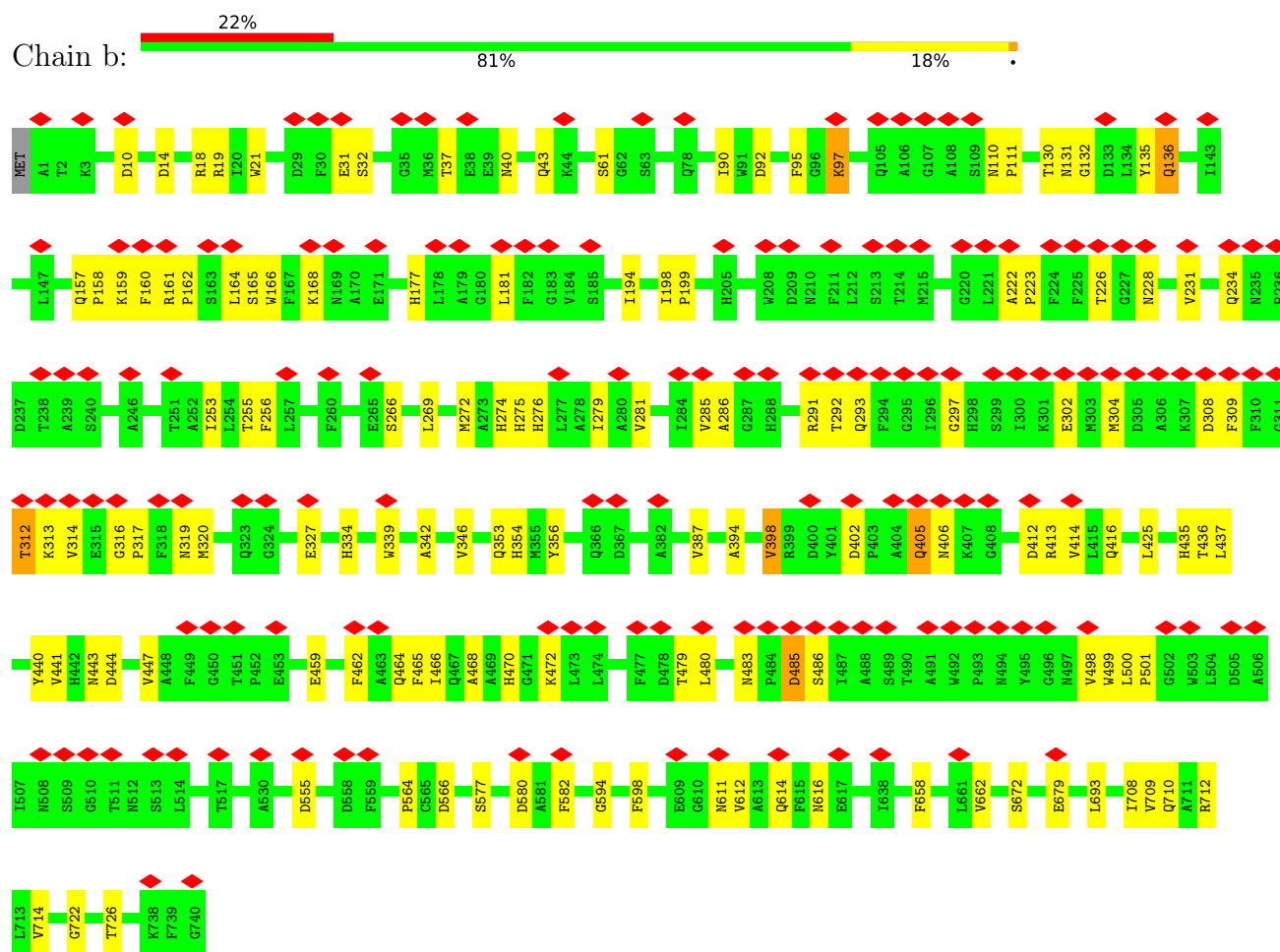




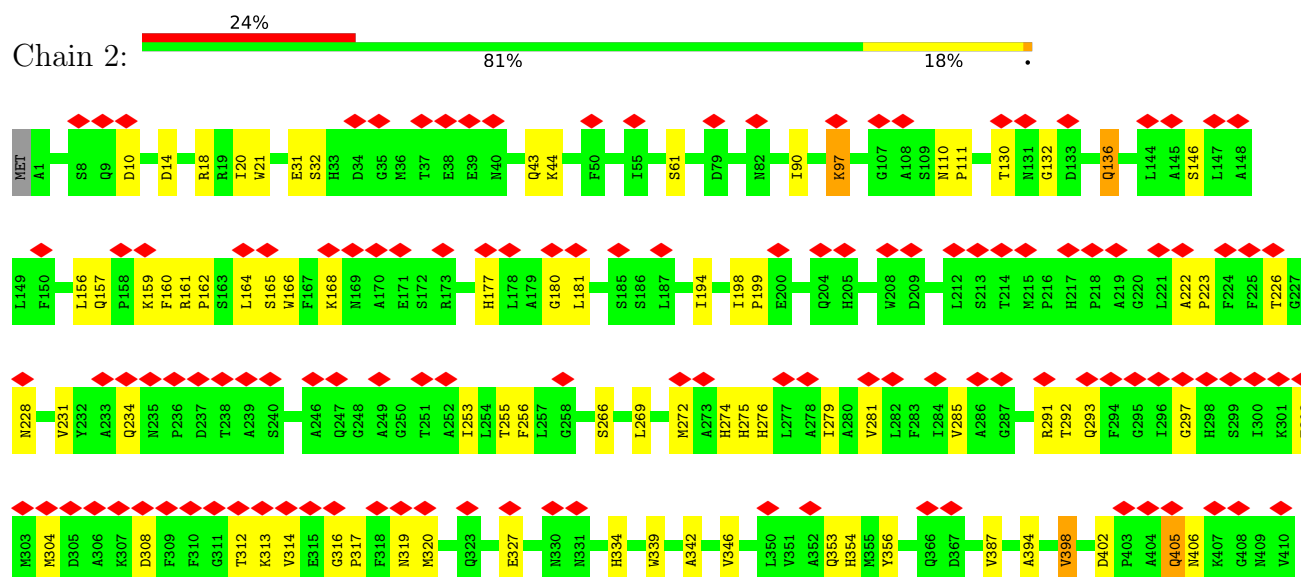
• Molecule 2: Photosystem I P700 chlorophyll a apoprotein A2

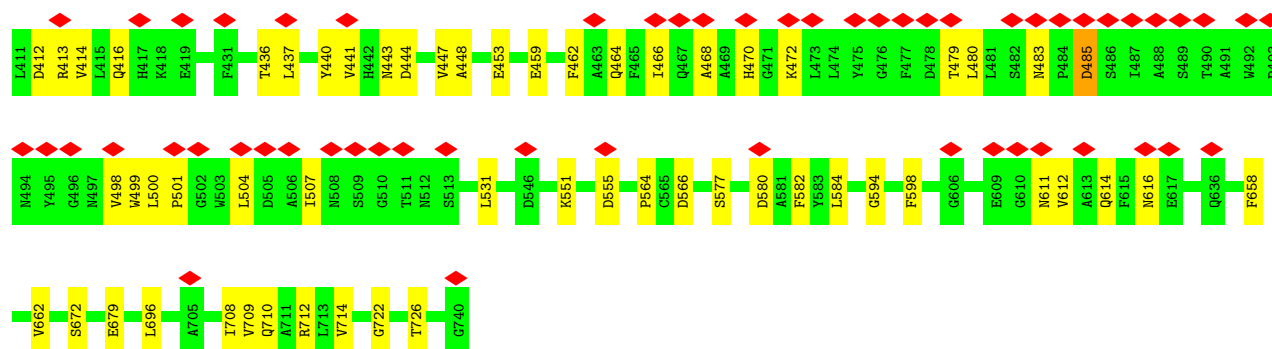


- Molecule 2: Photosystem I P700 chlorophyll a apoprotein A2

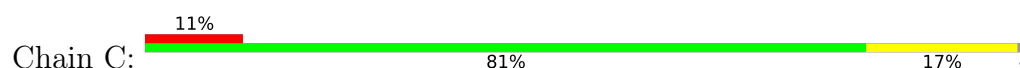


- Molecule 2: Photosystem I P700 chlorophyll a apoprotein A2

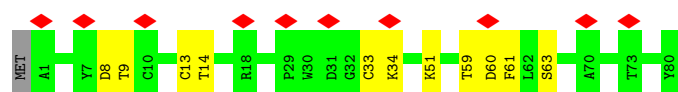
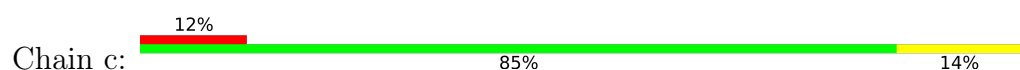




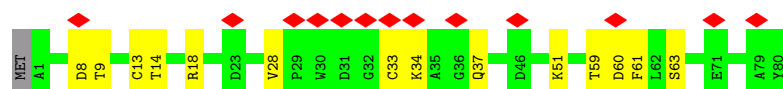
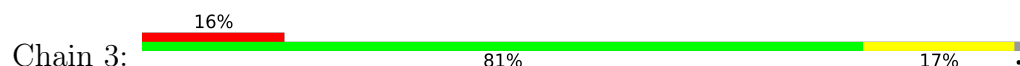
• Molecule 3: Photosystem I iron-sulfur center



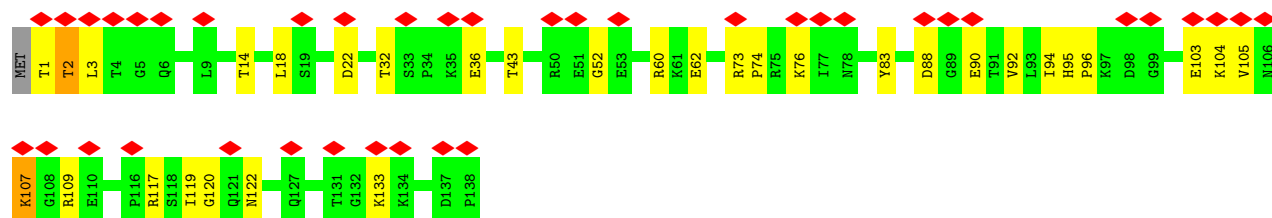
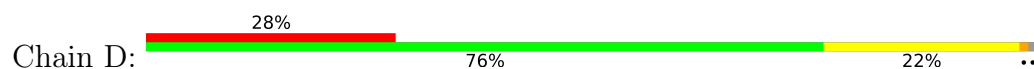
• Molecule 3: Photosystem I iron-sulfur center



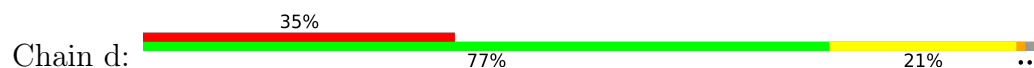
• Molecule 3: Photosystem I iron-sulfur center

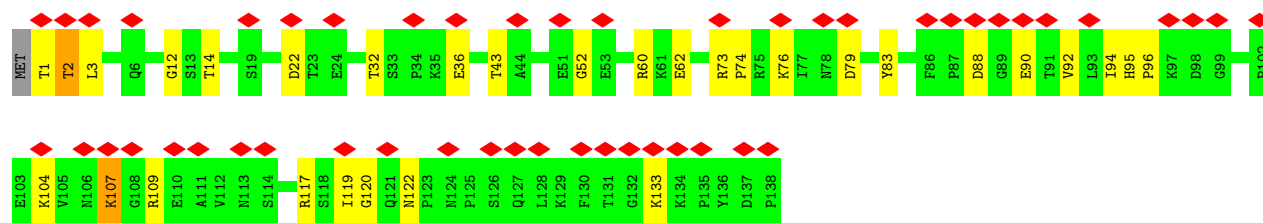


• Molecule 4: Photosystem I reaction center subunit II

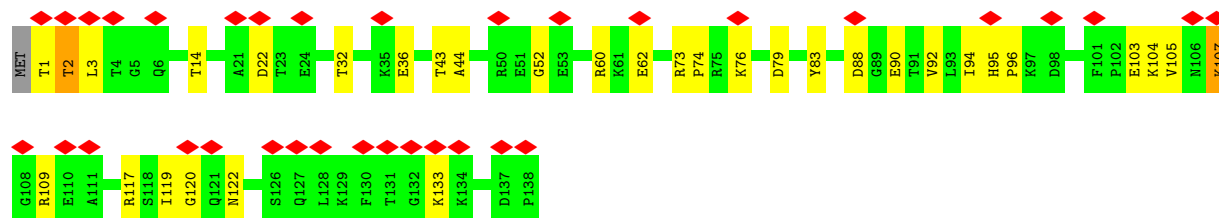
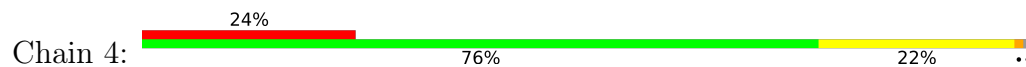


• Molecule 4: Photosystem I reaction center subunit II

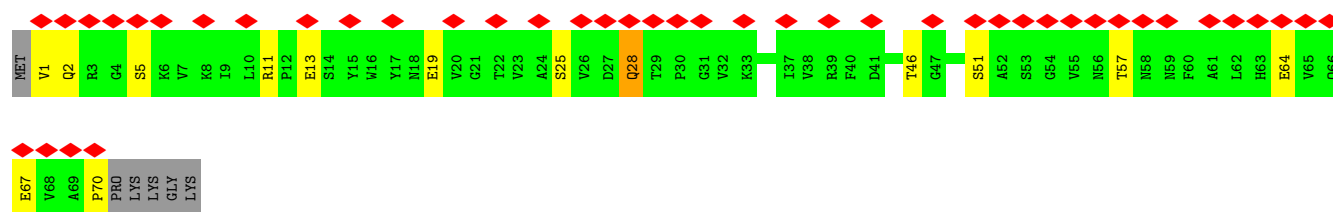
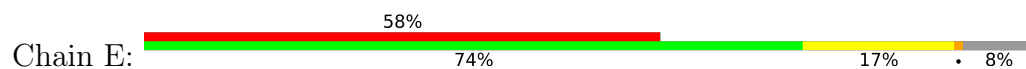




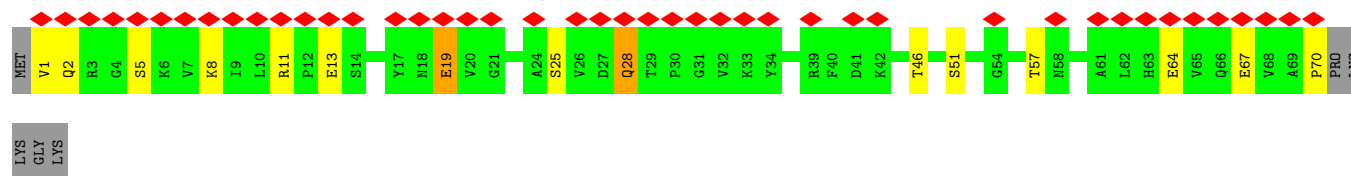
• Molecule 4: Photosystem I reaction center subunit II



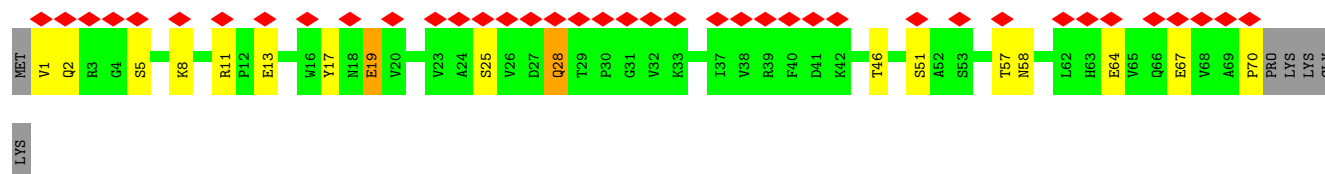
• Molecule 5: Photosystem I reaction center subunit IV



• Molecule 5: Photosystem I reaction center subunit IV

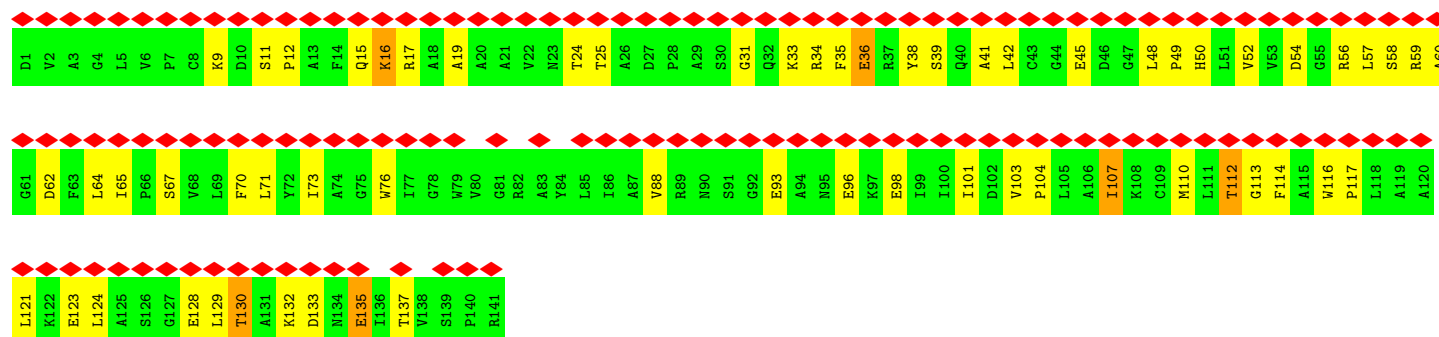


• Molecule 5: Photosystem I reaction center subunit IV

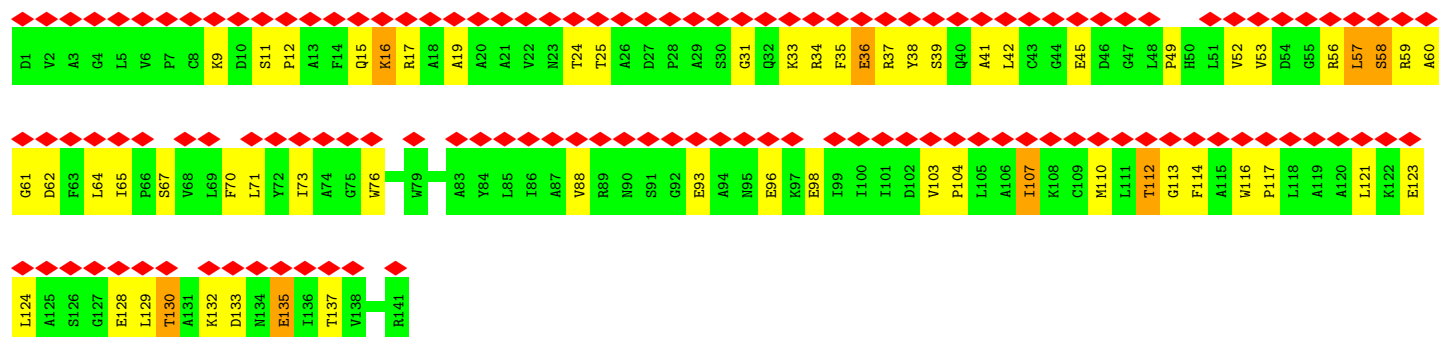
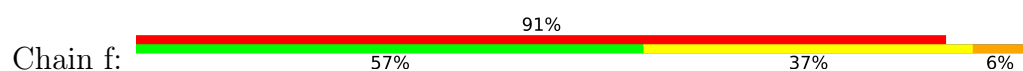


• Molecule 6: Photosystem I reaction center subunit III

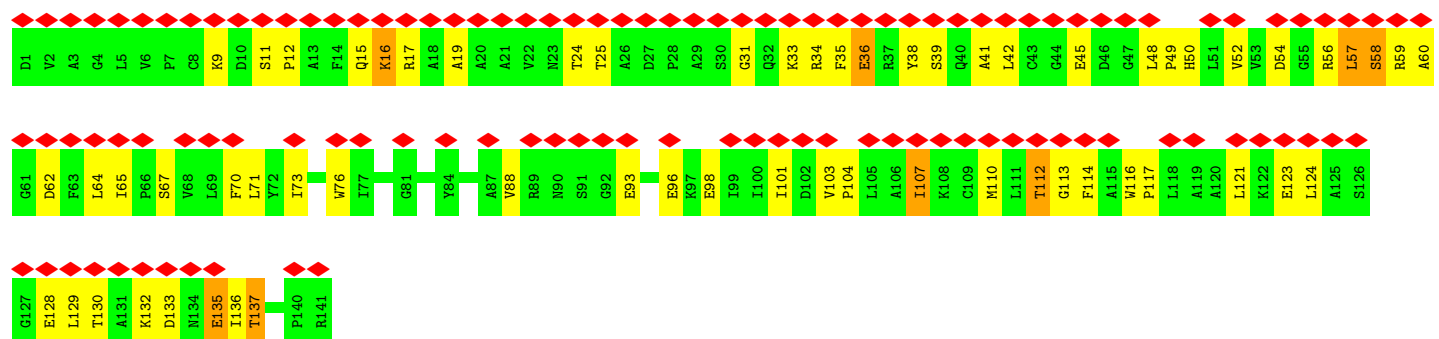
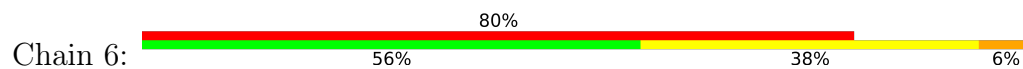




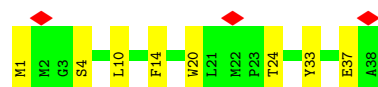
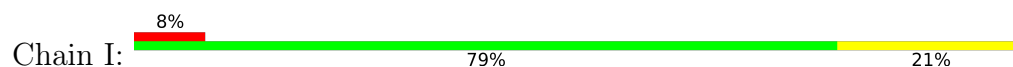
• Molecule 6: Photosystem I reaction center subunit III



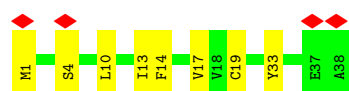
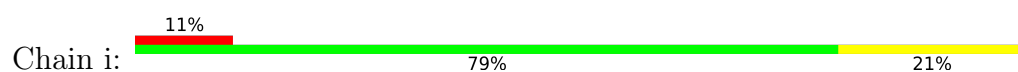
• Molecule 6: Photosystem I reaction center subunit III



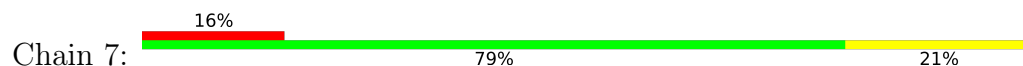
• Molecule 7: Photosystem I reaction center subunit VIII



• Molecule 7: Photosystem I reaction center subunit VIII



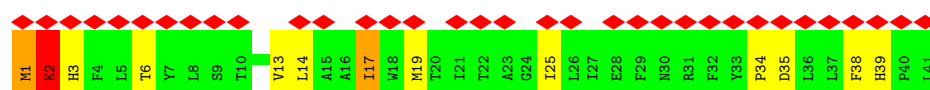
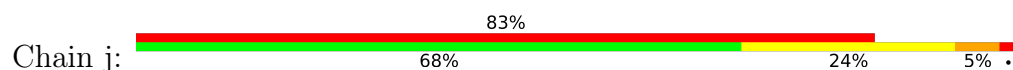
• Molecule 7: Photosystem I reaction center subunit VIII



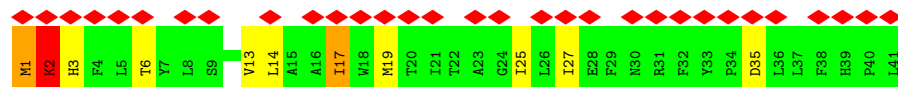
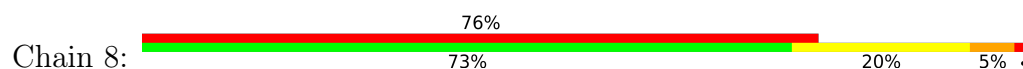
• Molecule 8: Photosystem I reaction center subunit IX



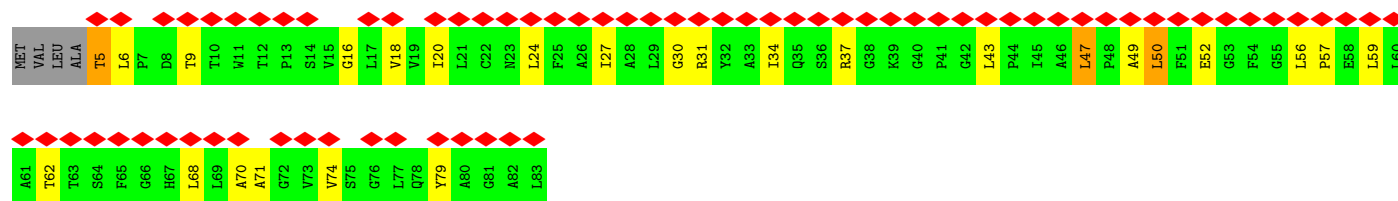
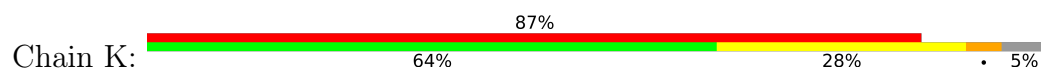
• Molecule 8: Photosystem I reaction center subunit IX



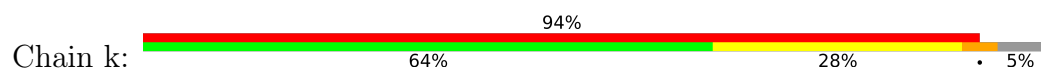
• Molecule 8: Photosystem I reaction center subunit IX



• Molecule 9: Photosystem I reaction center subunit PsaK

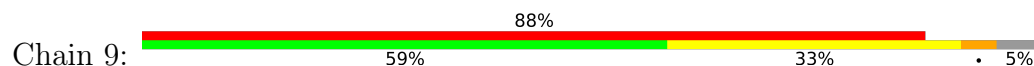


• Molecule 9: Photosystem I reaction center subunit PsaK

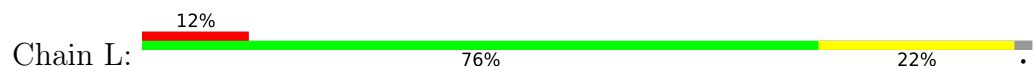




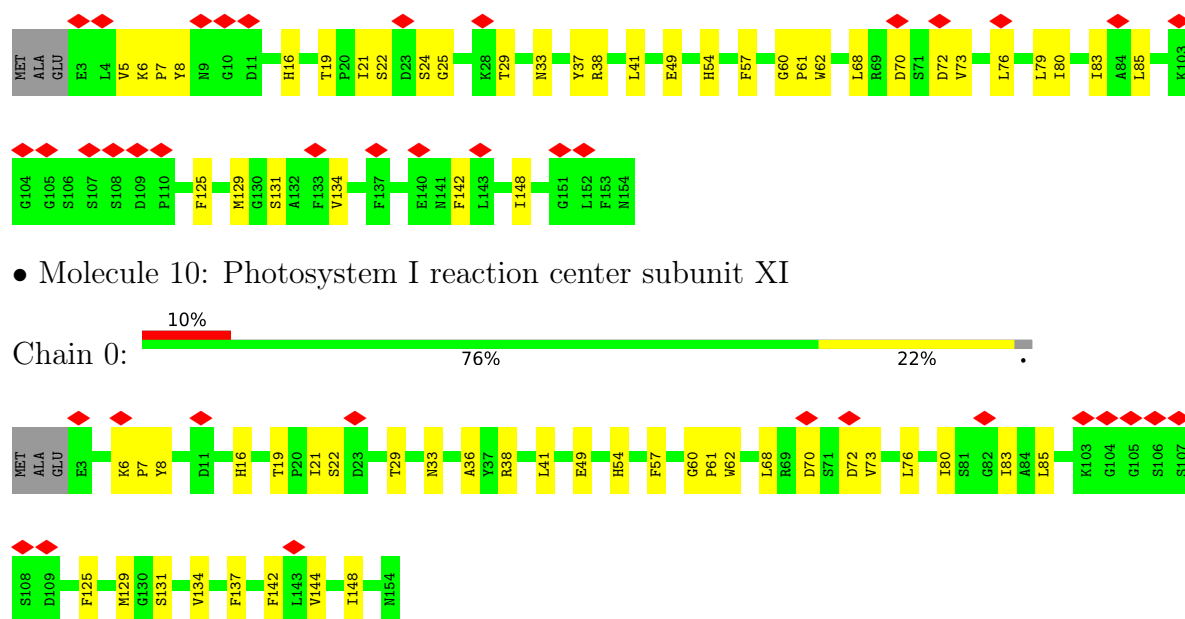
• Molecule 9: Photosystem I reaction center subunit Psak



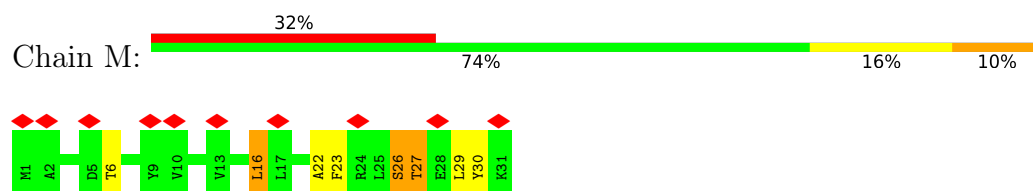
• Molecule 10: Photosystem I reaction center subunit XI



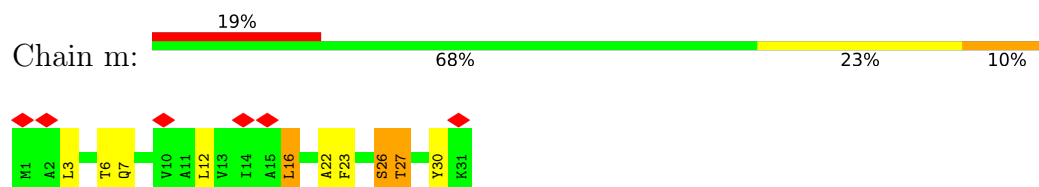
• Molecule 10: Photosystem I reaction center subunit XI



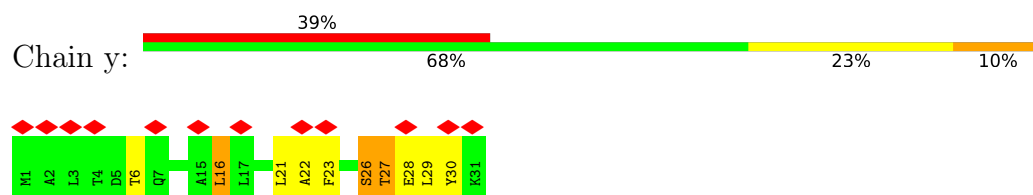
- Molecule 11: Photosystem I reaction center subunit XII



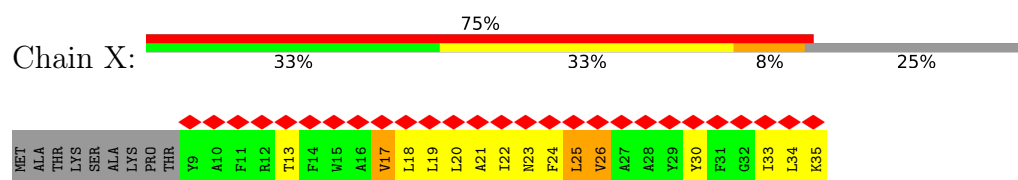
- Molecule 11: Photosystem I reaction center subunit XII



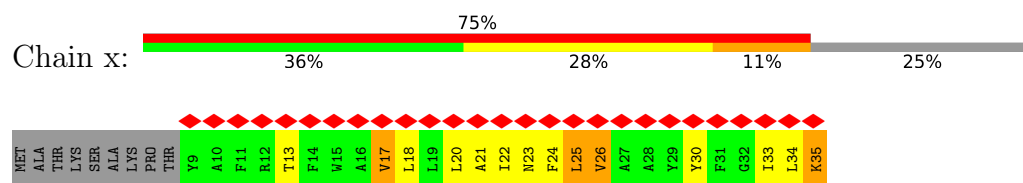
- Molecule 11: Photosystem I reaction center subunit XII



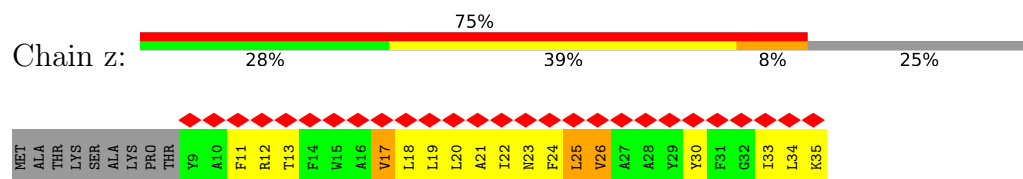
- Molecule 12: Photosystem I 4.8K protein



- Molecule 12: Photosystem I 4.8K protein



- Molecule 12: Photosystem I 4.8K protein



## 4 Experimental information

| Property                             | Value                                                                                                                                                | Source    |
|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| EM reconstruction method             | SINGLE PARTICLE                                                                                                                                      | Depositor |
| Imposed symmetry                     | POINT, C1                                                                                                                                            | Depositor |
| Number of particles used             | 175999                                                                                                                                               | Depositor |
| Resolution determination method      | FSC 0.143 CUT-OFF                                                                                                                                    | Depositor |
| CTF correction method                | PHASE FLIPPING AND AMPLITUDE CORRECTION; CTFFIND4 was used to estimate contrast transfer function parameters. CTF correction was done in Relion 3.0. | Depositor |
| Microscope                           | FEI POLARA 300                                                                                                                                       | Depositor |
| Voltage (kV)                         | 300                                                                                                                                                  | Depositor |
| Electron dose ( $e^-/\text{\AA}^2$ ) | 32                                                                                                                                                   | Depositor |
| Minimum defocus (nm)                 | Not provided                                                                                                                                         |           |
| Maximum defocus (nm)                 | Not provided                                                                                                                                         |           |
| Magnification                        | Not provided                                                                                                                                         |           |
| Image detector                       | GATAN K2 SUMMIT (4k x 4k)                                                                                                                            | Depositor |
| Maximum map value                    | 0.066                                                                                                                                                | Depositor |
| Minimum map value                    | -0.067                                                                                                                                               | Depositor |
| Average map value                    | 0.000                                                                                                                                                | Depositor |
| Map value standard deviation         | 0.002                                                                                                                                                | Depositor |
| Recommended contour level            | 0.011                                                                                                                                                | Depositor |
| Map size ( $\text{\AA}$ )            | 351.68002, 351.68002, 351.68002                                                                                                                      | wwPDB     |
| Map dimensions                       | 560, 560, 560                                                                                                                                        | wwPDB     |
| Map angles ( $^\circ$ )              | 90.0, 90.0, 90.0                                                                                                                                     | wwPDB     |
| Pixel spacing ( $\text{\AA}$ )       | 0.628, 0.628, 0.628                                                                                                                                  | Depositor |

## 5 Model quality ⓘ

### 5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: LHG, PQN, CLA, LMG, CA, CL0, BCR, SF4, FME

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     | 0.37         | 0/6027      | 0.48        | 2/8220 (0.0%) |
| 1   | A     | 0.37         | 0/6027      | 0.48        | 2/8220 (0.0%) |
| 1   | a     | 0.37         | 0/6027      | 0.48        | 2/8220 (0.0%) |
| 2   | 2     | 0.37         | 0/6112      | 0.44        | 1/8350 (0.0%) |
| 2   | B     | 0.37         | 0/6112      | 0.44        | 1/8350 (0.0%) |
| 2   | b     | 0.37         | 0/6112      | 0.44        | 1/8350 (0.0%) |
| 3   | 3     | 0.36         | 0/608       | 0.41        | 0/824         |
| 3   | C     | 0.36         | 0/608       | 0.41        | 0/824         |
| 3   | c     | 0.36         | 0/608       | 0.41        | 0/824         |
| 4   | 4     | 0.36         | 0/1101      | 0.60        | 2/1492 (0.1%) |
| 4   | D     | 0.36         | 0/1101      | 0.60        | 2/1492 (0.1%) |
| 4   | d     | 0.36         | 0/1101      | 0.60        | 2/1492 (0.1%) |
| 5   | 5     | 0.29         | 0/559       | 0.56        | 1/762 (0.1%)  |
| 5   | E     | 0.29         | 0/559       | 0.56        | 1/762 (0.1%)  |
| 5   | e     | 0.29         | 0/559       | 0.56        | 1/762 (0.1%)  |
| 6   | 6     | 0.37         | 0/1087      | 0.89        | 5/1476 (0.3%) |
| 6   | F     | 0.37         | 0/1087      | 0.88        | 5/1476 (0.3%) |
| 6   | f     | 0.37         | 0/1087      | 0.88        | 5/1476 (0.3%) |
| 7   | 7     | 0.41         | 0/304       | 0.50        | 0/415         |
| 7   | I     | 0.41         | 0/304       | 0.50        | 0/415         |
| 7   | i     | 0.41         | 0/304       | 0.50        | 0/415         |
| 8   | 8     | 0.30         | 0/342       | 0.55        | 0/467         |
| 8   | J     | 0.31         | 0/342       | 0.55        | 0/467         |
| 8   | j     | 0.30         | 0/342       | 0.55        | 0/467         |
| 9   | 9     | 0.28         | 0/585       | 0.68        | 1/800 (0.1%)  |
| 9   | K     | 0.28         | 0/585       | 0.68        | 1/800 (0.1%)  |
| 9   | k     | 0.28         | 0/585       | 0.68        | 1/800 (0.1%)  |
| 10  | 0     | 0.43         | 0/1153      | 0.43        | 0/1565        |
| 10  | L     | 0.43         | 0/1153      | 0.43        | 0/1565        |
| 10  | l     | 0.43         | 0/1153      | 0.43        | 0/1565        |
| 11  | M     | 0.36         | 0/244       | 0.41        | 0/332         |
| 11  | m     | 0.36         | 0/244       | 0.41        | 0/332         |

| Mol | Chain | Bond lengths |         | Bond angles |                 |
|-----|-------|--------------|---------|-------------|-----------------|
|     |       | RMSZ         | # Z  >5 | RMSZ        | # Z  >5         |
| 11  | y     | 0.36         | 0/244   | 0.41        | 0/332           |
| 12  | X     | 0.39         | 0/236   | 1.29        | 6/321 (1.9%)    |
| 12  | x     | 0.38         | 0/236   | 1.29        | 6/321 (1.9%)    |
| 12  | z     | 0.38         | 0/236   | 1.29        | 6/321 (1.9%)    |
| All | All   | 0.37         | 0/55074 | 0.53        | 54/75072 (0.1%) |

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 |
|-----|-------|---------------------|---------------------|
| 9   | 9     | 0                   | 1                   |
| 9   | K     | 0                   | 1                   |
| 9   | k     | 0                   | 1                   |
| All | All   | 0                   | 3                   |

There are no bond length outliers.

The worst 5 of 54 bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms    | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|----------|-------|-------------|----------|
| 12  | z     | 25  | LEU  | CA-CB-CG | 11.29 | 155.81      | 116.30   |
| 12  | X     | 25  | LEU  | CA-CB-CG | 11.28 | 155.79      | 116.30   |
| 12  | x     | 25  | LEU  | CA-CB-CG | 11.28 | 155.77      | 116.30   |
| 6   | f     | 121 | LEU  | CA-CB-CG | 10.78 | 154.04      | 116.30   |
| 6   | F     | 121 | LEU  | CA-CB-CG | 10.78 | 154.03      | 116.30   |

There are no chirality outliers.

All (3) planarity outliers are listed below:

| Mol | Chain | Res | Type | Group   |
|-----|-------|-----|------|---------|
| 9   | 9     | 47  | LEU  | Peptide |
| 9   | K     | 47  | LEU  | Peptide |
| 9   | k     | 47  | LEU  | 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     | 5826  | 0        | 5692     | 121     | 0            |
| 1   | A     | 5826  | 0        | 5692     | 120     | 0            |
| 1   | a     | 5826  | 0        | 5692     | 114     | 0            |
| 2   | 2     | 5894  | 0        | 5653     | 100     | 0            |
| 2   | B     | 5894  | 0        | 5653     | 92      | 0            |
| 2   | b     | 5894  | 0        | 5653     | 102     | 0            |
| 3   | 3     | 598   | 0        | 580      | 15      | 0            |
| 3   | C     | 598   | 0        | 580      | 13      | 0            |
| 3   | c     | 598   | 0        | 580      | 8       | 0            |
| 4   | 4     | 1075  | 0        | 1077     | 27      | 0            |
| 4   | D     | 1075  | 0        | 1077     | 24      | 0            |
| 4   | d     | 1075  | 0        | 1077     | 21      | 0            |
| 5   | 5     | 546   | 0        | 535      | 11      | 0            |
| 5   | E     | 546   | 0        | 535      | 6       | 0            |
| 5   | e     | 546   | 0        | 535      | 5       | 0            |
| 6   | 6     | 1065  | 0        | 1077     | 53      | 0            |
| 6   | F     | 1065  | 0        | 1077     | 48      | 0            |
| 6   | f     | 1065  | 0        | 1077     | 50      | 0            |
| 7   | 7     | 303   | 0        | 305      | 7       | 0            |
| 7   | I     | 303   | 0        | 305      | 8       | 0            |
| 7   | i     | 303   | 0        | 305      | 10      | 0            |
| 8   | 8     | 340   | 0        | 346      | 13      | 0            |
| 8   | J     | 340   | 0        | 346      | 10      | 0            |
| 8   | j     | 340   | 0        | 346      | 12      | 0            |
| 9   | 9     | 571   | 0        | 593      | 17      | 0            |
| 9   | K     | 571   | 0        | 593      | 16      | 0            |
| 9   | k     | 571   | 0        | 593      | 13      | 0            |
| 10  | 0     | 1124  | 0        | 1127     | 25      | 0            |
| 10  | L     | 1124  | 0        | 1127     | 24      | 0            |
| 10  | l     | 1124  | 0        | 1127     | 30      | 0            |
| 11  | M     | 241   | 0        | 264      | 5       | 0            |
| 11  | m     | 241   | 0        | 264      | 10      | 0            |
| 11  | y     | 241   | 0        | 264      | 8       | 0            |
| 12  | X     | 228   | 0        | 234      | 12      | 0            |
| 12  | x     | 228   | 0        | 234      | 16      | 0            |
| 12  | z     | 228   | 0        | 234      | 28      | 0            |
| 13  | 1     | 65    | 0        | 72       | 0       | 0            |
| 13  | A     | 65    | 0        | 72       | 0       | 0            |
| 13  | a     | 65    | 0        | 72       | 2       | 0            |
| 14  | 0     | 195   | 0        | 216      | 4       | 0            |
| 14  | 1     | 2710  | 0        | 2873     | 50      | 0            |
| 14  | 2     | 2511  | 0        | 2634     | 29      | 0            |

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| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 14  | 6     | 108   | 0        | 94       | 2       | 0            |
| 14  | 8     | 127   | 0        | 91       | 2       | 0            |
| 14  | 9     | 104   | 0        | 88       | 1       | 0            |
| 14  | A     | 2775  | 0        | 2945     | 47      | 0            |
| 14  | B     | 2446  | 0        | 2562     | 32      | 0            |
| 14  | F     | 153   | 0        | 127      | 4       | 0            |
| 14  | J     | 82    | 0        | 58       | 1       | 0            |
| 14  | K     | 104   | 0        | 88       | 1       | 0            |
| 14  | L     | 195   | 0        | 216      | 4       | 0            |
| 14  | M     | 36    | 0        | 24       | 1       | 0            |
| 14  | X     | 45    | 0        | 33       | 3       | 0            |
| 14  | a     | 2674  | 0        | 2849     | 41      | 0            |
| 14  | b     | 2511  | 0        | 2634     | 39      | 0            |
| 14  | f     | 108   | 0        | 94       | 3       | 0            |
| 14  | j     | 127   | 0        | 91       | 2       | 0            |
| 14  | k     | 104   | 0        | 88       | 0       | 0            |
| 14  | l     | 195   | 0        | 216      | 4       | 0            |
| 14  | x     | 45    | 0        | 33       | 4       | 0            |
| 14  | z     | 45    | 0        | 33       | 3       | 0            |
| 15  | 1     | 33    | 0        | 46       | 1       | 0            |
| 15  | 2     | 33    | 0        | 46       | 0       | 0            |
| 15  | A     | 33    | 0        | 46       | 1       | 0            |
| 15  | B     | 33    | 0        | 46       | 0       | 0            |
| 15  | a     | 33    | 0        | 46       | 1       | 0            |
| 15  | b     | 33    | 0        | 46       | 0       | 0            |
| 16  | 1     | 8     | 0        | 0        | 0       | 0            |
| 16  | 3     | 16    | 0        | 0        | 0       | 0            |
| 16  | A     | 8     | 0        | 0        | 0       | 0            |
| 16  | C     | 16    | 0        | 0        | 0       | 0            |
| 16  | a     | 8     | 0        | 0        | 0       | 0            |
| 16  | c     | 16    | 0        | 0        | 0       | 0            |
| 17  | 0     | 160   | 0        | 224      | 4       | 0            |
| 17  | 1     | 225   | 0        | 313      | 5       | 0            |
| 17  | 2     | 240   | 0        | 336      | 1       | 0            |
| 17  | 6     | 80    | 0        | 112      | 2       | 0            |
| 17  | 7     | 40    | 0        | 56       | 0       | 0            |
| 17  | 8     | 120   | 0        | 168      | 2       | 0            |
| 17  | 9     | 65    | 0        | 89       | 1       | 0            |
| 17  | A     | 265   | 0        | 369      | 7       | 0            |
| 17  | B     | 280   | 0        | 392      | 1       | 0            |
| 17  | F     | 80    | 0        | 112      | 1       | 0            |
| 17  | I     | 40    | 0        | 56       | 3       | 0            |

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| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 17  | J     | 40    | 0        | 56       | 0       | 0            |
| 17  | K     | 65    | 0        | 89       | 0       | 0            |
| 17  | L     | 120   | 0        | 168      | 1       | 0            |
| 17  | M     | 40    | 0        | 56       | 4       | 0            |
| 17  | a     | 225   | 0        | 313      | 5       | 0            |
| 17  | b     | 280   | 0        | 392      | 2       | 0            |
| 17  | f     | 80    | 0        | 112      | 1       | 0            |
| 17  | i     | 40    | 0        | 56       | 0       | 0            |
| 17  | j     | 80    | 0        | 112      | 0       | 0            |
| 17  | k     | 65    | 0        | 89       | 0       | 0            |
| 17  | l     | 80    | 0        | 112      | 1       | 0            |
| 17  | m     | 40    | 0        | 56       | 2       | 0            |
| 17  | y     | 40    | 0        | 56       | 2       | 0            |
| 18  | 0     | 39    | 0        | 51       | 1       | 0            |
| 18  | 1     | 90    | 0        | 129      | 1       | 0            |
| 18  | A     | 90    | 0        | 129      | 1       | 0            |
| 18  | B     | 49    | 0        | 74       | 3       | 0            |
| 18  | L     | 39    | 0        | 51       | 1       | 0            |
| 18  | M     | 49    | 0        | 74       | 1       | 0            |
| 18  | a     | 90    | 0        | 129      | 1       | 0            |
| 18  | b     | 49    | 0        | 74       | 3       | 0            |
| 18  | l     | 39    | 0        | 51       | 1       | 0            |
| 18  | m     | 49    | 0        | 74       | 1       | 0            |
| 18  | y     | 49    | 0        | 74       | 2       | 0            |
| 18  | z     | 49    | 0        | 74       | 13      | 0            |
| 19  | 0     | 1     | 0        | 0        | 0       | 0            |
| 19  | 2     | 1     | 0        | 0        | 0       | 0            |
| 19  | B     | 1     | 0        | 0        | 0       | 0            |
| 19  | L     | 1     | 0        | 0        | 0       | 0            |
| 19  | b     | 1     | 0        | 0        | 0       | 0            |
| 19  | l     | 1     | 0        | 0        | 0       | 0            |
| 20  | 2     | 55    | 0        | 86       | 0       | 0            |
| 20  | B     | 55    | 0        | 86       | 0       | 0            |
| 20  | b     | 55    | 0        | 86       | 0       | 0            |
| 21  | 0     | 1     | 0        | 0        | 0       | 0            |
| 21  | 1     | 5     | 0        | 0        | 1       | 0            |
| 21  | 2     | 8     | 0        | 0        | 0       | 0            |
| 21  | 6     | 1     | 0        | 0        | 0       | 0            |
| 21  | 8     | 1     | 0        | 0        | 0       | 0            |
| 21  | 9     | 1     | 0        | 0        | 0       | 0            |
| 21  | A     | 5     | 0        | 0        | 1       | 0            |
| 21  | B     | 8     | 0        | 0        | 0       | 0            |

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| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 21  | F     | 1     | 0        | 0        | 0       | 0            |
| 21  | J     | 1     | 0        | 0        | 0       | 0            |
| 21  | K     | 1     | 0        | 0        | 0       | 0            |
| 21  | L     | 1     | 0        | 0        | 0       | 0            |
| 21  | a     | 5     | 0        | 0        | 1       | 0            |
| 21  | b     | 8     | 0        | 0        | 0       | 0            |
| 21  | f     | 1     | 0        | 0        | 0       | 0            |
| 21  | j     | 1     | 0        | 0        | 0       | 0            |
| 21  | k     | 1     | 0        | 0        | 0       | 0            |
| 21  | l     | 1     | 0        | 0        | 0       | 0            |
| All | All   | 74991 | 0        | 76164    | 1204    | 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 8.

The worst 5 of 1204 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) |
|-----------------|-------------------|--------------------------|-------------------|
| 2:2:483:ASN:ND2 | 2:2:485:ASP:OD2   | 1.92                     | 1.03              |
| 2:B:483:ASN:ND2 | 2:B:485:ASP:OD2   | 1.92                     | 1.01              |
| 2:b:483:ASN:ND2 | 2:b:485:ASP:OD2   | 1.92                     | 1.00              |
| 1:1:157:GLN:NE2 | 14:1:1616:CLA:O1D | 2.05                     | 0.90              |
| 1:A:157:GLN:NE2 | 14:A:815:CLA:O1D  | 2.05                     | 0.90              |

There are no symmetry-related clashes.

## 5.3 Torsion angles [i](#)

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

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

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

| Mol | Chain | Analysed      | Favoured  | Allowed | Outliers | Percentiles |     |
|-----|-------|---------------|-----------|---------|----------|-------------|-----|
| 1   | 1     | 744/755 (98%) | 684 (92%) | 60 (8%) | 0        | 100         | 100 |
| 1   | A     | 744/755 (98%) | 684 (92%) | 60 (8%) | 0        | 100         | 100 |

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| Mol | Chain | Analysed       | Favoured  | Allowed  | Outliers | Percentiles |     |
|-----|-------|----------------|-----------|----------|----------|-------------|-----|
| 1   | a     | 744/755 (98%)  | 684 (92%) | 60 (8%)  | 0        | 100         | 100 |
| 2   | 2     | 738/741 (100%) | 679 (92%) | 59 (8%)  | 0        | 100         | 100 |
| 2   | B     | 738/741 (100%) | 679 (92%) | 59 (8%)  | 0        | 100         | 100 |
| 2   | b     | 738/741 (100%) | 679 (92%) | 59 (8%)  | 0        | 100         | 100 |
| 3   | 3     | 78/81 (96%)    | 73 (94%)  | 5 (6%)   | 0        | 100         | 100 |
| 3   | C     | 78/81 (96%)    | 73 (94%)  | 5 (6%)   | 0        | 100         | 100 |
| 3   | c     | 78/81 (96%)    | 73 (94%)  | 5 (6%)   | 0        | 100         | 100 |
| 4   | 4     | 136/139 (98%)  | 121 (89%) | 15 (11%) | 0        | 100         | 100 |
| 4   | D     | 136/139 (98%)  | 121 (89%) | 15 (11%) | 0        | 100         | 100 |
| 4   | d     | 136/139 (98%)  | 120 (88%) | 16 (12%) | 0        | 100         | 100 |
| 5   | 5     | 68/76 (90%)    | 62 (91%)  | 6 (9%)   | 0        | 100         | 100 |
| 5   | E     | 68/76 (90%)    | 62 (91%)  | 6 (9%)   | 0        | 100         | 100 |
| 5   | e     | 68/76 (90%)    | 62 (91%)  | 6 (9%)   | 0        | 100         | 100 |
| 6   | 6     | 139/141 (99%)  | 113 (81%) | 26 (19%) | 0        | 100         | 100 |
| 6   | F     | 139/141 (99%)  | 112 (81%) | 27 (19%) | 0        | 100         | 100 |
| 6   | f     | 139/141 (99%)  | 113 (81%) | 26 (19%) | 0        | 100         | 100 |
| 7   | 7     | 36/38 (95%)    | 33 (92%)  | 3 (8%)   | 0        | 100         | 100 |
| 7   | I     | 36/38 (95%)    | 33 (92%)  | 3 (8%)   | 0        | 100         | 100 |
| 7   | i     | 36/38 (95%)    | 33 (92%)  | 3 (8%)   | 0        | 100         | 100 |
| 8   | 8     | 39/41 (95%)    | 35 (90%)  | 3 (8%)   | 1 (3%)   | 4           | 22  |
| 8   | J     | 39/41 (95%)    | 35 (90%)  | 3 (8%)   | 1 (3%)   | 4           | 22  |
| 8   | j     | 39/41 (95%)    | 35 (90%)  | 3 (8%)   | 1 (3%)   | 4           | 22  |
| 9   | 9     | 77/83 (93%)    | 68 (88%)  | 9 (12%)  | 0        | 100         | 100 |
| 9   | K     | 77/83 (93%)    | 68 (88%)  | 9 (12%)  | 0        | 100         | 100 |
| 9   | k     | 77/83 (93%)    | 68 (88%)  | 9 (12%)  | 0        | 100         | 100 |
| 10  | 0     | 150/155 (97%)  | 143 (95%) | 7 (5%)   | 0        | 100         | 100 |
| 10  | L     | 150/155 (97%)  | 143 (95%) | 7 (5%)   | 0        | 100         | 100 |
| 10  | l     | 150/155 (97%)  | 143 (95%) | 7 (5%)   | 0        | 100         | 100 |
| 11  | M     | 29/31 (94%)    | 27 (93%)  | 2 (7%)   | 0        | 100         | 100 |
| 11  | m     | 29/31 (94%)    | 27 (93%)  | 2 (7%)   | 0        | 100         | 100 |
| 11  | y     | 29/31 (94%)    | 27 (93%)  | 2 (7%)   | 0        | 100         | 100 |

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| Mol | Chain | Analysed        | Favoured   | Allowed  | Outliers | Percentiles |     |
|-----|-------|-----------------|------------|----------|----------|-------------|-----|
| 12  | X     | 25/36 (69%)     | 23 (92%)   | 2 (8%)   | 0        | 100         | 100 |
| 12  | x     | 25/36 (69%)     | 23 (92%)   | 2 (8%)   | 0        | 100         | 100 |
| 12  | z     | 25/36 (69%)     | 23 (92%)   | 2 (8%)   | 0        | 100         | 100 |
| All | All   | 6777/6951 (98%) | 6181 (91%) | 593 (9%) | 3 (0%)   | 100         | 100 |

All (3) Ramachandran outliers are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 8   | J     | 2   | LYS  |
| 8   | j     | 2   | LYS  |
| 8   | 8     | 2   | LYS  |

### 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     | 594/603 (98%)  | 567 (96%) | 27 (4%)  | 23          | 52  |
| 1   | A     | 594/603 (98%)  | 567 (96%) | 27 (4%)  | 23          | 52  |
| 1   | a     | 594/603 (98%)  | 567 (96%) | 27 (4%)  | 23          | 52  |
| 2   | 2     | 597/598 (100%) | 582 (98%) | 15 (2%)  | 42          | 67  |
| 2   | B     | 597/598 (100%) | 582 (98%) | 15 (2%)  | 42          | 67  |
| 2   | b     | 597/598 (100%) | 582 (98%) | 15 (2%)  | 42          | 67  |
| 3   | 3     | 67/68 (98%)    | 67 (100%) | 0        | 100         | 100 |
| 3   | C     | 67/68 (98%)    | 67 (100%) | 0        | 100         | 100 |
| 3   | c     | 67/68 (98%)    | 67 (100%) | 0        | 100         | 100 |
| 4   | 4     | 115/116 (99%)  | 109 (95%) | 6 (5%)   | 19          | 47  |
| 4   | D     | 115/116 (99%)  | 109 (95%) | 6 (5%)   | 19          | 47  |
| 4   | d     | 115/116 (99%)  | 109 (95%) | 6 (5%)   | 19          | 47  |
| 5   | 5     | 60/65 (92%)    | 53 (88%)  | 7 (12%)  | 4           | 18  |
| 5   | E     | 60/65 (92%)    | 53 (88%)  | 7 (12%)  | 4           | 18  |

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| Mol | Chain | Analysed        | Rotameric  | Outliers | Percentiles |    |
|-----|-------|-----------------|------------|----------|-------------|----|
| 5   | e     | 60/65 (92%)     | 53 (88%)   | 7 (12%)  | 4           | 18 |
| 6   | 6     | 109/109 (100%)  | 96 (88%)   | 13 (12%) | 4           | 17 |
| 6   | F     | 109/109 (100%)  | 96 (88%)   | 13 (12%) | 4           | 17 |
| 6   | f     | 109/109 (100%)  | 96 (88%)   | 13 (12%) | 4           | 17 |
| 7   | 7     | 31/31 (100%)    | 30 (97%)   | 1 (3%)   | 34          | 61 |
| 7   | I     | 31/31 (100%)    | 30 (97%)   | 1 (3%)   | 34          | 61 |
| 7   | i     | 31/31 (100%)    | 30 (97%)   | 1 (3%)   | 34          | 61 |
| 8   | 8     | 35/35 (100%)    | 33 (94%)   | 2 (6%)   | 17          | 45 |
| 8   | J     | 35/35 (100%)    | 33 (94%)   | 2 (6%)   | 17          | 45 |
| 8   | j     | 35/35 (100%)    | 33 (94%)   | 2 (6%)   | 17          | 45 |
| 9   | 9     | 58/61 (95%)     | 50 (86%)   | 8 (14%)  | 3           | 13 |
| 9   | K     | 58/61 (95%)     | 50 (86%)   | 8 (14%)  | 3           | 13 |
| 9   | k     | 58/61 (95%)     | 50 (86%)   | 8 (14%)  | 3           | 13 |
| 10  | 0     | 117/120 (98%)   | 115 (98%)  | 2 (2%)   | 56          | 75 |
| 10  | L     | 117/120 (98%)   | 115 (98%)  | 2 (2%)   | 56          | 75 |
| 10  | l     | 117/120 (98%)   | 115 (98%)  | 2 (2%)   | 56          | 75 |
| 11  | M     | 26/26 (100%)    | 22 (85%)   | 4 (15%)  | 2           | 9  |
| 11  | m     | 26/26 (100%)    | 22 (85%)   | 4 (15%)  | 2           | 9  |
| 11  | y     | 26/26 (100%)    | 22 (85%)   | 4 (15%)  | 2           | 9  |
| 12  | X     | 21/28 (75%)     | 19 (90%)   | 2 (10%)  | 7           | 25 |
| 12  | x     | 21/28 (75%)     | 19 (90%)   | 2 (10%)  | 7           | 25 |
| 12  | z     | 21/28 (75%)     | 19 (90%)   | 2 (10%)  | 7           | 25 |
| All | All   | 5490/5580 (98%) | 5229 (95%) | 261 (5%) | 24          | 50 |

5 of 261 residues with a non-rotameric sidechain are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 6   | 6     | 36  | GLU  |
| 6   | 6     | 112 | THR  |
| 12  | z     | 26  | VAL  |
| 1   | a     | 256 | VAL  |
| 1   | a     | 210 | LEU  |

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 100 such sidechains are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 2   | b     | 527 | HIS  |
| 1   | 1     | 372 | GLN  |
| 10  | 0     | 75  | ASN  |
| 2   | b     | 648 | ASN  |
| 10  | 1     | 75  | ASN  |

### 5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

6 non-standard protein/DNA/RNA residues 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 | $\# Z  > 2$ |
| 8   | FME  | J     | 1   | 8    | 8,9,10       | 1.01 | 0           | 7,9,11      | 1.37 | 2 (28%)     |
| 8   | FME  | j     | 1   | 8    | 8,9,10       | 1.01 | 0           | 7,9,11      | 1.37 | 2 (28%)     |
| 7   | FME  | 7     | 1   | 7    | 8,9,10       | 0.98 | 0           | 7,9,11      | 0.83 | 0           |
| 8   | FME  | 8     | 1   | 8    | 8,9,10       | 1.02 | 0           | 7,9,11      | 1.37 | 2 (28%)     |
| 7   | FME  | I     | 1   | 7    | 8,9,10       | 0.98 | 0           | 7,9,11      | 0.83 | 0           |
| 7   | FME  | i     | 1   | 7    | 8,9,10       | 1.00 | 0           | 7,9,11      | 0.82 | 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 |
|-----|------|-------|-----|------|---------|----------|-------|
| 8   | FME  | J     | 1   | 8    | -       | 1/7/9/11 | -     |
| 8   | FME  | j     | 1   | 8    | -       | 1/7/9/11 | -     |
| 7   | FME  | 7     | 1   | 7    | -       | 1/7/9/11 | -     |
| 8   | FME  | 8     | 1   | 8    | -       | 1/7/9/11 | -     |
| 7   | FME  | I     | 1   | 7    | -       | 1/7/9/11 | -     |

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| Mol | Type | Chain | Res | Link | Chirals | Torsions | Rings |
|-----|------|-------|-----|------|---------|----------|-------|
| 7   | FME  | i     | 1   | 7    | -       | 1/7/9/11 | -     |

There are no bond length outliers.

The worst 5 of 6 bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms  | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|--------|-------|-------------|----------|
| 8   | j     | 1   | FME  | C-CA-N | 2.57  | 114.36      | 109.73   |
| 8   | 8     | 1   | FME  | C-CA-N | 2.56  | 114.36      | 109.73   |
| 8   | J     | 1   | FME  | C-CA-N | 2.56  | 114.34      | 109.73   |
| 8   | j     | 1   | FME  | O-C-CA | -2.06 | 119.38      | 124.78   |
| 8   | J     | 1   | FME  | O-C-CA | -2.06 | 119.38      | 124.78   |

There are no chirality outliers.

5 of 6 torsion outliers are listed below:

| Mol | Chain | Res | Type | Atoms      |
|-----|-------|-----|------|------------|
| 8   | J     | 1   | FME  | CB-CA-N-CN |
| 8   | j     | 1   | FME  | CB-CA-N-CN |
| 8   | 8     | 1   | FME  | CB-CA-N-CN |
| 7   | I     | 1   | FME  | N-CA-CB-CG |
| 7   | i     | 1   | FME  | N-CA-CB-CG |

There are no ring outliers.

5 monomers are involved in 6 short contacts:

| Mol | Chain | Res | Type | Clashes | Symm-Clashes |
|-----|-------|-----|------|---------|--------------|
| 8   | J     | 1   | FME  | 1       | 0            |
| 8   | j     | 1   | FME  | 1       | 0            |
| 8   | 8     | 1   | FME  | 1       | 0            |
| 7   | I     | 1   | FME  | 1       | 0            |
| 7   | i     | 1   | FME  | 2       | 0            |

## 5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

## 5.6 Ligand geometry [i](#)

Of 402 ligands modelled in this entry, 6 are monoatomic - leaving 396 for Mogul analysis.



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$ |
| 14  | CLA  | A     | 844  | 18   | 45,53,73     | 1.72 | 7 (15%)     | 52,89,113   | 1.69 | 7 (13%)     |
| 14  | CLA  | B     | 836  | 21   | 45,53,73     | 1.82 | 7 (15%)     | 52,89,113   | 1.52 | 5 (9%)      |
| 14  | CLA  | 2     | 830  | -    | 65,73,73     | 1.43 | 12 (18%)    | 76,113,113  | 1.57 | 10 (13%)    |
| 17  | BCR  | i     | 101  | -    | 41,41,41     | 1.29 | 4 (9%)      | 56,56,56    | 1.24 | 3 (5%)      |
| 14  | CLA  | B     | 816  | -    | 65,73,73     | 1.44 | 6 (9%)      | 76,113,113  | 1.48 | 8 (10%)     |
| 14  | CLA  | a     | 809  | 1    | 65,73,73     | 1.46 | 9 (13%)     | 76,113,113  | 1.51 | 9 (11%)     |
| 14  | CLA  | b     | 829  | -    | 65,73,73     | 1.51 | 8 (12%)     | 76,113,113  | 1.30 | 6 (7%)      |
| 14  | CLA  | B     | 810  | 2    | 65,73,73     | 1.44 | 9 (13%)     | 76,113,113  | 1.52 | 9 (11%)     |
| 14  | CLA  | a     | 836  | -    | 65,73,73     | 1.48 | 9 (13%)     | 76,113,113  | 1.44 | 7 (9%)      |
| 17  | BCR  | J     | 103  | -    | 41,41,41     | 1.16 | 3 (7%)      | 56,56,56    | 1.19 | 6 (10%)     |
| 14  | CLA  | 2     | 803  | -    | 65,73,73     | 1.45 | 10 (15%)    | 76,113,113  | 1.45 | 8 (10%)     |
| 14  | CLA  | 1     | 1607 | -    | 65,73,73     | 1.45 | 10 (15%)    | 76,113,113  | 1.58 | 12 (15%)    |
| 14  | CLA  | A     | 804  | -    | 65,73,73     | 1.42 | 7 (10%)     | 76,113,113  | 1.50 | 7 (9%)      |
| 14  | CLA  | b     | 824  | -    | 45,53,73     | 1.74 | 7 (15%)     | 52,89,113   | 1.71 | 7 (13%)     |
| 14  | CLA  | 2     | 814  | -    | 65,73,73     | 1.45 | 8 (12%)     | 76,113,113  | 1.45 | 9 (11%)     |
| 14  | CLA  | j     | 1303 | -    | 38,45,73     | 1.92 | 8 (21%)     | 43,78,113   | 1.67 | 7 (16%)     |
| 15  | PQN  | B     | 842  | -    | 34,34,34     | 0.45 | 0           | 42,45,45    | 0.38 | 0           |
| 17  | BCR  | a     | 847  | -    | 41,41,41     | 1.15 | 2 (4%)      | 56,56,56    | 1.30 | 7 (12%)     |
| 17  | BCR  | A     | 847  | -    | 41,41,41     | 1.15 | 2 (4%)      | 56,56,56    | 1.31 | 7 (12%)     |
| 14  | CLA  | 2     | 833  | -    | 65,73,73     | 1.49 | 8 (12%)     | 76,113,113  | 1.44 | 8 (10%)     |
| 14  | CLA  | 2     | 804  | -    | 65,73,73     | 1.42 | 10 (15%)    | 76,113,113  | 1.50 | 8 (10%)     |
| 17  | BCR  | A     | 848  | -    | 41,41,41     | 1.18 | 3 (7%)      | 56,56,56    | 1.23 | 6 (10%)     |
| 14  | CLA  | a     | 824  | -    | 65,73,73     | 1.52 | 8 (12%)     | 76,113,113  | 1.39 | 9 (11%)     |
| 14  | CLA  | 1     | 1617 | -    | 65,73,73     | 1.47 | 6 (9%)      | 76,113,113  | 1.38 | 7 (9%)      |
| 14  | CLA  | 1     | 1634 | -    | 65,73,73     | 1.45 | 10 (15%)    | 76,113,113  | 1.39 | 6 (7%)      |
| 17  | BCR  | 0     | 208  | -    | 41,41,41     | 1.22 | 3 (7%)      | 56,56,56    | 1.34 | 7 (12%)     |
| 14  | CLA  | 1     | 1608 | -    | 65,73,73     | 1.43 | 7 (10%)     | 76,113,113  | 1.53 | 5 (6%)      |
| 14  | CLA  | b     | 802  | 21   | 65,73,73     | 1.42 | 7 (10%)     | 76,113,113  | 1.60 | 8 (10%)     |
| 14  | CLA  | l     | 204  | 10   | 65,73,73     | 1.52 | 9 (13%)     | 76,113,113  | 1.38 | 8 (10%)     |

| Mol | Type | Chain | Res  | Link | Bond lengths |      |          | Bond angles |      |          |
|-----|------|-------|------|------|--------------|------|----------|-------------|------|----------|
|     |      |       |      |      | Counts       | RMSZ | # Z  > 2 | Counts      | RMSZ | # Z  > 2 |
| 14  | CLA  | 1     | 1625 | -    | 65,73,73     | 1.52 | 8 (12%)  | 76,113,113  | 1.39 | 9 (11%)  |
| 14  | CLA  | b     | 841  | 21   | 65,73,73     | 1.47 | 9 (13%)  | 76,113,113  | 1.43 | 10 (13%) |
| 14  | CLA  | b     | 803  | -    | 65,73,73     | 1.43 | 10 (15%) | 76,113,113  | 1.44 | 8 (10%)  |
| 14  | CLA  | b     | 831  | -    | 55,63,73     | 1.60 | 9 (16%)  | 64,101,113  | 1.49 | 9 (14%)  |
| 14  | CLA  | B     | 815  | -    | 65,73,73     | 1.45 | 7 (10%)  | 76,113,113  | 1.39 | 7 (9%)   |
| 14  | CLA  | 1     | 1631 | -    | 65,73,73     | 1.41 | 9 (13%)  | 76,113,113  | 1.54 | 6 (7%)   |
| 17  | BCR  | b     | 847  | -    | 41,41,41     | 1.15 | 3 (7%)   | 56,56,56    | 1.25 | 8 (14%)  |
| 14  | CLA  | 1     | 1624 | -    | 45,53,73     | 1.76 | 7 (15%)  | 52,89,113   | 1.67 | 8 (15%)  |
| 13  | CL0  | a     | 801  | -    | 65,73,73     | 1.44 | 10 (15%) | 76,113,113  | 1.46 | 8 (10%)  |
| 14  | CLA  | a     | 810  | 1    | 65,73,73     | 1.47 | 7 (10%)  | 76,113,113  | 1.45 | 7 (9%)   |
| 18  | LHG  | A     | 853  | -    | 48,48,48     | 0.75 | 2 (4%)   | 51,54,54    | 1.23 | 4 (7%)   |
| 17  | BCR  | f     | 202  | -    | 41,41,41     | 1.24 | 3 (7%)   | 56,56,56    | 1.26 | 6 (10%)  |
| 16  | SF4  | C     | 102  | 3    | 0,12,12      | -    | -        | -           | -    | -        |
| 14  | CLA  | A     | 815  | -    | 65,73,73     | 1.50 | 8 (12%)  | 76,113,113  | 1.40 | 7 (9%)   |
| 14  | CLA  | a     | 821  | -    | 65,73,73     | 1.45 | 6 (9%)   | 76,113,113  | 1.52 | 7 (9%)   |
| 14  | CLA  | A     | 826  | 21   | 65,73,73     | 1.46 | 9 (13%)  | 76,113,113  | 1.49 | 9 (11%)  |
| 14  | CLA  | 1     | 1603 | -    | 65,73,73     | 1.44 | 8 (12%)  | 76,113,113  | 1.54 | 8 (10%)  |
| 14  | CLA  | 1     | 1610 | 1    | 65,73,73     | 1.46 | 8 (12%)  | 76,113,113  | 1.51 | 9 (11%)  |
| 14  | CLA  | J     | 101  | -    | 45,53,73     | 1.78 | 5 (11%)  | 52,89,113   | 1.58 | 8 (15%)  |
| 17  | BCR  | 8     | 1304 | -    | 41,41,41     | 1.17 | 3 (7%)   | 56,56,56    | 1.20 | 7 (12%)  |
| 14  | CLA  | 2     | 826  | 21   | 65,73,73     | 1.50 | 9 (13%)  | 76,113,113  | 1.53 | 10 (13%) |
| 14  | CLA  | 2     | 818  | -    | 65,73,73     | 1.50 | 9 (13%)  | 76,113,113  | 1.49 | 9 (11%)  |
| 14  | CLA  | x     | 1701 | 12   | 45,53,73     | 1.79 | 6 (13%)  | 52,89,113   | 1.61 | 6 (11%)  |
| 14  | CLA  | 1     | 1640 | -    | 65,73,73     | 1.44 | 9 (13%)  | 76,113,113  | 1.48 | 9 (11%)  |
| 14  | CLA  | A     | 841  | -    | 65,73,73     | 1.45 | 8 (12%)  | 76,113,113  | 1.46 | 8 (10%)  |
| 14  | CLA  | b     | 806  | -    | 65,73,73     | 1.44 | 7 (10%)  | 76,113,113  | 1.57 | 8 (10%)  |
| 17  | BCR  | b     | 846  | -    | 41,41,41     | 1.25 | 3 (7%)   | 56,56,56    | 1.24 | 6 (10%)  |
| 14  | CLA  | A     | 807  | -    | 65,73,73     | 1.44 | 8 (12%)  | 76,113,113  | 1.53 | 6 (7%)   |
| 14  | CLA  | a     | 842  | -    | 65,73,73     | 1.48 | 8 (12%)  | 76,113,113  | 1.50 | 9 (11%)  |
| 14  | CLA  | 1     | 1614 | -    | 45,53,73     | 1.78 | 8 (17%)  | 52,89,113   | 1.64 | 8 (15%)  |
| 17  | BCR  | B     | 845  | -    | 41,41,41     | 1.26 | 3 (7%)   | 56,56,56    | 1.24 | 6 (10%)  |
| 14  | CLA  | k     | 101  | -    | 46,54,73     | 1.74 | 7 (15%)  | 53,90,113   | 1.57 | 7 (13%)  |
| 16  | SF4  | a     | 846  | 2,1  | 0,12,12      | -    | -        | -           | -    | -        |
| 14  | CLA  | b     | 821  | -    | 65,73,73     | 1.50 | 7 (10%)  | 76,113,113  | 1.34 | 8 (10%)  |
| 14  | CLA  | a     | 806  | -    | 65,73,73     | 1.46 | 10 (15%) | 76,113,113  | 1.59 | 12 (15%) |

| Mol | Type | Chain | Res  | Link | Bond lengths |      |          | Bond angles |      |          |
|-----|------|-------|------|------|--------------|------|----------|-------------|------|----------|
|     |      |       |      |      | Counts       | RMSZ | # Z  > 2 | Counts      | RMSZ | # Z  > 2 |
| 14  | CLA  | 1     | 1605 | -    | 65,73,73     | 1.42 | 7 (10%)  | 76,113,113  | 1.49 | 7 (9%)   |
| 16  | SF4  | 1     | 1647 | 2,1  | 0,12,12      | -    | -        | -           |      |          |
| 17  | BCR  | l     | 202  | -    | 41,41,41     | 1.39 | 4 (9%)   | 56,56,56    | 1.32 | 7 (12%)  |
| 14  | CLA  | k     | 103  | 21   | 58,66,73     | 1.57 | 7 (12%)  | 67,104,113  | 1.50 | 9 (13%)  |
| 17  | BCR  | 6     | 204  | -    | 41,41,41     | 1.18 | 2 (4%)   | 56,56,56    | 1.36 | 8 (14%)  |
| 14  | CLA  | X     | 1701 | 12   | 45,53,73     | 1.81 | 6 (13%)  | 52,89,113   | 1.60 | 6 (11%)  |
| 14  | CLA  | 1     | 1622 | -    | 65,73,73     | 1.45 | 6 (9%)   | 76,113,113  | 1.52 | 7 (9%)   |
| 14  | CLA  | A     | 814  | -    | 65,73,73     | 1.49 | 9 (13%)  | 76,113,113  | 1.33 | 8 (10%)  |
| 14  | CLA  | B     | 820  | -    | 65,73,73     | 1.50 | 7 (10%)  | 76,113,113  | 1.33 | 7 (9%)   |
| 14  | CLA  | 1     | 1601 | -    | 36,44,73     | 1.95 | 7 (19%)  | 40,76,113   | 1.64 | 5 (12%)  |
| 17  | BCR  | F     | 202  | -    | 41,41,41     | 1.25 | 3 (7%)   | 56,56,56    | 1.25 | 6 (10%)  |
| 18  | LHG  | L     | 208  | -    | 38,38,48     | 0.73 | 0        | 41,44,54    | 1.26 | 3 (7%)   |
| 14  | CLA  | 2     | 825  | 2    | 65,73,73     | 1.46 | 8 (12%)  | 76,113,113  | 1.47 | 8 (10%)  |
| 14  | CLA  | 1     | 1604 | 21   | 65,73,73     | 1.54 | 9 (13%)  | 76,113,113  | 1.30 | 8 (10%)  |
| 14  | CLA  | b     | 833  | -    | 65,73,73     | 1.49 | 8 (12%)  | 76,113,113  | 1.44 | 8 (10%)  |
| 14  | CLA  | a     | 835  | -    | 65,73,73     | 1.44 | 9 (13%)  | 76,113,113  | 1.45 | 7 (9%)   |
| 14  | CLA  | b     | 812  | -    | 65,73,73     | 1.45 | 7 (10%)  | 76,113,113  | 1.54 | 10 (13%) |
| 14  | CLA  | A     | 802  | -    | 65,73,73     | 1.45 | 8 (12%)  | 76,113,113  | 1.54 | 8 (10%)  |
| 15  | PQN  | b     | 843  | -    | 34,34,34     | 0.45 | 0        | 42,45,45    | 0.38 | 0        |
| 14  | CLA  | 1     | 1613 | 14   | 65,73,73     | 1.47 | 7 (10%)  | 76,113,113  | 1.36 | 7 (9%)   |
| 14  | CLA  | B     | 802  | -    | 65,73,73     | 1.43 | 10 (15%) | 76,113,113  | 1.44 | 8 (10%)  |
| 14  | CLA  | A     | 857  | -    | 36,44,73     | 1.96 | 7 (19%)  | 40,76,113   | 1.65 | 5 (12%)  |
| 17  | BCR  | 2     | 848  | -    | 41,41,41     | 1.28 | 3 (7%)   | 56,56,56    | 1.31 | 8 (14%)  |
| 14  | CLA  | 1     | 1623 | 21   | 65,73,73     | 1.48 | 7 (10%)  | 76,113,113  | 1.46 | 7 (9%)   |
| 14  | CLA  | 2     | 815  | -    | 65,73,73     | 1.45 | 8 (12%)  | 76,113,113  | 1.44 | 8 (10%)  |
| 14  | CLA  | 1     | 1630 | -    | 65,73,73     | 1.45 | 7 (10%)  | 76,113,113  | 1.47 | 8 (10%)  |
| 14  | CLA  | 2     | 807  | -    | 65,73,73     | 1.48 | 9 (13%)  | 76,113,113  | 1.40 | 8 (10%)  |
| 17  | BCR  | 1     | 1650 | -    | 41,41,41     | 1.22 | 2 (4%)   | 56,56,56    | 1.20 | 6 (10%)  |
| 14  | CLA  | A     | 819  | -    | 65,73,73     | 1.49 | 8 (12%)  | 76,113,113  | 1.47 | 9 (11%)  |
| 18  | LHG  | a     | 854  | 14   | 40,40,48     | 0.77 | 1 (2%)   | 43,46,54    | 1.21 | 4 (9%)   |
| 17  | BCR  | k     | 102  | -    | 41,41,41     | 1.18 | 2 (4%)   | 56,56,56    | 1.31 | 7 (12%)  |
| 14  | CLA  | 1     | 1627 | 21   | 65,73,73     | 1.45 | 9 (13%)  | 76,113,113  | 1.50 | 9 (11%)  |
| 14  | CLA  | B     | 821  | -    | 45,53,73     | 1.73 | 7 (15%)  | 52,89,113   | 1.78 | 9 (17%)  |
| 14  | CLA  | K     | 101  | -    | 46,54,73     | 1.74 | 7 (15%)  | 53,90,113   | 1.57 | 7 (13%)  |
| 17  | BCR  | b     | 849  | -    | 41,41,41     | 1.39 | 4 (9%)   | 56,56,56    | 1.29 | 6 (10%)  |

| Mol | Type | Chain | Res  | Link | Bond lengths |      |          | Bond angles |      |          |
|-----|------|-------|------|------|--------------|------|----------|-------------|------|----------|
|     |      |       |      |      | Counts       | RMSZ | # Z  > 2 | Counts      | RMSZ | # Z  > 2 |
| 14  | CLA  | a     | 818  | -    | 65,73,73     | 1.46 | 6 (9%)   | 76,113,113  | 1.45 | 7 (9%)   |
| 17  | BCR  | 0     | 201  | -    | 41,41,41     | 1.18 | 3 (7%)   | 56,56,56    | 1.28 | 7 (12%)  |
| 14  | CLA  | 6     | 203  | -    | 50,58,73     | 1.72 | 5 (10%)  | 58,95,113   | 1.52 | 8 (13%)  |
| 14  | CLA  | a     | 827  | 21   | 65,73,73     | 1.45 | 9 (13%)  | 76,113,113  | 1.52 | 10 (13%) |
| 14  | CLA  | 1     | 1642 | -    | 65,73,73     | 1.46 | 8 (12%)  | 76,113,113  | 1.46 | 8 (10%)  |
| 17  | BCR  | j     | 1305 | -    | 41,41,41     | 1.22 | 2 (4%)   | 56,56,56    | 1.28 | 8 (14%)  |
| 20  | LMG  | B     | 849  | -    | 55,55,55     | 0.92 | 4 (7%)   | 63,63,63    | 1.35 | 10 (15%) |
| 14  | CLA  | J     | 102  | -    | 38,45,73     | 1.92 | 8 (21%)  | 43,78,113   | 1.68 | 7 (16%)  |
| 14  | CLA  | A     | 829  | -    | 65,73,73     | 1.45 | 7 (10%)  | 76,113,113  | 1.47 | 8 (10%)  |
| 14  | CLA  | 2     | 829  | -    | 65,73,73     | 1.51 | 8 (12%)  | 76,113,113  | 1.30 | 7 (9%)   |
| 17  | BCR  | B     | 843  | -    | 41,41,41     | 1.17 | 2 (4%)   | 56,56,56    | 1.21 | 4 (7%)   |
| 14  | CLA  | 1     | 1641 | -    | 65,73,73     | 1.49 | 9 (13%)  | 76,113,113  | 1.44 | 8 (10%)  |
| 14  | CLA  | 2     | 811  | 2    | 65,73,73     | 1.45 | 9 (13%)  | 76,113,113  | 1.51 | 9 (11%)  |
| 18  | LHG  | m     | 101  | -    | 48,48,48     | 0.70 | 2 (4%)   | 51,54,54    | 1.22 | 3 (5%)   |
| 17  | BCR  | A     | 852  | -    | 25,25,41     | 1.13 | 1 (4%)   | 33,33,56    | 1.28 | 4 (12%)  |
| 14  | CLA  | 0     | 207  | 21   | 65,73,73     | 1.45 | 10 (15%) | 76,113,113  | 1.50 | 9 (11%)  |
| 18  | LHG  | b     | 851  | -    | 48,48,48     | 0.61 | 1 (2%)   | 51,54,54    | 1.20 | 5 (9%)   |
| 17  | BCR  | B     | 846  | -    | 41,41,41     | 1.16 | 3 (7%)   | 56,56,56    | 1.24 | 7 (12%)  |
| 14  | CLA  | 1     | 1618 | 21   | 65,73,73     | 1.47 | 7 (10%)  | 76,113,113  | 1.36 | 7 (9%)   |
| 14  | CLA  | A     | 820  | -    | 65,73,73     | 1.45 | 7 (10%)  | 76,113,113  | 1.58 | 9 (11%)  |
| 14  | CLA  | b     | 827  | -    | 65,73,73     | 1.48 | 8 (12%)  | 76,113,113  | 1.43 | 8 (10%)  |
| 14  | CLA  | 8     | 1301 | 21   | 45,53,73     | 1.77 | 7 (15%)  | 52,89,113   | 1.68 | 7 (13%)  |
| 14  | CLA  | 2     | 820  | 21   | 65,73,73     | 1.55 | 8 (12%)  | 76,113,113  | 1.35 | 9 (11%)  |
| 18  | LHG  | l     | 201  | -    | 38,38,48     | 0.73 | 0        | 41,44,54    | 1.26 | 3 (7%)   |
| 14  | CLA  | 2     | 810  | 2    | 65,73,73     | 1.46 | 11 (16%) | 76,113,113  | 1.60 | 9 (11%)  |
| 15  | PQN  | A     | 845  | -    | 34,34,34     | 0.39 | 0        | 42,45,45    | 0.35 | 0        |
| 14  | CLA  | M     | 102  | -    | 36,44,73     | 1.96 | 7 (19%)  | 40,76,113   | 1.64 | 5 (12%)  |
| 14  | CLA  | a     | 844  | 18   | 45,53,73     | 1.73 | 7 (15%)  | 52,89,113   | 1.70 | 7 (13%)  |
| 14  | CLA  | B     | 835  | 21   | 50,58,73     | 1.70 | 9 (18%)  | 58,95,113   | 1.53 | 8 (13%)  |
| 14  | CLA  | 2     | 835  | -    | 65,73,73     | 1.47 | 6 (9%)   | 76,113,113  | 1.44 | 9 (11%)  |
| 14  | CLA  | B     | 833  | -    | 65,73,73     | 1.48 | 9 (13%)  | 76,113,113  | 1.45 | 7 (9%)   |
| 14  | CLA  | a     | 805  | 14   | 59,67,73     | 1.51 | 7 (11%)  | 68,105,113  | 1.54 | 8 (11%)  |
| 14  | CLA  | A     | 805  | 14   | 59,67,73     | 1.51 | 7 (11%)  | 68,105,113  | 1.55 | 8 (11%)  |
| 14  | CLA  | B     | 812  | -    | 45,53,73     | 1.78 | 8 (17%)  | 52,89,113   | 1.62 | 7 (13%)  |
| 14  | CLA  | B     | 826  | -    | 65,73,73     | 1.48 | 8 (12%)  | 76,113,113  | 1.43 | 8 (10%)  |

| Mol | Type | Chain | Res  | Link | Bond lengths |      |          | Bond angles |      |          |
|-----|------|-------|------|------|--------------|------|----------|-------------|------|----------|
|     |      |       |      |      | Counts       | RMSZ | # Z  > 2 | Counts      | RMSZ | # Z  > 2 |
| 17  | BCR  | L     | 207  | -    | 41,41,41     | 1.18 | 3 (7%)   | 56,56,56    | 1.28 | 7 (12%)  |
| 14  | CLA  | A     | 808  | -    | 51,59,73     | 1.66 | 8 (15%)  | 59,96,113   | 1.54 | 8 (13%)  |
| 14  | CLA  | b     | 810  | 2    | 65,73,73     | 1.46 | 11 (16%) | 76,113,113  | 1.61 | 10 (13%) |
| 14  | CLA  | 2     | 813  | -    | 45,53,73     | 1.80 | 8 (17%)  | 52,89,113   | 1.61 | 7 (13%)  |
| 17  | BCR  | a     | 848  | -    | 41,41,41     | 1.19 | 3 (7%)   | 56,56,56    | 1.23 | 6 (10%)  |
| 14  | CLA  | j     | 1301 | 21   | 45,53,73     | 1.77 | 7 (15%)  | 52,89,113   | 1.68 | 7 (13%)  |
| 14  | CLA  | a     | 837  | 1    | 45,53,73     | 1.79 | 7 (15%)  | 52,89,113   | 1.54 | 8 (15%)  |
| 14  | CLA  | B     | 840  | 21   | 65,73,73     | 1.47 | 9 (13%)  | 76,113,113  | 1.43 | 10 (13%) |
| 17  | BCR  | 1     | 1651 | -    | 41,41,41     | 1.35 | 4 (9%)   | 56,56,56    | 1.28 | 7 (12%)  |
| 14  | CLA  | 2     | 802  | 21   | 65,73,73     | 1.42 | 8 (12%)  | 76,113,113  | 1.60 | 8 (10%)  |
| 14  | CLA  | 2     | 837  | 21   | 45,53,73     | 1.81 | 7 (15%)  | 52,89,113   | 1.51 | 5 (9%)   |
| 17  | BCR  | K     | 104  | -    | 25,25,41     | 1.15 | 1 (4%)   | 33,33,56    | 1.15 | 4 (12%)  |
| 14  | CLA  | B     | 818  | -    | 65,73,73     | 1.44 | 8 (12%)  | 76,113,113  | 1.51 | 9 (11%)  |
| 14  | CLA  | B     | 827  | -    | 65,73,73     | 1.50 | 8 (12%)  | 76,113,113  | 1.43 | 7 (9%)   |
| 14  | CLA  | b     | 820  | 21   | 65,73,73     | 1.54 | 7 (10%)  | 76,113,113  | 1.35 | 9 (11%)  |
| 14  | CLA  | 2     | 831  | -    | 55,63,73     | 1.60 | 9 (16%)  | 64,101,113  | 1.50 | 9 (14%)  |
| 14  | CLA  | 9     | 103  | 21   | 58,66,73     | 1.56 | 7 (12%)  | 67,104,113  | 1.50 | 9 (13%)  |
| 15  | PQN  | 1     | 1646 | -    | 34,34,34     | 0.40 | 0        | 42,45,45    | 0.36 | 0        |
| 14  | CLA  | 1     | 1611 | 1    | 65,73,73     | 1.47 | 7 (10%)  | 76,113,113  | 1.44 | 7 (9%)   |
| 14  | CLA  | a     | 825  | -    | 65,73,73     | 1.46 | 8 (12%)  | 76,113,113  | 1.45 | 8 (10%)  |
| 14  | CLA  | b     | 835  | -    | 65,73,73     | 1.47 | 6 (9%)   | 76,113,113  | 1.44 | 9 (11%)  |
| 14  | CLA  | 0     | 205  | 10   | 65,73,73     | 1.52 | 9 (13%)  | 76,113,113  | 1.37 | 8 (10%)  |
| 14  | CLA  | L     | 204  | -    | 65,73,73     | 1.46 | 10 (15%) | 76,113,113  | 1.53 | 9 (11%)  |
| 14  | CLA  | a     | 822  | 21   | 65,73,73     | 1.47 | 7 (10%)  | 76,113,113  | 1.46 | 7 (9%)   |
| 14  | CLA  | b     | 830  | -    | 65,73,73     | 1.44 | 12 (18%) | 76,113,113  | 1.57 | 10 (13%) |
| 14  | CLA  | a     | 830  | -    | 65,73,73     | 1.41 | 9 (13%)  | 76,113,113  | 1.54 | 7 (9%)   |
| 14  | CLA  | 1     | 1645 | 18   | 45,53,73     | 1.73 | 7 (15%)  | 52,89,113   | 1.69 | 7 (13%)  |
| 14  | CLA  | a     | 815  | -    | 65,73,73     | 1.50 | 7 (10%)  | 76,113,113  | 1.40 | 7 (9%)   |
| 14  | CLA  | B     | 806  | -    | 65,73,73     | 1.48 | 9 (13%)  | 76,113,113  | 1.40 | 8 (10%)  |
| 14  | CLA  | a     | 832  | -    | 60,68,73     | 1.52 | 10 (16%) | 70,107,113  | 1.44 | 6 (8%)   |
| 14  | CLA  | A     | 832  | -    | 60,68,73     | 1.53 | 10 (16%) | 70,107,113  | 1.43 | 6 (8%)   |
| 14  | CLA  | 2     | 840  | -    | 47,55,73     | 1.80 | 9 (19%)  | 54,91,113   | 1.48 | 8 (14%)  |
| 14  | CLA  | 2     | 805  | -    | 65,73,73     | 1.50 | 9 (13%)  | 76,113,113  | 1.46 | 11 (14%) |
| 14  | CLA  | A     | 836  | -    | 65,73,73     | 1.48 | 9 (13%)  | 76,113,113  | 1.44 | 7 (9%)   |
| 14  | CLA  | b     | 809  | -    | 65,73,73     | 1.43 | 8 (12%)  | 76,113,113  | 1.53 | 10 (13%) |

| Mol | Type | Chain | Res  | Link | Bond lengths |      |          | Bond angles |      |          |
|-----|------|-------|------|------|--------------|------|----------|-------------|------|----------|
|     |      |       |      |      | Counts       | RMSZ | # Z  > 2 | Counts      | RMSZ | # Z  > 2 |
| 14  | CLA  | 1     | 1633 | -    | 60,68,73     | 1.52 | 10 (16%) | 70,107,113  | 1.44 | 6 (8%)   |
| 14  | CLA  | 2     | 832  | -    | 49,57,73     | 1.65 | 7 (14%)  | 55,93,113   | 1.65 | 6 (10%)  |
| 17  | BCR  | B     | 851  | -    | 41,41,41     | 1.21 | 2 (4%)   | 56,56,56    | 1.34 | 9 (16%)  |
| 14  | CLA  | 1     | 1637 | -    | 65,73,73     | 1.48 | 9 (13%)  | 76,113,113  | 1.44 | 7 (9%)   |
| 14  | CLA  | 2     | 823  | 21   | 55,63,73     | 1.62 | 7 (12%)  | 64,101,113  | 1.46 | 6 (9%)   |
| 14  | CLA  | 2     | 836  | 21   | 50,58,73     | 1.70 | 9 (18%)  | 58,95,113   | 1.53 | 8 (13%)  |
| 18  | LHG  | z     | 101  | -    | 48,48,48     | 0.61 | 1 (2%)   | 51,54,54    | 1.20 | 5 (9%)   |
| 17  | BCR  | 1     | 1648 | -    | 41,41,41     | 1.15 | 2 (4%)   | 56,56,56    | 1.31 | 7 (12%)  |
| 14  | CLA  | b     | 804  | -    | 65,73,73     | 1.43 | 11 (16%) | 76,113,113  | 1.51 | 8 (10%)  |
| 17  | BCR  | k     | 104  | -    | 25,25,41     | 1.14 | 1 (4%)   | 33,33,56    | 1.15 | 4 (12%)  |
| 14  | CLA  | b     | 819  | -    | 65,73,73     | 1.43 | 7 (10%)  | 76,113,113  | 1.51 | 9 (11%)  |
| 17  | BCR  | A     | 850  | -    | 41,41,41     | 1.33 | 3 (7%)   | 56,56,56    | 1.29 | 7 (12%)  |
| 17  | BCR  | f     | 204  | -    | 41,41,41     | 1.19 | 2 (4%)   | 56,56,56    | 1.36 | 8 (14%)  |
| 14  | CLA  | a     | 833  | -    | 65,73,73     | 1.45 | 10 (15%) | 76,113,113  | 1.39 | 6 (7%)   |
| 14  | CLA  | 2     | 824  | -    | 45,53,73     | 1.75 | 7 (15%)  | 52,89,113   | 1.71 | 7 (13%)  |
| 17  | BCR  | B     | 844  | -    | 41,41,41     | 1.17 | 3 (7%)   | 56,56,56    | 1.19 | 3 (5%)   |
| 14  | CLA  | 1     | 1629 | -    | 65,73,73     | 1.47 | 7 (10%)  | 76,113,113  | 1.38 | 8 (10%)  |
| 17  | BCR  | y     | 102  | -    | 41,41,41     | 1.24 | 3 (7%)   | 56,56,56    | 1.22 | 5 (8%)   |
| 14  | CLA  | 2     | 838  | -    | 60,68,73     | 1.56 | 9 (15%)  | 70,107,113  | 1.47 | 7 (10%)  |
| 14  | CLA  | A     | 811  | -    | 49,57,73     | 1.70 | 9 (18%)  | 55,93,113   | 1.48 | 8 (14%)  |
| 14  | CLA  | a     | 812  | 14   | 65,73,73     | 1.47 | 7 (10%)  | 76,113,113  | 1.36 | 6 (7%)   |
| 14  | CLA  | b     | 816  | -    | 65,73,73     | 1.45 | 7 (10%)  | 76,113,113  | 1.39 | 7 (9%)   |
| 14  | CLA  | A     | 812  | 14   | 65,73,73     | 1.46 | 7 (10%)  | 76,113,113  | 1.35 | 7 (9%)   |
| 14  | CLA  | b     | 832  | -    | 49,57,73     | 1.65 | 7 (14%)  | 55,93,113   | 1.65 | 6 (10%)  |
| 14  | CLA  | B     | 825  | 21   | 65,73,73     | 1.51 | 9 (13%)  | 76,113,113  | 1.53 | 10 (13%) |
| 18  | LHG  | 1     | 1655 | 14   | 40,40,48     | 0.77 | 1 (2%)   | 43,46,54    | 1.21 | 4 (9%)   |
| 14  | CLA  | z     | 102  | 12   | 45,53,73     | 1.80 | 6 (13%)  | 52,89,113   | 1.61 | 6 (11%)  |
| 17  | BCR  | I     | 101  | -    | 41,41,41     | 1.28 | 4 (9%)   | 56,56,56    | 1.25 | 3 (5%)   |
| 14  | CLA  | B     | 822  | 21   | 55,63,73     | 1.63 | 7 (12%)  | 64,101,113  | 1.47 | 6 (9%)   |
| 18  | LHG  | y     | 101  | -    | 48,48,48     | 0.71 | 2 (4%)   | 51,54,54    | 1.22 | 3 (5%)   |
| 14  | CLA  | 1     | 1612 | -    | 49,57,73     | 1.71 | 9 (18%)  | 55,93,113   | 1.49 | 8 (14%)  |
| 17  | BCR  | l     | 207  | -    | 41,41,41     | 1.21 | 3 (7%)   | 56,56,56    | 1.34 | 7 (12%)  |
| 14  | CLA  | 2     | 816  | -    | 65,73,73     | 1.46 | 7 (10%)  | 76,113,113  | 1.39 | 7 (9%)   |
| 14  | CLA  | b     | 813  | -    | 45,53,73     | 1.80 | 8 (17%)  | 52,89,113   | 1.62 | 7 (13%)  |
| 17  | BCR  | F     | 205  | -    | 41,41,41     | 1.18 | 2 (4%)   | 56,56,56    | 1.36 | 8 (14%)  |



| Mol | Type | Chain | Res  | Link | Bond lengths |      |          | Bond angles |      |          |
|-----|------|-------|------|------|--------------|------|----------|-------------|------|----------|
|     |      |       |      |      | Counts       | RMSZ | # Z  > 2 | Counts      | RMSZ | # Z  > 2 |
| 14  | CLA  | 1     | 1638 | 1    | 45,53,73     | 1.78 | 7 (15%)  | 52,89,113   | 1.53 | 8 (15%)  |
| 14  | CLA  | 1     | 1616 | -    | 65,73,73     | 1.50 | 8 (12%)  | 76,113,113  | 1.40 | 7 (9%)   |
| 17  | BCR  | a     | 851  | -    | 41,41,41     | 1.27 | 3 (7%)   | 56,56,56    | 1.29 | 7 (12%)  |
| 14  | CLA  | 8     | 1303 | -    | 38,45,73     | 1.91 | 8 (21%)  | 43,78,113   | 1.68 | 7 (16%)  |
| 14  | CLA  | A     | 818  | -    | 65,73,73     | 1.46 | 6 (9%)   | 76,113,113  | 1.44 | 7 (9%)   |
| 14  | CLA  | b     | 826  | 21   | 65,73,73     | 1.51 | 9 (13%)  | 76,113,113  | 1.53 | 10 (13%) |
| 14  | CLA  | a     | 807  | -    | 65,73,73     | 1.44 | 8 (12%)  | 76,113,113  | 1.53 | 5 (6%)   |
| 14  | CLA  | A     | 838  | -    | 65,73,73     | 1.41 | 7 (10%)  | 76,113,113  | 1.61 | 7 (9%)   |
| 14  | CLA  | b     | 817  | -    | 65,73,73     | 1.45 | 6 (9%)   | 76,113,113  | 1.47 | 8 (10%)  |
| 17  | BCR  | 7     | 101  | -    | 41,41,41     | 1.29 | 4 (9%)   | 56,56,56    | 1.24 | 3 (5%)   |
| 14  | CLA  | b     | 805  | -    | 65,73,73     | 1.49 | 9 (13%)  | 76,113,113  | 1.46 | 12 (15%) |
| 14  | CLA  | 1     | 1644 | 21   | 65,73,73     | 1.50 | 9 (13%)  | 76,113,113  | 1.42 | 7 (9%)   |
| 18  | LHG  | 1     | 1654 | -    | 48,48,48     | 0.75 | 1 (2%)   | 51,54,54    | 1.23 | 4 (7%)   |
| 18  | LHG  | a     | 853  | -    | 48,48,48     | 0.74 | 1 (2%)   | 51,54,54    | 1.23 | 4 (7%)   |
| 14  | CLA  | 1     | 1636 | -    | 65,73,73     | 1.44 | 9 (13%)  | 76,113,113  | 1.45 | 6 (7%)   |
| 14  | CLA  | b     | 837  | 21   | 45,53,73     | 1.82 | 7 (15%)  | 52,89,113   | 1.53 | 5 (9%)   |
| 16  | SF4  | A     | 846  | 2,1  | 0,12,12      | -    | -        | -           | -    | -        |
| 17  | BCR  | 2     | 849  | -    | 41,41,41     | 1.39 | 4 (9%)   | 56,56,56    | 1.29 | 6 (10%)  |
| 14  | CLA  | B     | 805  | -    | 65,73,73     | 1.44 | 7 (10%)  | 76,113,113  | 1.57 | 8 (10%)  |
| 14  | CLA  | 1     | 1626 | -    | 65,73,73     | 1.45 | 9 (13%)  | 76,113,113  | 1.45 | 9 (11%)  |
| 14  | CLA  | 1     | 1609 | -    | 51,59,73     | 1.66 | 9 (17%)  | 59,96,113   | 1.55 | 8 (13%)  |
| 14  | CLA  | j     | 1302 | -    | 45,53,73     | 1.78 | 5 (11%)  | 52,89,113   | 1.59 | 8 (15%)  |
| 17  | BCR  | 8     | 1305 | -    | 41,41,41     | 1.22 | 2 (4%)   | 56,56,56    | 1.28 | 8 (14%)  |
| 14  | CLA  | 2     | 817  | -    | 65,73,73     | 1.45 | 6 (9%)   | 76,113,113  | 1.48 | 8 (10%)  |
| 14  | CLA  | 2     | 828  | -    | 65,73,73     | 1.51 | 8 (12%)  | 76,113,113  | 1.43 | 7 (9%)   |
| 14  | CLA  | B     | 832  | -    | 65,73,73     | 1.50 | 8 (12%)  | 76,113,113  | 1.44 | 8 (10%)  |
| 14  | CLA  | f     | 201  | 21   | 58,66,73     | 1.58 | 7 (12%)  | 67,104,113  | 1.47 | 8 (11%)  |
| 17  | BCR  | 6     | 202  | -    | 41,41,41     | 1.25 | 3 (7%)   | 56,56,56    | 1.25 | 6 (10%)  |
| 14  | CLA  | A     | 816  | -    | 65,73,73     | 1.47 | 6 (9%)   | 76,113,113  | 1.39 | 7 (9%)   |
| 14  | CLA  | F     | 204  | -    | 50,58,73     | 1.72 | 5 (10%)  | 58,95,113   | 1.52 | 8 (13%)  |
| 14  | CLA  | A     | 806  | -    | 65,73,73     | 1.46 | 10 (15%) | 76,113,113  | 1.58 | 12 (15%) |
| 17  | BCR  | A     | 851  | -    | 41,41,41     | 1.27 | 2 (4%)   | 56,56,56    | 1.30 | 7 (12%)  |
| 17  | BCR  | b     | 845  | -    | 41,41,41     | 1.17 | 3 (7%)   | 56,56,56    | 1.19 | 3 (5%)   |
| 14  | CLA  | B     | 834  | -    | 65,73,73     | 1.47 | 6 (9%)   | 76,113,113  | 1.45 | 9 (11%)  |
| 14  | CLA  | B     | 809  | 2    | 65,73,73     | 1.45 | 10 (15%) | 76,113,113  | 1.61 | 10 (13%) |

| Mol | Type | Chain | Res  | Link | Bond lengths |      |          | Bond angles |      |          |
|-----|------|-------|------|------|--------------|------|----------|-------------|------|----------|
|     |      |       |      |      | Counts       | RMSZ | # Z  > 2 | Counts      | RMSZ | # Z  > 2 |
| 16  | SF4  | 3     | 102  | 3    | 0,12,12      | -    | -        | -           |      |          |
| 14  | CLA  | b     | 838  | -    | 60,68,73     | 1.56 | 9 (15%)  | 70,107,113  | 1.47 | 7 (10%)  |
| 14  | CLA  | B     | 803  | -    | 65,73,73     | 1.43 | 10 (15%) | 76,113,113  | 1.52 | 8 (10%)  |
| 17  | BCR  | m     | 102  | -    | 41,41,41     | 1.24 | 3 (7%)   | 56,56,56    | 1.22 | 5 (8%)   |
| 17  | BCR  | 2     | 844  | -    | 41,41,41     | 1.17 | 2 (4%)   | 56,56,56    | 1.22 | 4 (7%)   |
| 14  | CLA  | B     | 819  | 21   | 65,73,73     | 1.55 | 8 (12%)  | 76,113,113  | 1.35 | 9 (11%)  |
| 20  | LMG  | b     | 850  | -    | 55,55,55     | 0.92 | 4 (7%)   | 63,63,63    | 1.35 | 10 (15%) |
| 17  | BCR  | A     | 849  | -    | 41,41,41     | 1.23 | 2 (4%)   | 56,56,56    | 1.20 | 6 (10%)  |
| 17  | BCR  | b     | 848  | -    | 41,41,41     | 1.27 | 3 (7%)   | 56,56,56    | 1.31 | 9 (16%)  |
| 18  | LHG  | B     | 850  | -    | 48,48,48     | 0.61 | 1 (2%)   | 51,54,54    | 1.20 | 5 (9%)   |
| 17  | BCR  | A     | 856  | -    | 41,41,41     | 1.23 | 3 (7%)   | 56,56,56    | 1.28 | 8 (14%)  |
| 14  | CLA  | a     | 841  | -    | 65,73,73     | 1.46 | 8 (12%)  | 76,113,113  | 1.46 | 8 (10%)  |
| 18  | LHG  | A     | 854  | 14   | 40,40,48     | 0.77 | 1 (2%)   | 43,46,54    | 1.22 | 4 (9%)   |
| 14  | CLA  | 2     | 841  | 21   | 65,73,73     | 1.47 | 9 (13%)  | 76,113,113  | 1.43 | 10 (13%) |
| 18  | LHG  | M     | 101  | -    | 48,48,48     | 0.70 | 2 (4%)   | 51,54,54    | 1.22 | 3 (5%)   |
| 14  | CLA  | 1     | 1620 | -    | 65,73,73     | 1.50 | 8 (12%)  | 76,113,113  | 1.47 | 9 (11%)  |
| 16  | SF4  | c     | 101  | 3    | 0,12,12      | -    | -        | -           |      |          |
| 14  | CLA  | b     | 808  | -    | 65,73,73     | 1.48 | 9 (13%)  | 76,113,113  | 1.44 | 9 (11%)  |
| 14  | CLA  | b     | 834  | -    | 65,73,73     | 1.47 | 9 (13%)  | 76,113,113  | 1.45 | 7 (9%)   |
| 14  | CLA  | a     | 831  | -    | 65,73,73     | 1.51 | 10 (15%) | 76,113,113  | 1.49 | 9 (11%)  |
| 14  | CLA  | a     | 834  | -    | 65,73,73     | 1.45 | 7 (10%)  | 76,113,113  | 1.59 | 12 (15%) |
| 14  | CLA  | A     | 831  | -    | 65,73,73     | 1.51 | 11 (16%) | 76,113,113  | 1.49 | 9 (11%)  |
| 16  | SF4  | c     | 102  | 3    | 0,12,12      | -    | -        | -           |      |          |
| 14  | CLA  | b     | 825  | 2    | 65,73,73     | 1.47 | 7 (10%)  | 76,113,113  | 1.48 | 8 (10%)  |
| 14  | CLA  | a     | 813  | -    | 45,53,73     | 1.77 | 8 (17%)  | 52,89,113   | 1.63 | 7 (13%)  |
| 14  | CLA  | 6     | 201  | 21   | 58,66,73     | 1.58 | 7 (12%)  | 67,104,113  | 1.47 | 8 (11%)  |
| 14  | CLA  | A     | 821  | -    | 65,73,73     | 1.45 | 6 (9%)   | 76,113,113  | 1.51 | 7 (9%)   |
| 14  | CLA  | a     | 803  | 21   | 65,73,73     | 1.54 | 9 (13%)  | 76,113,113  | 1.29 | 6 (7%)   |
| 14  | CLA  | b     | 814  | -    | 65,73,73     | 1.45 | 8 (12%)  | 76,113,113  | 1.45 | 9 (11%)  |
| 14  | CLA  | a     | 814  | -    | 65,73,73     | 1.50 | 9 (13%)  | 76,113,113  | 1.34 | 8 (10%)  |
| 14  | CLA  | B     | 838  | -    | 65,73,73     | 1.47 | 9 (13%)  | 76,113,113  | 1.40 | 6 (7%)   |
| 14  | CLA  | b     | 822  | -    | 45,53,73     | 1.73 | 7 (15%)  | 52,89,113   | 1.78 | 9 (17%)  |
| 14  | CLA  | a     | 804  | -    | 65,73,73     | 1.41 | 7 (10%)  | 76,113,113  | 1.50 | 7 (9%)   |
| 17  | BCR  | 2     | 847  | -    | 41,41,41     | 1.16 | 3 (7%)   | 56,56,56    | 1.25 | 7 (12%)  |
| 14  | CLA  | 1     | 1628 | 21   | 65,73,73     | 1.46 | 9 (13%)  | 76,113,113  | 1.52 | 10 (13%) |



| Mol | Type | Chain | Res  | Link | Bond lengths |      |          | Bond angles |      |          |
|-----|------|-------|------|------|--------------|------|----------|-------------|------|----------|
|     |      |       |      |      | Counts       | RMSZ | # Z  > 2 | Counts      | RMSZ | # Z  > 2 |
| 14  | CLA  | b     | 815  | -    | 65,73,73     | 1.44 | 8 (12%)  | 76,113,113  | 1.43 | 8 (10%)  |
| 14  | CLA  | a     | 829  | -    | 65,73,73     | 1.46 | 7 (10%)  | 76,113,113  | 1.47 | 8 (10%)  |
| 14  | CLA  | B     | 811  | -    | 65,73,73     | 1.44 | 7 (10%)  | 76,113,113  | 1.54 | 9 (11%)  |
| 14  | CLA  | b     | 811  | 2    | 65,73,73     | 1.44 | 9 (13%)  | 76,113,113  | 1.52 | 8 (10%)  |
| 14  | CLA  | A     | 840  | -    | 65,73,73     | 1.49 | 9 (13%)  | 76,113,113  | 1.43 | 8 (10%)  |
| 14  | CLA  | F     | 201  | 21   | 58,66,73     | 1.59 | 7 (12%)  | 67,104,113  | 1.47 | 8 (11%)  |
| 14  | CLA  | a     | 817  | 21   | 65,73,73     | 1.48 | 7 (10%)  | 76,113,113  | 1.35 | 7 (9%)   |
| 14  | CLA  | A     | 842  | -    | 65,73,73     | 1.47 | 9 (13%)  | 76,113,113  | 1.50 | 9 (11%)  |
| 14  | CLA  | A     | 823  | -    | 45,53,73     | 1.75 | 6 (13%)  | 52,89,113   | 1.67 | 8 (15%)  |
| 14  | CLA  | A     | 809  | 1    | 65,73,73     | 1.45 | 8 (12%)  | 76,113,113  | 1.51 | 8 (10%)  |
| 14  | CLA  | 2     | 806  | -    | 65,73,73     | 1.44 | 7 (10%)  | 76,113,113  | 1.58 | 8 (10%)  |
| 17  | BCR  | 1     | 1653 | -    | 25,25,41     | 1.13 | 1 (4%)   | 33,33,56    | 1.28 | 4 (12%)  |
| 14  | CLA  | 2     | 834  | -    | 65,73,73     | 1.47 | 9 (13%)  | 76,113,113  | 1.45 | 7 (9%)   |
| 14  | CLA  | 9     | 101  | -    | 46,54,73     | 1.73 | 7 (15%)  | 53,90,113   | 1.58 | 7 (13%)  |
| 14  | CLA  | 2     | 809  | -    | 65,73,73     | 1.44 | 8 (12%)  | 76,113,113  | 1.54 | 10 (13%) |
| 14  | CLA  | f     | 203  | -    | 50,58,73     | 1.72 | 5 (10%)  | 58,95,113   | 1.53 | 8 (13%)  |
| 13  | CL0  | A     | 801  | -    | 65,73,73     | 1.45 | 10 (15%) | 76,113,113  | 1.46 | 8 (10%)  |
| 17  | BCR  | 2     | 846  | -    | 41,41,41     | 1.26 | 3 (7%)   | 56,56,56    | 1.25 | 6 (10%)  |
| 14  | CLA  | l     | 205  | -    | 65,73,73     | 1.46 | 10 (15%) | 76,113,113  | 1.53 | 9 (11%)  |
| 17  | BCR  | 9     | 102  | -    | 41,41,41     | 1.18 | 2 (4%)   | 56,56,56    | 1.32 | 7 (12%)  |
| 17  | BCR  | 8     | 1306 | -    | 41,41,41     | 1.21 | 2 (4%)   | 56,56,56    | 1.34 | 9 (16%)  |
| 14  | CLA  | A     | 810  | 1    | 65,73,73     | 1.47 | 7 (10%)  | 76,113,113  | 1.46 | 7 (9%)   |
| 17  | BCR  | b     | 844  | -    | 41,41,41     | 1.17 | 2 (4%)   | 56,56,56    | 1.21 | 4 (7%)   |
| 14  | CLA  | a     | 839  | -    | 65,73,73     | 1.45 | 9 (13%)  | 76,113,113  | 1.48 | 9 (11%)  |
| 14  | CLA  | 1     | 1643 | -    | 65,73,73     | 1.47 | 8 (12%)  | 76,113,113  | 1.50 | 9 (11%)  |
| 14  | CLA  | A     | 839  | -    | 65,73,73     | 1.44 | 9 (13%)  | 76,113,113  | 1.47 | 9 (11%)  |
| 14  | CLA  | a     | 820  | -    | 65,73,73     | 1.45 | 7 (10%)  | 76,113,113  | 1.58 | 9 (11%)  |
| 14  | CLA  | 2     | 819  | -    | 65,73,73     | 1.44 | 8 (12%)  | 76,113,113  | 1.52 | 10 (13%) |
| 14  | CLA  | a     | 838  | -    | 65,73,73     | 1.42 | 7 (10%)  | 76,113,113  | 1.61 | 7 (9%)   |
| 14  | CLA  | L     | 205  | 21   | 65,73,73     | 1.45 | 10 (15%) | 76,113,113  | 1.49 | 10 (13%) |
| 14  | CLA  | B     | 814  | -    | 65,73,73     | 1.44 | 7 (10%)  | 76,113,113  | 1.44 | 8 (10%)  |
| 17  | BCR  | 9     | 104  | -    | 25,25,41     | 1.14 | 1 (4%)   | 33,33,56    | 1.15 | 4 (12%)  |
| 14  | CLA  | 2     | 839  | -    | 65,73,73     | 1.46 | 9 (13%)  | 76,113,113  | 1.40 | 6 (7%)   |
| 14  | CLA  | b     | 842  | -    | 65,73,73     | 1.48 | 9 (13%)  | 76,113,113  | 1.47 | 7 (9%)   |
| 14  | CLA  | K     | 103  | 21   | 58,66,73     | 1.56 | 7 (12%)  | 67,104,113  | 1.50 | 9 (13%)  |

| Mol | Type | Chain | Res  | Link | Bond lengths |      |          | Bond angles |      |          |
|-----|------|-------|------|------|--------------|------|----------|-------------|------|----------|
|     |      |       |      |      | Counts       | RMSZ | # Z  > 2 | Counts      | RMSZ | # Z  > 2 |
| 14  | CLA  | a     | 823  | -    | 45,53,73     | 1.75 | 6 (13%)  | 52,89,113   | 1.68 | 8 (15%)  |
| 14  | CLA  | a     | 826  | 21   | 65,73,73     | 1.46 | 9 (13%)  | 76,113,113  | 1.50 | 9 (11%)  |
| 14  | CLA  | a     | 811  | -    | 49,57,73     | 1.70 | 8 (16%)  | 55,93,113   | 1.49 | 8 (14%)  |
| 14  | CLA  | 2     | 812  | -    | 65,73,73     | 1.44 | 7 (10%)  | 76,113,113  | 1.55 | 9 (11%)  |
| 17  | BCR  | L     | 206  | -    | 41,41,41     | 1.21 | 3 (7%)   | 56,56,56    | 1.34 | 7 (12%)  |
| 17  | BCR  | b     | 852  | -    | 41,41,41     | 1.21 | 2 (4%)   | 56,56,56    | 1.33 | 9 (16%)  |
| 17  | BCR  | M     | 103  | -    | 41,41,41     | 1.23 | 3 (7%)   | 56,56,56    | 1.22 | 5 (8%)   |
| 17  | BCR  | a     | 852  | -    | 25,25,41     | 1.12 | 1 (4%)   | 33,33,56    | 1.29 | 4 (12%)  |
| 14  | CLA  | A     | 813  | -    | 45,53,73     | 1.78 | 8 (17%)  | 52,89,113   | 1.63 | 8 (15%)  |
| 14  | CLA  | a     | 819  | -    | 65,73,73     | 1.49 | 8 (12%)  | 76,113,113  | 1.47 | 10 (13%) |
| 18  | LHG  | 0     | 202  | -    | 38,38,48     | 0.73 | 1 (2%)   | 41,44,54    | 1.26 | 3 (7%)   |
| 14  | CLA  | B     | 831  | -    | 49,57,73     | 1.66 | 7 (14%)  | 55,93,113   | 1.66 | 7 (12%)  |
| 14  | CLA  | b     | 839  | -    | 65,73,73     | 1.47 | 9 (13%)  | 76,113,113  | 1.39 | 5 (6%)   |
| 14  | CLA  | B     | 808  | -    | 65,73,73     | 1.43 | 8 (12%)  | 76,113,113  | 1.54 | 10 (13%) |
| 14  | CLA  | 2     | 821  | -    | 65,73,73     | 1.49 | 7 (10%)  | 76,113,113  | 1.32 | 7 (9%)   |
| 14  | CLA  | a     | 816  | -    | 65,73,73     | 1.47 | 6 (9%)   | 76,113,113  | 1.39 | 7 (9%)   |
| 17  | BCR  | 1     | 1652 | -    | 41,41,41     | 1.27 | 2 (4%)   | 56,56,56    | 1.29 | 7 (12%)  |
| 15  | PQN  | a     | 845  | -    | 34,34,34     | 0.40 | 0        | 42,45,45    | 0.35 | 0        |
| 14  | CLA  | A     | 843  | 21   | 65,73,73     | 1.49 | 9 (13%)  | 76,113,113  | 1.42 | 7 (9%)   |
| 14  | CLA  | l     | 206  | 21   | 65,73,73     | 1.45 | 10 (15%) | 76,113,113  | 1.49 | 10 (13%) |
| 17  | BCR  | 2     | 845  | -    | 41,41,41     | 1.17 | 3 (7%)   | 56,56,56    | 1.19 | 3 (5%)   |
| 14  | CLA  | A     | 817  | 21   | 65,73,73     | 1.48 | 7 (10%)  | 76,113,113  | 1.35 | 7 (9%)   |
| 14  | CLA  | 0     | 206  | -    | 65,73,73     | 1.45 | 10 (15%) | 76,113,113  | 1.52 | 9 (11%)  |
| 14  | CLA  | 1     | 1606 | 14   | 59,67,73     | 1.51 | 7 (11%)  | 68,105,113  | 1.54 | 8 (11%)  |
| 14  | CLA  | B     | 823  | -    | 45,53,73     | 1.75 | 7 (15%)  | 52,89,113   | 1.71 | 7 (13%)  |
| 14  | CLA  | B     | 807  | -    | 65,73,73     | 1.48 | 9 (13%)  | 76,113,113  | 1.43 | 10 (13%) |
| 14  | CLA  | L     | 203  | 10   | 65,73,73     | 1.51 | 9 (13%)  | 76,113,113  | 1.38 | 8 (10%)  |
| 14  | CLA  | b     | 807  | -    | 65,73,73     | 1.47 | 9 (13%)  | 76,113,113  | 1.41 | 8 (10%)  |
| 14  | CLA  | a     | 840  | -    | 65,73,73     | 1.49 | 9 (13%)  | 76,113,113  | 1.44 | 8 (10%)  |
| 14  | CLA  | a     | 802  | -    | 65,73,73     | 1.45 | 8 (12%)  | 76,113,113  | 1.54 | 8 (10%)  |
| 14  | CLA  | 1     | 1621 | -    | 65,73,73     | 1.44 | 7 (10%)  | 76,113,113  | 1.58 | 9 (11%)  |
| 14  | CLA  | 1     | 1615 | -    | 65,73,73     | 1.49 | 9 (13%)  | 76,113,113  | 1.34 | 7 (9%)   |
| 14  | CLA  | 1     | 1635 | -    | 65,73,73     | 1.45 | 8 (12%)  | 76,113,113  | 1.59 | 12 (15%) |
| 14  | CLA  | A     | 827  | 21   | 65,73,73     | 1.46 | 10 (15%) | 76,113,113  | 1.53 | 10 (13%) |
| 14  | CLA  | 8     | 1302 | -    | 45,53,73     | 1.79 | 6 (13%)  | 52,89,113   | 1.58 | 8 (15%)  |

| Mol | Type | Chain | Res  | Link | Bond lengths |      |          | Bond angles |      |          |
|-----|------|-------|------|------|--------------|------|----------|-------------|------|----------|
|     |      |       |      |      | Counts       | RMSZ | # Z  > 2 | Counts      | RMSZ | # Z  > 2 |
| 14  | CLA  | 1     | 1639 | -    | 65,73,73     | 1.42 | 8 (12%)  | 76,113,113  | 1.61 | 7 (9%)   |
| 14  | CLA  | B     | 839  | -    | 47,55,73     | 1.80 | 9 (19%)  | 54,91,113   | 1.48 | 8 (14%)  |
| 17  | BCR  | a     | 850  | -    | 41,41,41     | 1.34 | 4 (9%)   | 56,56,56    | 1.29 | 7 (12%)  |
| 14  | CLA  | 2     | 827  | -    | 65,73,73     | 1.48 | 8 (12%)  | 76,113,113  | 1.42 | 8 (10%)  |
| 14  | CLA  | F     | 203  | 21   | 45,53,73     | 1.77 | 7 (15%)  | 52,89,113   | 1.68 | 7 (13%)  |
| 14  | CLA  | A     | 835  | -    | 65,73,73     | 1.44 | 9 (13%)  | 76,113,113  | 1.44 | 6 (7%)   |
| 17  | BCR  | 0     | 209  | -    | 41,41,41     | 1.18 | 3 (7%)   | 56,56,56    | 1.28 | 7 (12%)  |
| 14  | CLA  | 2     | 842  | -    | 65,73,73     | 1.48 | 9 (13%)  | 76,113,113  | 1.47 | 7 (9%)   |
| 14  | CLA  | B     | 829  | -    | 65,73,73     | 1.44 | 12 (18%) | 76,113,113  | 1.57 | 10 (13%) |
| 14  | CLA  | b     | 836  | 21   | 50,58,73     | 1.69 | 9 (18%)  | 58,95,113   | 1.52 | 8 (13%)  |
| 14  | CLA  | A     | 803  | 21   | 65,73,73     | 1.54 | 9 (13%)  | 76,113,113  | 1.30 | 8 (10%)  |
| 14  | CLA  | b     | 840  | -    | 47,55,73     | 1.79 | 9 (19%)  | 54,91,113   | 1.48 | 7 (12%)  |
| 14  | CLA  | a     | 828  | -    | 65,73,73     | 1.47 | 7 (10%)  | 76,113,113  | 1.38 | 8 (10%)  |
| 14  | CLA  | A     | 828  | -    | 65,73,73     | 1.46 | 7 (10%)  | 76,113,113  | 1.39 | 8 (10%)  |
| 14  | CLA  | B     | 813  | -    | 65,73,73     | 1.46 | 8 (12%)  | 76,113,113  | 1.44 | 9 (11%)  |
| 14  | CLA  | b     | 823  | 21   | 55,63,73     | 1.62 | 7 (12%)  | 64,101,113  | 1.48 | 6 (9%)   |
| 20  | LMG  | 2     | 850  | -    | 55,55,55     | 0.92 | 4 (7%)   | 63,63,63    | 1.35 | 9 (14%)  |
| 14  | CLA  | B     | 830  | -    | 55,63,73     | 1.60 | 9 (16%)  | 64,101,113  | 1.50 | 9 (14%)  |
| 14  | CLA  | b     | 818  | -    | 65,73,73     | 1.51 | 9 (13%)  | 76,113,113  | 1.49 | 9 (11%)  |
| 17  | BCR  | L     | 201  | -    | 41,41,41     | 1.39 | 4 (9%)   | 56,56,56    | 1.33 | 7 (12%)  |
| 13  | CL0  | 1     | 1602 | -    | 65,73,73     | 1.45 | 10 (15%) | 76,113,113  | 1.47 | 8 (10%)  |
| 14  | CLA  | A     | 834  | -    | 65,73,73     | 1.45 | 7 (10%)  | 76,113,113  | 1.58 | 13 (17%) |
| 16  | SF4  | C     | 101  | 3    | 0,12,12      | -    | -        | -           | -    | -        |
| 14  | CLA  | 2     | 808  | -    | 65,73,73     | 1.48 | 9 (13%)  | 76,113,113  | 1.43 | 9 (11%)  |
| 14  | CLA  | A     | 833  | -    | 65,73,73     | 1.45 | 10 (15%) | 76,113,113  | 1.38 | 6 (7%)   |
| 14  | CLA  | 1     | 1632 | -    | 65,73,73     | 1.51 | 9 (13%)  | 76,113,113  | 1.50 | 9 (11%)  |
| 14  | CLA  | B     | 804  | -    | 65,73,73     | 1.49 | 9 (13%)  | 76,113,113  | 1.46 | 11 (14%) |
| 14  | CLA  | B     | 817  | -    | 65,73,73     | 1.52 | 9 (13%)  | 76,113,113  | 1.49 | 9 (11%)  |
| 14  | CLA  | A     | 825  | -    | 65,73,73     | 1.46 | 9 (13%)  | 76,113,113  | 1.47 | 9 (11%)  |
| 17  | BCR  | B     | 847  | -    | 41,41,41     | 1.27 | 3 (7%)   | 56,56,56    | 1.31 | 9 (16%)  |
| 14  | CLA  | b     | 828  | -    | 65,73,73     | 1.50 | 8 (12%)  | 76,113,113  | 1.43 | 7 (9%)   |
| 17  | BCR  | B     | 848  | -    | 41,41,41     | 1.39 | 4 (9%)   | 56,56,56    | 1.29 | 6 (10%)  |
| 14  | CLA  | A     | 822  | 21   | 65,73,73     | 1.47 | 7 (10%)  | 76,113,113  | 1.46 | 7 (9%)   |
| 14  | CLA  | B     | 837  | -    | 60,68,73     | 1.56 | 9 (15%)  | 70,107,113  | 1.46 | 7 (10%)  |
| 17  | BCR  | a     | 849  | -    | 41,41,41     | 1.22 | 2 (4%)   | 56,56,56    | 1.20 | 6 (10%)  |

| Mol | Type | Chain | Res  | Link | Bond lengths |      |          | Bond angles |      |          |
|-----|------|-------|------|------|--------------|------|----------|-------------|------|----------|
|     |      |       |      |      | Counts       | RMSZ | # Z  > 2 | Counts      | RMSZ | # Z  > 2 |
| 14  | CLA  | A     | 837  | 1    | 45,53,73     | 1.79 | 7 (15%)  | 52,89,113   | 1.54 | 8 (15%)  |
| 14  | CLA  | A     | 855  | 21   | 65,73,73     | 1.43 | 7 (10%)  | 76,113,113  | 1.61 | 8 (10%)  |
| 14  | CLA  | 2     | 822  | -    | 45,53,73     | 1.72 | 7 (15%)  | 52,89,113   | 1.78 | 9 (17%)  |
| 14  | CLA  | 1     | 1619 | -    | 65,73,73     | 1.45 | 6 (9%)   | 76,113,113  | 1.45 | 7 (9%)   |
| 16  | SF4  | 3     | 101  | 3    | 0,12,12      | -    | -        | -           | -    | -        |
| 14  | CLA  | a     | 808  | -    | 51,59,73     | 1.66 | 9 (17%)  | 59,96,113   | 1.53 | 8 (13%)  |
| 14  | CLA  | A     | 824  | -    | 65,73,73     | 1.52 | 8 (12%)  | 76,113,113  | 1.38 | 9 (11%)  |
| 17  | BCR  | j     | 1304 | -    | 41,41,41     | 1.17 | 3 (7%)   | 56,56,56    | 1.19 | 7 (12%)  |
| 14  | CLA  | B     | 824  | 2    | 65,73,73     | 1.46 | 7 (10%)  | 76,113,113  | 1.47 | 8 (10%)  |
| 14  | CLA  | a     | 843  | 21   | 65,73,73     | 1.50 | 9 (13%)  | 76,113,113  | 1.42 | 7 (9%)   |
| 14  | CLA  | B     | 841  | -    | 65,73,73     | 1.48 | 9 (13%)  | 76,113,113  | 1.47 | 7 (9%)   |
| 17  | BCR  | 1     | 1649 | -    | 41,41,41     | 1.19 | 3 (7%)   | 56,56,56    | 1.22 | 6 (10%)  |
| 17  | BCR  | K     | 102  | -    | 41,41,41     | 1.18 | 2 (4%)   | 56,56,56    | 1.31 | 7 (12%)  |
| 17  | BCR  | 0     | 203  | -    | 41,41,41     | 1.39 | 4 (9%)   | 56,56,56    | 1.33 | 7 (12%)  |
| 14  | CLA  | B     | 828  | -    | 65,73,73     | 1.51 | 8 (12%)  | 76,113,113  | 1.30 | 7 (9%)   |
| 14  | CLA  | A     | 830  | -    | 65,73,73     | 1.41 | 9 (13%)  | 76,113,113  | 1.54 | 7 (9%)   |
| 15  | PQN  | 2     | 843  | -    | 34,34,34     | 0.45 | 0        | 42,45,45    | 0.38 | 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. '2' means no outliers of that kind were identified.

| Mol | Type | Chain | Res  | Link | Chirals   | Torsions      | Rings   |
|-----|------|-------|------|------|-----------|---------------|---------|
| 14  | CLA  | A     | 844  | 18   | 1/1/11/20 | 5/13/91/115   | -       |
| 14  | CLA  | B     | 836  | 21   | 1/1/11/20 | 3/13/91/115   | -       |
| 14  | CLA  | 2     | 830  | -    | 1/1/15/20 | 7/37/115/115  | -       |
| 17  | BCR  | i     | 101  | -    | -         | 7/29/63/63    | 0/2/2/2 |
| 14  | CLA  | B     | 816  | -    | 1/1/15/20 | 12/37/115/115 | -       |
| 14  | CLA  | a     | 809  | 1    | 1/1/15/20 | 11/37/115/115 | -       |
| 14  | CLA  | b     | 829  | -    | 1/1/15/20 | 11/37/115/115 | -       |
| 14  | CLA  | B     | 810  | 2    | 1/1/15/20 | 15/37/115/115 | -       |
| 14  | CLA  | a     | 836  | -    | 1/1/15/20 | 6/37/115/115  | -       |
| 17  | BCR  | J     | 103  | -    | -         | 11/29/63/63   | 0/2/2/2 |
| 14  | CLA  | 2     | 803  | -    | 1/1/15/20 | 18/37/115/115 | -       |
| 14  | CLA  | 1     | 1607 | -    | 1/1/15/20 | 21/37/115/115 | -       |

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| Mol | Type | Chain | Res  | Link | Chirals   | Torsions      | Rings   |
|-----|------|-------|------|------|-----------|---------------|---------|
| 14  | CLA  | A     | 804  | -    | 1/1/15/20 | 16/37/115/115 | -       |
| 14  | CLA  | b     | 824  | -    | 1/1/11/20 | 5/13/91/115   | -       |
| 14  | CLA  | 2     | 814  | -    | 1/1/15/20 | 16/37/115/115 | -       |
| 14  | CLA  | j     | 1303 | -    | 1/1/8/20  | 0/2/76/115    | -       |
| 15  | PQN  | B     | 842  | -    | -         | 1/23/43/43    | 0/2/2/2 |
| 17  | BCR  | a     | 847  | -    | -         | 9/29/63/63    | 0/2/2/2 |
| 17  | BCR  | A     | 847  | -    | -         | 9/29/63/63    | 0/2/2/2 |
| 14  | CLA  | 2     | 833  | -    | 1/1/15/20 | 16/37/115/115 | -       |
| 14  | CLA  | 2     | 804  | -    | 1/1/15/20 | 12/37/115/115 | -       |
| 17  | BCR  | A     | 848  | -    | -         | 15/29/63/63   | 0/2/2/2 |
| 14  | CLA  | a     | 824  | -    | 1/1/15/20 | 12/37/115/115 | -       |
| 14  | CLA  | 1     | 1617 | -    | 1/1/15/20 | 19/37/115/115 | -       |
| 14  | CLA  | 1     | 1634 | -    | 1/1/15/20 | 12/37/115/115 | -       |
| 17  | BCR  | 0     | 208  | -    | -         | 10/29/63/63   | 0/2/2/2 |
| 14  | CLA  | 1     | 1608 | -    | 1/1/15/20 | 15/37/115/115 | -       |
| 14  | CLA  | b     | 802  | 21   | 1/1/15/20 | 18/37/115/115 | -       |
| 14  | CLA  | l     | 204  | 10   | 1/1/15/20 | 17/37/115/115 | -       |
| 14  | CLA  | 1     | 1625 | -    | 1/1/15/20 | 12/37/115/115 | -       |
| 14  | CLA  | b     | 841  | 21   | 1/1/15/20 | 7/37/115/115  | -       |
| 14  | CLA  | b     | 803  | -    | 1/1/15/20 | 18/37/115/115 | -       |
| 14  | CLA  | b     | 831  | -    | 1/1/13/20 | 13/25/103/115 | -       |
| 14  | CLA  | B     | 815  | -    | 1/1/15/20 | 13/37/115/115 | -       |
| 14  | CLA  | 1     | 1631 | -    | 1/1/15/20 | 15/37/115/115 | -       |
| 17  | BCR  | b     | 847  | -    | -         | 12/29/63/63   | 0/2/2/2 |
| 14  | CLA  | 1     | 1624 | -    | 1/1/11/20 | 8/13/91/115   | -       |
| 13  | CL0  | a     | 801  | -    | 3/3/20/25 | 10/37/135/135 | -       |
| 14  | CLA  | a     | 810  | 1    | 1/1/15/20 | 12/37/115/115 | -       |
| 18  | LHG  | A     | 853  | -    | -         | 21/53/53/53   | -       |
| 17  | BCR  | f     | 202  | -    | -         | 12/29/63/63   | 0/2/2/2 |
| 16  | SF4  | C     | 102  | 3    | -         | -             | 0/6/5/5 |
| 14  | CLA  | A     | 815  | -    | 1/1/15/20 | 12/37/115/115 | -       |
| 14  | CLA  | a     | 821  | -    | 1/1/15/20 | 16/37/115/115 | -       |
| 14  | CLA  | A     | 826  | 21   | 1/1/15/20 | 13/37/115/115 | -       |
| 14  | CLA  | 1     | 1603 | -    | 1/1/15/20 | 15/37/115/115 | -       |
| 14  | CLA  | 1     | 1610 | 1    | 1/1/15/20 | 11/37/115/115 | -       |

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| Mol | Type | Chain | Res  | Link | Chirals   | Torsions      | Rings   |
|-----|------|-------|------|------|-----------|---------------|---------|
| 14  | CLA  | J     | 101  | -    | 1/1/11/20 | 5/13/91/115   | -       |
| 17  | BCR  | 8     | 1304 | -    | -         | 11/29/63/63   | 0/2/2/2 |
| 14  | CLA  | 2     | 826  | 21   | 1/1/15/20 | 11/37/115/115 | -       |
| 14  | CLA  | 2     | 818  | -    | 1/1/15/20 | 13/37/115/115 | -       |
| 14  | CLA  | x     | 1701 | 12   | 1/1/11/20 | 7/13/91/115   | -       |
| 14  | CLA  | 1     | 1640 | -    | 1/1/15/20 | 20/37/115/115 | -       |
| 14  | CLA  | A     | 841  | -    | 1/1/15/20 | 14/37/115/115 | -       |
| 14  | CLA  | b     | 806  | -    | 1/1/15/20 | 16/37/115/115 | -       |
| 17  | BCR  | b     | 846  | -    | -         | 11/29/63/63   | 0/2/2/2 |
| 14  | CLA  | A     | 807  | -    | 1/1/15/20 | 15/37/115/115 | -       |
| 14  | CLA  | a     | 842  | -    | 1/1/15/20 | 12/37/115/115 | -       |
| 14  | CLA  | 1     | 1614 | -    | 1/1/11/20 | 4/13/91/115   | -       |
| 17  | BCR  | B     | 845  | -    | -         | 11/29/63/63   | 0/2/2/2 |
| 14  | CLA  | k     | 101  | -    | 1/1/11/20 | 10/15/93/115  | -       |
| 16  | SF4  | a     | 846  | 2,1  | -         | -             | 0/6/5/5 |
| 14  | CLA  | b     | 821  | -    | 1/1/15/20 | 19/37/115/115 | -       |
| 14  | CLA  | a     | 806  | -    | 1/1/15/20 | 21/37/115/115 | -       |
| 14  | CLA  | 1     | 1605 | -    | 1/1/15/20 | 16/37/115/115 | -       |
| 16  | SF4  | 1     | 1647 | 2,1  | -         | -             | 0/6/5/5 |
| 17  | BCR  | l     | 202  | -    | -         | 8/29/63/63    | 0/2/2/2 |
| 14  | CLA  | k     | 103  | 21   | 1/1/13/20 | 9/29/107/115  | -       |
| 17  | BCR  | 6     | 204  | -    | -         | 8/29/63/63    | 0/2/2/2 |
| 14  | CLA  | X     | 1701 | 12   | 1/1/11/20 | 7/13/91/115   | -       |
| 14  | CLA  | 1     | 1622 | -    | 1/1/15/20 | 16/37/115/115 | -       |
| 14  | CLA  | A     | 814  | -    | 1/1/15/20 | 15/37/115/115 | -       |
| 14  | CLA  | B     | 820  | -    | 1/1/15/20 | 19/37/115/115 | -       |
| 14  | CLA  | 1     | 1601 | -    | 1/1/7/20  | 0/2/72/115    | -       |
| 17  | BCR  | F     | 202  | -    | -         | 12/29/63/63   | 0/2/2/2 |
| 18  | LHG  | L     | 208  | -    | -         | 27/43/43/53   | -       |
| 14  | CLA  | 2     | 825  | 2    | 1/1/15/20 | 14/37/115/115 | -       |
| 14  | CLA  | 1     | 1604 | 21   | 1/1/15/20 | 6/37/115/115  | -       |
| 14  | CLA  | b     | 833  | -    | 1/1/15/20 | 16/37/115/115 | -       |
| 14  | CLA  | a     | 835  | -    | 1/1/15/20 | 8/37/115/115  | -       |
| 14  | CLA  | b     | 812  | -    | 1/1/15/20 | 10/37/115/115 | -       |
| 14  | CLA  | A     | 802  | -    | 1/1/15/20 | 15/37/115/115 | -       |

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| Mol | Type | Chain | Res  | Link | Chirals   | Torsions      | Rings   |
|-----|------|-------|------|------|-----------|---------------|---------|
| 15  | PQN  | b     | 843  | -    | -         | 1/23/43/43    | 0/2/2/2 |
| 14  | CLA  | 1     | 1613 | 14   | 1/1/15/20 | 13/37/115/115 | -       |
| 14  | CLA  | B     | 802  | -    | 1/1/15/20 | 18/37/115/115 | -       |
| 14  | CLA  | A     | 857  | -    | 1/1/7/20  | 0/2/72/115    | -       |
| 17  | BCR  | 2     | 848  | -    | -         | 11/29/63/63   | 0/2/2/2 |
| 14  | CLA  | 1     | 1623 | 21   | 1/1/15/20 | 12/37/115/115 | -       |
| 14  | CLA  | 2     | 815  | -    | 1/1/15/20 | 13/37/115/115 | -       |
| 14  | CLA  | 1     | 1630 | -    | 1/1/15/20 | 14/37/115/115 | -       |
| 14  | CLA  | 2     | 807  | -    | 1/1/15/20 | 9/37/115/115  | -       |
| 17  | BCR  | 1     | 1650 | -    | -         | 5/29/63/63    | 0/2/2/2 |
| 14  | CLA  | A     | 819  | -    | 1/1/15/20 | 17/37/115/115 | -       |
| 18  | LHG  | a     | 854  | 14   | -         | 13/45/45/53   | -       |
| 17  | BCR  | k     | 102  | -    | -         | 6/29/63/63    | 0/2/2/2 |
| 14  | CLA  | 1     | 1627 | 21   | 1/1/15/20 | 13/37/115/115 | -       |
| 14  | CLA  | B     | 821  | -    | 1/1/11/20 | 5/13/91/115   | -       |
| 14  | CLA  | K     | 101  | -    | 1/1/11/20 | 10/15/93/115  | -       |
| 17  | BCR  | b     | 849  | -    | -         | 5/29/63/63    | 0/2/2/2 |
| 14  | CLA  | a     | 818  | -    | 1/1/15/20 | 10/37/115/115 | -       |
| 17  | BCR  | 0     | 201  | -    | -         | 5/29/63/63    | 0/2/2/2 |
| 14  | CLA  | 6     | 203  | -    | 1/1/12/20 | 6/19/97/115   | -       |
| 14  | CLA  | a     | 827  | 21   | 1/1/15/20 | 9/37/115/115  | -       |
| 14  | CLA  | 1     | 1642 | -    | 1/1/15/20 | 14/37/115/115 | -       |
| 17  | BCR  | j     | 1305 | -    | -         | 13/29/63/63   | 0/2/2/2 |
| 20  | LMG  | B     | 849  | -    | -         | 27/50/70/70   | 0/1/1/1 |
| 14  | CLA  | J     | 102  | -    | 1/1/8/20  | 0/2/76/115    | -       |
| 14  | CLA  | A     | 829  | -    | 1/1/15/20 | 14/37/115/115 | -       |
| 14  | CLA  | 2     | 829  | -    | 1/1/15/20 | 11/37/115/115 | -       |
| 17  | BCR  | B     | 843  | -    | -         | 11/29/63/63   | 0/2/2/2 |
| 14  | CLA  | 1     | 1641 | -    | 1/1/15/20 | 17/37/115/115 | -       |
| 14  | CLA  | 2     | 811  | 2    | 1/1/15/20 | 15/37/115/115 | -       |
| 18  | LHG  | m     | 101  | -    | -         | 27/53/53/53   | -       |
| 17  | BCR  | A     | 852  | -    | -         | 11/18/35/63   | 0/1/1/2 |
| 14  | CLA  | 0     | 207  | 21   | 1/1/15/20 | 11/37/115/115 | -       |
| 18  | LHG  | b     | 851  | -    | -         | 18/53/53/53   | -       |
| 17  | BCR  | B     | 846  | -    | -         | 12/29/63/63   | 0/2/2/2 |

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| Mol | Type | Chain | Res  | Link | Chirals   | Torsions      | Rings   |
|-----|------|-------|------|------|-----------|---------------|---------|
| 14  | CLA  | 1     | 1618 | 21   | 1/1/15/20 | 12/37/115/115 | -       |
| 14  | CLA  | A     | 820  | -    | 1/1/15/20 | 10/37/115/115 | -       |
| 14  | CLA  | b     | 827  | -    | 1/1/15/20 | 6/37/115/115  | -       |
| 14  | CLA  | 8     | 1301 | 21   | 1/1/11/20 | 2/13/91/115   | -       |
| 14  | CLA  | 2     | 820  | 21   | 1/1/15/20 | 15/37/115/115 | -       |
| 18  | LHG  | l     | 201  | -    | -         | 27/43/43/53   | -       |
| 14  | CLA  | 2     | 810  | 2    | 1/1/15/20 | 11/37/115/115 | -       |
| 15  | PQN  | A     | 845  | -    | -         | 1/23/43/43    | 0/2/2/2 |
| 14  | CLA  | M     | 102  | -    | 1/1/7/20  | 0/2/72/115    | -       |
| 14  | CLA  | a     | 844  | 18   | 1/1/11/20 | 5/13/91/115   | -       |
| 14  | CLA  | B     | 835  | 21   | 1/1/12/20 | 9/19/97/115   | -       |
| 14  | CLA  | 2     | 835  | -    | 1/1/15/20 | 9/37/115/115  | -       |
| 14  | CLA  | B     | 833  | -    | 1/1/15/20 | 11/37/115/115 | -       |
| 14  | CLA  | a     | 805  | 14   | 1/1/13/20 | 10/30/108/115 | -       |
| 14  | CLA  | A     | 805  | 14   | 1/1/13/20 | 10/30/108/115 | -       |
| 14  | CLA  | B     | 812  | -    | 1/1/11/20 | 0/13/91/115   | -       |
| 14  | CLA  | B     | 826  | -    | 1/1/15/20 | 6/37/115/115  | -       |
| 17  | BCR  | L     | 207  | -    | -         | 5/29/63/63    | 0/2/2/2 |
| 14  | CLA  | A     | 808  | -    | 1/1/12/20 | 4/21/99/115   | -       |
| 14  | CLA  | b     | 810  | 2    | 1/1/15/20 | 11/37/115/115 | -       |
| 14  | CLA  | 2     | 813  | -    | 1/1/11/20 | 0/13/91/115   | -       |
| 17  | BCR  | a     | 848  | -    | -         | 15/29/63/63   | 0/2/2/2 |
| 14  | CLA  | j     | 1301 | 21   | 1/1/11/20 | 2/13/91/115   | -       |
| 14  | CLA  | a     | 837  | 1    | 1/1/11/20 | 5/13/91/115   | -       |
| 14  | CLA  | B     | 840  | 21   | 1/1/15/20 | 7/37/115/115  | -       |
| 17  | BCR  | 1     | 1651 | -    | -         | 8/29/63/63    | 0/2/2/2 |
| 14  | CLA  | 2     | 802  | 21   | 1/1/15/20 | 18/37/115/115 | -       |
| 14  | CLA  | 2     | 837  | 21   | 1/1/11/20 | 3/13/91/115   | -       |
| 17  | BCR  | K     | 104  | -    | -         | 4/18/35/63    | 0/1/1/2 |
| 14  | CLA  | B     | 818  | -    | 1/1/15/20 | 17/37/115/115 | -       |
| 14  | CLA  | B     | 827  | -    | 1/1/15/20 | 15/37/115/115 | -       |
| 14  | CLA  | b     | 820  | 21   | 1/1/15/20 | 15/37/115/115 | -       |
| 14  | CLA  | 2     | 831  | -    | 1/1/13/20 | 13/25/103/115 | -       |
| 14  | CLA  | 9     | 103  | 21   | 1/1/13/20 | 9/29/107/115  | -       |
| 15  | PQN  | 1     | 1646 | -    | -         | 1/23/43/43    | 0/2/2/2 |

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| Mol | Type | Chain | Res  | Link | Chirals   | Torsions      | Rings   |
|-----|------|-------|------|------|-----------|---------------|---------|
| 14  | CLA  | 1     | 1611 | 1    | 1/1/15/20 | 12/37/115/115 | -       |
| 14  | CLA  | a     | 825  | -    | 1/1/15/20 | 12/37/115/115 | -       |
| 14  | CLA  | b     | 835  | -    | 1/1/15/20 | 9/37/115/115  | -       |
| 14  | CLA  | 0     | 205  | 10   | 1/1/15/20 | 17/37/115/115 | -       |
| 14  | CLA  | L     | 204  | -    | 1/1/15/20 | 11/37/115/115 | -       |
| 14  | CLA  | a     | 822  | 21   | 1/1/15/20 | 12/37/115/115 | -       |
| 14  | CLA  | b     | 830  | -    | 1/1/15/20 | 7/37/115/115  | -       |
| 14  | CLA  | a     | 830  | -    | 1/1/15/20 | 15/37/115/115 | -       |
| 14  | CLA  | 1     | 1645 | 18   | 1/1/11/20 | 5/13/91/115   | -       |
| 14  | CLA  | a     | 815  | -    | 1/1/15/20 | 12/37/115/115 | -       |
| 14  | CLA  | B     | 806  | -    | 1/1/15/20 | 9/37/115/115  | -       |
| 14  | CLA  | a     | 832  | -    | 1/1/14/20 | 6/31/109/115  | -       |
| 14  | CLA  | A     | 832  | -    | 1/1/14/20 | 6/31/109/115  | -       |
| 14  | CLA  | 2     | 840  | -    | -         | 2/16/94/115   | -       |
| 14  | CLA  | 2     | 805  | -    | 1/1/15/20 | 17/37/115/115 | -       |
| 14  | CLA  | A     | 836  | -    | 1/1/15/20 | 6/37/115/115  | -       |
| 14  | CLA  | b     | 809  | -    | 1/1/15/20 | 8/37/115/115  | -       |
| 14  | CLA  | 1     | 1633 | -    | 1/1/14/20 | 6/31/109/115  | -       |
| 14  | CLA  | 2     | 832  | -    | 1/1/11/20 | 10/18/96/115  | -       |
| 17  | BCR  | B     | 851  | -    | -         | 15/29/63/63   | 0/2/2/2 |
| 14  | CLA  | 1     | 1637 | -    | 1/1/15/20 | 6/37/115/115  | -       |
| 14  | CLA  | 2     | 823  | 21   | 1/1/13/20 | 5/25/103/115  | -       |
| 14  | CLA  | 2     | 836  | 21   | 1/1/12/20 | 9/19/97/115   | -       |
| 18  | LHG  | z     | 101  | -    | -         | 18/53/53/53   | -       |
| 17  | BCR  | 1     | 1648 | -    | -         | 9/29/63/63    | 0/2/2/2 |
| 14  | CLA  | b     | 804  | -    | 1/1/15/20 | 12/37/115/115 | -       |
| 17  | BCR  | k     | 104  | -    | -         | 4/18/35/63    | 0/1/1/2 |
| 14  | CLA  | b     | 819  | -    | 1/1/15/20 | 17/37/115/115 | -       |
| 17  | BCR  | A     | 850  | -    | -         | 8/29/63/63    | 0/2/2/2 |
| 17  | BCR  | f     | 204  | -    | -         | 8/29/63/63    | 0/2/2/2 |
| 14  | CLA  | a     | 833  | -    | 1/1/15/20 | 12/37/115/115 | -       |
| 14  | CLA  | 2     | 824  | -    | 1/1/11/20 | 5/13/91/115   | -       |
| 17  | BCR  | B     | 844  | -    | -         | 8/29/63/63    | 0/2/2/2 |
| 14  | CLA  | 1     | 1629 | -    | 1/1/15/20 | 7/37/115/115  | -       |

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| Mol | Type | Chain | Res  | Link | Chirals   | Torsions      | Rings   |
|-----|------|-------|------|------|-----------|---------------|---------|
| 17  | BCR  | y     | 102  | -    | -         | 9/29/63/63    | 0/2/2/2 |
| 14  | CLA  | 2     | 838  | -    | 1/1/14/20 | 5/31/109/115  | -       |
| 14  | CLA  | A     | 811  | -    | 1/1/11/20 | 8/18/96/115   | -       |
| 14  | CLA  | a     | 812  | 14   | 1/1/15/20 | 13/37/115/115 | -       |
| 14  | CLA  | b     | 816  | -    | 1/1/15/20 | 13/37/115/115 | -       |
| 14  | CLA  | A     | 812  | 14   | 1/1/15/20 | 13/37/115/115 | -       |
| 14  | CLA  | b     | 832  | -    | 1/1/11/20 | 10/18/96/115  | -       |
| 14  | CLA  | B     | 825  | 21   | 1/1/15/20 | 11/37/115/115 | -       |
| 18  | LHG  | 1     | 1655 | 14   | -         | 13/45/45/53   | -       |
| 14  | CLA  | z     | 102  | 12   | 1/1/11/20 | 7/13/91/115   | -       |
| 17  | BCR  | I     | 101  | -    | -         | 7/29/63/63    | 0/2/2/2 |
| 14  | CLA  | B     | 822  | 21   | 1/1/13/20 | 5/25/103/115  | -       |
| 18  | LHG  | y     | 101  | -    | -         | 27/53/53/53   | -       |
| 14  | CLA  | 1     | 1612 | -    | 1/1/11/20 | 8/18/96/115   | -       |
| 17  | BCR  | l     | 207  | -    | -         | 10/29/63/63   | 0/2/2/2 |
| 14  | CLA  | 2     | 816  | -    | 1/1/15/20 | 13/37/115/115 | -       |
| 14  | CLA  | b     | 813  | -    | 1/1/11/20 | 0/13/91/115   | -       |
| 17  | BCR  | F     | 205  | -    | -         | 8/29/63/63    | 0/2/2/2 |
| 14  | CLA  | 1     | 1638 | 1    | 1/1/11/20 | 5/13/91/115   | -       |
| 14  | CLA  | 1     | 1616 | -    | 1/1/15/20 | 12/37/115/115 | -       |
| 17  | BCR  | a     | 851  | -    | -         | 18/29/63/63   | 0/2/2/2 |
| 14  | CLA  | 8     | 1303 | -    | 1/1/8/20  | 0/2/76/115    | -       |
| 14  | CLA  | A     | 818  | -    | 1/1/15/20 | 10/37/115/115 | -       |
| 14  | CLA  | b     | 826  | 21   | 1/1/15/20 | 11/37/115/115 | -       |
| 14  | CLA  | a     | 807  | -    | 1/1/15/20 | 15/37/115/115 | -       |
| 14  | CLA  | A     | 838  | -    | 1/1/15/20 | 16/37/115/115 | -       |
| 14  | CLA  | b     | 817  | -    | 1/1/15/20 | 12/37/115/115 | -       |
| 17  | BCR  | 7     | 101  | -    | -         | 7/29/63/63    | 0/2/2/2 |
| 14  | CLA  | b     | 805  | -    | 1/1/15/20 | 17/37/115/115 | -       |
| 14  | CLA  | 1     | 1644 | 21   | 1/1/15/20 | 16/37/115/115 | -       |
| 18  | LHG  | 1     | 1654 | -    | -         | 21/53/53/53   | -       |
| 18  | LHG  | a     | 853  | -    | -         | 21/53/53/53   | -       |
| 14  | CLA  | 1     | 1636 | -    | 1/1/15/20 | 8/37/115/115  | -       |
| 14  | CLA  | b     | 837  | 21   | 1/1/11/20 | 3/13/91/115   | -       |
| 16  | SF4  | A     | 846  | 2,1  | -         | -             | 0/6/5/5 |

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| Mol | Type | Chain | Res  | Link | Chirals   | Torsions      | Rings   |
|-----|------|-------|------|------|-----------|---------------|---------|
| 17  | BCR  | 2     | 849  | -    | -         | 5/29/63/63    | 0/2/2/2 |
| 14  | CLA  | B     | 805  | -    | 1/1/15/20 | 16/37/115/115 | -       |
| 14  | CLA  | 1     | 1626 | -    | 1/1/15/20 | 12/37/115/115 | -       |
| 14  | CLA  | 1     | 1609 | -    | 1/1/12/20 | 4/21/99/115   | -       |
| 14  | CLA  | j     | 1302 | -    | 1/1/11/20 | 5/13/91/115   | -       |
| 17  | BCR  | 8     | 1305 | -    | -         | 13/29/63/63   | 0/2/2/2 |
| 14  | CLA  | 2     | 817  | -    | 1/1/15/20 | 12/37/115/115 | -       |
| 14  | CLA  | 2     | 828  | -    | 1/1/15/20 | 15/37/115/115 | -       |
| 14  | CLA  | B     | 832  | -    | 1/1/15/20 | 16/37/115/115 | -       |
| 14  | CLA  | f     | 201  | 21   | 1/1/13/20 | 6/29/107/115  | -       |
| 17  | BCR  | 6     | 202  | -    | -         | 12/29/63/63   | 0/2/2/2 |
| 14  | CLA  | A     | 816  | -    | 1/1/15/20 | 19/37/115/115 | -       |
| 14  | CLA  | F     | 204  | -    | 1/1/12/20 | 6/19/97/115   | -       |
| 14  | CLA  | A     | 806  | -    | 1/1/15/20 | 21/37/115/115 | -       |
| 17  | BCR  | A     | 851  | -    | -         | 18/29/63/63   | 0/2/2/2 |
| 17  | BCR  | b     | 845  | -    | -         | 8/29/63/63    | 0/2/2/2 |
| 14  | CLA  | B     | 834  | -    | 1/1/15/20 | 9/37/115/115  | -       |
| 14  | CLA  | B     | 809  | 2    | 1/1/15/20 | 11/37/115/115 | -       |
| 16  | SF4  | 3     | 102  | 3    | -         | -             | 0/6/5/5 |
| 14  | CLA  | b     | 838  | -    | 1/1/14/20 | 5/31/109/115  | -       |
| 14  | CLA  | B     | 803  | -    | 1/1/15/20 | 12/37/115/115 | -       |
| 17  | BCR  | m     | 102  | -    | -         | 9/29/63/63    | 0/2/2/2 |
| 17  | BCR  | 2     | 844  | -    | -         | 11/29/63/63   | 0/2/2/2 |
| 14  | CLA  | B     | 819  | 21   | 1/1/15/20 | 15/37/115/115 | -       |
| 20  | LMG  | b     | 850  | -    | -         | 27/50/70/70   | 0/1/1/1 |
| 17  | BCR  | A     | 849  | -    | -         | 5/29/63/63    | 0/2/2/2 |
| 17  | BCR  | b     | 848  | -    | -         | 11/29/63/63   | 0/2/2/2 |
| 18  | LHG  | B     | 850  | -    | -         | 18/53/53/53   | -       |
| 17  | BCR  | A     | 856  | -    | -         | 13/29/63/63   | 0/2/2/2 |
| 14  | CLA  | a     | 841  | -    | 1/1/15/20 | 14/37/115/115 | -       |
| 18  | LHG  | A     | 854  | 14   | -         | 13/45/45/53   | -       |
| 14  | CLA  | 2     | 841  | 21   | 1/1/15/20 | 7/37/115/115  | -       |
| 18  | LHG  | M     | 101  | -    | -         | 27/53/53/53   | -       |
| 14  | CLA  | 1     | 1620 | -    | 1/1/15/20 | 17/37/115/115 | -       |

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| Mol | Type | Chain | Res  | Link | Chirals   | Torsions      | Rings   |
|-----|------|-------|------|------|-----------|---------------|---------|
| 16  | SF4  | c     | 101  | 3    | -         | -             | 0/6/5/5 |
| 14  | CLA  | b     | 808  | -    | 1/1/15/20 | 6/37/115/115  | -       |
| 14  | CLA  | b     | 834  | -    | 1/1/15/20 | 11/37/115/115 | -       |
| 14  | CLA  | a     | 831  | -    | 1/1/15/20 | 7/37/115/115  | -       |
| 14  | CLA  | a     | 834  | -    | 1/1/15/20 | 10/37/115/115 | -       |
| 14  | CLA  | A     | 831  | -    | 1/1/15/20 | 7/37/115/115  | -       |
| 16  | SF4  | c     | 102  | 3    | -         | -             | 0/6/5/5 |
| 14  | CLA  | b     | 825  | 2    | 1/1/15/20 | 14/37/115/115 | -       |
| 14  | CLA  | a     | 813  | -    | 1/1/11/20 | 4/13/91/115   | -       |
| 14  | CLA  | 6     | 201  | 21   | 1/1/13/20 | 6/29/107/115  | -       |
| 14  | CLA  | A     | 821  | -    | 1/1/15/20 | 16/37/115/115 | -       |
| 14  | CLA  | a     | 803  | 21   | 1/1/15/20 | 6/37/115/115  | -       |
| 14  | CLA  | b     | 814  | -    | 1/1/15/20 | 16/37/115/115 | -       |
| 14  | CLA  | a     | 814  | -    | 1/1/15/20 | 15/37/115/115 | -       |
| 14  | CLA  | B     | 838  | -    | 1/1/15/20 | 9/37/115/115  | -       |
| 14  | CLA  | b     | 822  | -    | 1/1/11/20 | 5/13/91/115   | -       |
| 14  | CLA  | a     | 804  | -    | 1/1/15/20 | 16/37/115/115 | -       |
| 17  | BCR  | 2     | 847  | -    | -         | 12/29/63/63   | 0/2/2/2 |
| 14  | CLA  | 1     | 1628 | 21   | 1/1/15/20 | 9/37/115/115  | -       |
| 14  | CLA  | b     | 815  | -    | 1/1/15/20 | 13/37/115/115 | -       |
| 14  | CLA  | a     | 829  | -    | 1/1/15/20 | 14/37/115/115 | -       |
| 14  | CLA  | B     | 811  | -    | 1/1/15/20 | 10/37/115/115 | -       |
| 14  | CLA  | b     | 811  | 2    | 1/1/15/20 | 15/37/115/115 | -       |
| 14  | CLA  | A     | 840  | -    | 1/1/15/20 | 17/37/115/115 | -       |
| 14  | CLA  | F     | 201  | 21   | 1/1/13/20 | 6/29/107/115  | -       |
| 14  | CLA  | a     | 817  | 21   | 1/1/15/20 | 12/37/115/115 | -       |
| 14  | CLA  | A     | 842  | -    | 1/1/15/20 | 12/37/115/115 | -       |
| 14  | CLA  | A     | 823  | -    | 1/1/11/20 | 8/13/91/115   | -       |
| 14  | CLA  | A     | 809  | 1    | 1/1/15/20 | 11/37/115/115 | -       |
| 14  | CLA  | 2     | 806  | -    | 1/1/15/20 | 16/37/115/115 | -       |
| 17  | BCR  | 1     | 1653 | -    | -         | 11/18/35/63   | 0/1/1/2 |
| 14  | CLA  | 2     | 834  | -    | 1/1/15/20 | 11/37/115/115 | -       |
| 14  | CLA  | 9     | 101  | -    | 1/1/11/20 | 10/15/93/115  | -       |
| 14  | CLA  | 2     | 809  | -    | 1/1/15/20 | 8/37/115/115  | -       |

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| Mol | Type | Chain | Res  | Link | Chirals   | Torsions      | Rings   |
|-----|------|-------|------|------|-----------|---------------|---------|
| 14  | CLA  | f     | 203  | -    | 1/1/12/20 | 6/19/97/115   | -       |
| 13  | CL0  | A     | 801  | -    | 3/3/20/25 | 10/37/135/135 | -       |
| 17  | BCR  | 2     | 846  | -    | -         | 11/29/63/63   | 0/2/2/2 |
| 14  | CLA  | l     | 205  | -    | 1/1/15/20 | 11/37/115/115 | -       |
| 17  | BCR  | 9     | 102  | -    | -         | 6/29/63/63    | 0/2/2/2 |
| 17  | BCR  | 8     | 1306 | -    | -         | 15/29/63/63   | 0/2/2/2 |
| 14  | CLA  | A     | 810  | 1    | 1/1/15/20 | 12/37/115/115 | -       |
| 17  | BCR  | b     | 844  | -    | -         | 11/29/63/63   | 0/2/2/2 |
| 14  | CLA  | a     | 839  | -    | 1/1/15/20 | 20/37/115/115 | -       |
| 14  | CLA  | 1     | 1643 | -    | 1/1/15/20 | 12/37/115/115 | -       |
| 14  | CLA  | A     | 839  | -    | 1/1/15/20 | 20/37/115/115 | -       |
| 14  | CLA  | a     | 820  | -    | 1/1/15/20 | 10/37/115/115 | -       |
| 14  | CLA  | 2     | 819  | -    | 1/1/15/20 | 17/37/115/115 | -       |
| 14  | CLA  | a     | 838  | -    | 1/1/15/20 | 16/37/115/115 | -       |
| 14  | CLA  | L     | 205  | 21   | 1/1/15/20 | 11/37/115/115 | -       |
| 14  | CLA  | B     | 814  | -    | 1/1/15/20 | 13/37/115/115 | -       |
| 17  | BCR  | 9     | 104  | -    | -         | 4/18/35/63    | 0/1/1/2 |
| 14  | CLA  | 2     | 839  | -    | 1/1/15/20 | 9/37/115/115  | -       |
| 14  | CLA  | b     | 842  | -    | 1/1/15/20 | 10/37/115/115 | -       |
| 14  | CLA  | K     | 103  | 21   | 1/1/13/20 | 9/29/107/115  | -       |
| 14  | CLA  | a     | 823  | -    | 1/1/11/20 | 8/13/91/115   | -       |
| 14  | CLA  | a     | 826  | 21   | 1/1/15/20 | 13/37/115/115 | -       |
| 14  | CLA  | a     | 811  | -    | 1/1/11/20 | 8/18/96/115   | -       |
| 14  | CLA  | 2     | 812  | -    | 1/1/15/20 | 10/37/115/115 | -       |
| 17  | BCR  | L     | 206  | -    | -         | 10/29/63/63   | 0/2/2/2 |
| 17  | BCR  | b     | 852  | -    | -         | 15/29/63/63   | 0/2/2/2 |
| 17  | BCR  | M     | 103  | -    | -         | 9/29/63/63    | 0/2/2/2 |
| 17  | BCR  | a     | 852  | -    | -         | 11/18/35/63   | 0/1/1/2 |
| 14  | CLA  | A     | 813  | -    | 1/1/11/20 | 4/13/91/115   | -       |
| 14  | CLA  | a     | 819  | -    | 1/1/15/20 | 17/37/115/115 | -       |
| 18  | LHG  | 0     | 202  | -    | -         | 27/43/43/53   | -       |
| 14  | CLA  | B     | 831  | -    | 1/1/11/20 | 10/18/96/115  | -       |
| 14  | CLA  | b     | 839  | -    | 1/1/15/20 | 9/37/115/115  | -       |
| 14  | CLA  | B     | 808  | -    | 1/1/15/20 | 8/37/115/115  | -       |

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| Mol | Type | Chain | Res  | Link | Chirals   | Torsions      | Rings   |
|-----|------|-------|------|------|-----------|---------------|---------|
| 14  | CLA  | 2     | 821  | -    | 1/1/15/20 | 19/37/115/115 | -       |
| 14  | CLA  | a     | 816  | -    | 1/1/15/20 | 19/37/115/115 | -       |
| 17  | BCR  | 1     | 1652 | -    | -         | 18/29/63/63   | 0/2/2/2 |
| 15  | PQN  | a     | 845  | -    | -         | 1/23/43/43    | 0/2/2/2 |
| 14  | CLA  | A     | 843  | 21   | 1/1/15/20 | 16/37/115/115 | -       |
| 14  | CLA  | l     | 206  | 21   | 1/1/15/20 | 11/37/115/115 | -       |
| 17  | BCR  | 2     | 845  | -    | -         | 8/29/63/63    | 0/2/2/2 |
| 14  | CLA  | A     | 817  | 21   | 1/1/15/20 | 12/37/115/115 | -       |
| 14  | CLA  | 0     | 206  | -    | 1/1/15/20 | 11/37/115/115 | -       |
| 14  | CLA  | 1     | 1606 | 14   | 1/1/13/20 | 10/30/108/115 | -       |
| 14  | CLA  | B     | 823  | -    | 1/1/11/20 | 5/13/91/115   | -       |
| 14  | CLA  | B     | 807  | -    | 1/1/15/20 | 6/37/115/115  | -       |
| 14  | CLA  | L     | 203  | 10   | 1/1/15/20 | 17/37/115/115 | -       |
| 14  | CLA  | b     | 807  | -    | 1/1/15/20 | 9/37/115/115  | -       |
| 14  | CLA  | a     | 840  | -    | 1/1/15/20 | 17/37/115/115 | -       |
| 14  | CLA  | a     | 802  | -    | 1/1/15/20 | 15/37/115/115 | -       |
| 14  | CLA  | 1     | 1621 | -    | 1/1/15/20 | 10/37/115/115 | -       |
| 14  | CLA  | 1     | 1615 | -    | 1/1/15/20 | 15/37/115/115 | -       |
| 14  | CLA  | 1     | 1635 | -    | 1/1/15/20 | 10/37/115/115 | -       |
| 14  | CLA  | A     | 827  | 21   | 1/1/15/20 | 9/37/115/115  | -       |
| 14  | CLA  | 8     | 1302 | -    | 1/1/11/20 | 5/13/91/115   | -       |
| 14  | CLA  | 1     | 1639 | -    | 1/1/15/20 | 16/37/115/115 | -       |
| 14  | CLA  | B     | 839  | -    | -         | 2/16/94/115   | -       |
| 17  | BCR  | a     | 850  | -    | -         | 8/29/63/63    | 0/2/2/2 |
| 14  | CLA  | 2     | 827  | -    | 1/1/15/20 | 6/37/115/115  | -       |
| 14  | CLA  | F     | 203  | 21   | 1/1/11/20 | 2/13/91/115   | -       |
| 14  | CLA  | A     | 835  | -    | 1/1/15/20 | 8/37/115/115  | -       |
| 17  | BCR  | 0     | 209  | -    | -         | 5/29/63/63    | 0/2/2/2 |
| 14  | CLA  | 2     | 842  | -    | 1/1/15/20 | 10/37/115/115 | -       |
| 14  | CLA  | B     | 829  | -    | 1/1/15/20 | 7/37/115/115  | -       |
| 14  | CLA  | b     | 836  | 21   | 1/1/12/20 | 9/19/97/115   | -       |
| 14  | CLA  | A     | 803  | 21   | 1/1/15/20 | 6/37/115/115  | -       |
| 14  | CLA  | b     | 840  | -    | -         | 2/16/94/115   | -       |
| 14  | CLA  | a     | 828  | -    | 1/1/15/20 | 7/37/115/115  | -       |

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| Mol | Type | Chain | Res  | Link | Chirals   | Torsions      | Rings   |
|-----|------|-------|------|------|-----------|---------------|---------|
| 14  | CLA  | A     | 828  | -    | 1/1/15/20 | 7/37/115/115  | -       |
| 14  | CLA  | B     | 813  | -    | 1/1/15/20 | 16/37/115/115 | -       |
| 14  | CLA  | b     | 823  | 21   | 1/1/13/20 | 5/25/103/115  | -       |
| 20  | LMG  | 2     | 850  | -    | -         | 27/50/70/70   | 0/1/1/1 |
| 14  | CLA  | B     | 830  | -    | 1/1/13/20 | 13/25/103/115 | -       |
| 14  | CLA  | b     | 818  | -    | 1/1/15/20 | 13/37/115/115 | -       |
| 17  | BCR  | L     | 201  | -    | -         | 8/29/63/63    | 0/2/2/2 |
| 13  | CL0  | 1     | 1602 | -    | 3/3/20/25 | 10/37/135/135 | -       |
| 14  | CLA  | A     | 834  | -    | 1/1/15/20 | 10/37/115/115 | -       |
| 16  | SF4  | C     | 101  | 3    | -         | -             | 0/6/5/5 |
| 14  | CLA  | 2     | 808  | -    | 1/1/15/20 | 6/37/115/115  | -       |
| 14  | CLA  | A     | 833  | -    | 1/1/15/20 | 12/37/115/115 | -       |
| 14  | CLA  | 1     | 1632 | -    | 1/1/15/20 | 7/37/115/115  | -       |
| 14  | CLA  | B     | 804  | -    | 1/1/15/20 | 17/37/115/115 | -       |
| 14  | CLA  | B     | 817  | -    | 1/1/15/20 | 13/37/115/115 | -       |
| 14  | CLA  | A     | 825  | -    | 1/1/15/20 | 12/37/115/115 | -       |
| 17  | BCR  | B     | 847  | -    | -         | 11/29/63/63   | 0/2/2/2 |
| 14  | CLA  | b     | 828  | -    | 1/1/15/20 | 15/37/115/115 | -       |
| 17  | BCR  | B     | 848  | -    | -         | 5/29/63/63    | 0/2/2/2 |
| 14  | CLA  | A     | 822  | 21   | 1/1/15/20 | 12/37/115/115 | -       |
| 14  | CLA  | B     | 837  | -    | 1/1/14/20 | 4/31/109/115  | -       |
| 17  | BCR  | a     | 849  | -    | -         | 5/29/63/63    | 0/2/2/2 |
| 14  | CLA  | A     | 837  | 1    | 1/1/11/20 | 5/13/91/115   | -       |
| 14  | CLA  | A     | 855  | 21   | 1/1/15/20 | 18/37/115/115 | -       |
| 14  | CLA  | 2     | 822  | -    | 1/1/11/20 | 5/13/91/115   | -       |
| 14  | CLA  | 1     | 1619 | -    | 1/1/15/20 | 10/37/115/115 | -       |
| 16  | SF4  | 3     | 101  | 3    | -         | -             | 0/6/5/5 |
| 14  | CLA  | a     | 808  | -    | 1/1/12/20 | 4/21/99/115   | -       |
| 14  | CLA  | A     | 824  | -    | 1/1/15/20 | 12/37/115/115 | -       |
| 17  | BCR  | j     | 1304 | -    | -         | 11/29/63/63   | 0/2/2/2 |
| 14  | CLA  | B     | 824  | 2    | 1/1/15/20 | 14/37/115/115 | -       |
| 14  | CLA  | a     | 843  | 21   | 1/1/15/20 | 16/37/115/115 | -       |
| 14  | CLA  | B     | 841  | -    | 1/1/15/20 | 10/37/115/115 | -       |
| 17  | BCR  | 1     | 1649 | -    | -         | 15/29/63/63   | 0/2/2/2 |

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| Mol | Type | Chain | Res | Link | Chirals   | Torsions      | Rings   |
|-----|------|-------|-----|------|-----------|---------------|---------|
| 17  | BCR  | K     | 102 | -    | -         | 6/29/63/63    | 0/2/2/2 |
| 17  | BCR  | 0     | 203 | -    | -         | 8/29/63/63    | 0/2/2/2 |
| 14  | CLA  | B     | 828 | -    | 1/1/15/20 | 11/37/115/115 | -       |
| 14  | CLA  | A     | 830 | -    | 1/1/15/20 | 15/37/115/115 | -       |
| 15  | PQN  | 2     | 843 | -    | -         | 1/23/43/43    | 0/2/2/2 |

The worst 5 of 2563 bond length outliers are listed below:

| Mol | Chain | Res  | Type | Atoms  | Z    | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|--------|------|-------------|----------|
| 14  | f     | 203  | CLA  | C4B-NB | 7.82 | 1.42        | 1.35     |
| 14  | A     | 824  | CLA  | C4B-NB | 7.79 | 1.42        | 1.35     |
| 14  | F     | 204  | CLA  | C4B-NB | 7.74 | 1.42        | 1.35     |
| 14  | 1     | 1625 | CLA  | C4B-NB | 7.74 | 1.42        | 1.35     |
| 14  | 6     | 203  | CLA  | C4B-NB | 7.72 | 1.42        | 1.35     |

The worst 5 of 2850 bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms      | Z    | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|------|-------------|----------|
| 14  | B     | 808 | CLA  | C4A-NA-C1A | 8.39 | 110.48      | 106.71   |
| 14  | 2     | 809 | CLA  | C4A-NA-C1A | 8.34 | 110.46      | 106.71   |
| 14  | b     | 809 | CLA  | C4A-NA-C1A | 8.29 | 110.43      | 106.71   |
| 14  | B     | 803 | CLA  | C4A-NA-C1A | 8.28 | 110.43      | 106.71   |
| 14  | a     | 835 | CLA  | C4A-NA-C1A | 8.24 | 110.41      | 106.71   |

5 of 294 chirality outliers are listed below:

| Mol | Chain | Res | Type | Atom |
|-----|-------|-----|------|------|
| 13  | A     | 801 | CL0  | ND   |
| 13  | A     | 801 | CL0  | NC   |
| 13  | A     | 801 | CL0  | NA   |
| 13  | a     | 801 | CL0  | ND   |
| 13  | a     | 801 | CL0  | NC   |

5 of 4211 torsion outliers are listed below:

| Mol | Chain | Res | Type | Atoms           |
|-----|-------|-----|------|-----------------|
| 14  | A     | 802 | CLA  | CBD-CGD-O2D-CED |
| 14  | A     | 803 | CLA  | C6-C7-C8-C9     |
| 14  | A     | 804 | CLA  | CHA-CBD-CGD-O1D |
| 14  | A     | 804 | CLA  | CHA-CBD-CGD-O2D |
| 14  | A     | 805 | CLA  | C1A-C2A-CAA-CBA |



There are no ring outliers.

221 monomers are involved in 322 short contacts:

| Mol | Chain | Res  | Type | Clashes | Symm-Clashes |
|-----|-------|------|------|---------|--------------|
| 14  | B     | 816  | CLA  | 1       | 0            |
| 14  | B     | 810  | CLA  | 2       | 0            |
| 14  | 2     | 803  | CLA  | 1       | 0            |
| 14  | 1     | 1607 | CLA  | 1       | 0            |
| 14  | A     | 804  | CLA  | 2       | 0            |
| 14  | 2     | 833  | CLA  | 1       | 0            |
| 14  | 2     | 804  | CLA  | 2       | 0            |
| 14  | a     | 824  | CLA  | 2       | 0            |
| 14  | 1     | 1617 | CLA  | 1       | 0            |
| 14  | 1     | 1634 | CLA  | 2       | 0            |
| 17  | 0     | 208  | BCR  | 1       | 0            |
| 14  | 1     | 1608 | CLA  | 1       | 0            |
| 14  | b     | 802  | CLA  | 4       | 0            |
| 14  | l     | 204  | CLA  | 1       | 0            |
| 14  | 1     | 1625 | CLA  | 2       | 0            |
| 14  | b     | 803  | CLA  | 1       | 0            |
| 17  | b     | 847  | BCR  | 1       | 0            |
| 14  | 1     | 1624 | CLA  | 3       | 0            |
| 13  | a     | 801  | CL0  | 2       | 0            |
| 14  | a     | 810  | CLA  | 1       | 0            |
| 18  | A     | 853  | LHG  | 1       | 0            |
| 17  | f     | 202  | BCR  | 1       | 0            |
| 14  | A     | 815  | CLA  | 2       | 0            |
| 14  | a     | 821  | CLA  | 2       | 0            |
| 14  | 1     | 1603 | CLA  | 2       | 0            |
| 14  | J     | 101  | CLA  | 1       | 0            |
| 14  | 2     | 818  | CLA  | 3       | 0            |
| 14  | x     | 1701 | CLA  | 4       | 0            |
| 14  | 1     | 1640 | CLA  | 1       | 0            |
| 14  | A     | 841  | CLA  | 3       | 0            |
| 14  | b     | 806  | CLA  | 1       | 0            |
| 14  | A     | 807  | CLA  | 1       | 0            |
| 14  | 1     | 1614 | CLA  | 1       | 0            |
| 14  | a     | 806  | CLA  | 1       | 0            |
| 14  | 1     | 1605 | CLA  | 1       | 0            |
| 17  | 6     | 204  | BCR  | 2       | 0            |
| 14  | X     | 1701 | CLA  | 3       | 0            |
| 14  | 1     | 1622 | CLA  | 2       | 0            |
| 14  | A     | 814  | CLA  | 2       | 0            |
| 14  | 1     | 1601 | CLA  | 1       | 0            |

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| Mol | Chain | Res  | Type | Clashes | Symm-Clashes |
|-----|-------|------|------|---------|--------------|
| 17  | F     | 202  | BCR  | 1       | 0            |
| 18  | L     | 208  | LHG  | 1       | 0            |
| 14  | 2     | 825  | CLA  | 1       | 0            |
| 14  | 1     | 1604 | CLA  | 1       | 0            |
| 14  | b     | 833  | CLA  | 2       | 0            |
| 14  | a     | 835  | CLA  | 1       | 0            |
| 14  | b     | 812  | CLA  | 3       | 0            |
| 14  | A     | 802  | CLA  | 2       | 0            |
| 14  | 1     | 1613 | CLA  | 1       | 0            |
| 14  | B     | 802  | CLA  | 1       | 0            |
| 14  | A     | 857  | CLA  | 1       | 0            |
| 14  | 2     | 815  | CLA  | 2       | 0            |
| 14  | 1     | 1630 | CLA  | 2       | 0            |
| 17  | 1     | 1650 | BCR  | 1       | 0            |
| 14  | A     | 819  | CLA  | 3       | 0            |
| 14  | K     | 101  | CLA  | 1       | 0            |
| 14  | a     | 818  | CLA  | 2       | 0            |
| 17  | 0     | 201  | BCR  | 1       | 0            |
| 14  | a     | 827  | CLA  | 2       | 0            |
| 14  | 1     | 1642 | CLA  | 3       | 0            |
| 14  | A     | 829  | CLA  | 2       | 0            |
| 14  | 1     | 1641 | CLA  | 1       | 0            |
| 14  | 2     | 811  | CLA  | 2       | 0            |
| 18  | m     | 101  | LHG  | 1       | 0            |
| 14  | 0     | 207  | CLA  | 2       | 0            |
| 18  | b     | 851  | LHG  | 3       | 0            |
| 17  | B     | 846  | BCR  | 1       | 0            |
| 14  | A     | 820  | CLA  | 1       | 0            |
| 14  | 8     | 1301 | CLA  | 1       | 0            |
| 18  | l     | 201  | LHG  | 1       | 0            |
| 15  | A     | 845  | PQN  | 1       | 0            |
| 14  | M     | 102  | CLA  | 1       | 0            |
| 14  | B     | 835  | CLA  | 1       | 0            |
| 14  | 2     | 835  | CLA  | 2       | 0            |
| 14  | B     | 833  | CLA  | 2       | 0            |
| 14  | j     | 1301 | CLA  | 1       | 0            |
| 14  | B     | 840  | CLA  | 1       | 0            |
| 14  | 2     | 802  | CLA  | 2       | 0            |
| 14  | B     | 827  | CLA  | 1       | 0            |
| 14  | b     | 820  | CLA  | 1       | 0            |
| 14  | 9     | 103  | CLA  | 1       | 0            |
| 15  | 1     | 1646 | PQN  | 1       | 0            |

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| Mol | Chain | Res  | Type | Clashes | Symm-Clashes |
|-----|-------|------|------|---------|--------------|
| 14  | 1     | 1611 | CLA  | 2       | 0            |
| 14  | a     | 825  | CLA  | 1       | 0            |
| 14  | b     | 835  | CLA  | 2       | 0            |
| 14  | 0     | 205  | CLA  | 1       | 0            |
| 14  | L     | 204  | CLA  | 1       | 0            |
| 14  | a     | 830  | CLA  | 1       | 0            |
| 14  | a     | 815  | CLA  | 2       | 0            |
| 14  | a     | 832  | CLA  | 1       | 0            |
| 14  | 2     | 805  | CLA  | 1       | 0            |
| 14  | b     | 809  | CLA  | 1       | 0            |
| 14  | 2     | 832  | CLA  | 2       | 0            |
| 14  | 2     | 823  | CLA  | 1       | 0            |
| 14  | 2     | 836  | CLA  | 1       | 0            |
| 18  | z     | 101  | LHG  | 13      | 0            |
| 14  | b     | 804  | CLA  | 1       | 0            |
| 14  | a     | 833  | CLA  | 2       | 0            |
| 14  | 1     | 1629 | CLA  | 1       | 0            |
| 17  | y     | 102  | BCR  | 2       | 0            |
| 14  | a     | 812  | CLA  | 1       | 0            |
| 14  | A     | 812  | CLA  | 1       | 0            |
| 14  | z     | 102  | CLA  | 3       | 0            |
| 17  | I     | 101  | BCR  | 3       | 0            |
| 14  | B     | 822  | CLA  | 1       | 0            |
| 18  | y     | 101  | LHG  | 2       | 0            |
| 17  | l     | 207  | BCR  | 1       | 0            |
| 14  | 1     | 1616 | CLA  | 2       | 0            |
| 17  | a     | 851  | BCR  | 4       | 0            |
| 14  | A     | 818  | CLA  | 3       | 0            |
| 14  | a     | 807  | CLA  | 1       | 0            |
| 14  | b     | 817  | CLA  | 1       | 0            |
| 14  | b     | 805  | CLA  | 1       | 0            |
| 14  | 1     | 1644 | CLA  | 1       | 0            |
| 18  | 1     | 1654 | LHG  | 1       | 0            |
| 18  | a     | 853  | LHG  | 1       | 0            |
| 14  | 1     | 1636 | CLA  | 1       | 0            |
| 14  | B     | 805  | CLA  | 1       | 0            |
| 14  | 1     | 1626 | CLA  | 1       | 0            |
| 14  | j     | 1302 | CLA  | 1       | 0            |
| 17  | 8     | 1305 | BCR  | 2       | 0            |
| 14  | 2     | 817  | CLA  | 2       | 0            |
| 14  | 2     | 828  | CLA  | 1       | 0            |
| 14  | B     | 832  | CLA  | 2       | 0            |

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| Mol | Chain | Res  | Type | Clashes | Symm-Clashes |
|-----|-------|------|------|---------|--------------|
| 14  | f     | 201  | CLA  | 3       | 0            |
| 14  | A     | 816  | CLA  | 1       | 0            |
| 14  | A     | 806  | CLA  | 1       | 0            |
| 17  | A     | 851  | BCR  | 4       | 0            |
| 14  | B     | 834  | CLA  | 2       | 0            |
| 14  | b     | 838  | CLA  | 2       | 0            |
| 14  | B     | 803  | CLA  | 1       | 0            |
| 17  | m     | 102  | BCR  | 2       | 0            |
| 14  | B     | 819  | CLA  | 1       | 0            |
| 17  | A     | 849  | BCR  | 1       | 0            |
| 18  | B     | 850  | LHG  | 3       | 0            |
| 17  | A     | 856  | BCR  | 2       | 0            |
| 14  | a     | 841  | CLA  | 3       | 0            |
| 18  | M     | 101  | LHG  | 1       | 0            |
| 14  | 1     | 1620 | CLA  | 5       | 0            |
| 14  | b     | 808  | CLA  | 1       | 0            |
| 14  | b     | 834  | CLA  | 2       | 0            |
| 14  | a     | 831  | CLA  | 1       | 0            |
| 14  | A     | 831  | CLA  | 1       | 0            |
| 14  | b     | 825  | CLA  | 2       | 0            |
| 14  | a     | 813  | CLA  | 1       | 0            |
| 14  | 6     | 201  | CLA  | 2       | 0            |
| 14  | A     | 821  | CLA  | 2       | 0            |
| 14  | b     | 814  | CLA  | 1       | 0            |
| 14  | a     | 814  | CLA  | 2       | 0            |
| 14  | a     | 804  | CLA  | 1       | 0            |
| 17  | 2     | 847  | BCR  | 1       | 0            |
| 14  | 1     | 1628 | CLA  | 2       | 0            |
| 14  | b     | 815  | CLA  | 1       | 0            |
| 14  | a     | 829  | CLA  | 2       | 0            |
| 14  | B     | 811  | CLA  | 3       | 0            |
| 14  | b     | 811  | CLA  | 4       | 0            |
| 14  | A     | 840  | CLA  | 1       | 0            |
| 14  | F     | 201  | CLA  | 2       | 0            |
| 14  | A     | 809  | CLA  | 1       | 0            |
| 17  | 1     | 1653 | BCR  | 1       | 0            |
| 14  | 2     | 809  | CLA  | 1       | 0            |
| 14  | 1     | 205  | CLA  | 1       | 0            |
| 17  | 9     | 102  | BCR  | 1       | 0            |
| 14  | A     | 810  | CLA  | 1       | 0            |
| 14  | a     | 839  | CLA  | 1       | 0            |
| 14  | A     | 839  | CLA  | 1       | 0            |

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| Mol | Chain | Res  | Type | Clashes | Symm-Clashes |
|-----|-------|------|------|---------|--------------|
| 14  | a     | 820  | CLA  | 1       | 0            |
| 14  | L     | 205  | CLA  | 2       | 0            |
| 14  | B     | 814  | CLA  | 2       | 0            |
| 14  | 2     | 839  | CLA  | 2       | 0            |
| 14  | a     | 823  | CLA  | 1       | 0            |
| 14  | 2     | 812  | CLA  | 2       | 0            |
| 17  | L     | 206  | BCR  | 1       | 0            |
| 17  | b     | 852  | BCR  | 1       | 0            |
| 17  | M     | 103  | BCR  | 4       | 0            |
| 14  | A     | 813  | CLA  | 1       | 0            |
| 14  | a     | 819  | CLA  | 3       | 0            |
| 18  | 0     | 202  | LHG  | 1       | 0            |
| 14  | B     | 831  | CLA  | 3       | 0            |
| 14  | b     | 839  | CLA  | 1       | 0            |
| 14  | B     | 808  | CLA  | 1       | 0            |
| 14  | a     | 816  | CLA  | 1       | 0            |
| 17  | 1     | 1652 | BCR  | 3       | 0            |
| 15  | a     | 845  | PQN  | 1       | 0            |
| 14  | A     | 843  | CLA  | 1       | 0            |
| 14  | l     | 206  | CLA  | 2       | 0            |
| 14  | 0     | 206  | CLA  | 1       | 0            |
| 14  | L     | 203  | CLA  | 1       | 0            |
| 14  | a     | 840  | CLA  | 1       | 0            |
| 14  | 1     | 1621 | CLA  | 1       | 0            |
| 14  | 1     | 1615 | CLA  | 2       | 0            |
| 14  | 1     | 1635 | CLA  | 2       | 0            |
| 14  | A     | 827  | CLA  | 2       | 0            |
| 14  | 8     | 1302 | CLA  | 1       | 0            |
| 14  | B     | 839  | CLA  | 1       | 0            |
| 14  | F     | 203  | CLA  | 2       | 0            |
| 14  | A     | 835  | CLA  | 1       | 0            |
| 14  | b     | 836  | CLA  | 3       | 0            |
| 14  | b     | 840  | CLA  | 1       | 0            |
| 14  | a     | 828  | CLA  | 1       | 0            |
| 14  | A     | 828  | CLA  | 1       | 0            |
| 14  | b     | 823  | CLA  | 1       | 0            |
| 14  | b     | 818  | CLA  | 4       | 0            |
| 14  | A     | 834  | CLA  | 1       | 0            |
| 14  | 2     | 808  | CLA  | 2       | 0            |
| 14  | A     | 833  | CLA  | 1       | 0            |
| 14  | 1     | 1632 | CLA  | 1       | 0            |
| 14  | B     | 804  | CLA  | 1       | 0            |

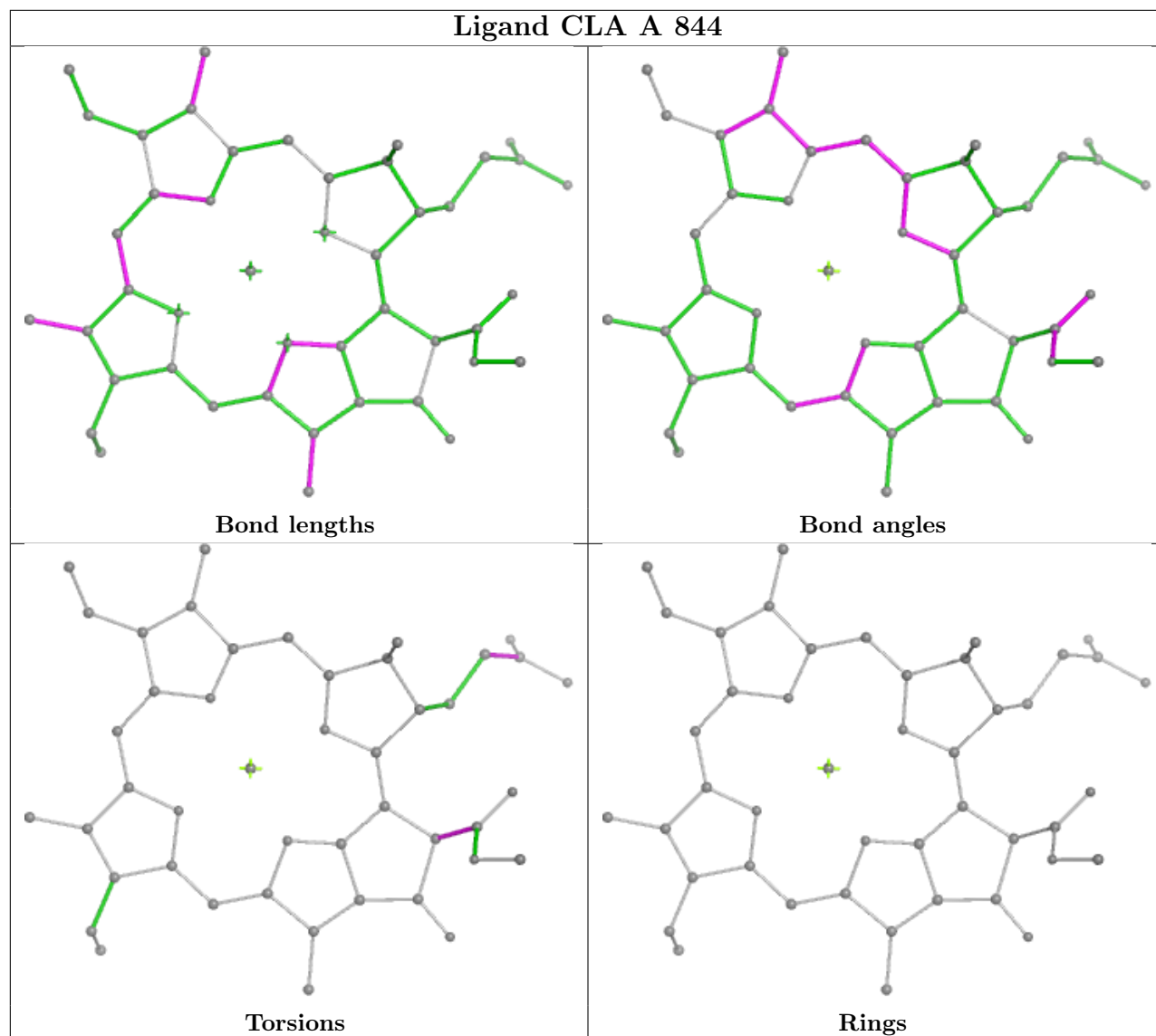
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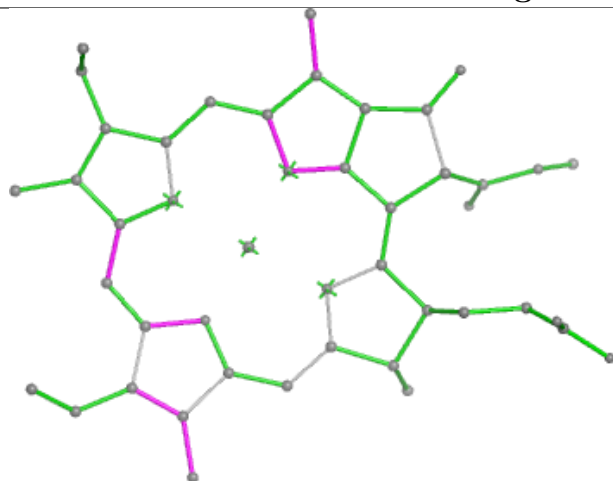
| Mol | Chain | Res  | Type | Clashes | Symm-Clashes |
|-----|-------|------|------|---------|--------------|
| 14  | B     | 817  | CLA  | 3       | 0            |
| 14  | A     | 825  | CLA  | 1       | 0            |
| 14  | b     | 828  | CLA  | 1       | 0            |
| 14  | B     | 837  | CLA  | 1       | 0            |
| 17  | a     | 849  | BCR  | 1       | 0            |
| 14  | A     | 855  | CLA  | 2       | 0            |
| 14  | 1     | 1619 | CLA  | 3       | 0            |
| 14  | A     | 824  | CLA  | 2       | 0            |
| 14  | B     | 824  | CLA  | 2       | 0            |
| 14  | a     | 843  | CLA  | 2       | 0            |
| 14  | B     | 841  | CLA  | 1       | 0            |
| 17  | 0     | 203  | BCR  | 2       | 0            |
| 14  | A     | 830  | CLA  | 2       | 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.

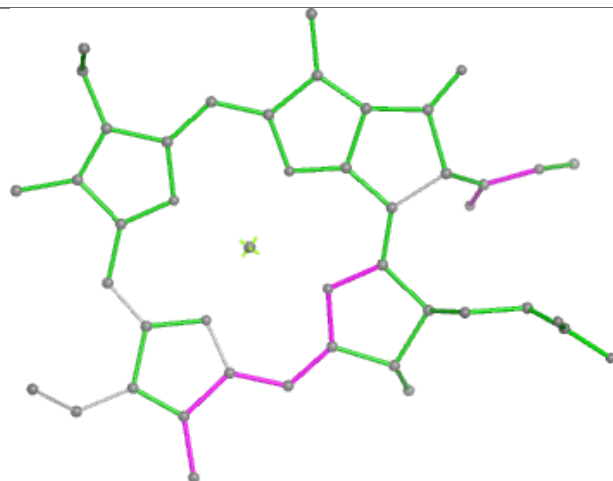
## Ligand CLA A 844



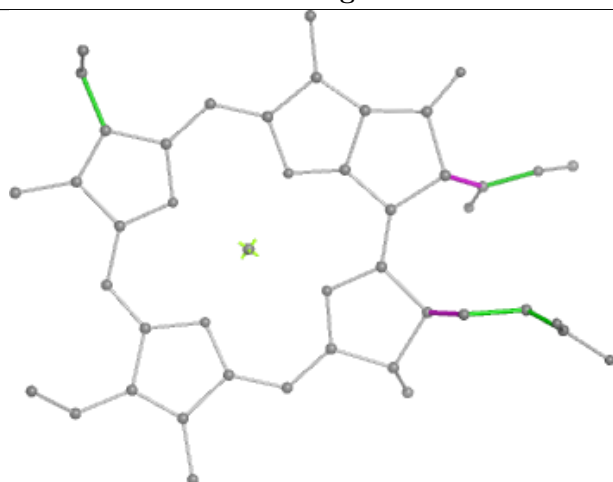
## Ligand CLA B 836



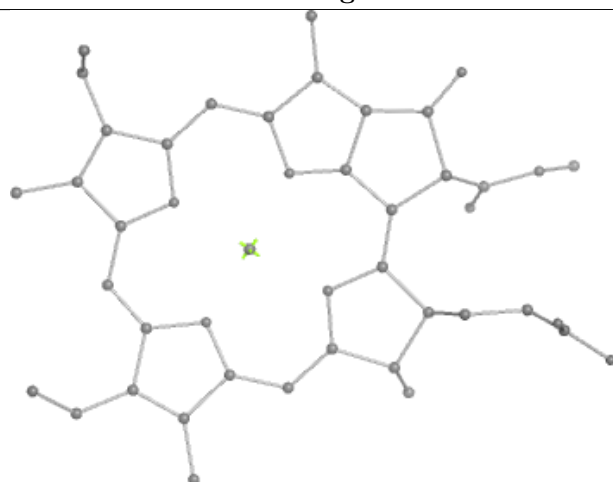
Bond lengths



Bond angles

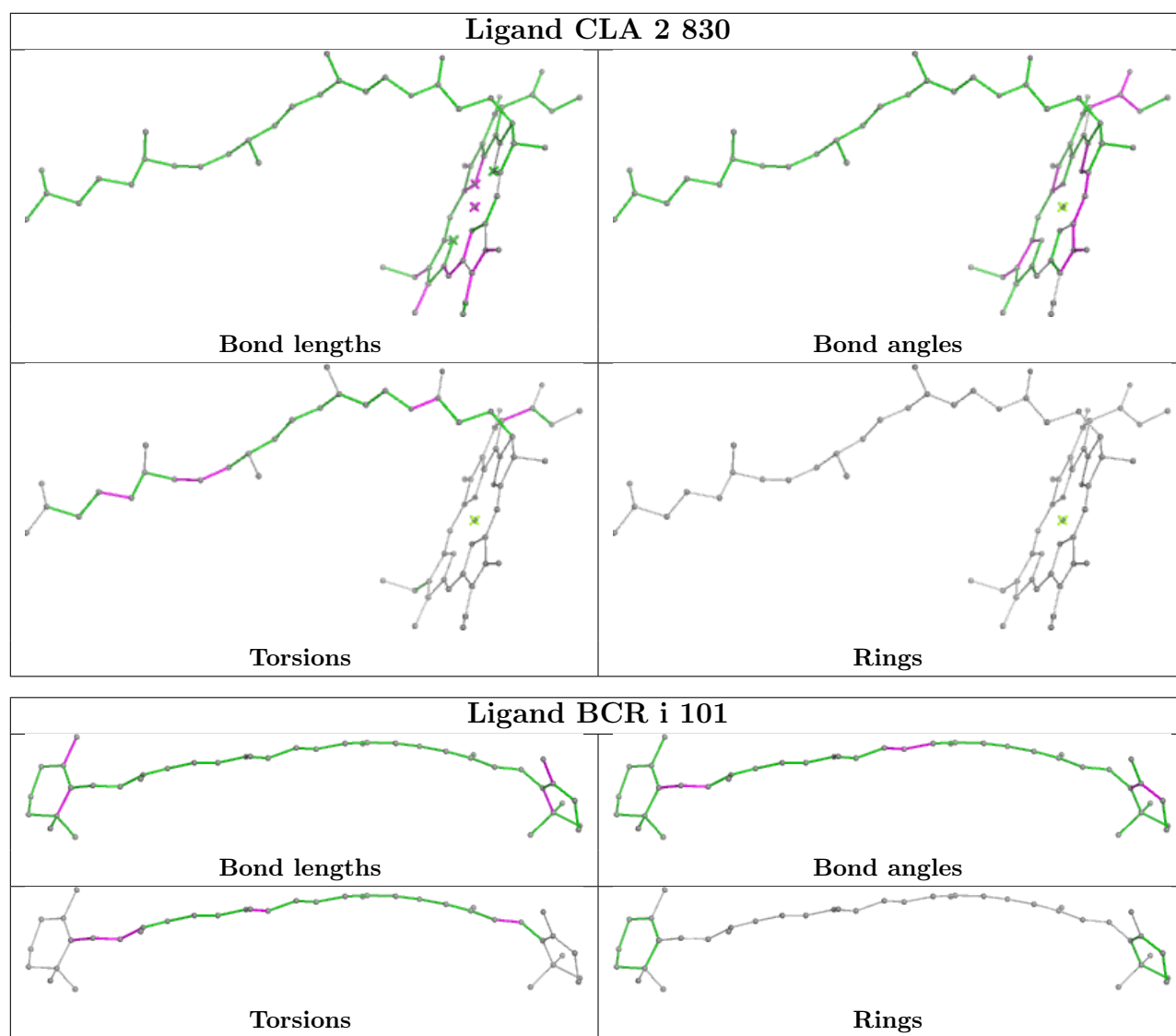


Torsions

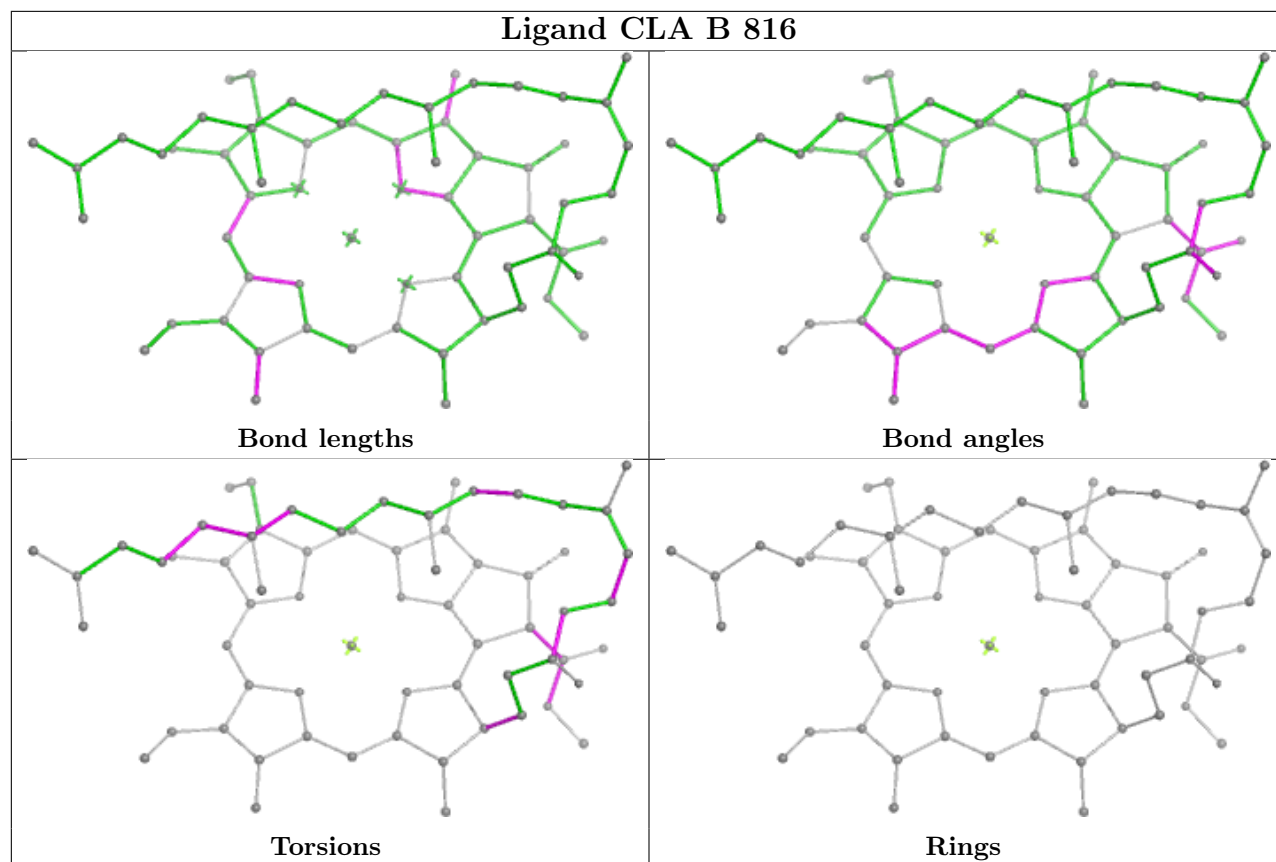


Rings

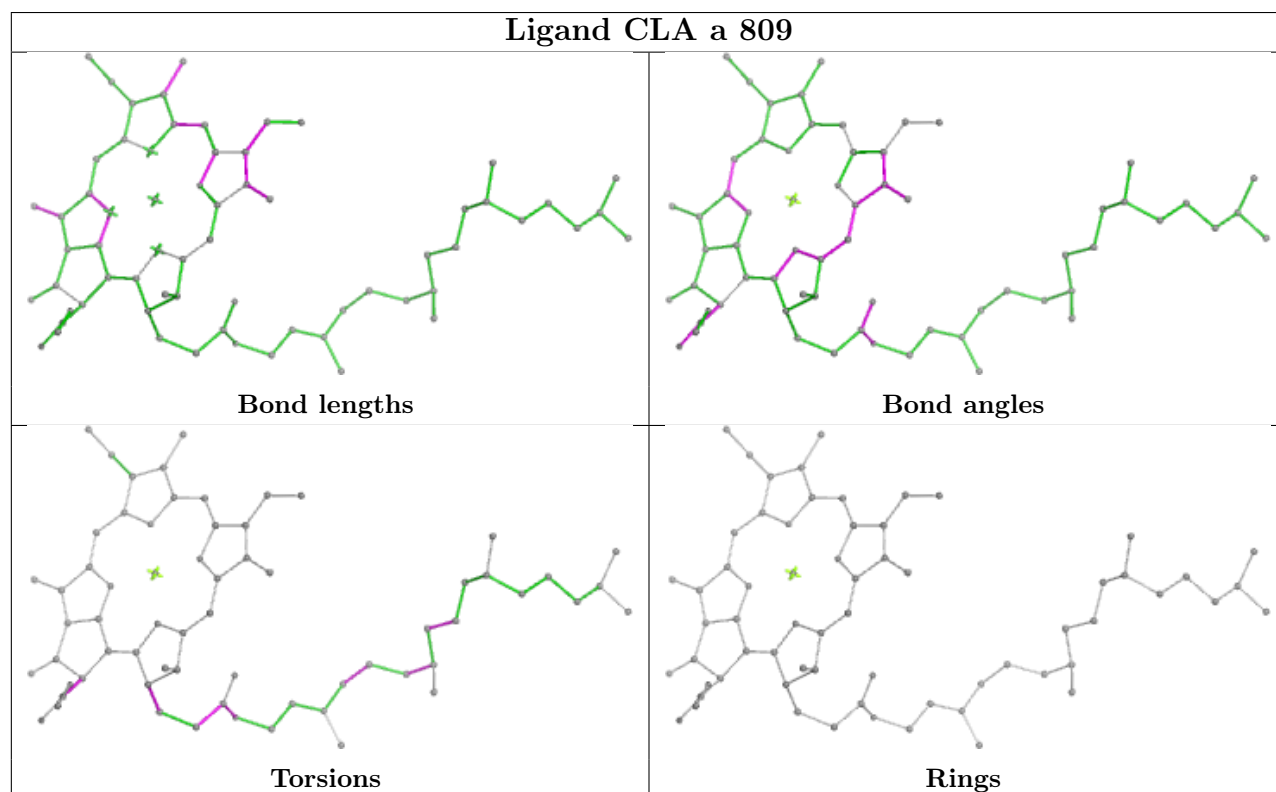


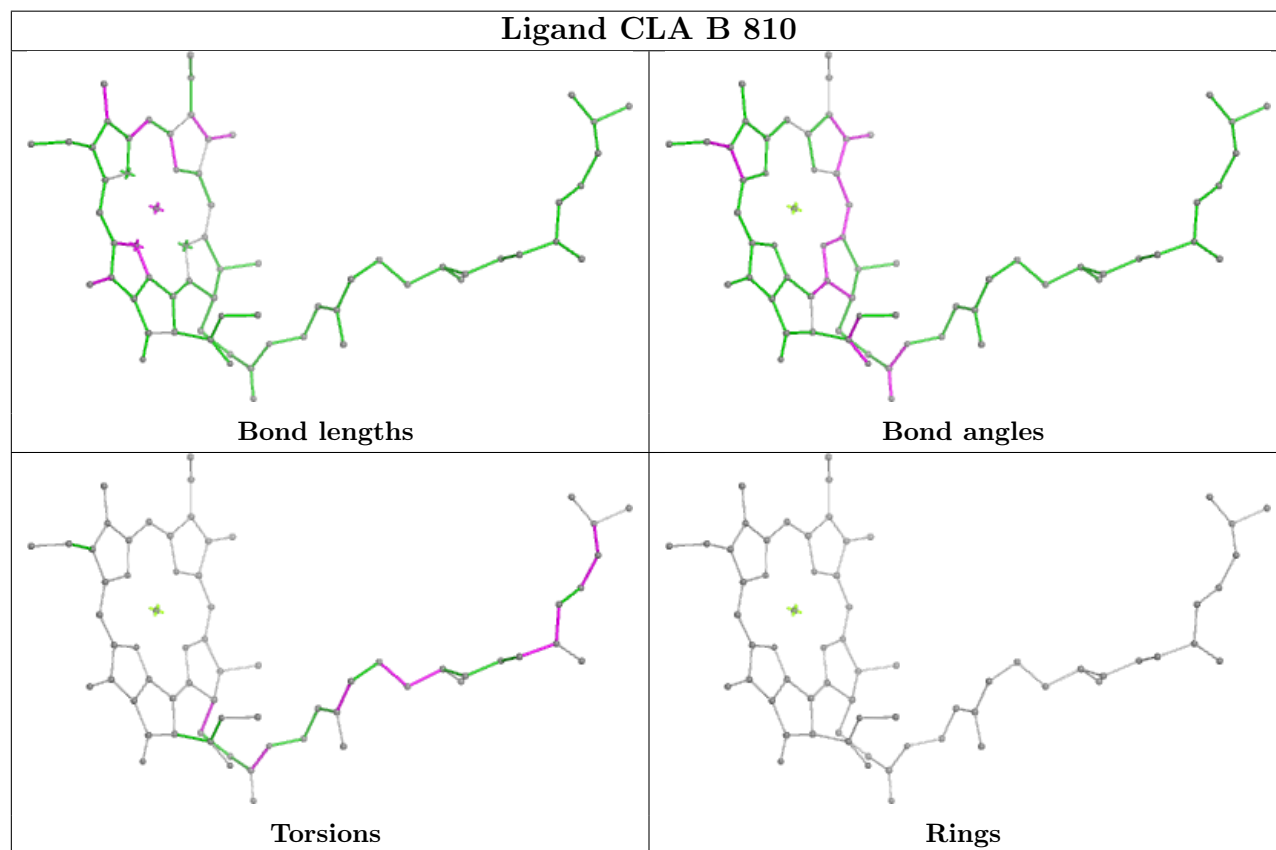
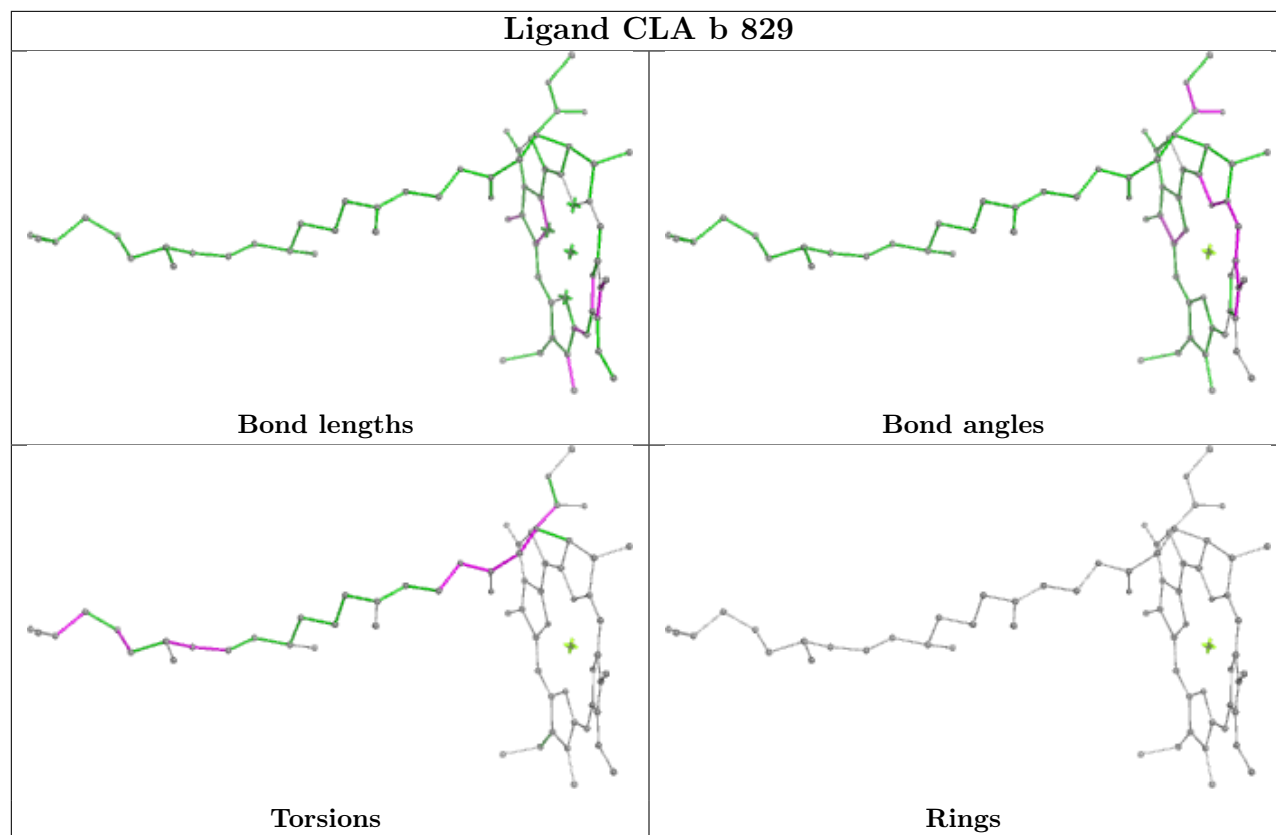


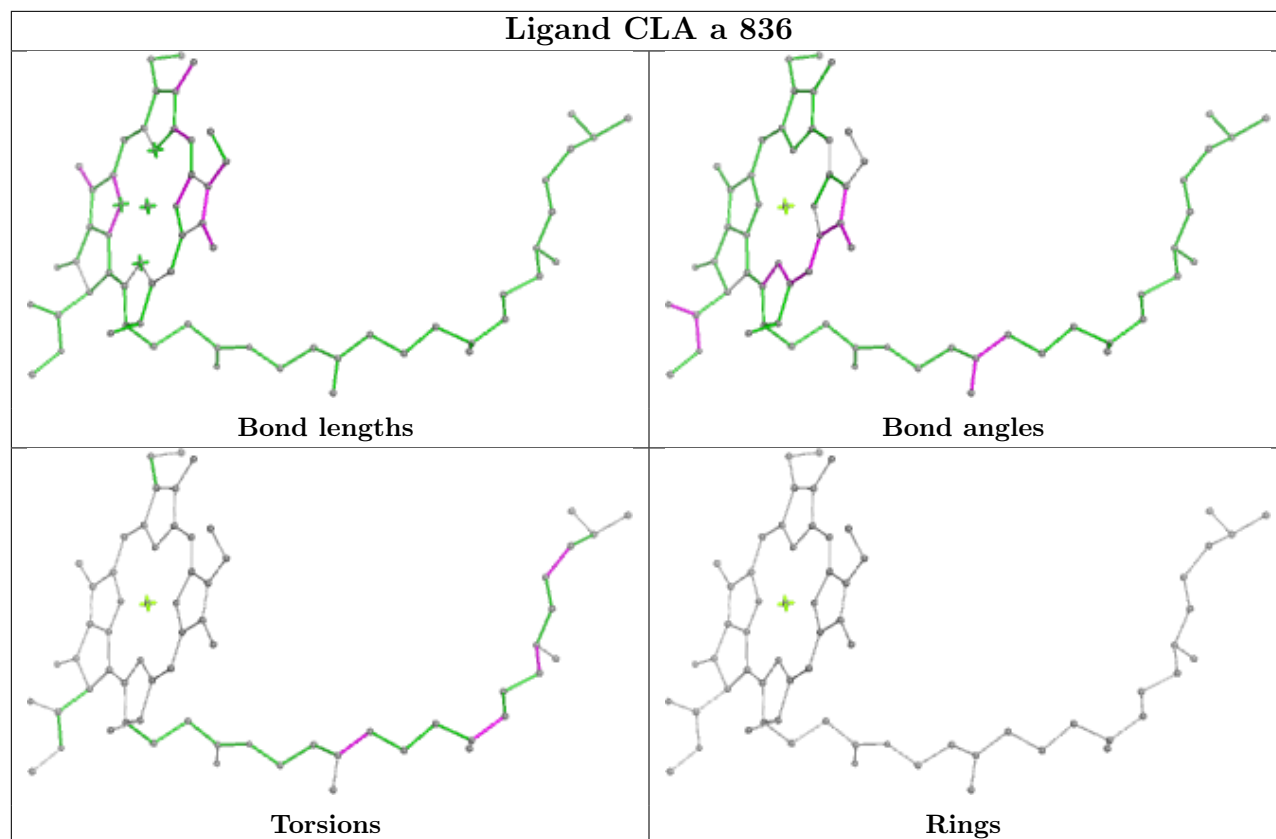
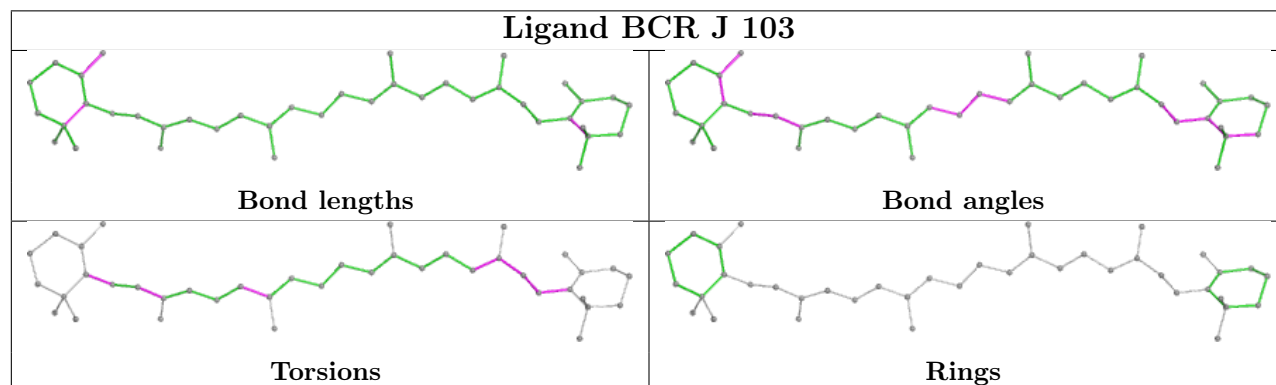
## Ligand CLA B 816

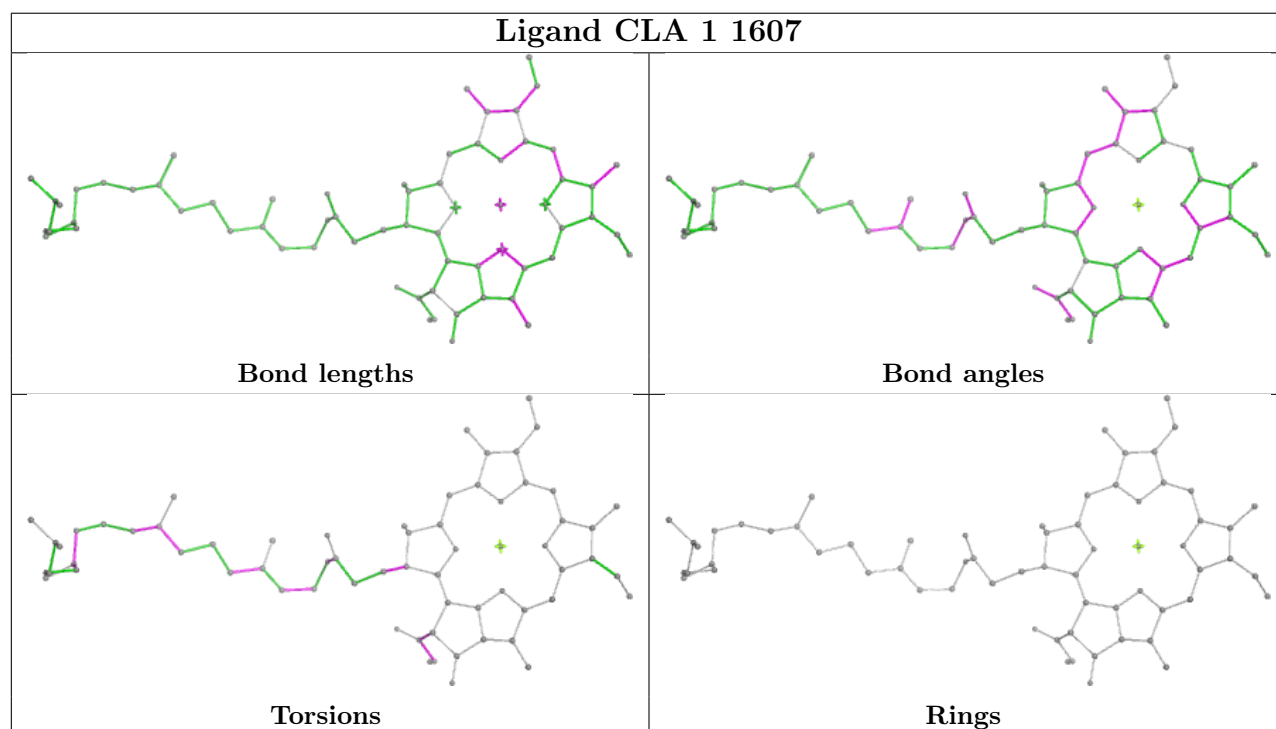
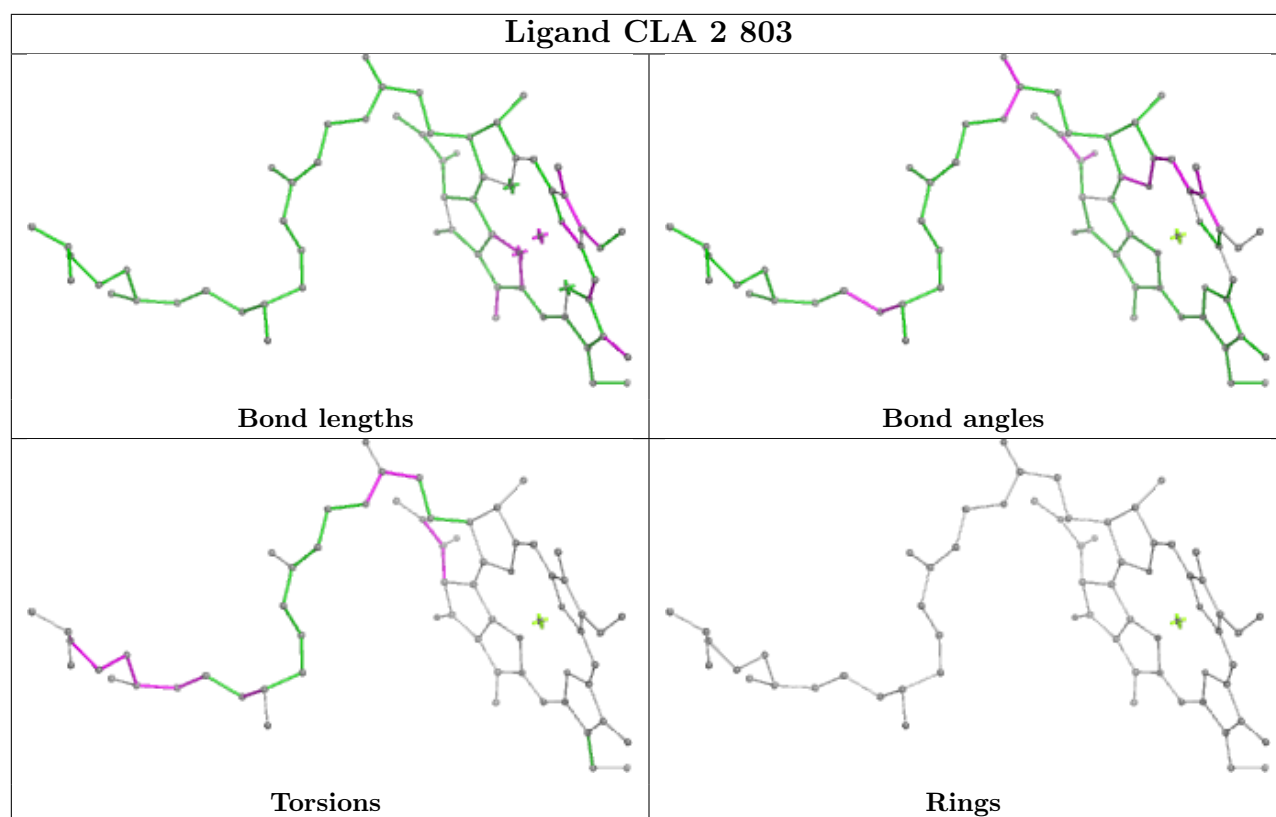


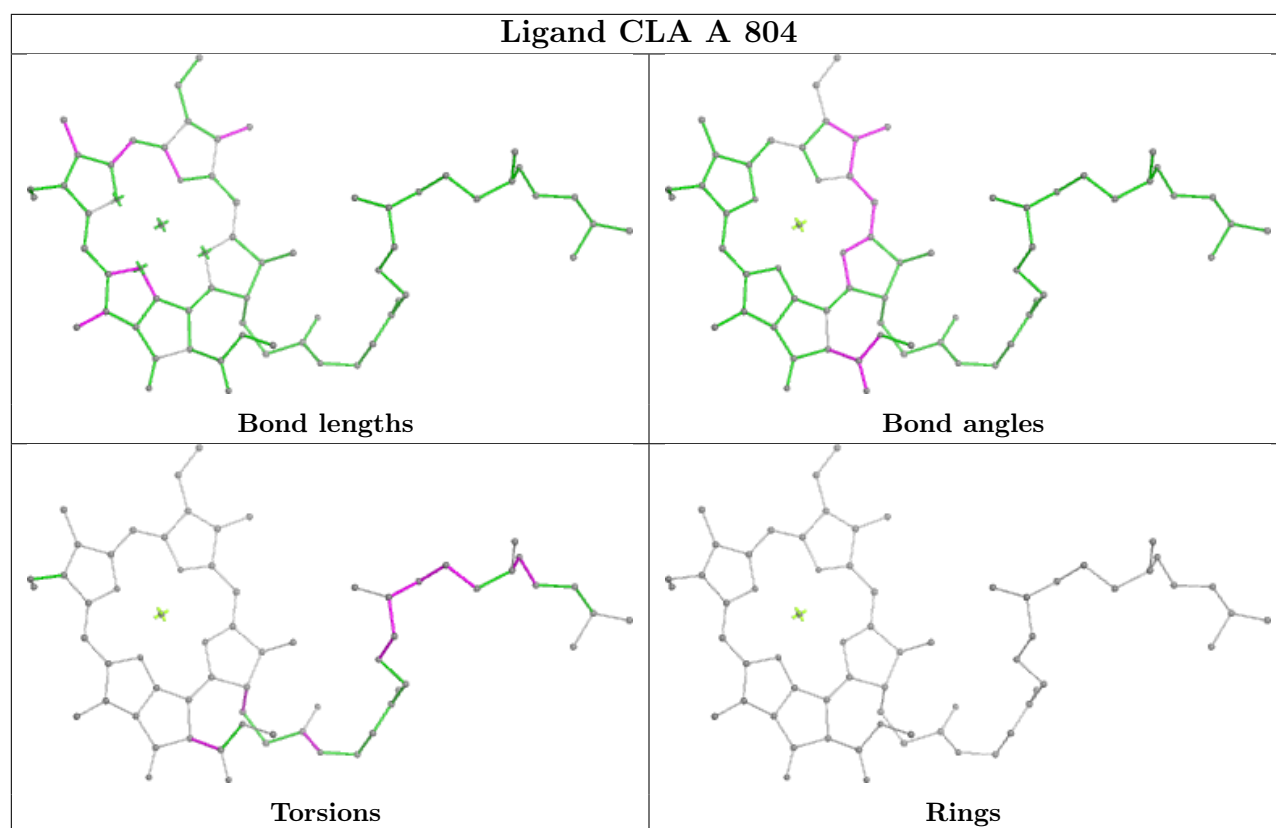
## Ligand CLA a 809



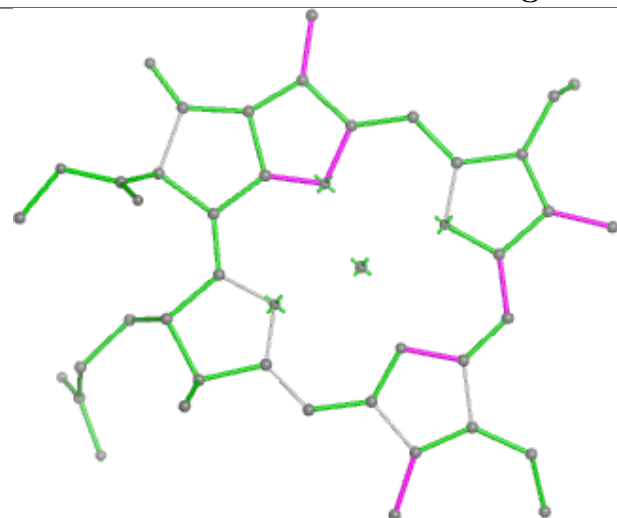


**Ligand CLA a 836****Ligand BCR J 103**

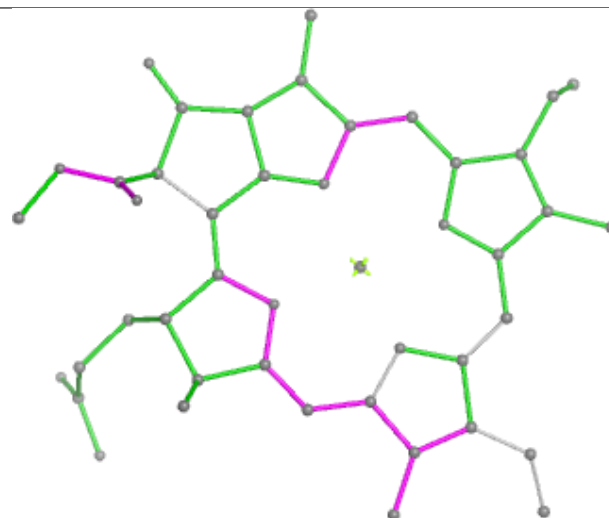




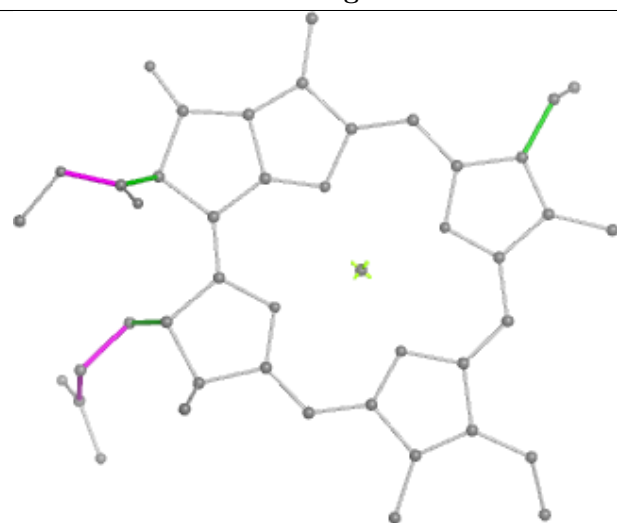
## Ligand CLA b 824



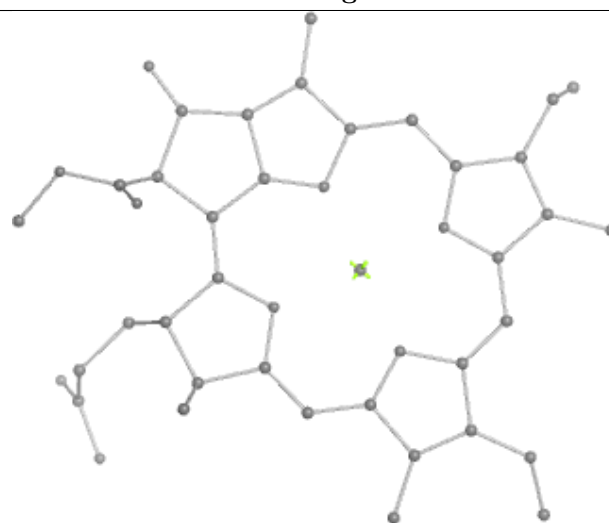
Bond lengths



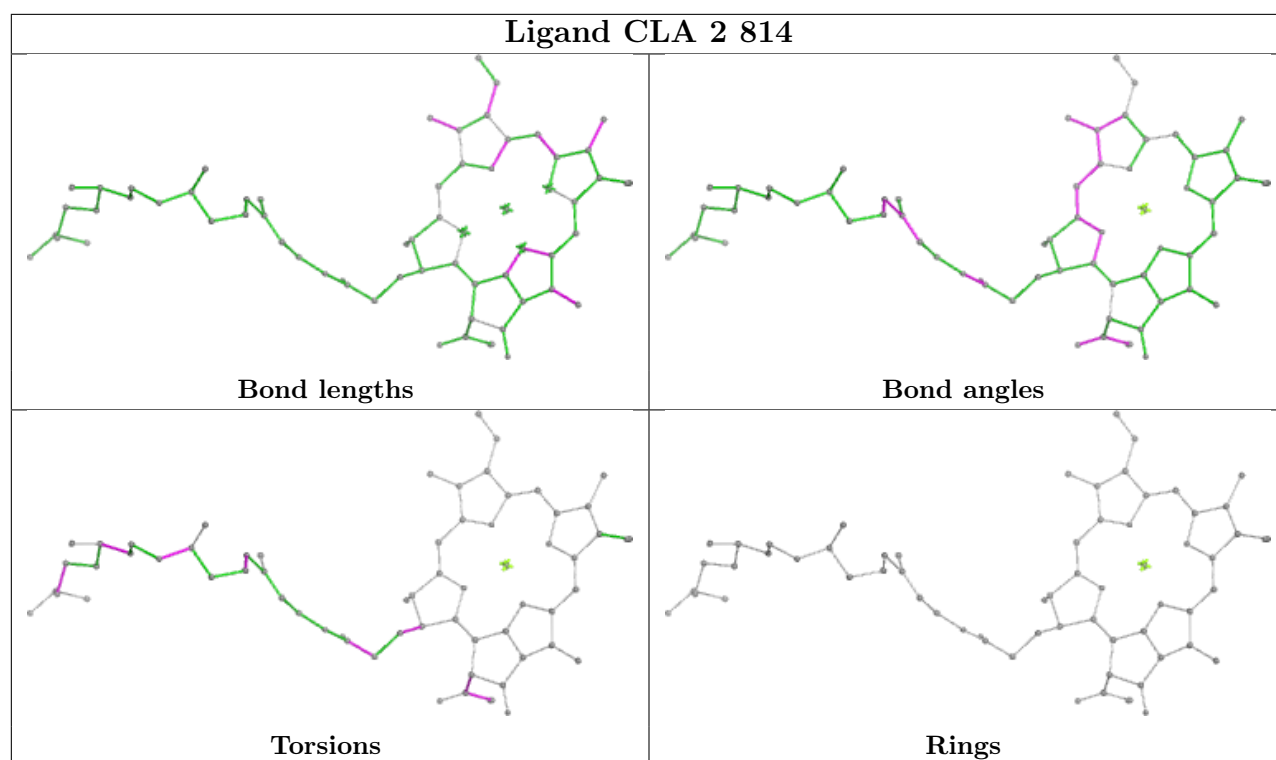
Bond angles



Torsions

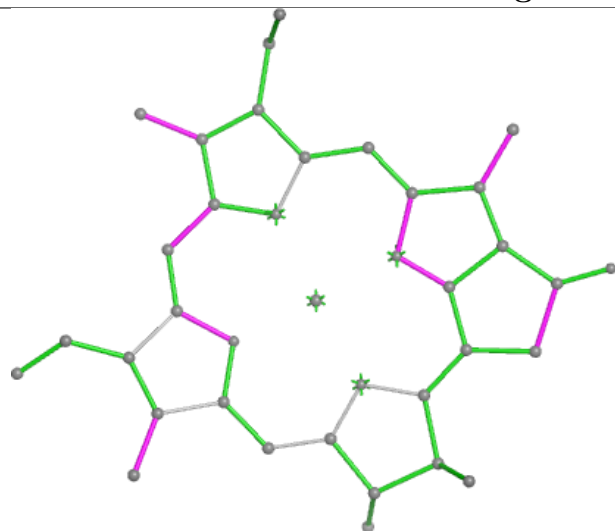


Rings

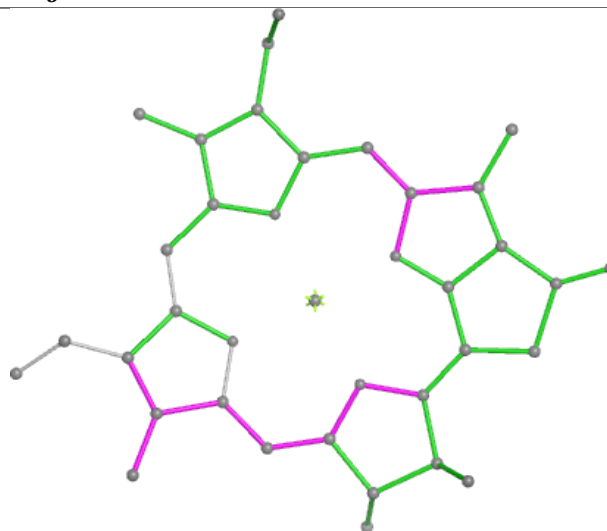




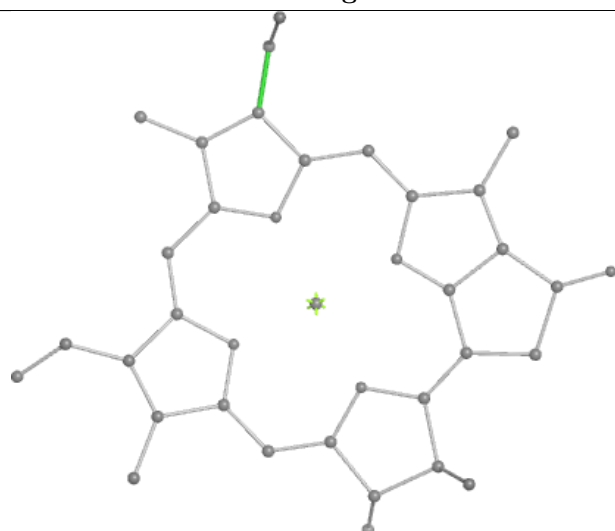
## Ligand CLA j 1303



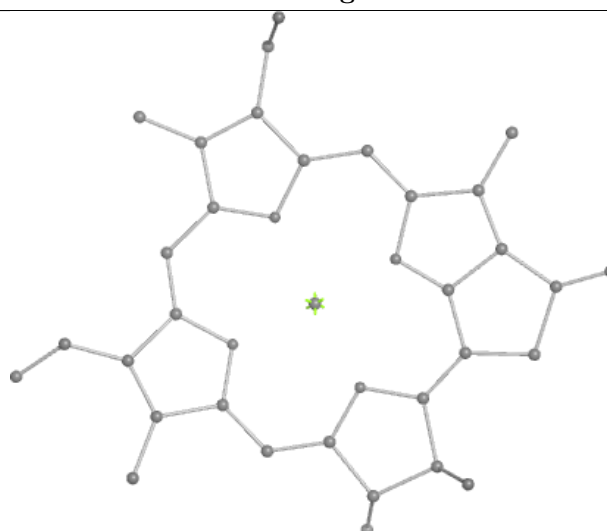
Bond lengths



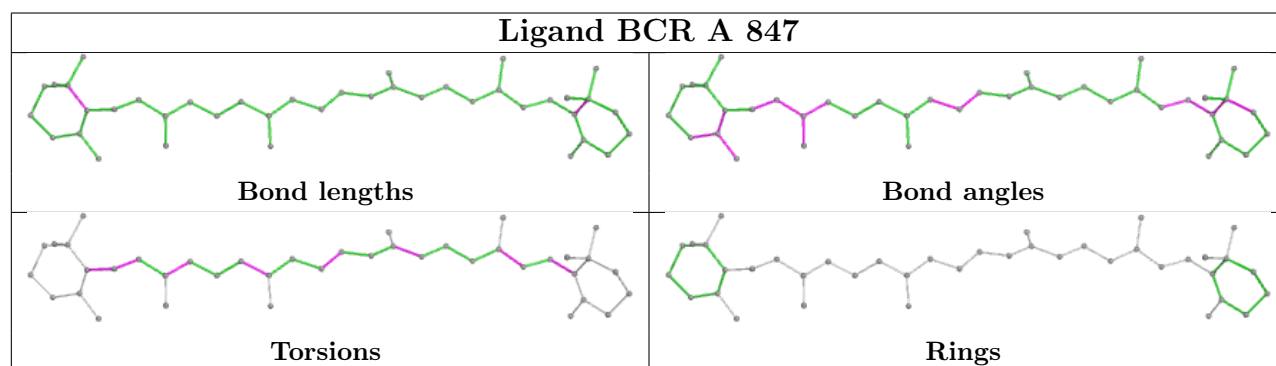
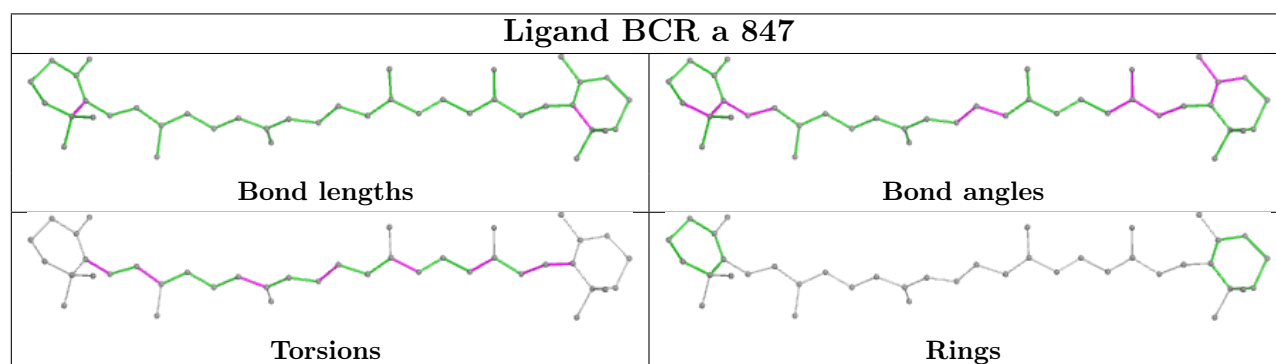
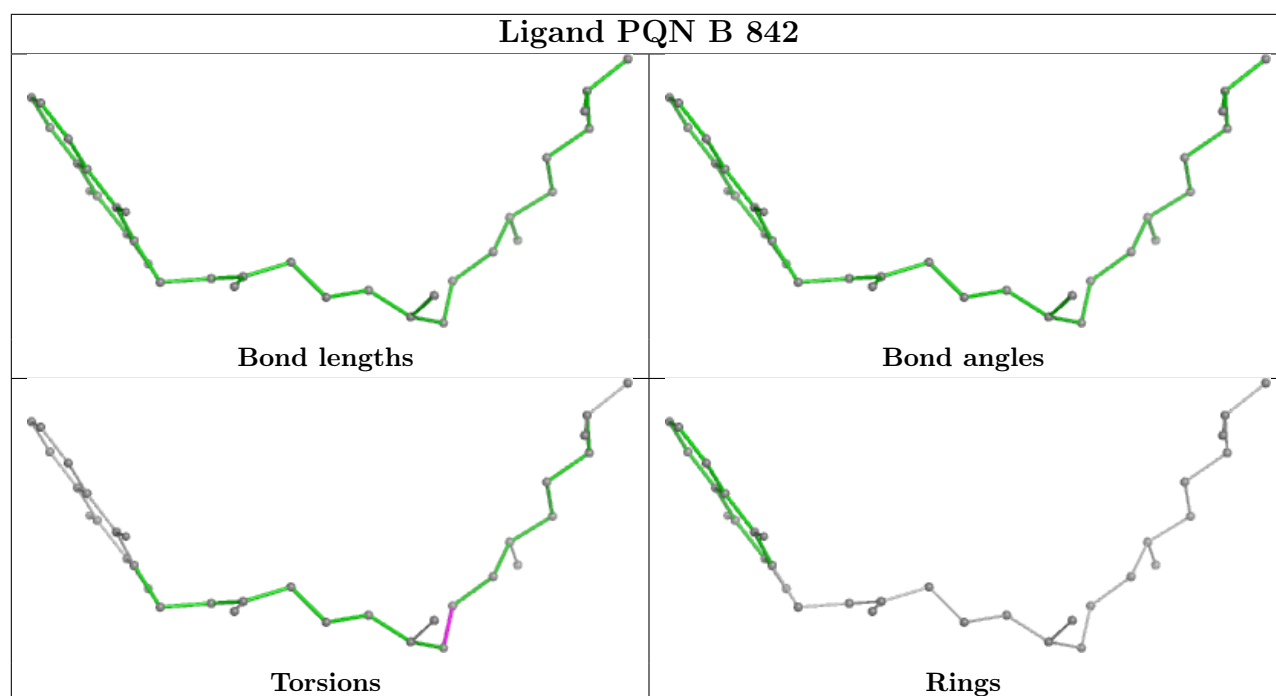
Bond angles



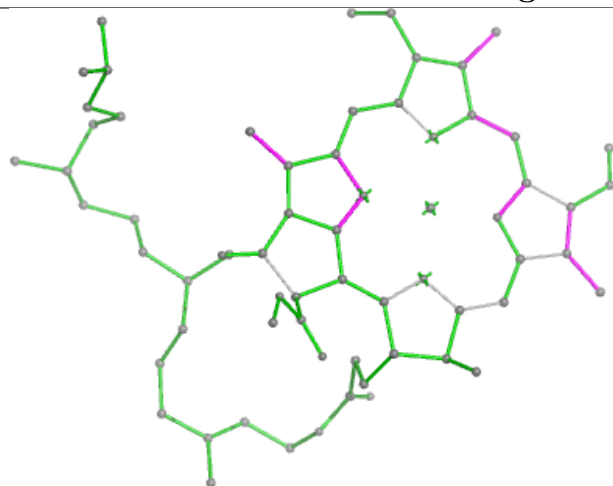
Torsions



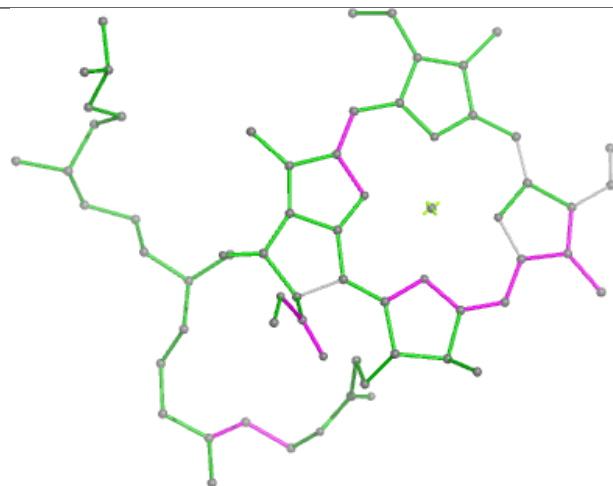
Rings



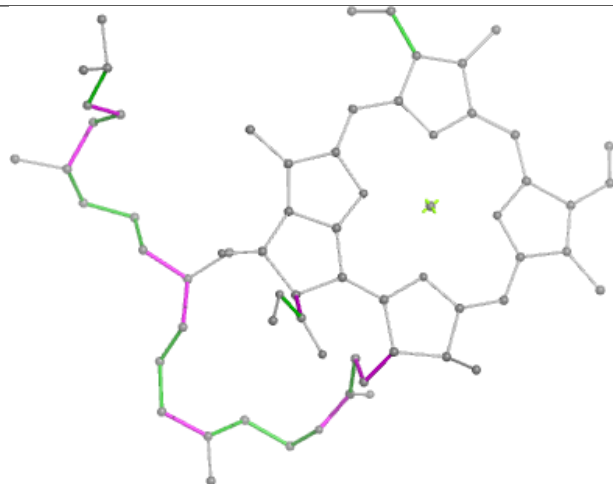
## Ligand CLA 2 833



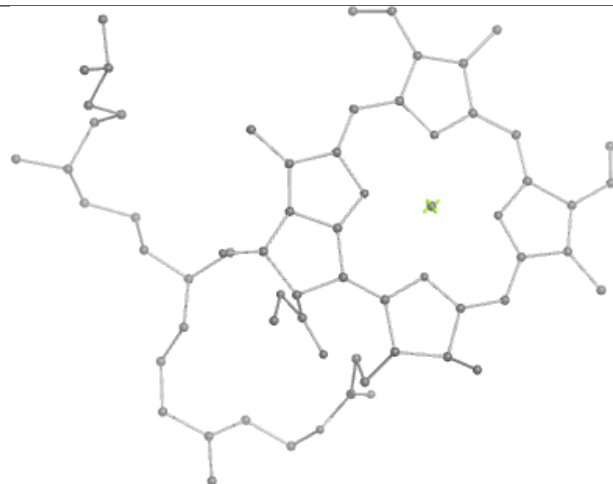
Bond lengths



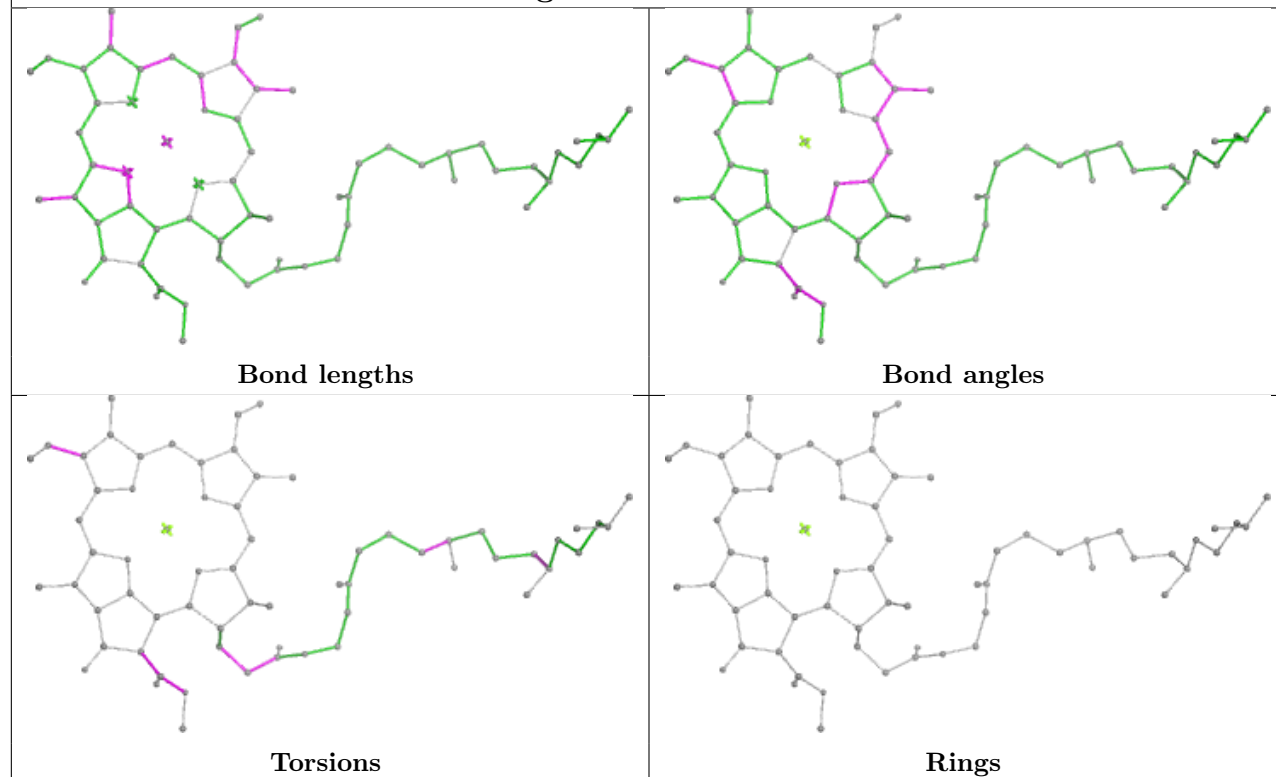
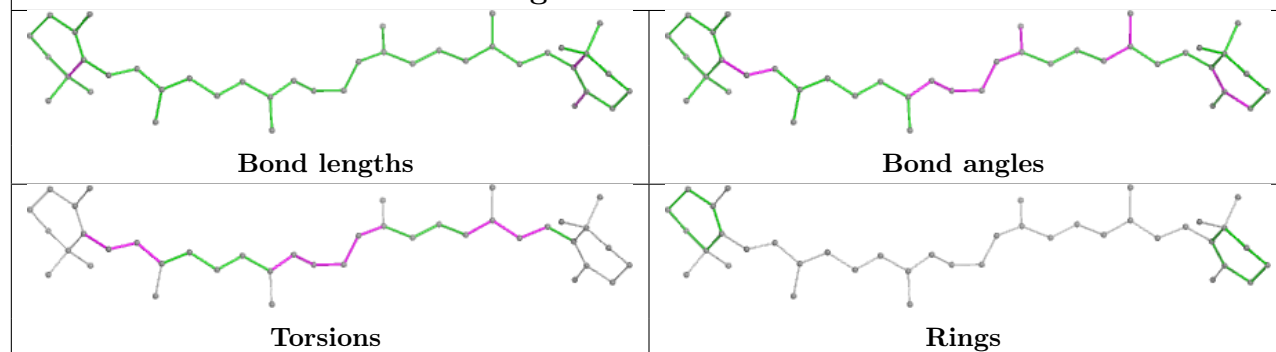
Bond angles



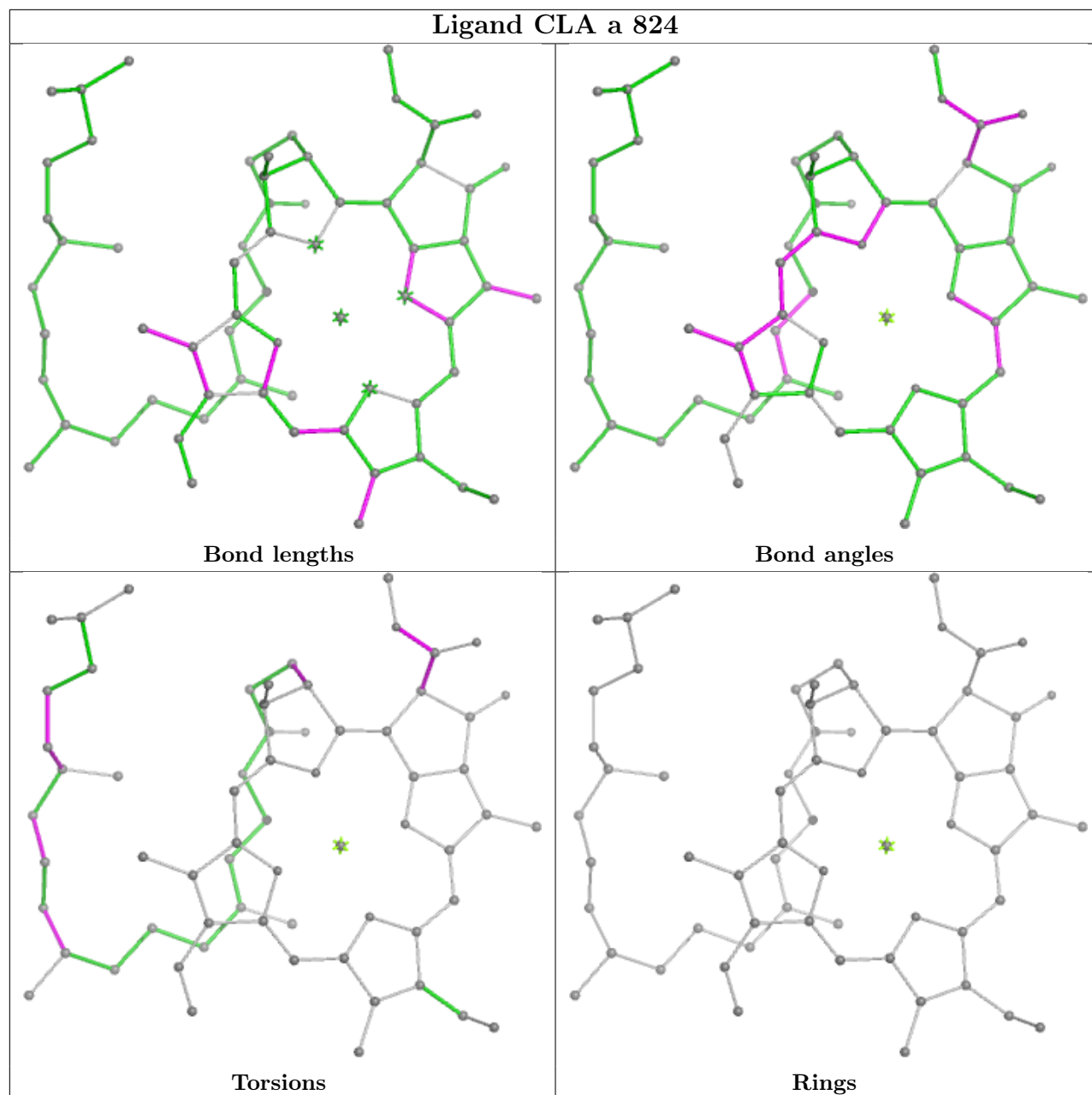
Torsions

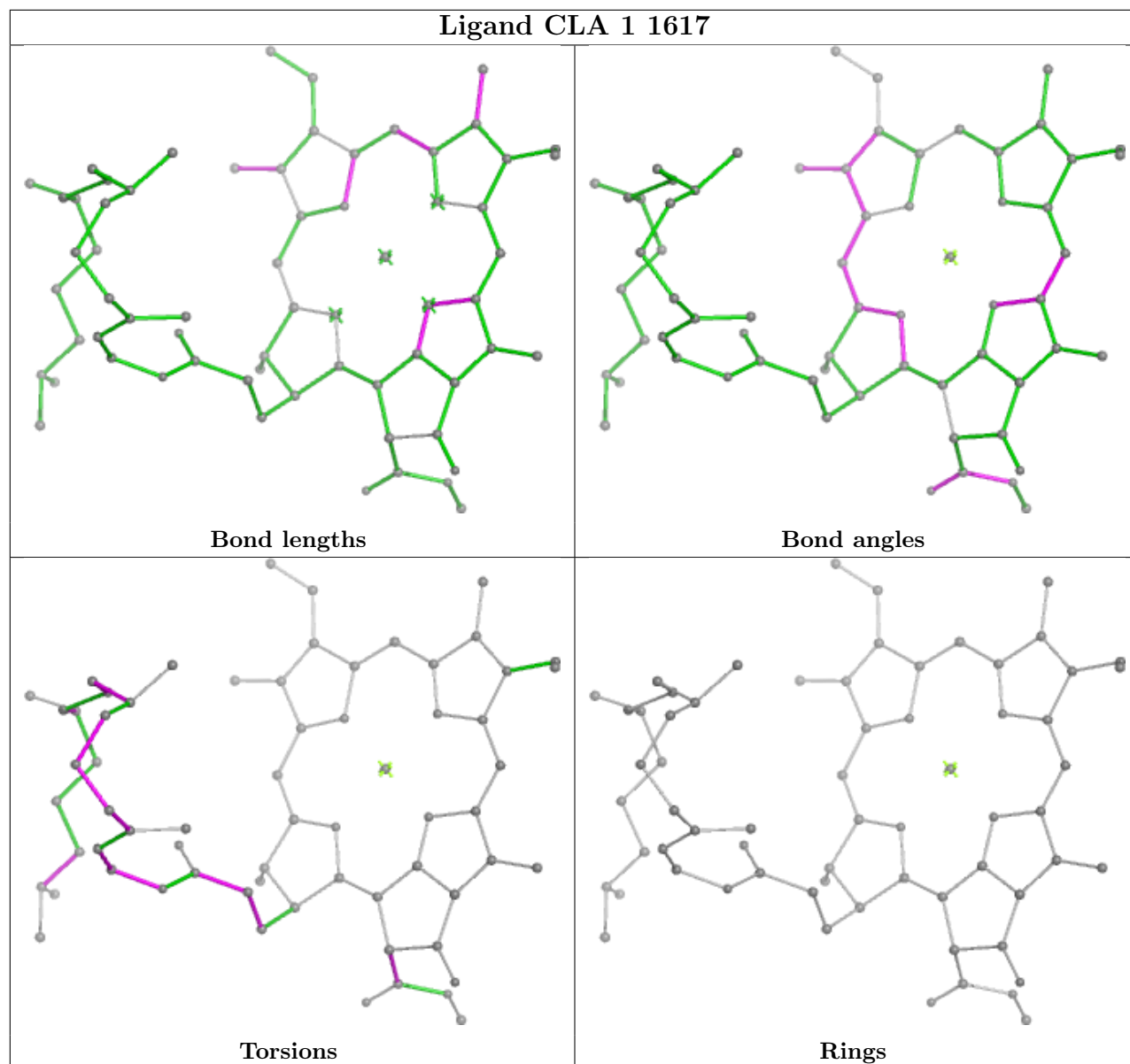


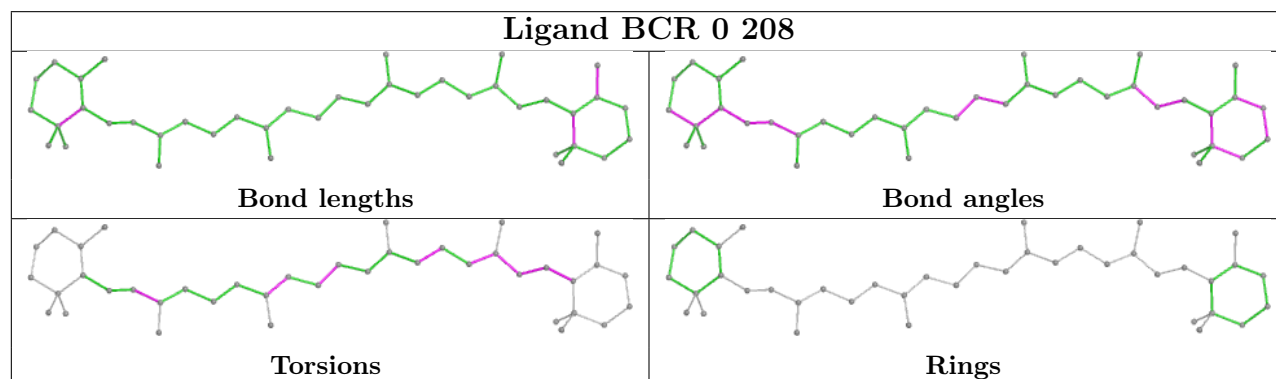
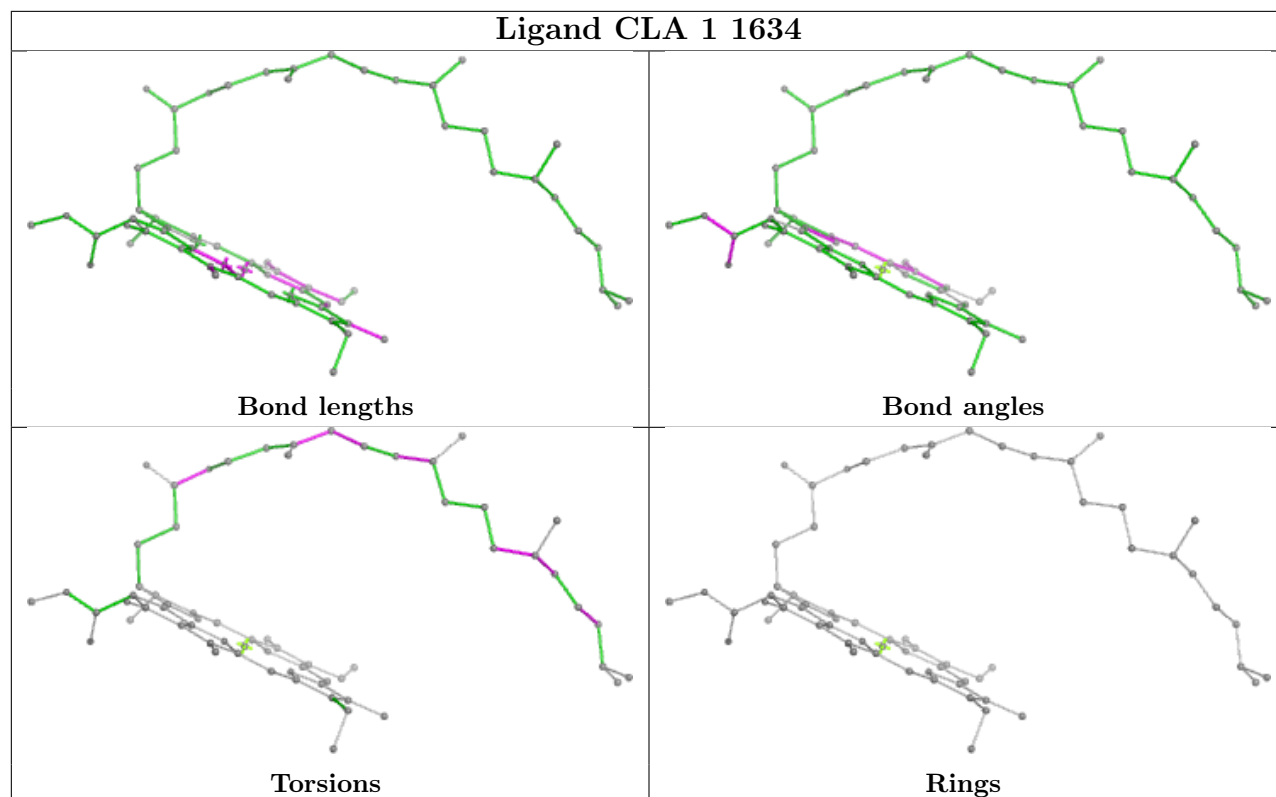
Rings

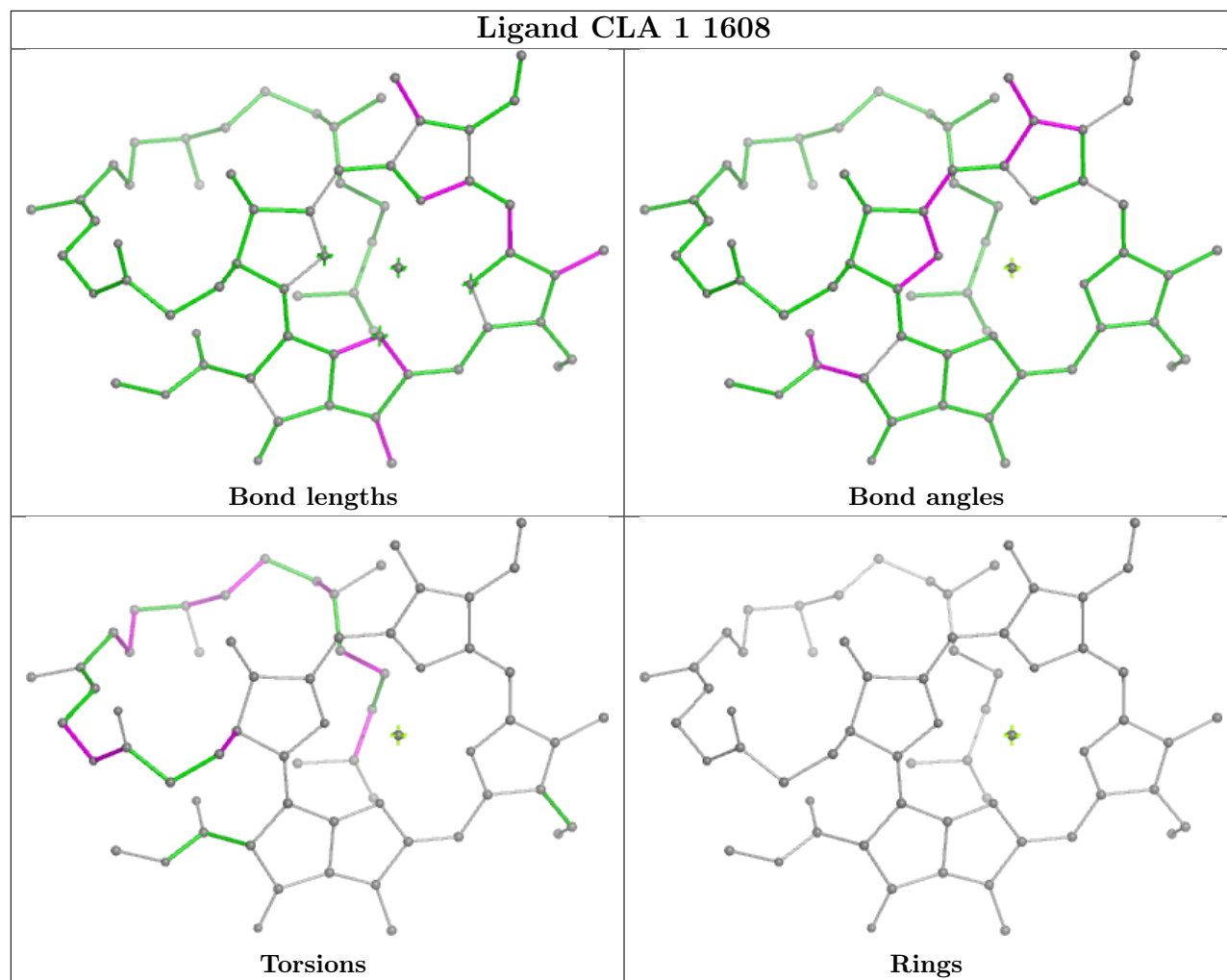
**Ligand CLA 2 804****Ligand BCR A 848**

## Ligand CLA a 824

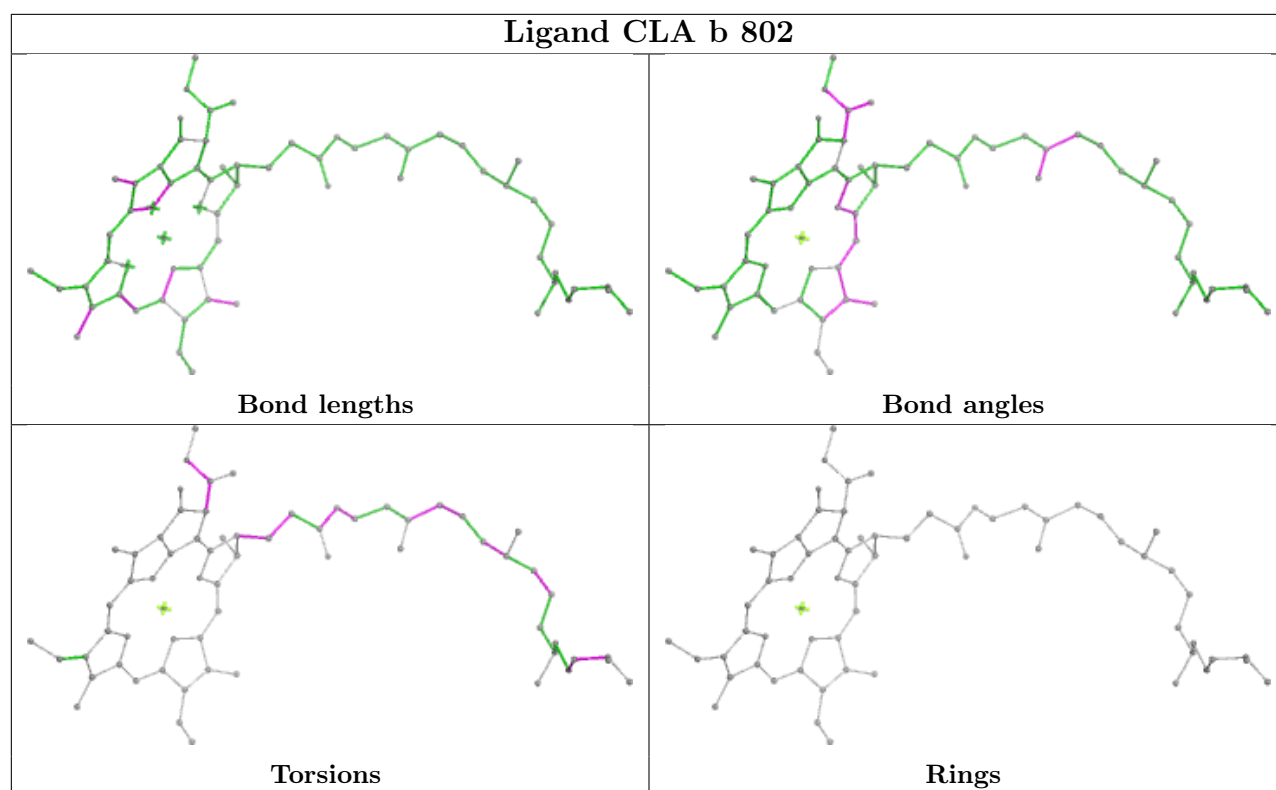




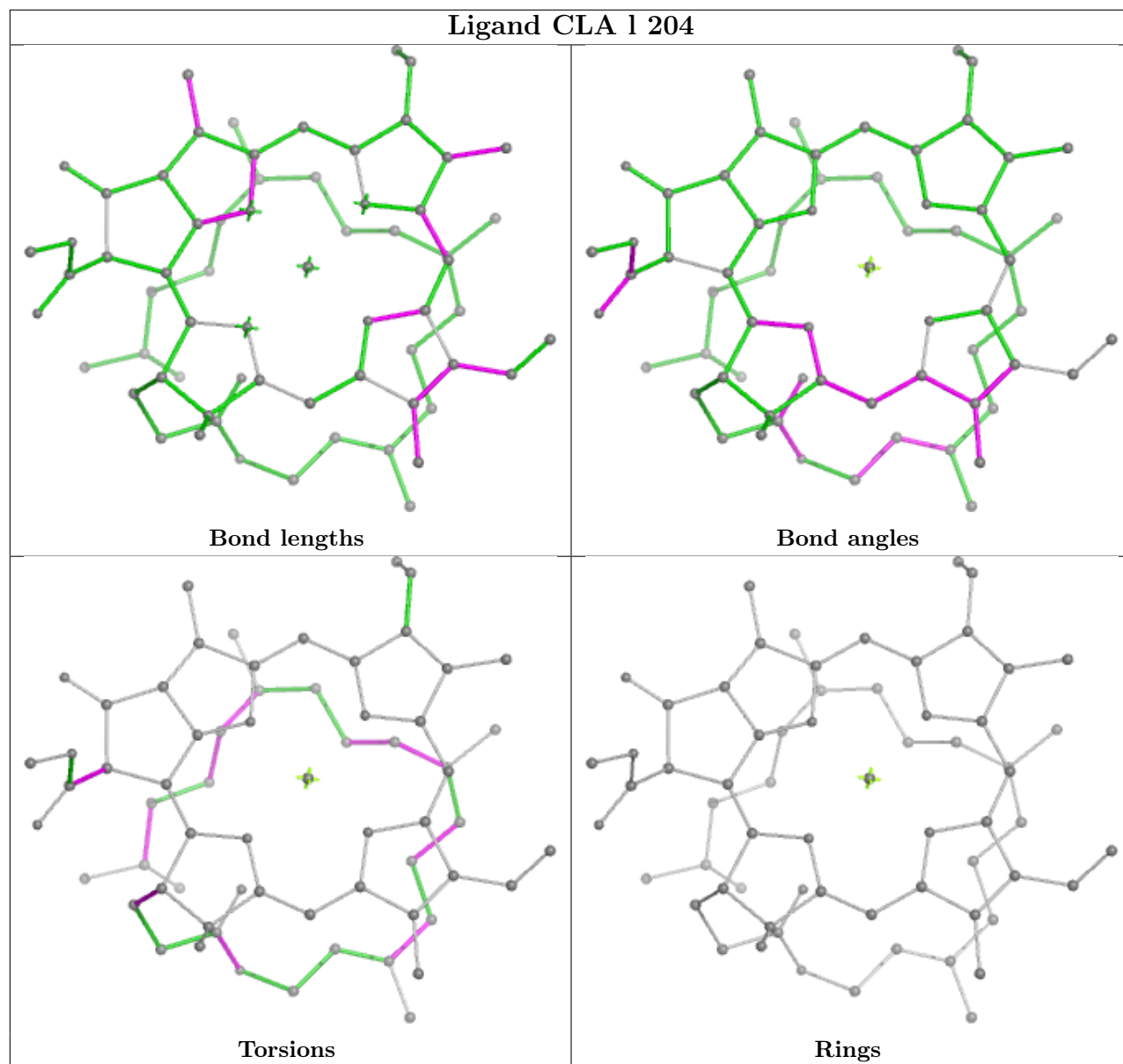


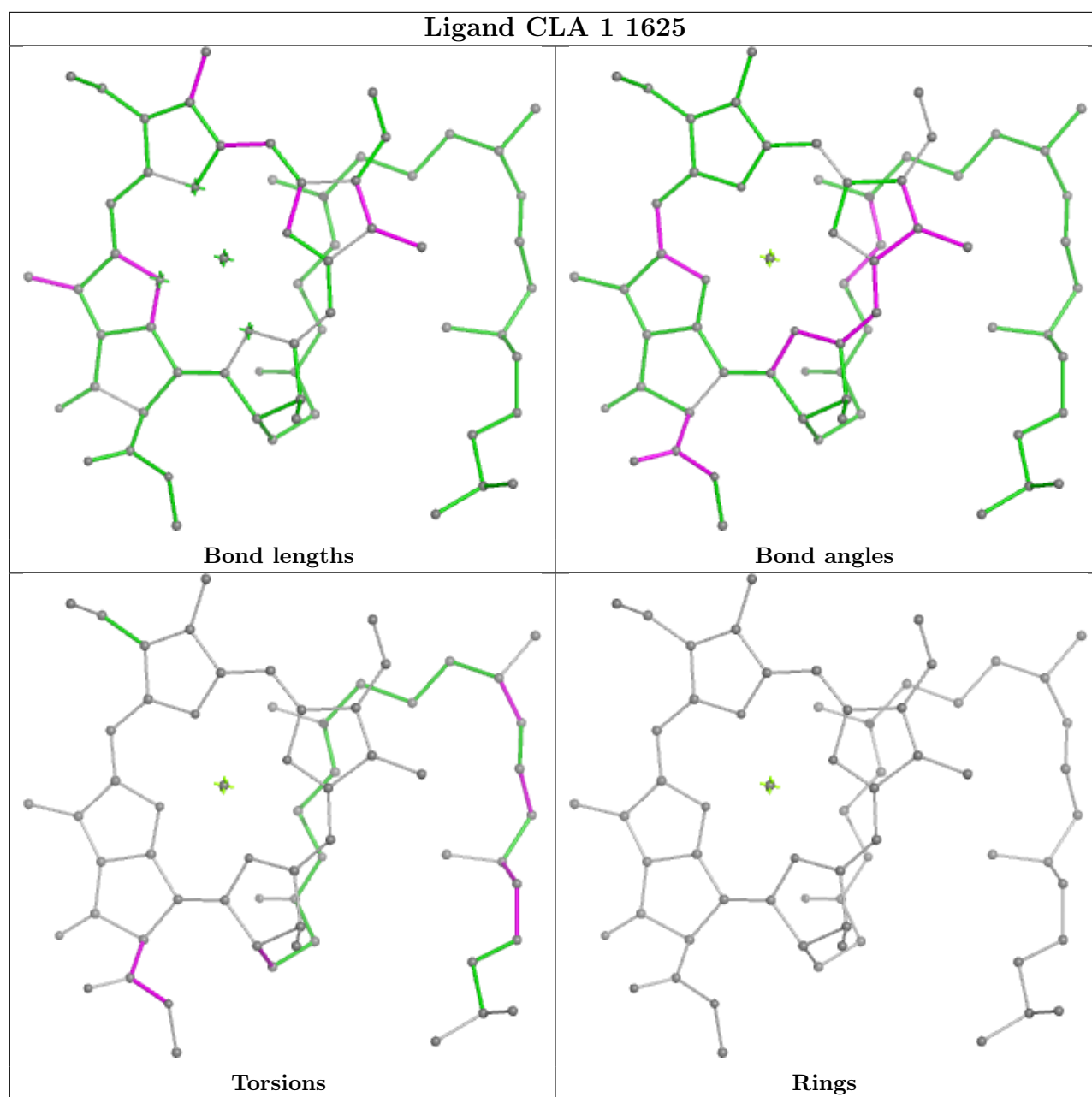


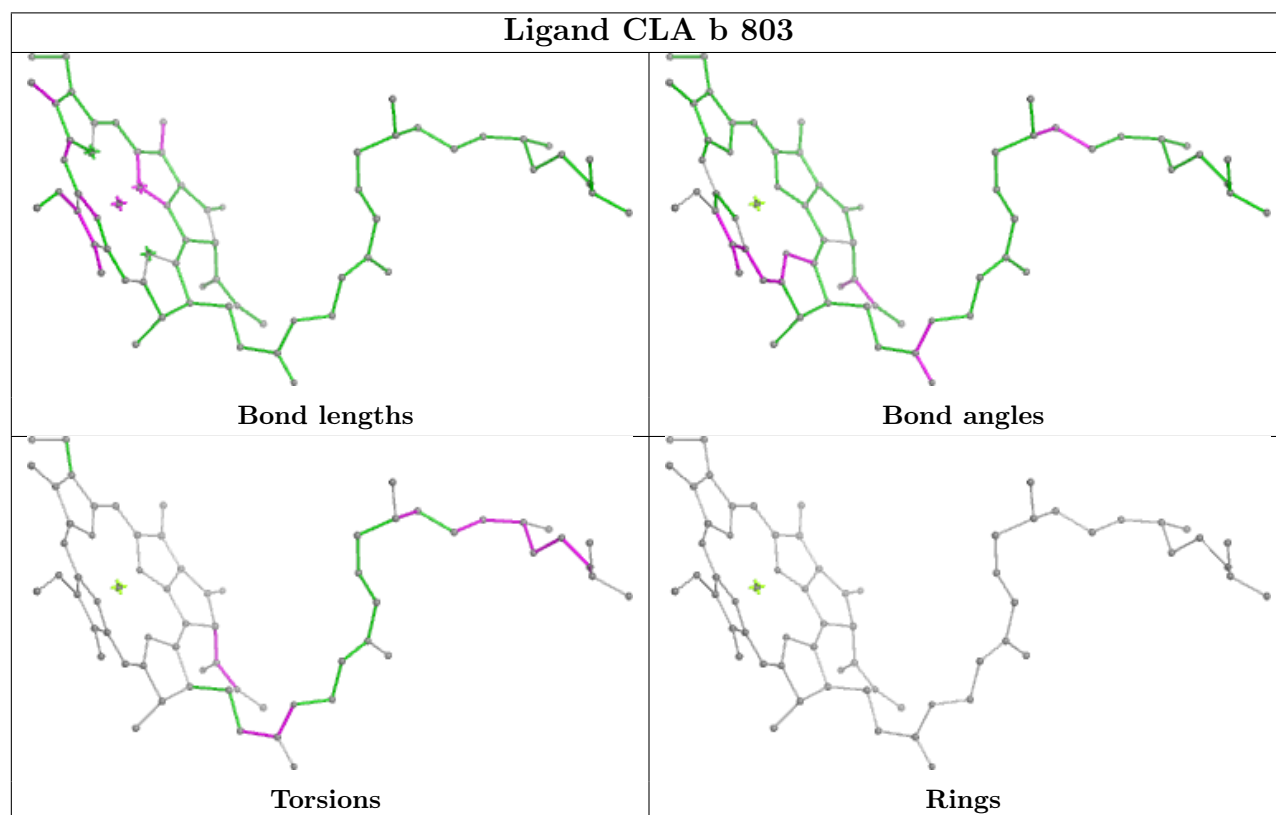
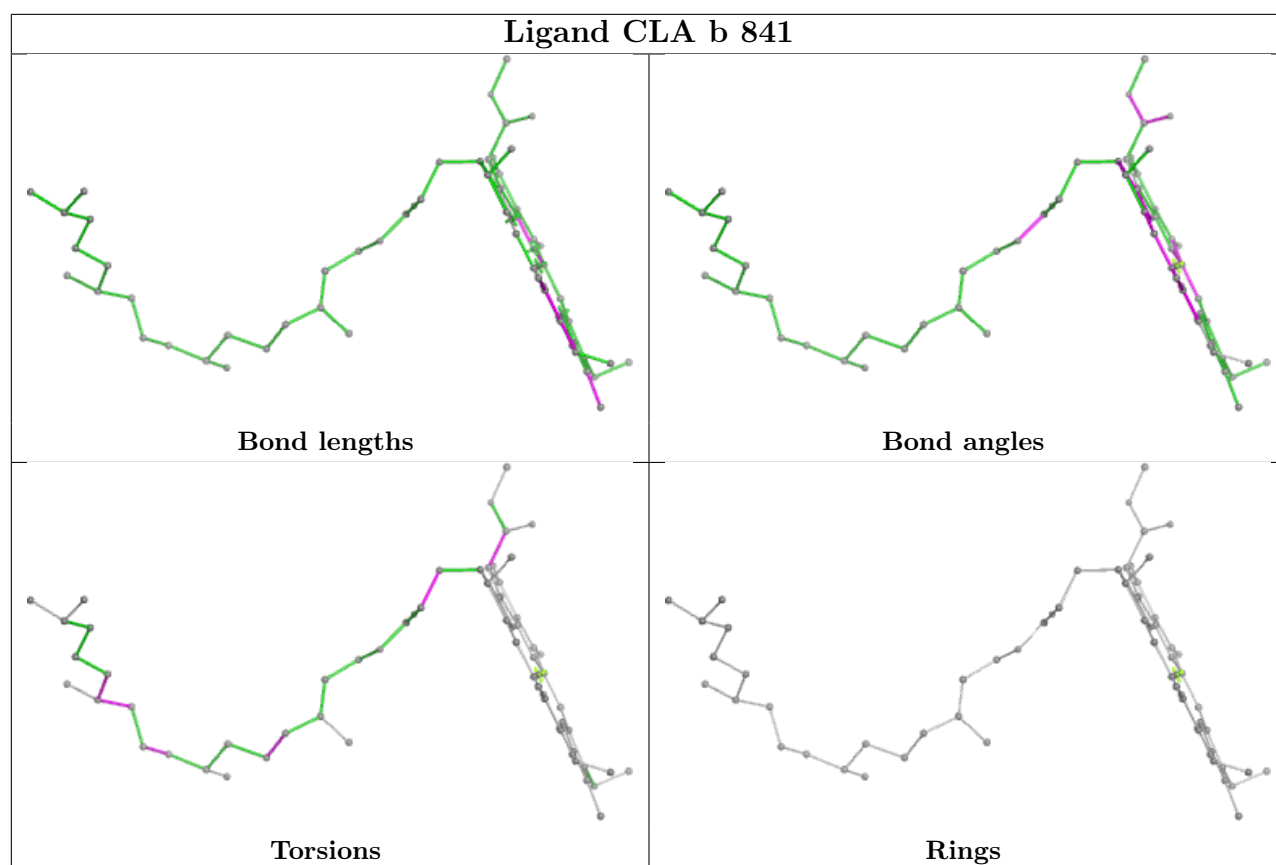




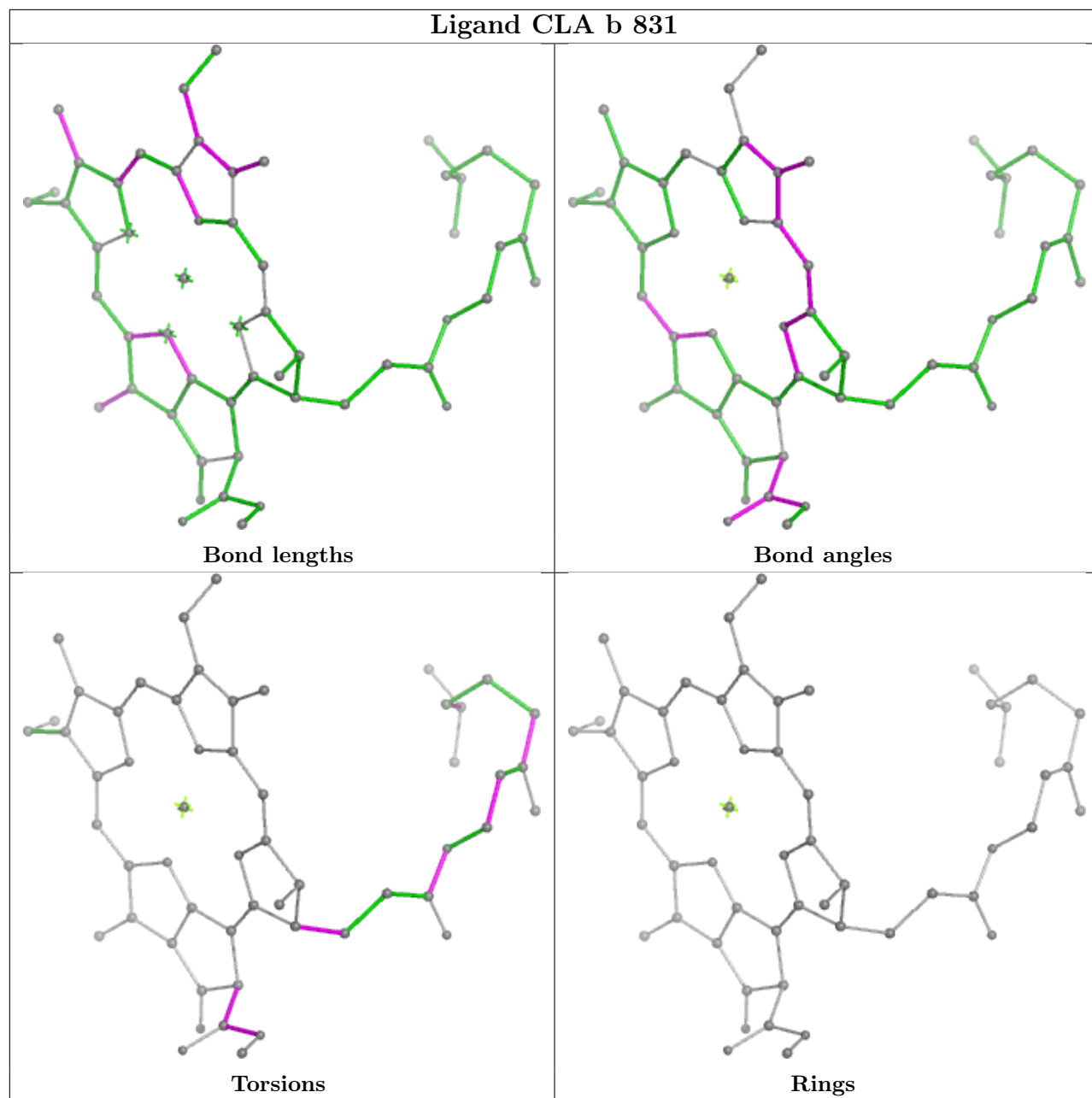
## Ligand CLA 1 204

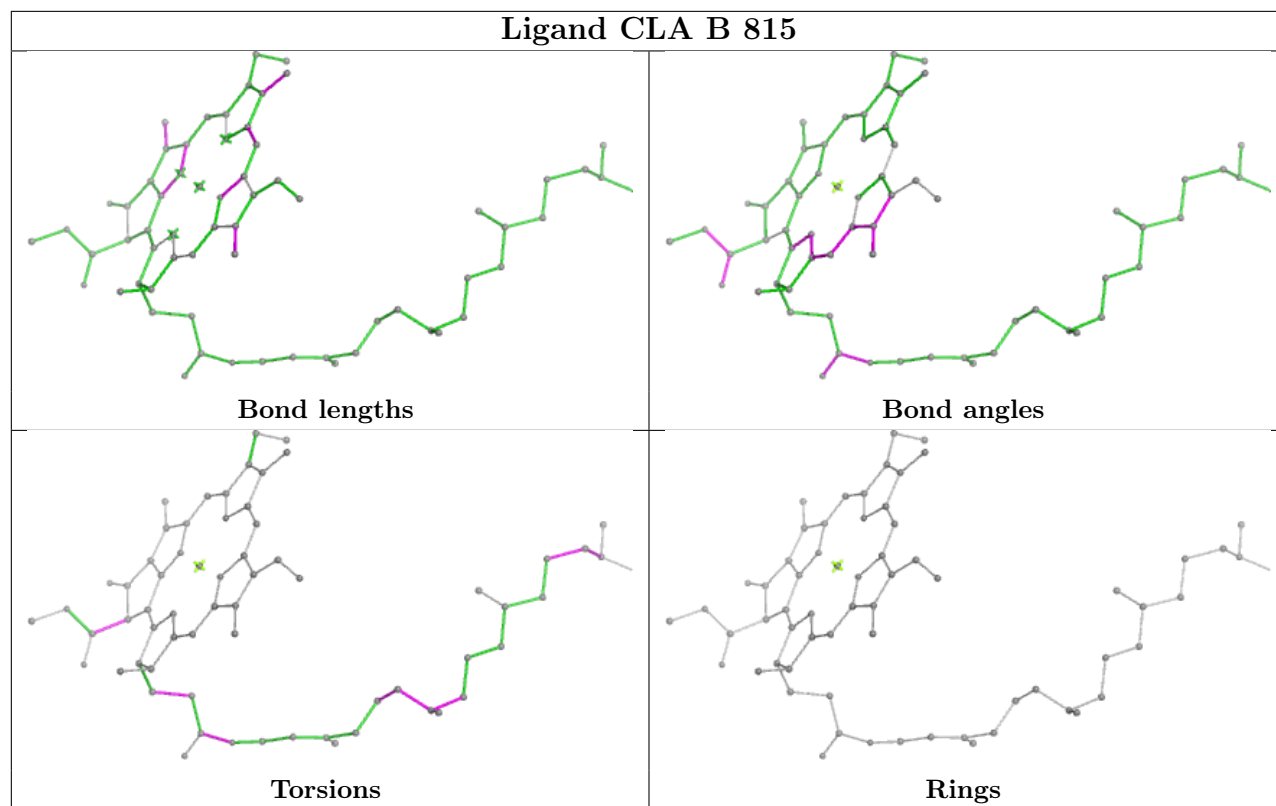


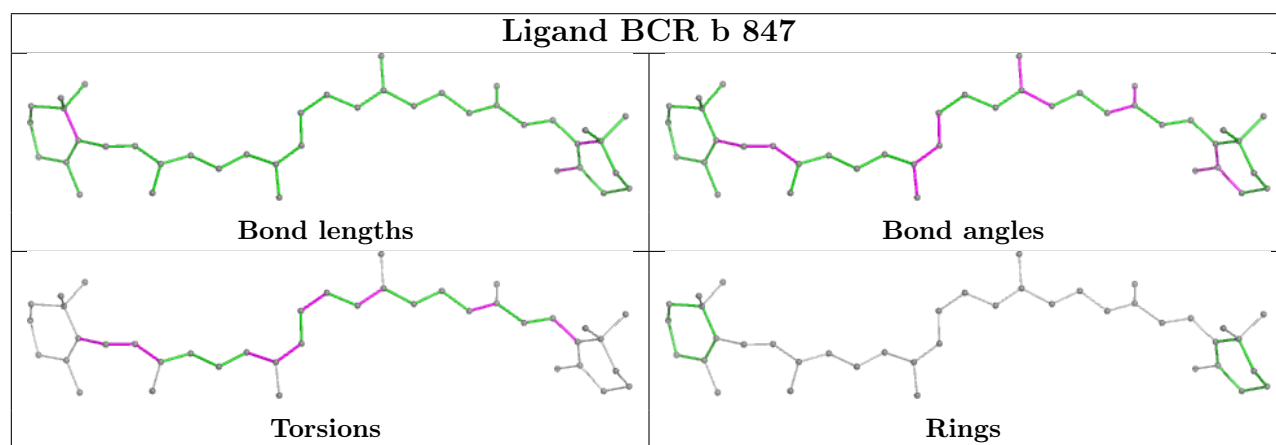
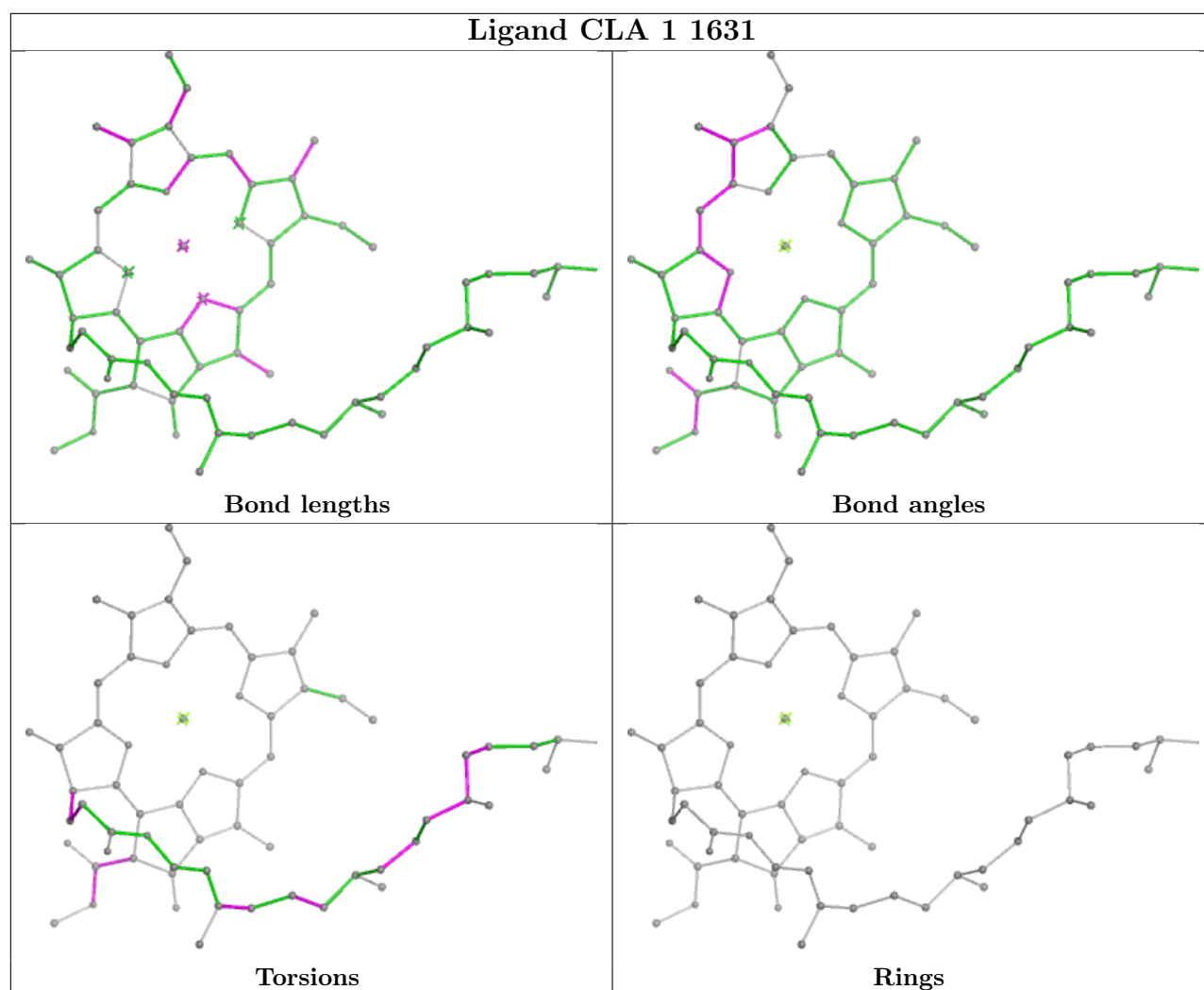


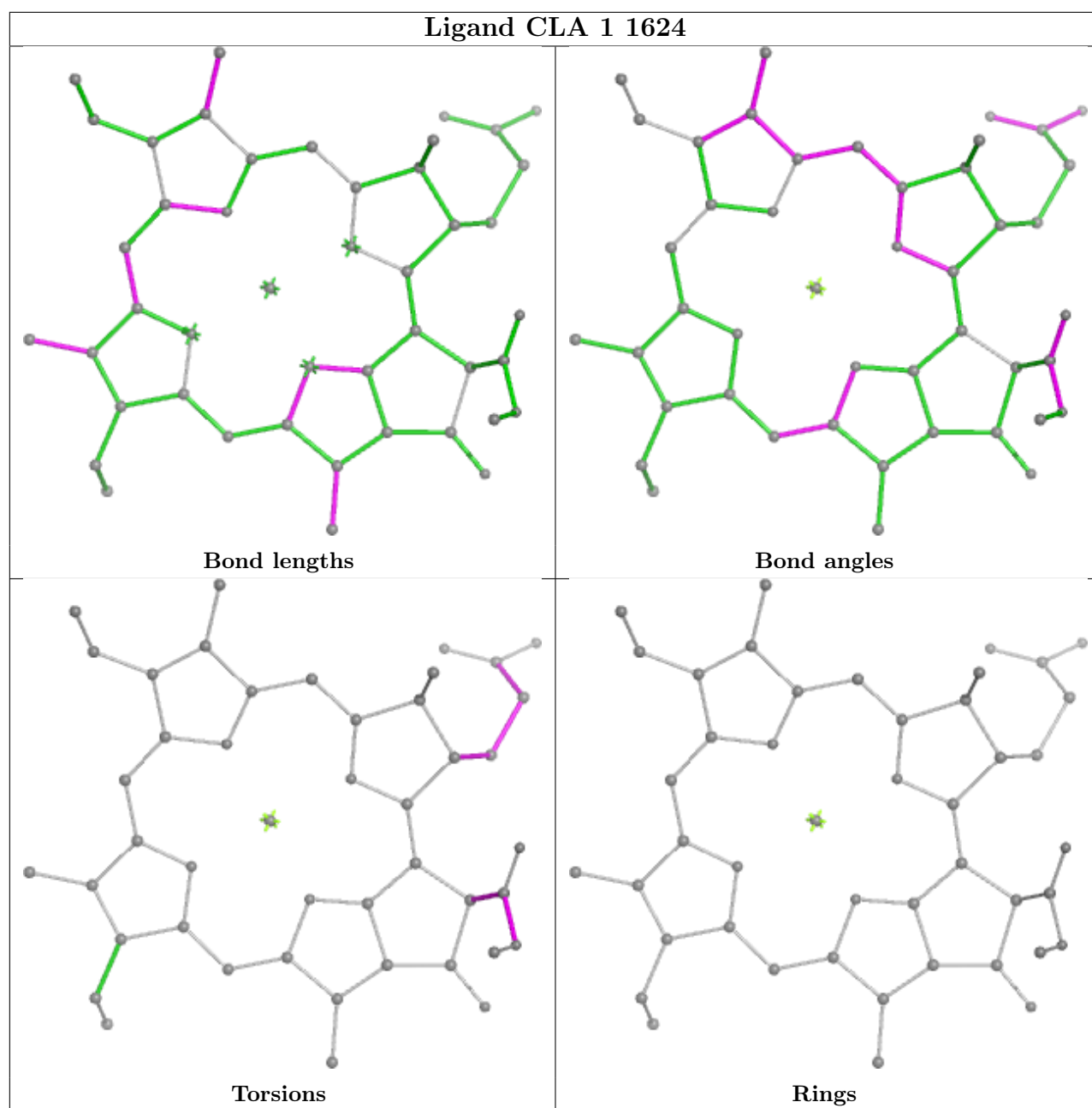


## Ligand CLA b 831



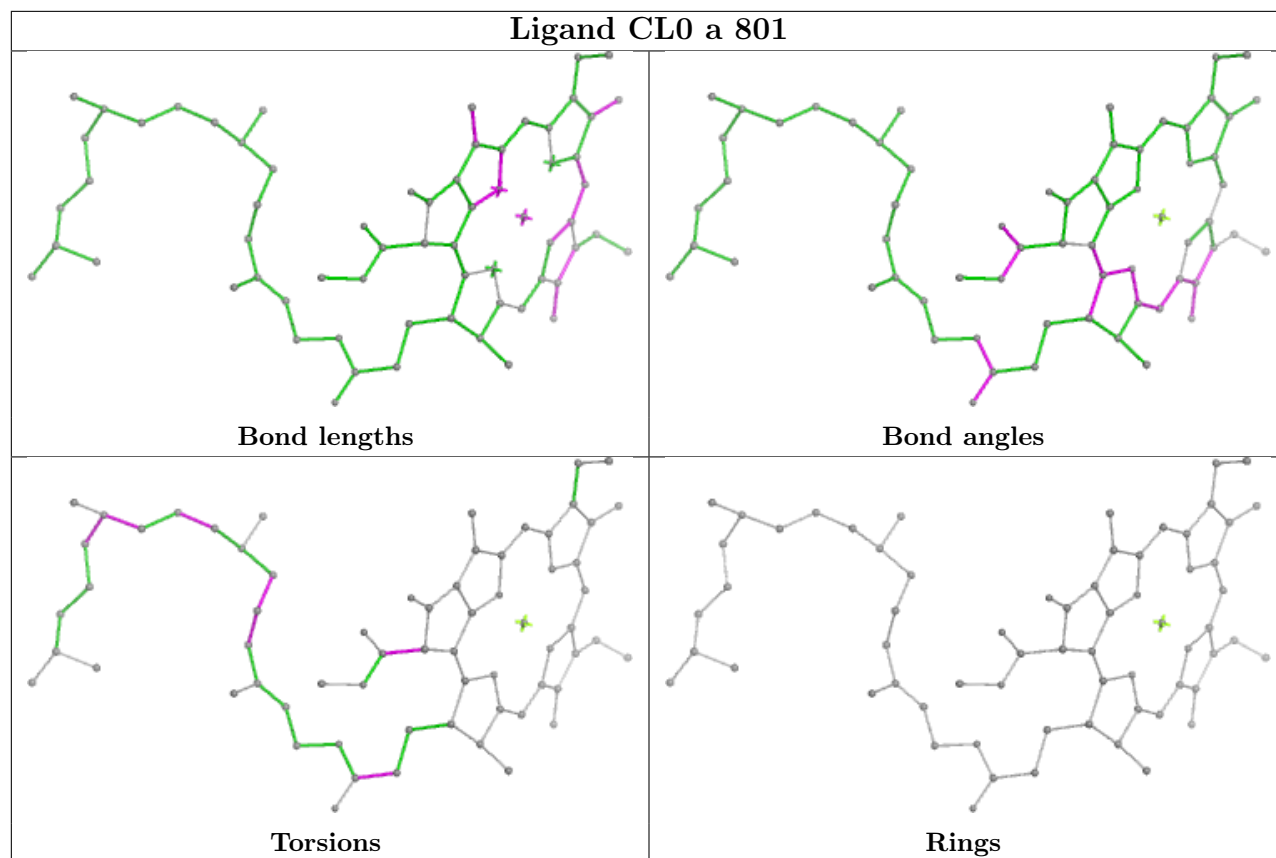




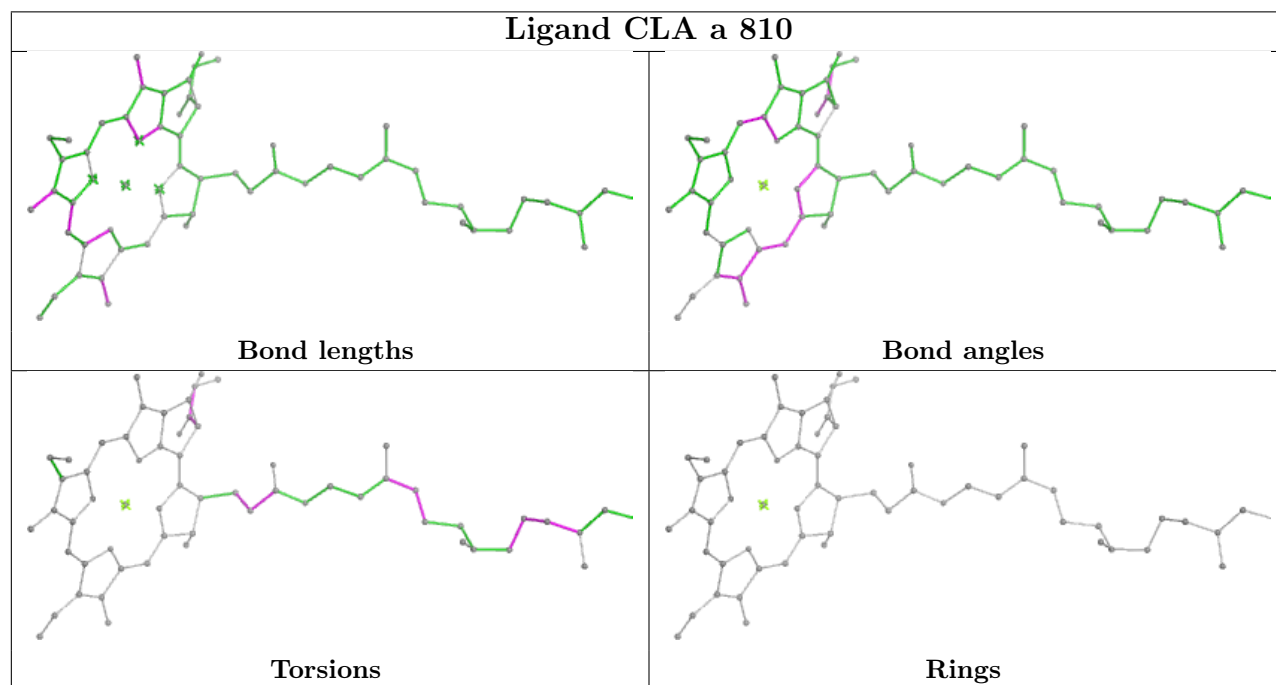


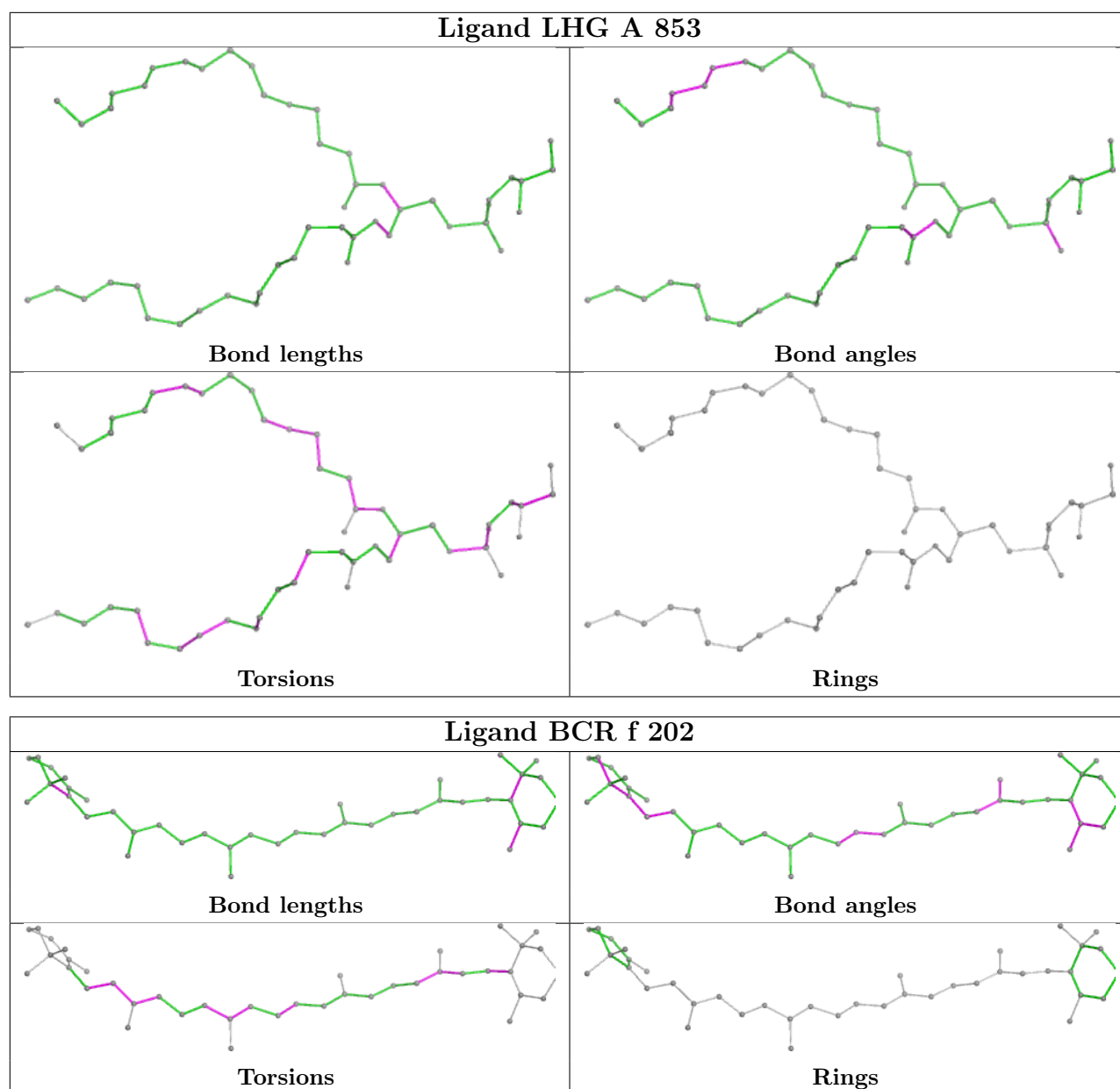


## Ligand CL0 a 801

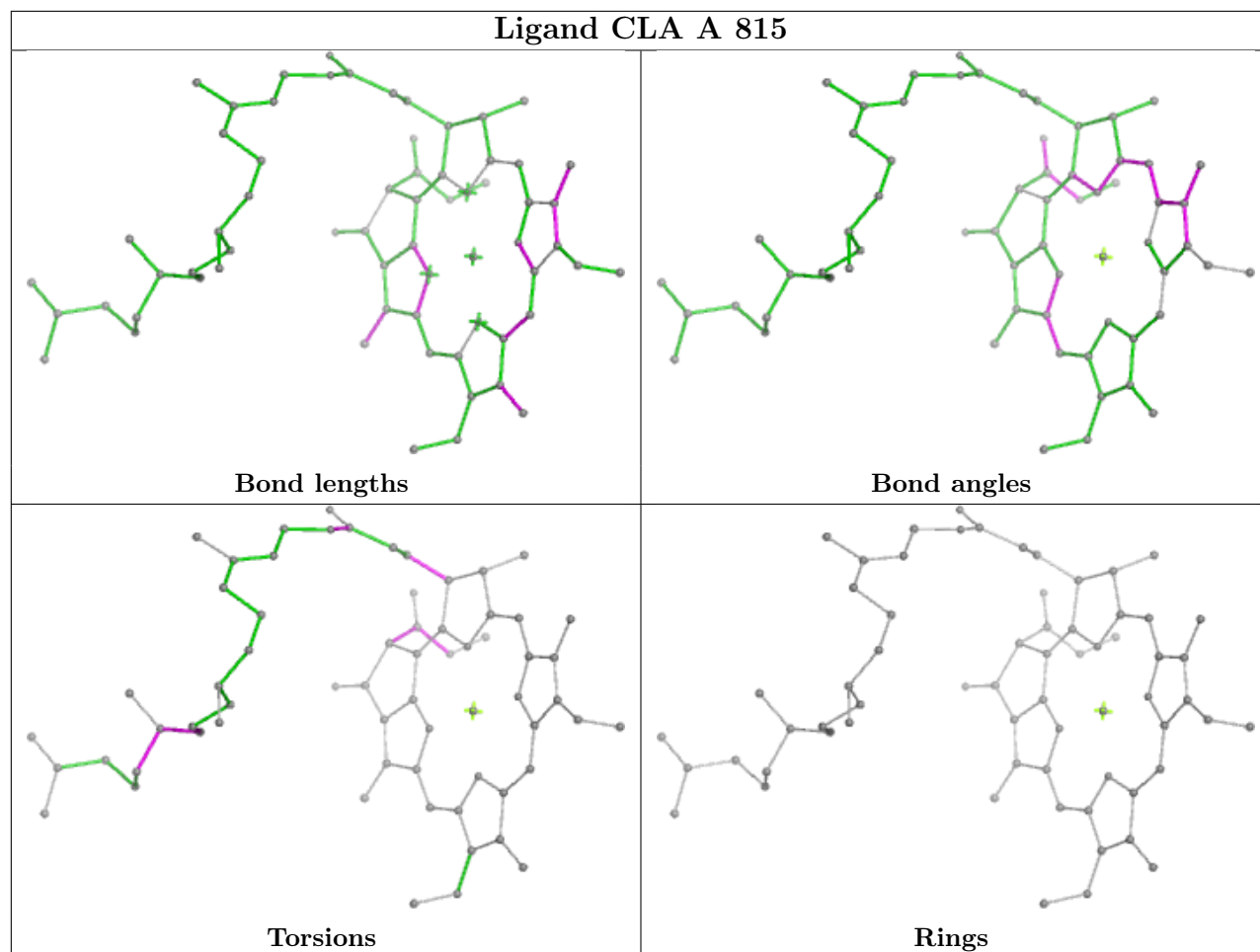


## Ligand CLA a 810

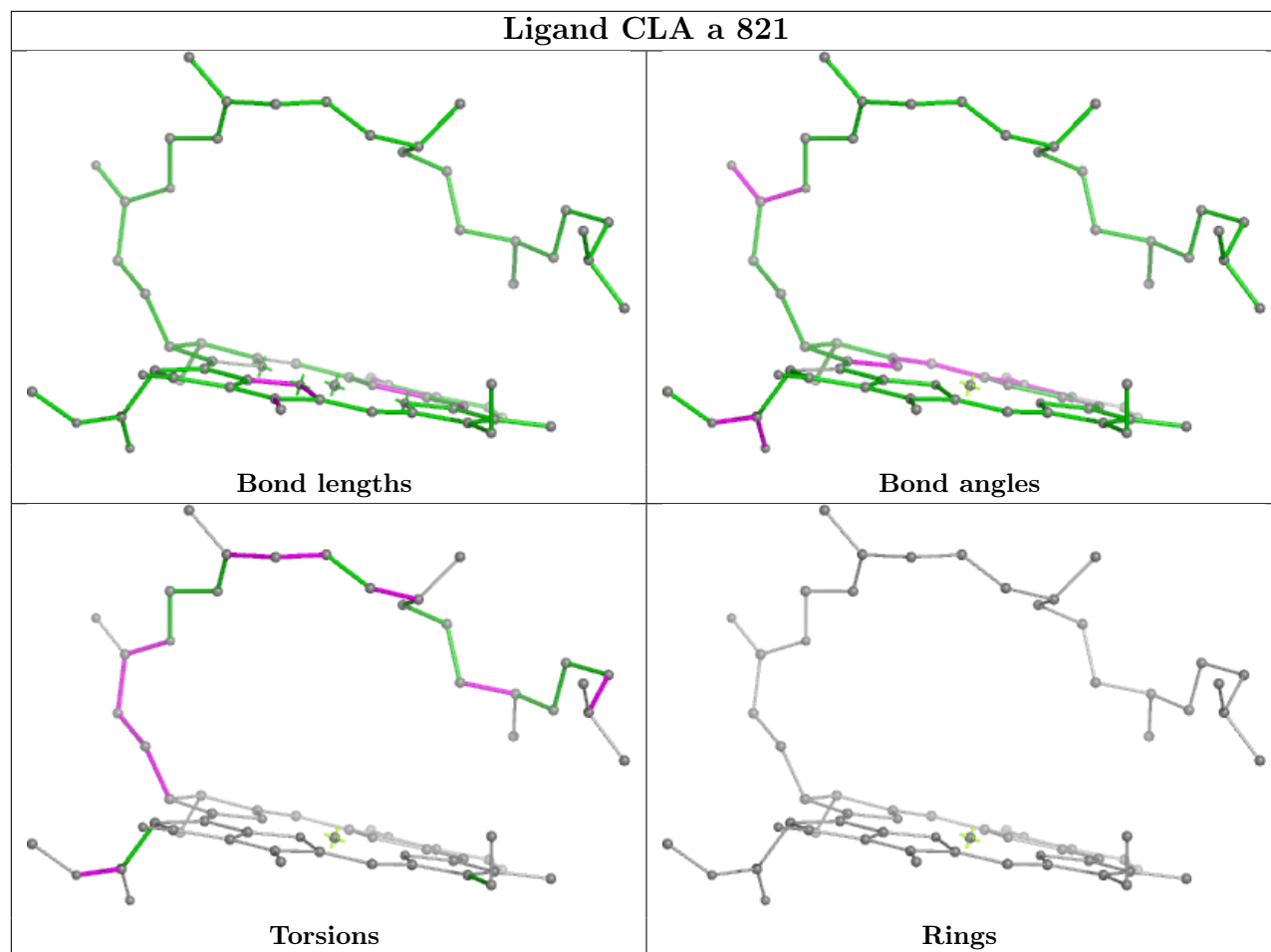


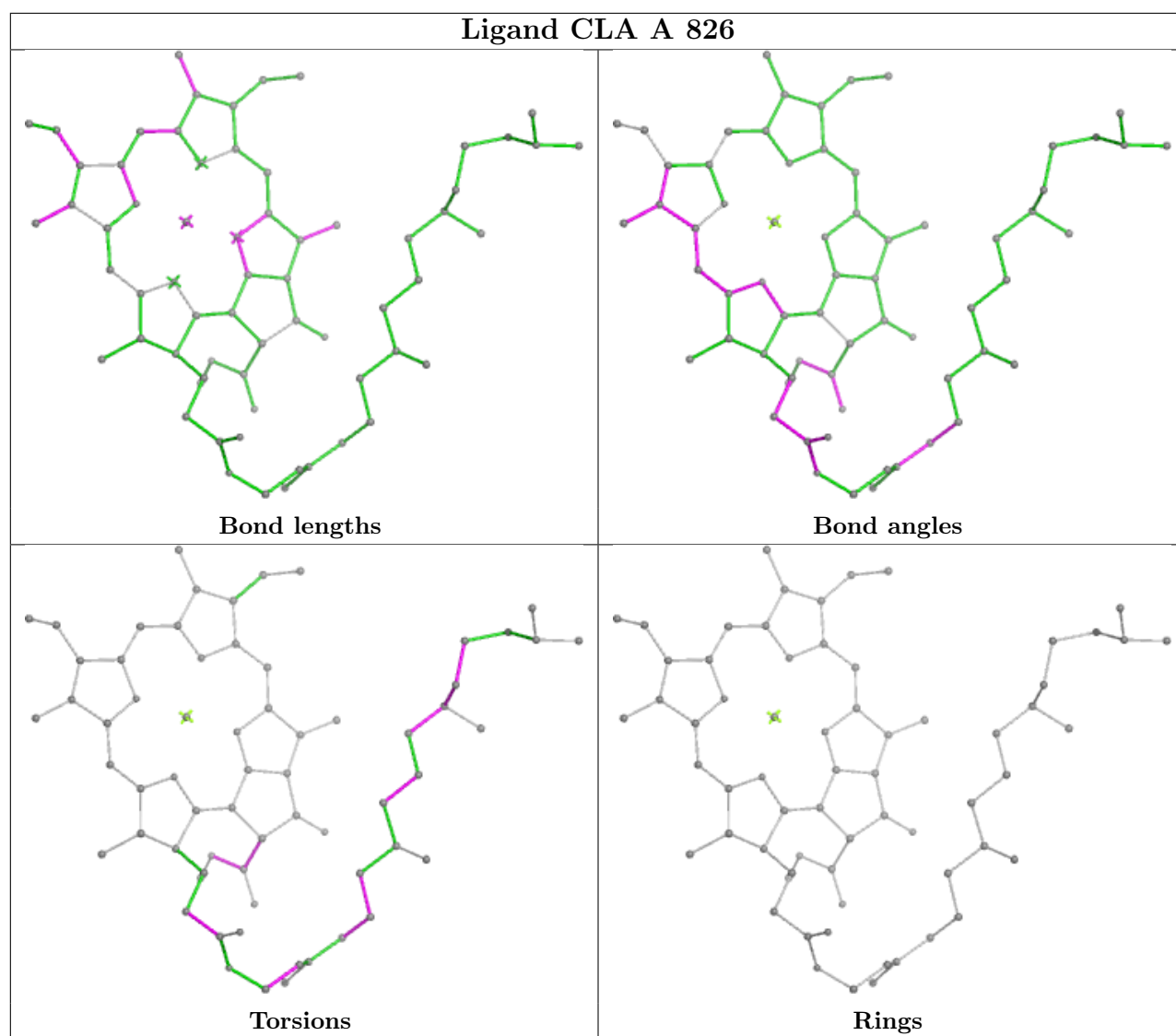


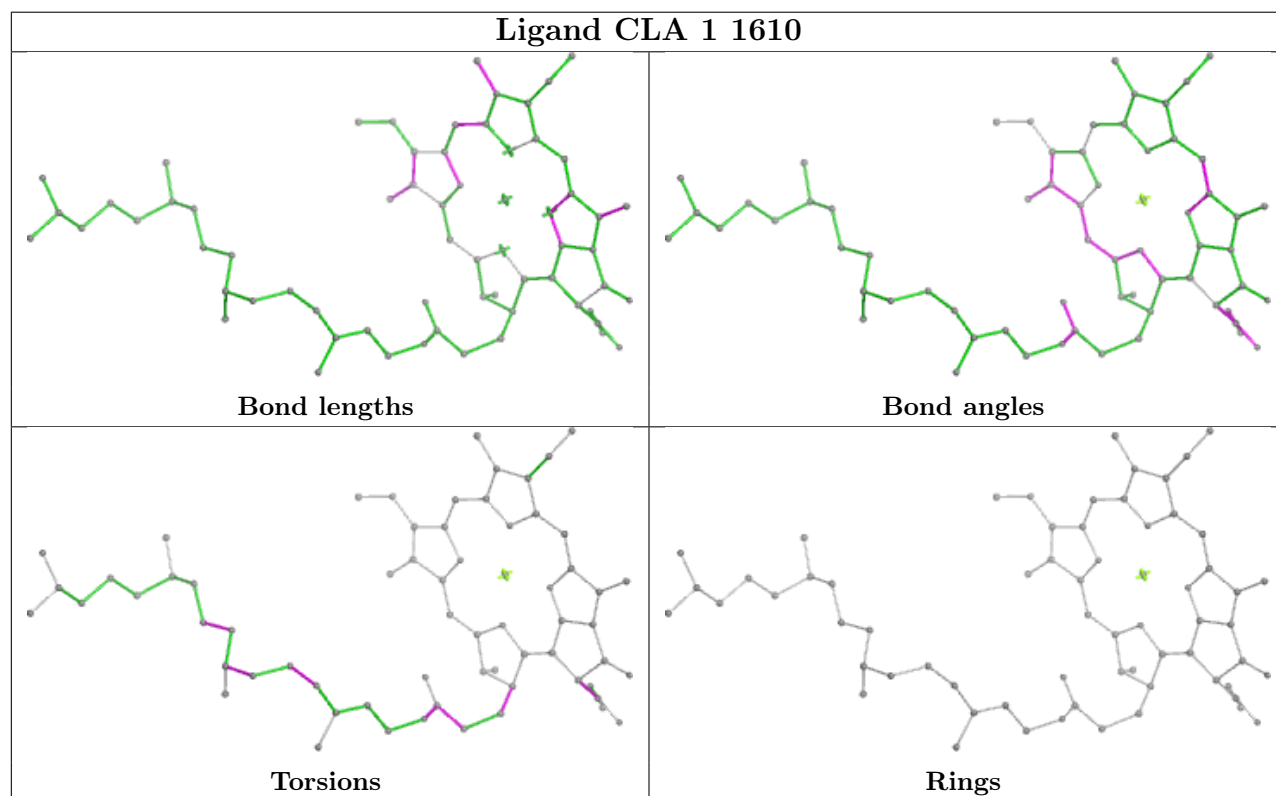
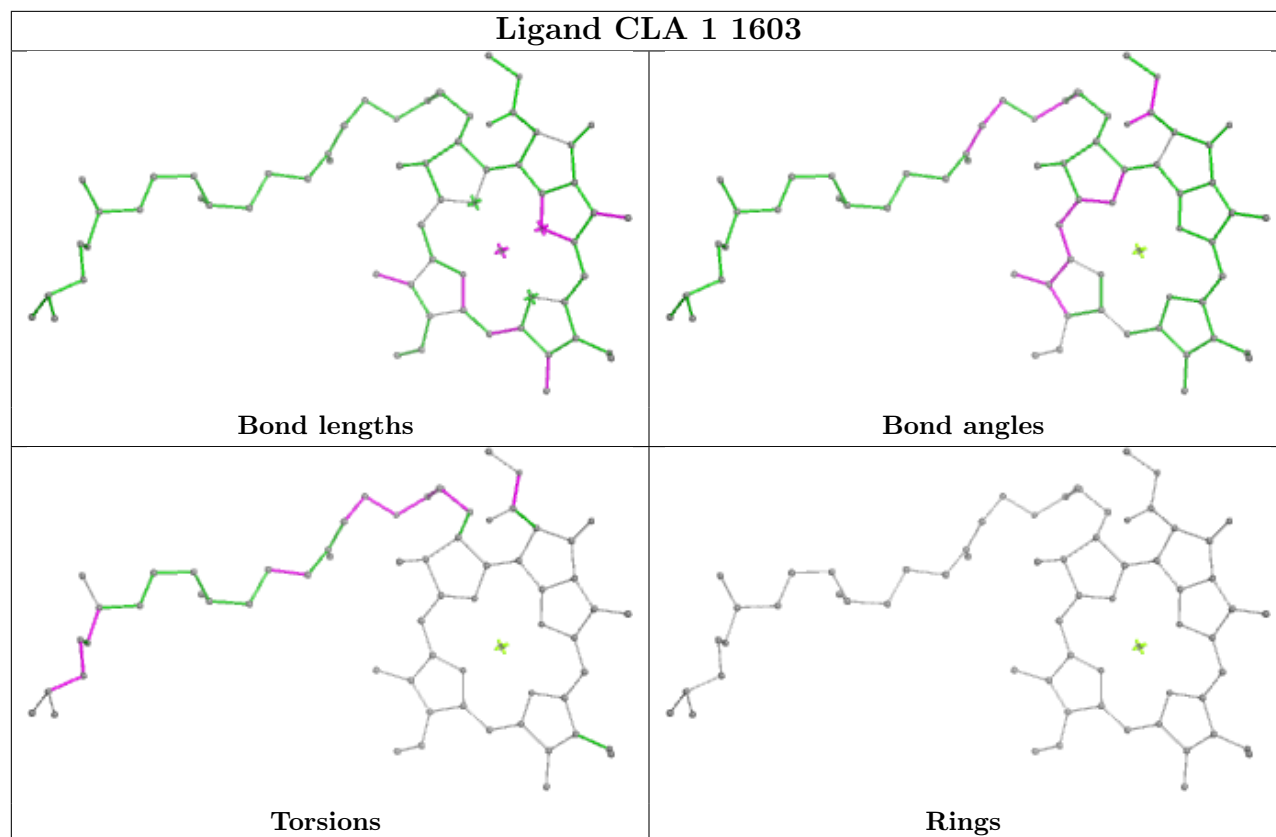
## Ligand CLA A 815



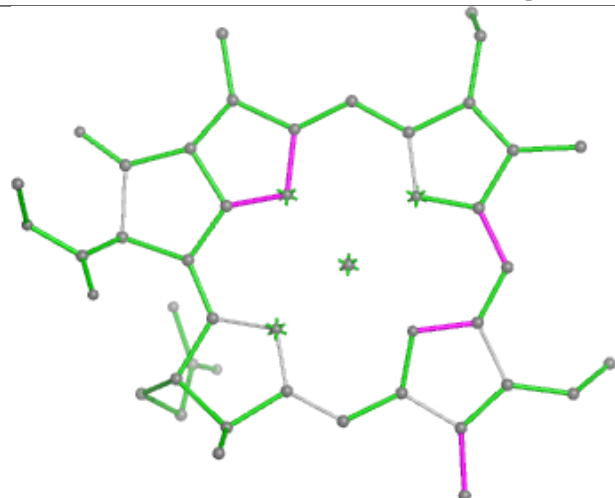
## Ligand CLA a 821



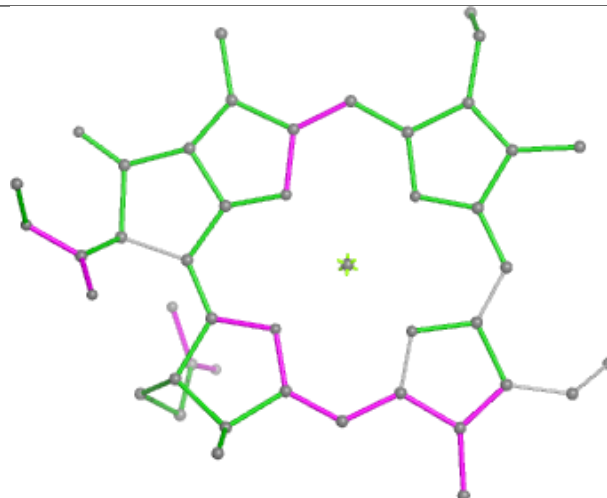




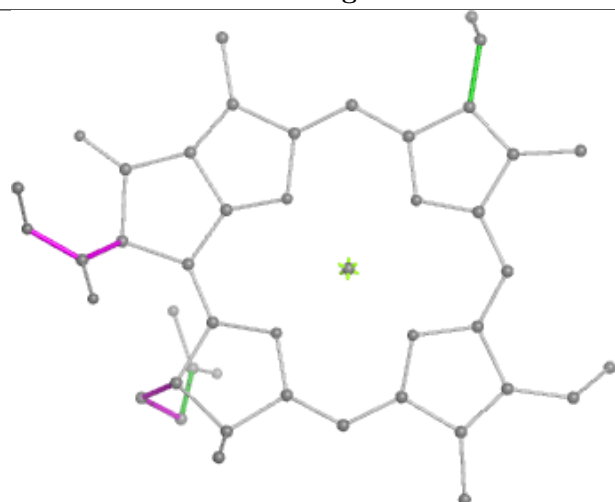
## Ligand CLA J 101



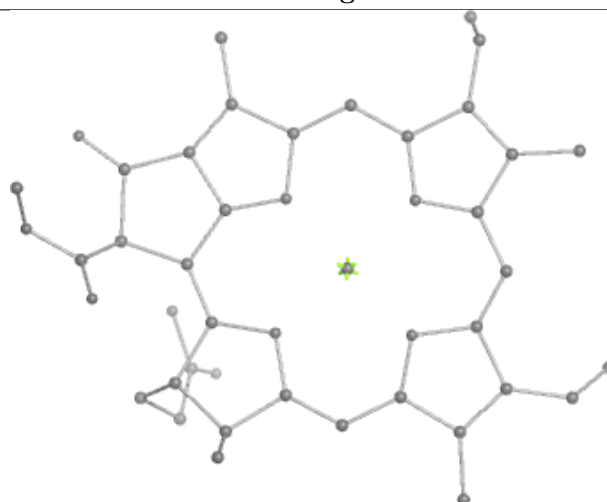
Bond lengths



Bond angles



Torsions



Rings

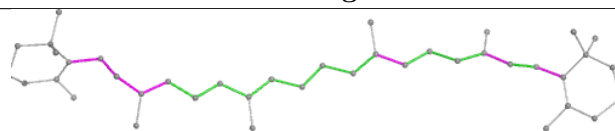
## Ligand BCR 8 1304



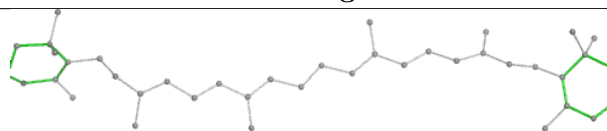
Bond lengths



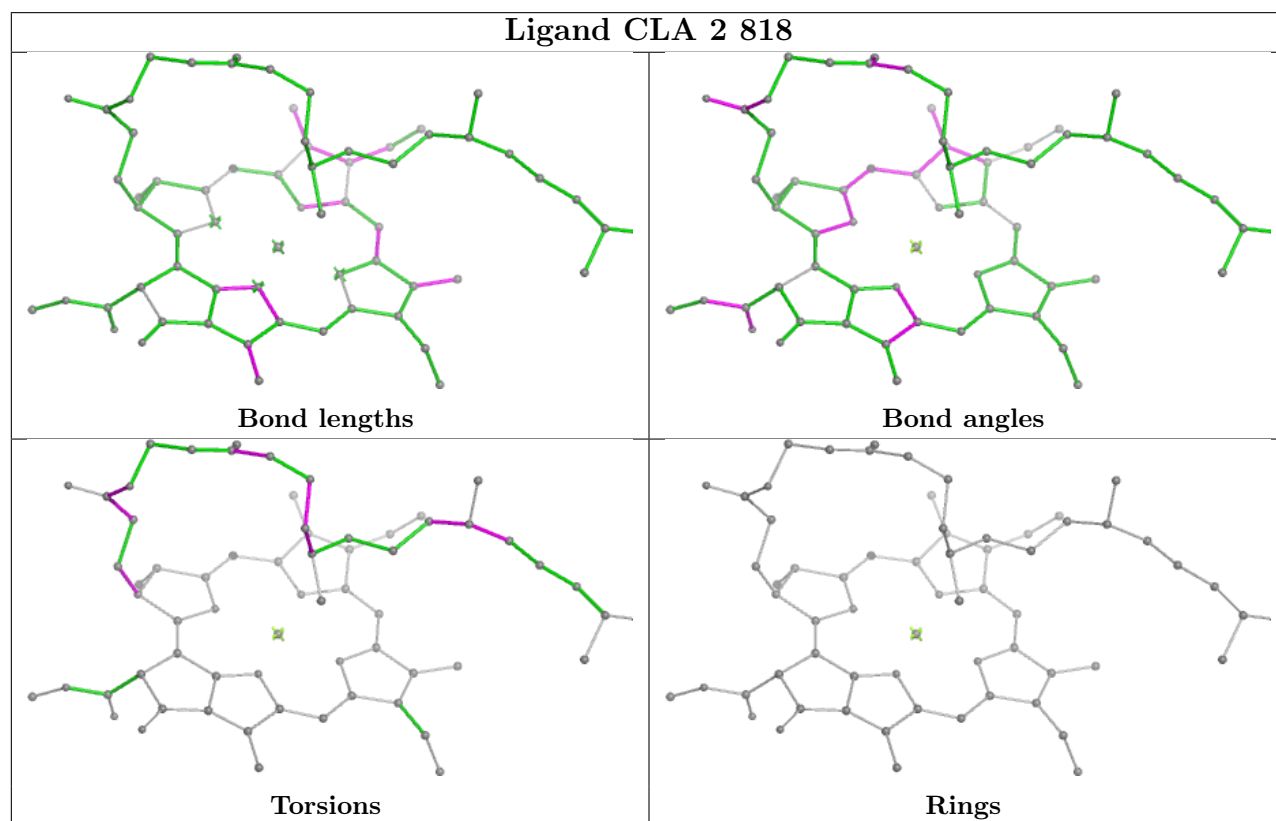
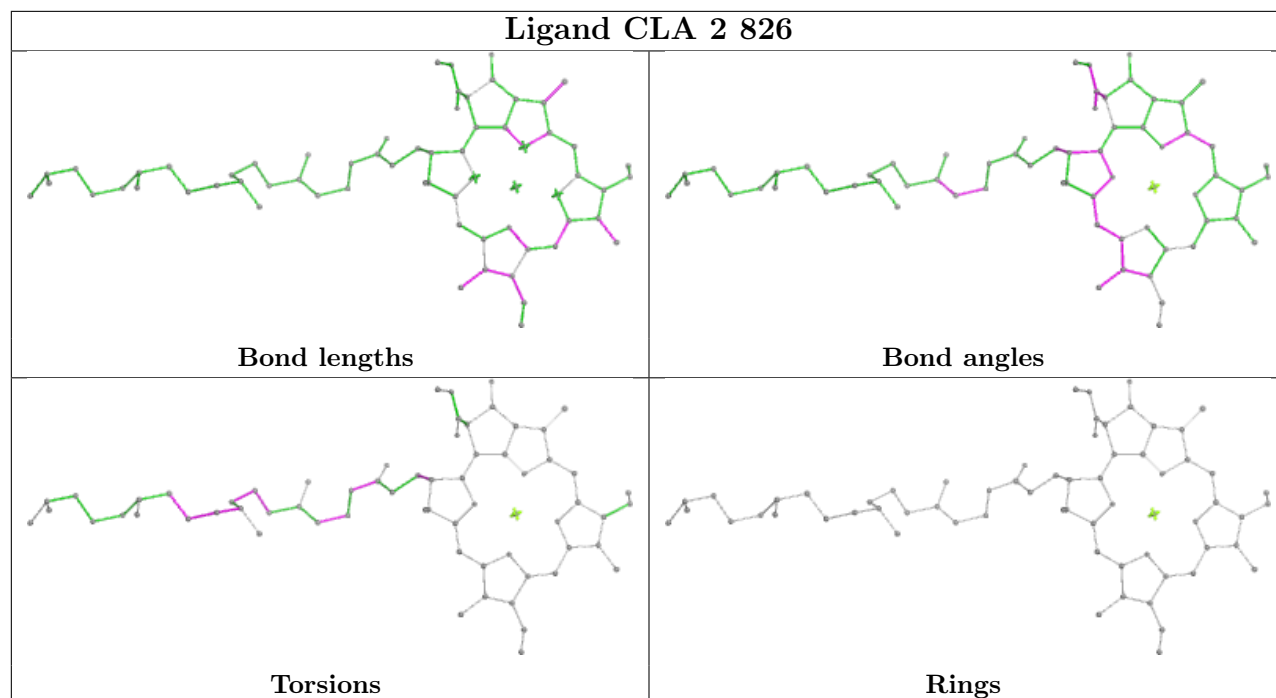
Bond angles



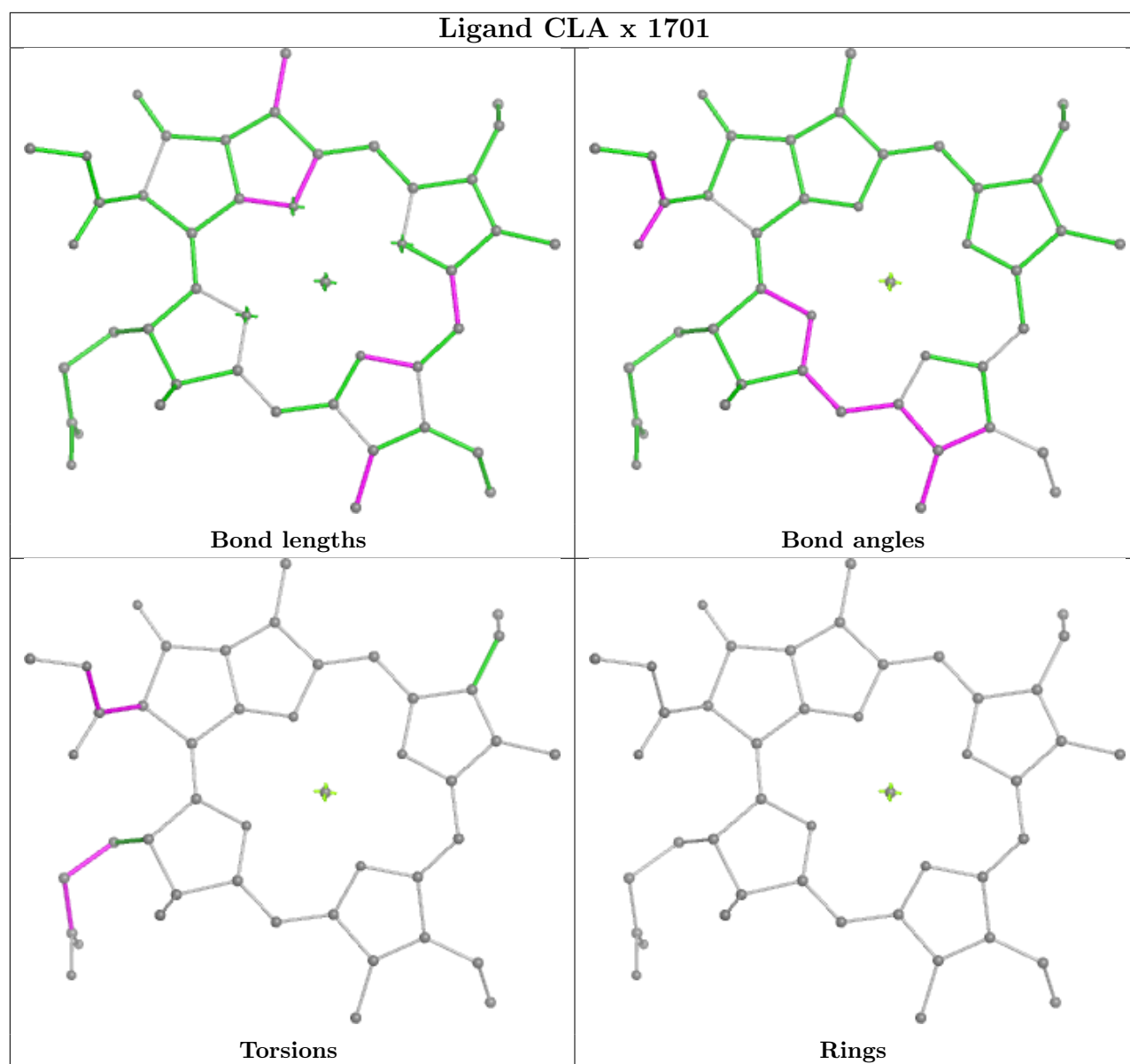
Torsions

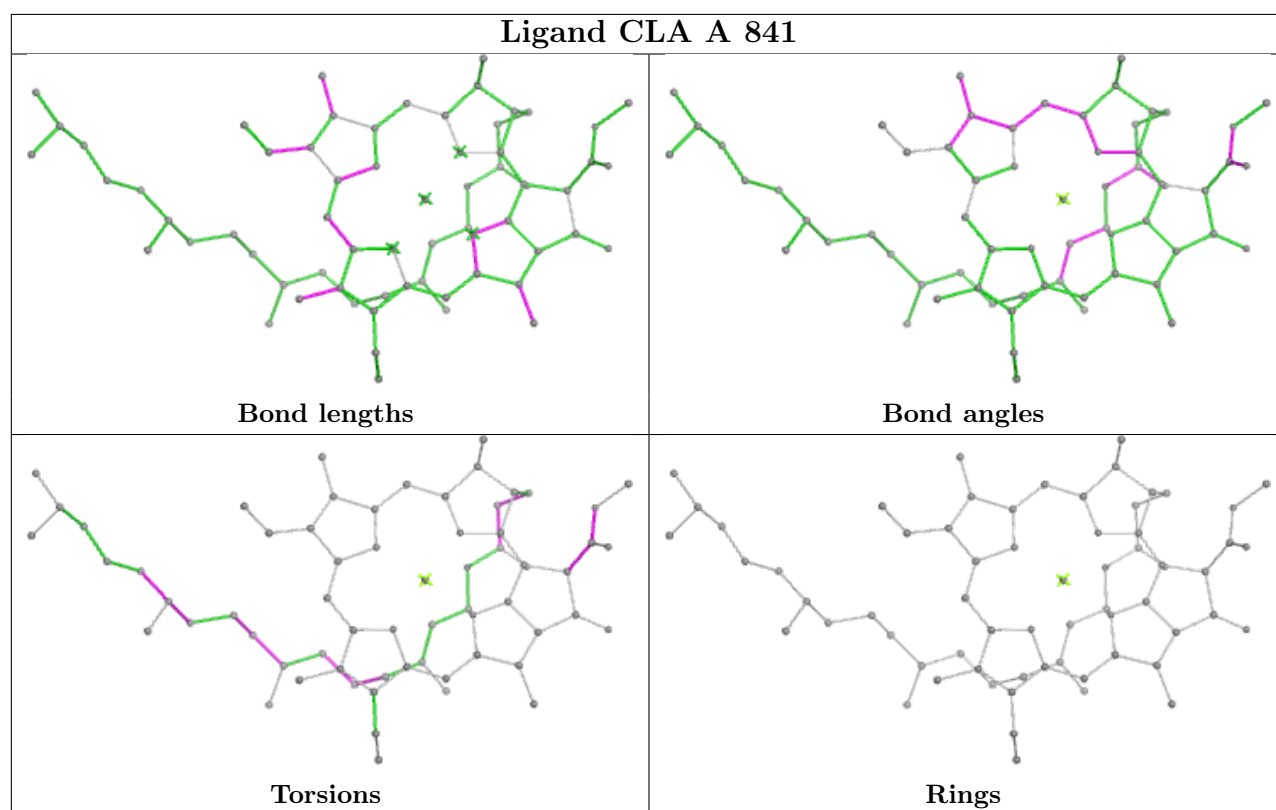
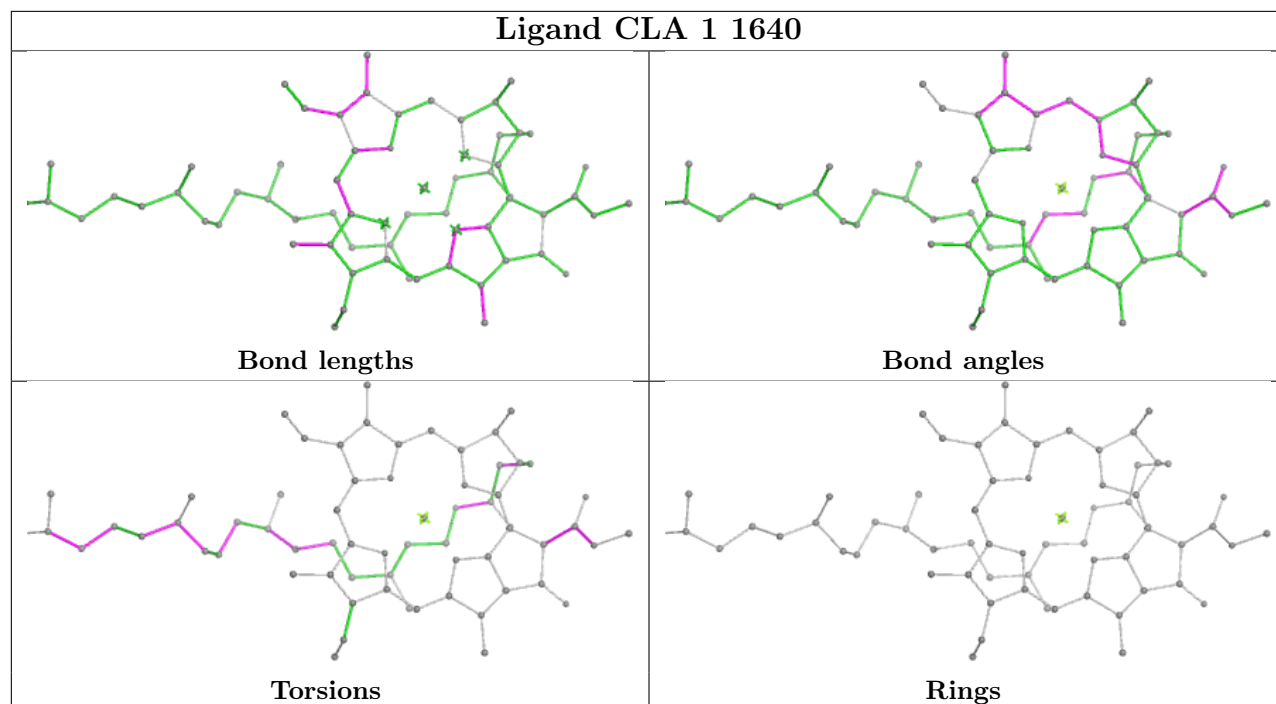


Rings

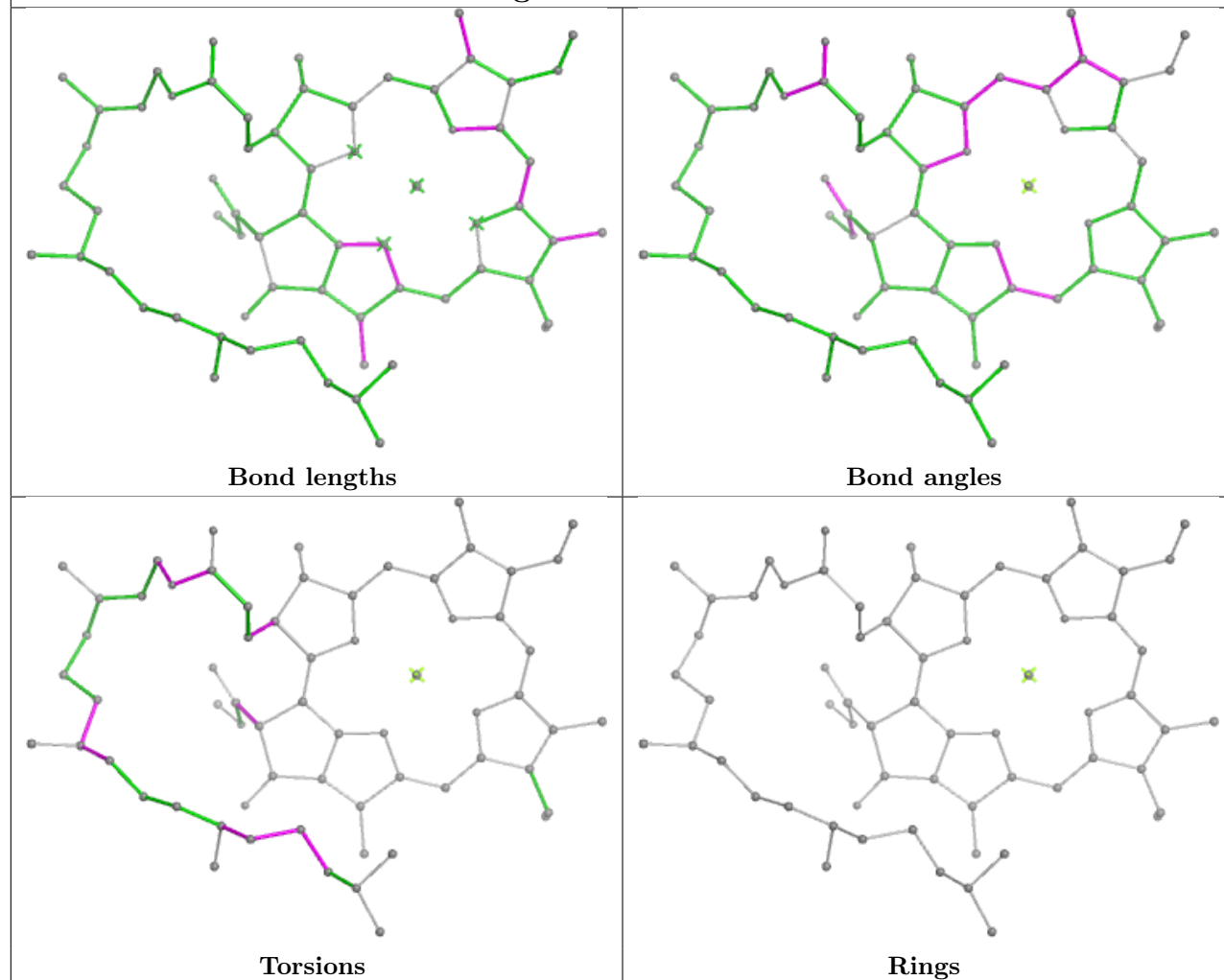




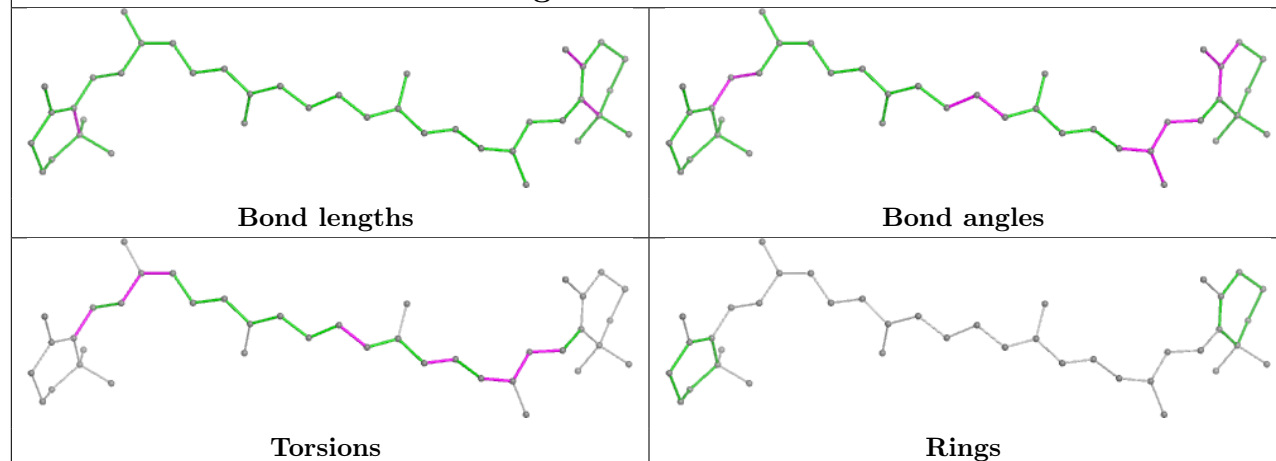




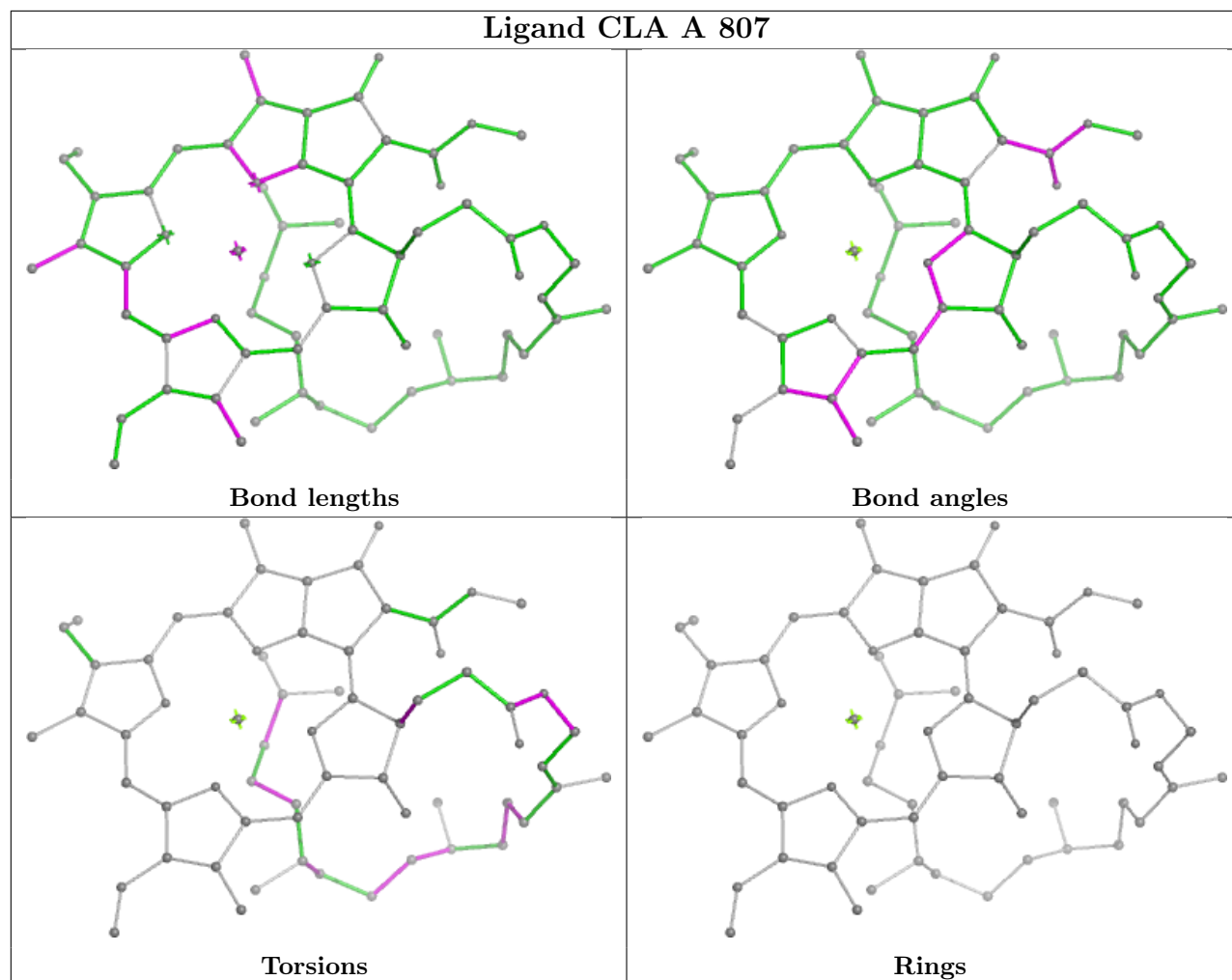
## Ligand CLA b 806



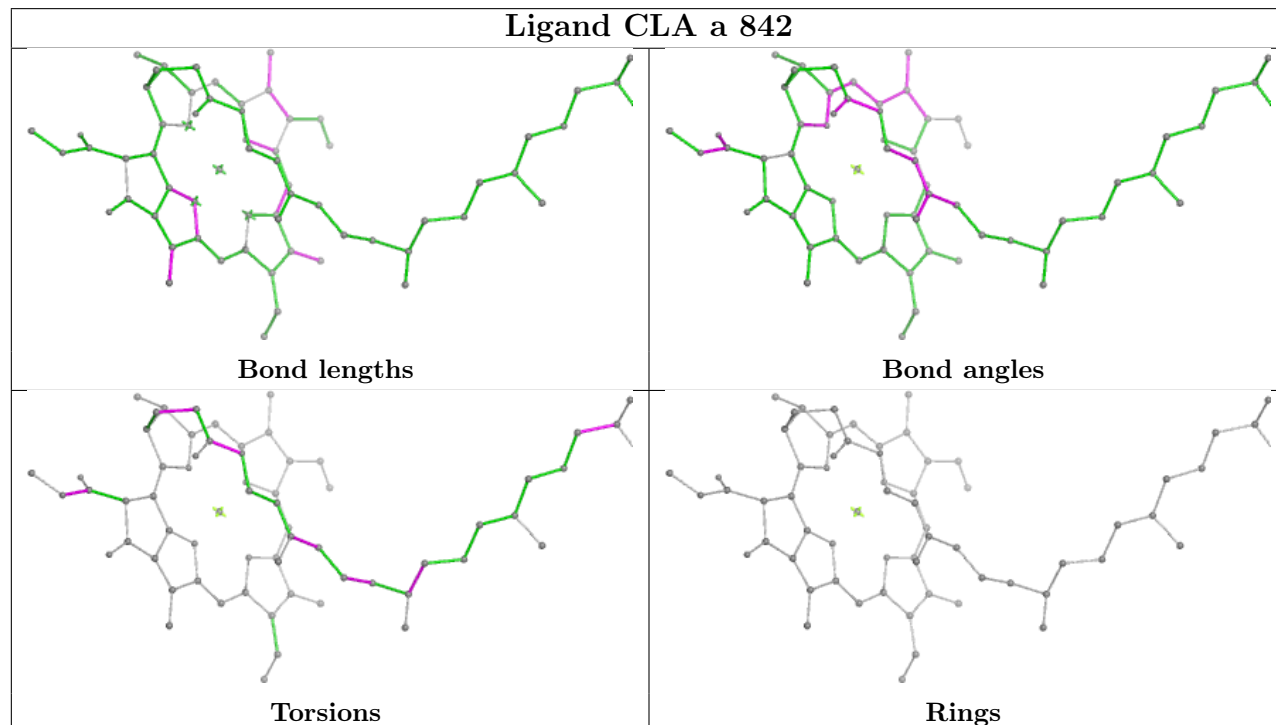
## Ligand BCR b 846

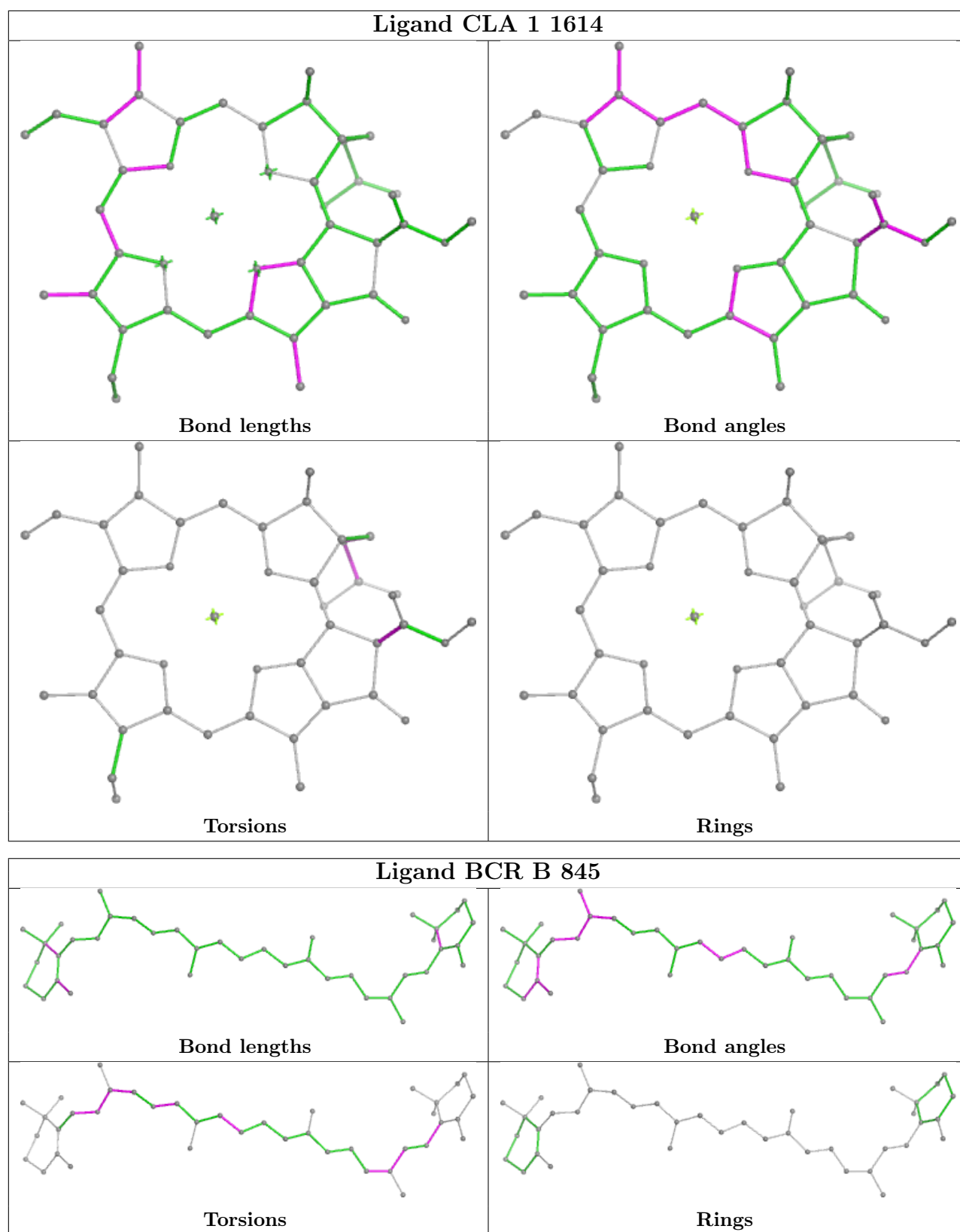


## Ligand CLA A 807

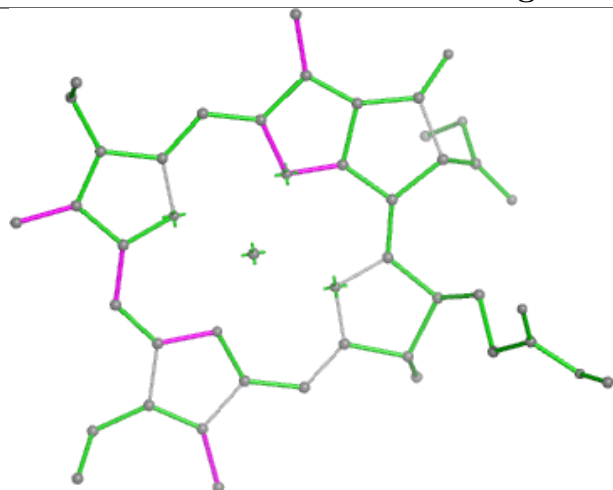


## Ligand CLA a 842

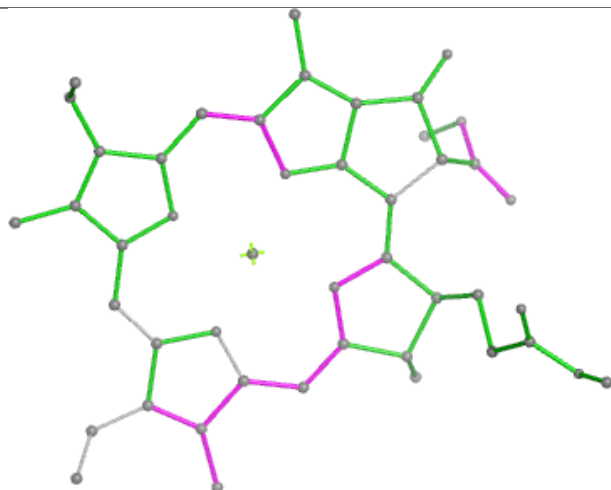




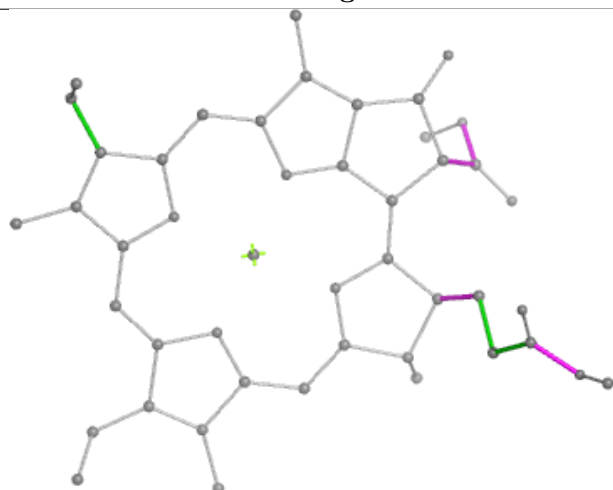
## Ligand CLA k 101



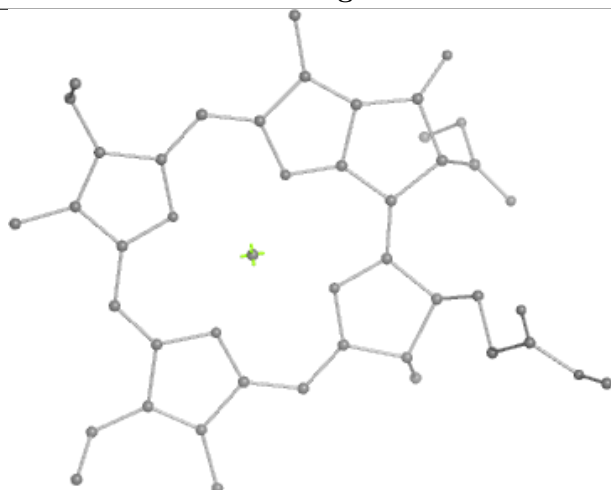
Bond lengths



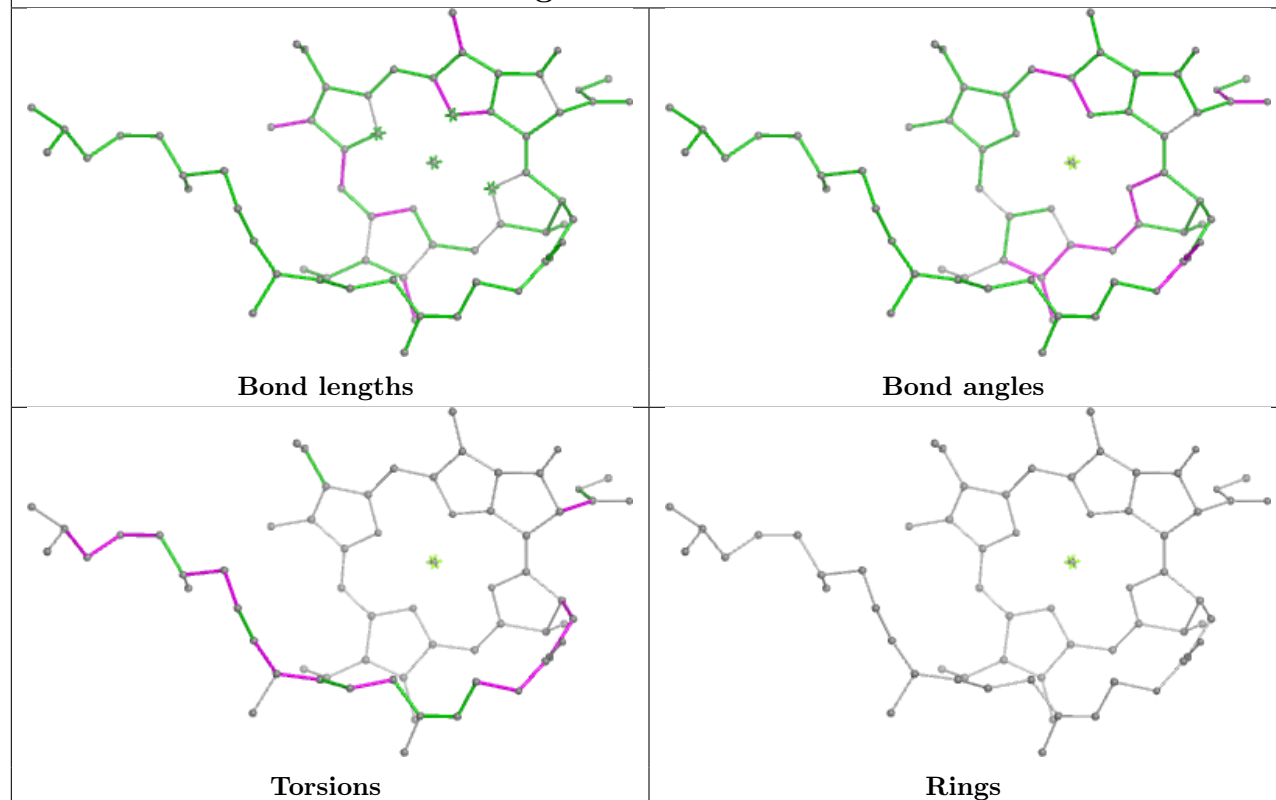
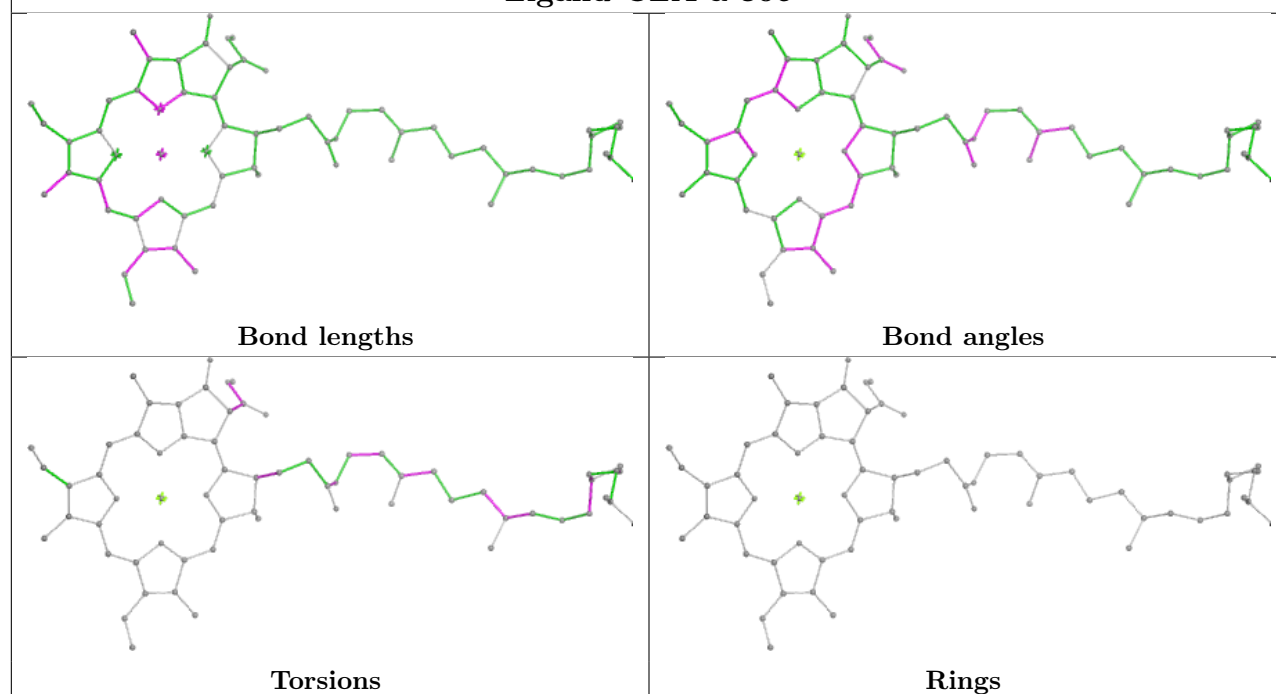
Bond angles

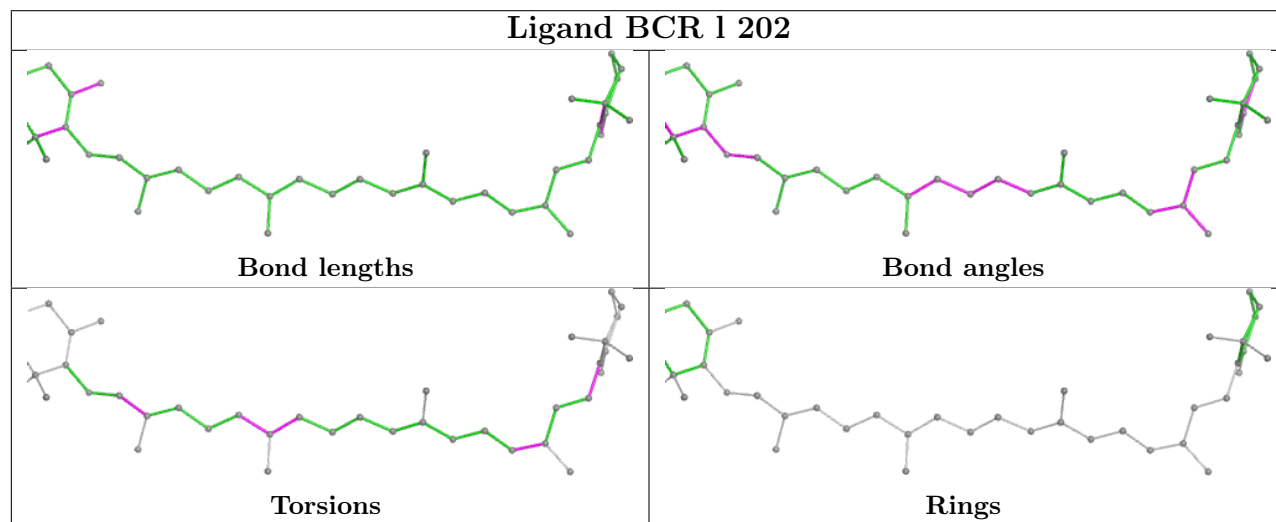
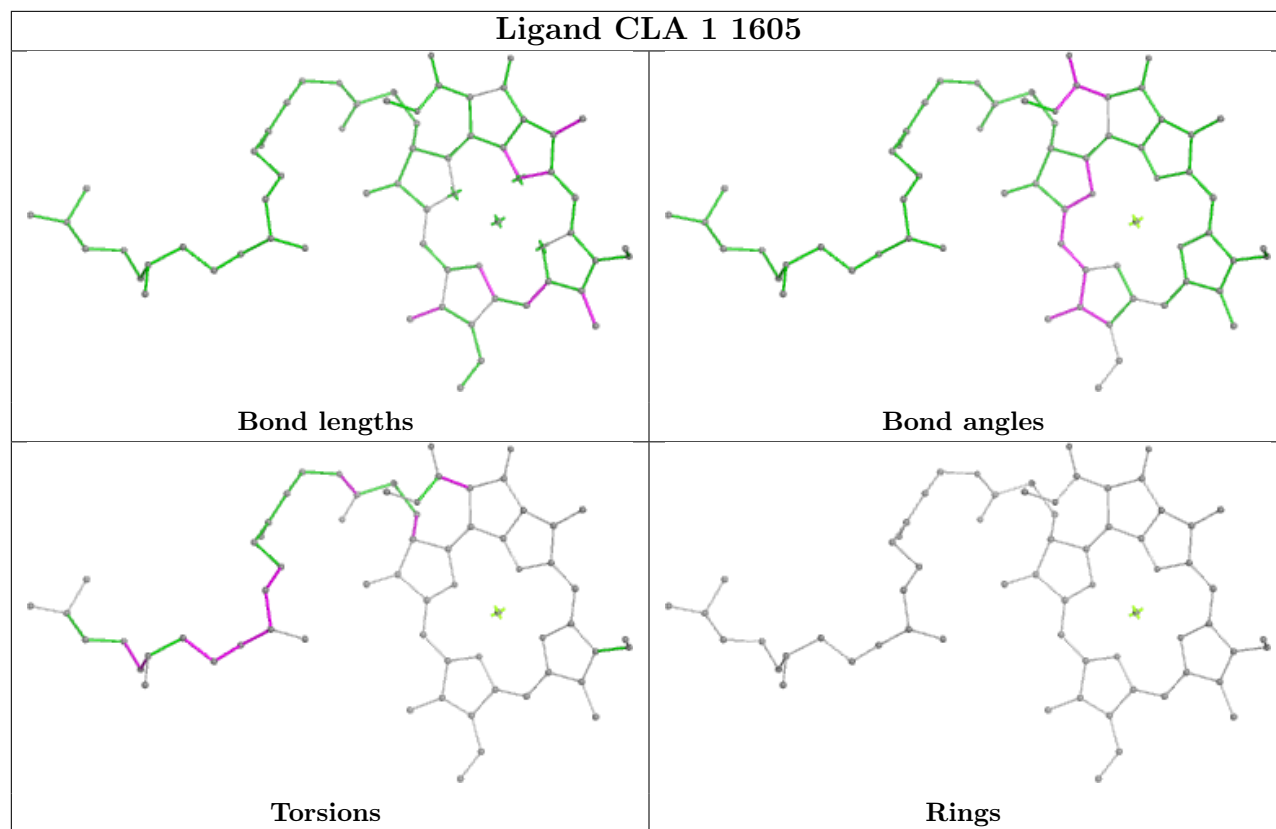


Torsions



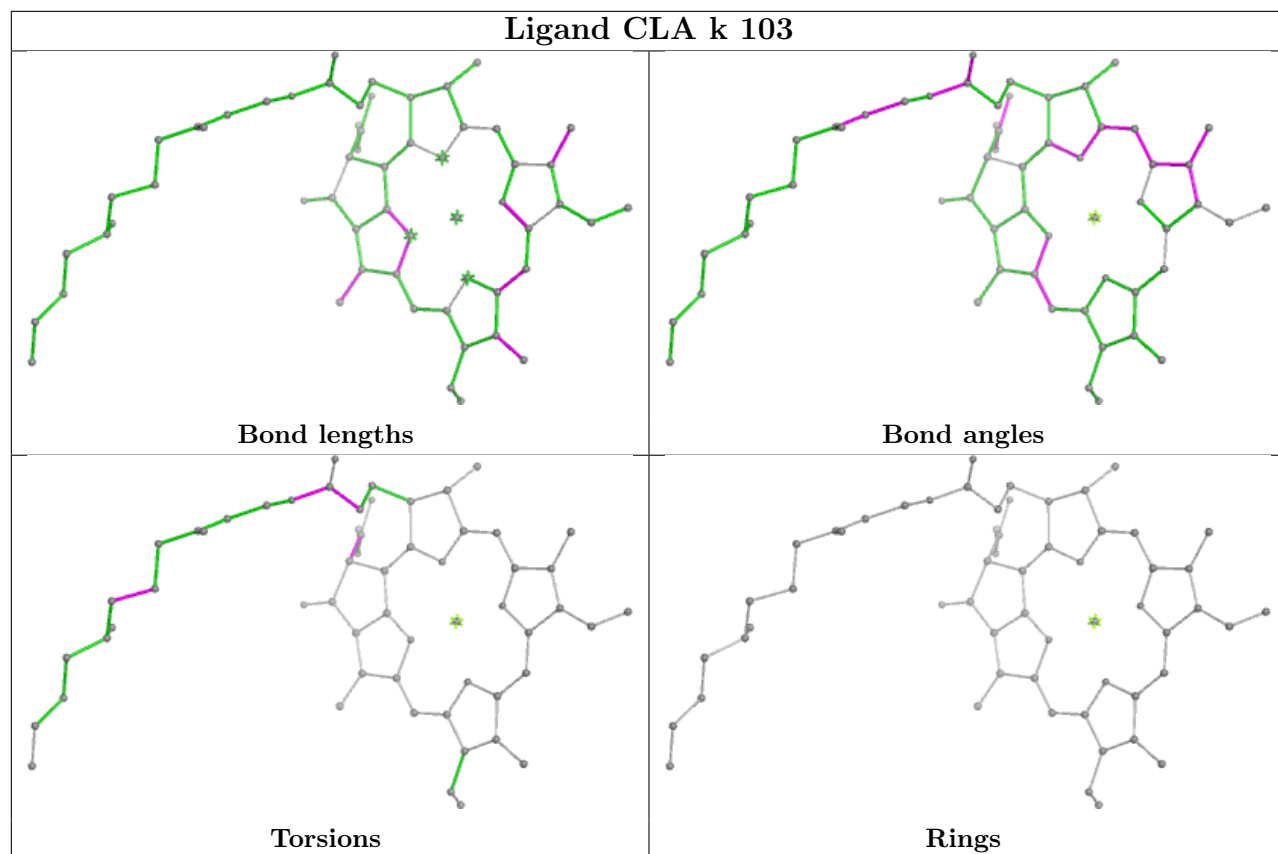
Rings

**Ligand CLA b 821****Ligand CLA a 806**

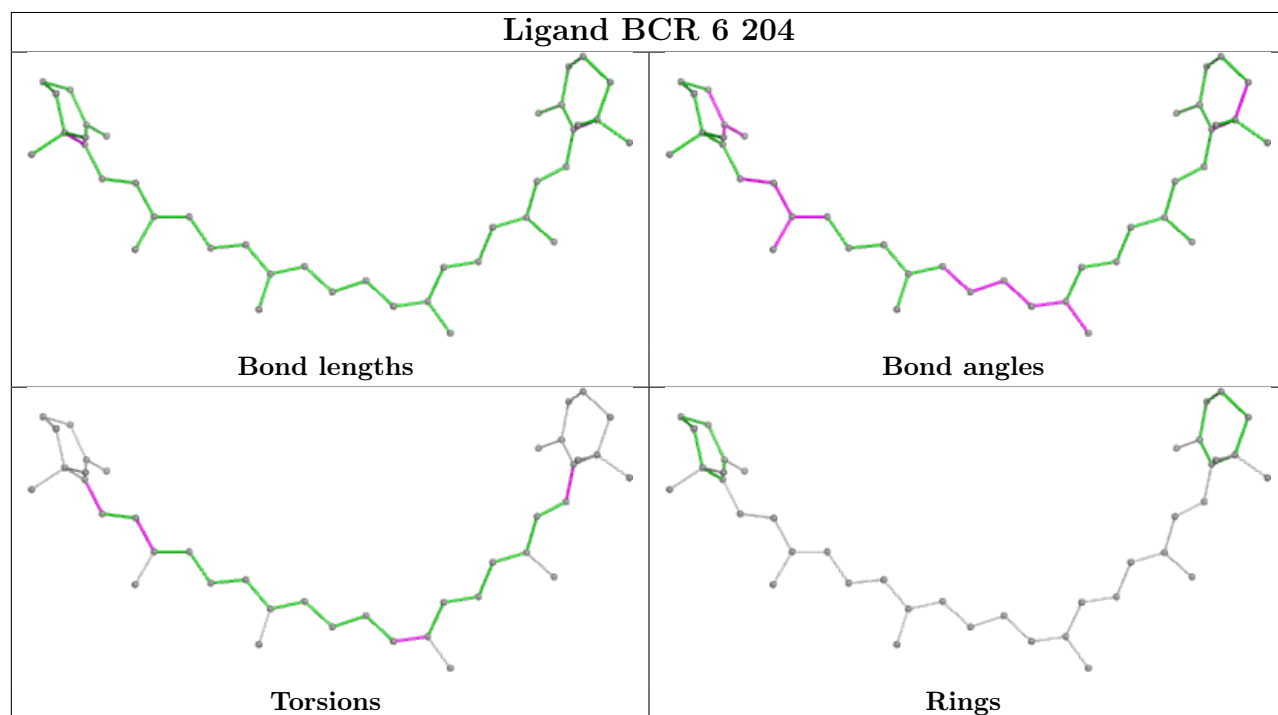


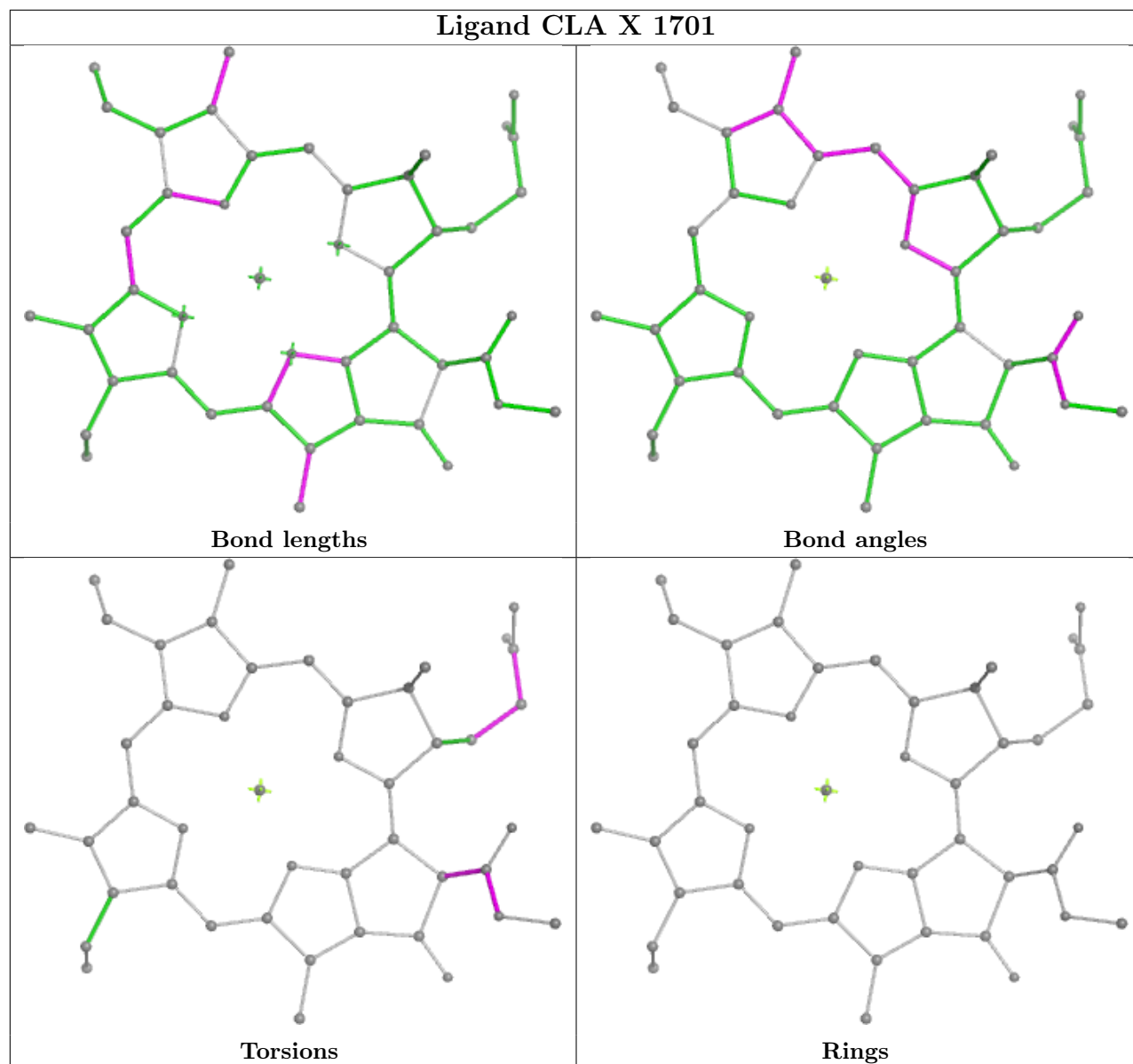


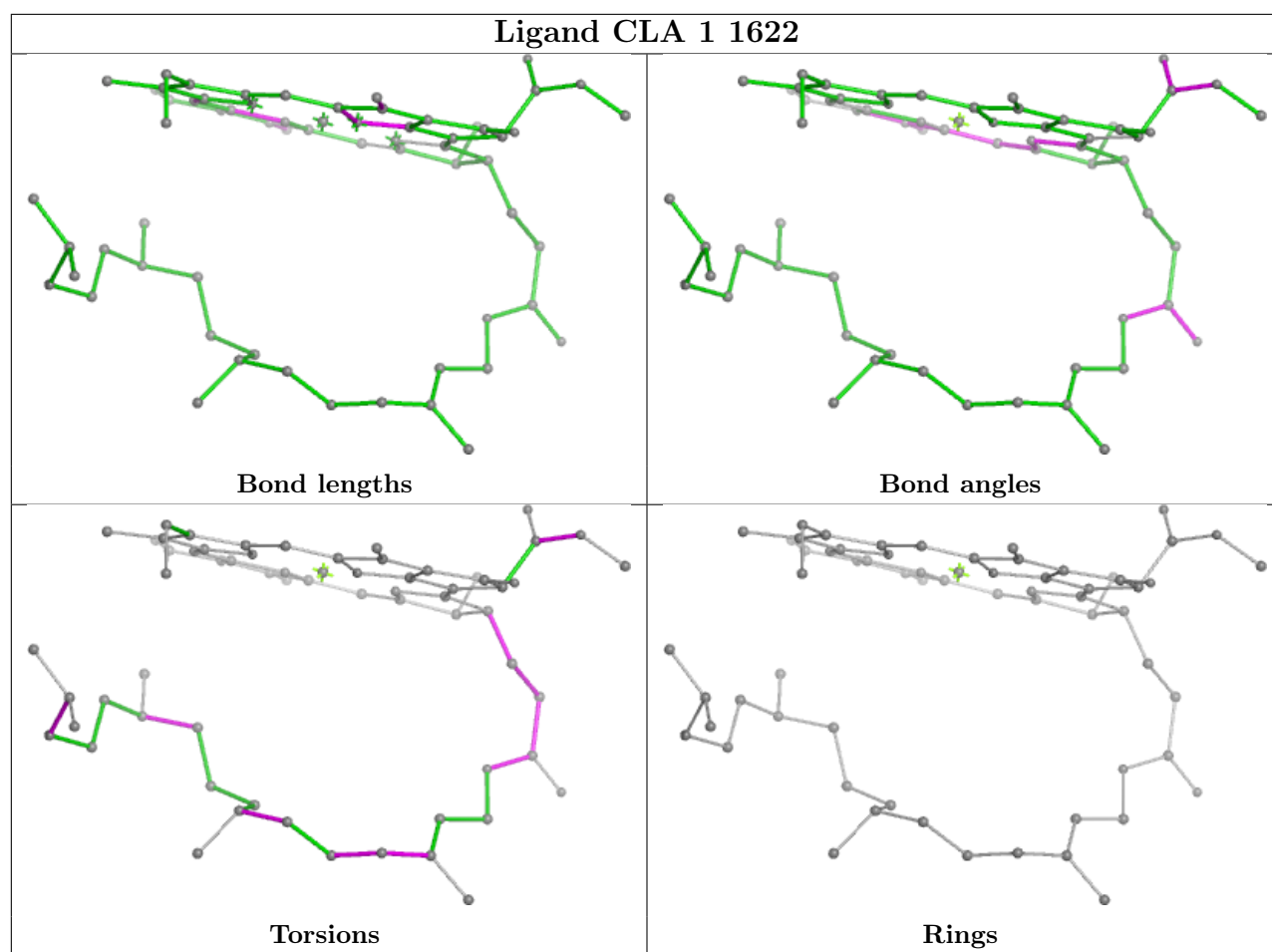
## Ligand CLA k 103



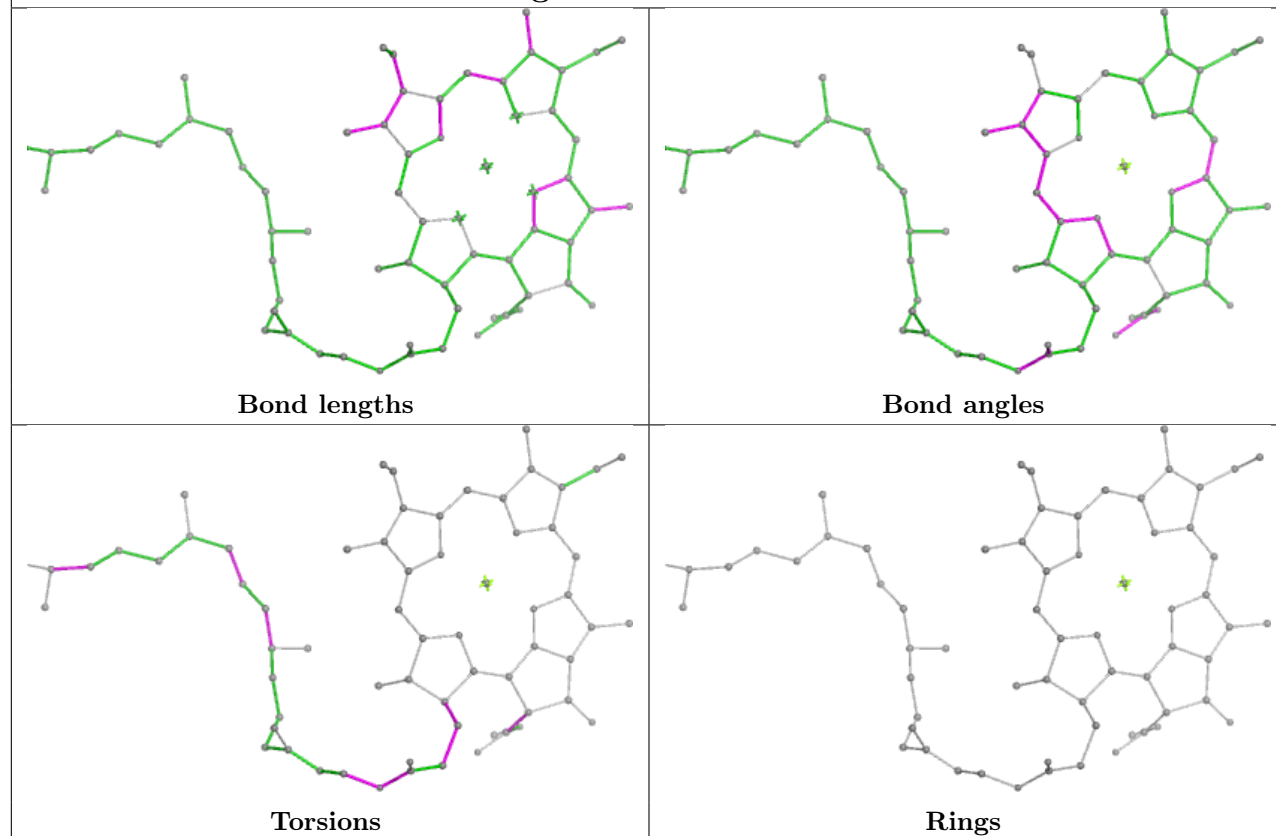
## Ligand BCR 6 204



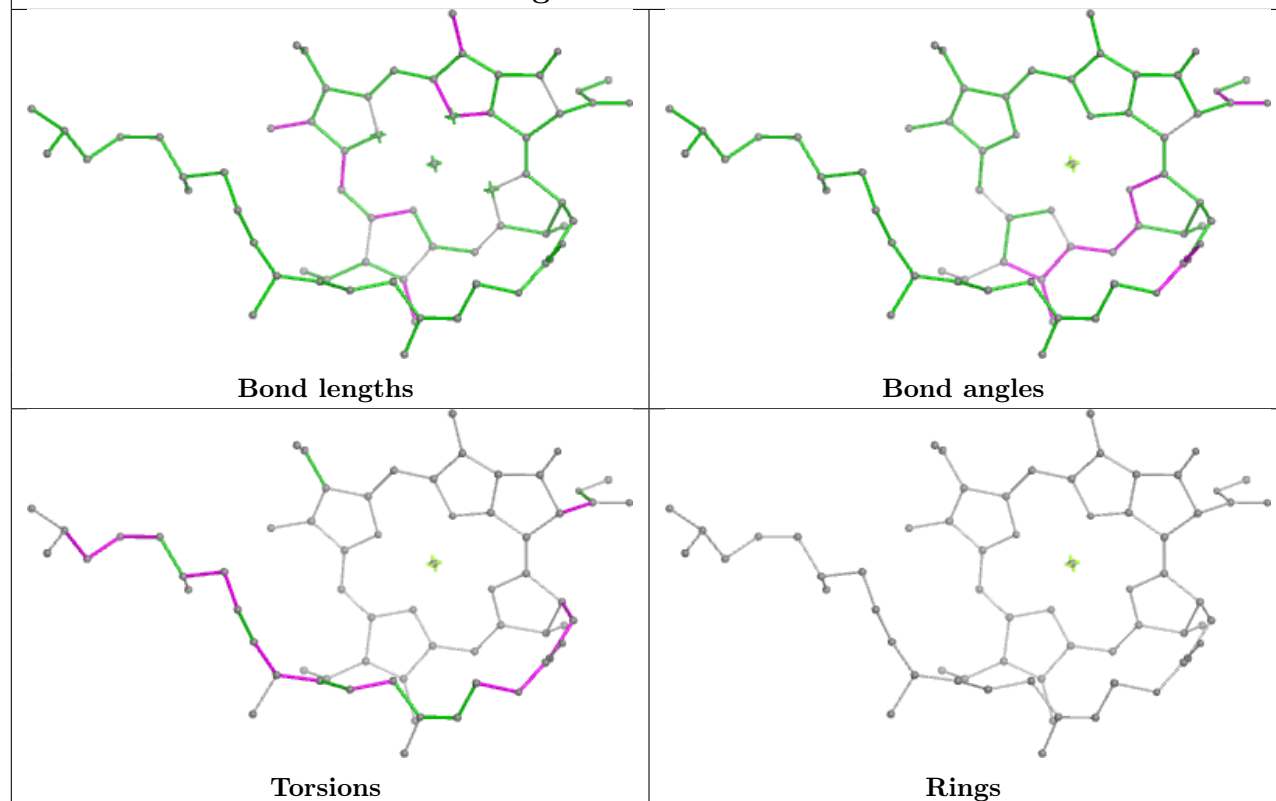


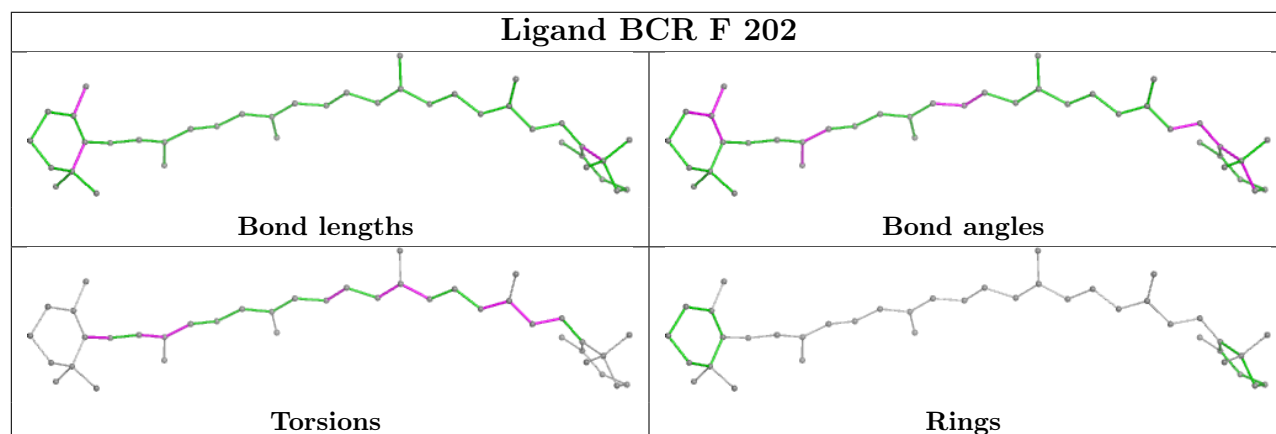
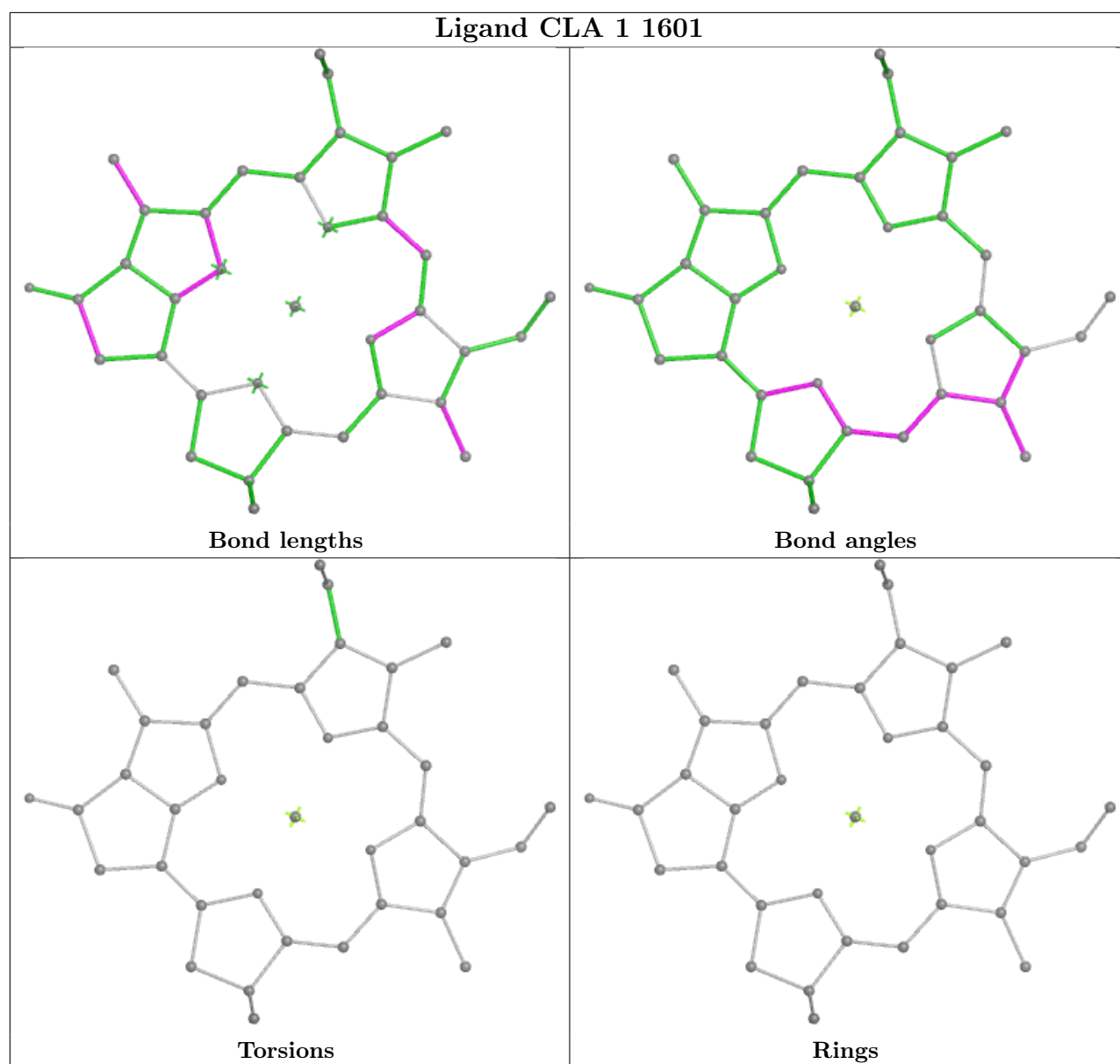


## Ligand CLA A 814

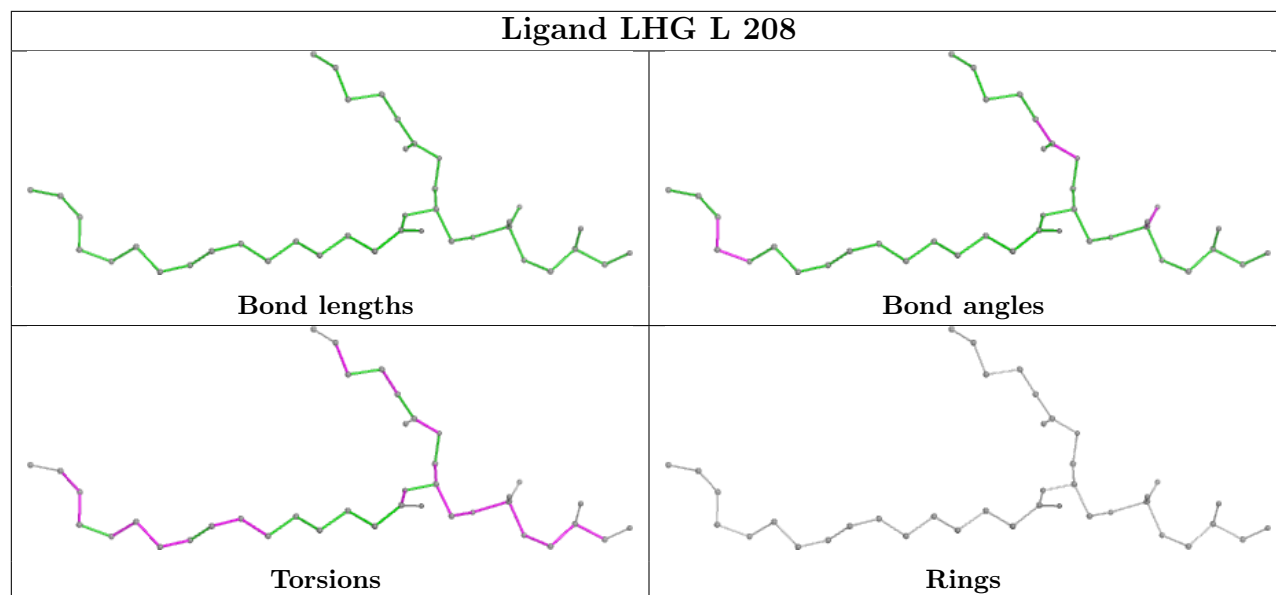


## Ligand CLA B 820

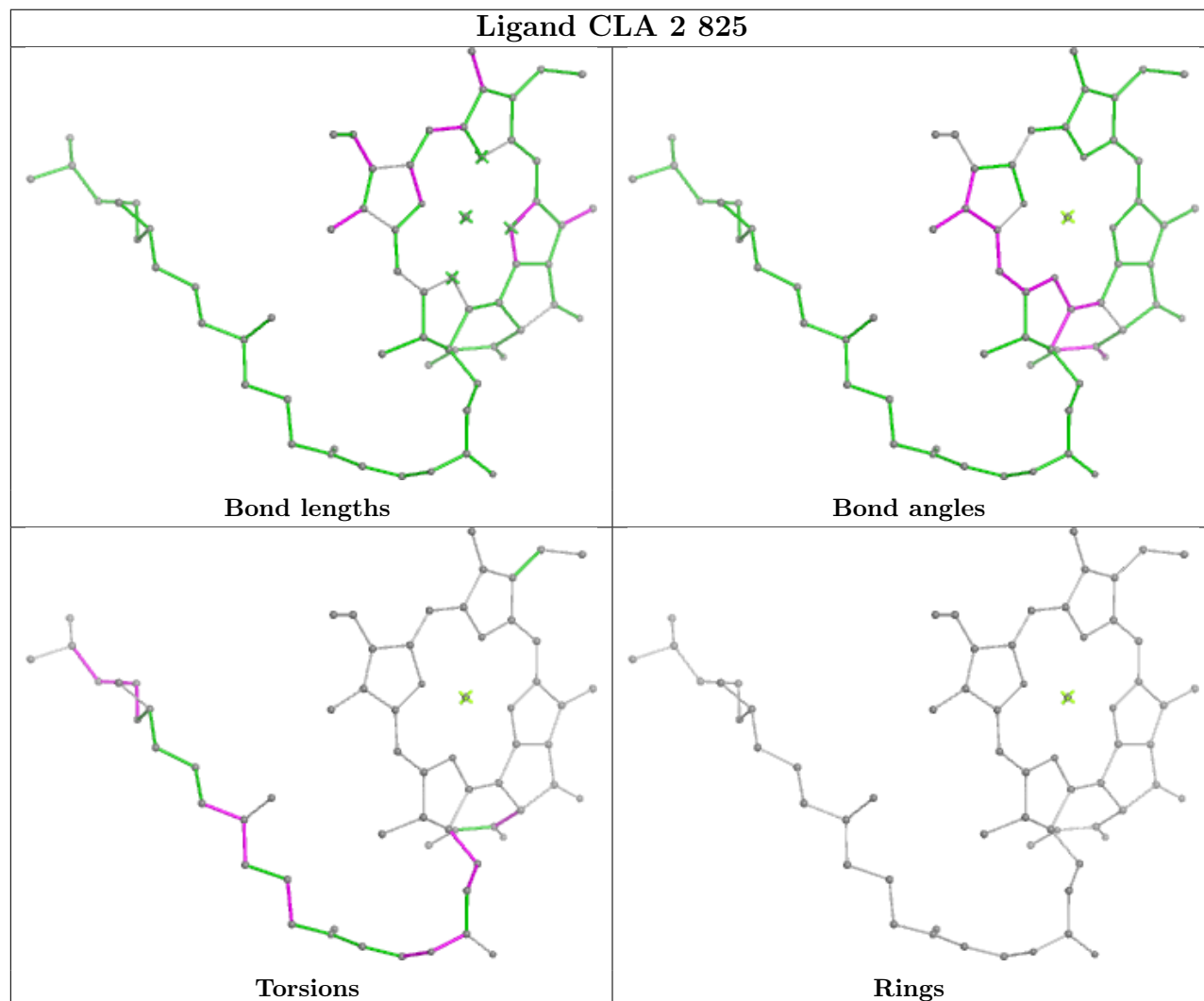


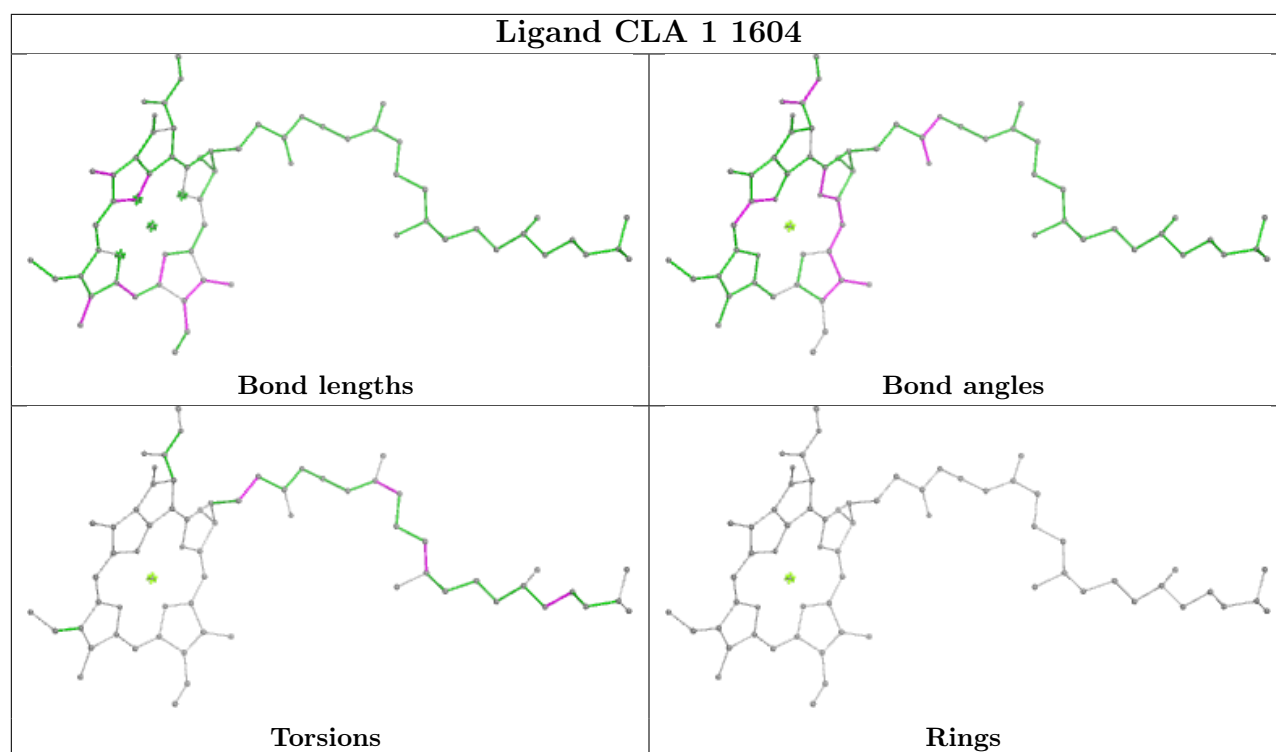


## Ligand LHG L 208

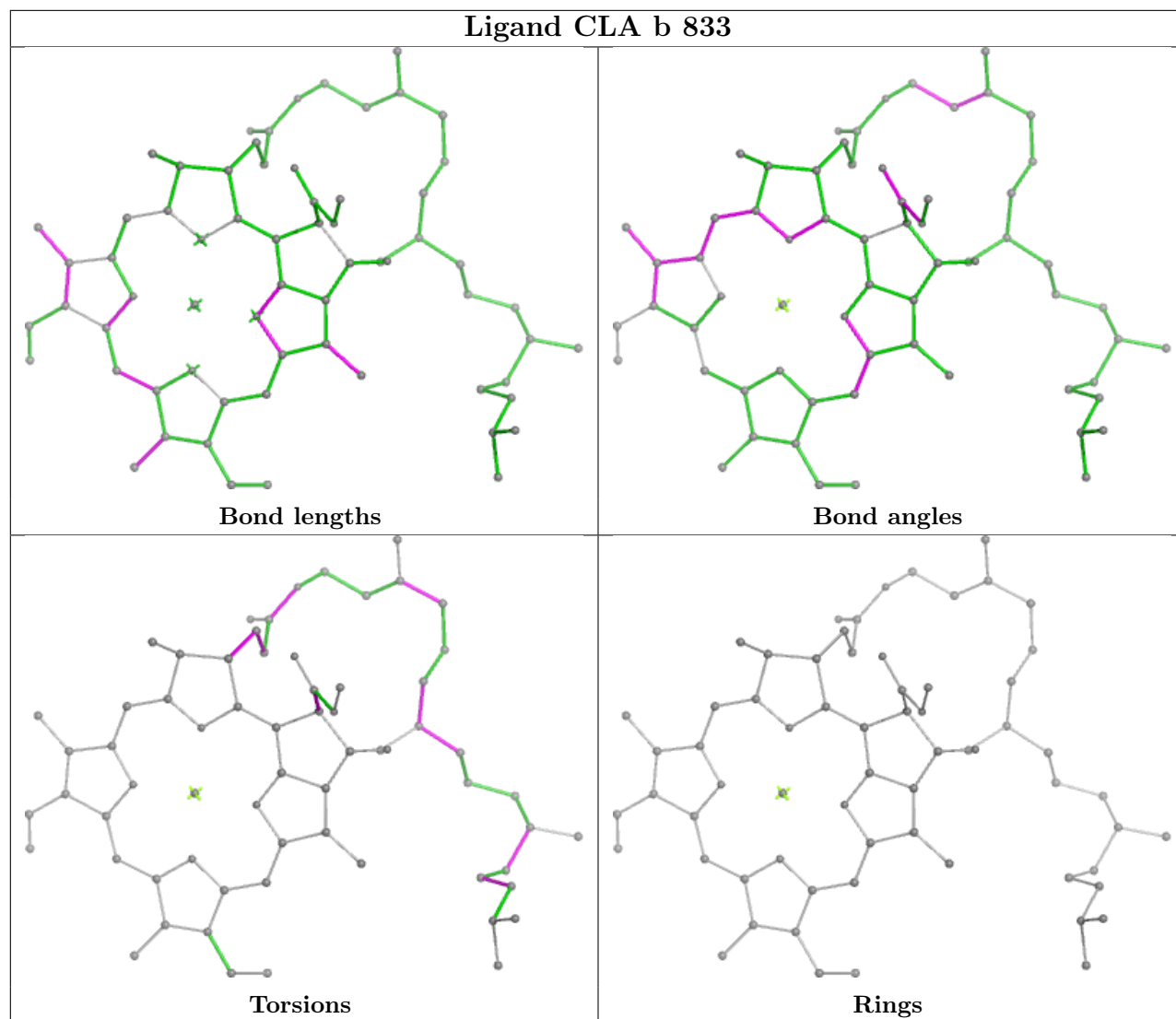


## Ligand CLA 2 825



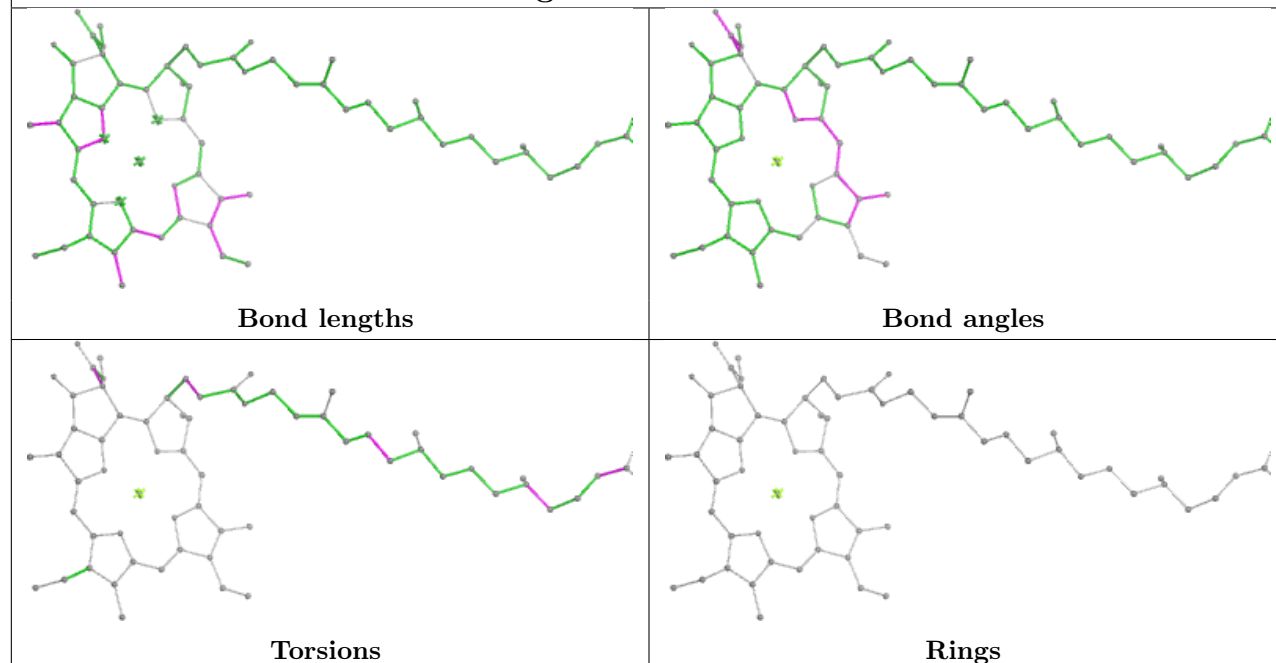


## Ligand CLA b 833

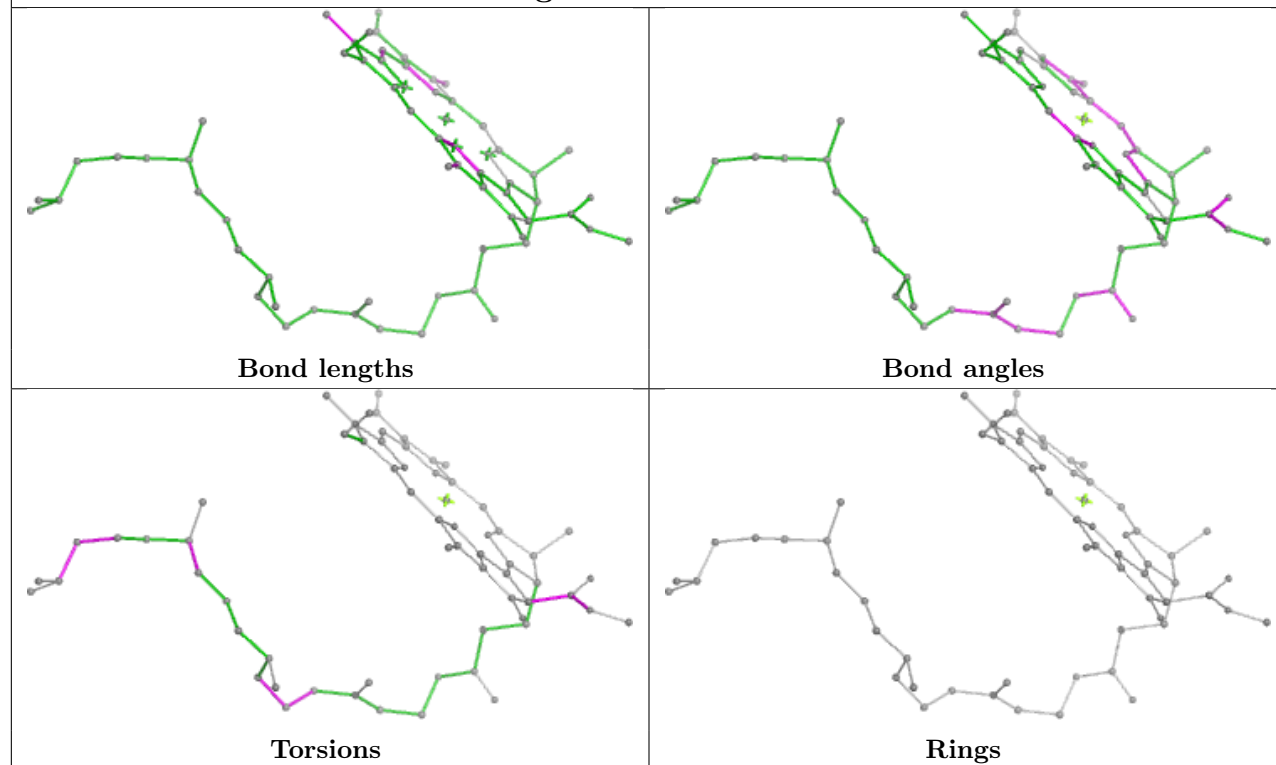


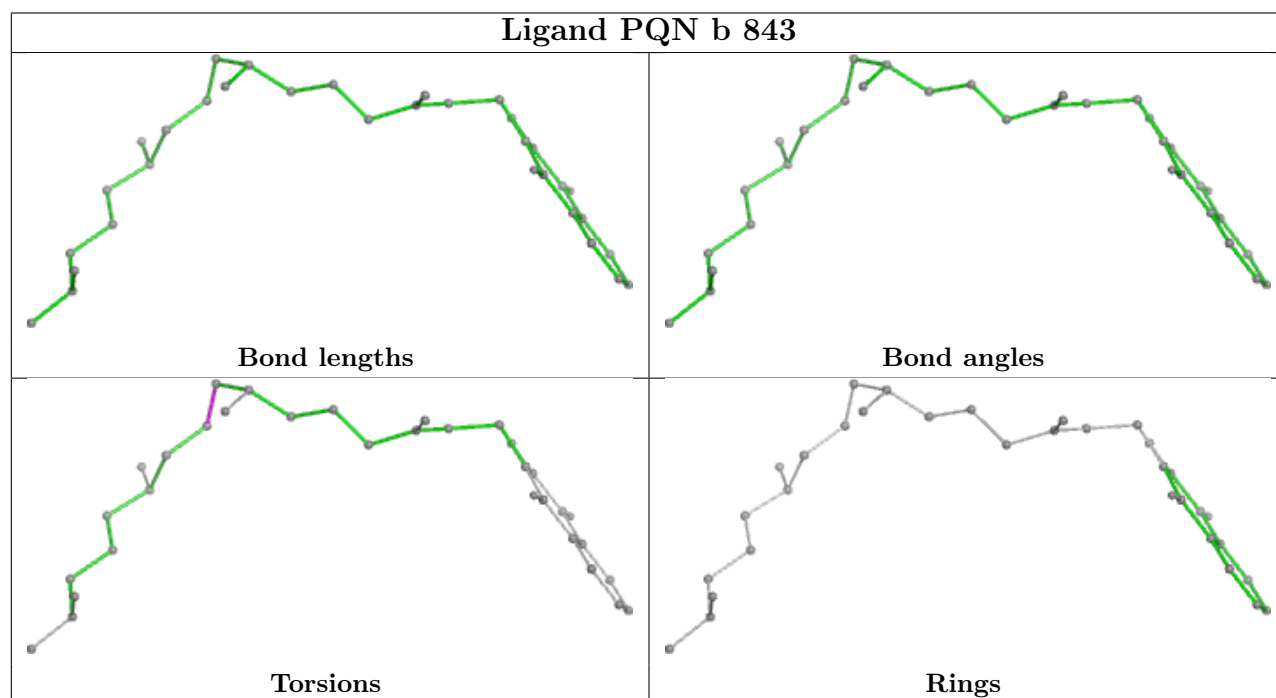
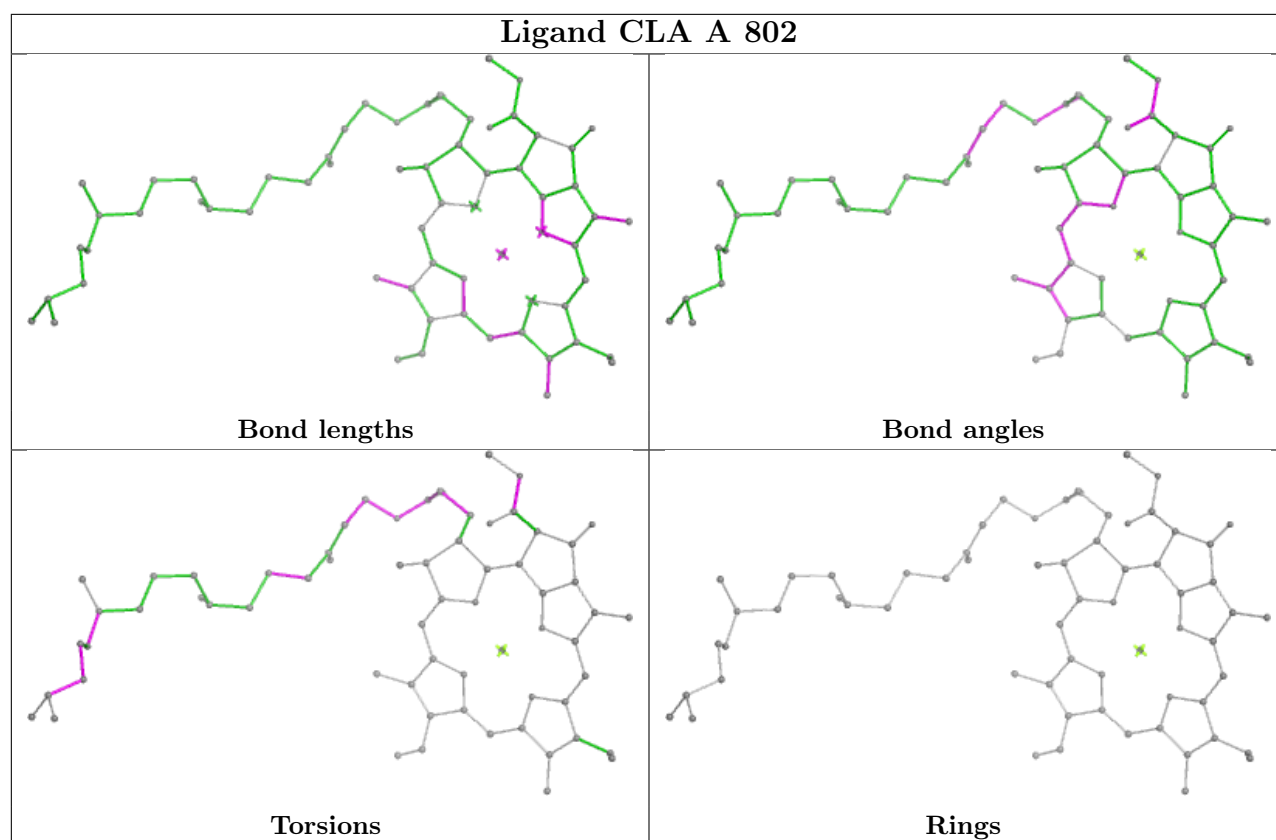


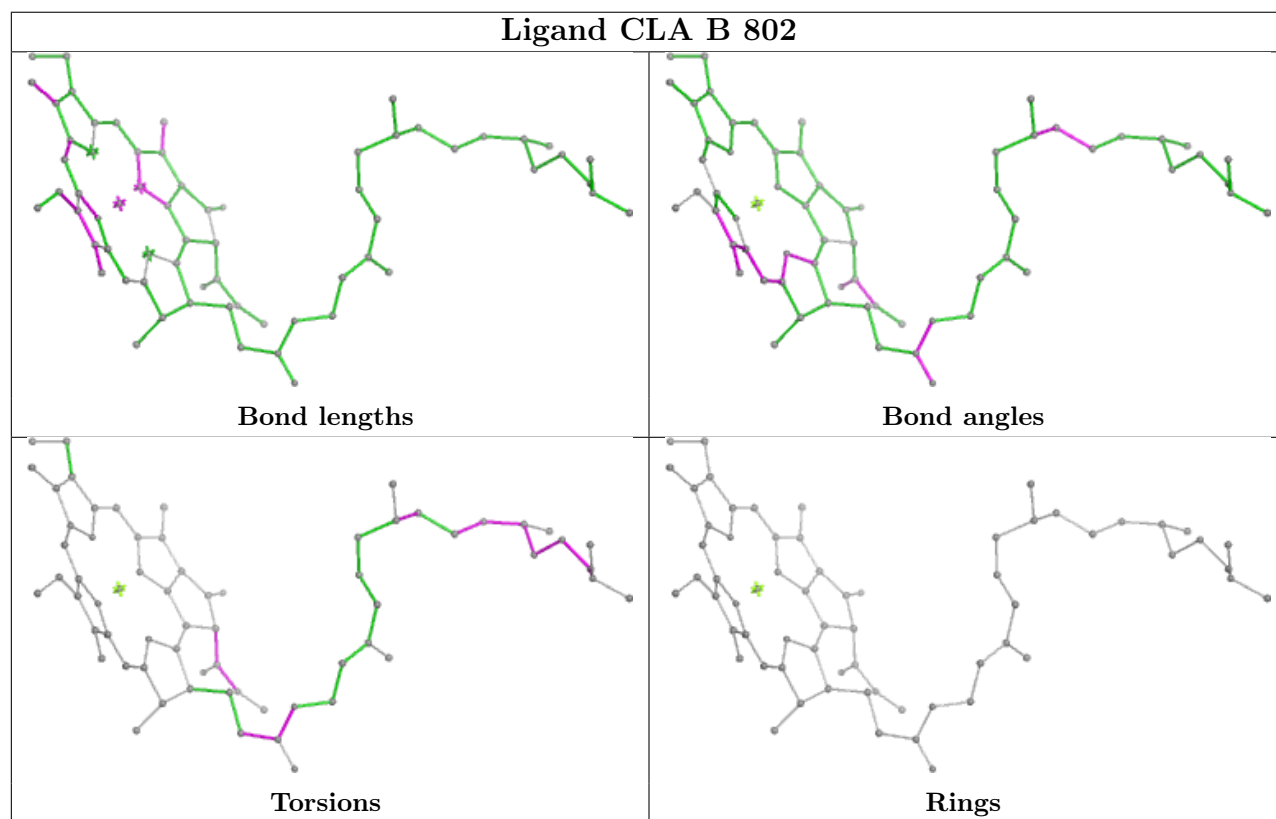
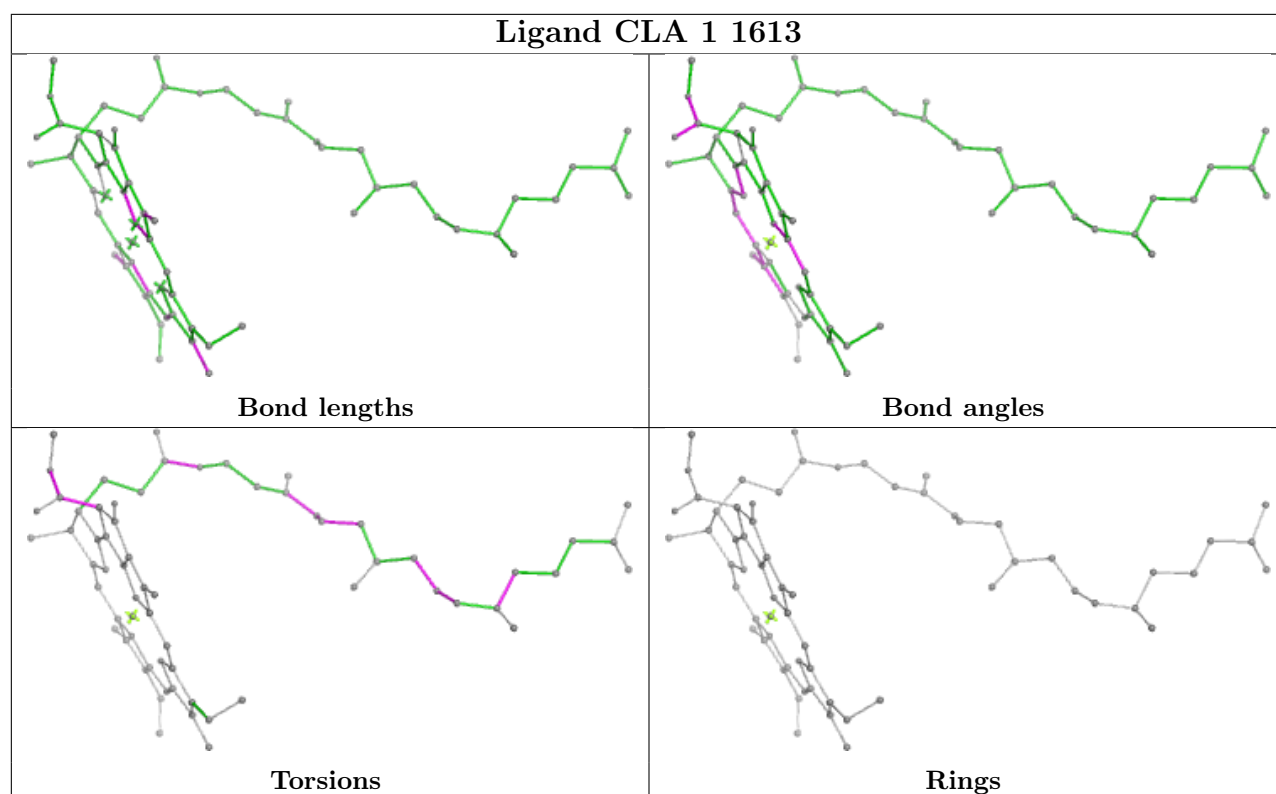
## Ligand CLA a 835

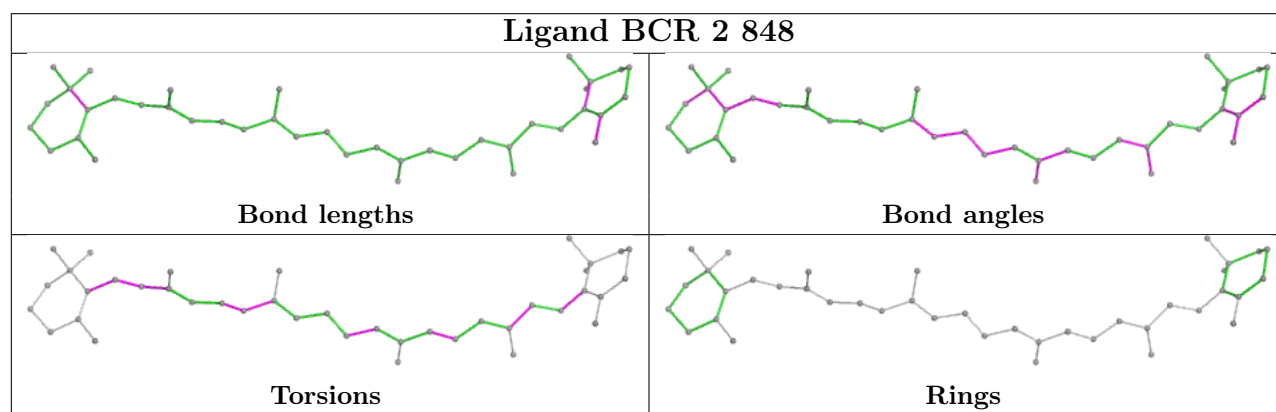
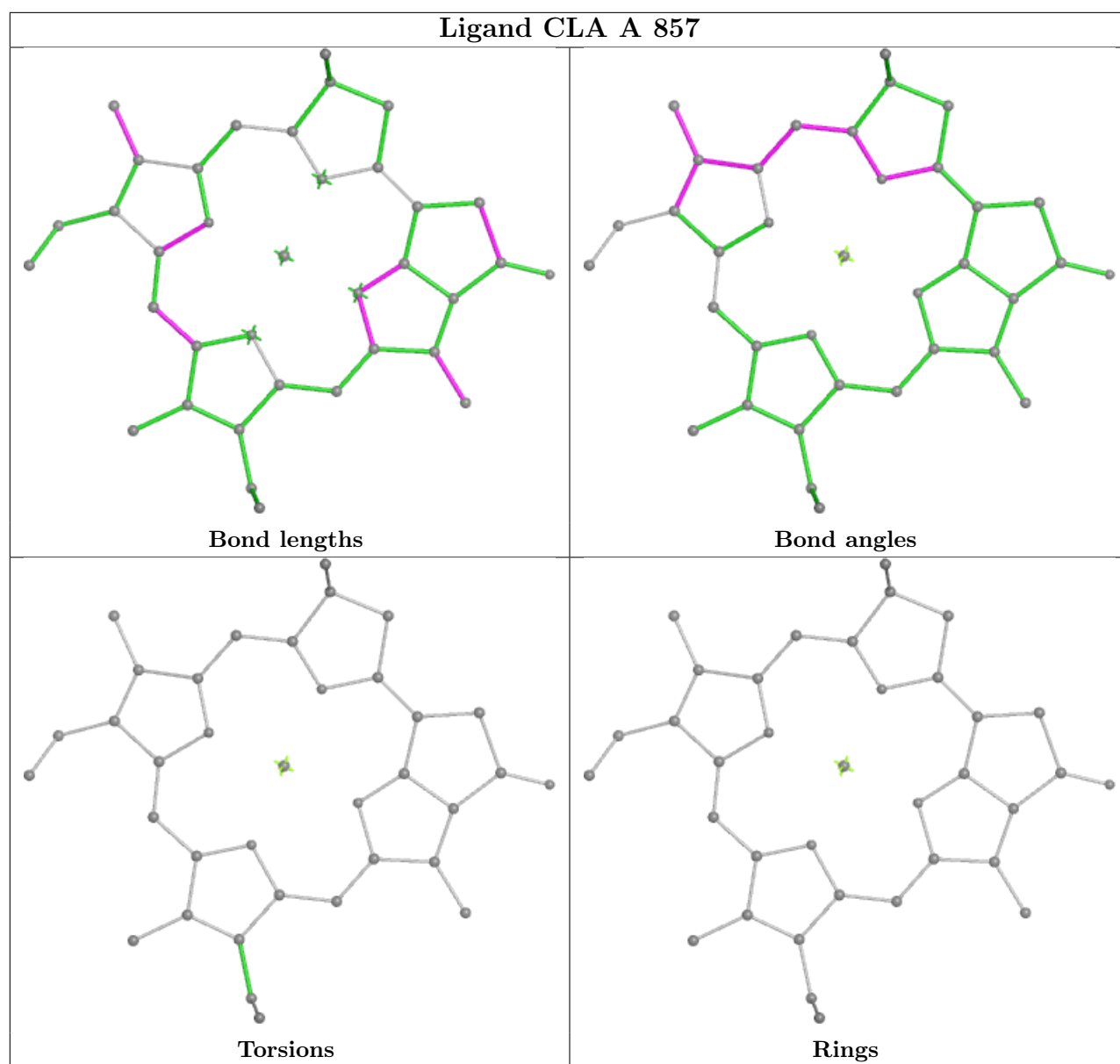


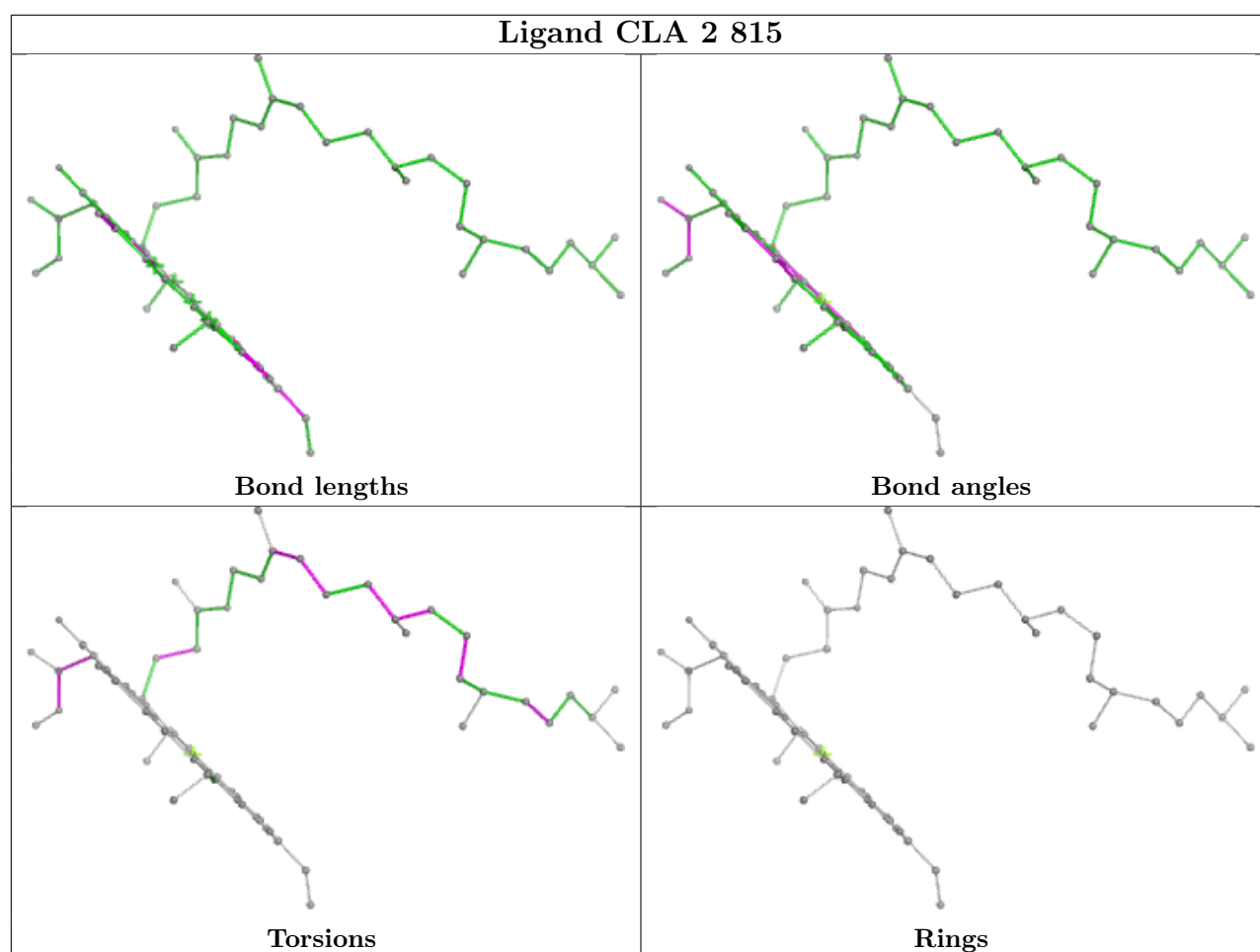
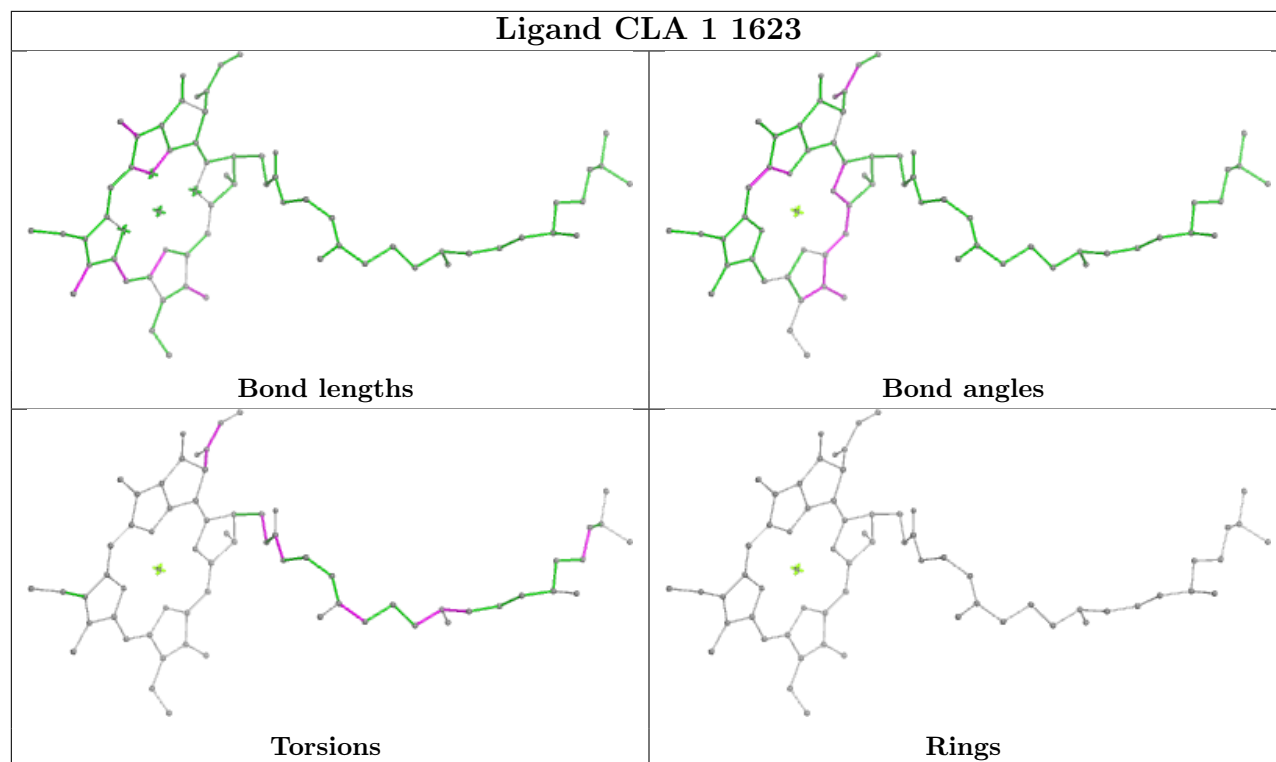
## Ligand CLA b 812

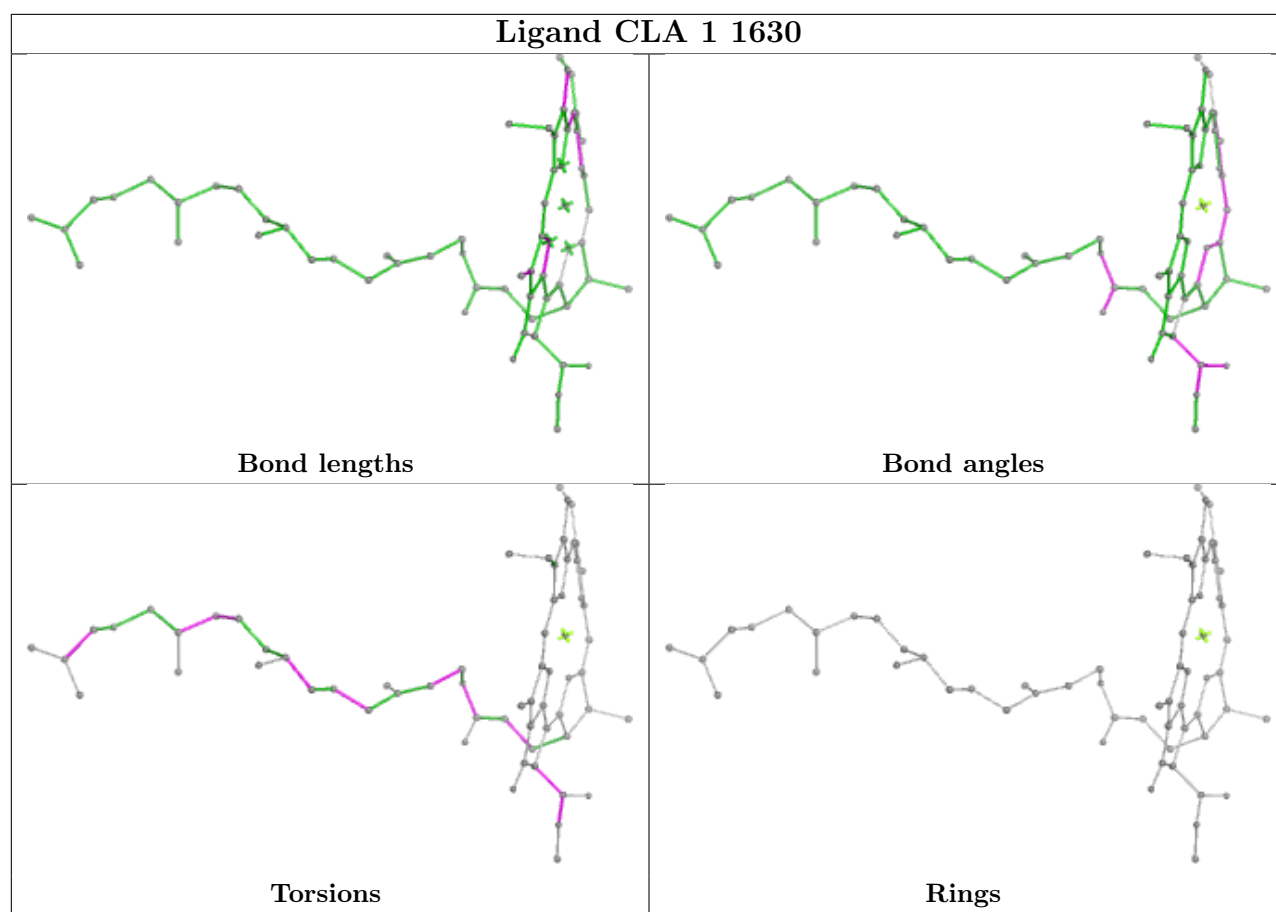




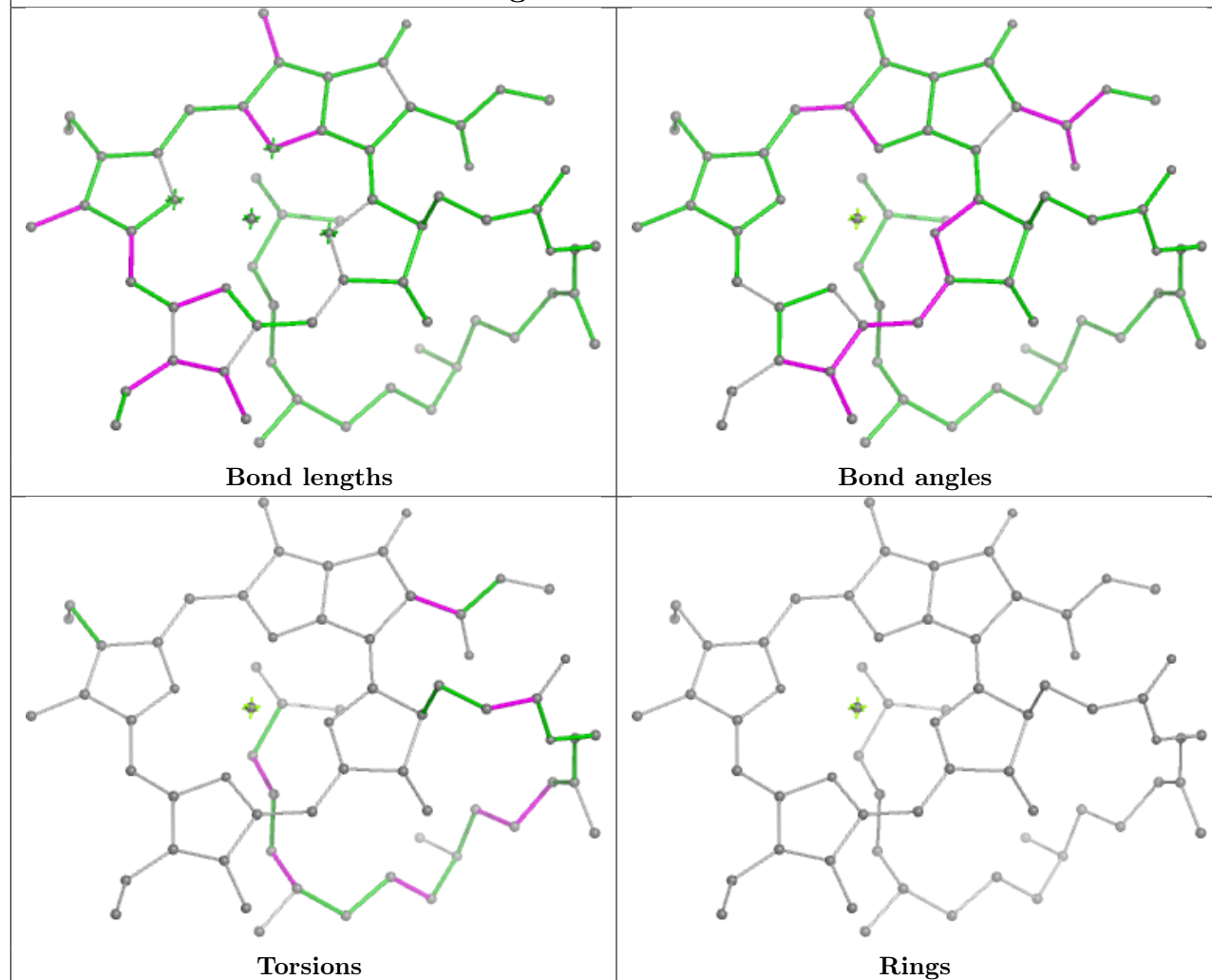




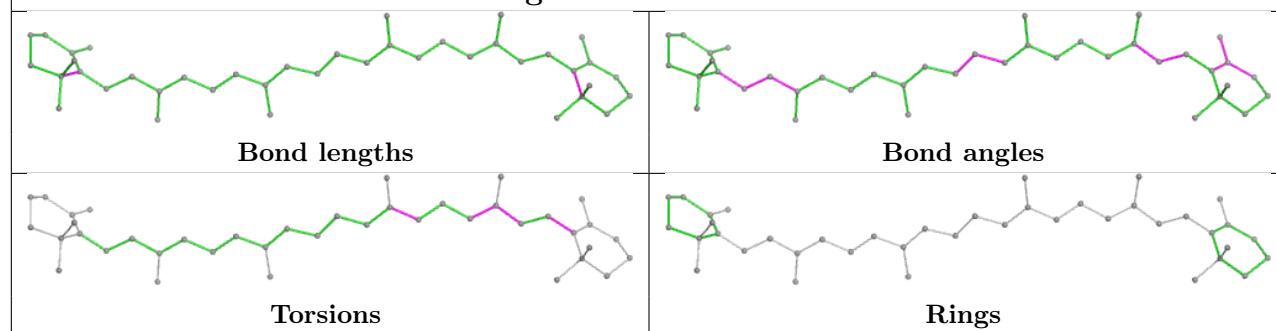


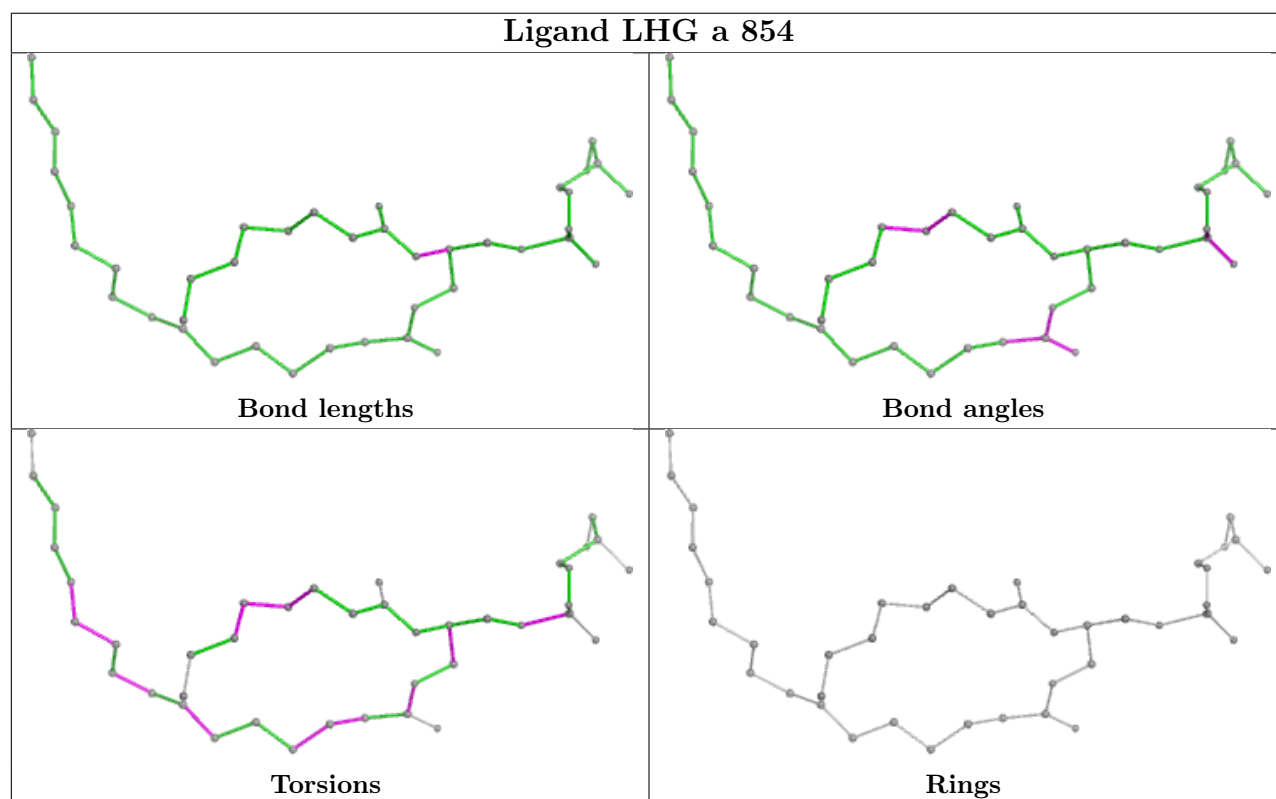
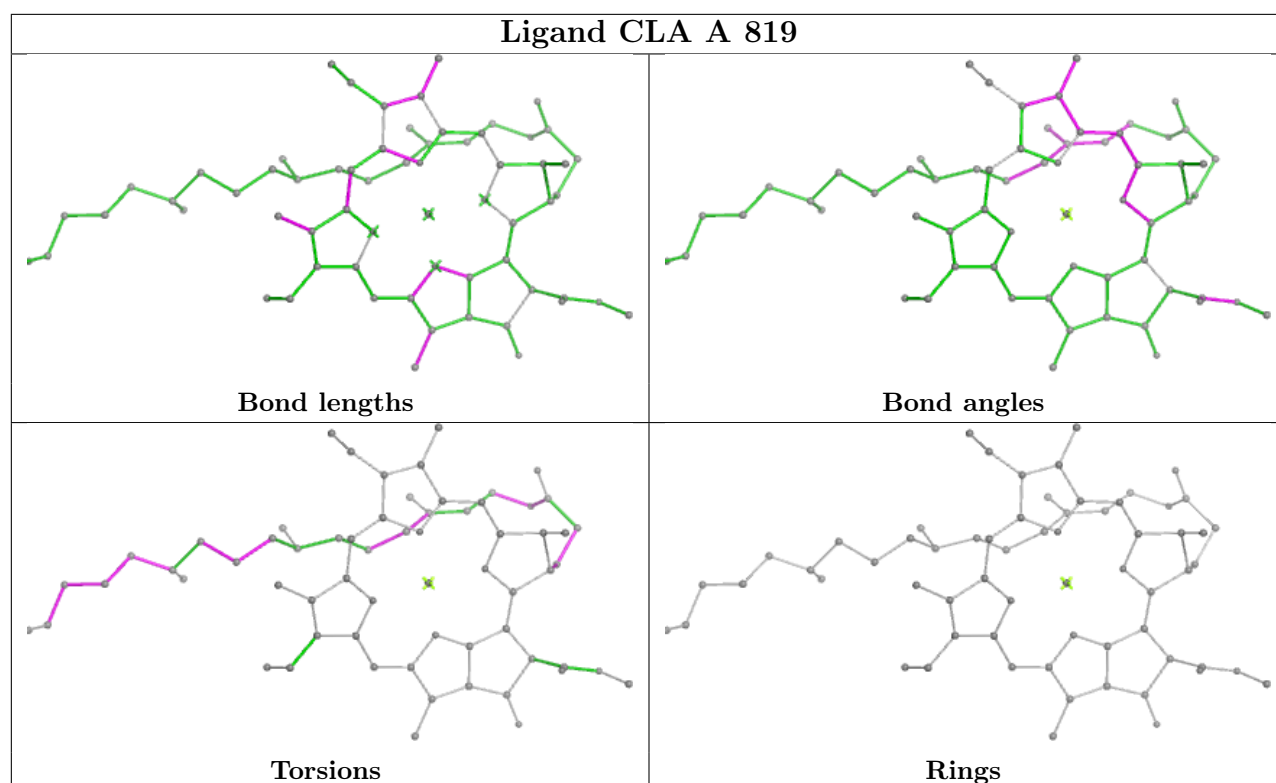


## Ligand CLA 2 807

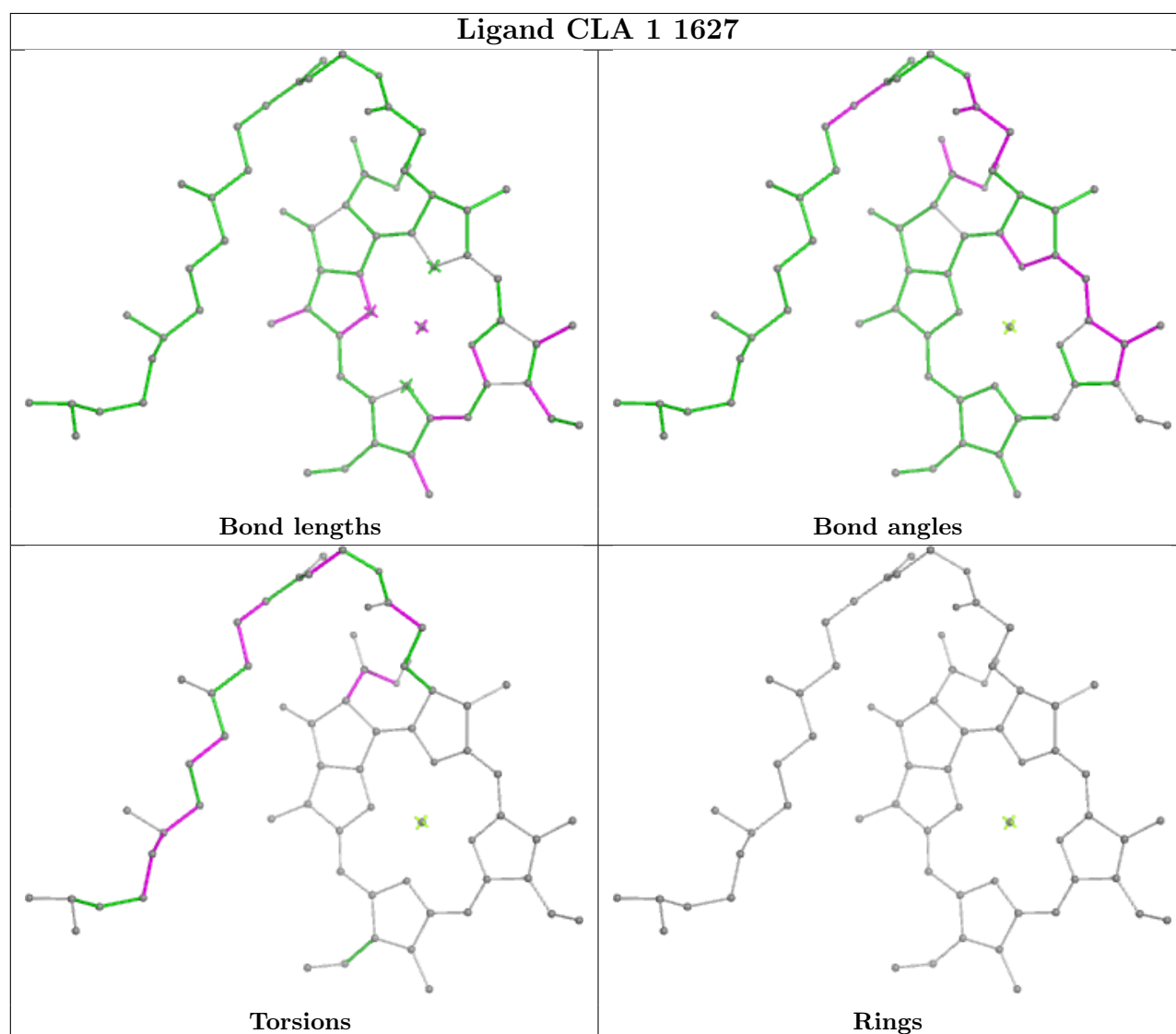
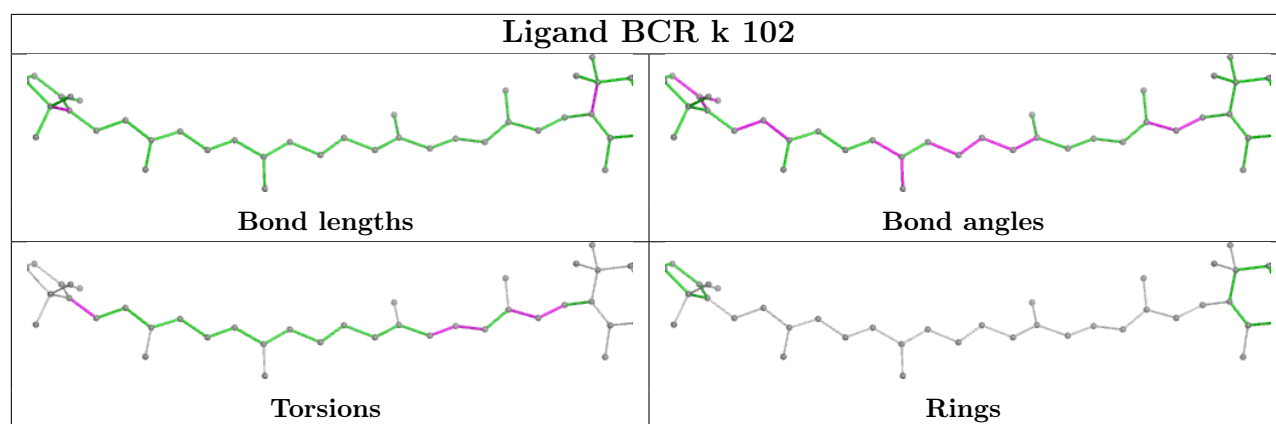


## Ligand BCR 1 1650

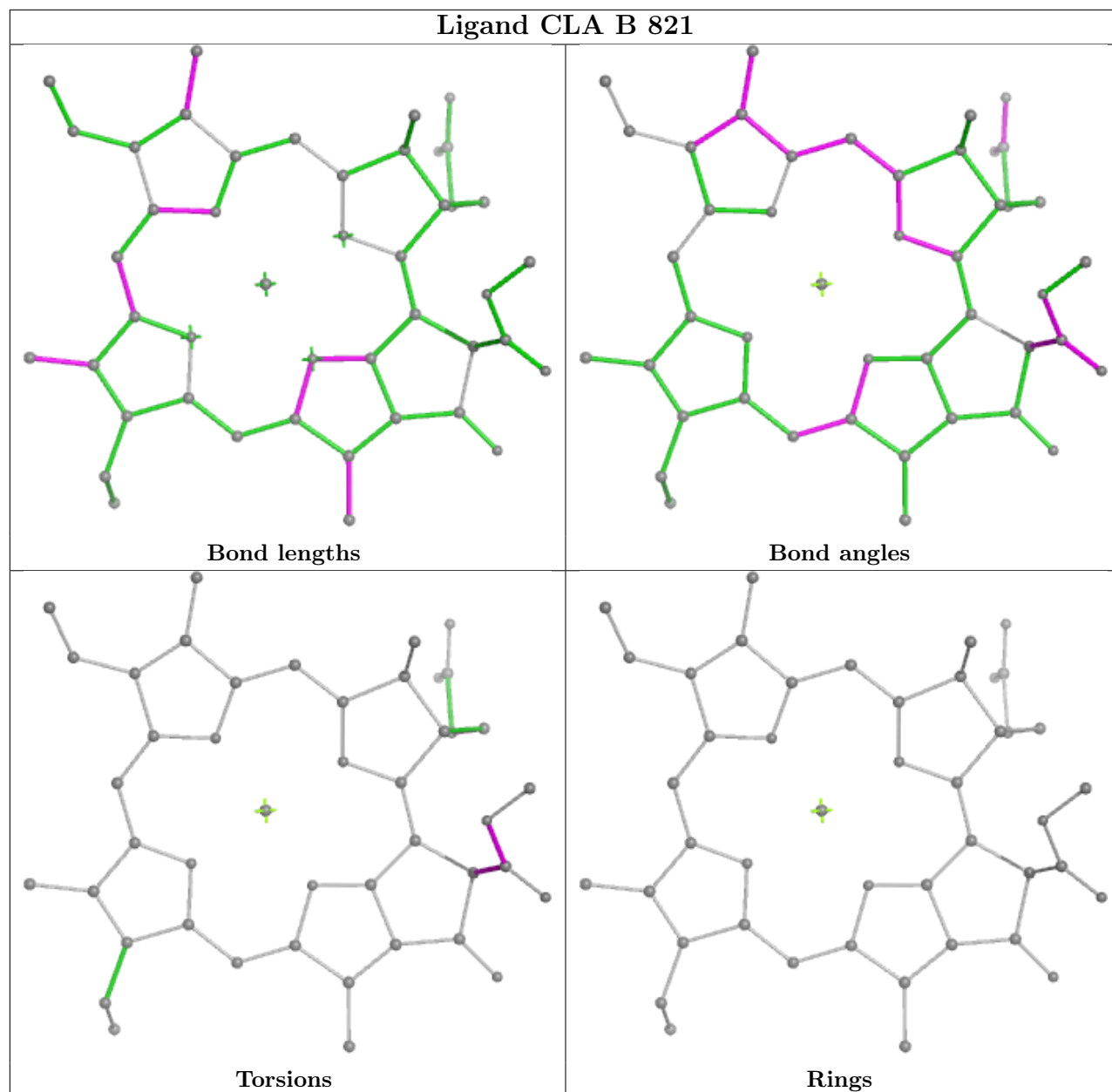


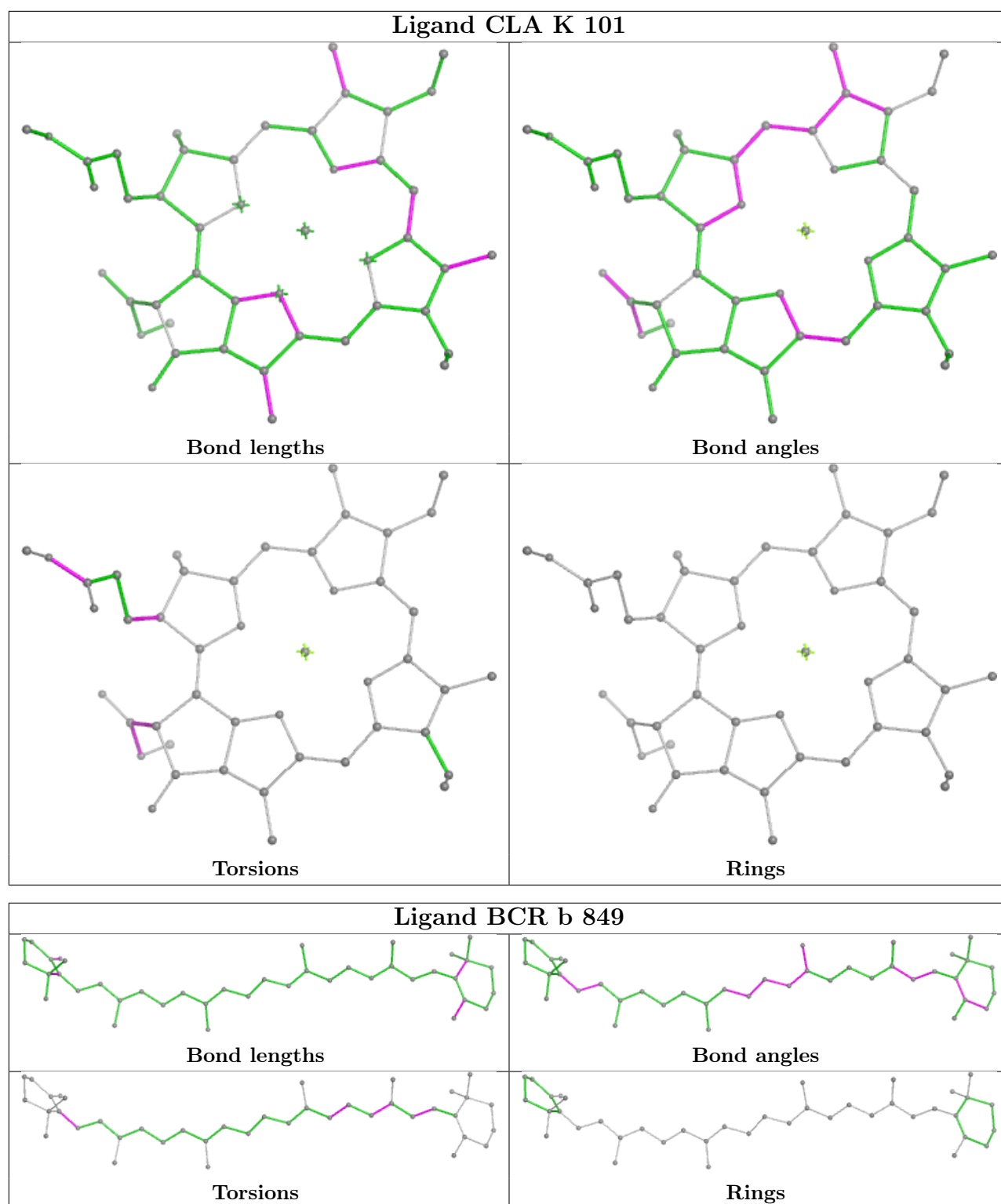


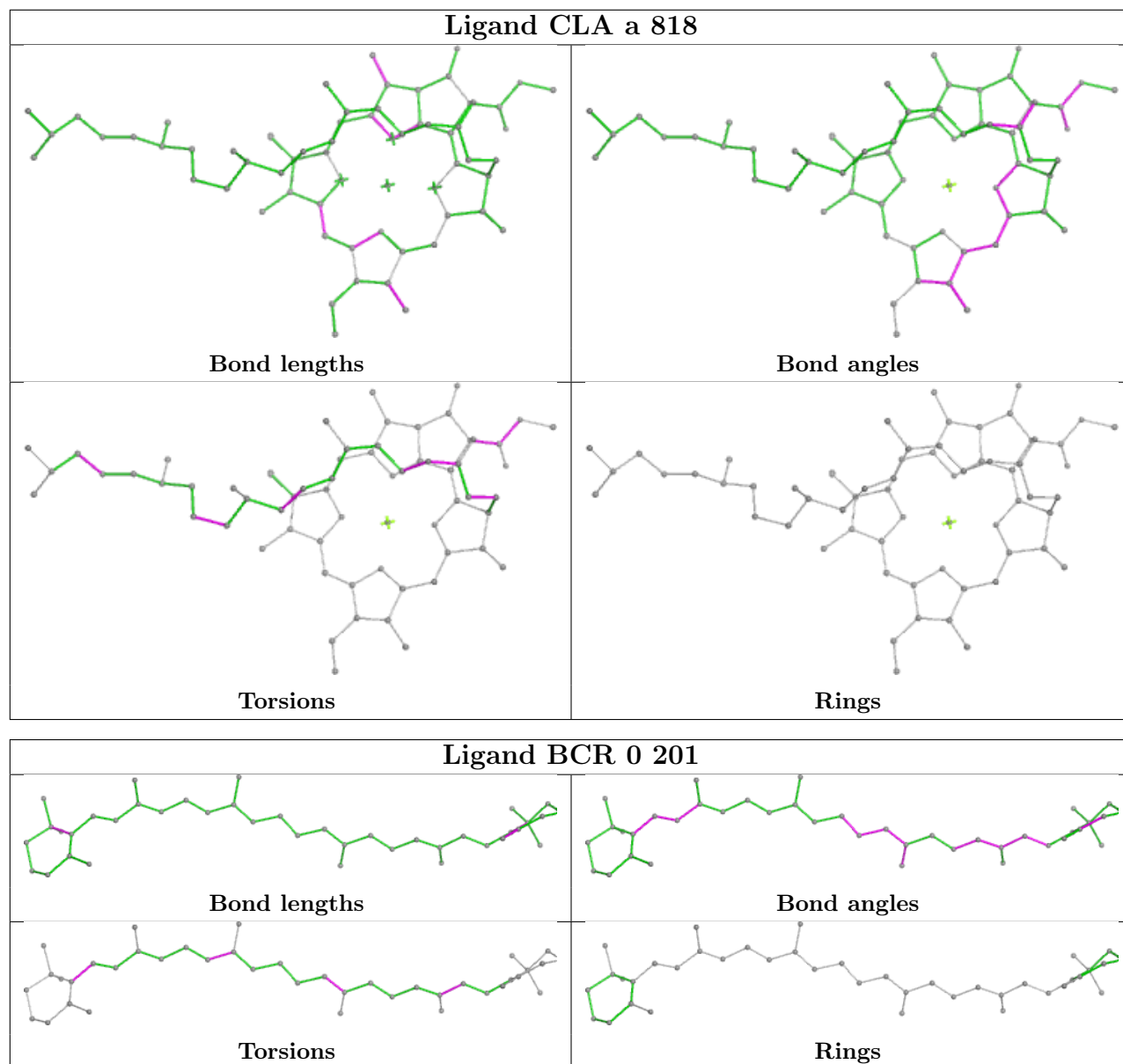


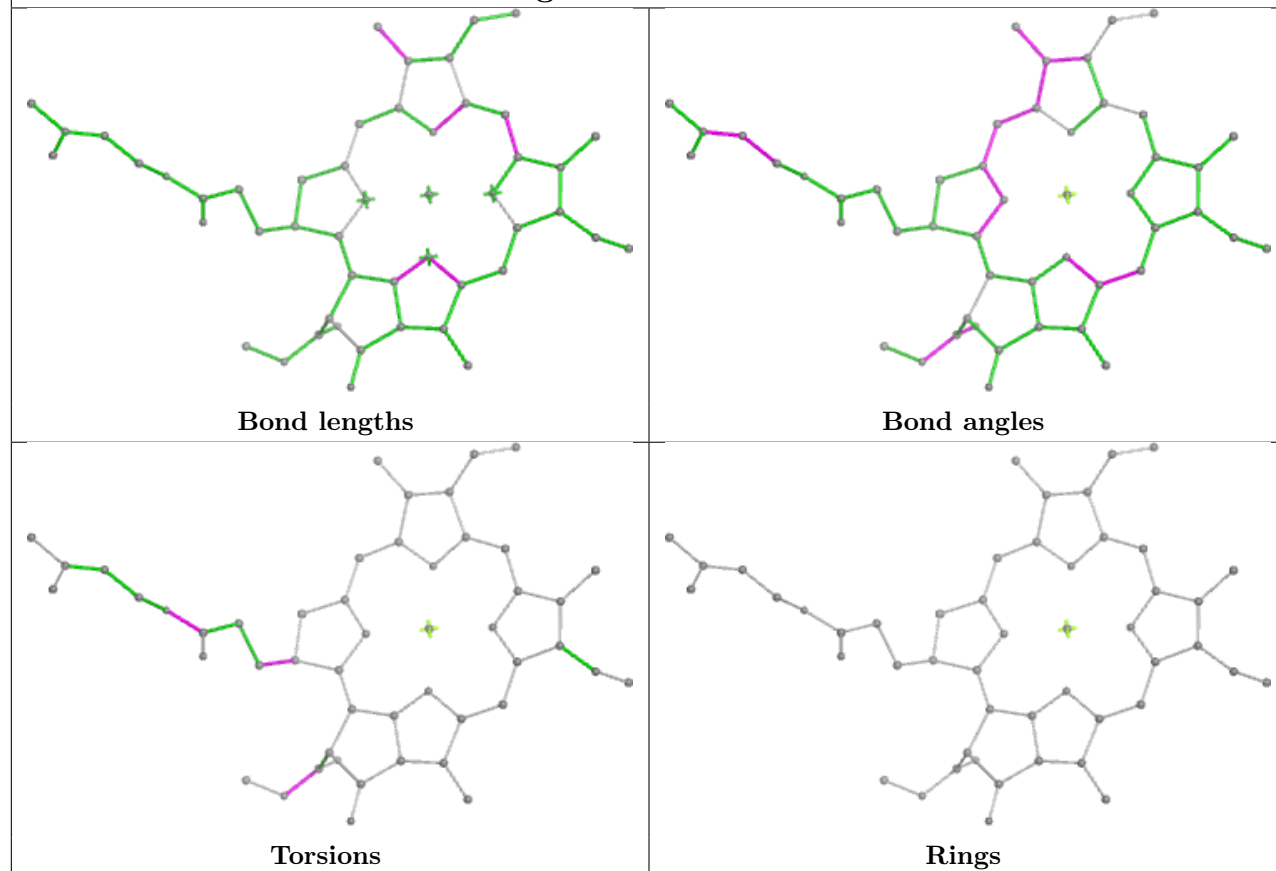
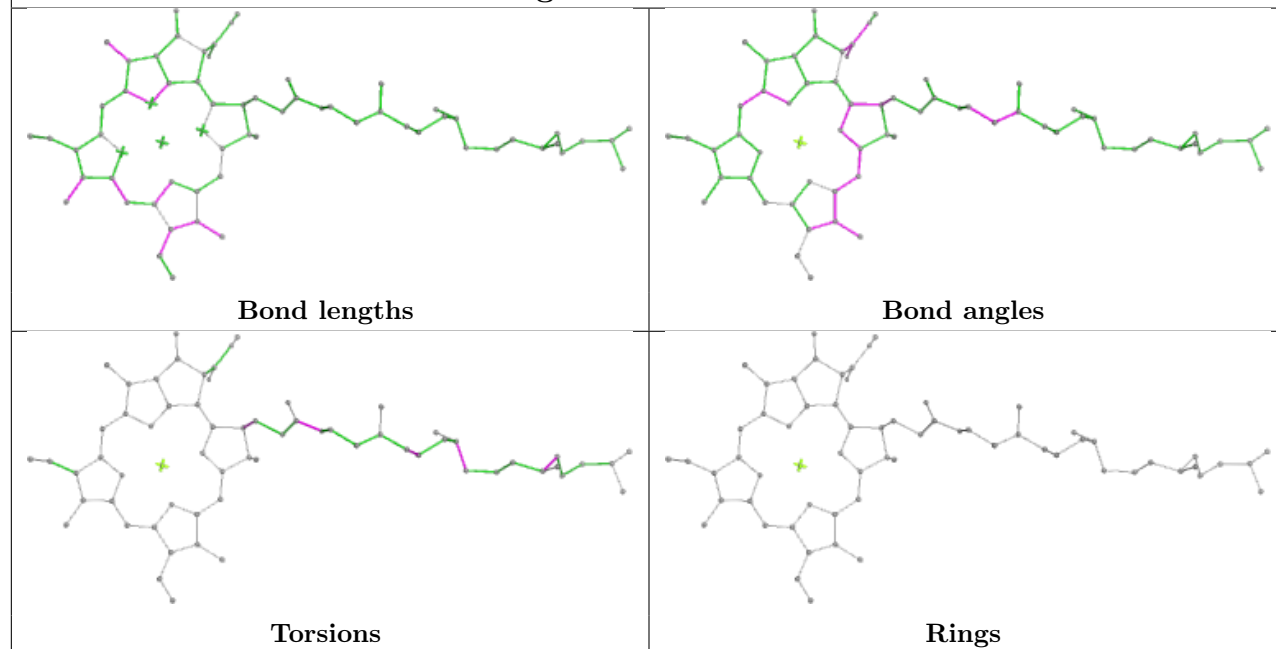


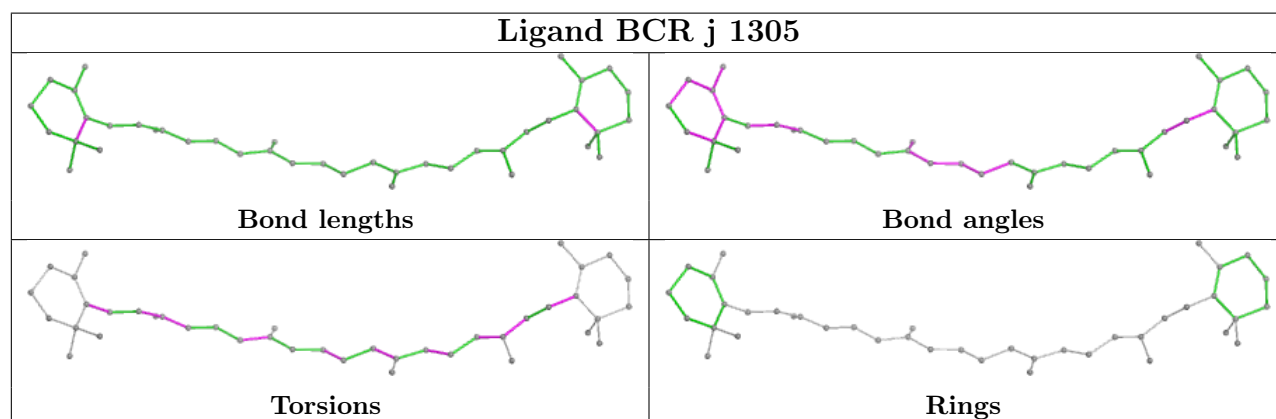
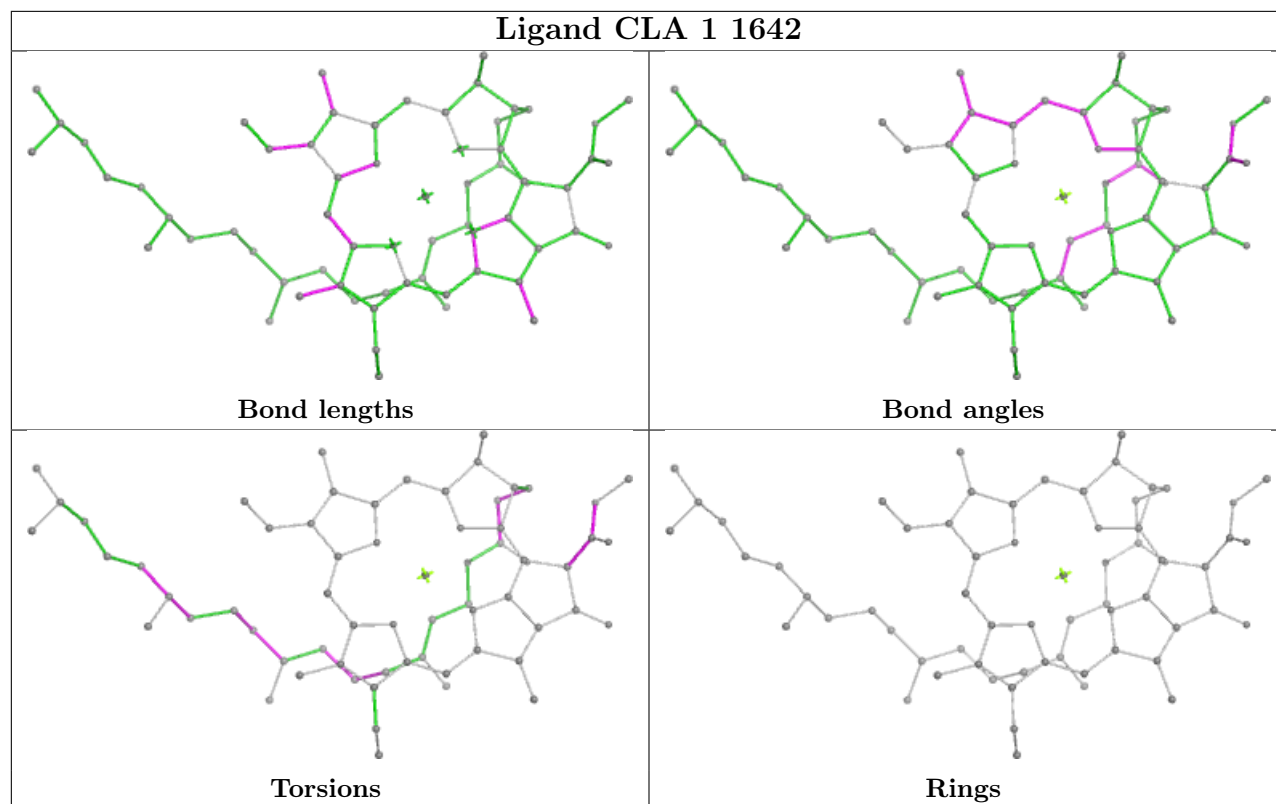
## Ligand CLA B 821

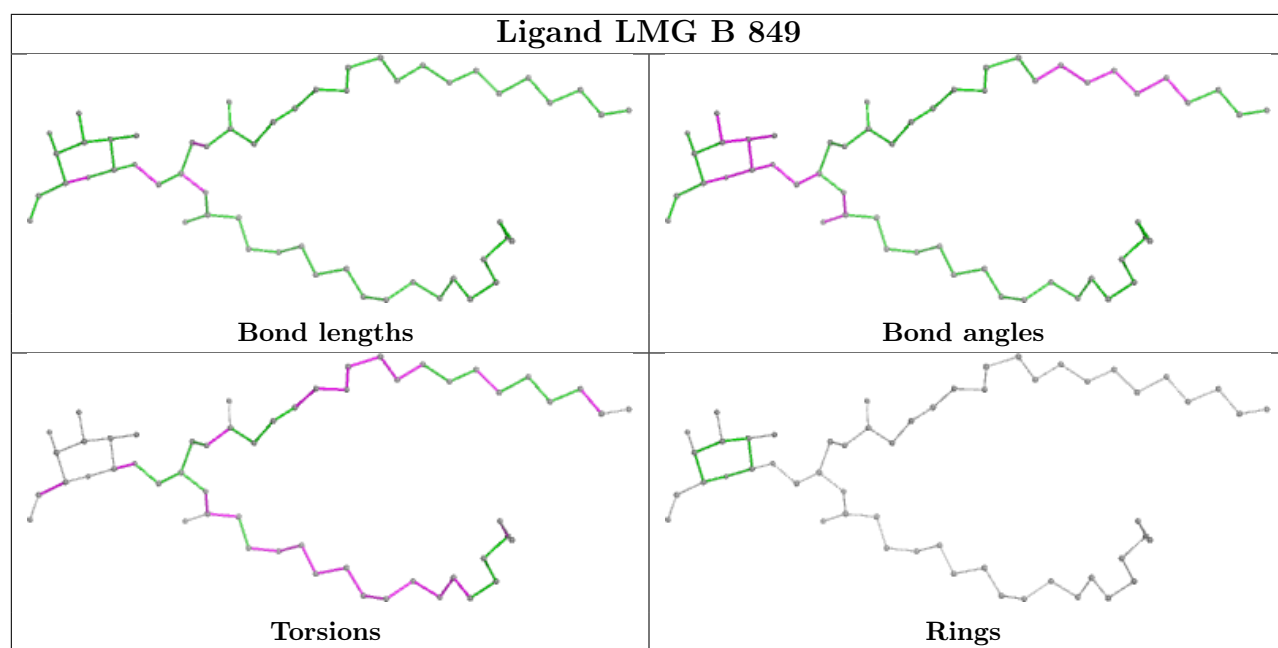




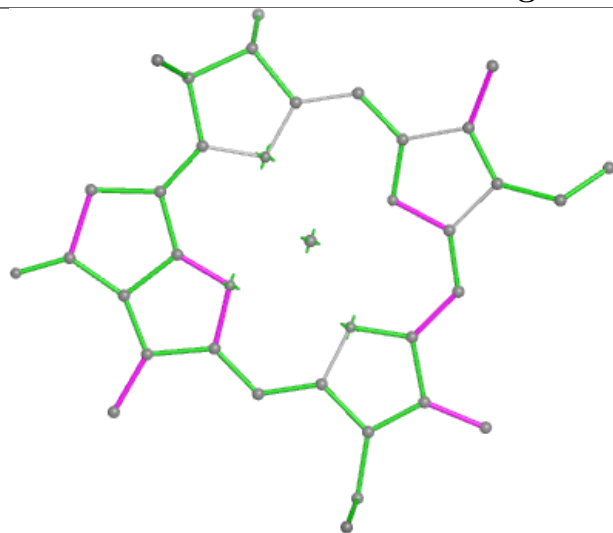


**Ligand CLA 6 203****Ligand CLA a 827**

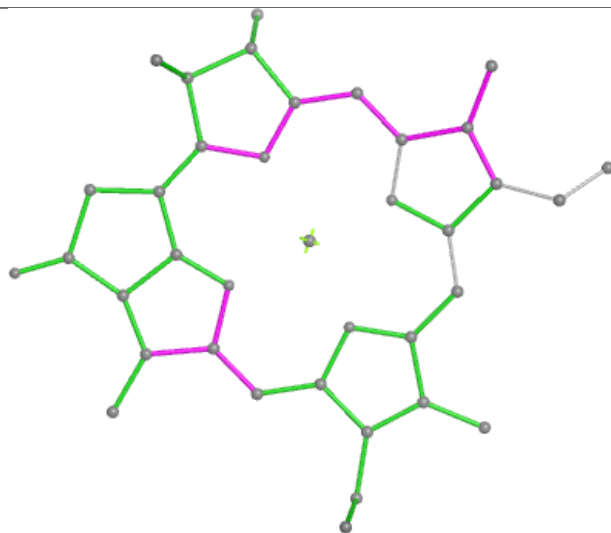




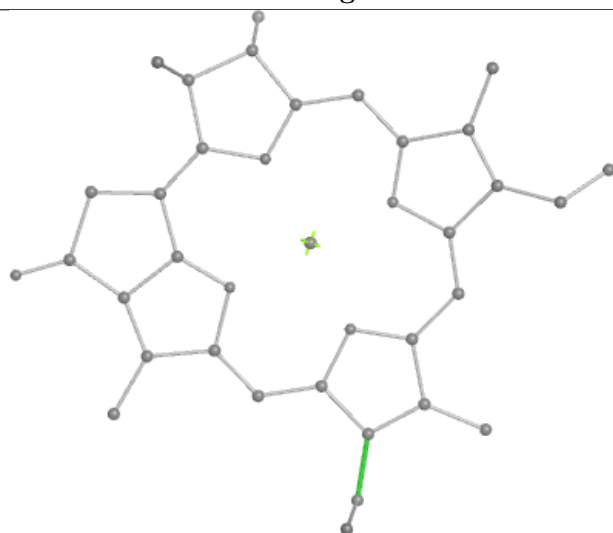
## Ligand CLA J 102



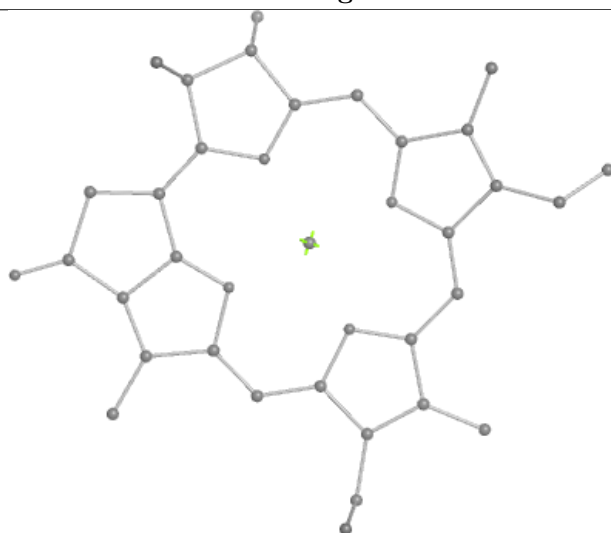
Bond lengths



Bond angles



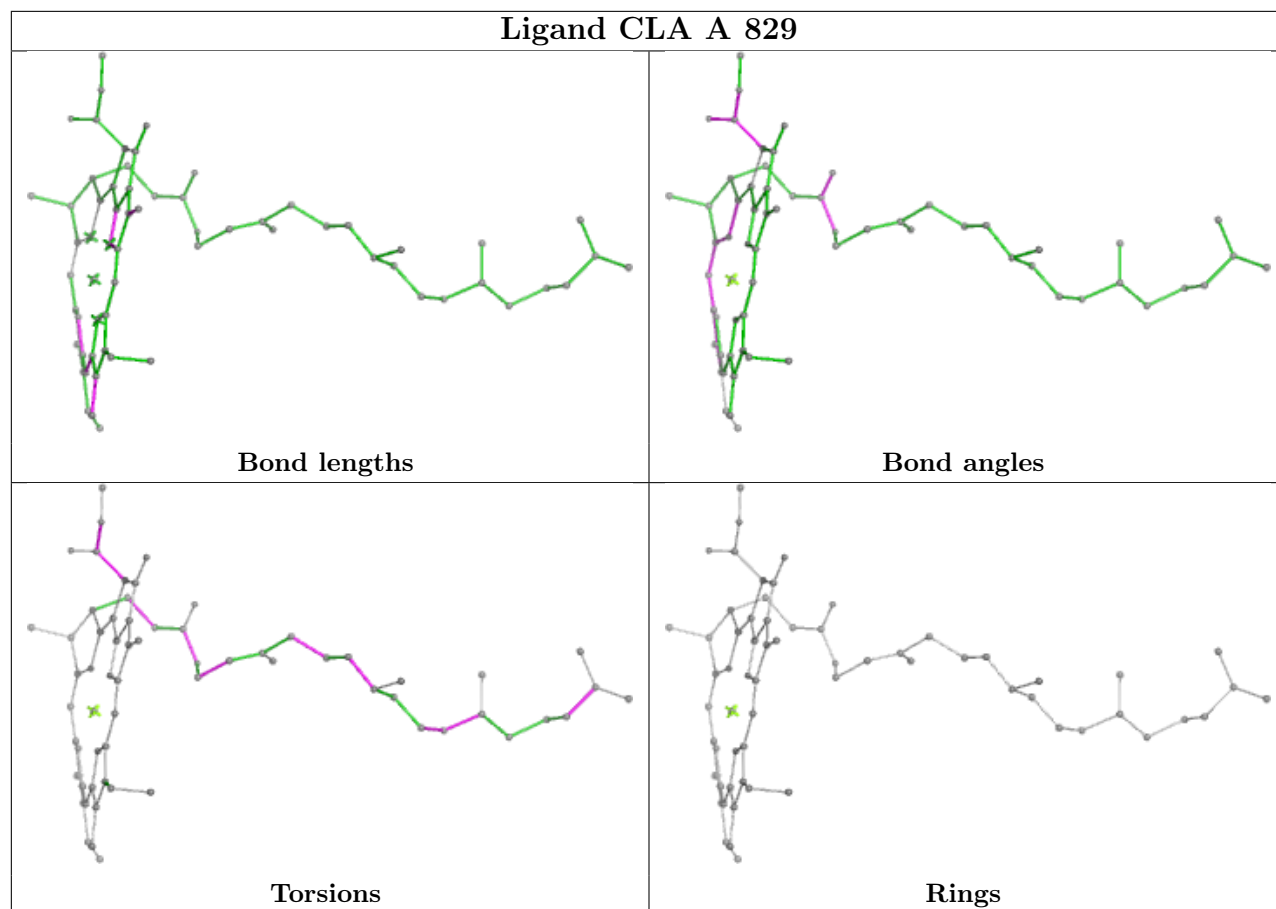
Torsions



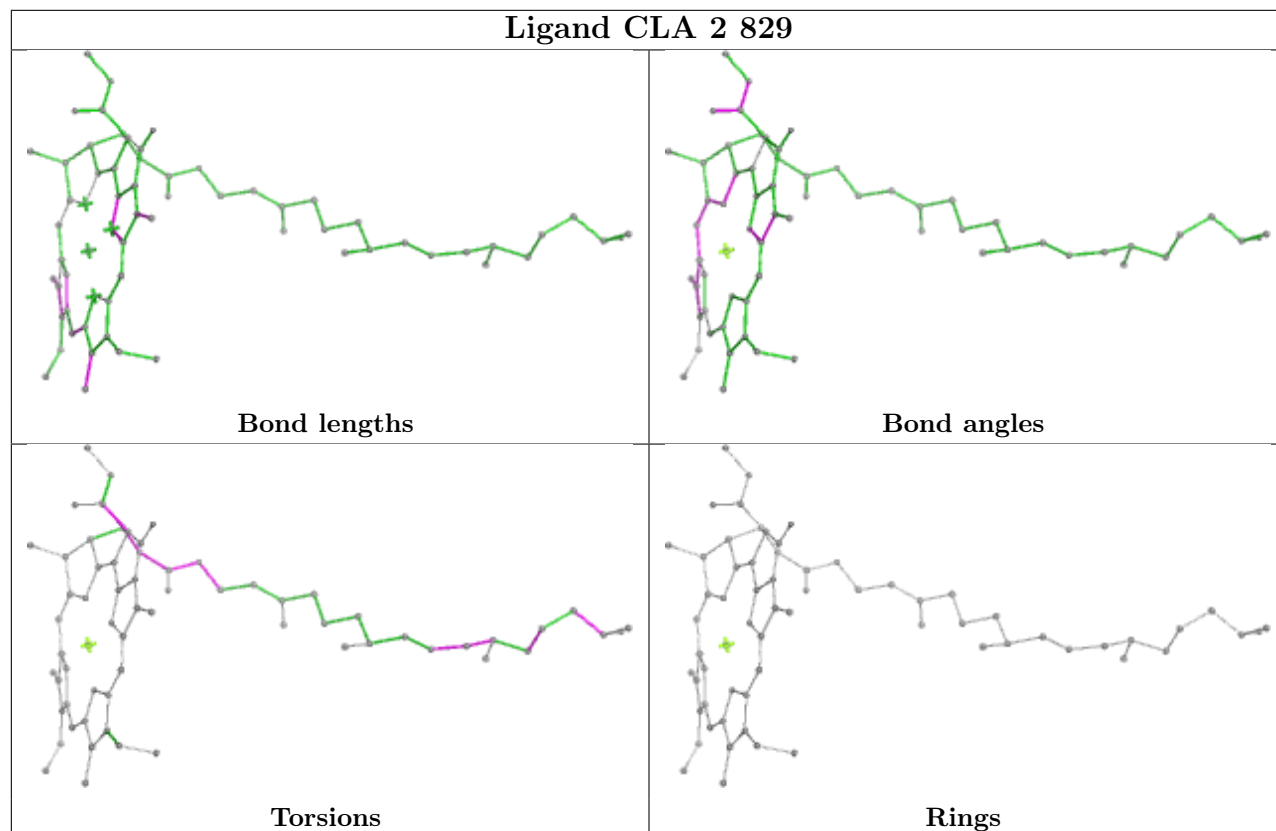
Rings

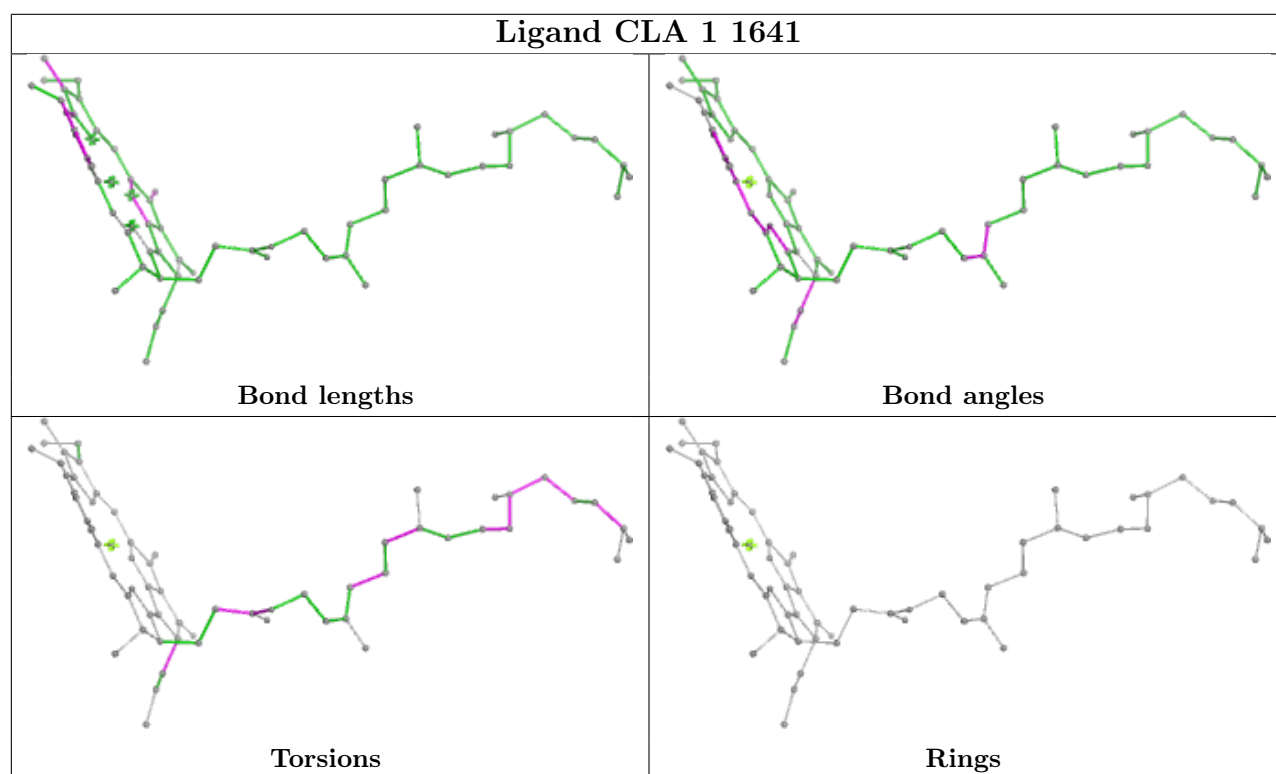
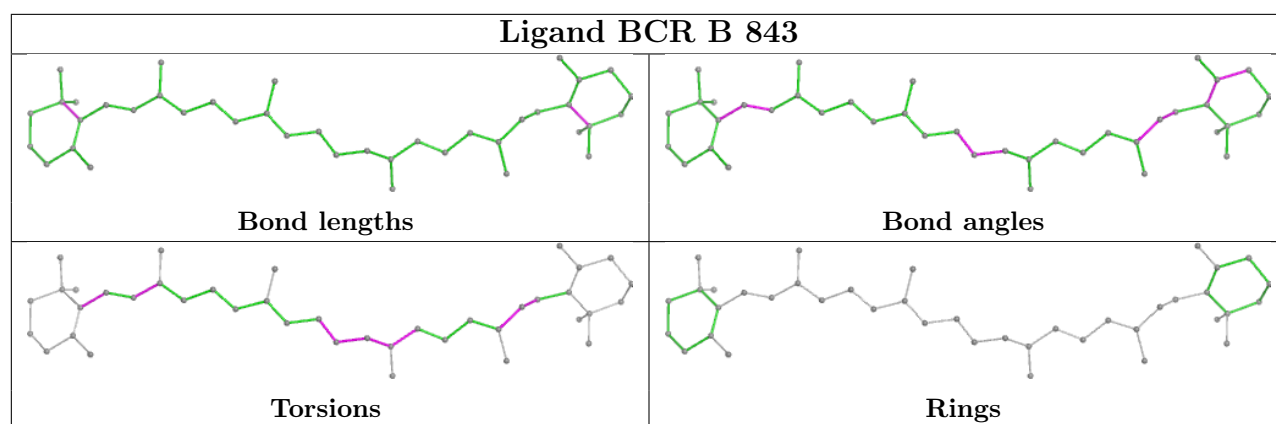


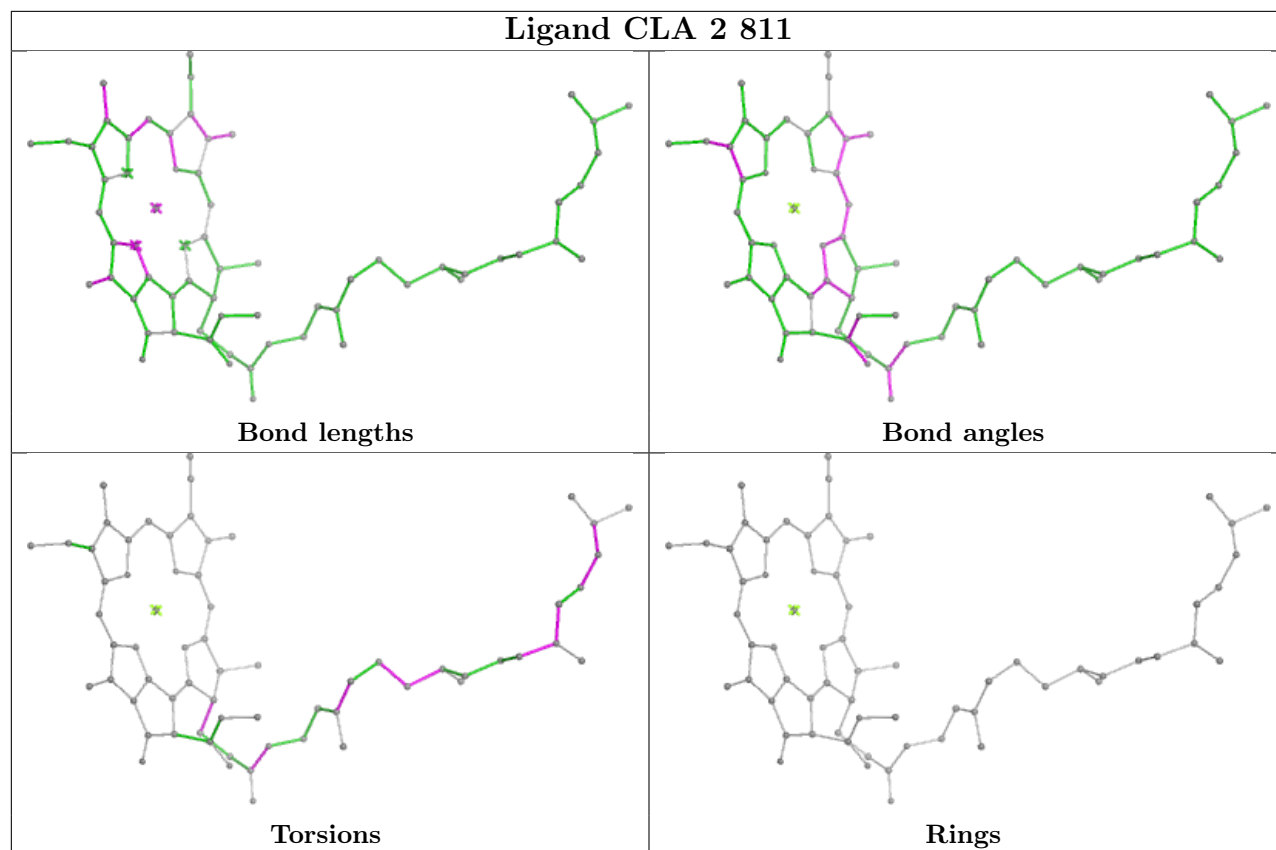
## Ligand CLA A 829

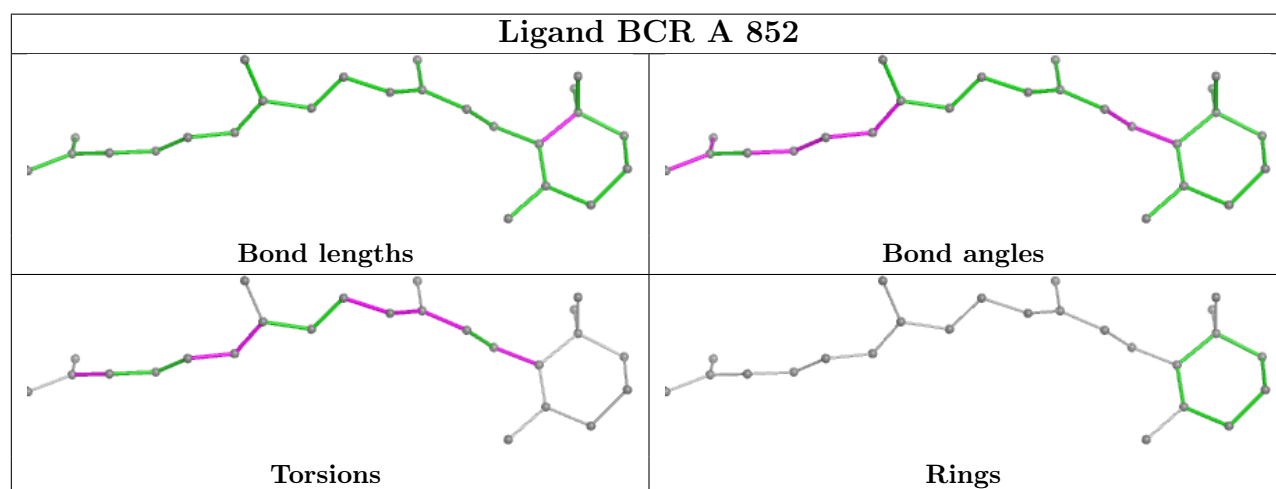
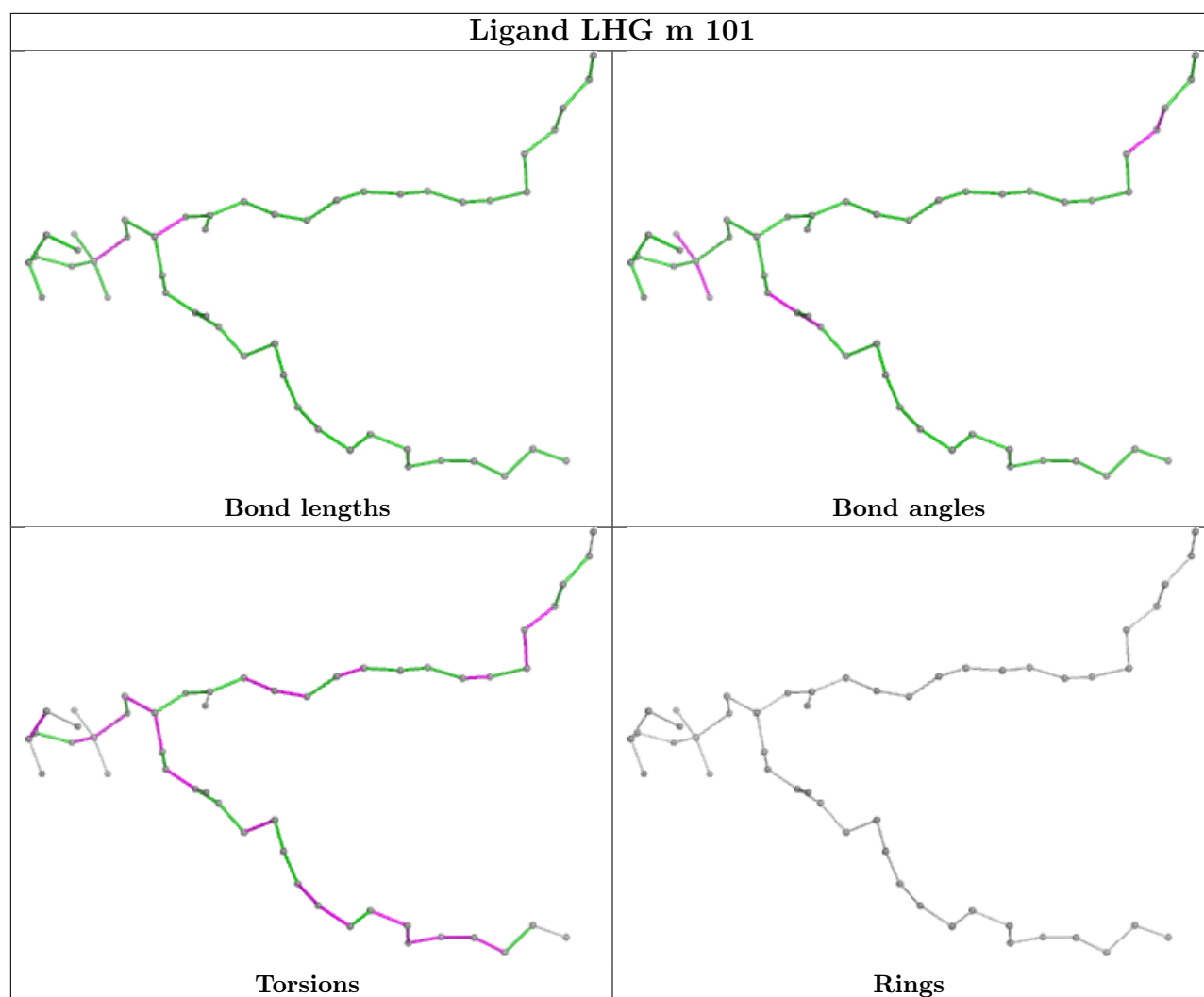


## Ligand CLA 2 829

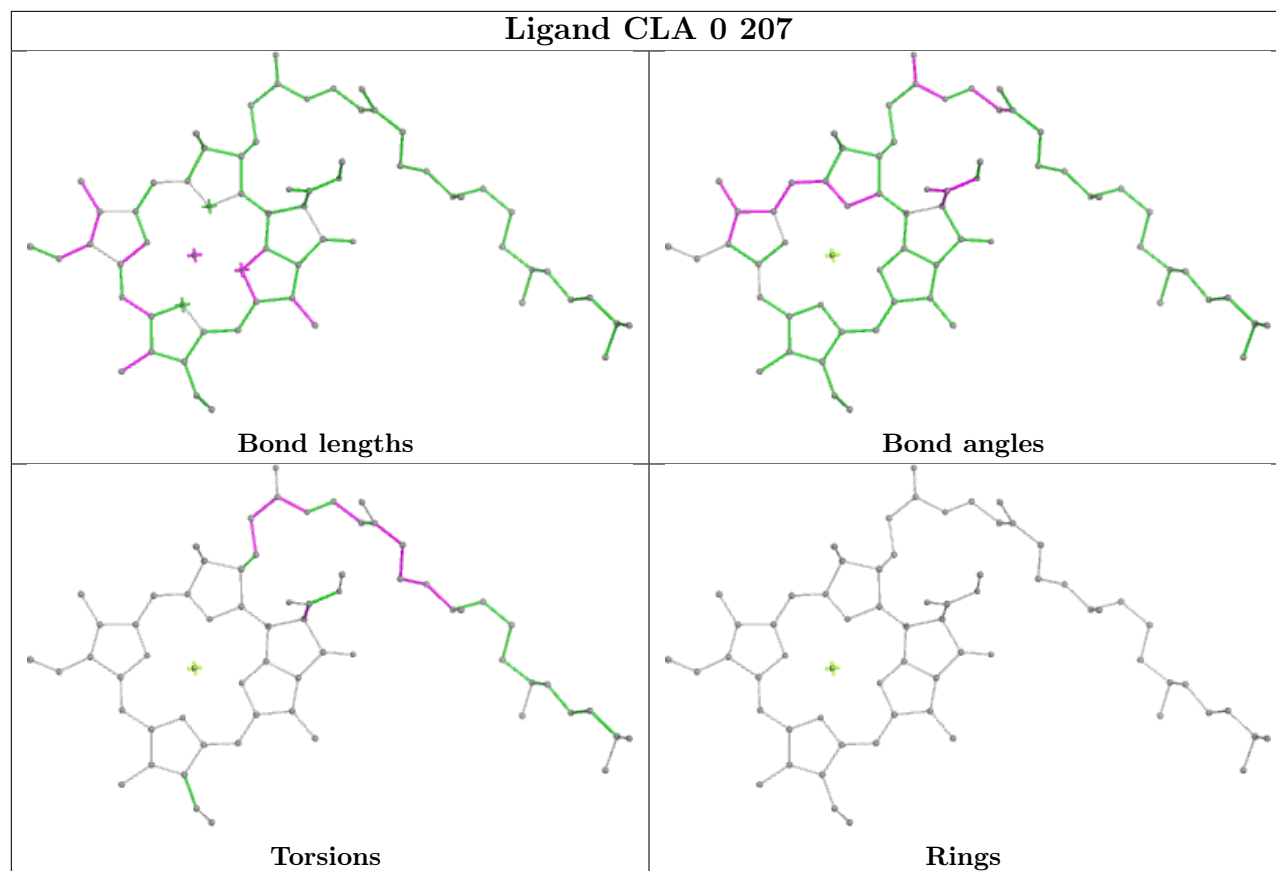




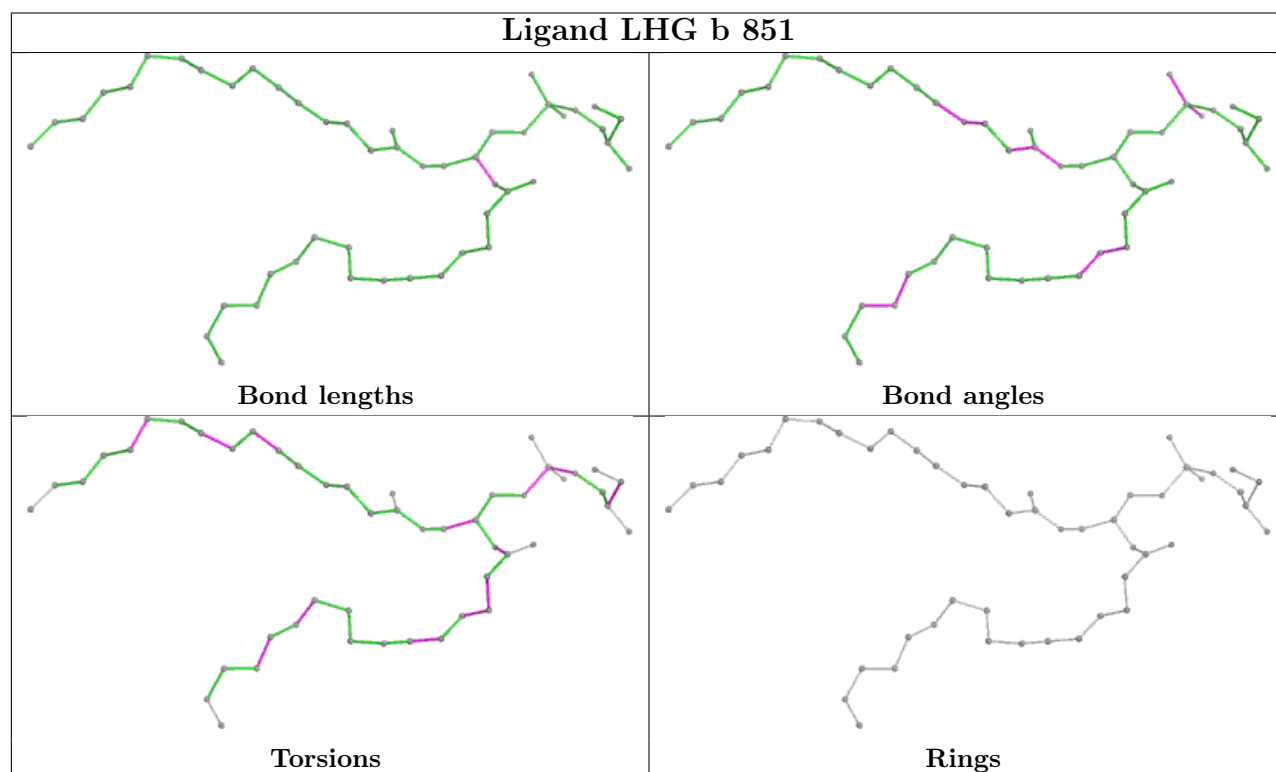


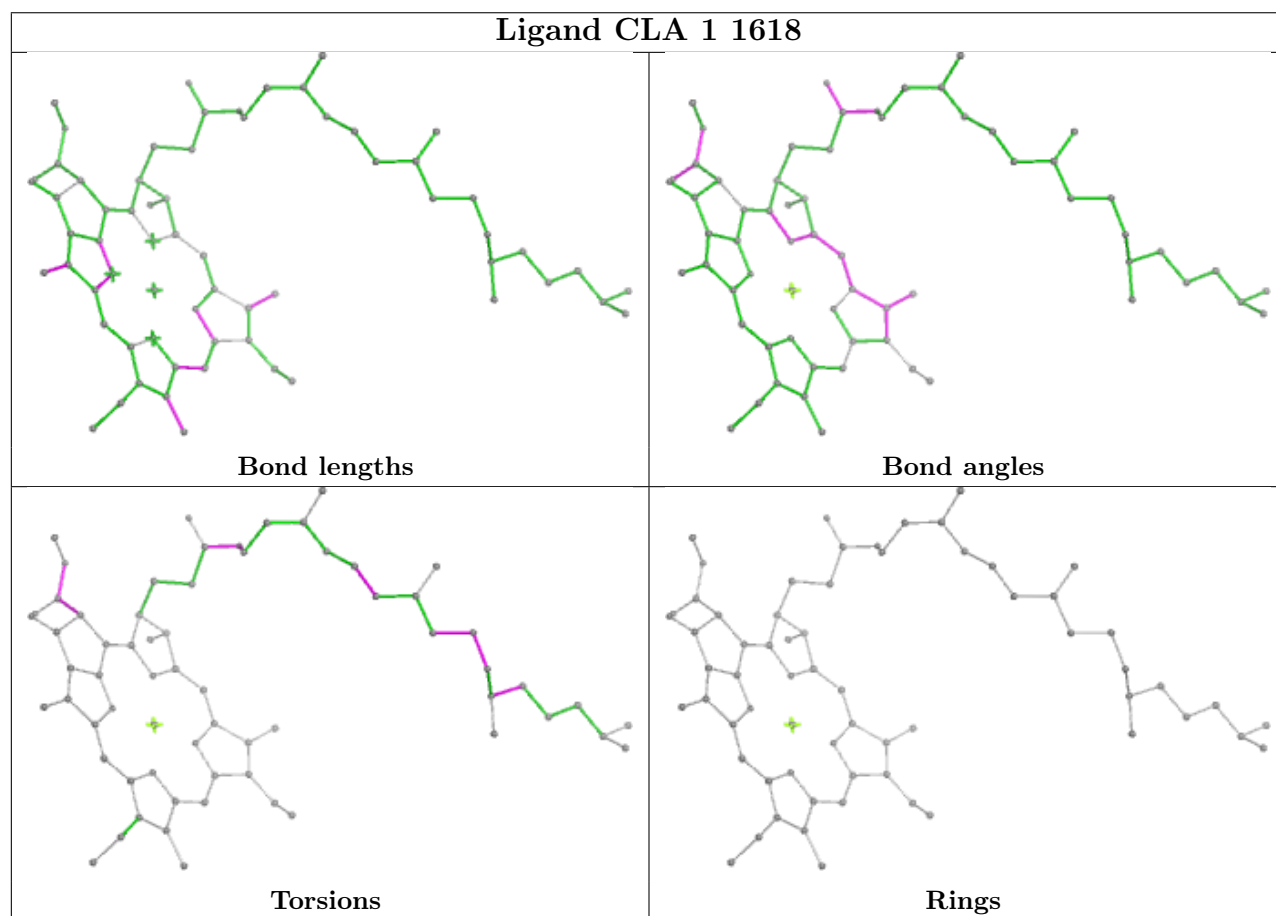
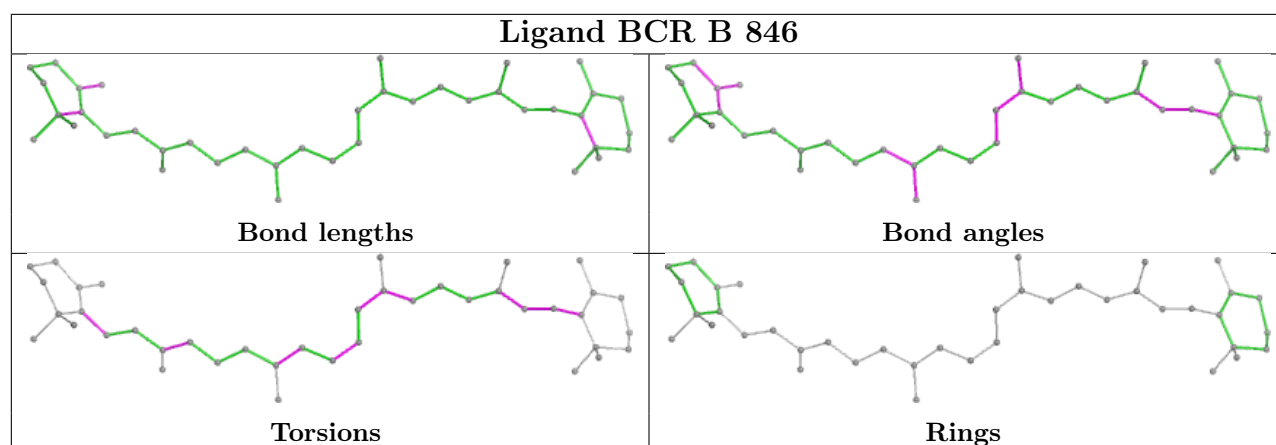


## Ligand CLA 0 207

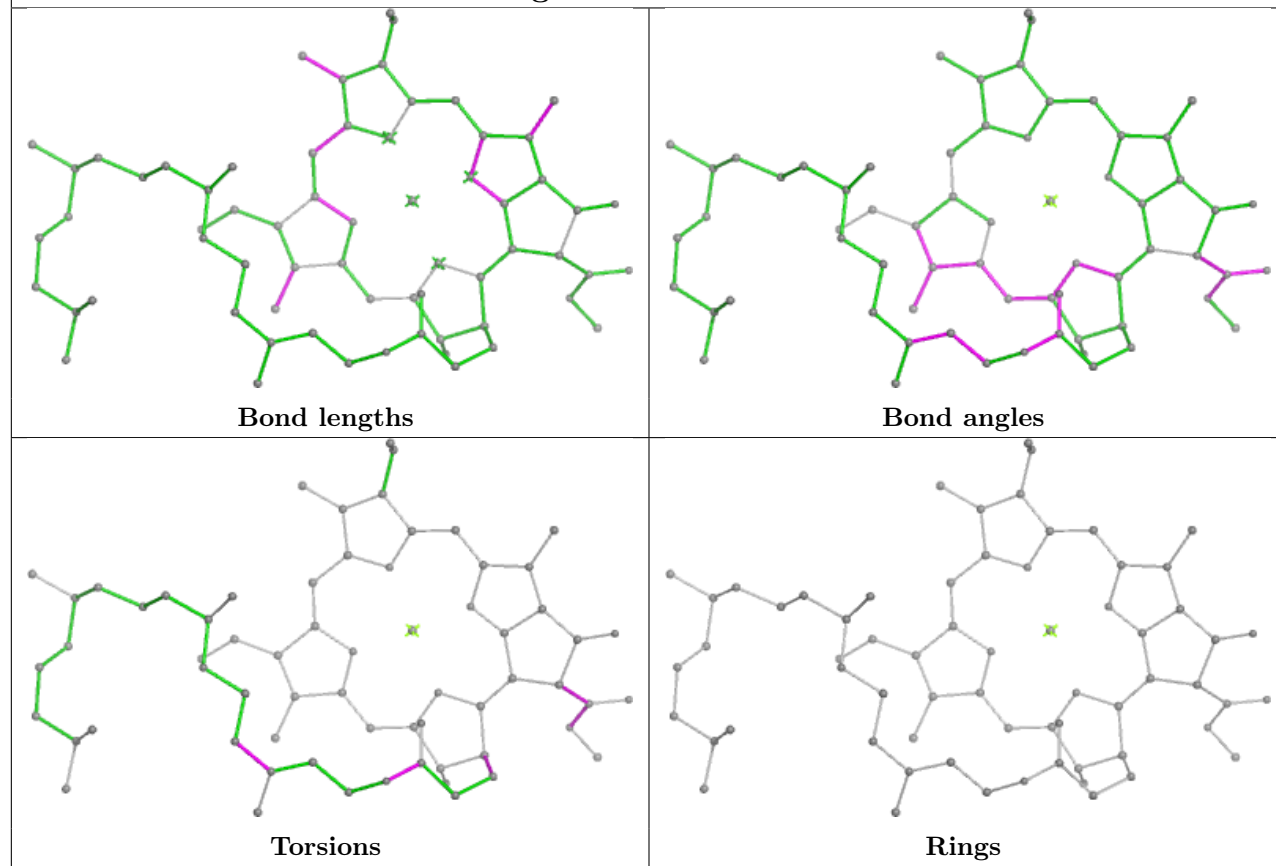


## Ligand LHG b 851

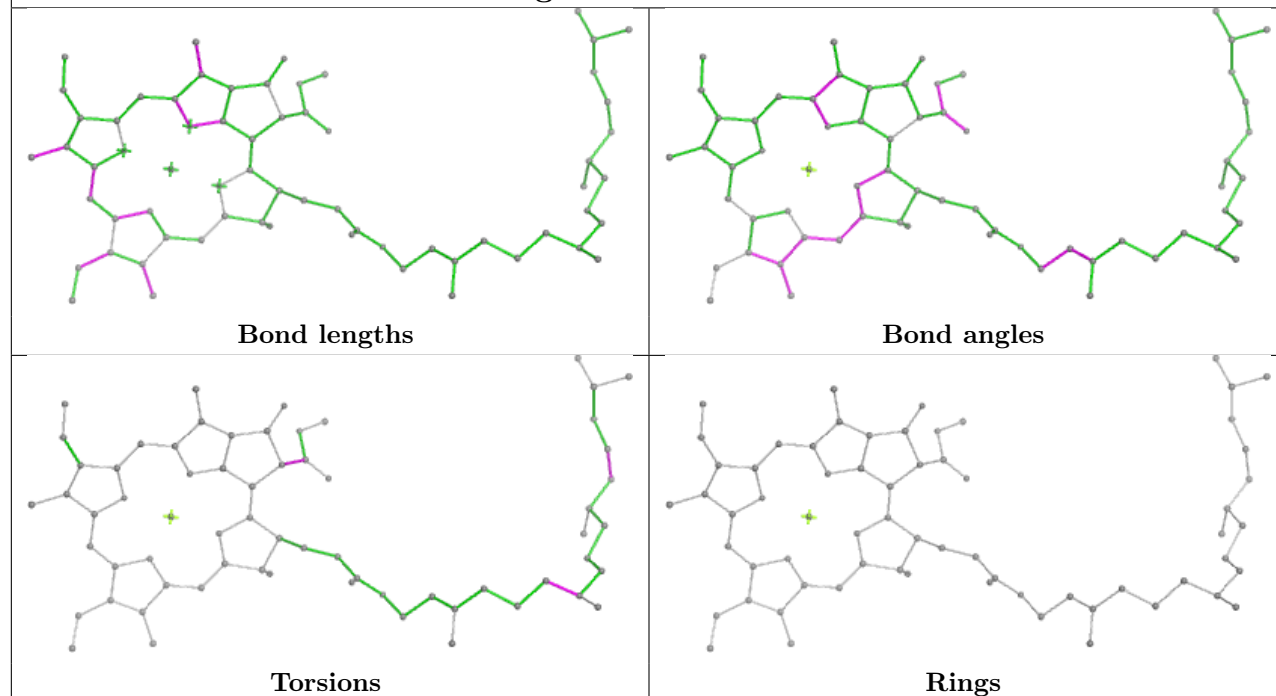


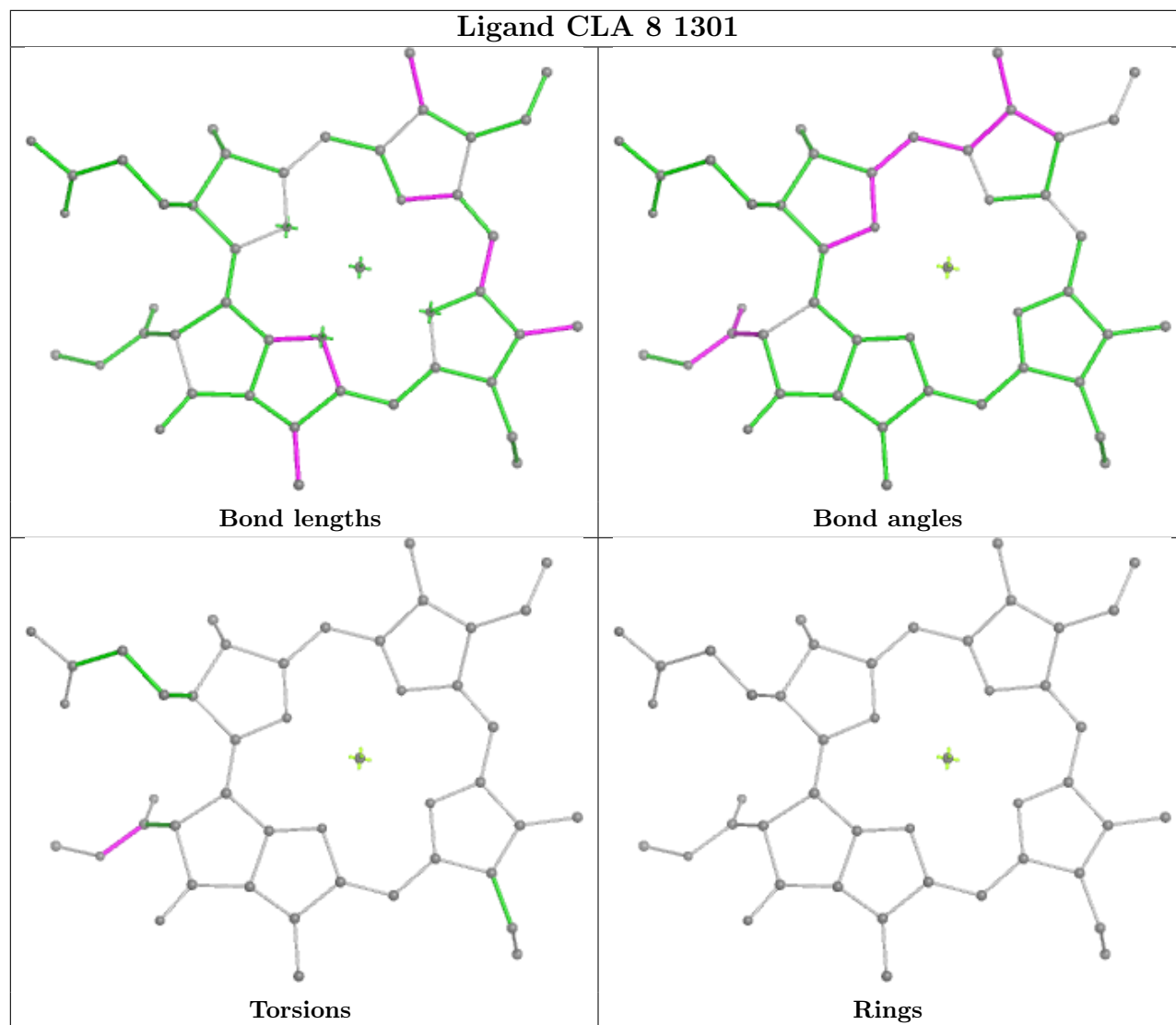


## Ligand CLA A 820



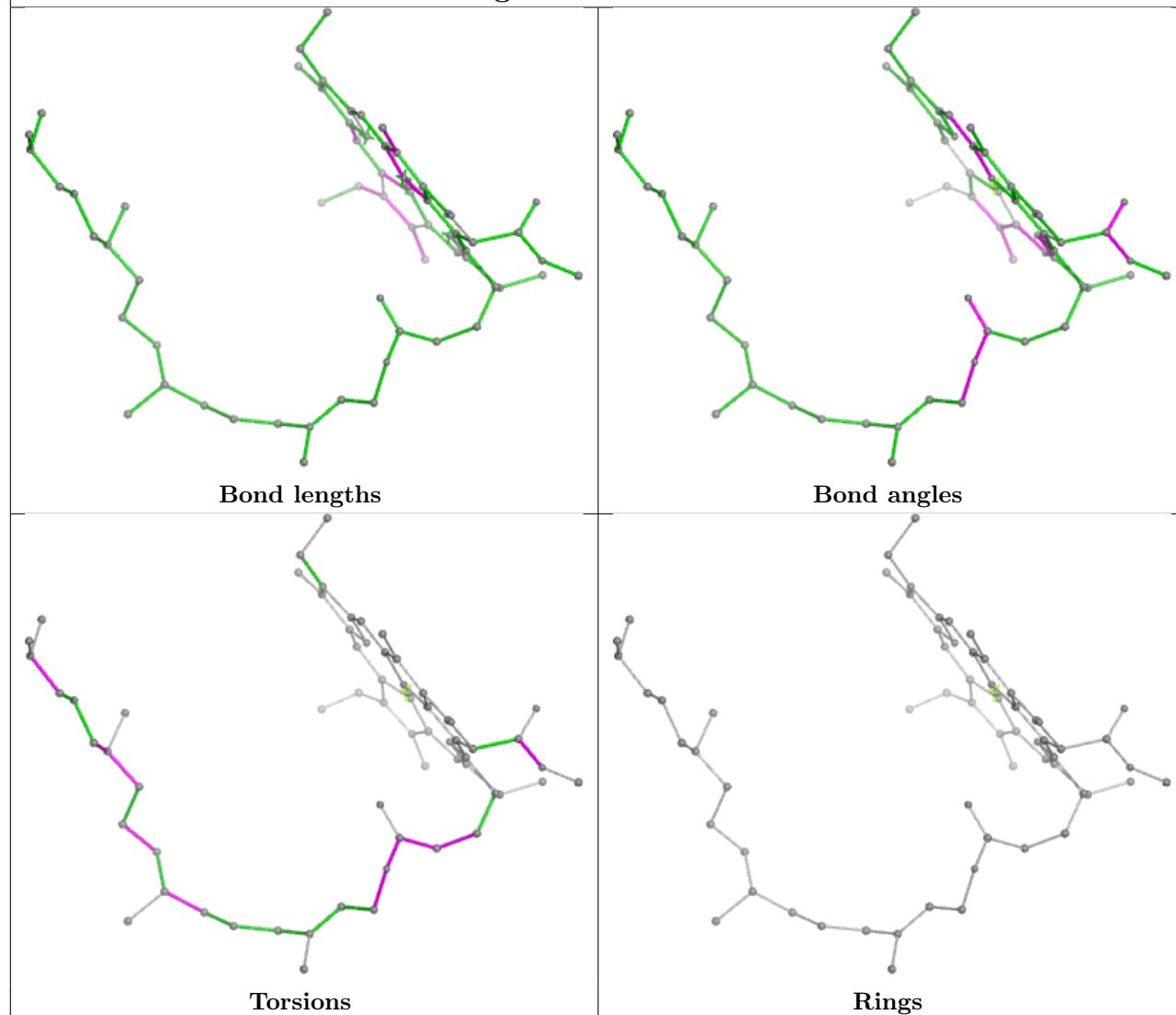
## Ligand CLA b 827



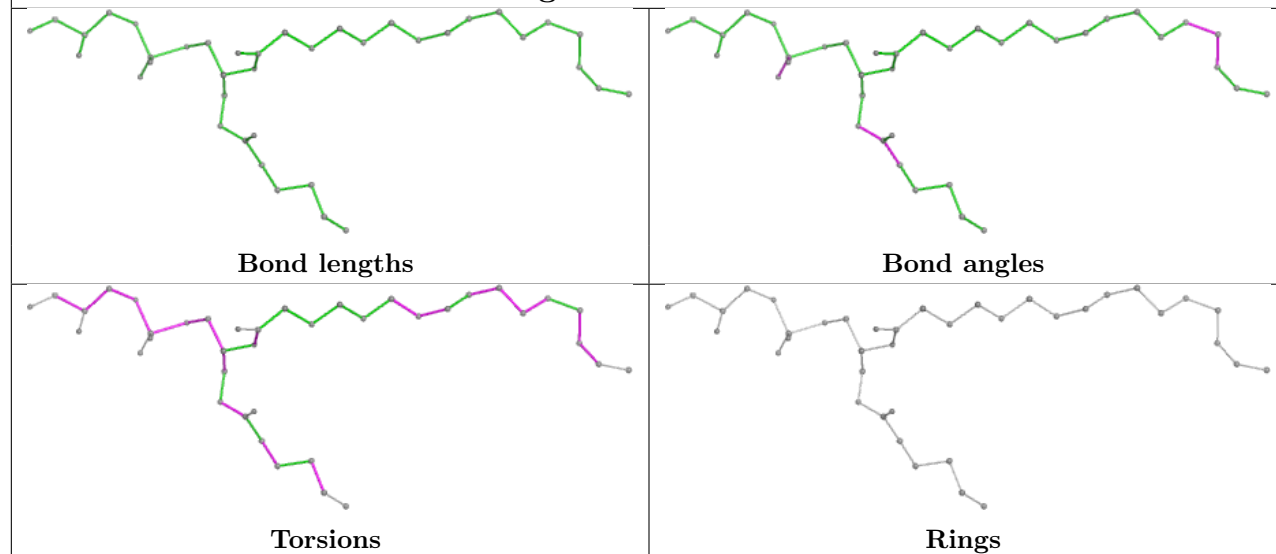




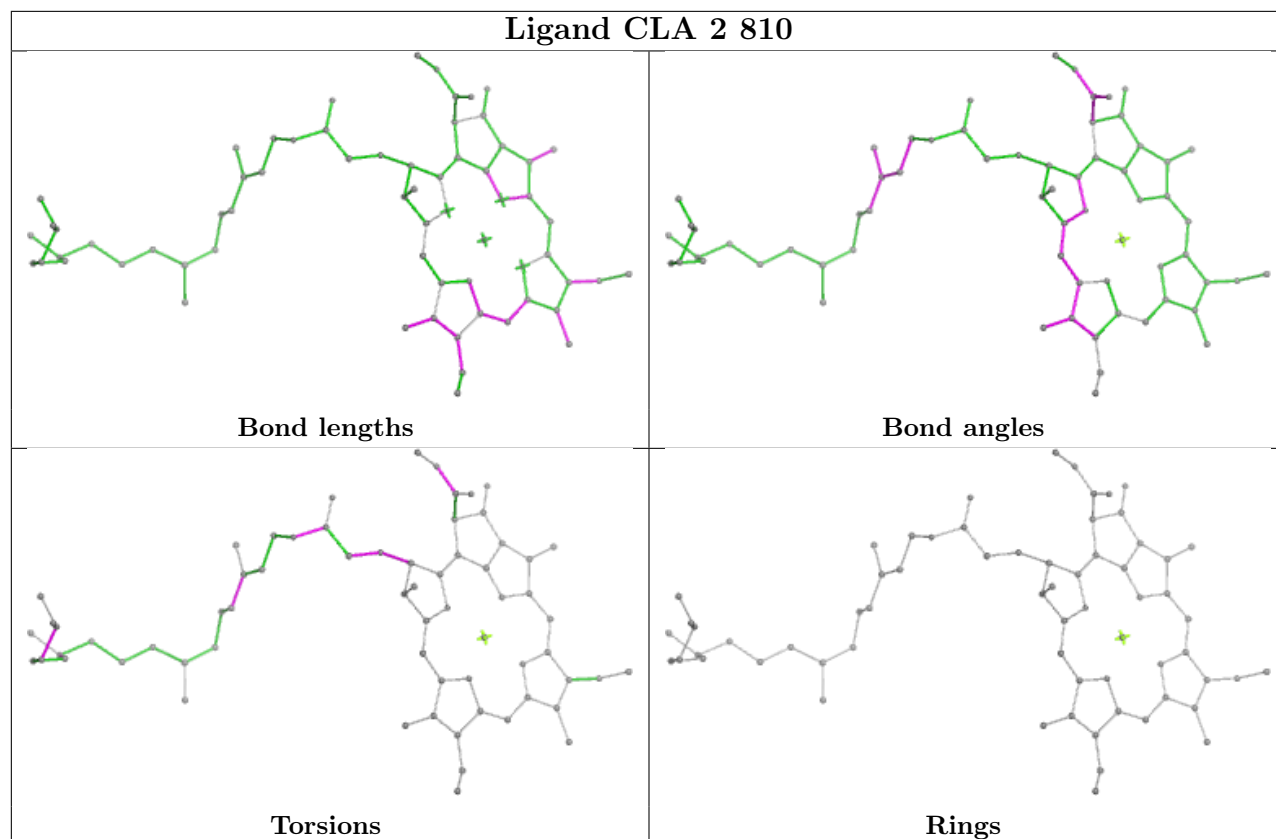
## Ligand CLA 2 820



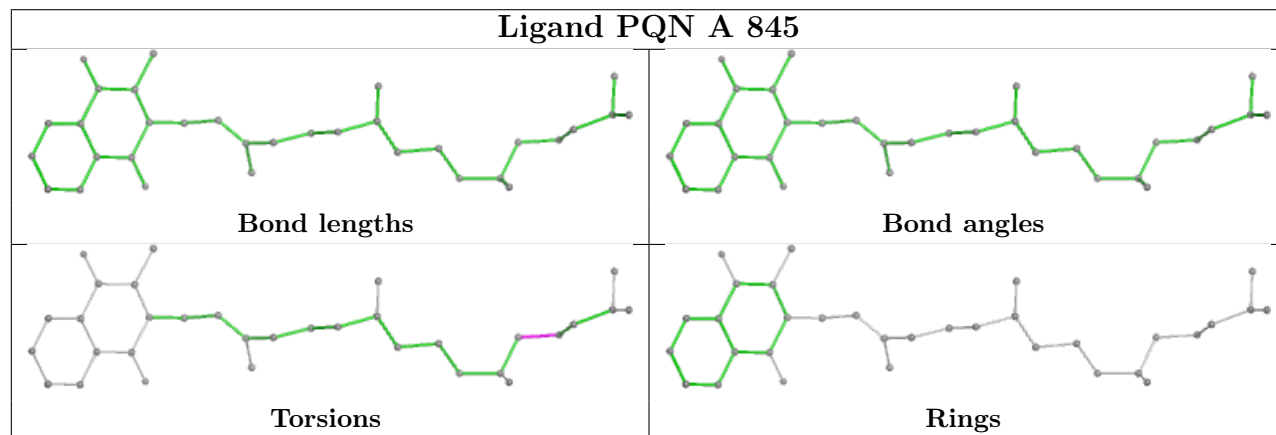
## Ligand LHG 1 201

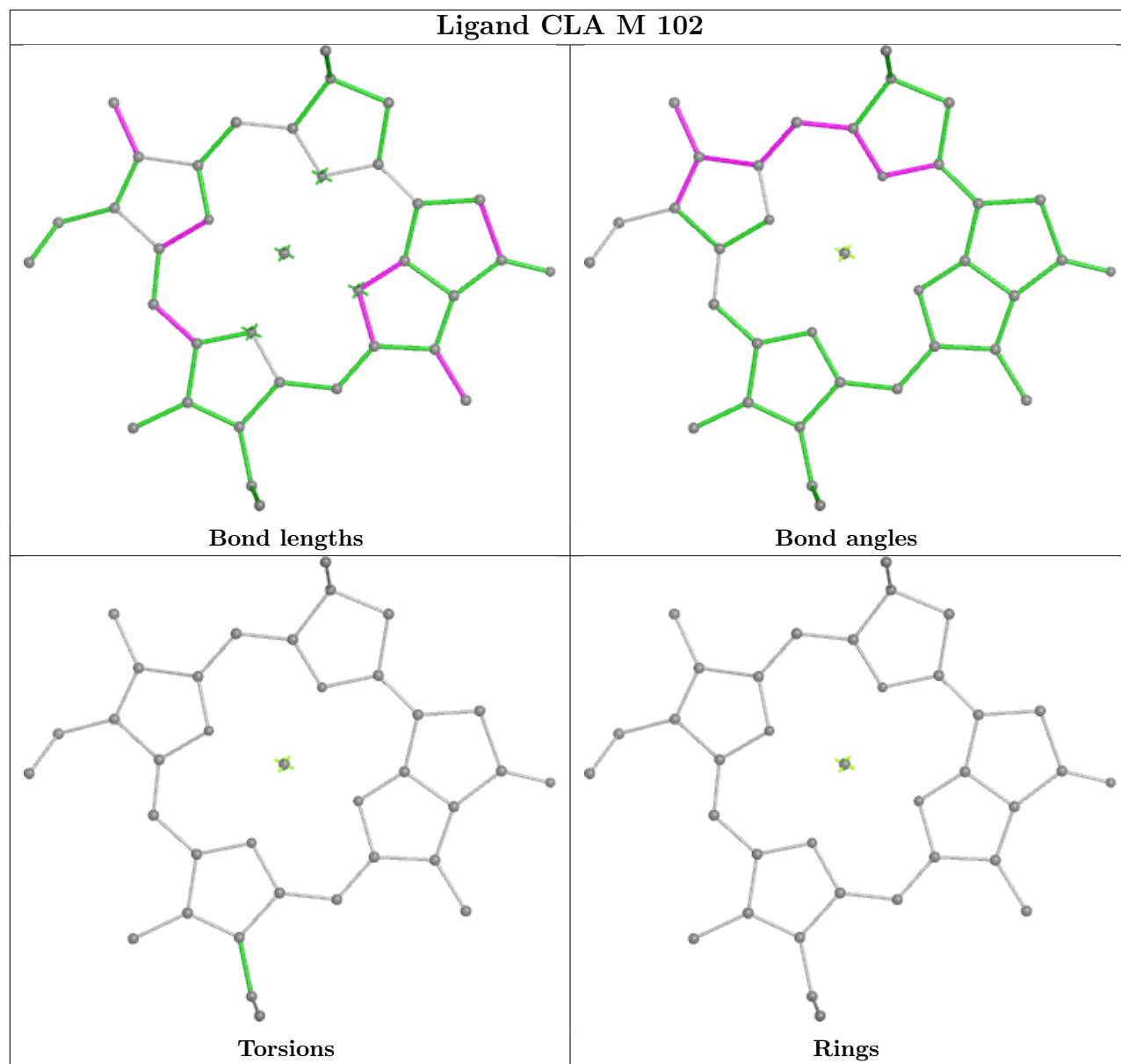


## Ligand CLA 2 810

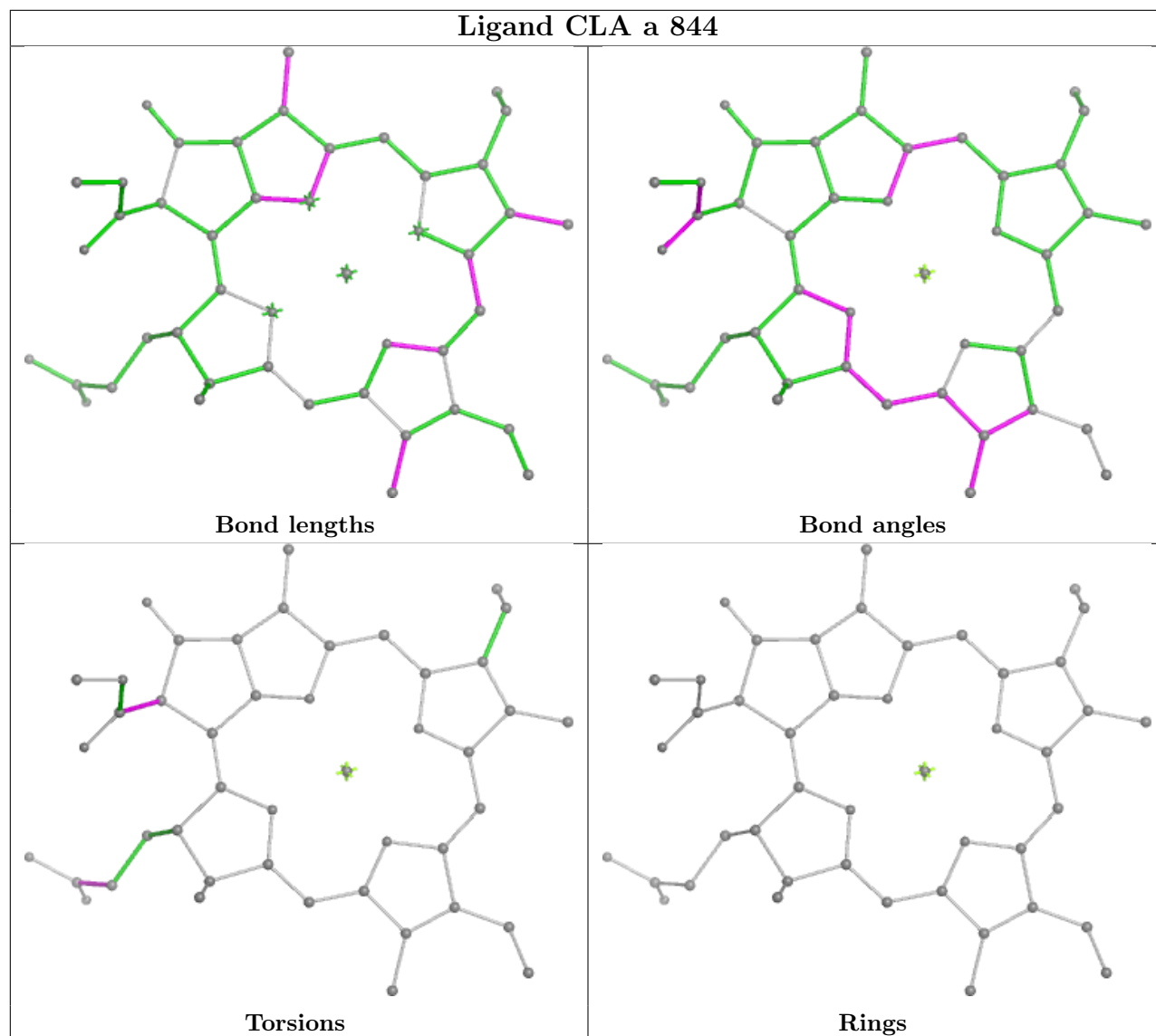


## Ligand PQN A 845

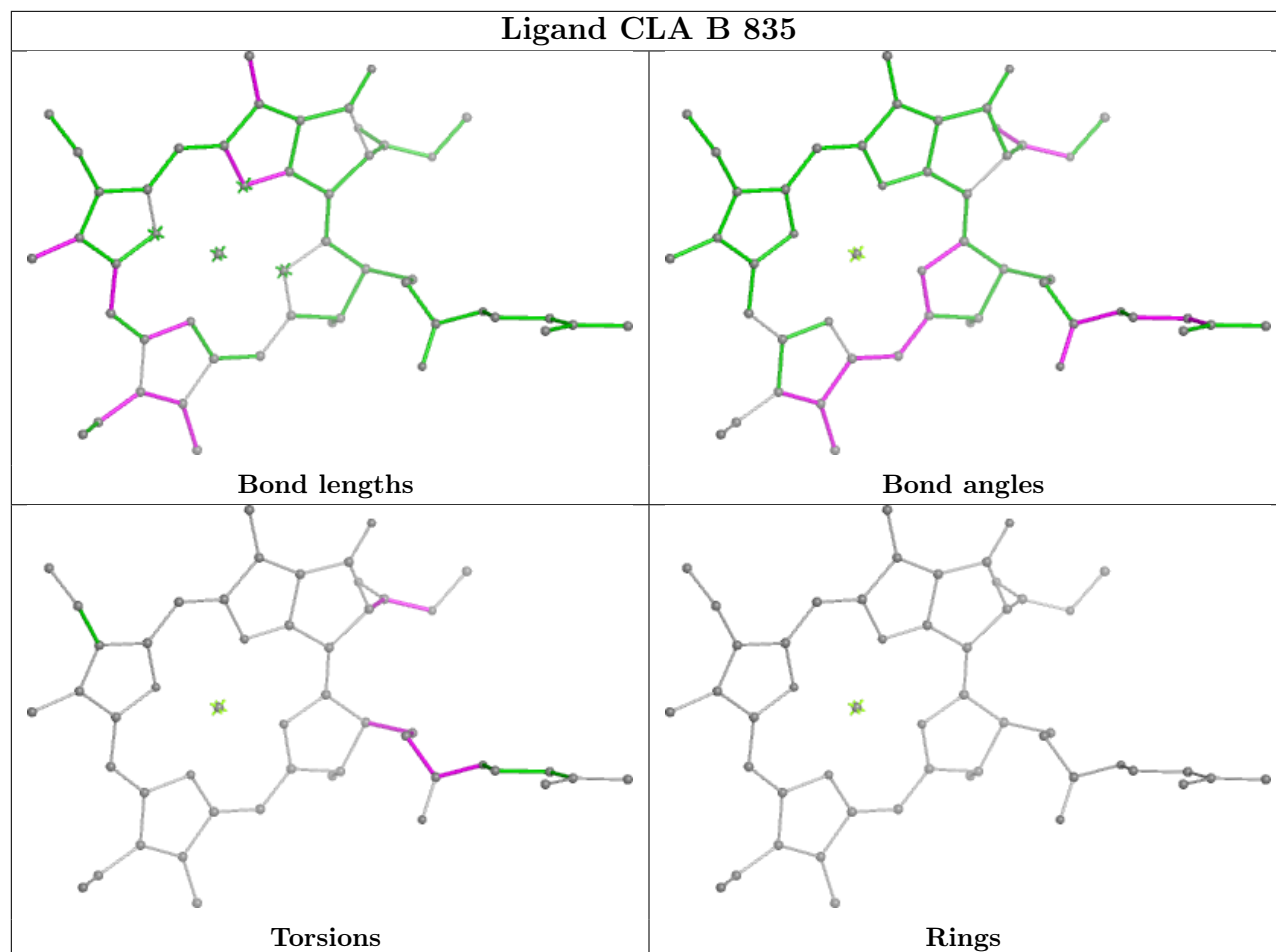




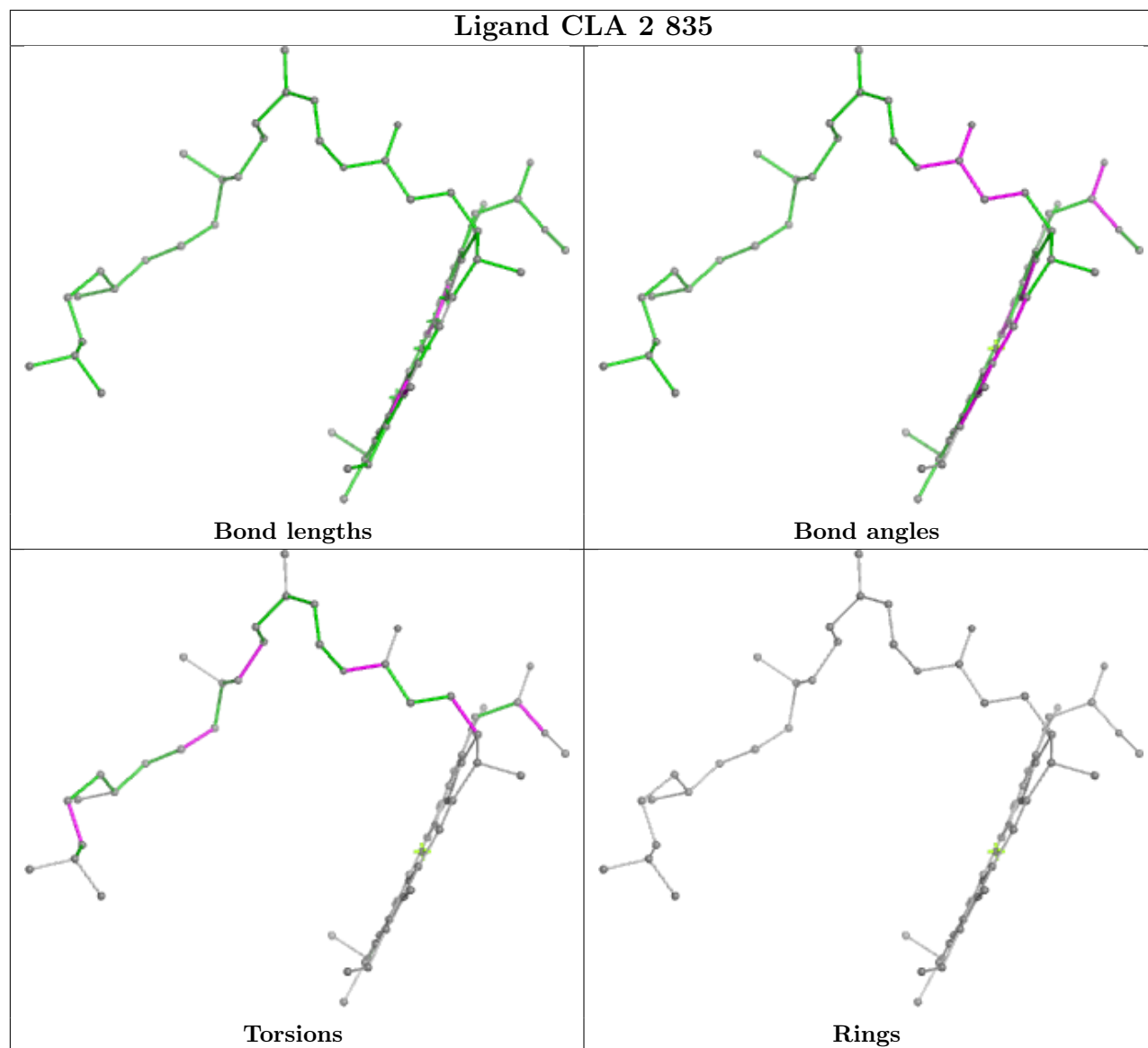
## Ligand CLA a 844

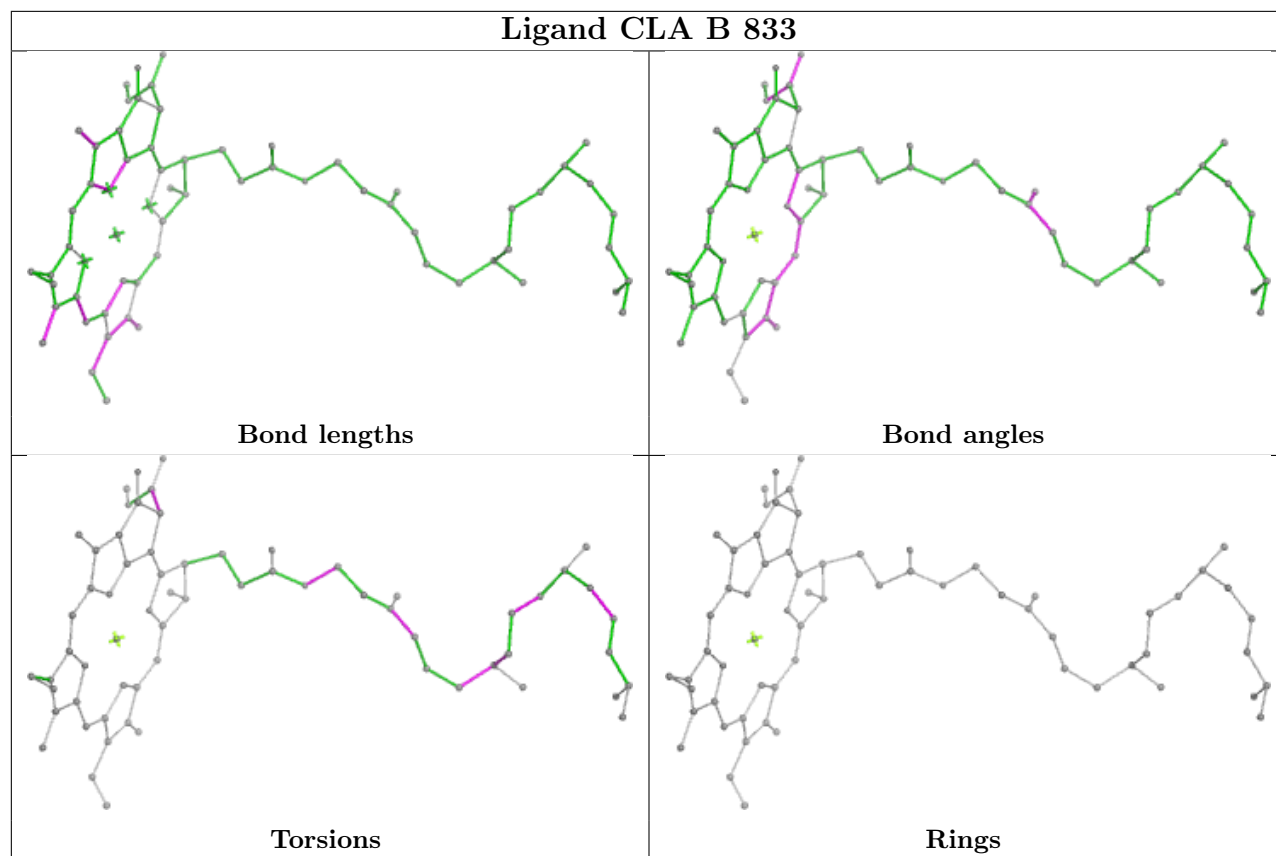


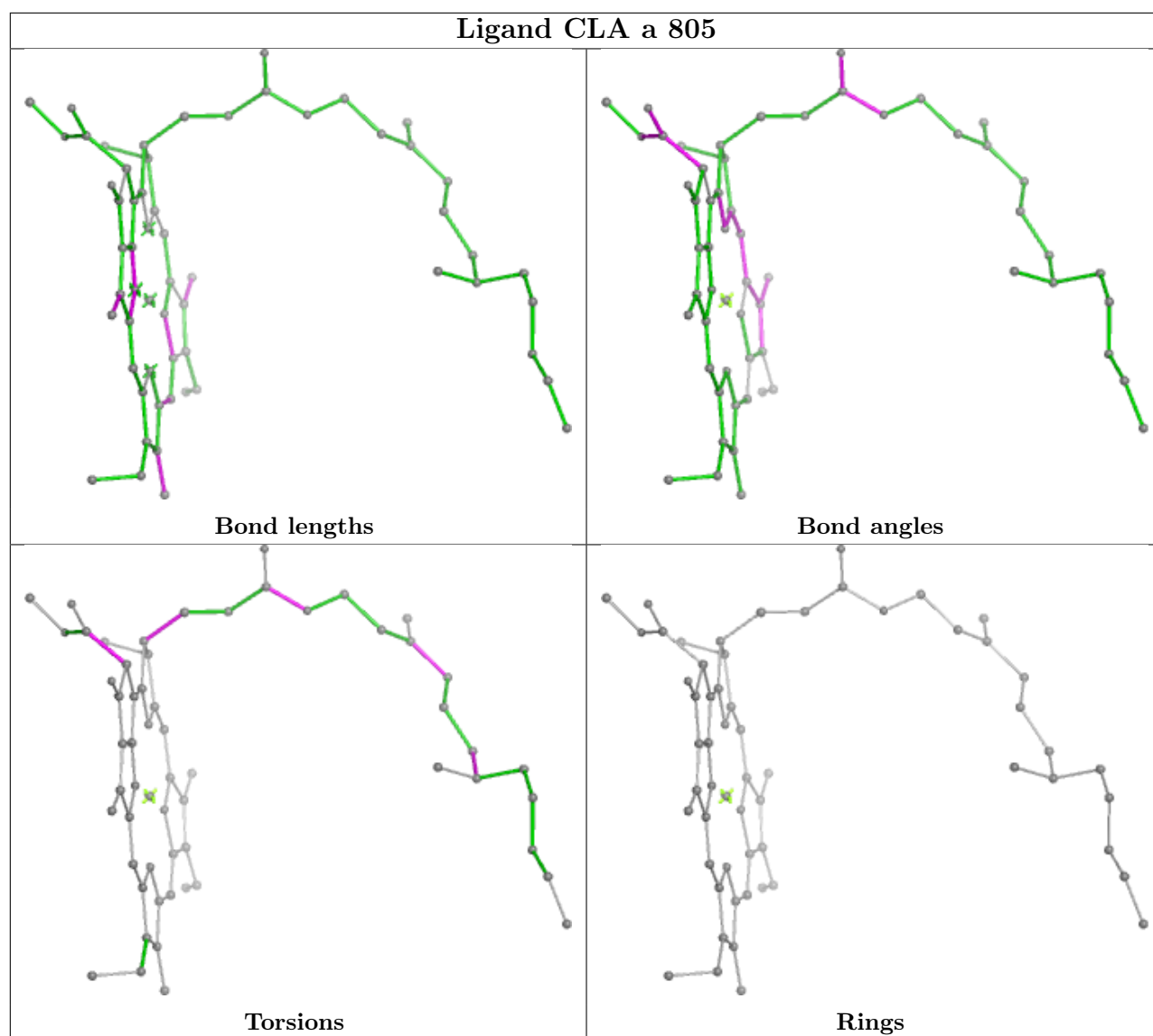
## Ligand CLA B 835



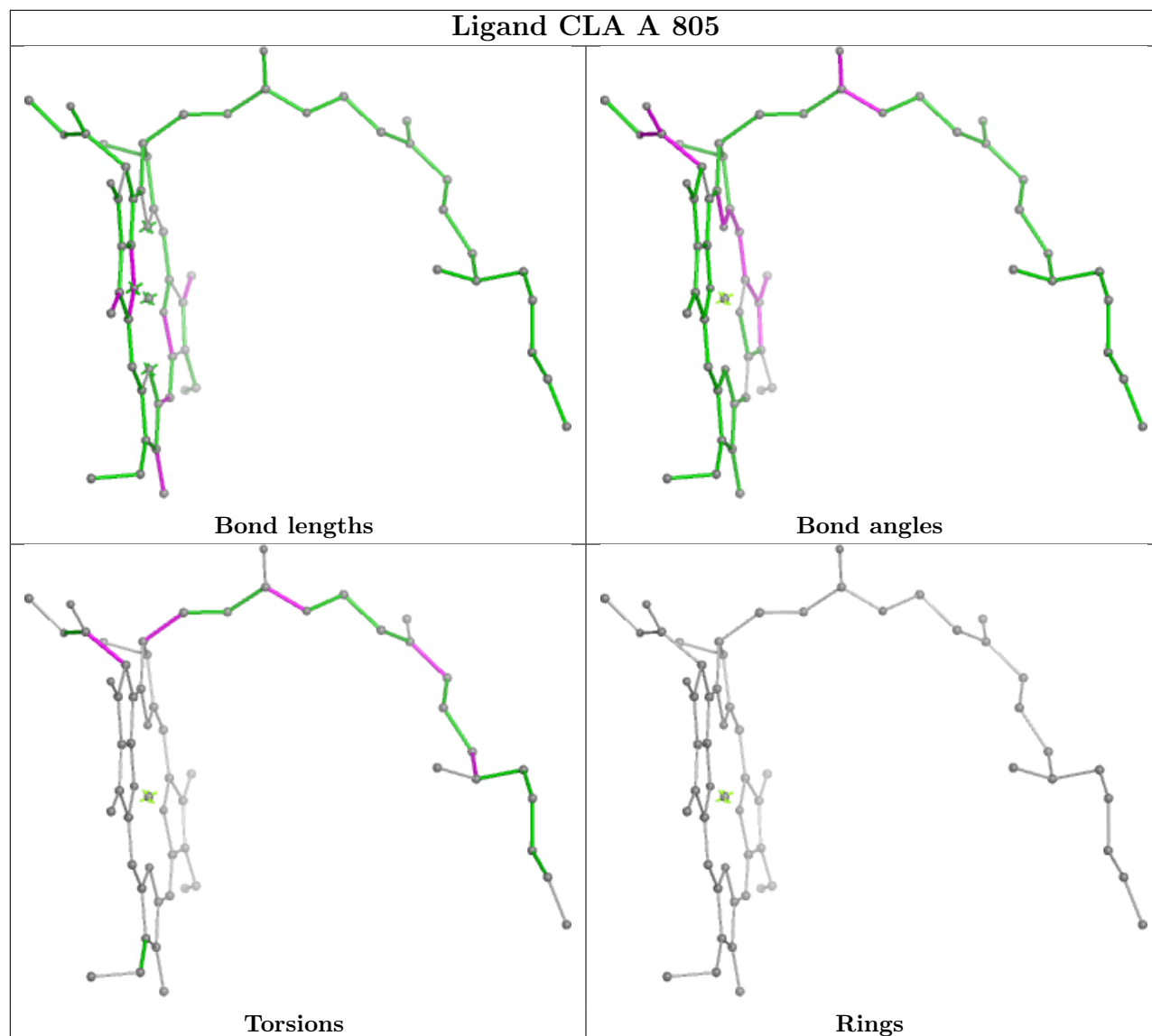
## Ligand CLA 2 835



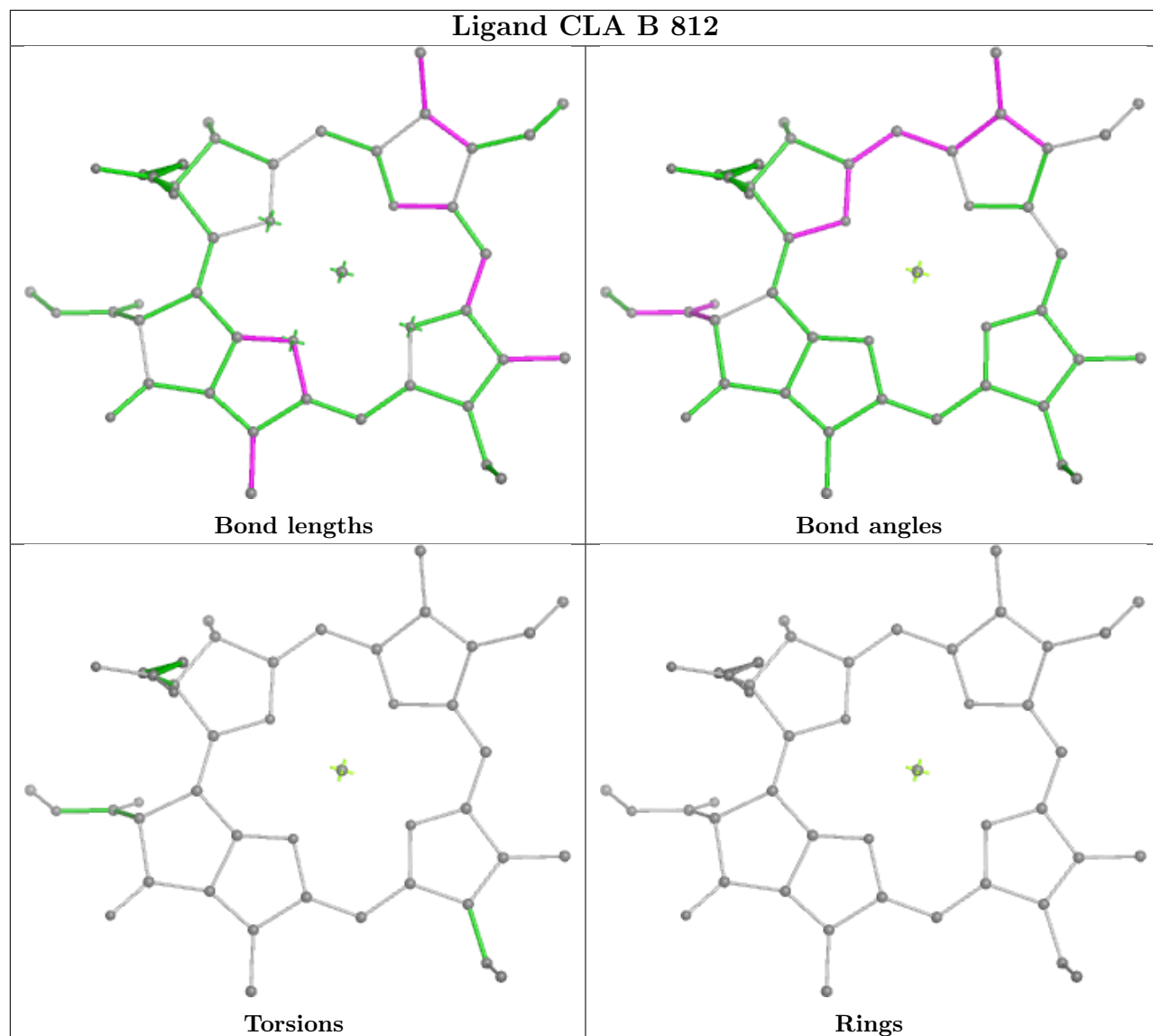


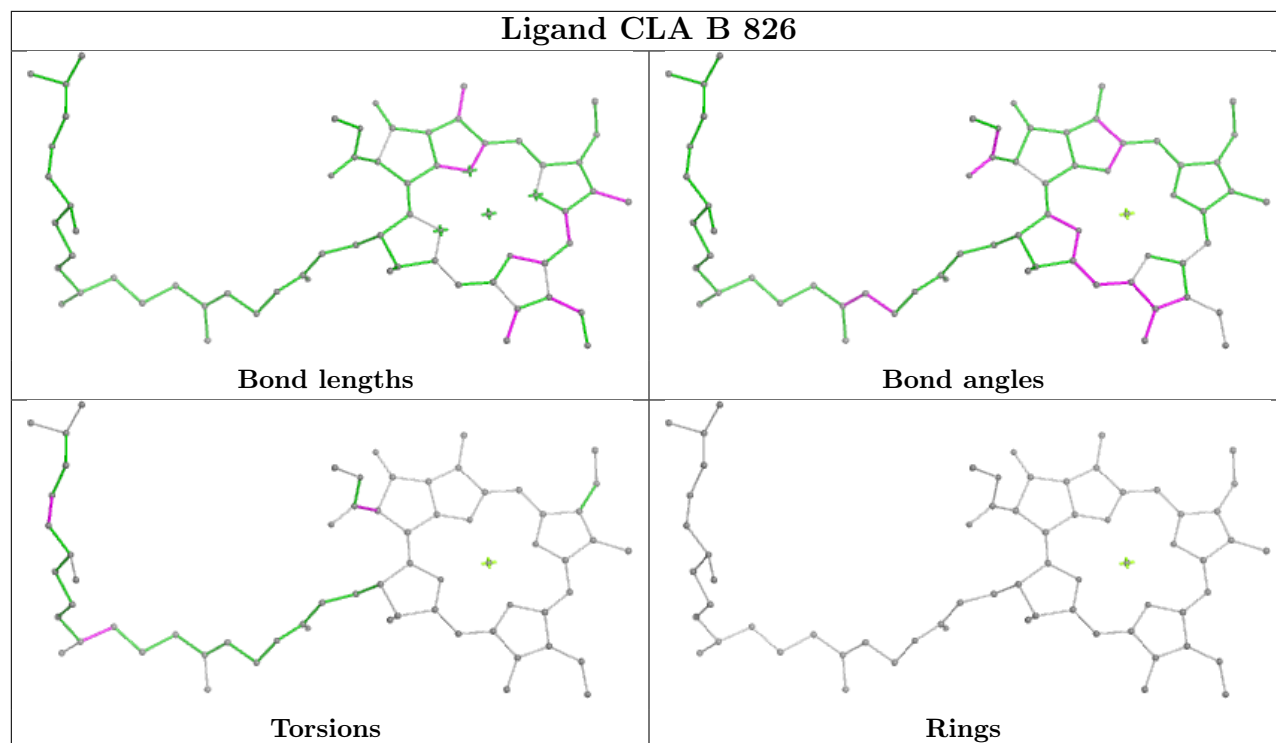
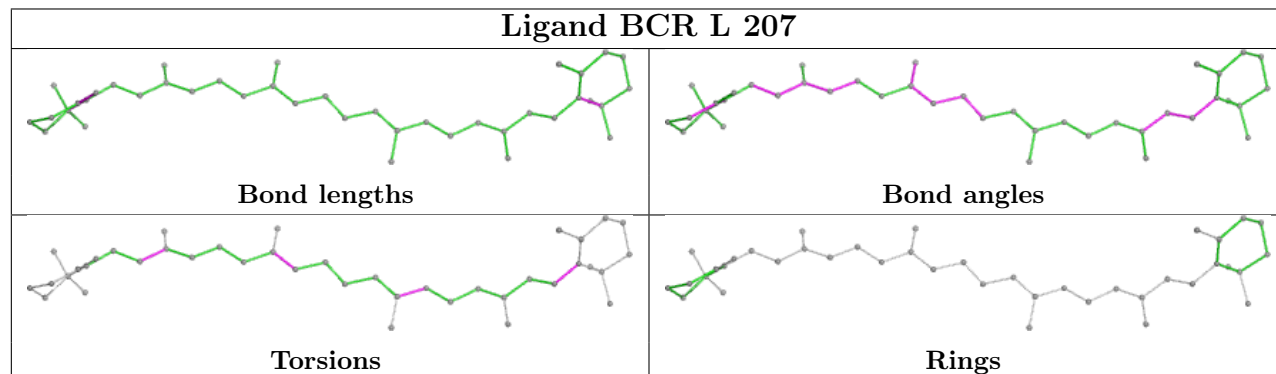




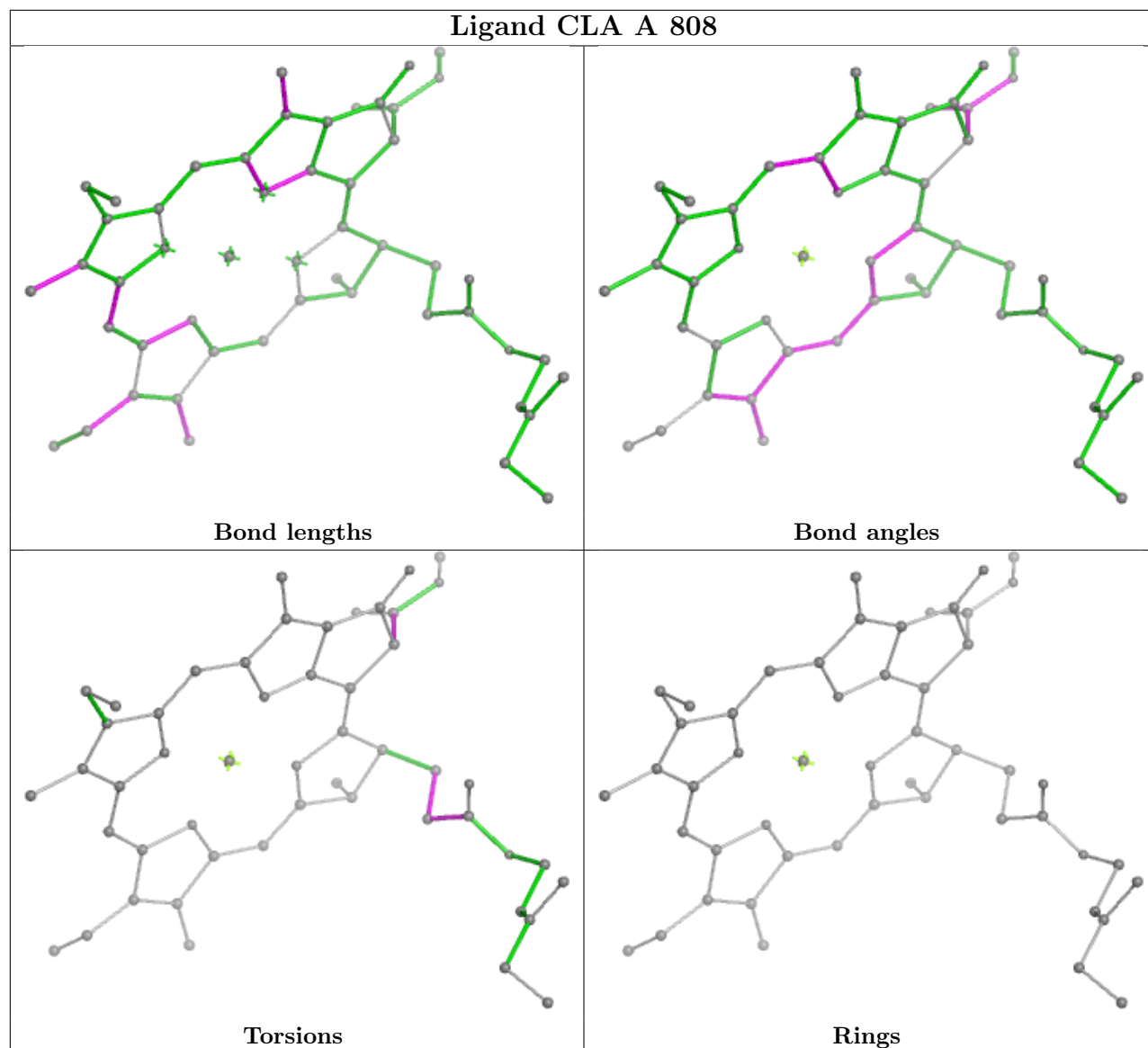


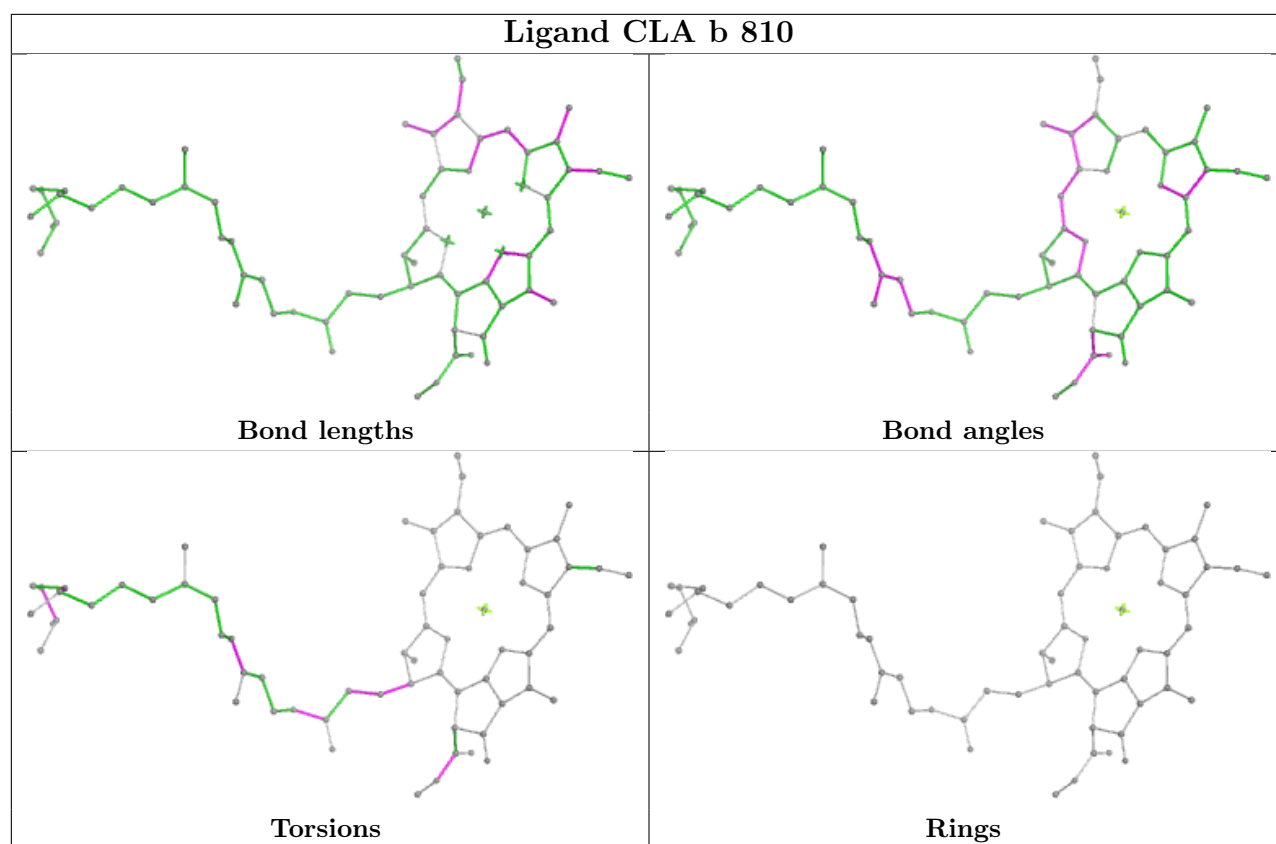
## Ligand CLA B 812



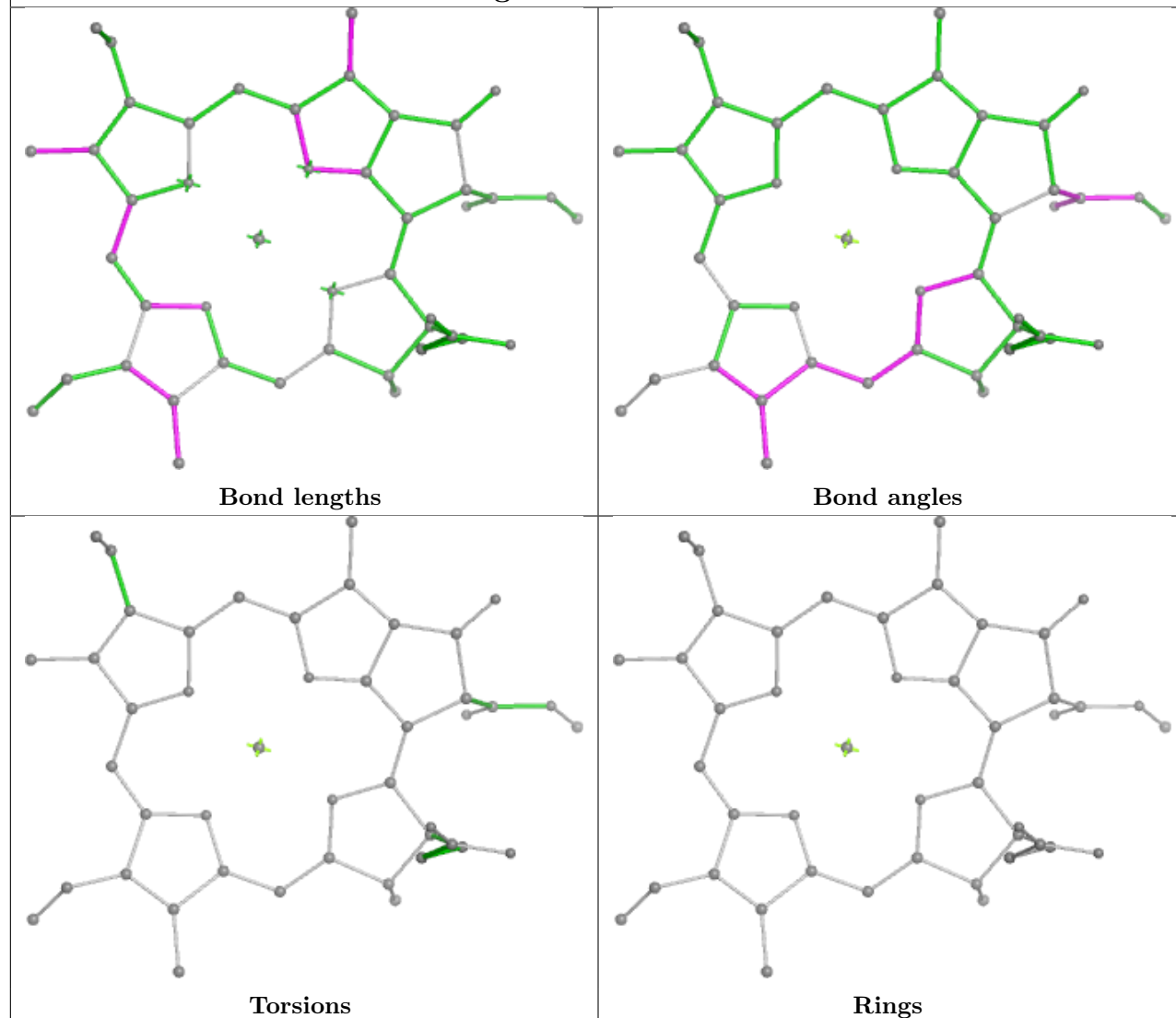
**Ligand CLA B 826****Ligand BCR L 207**

## Ligand CLA A 808

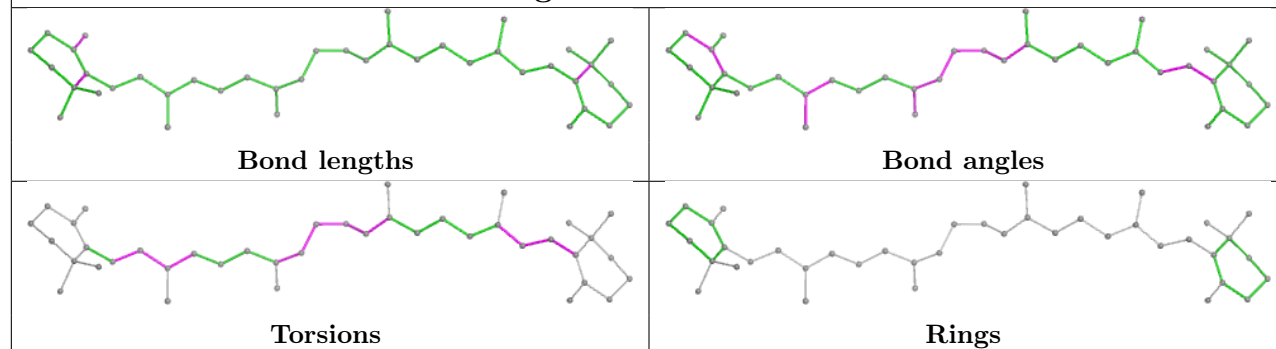




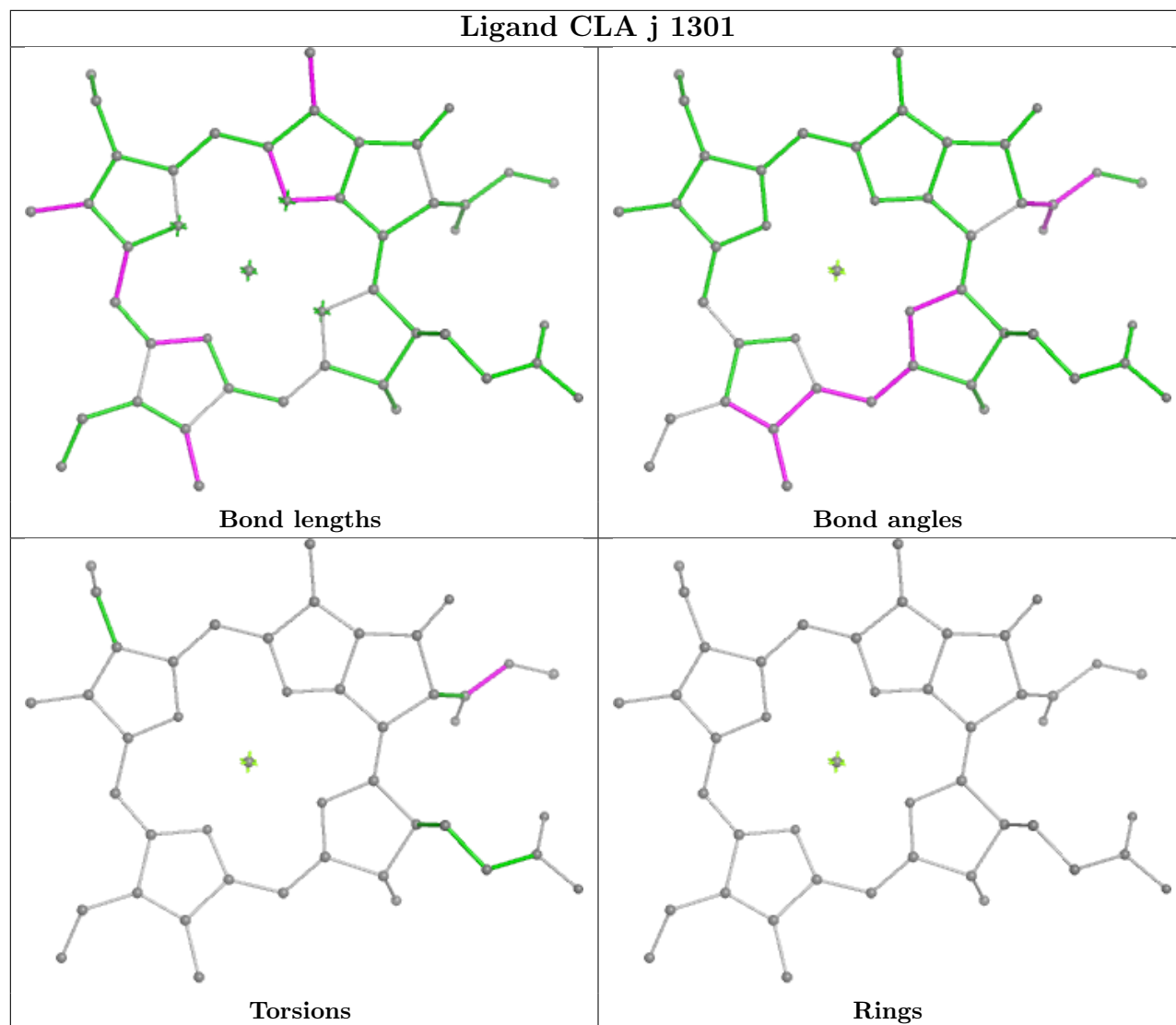
## Ligand CLA 2 813



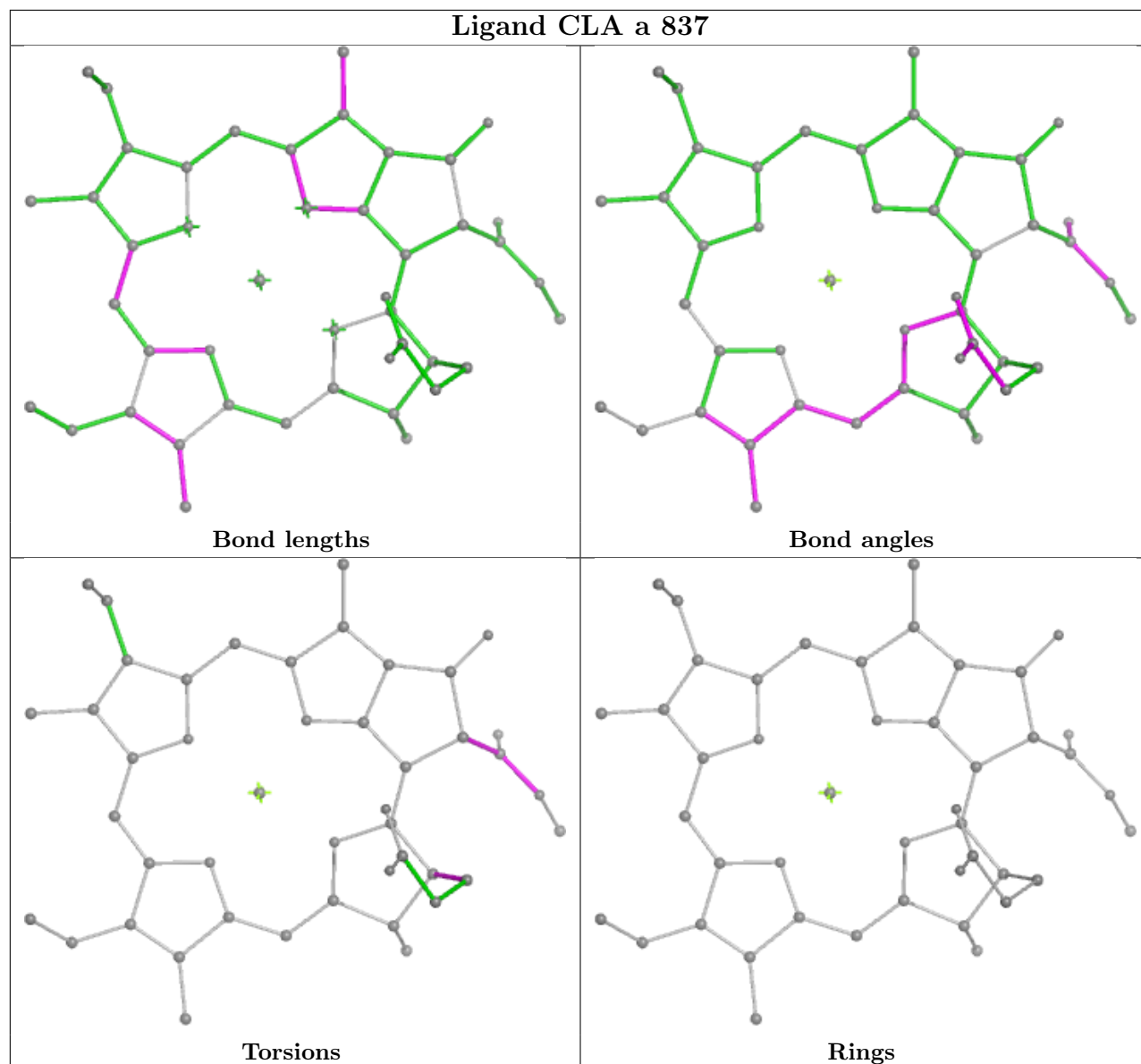
## Ligand BCR a 848



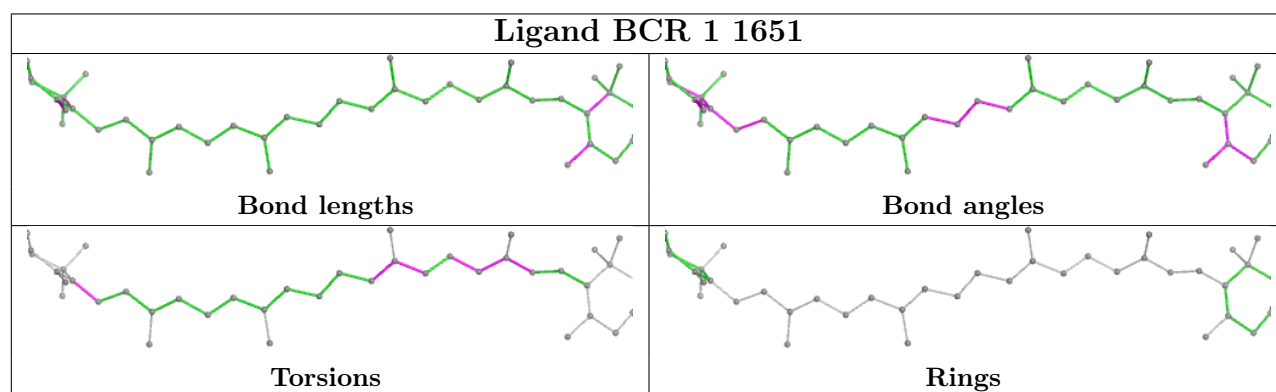
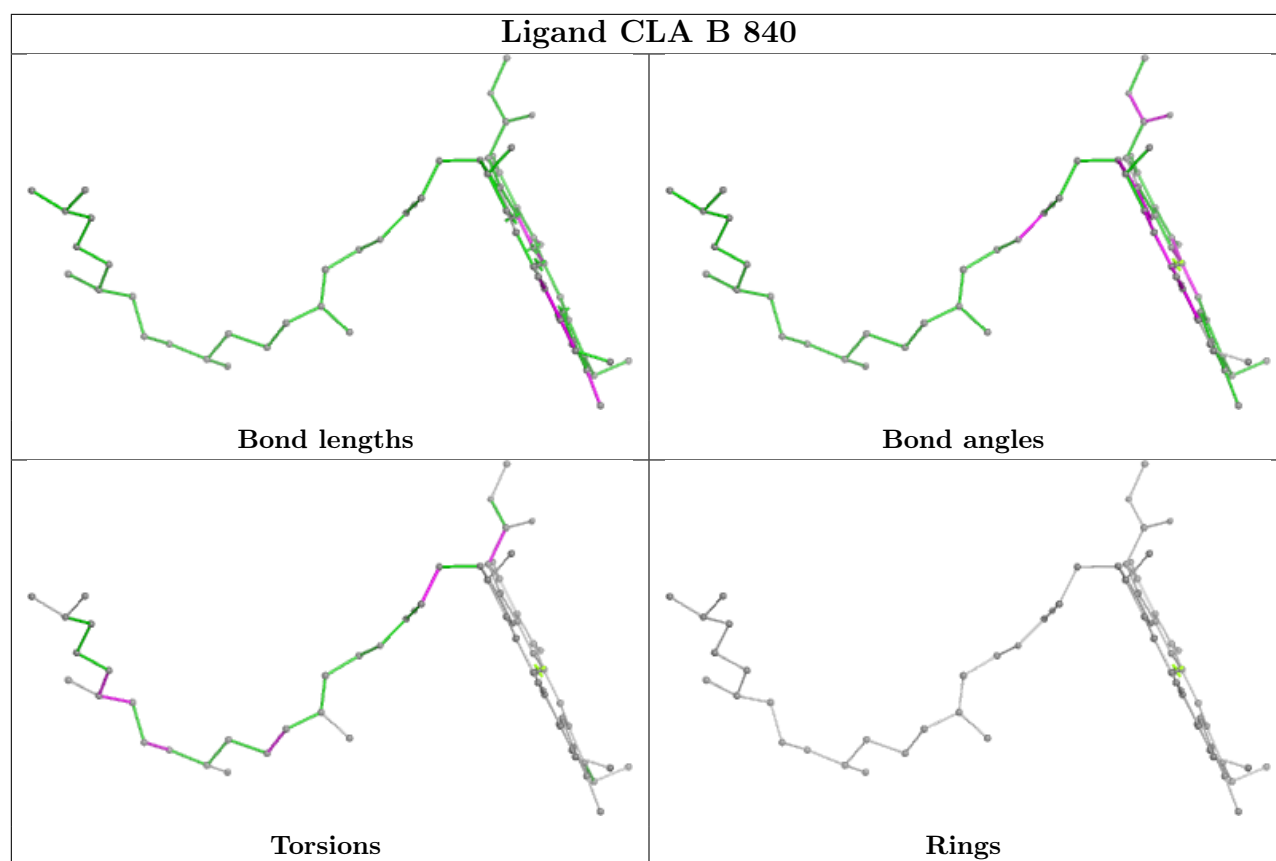
## Ligand CLA j 1301

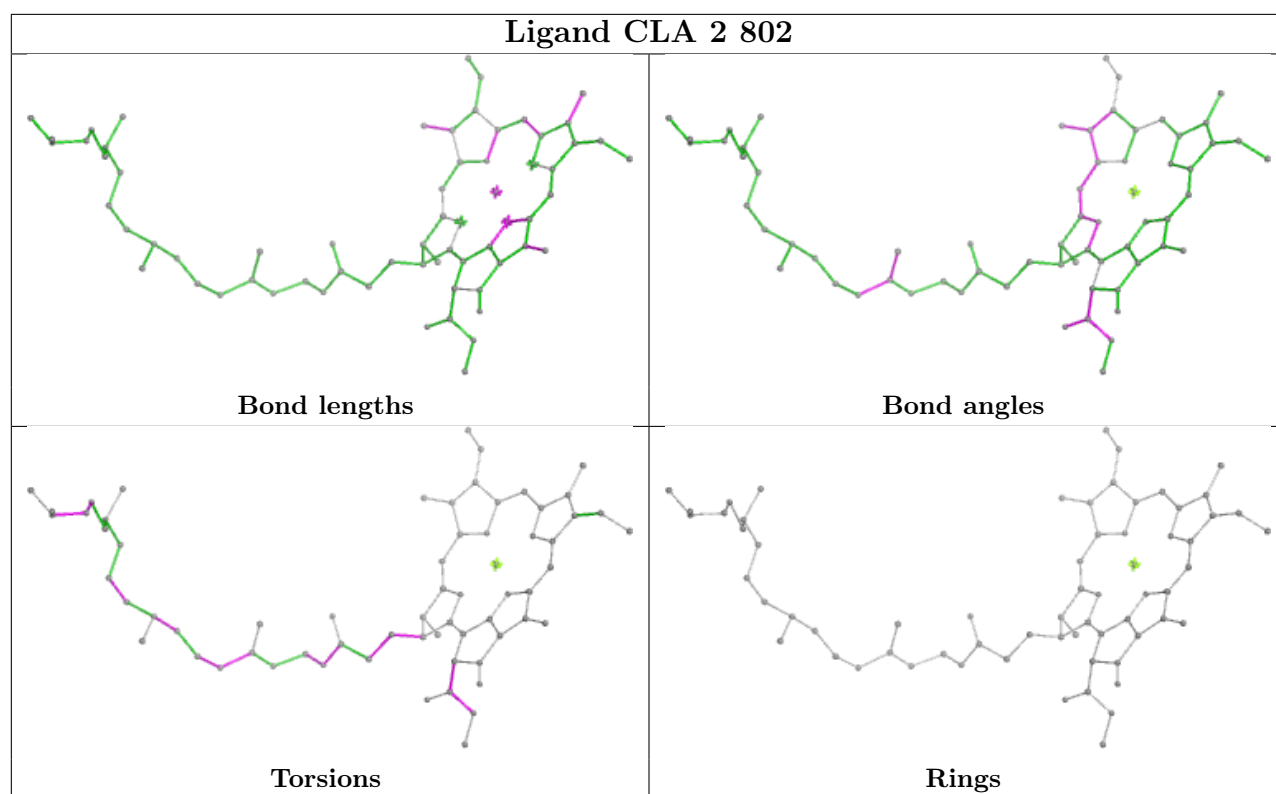


## Ligand CLA a 837

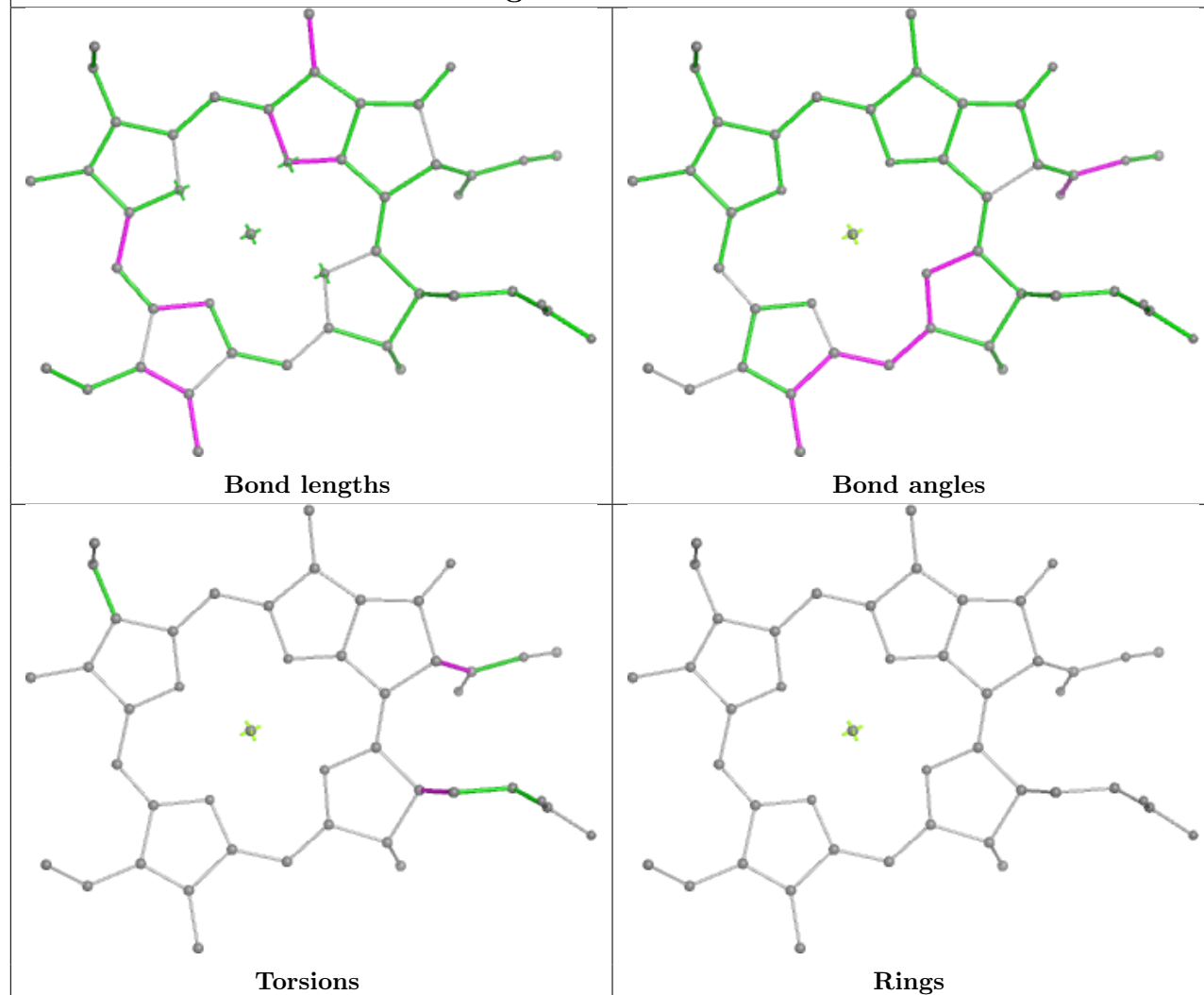




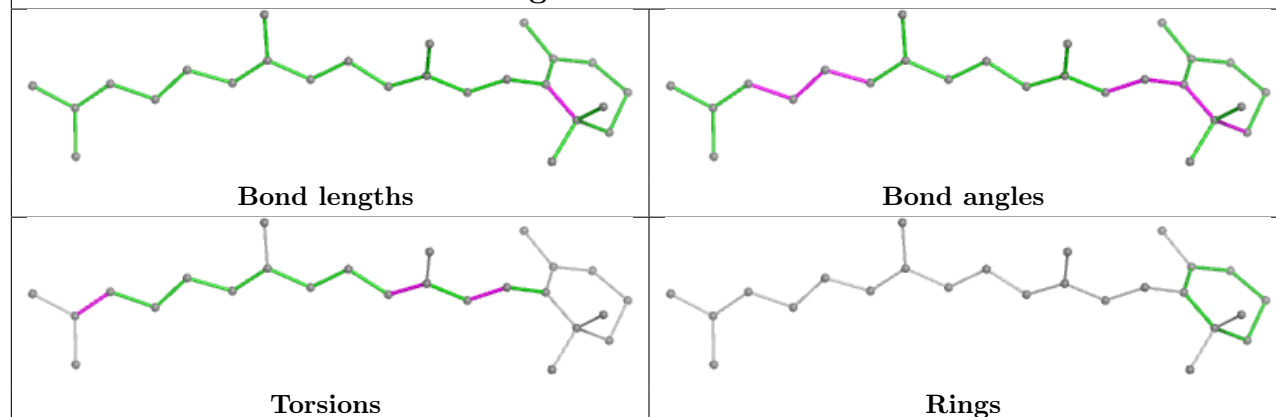




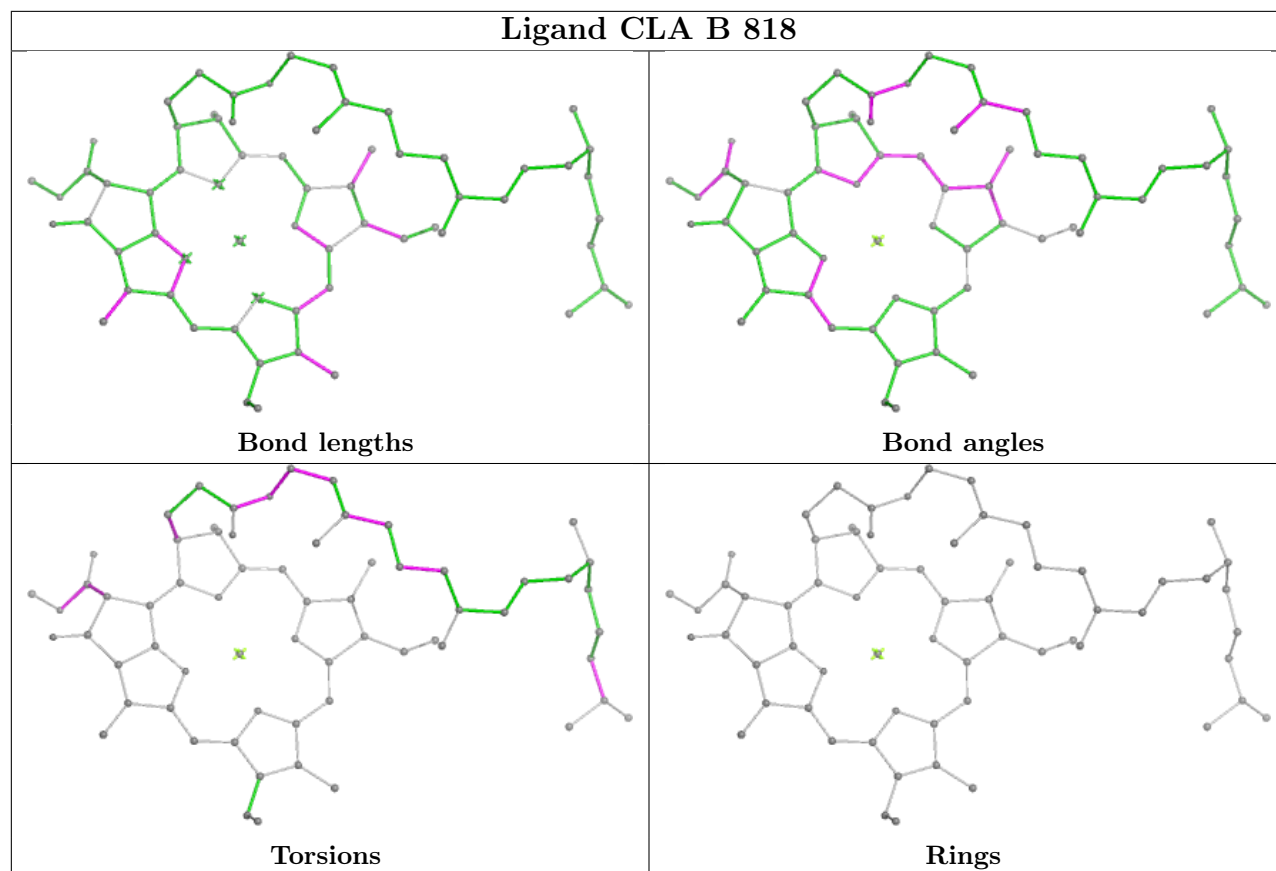
## Ligand CLA 2 837



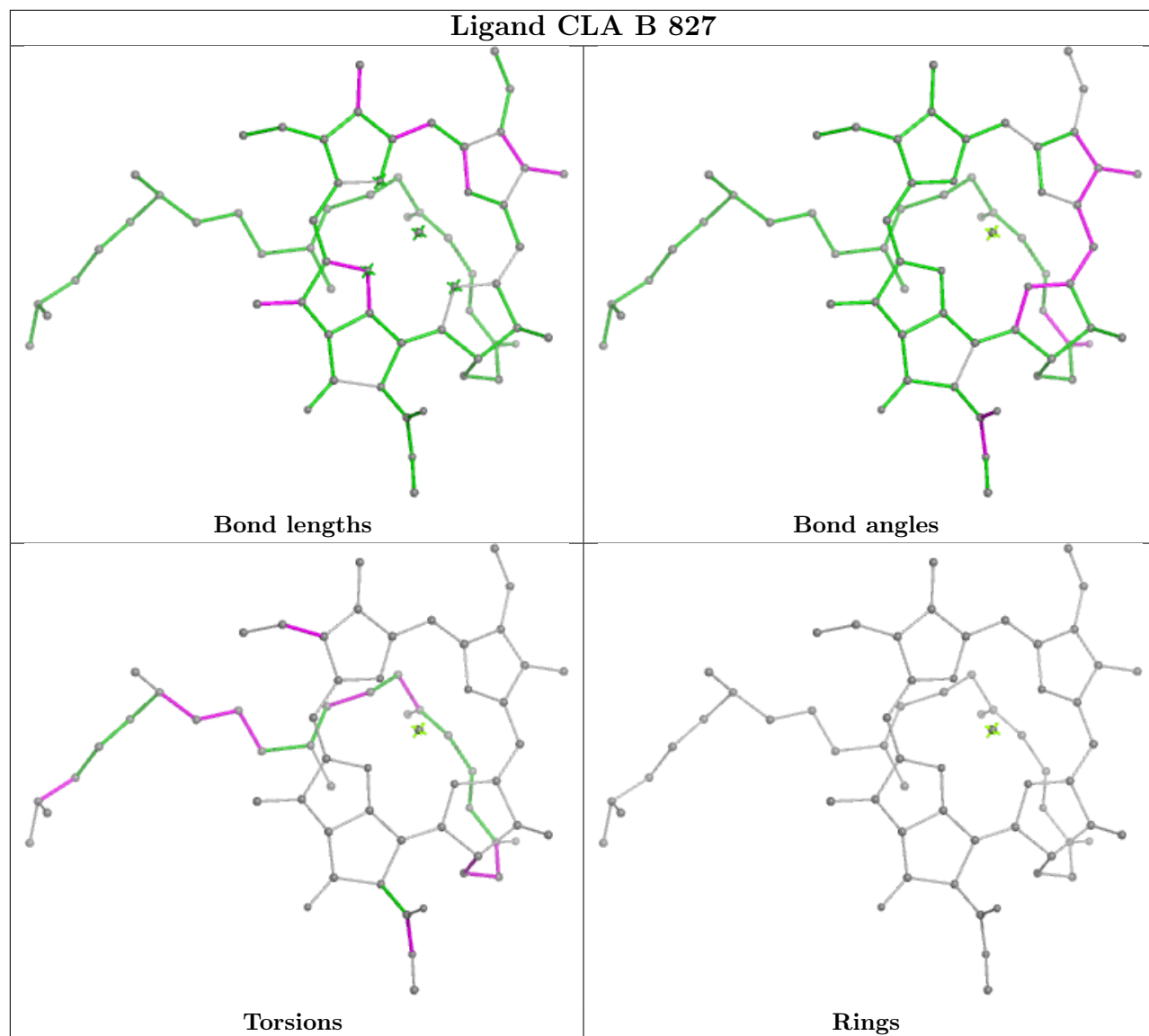
## Ligand BCR K 104

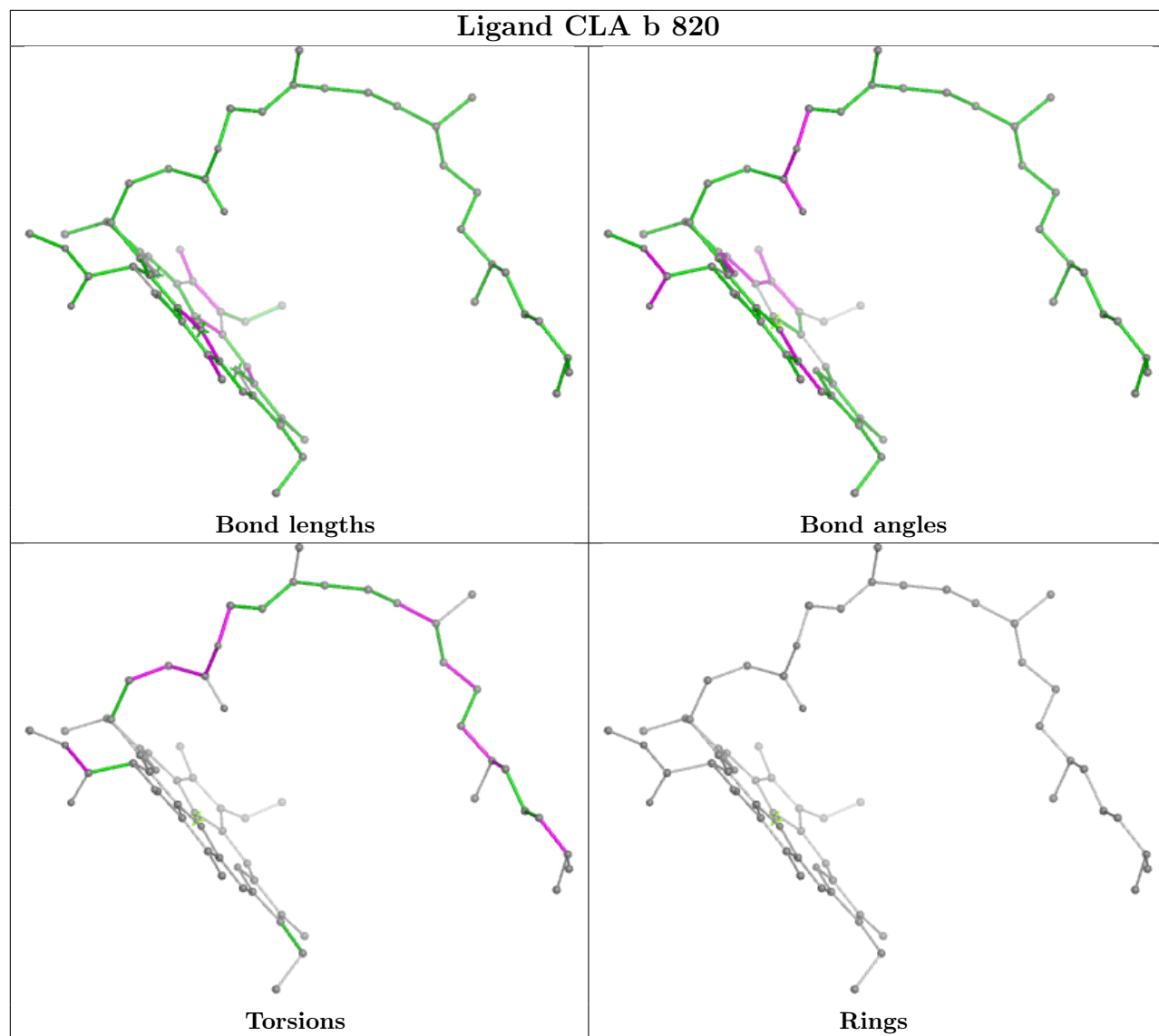


## Ligand CLA B 818

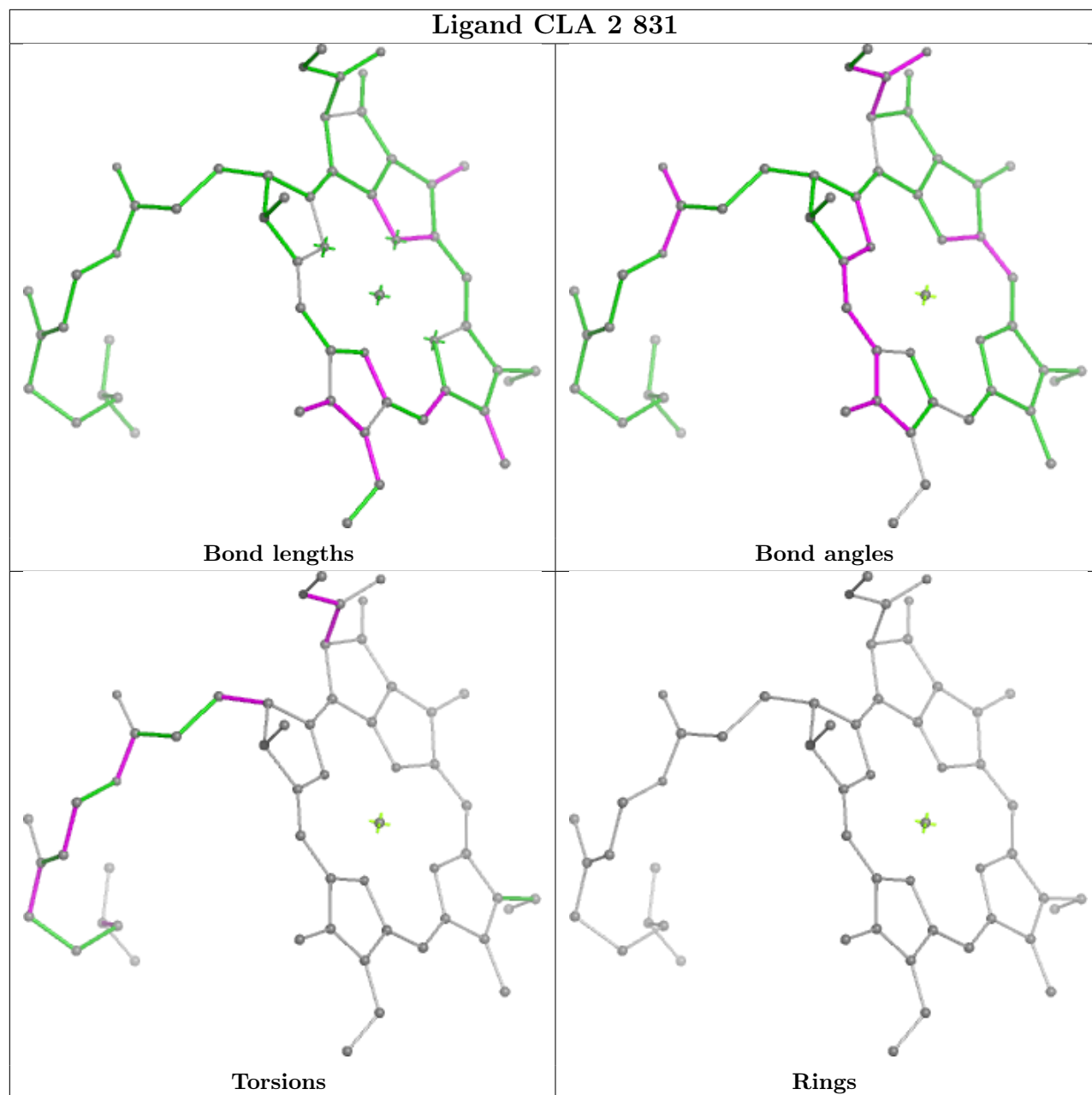


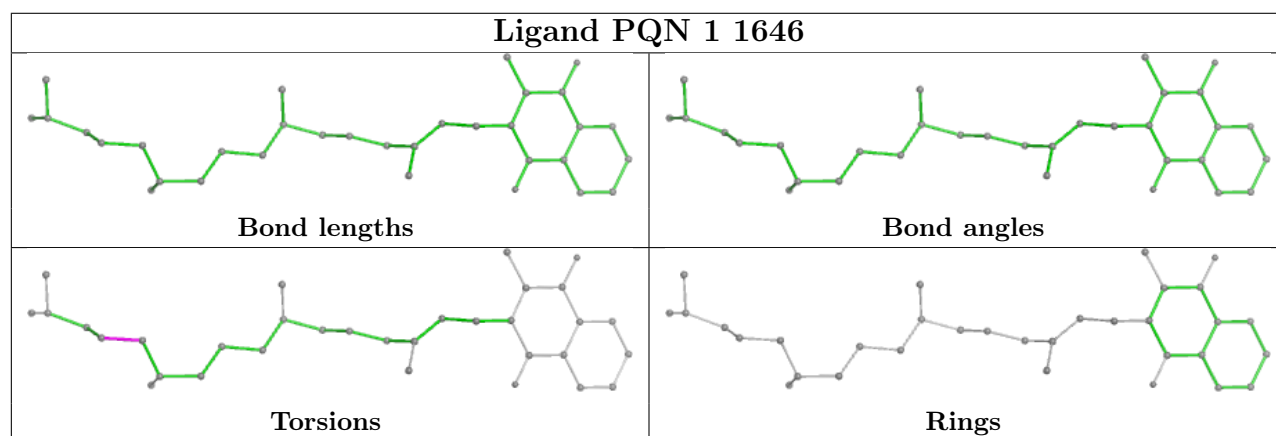
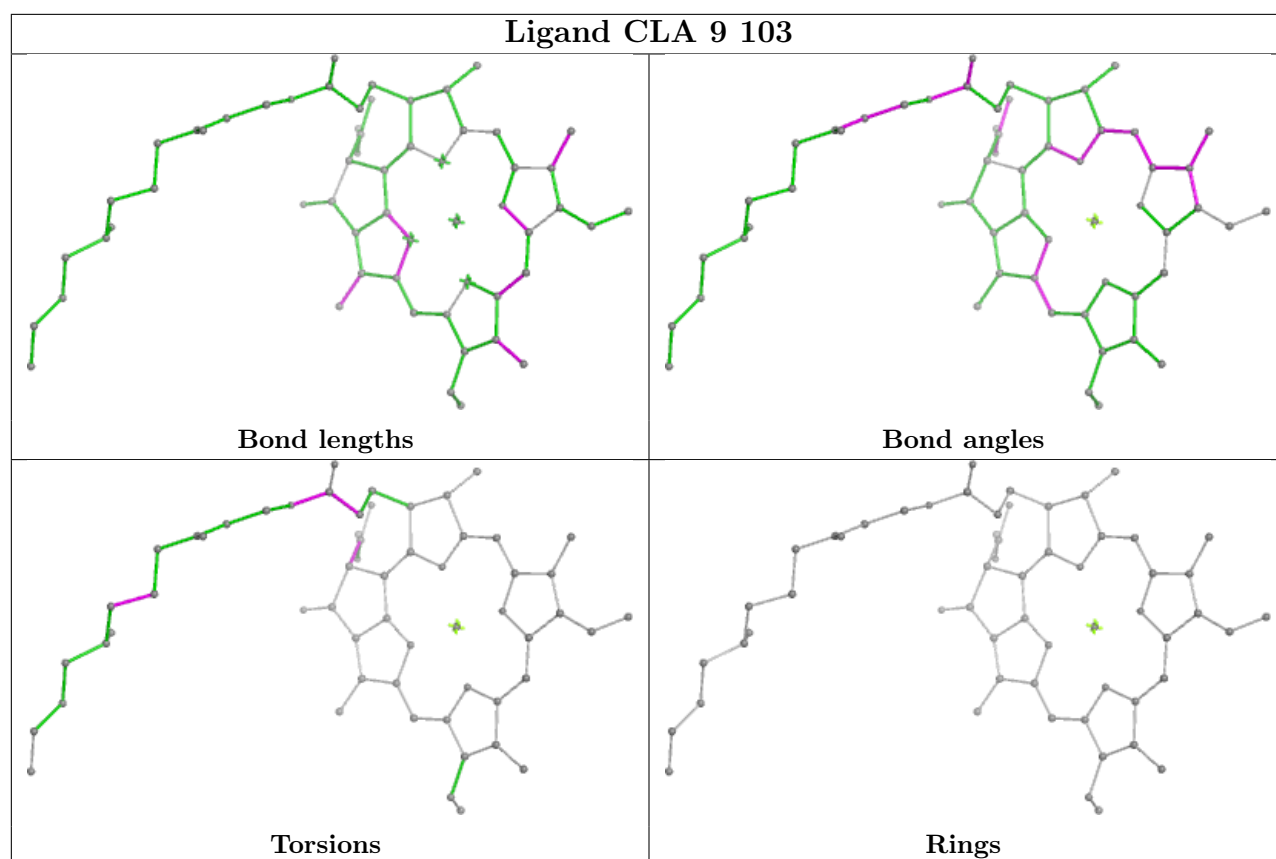
## Ligand CLA B 827



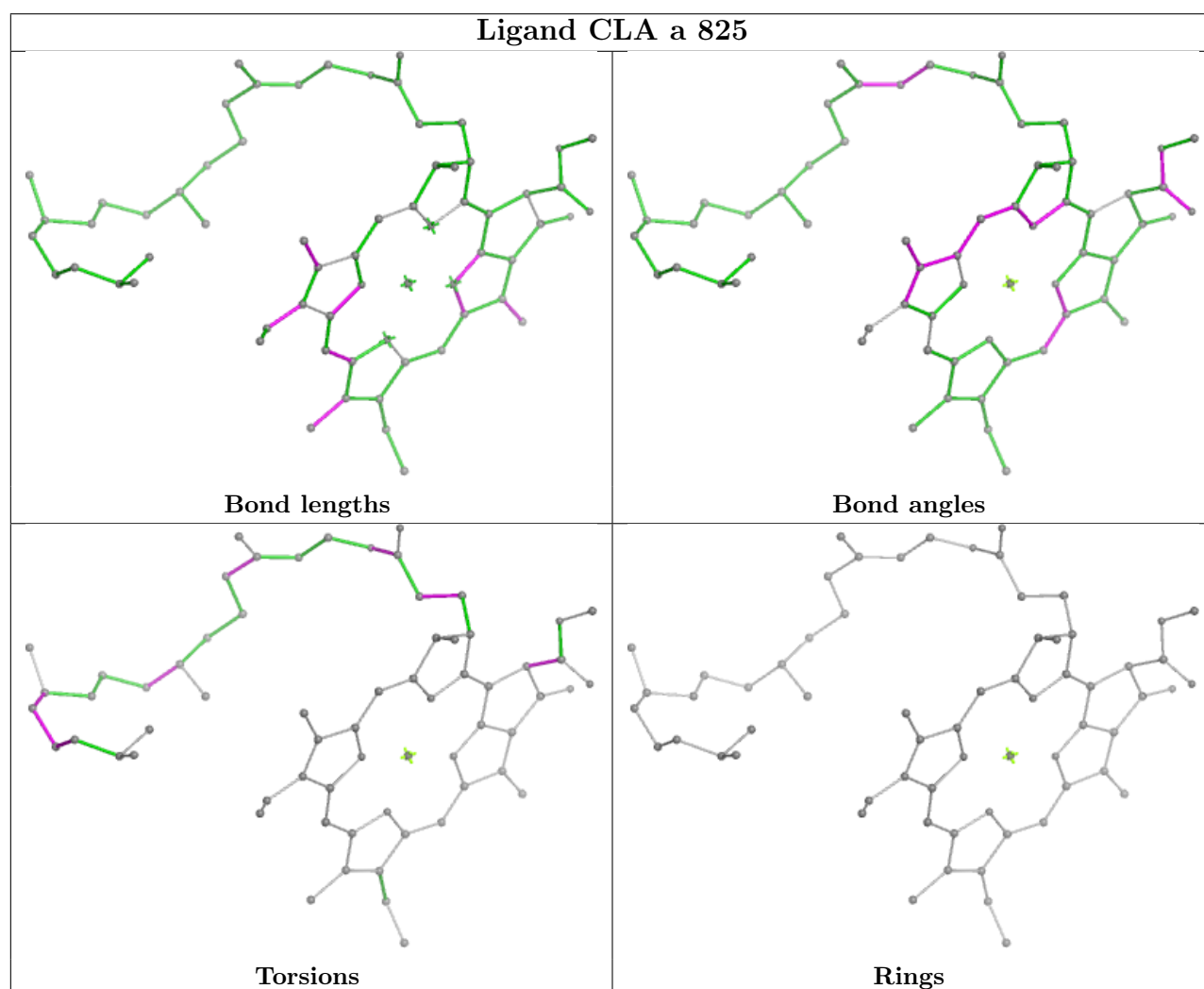
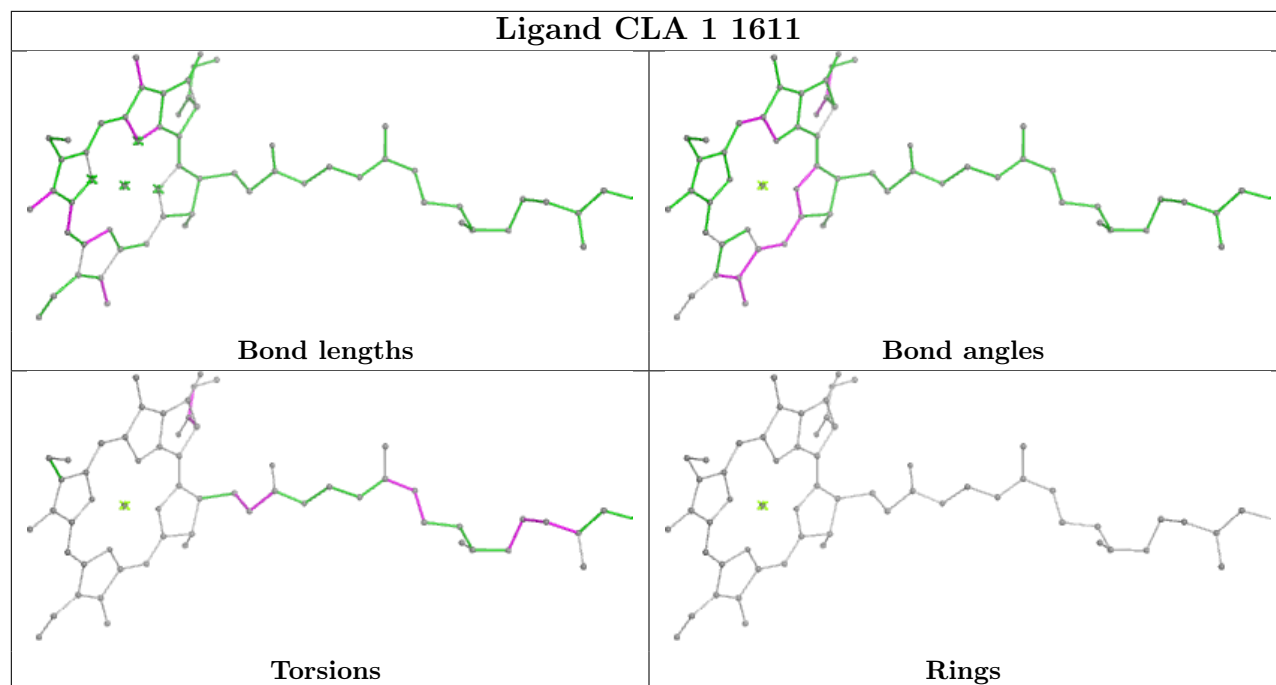


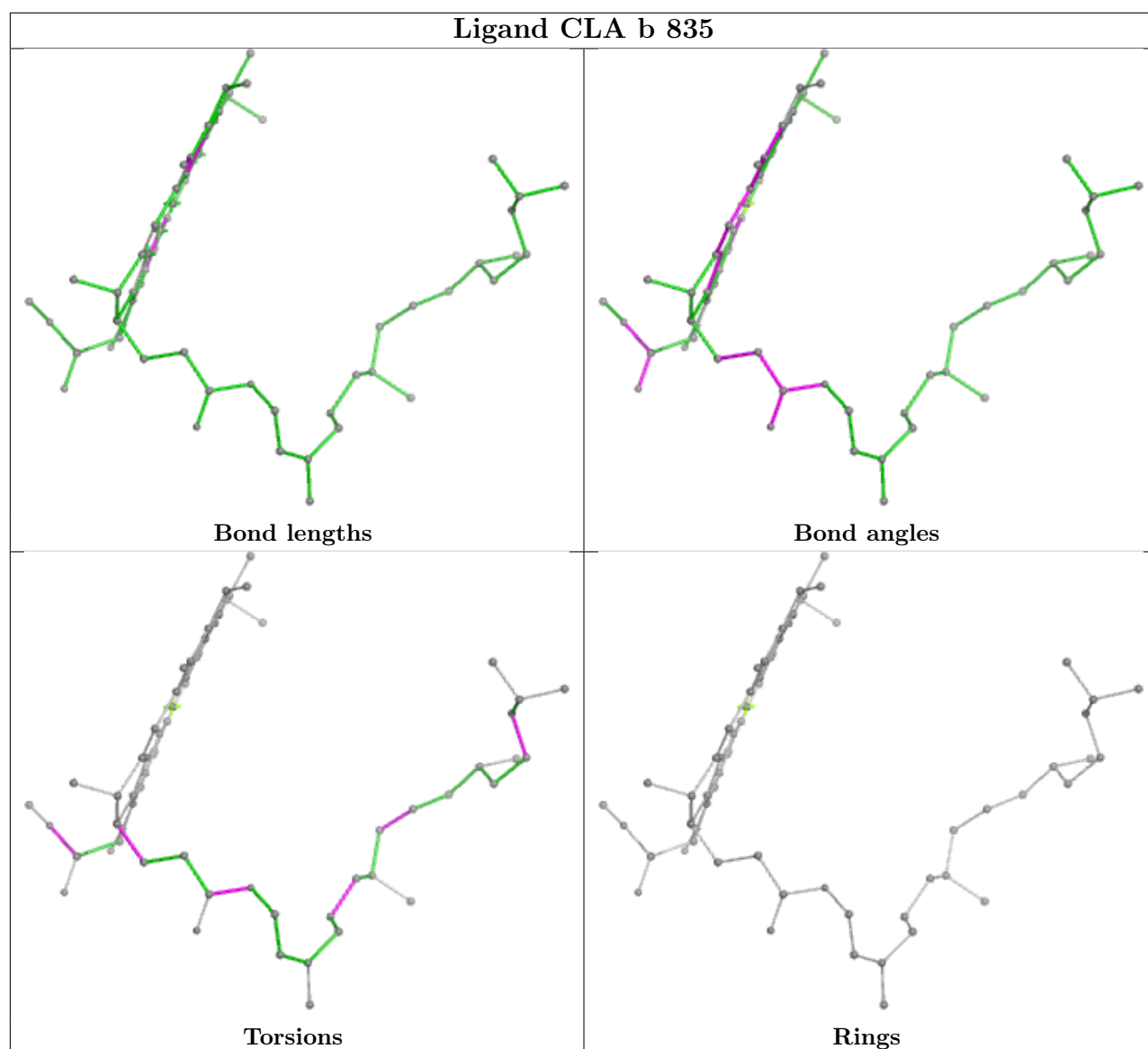
## Ligand CLA 2 831

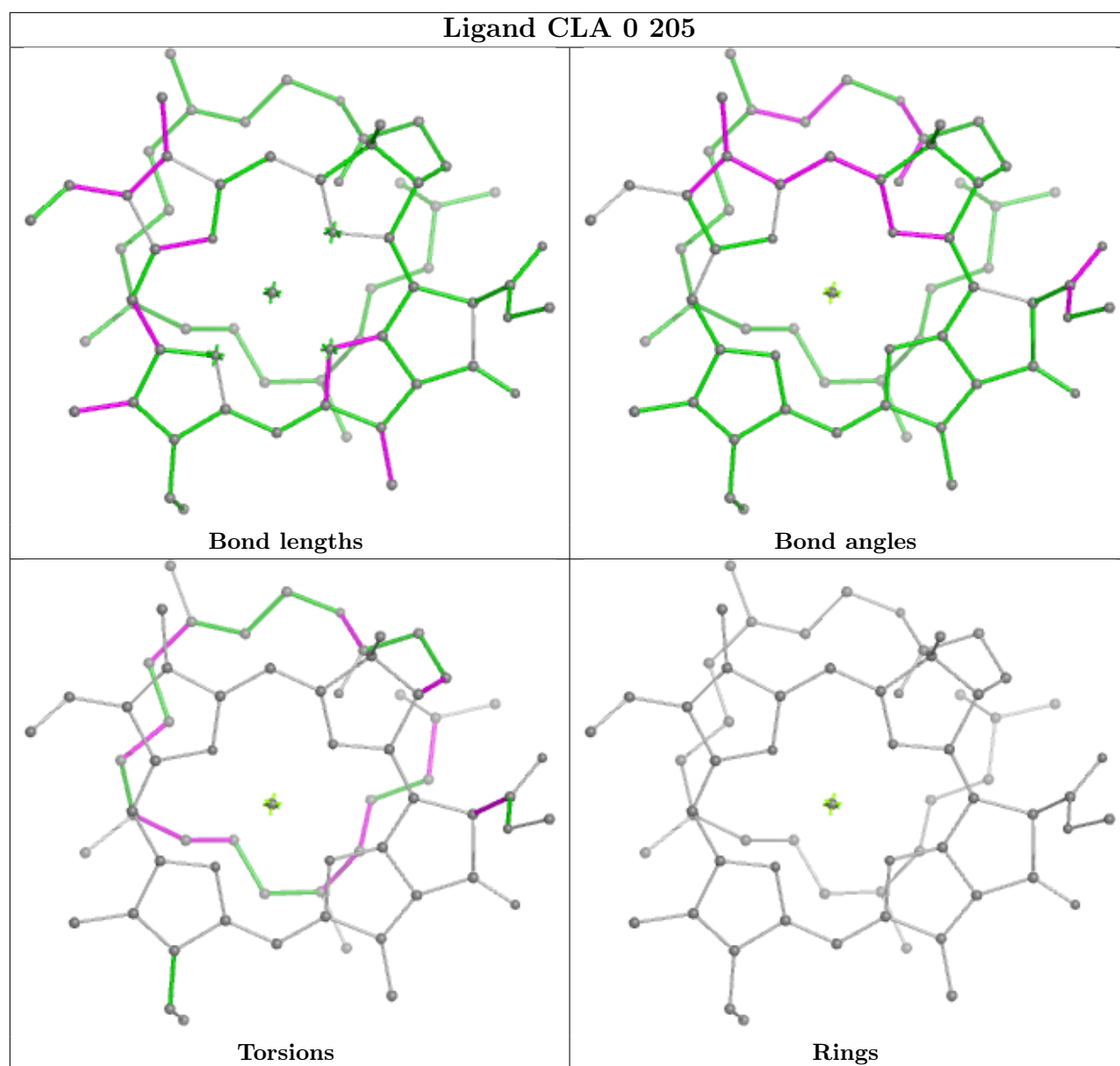


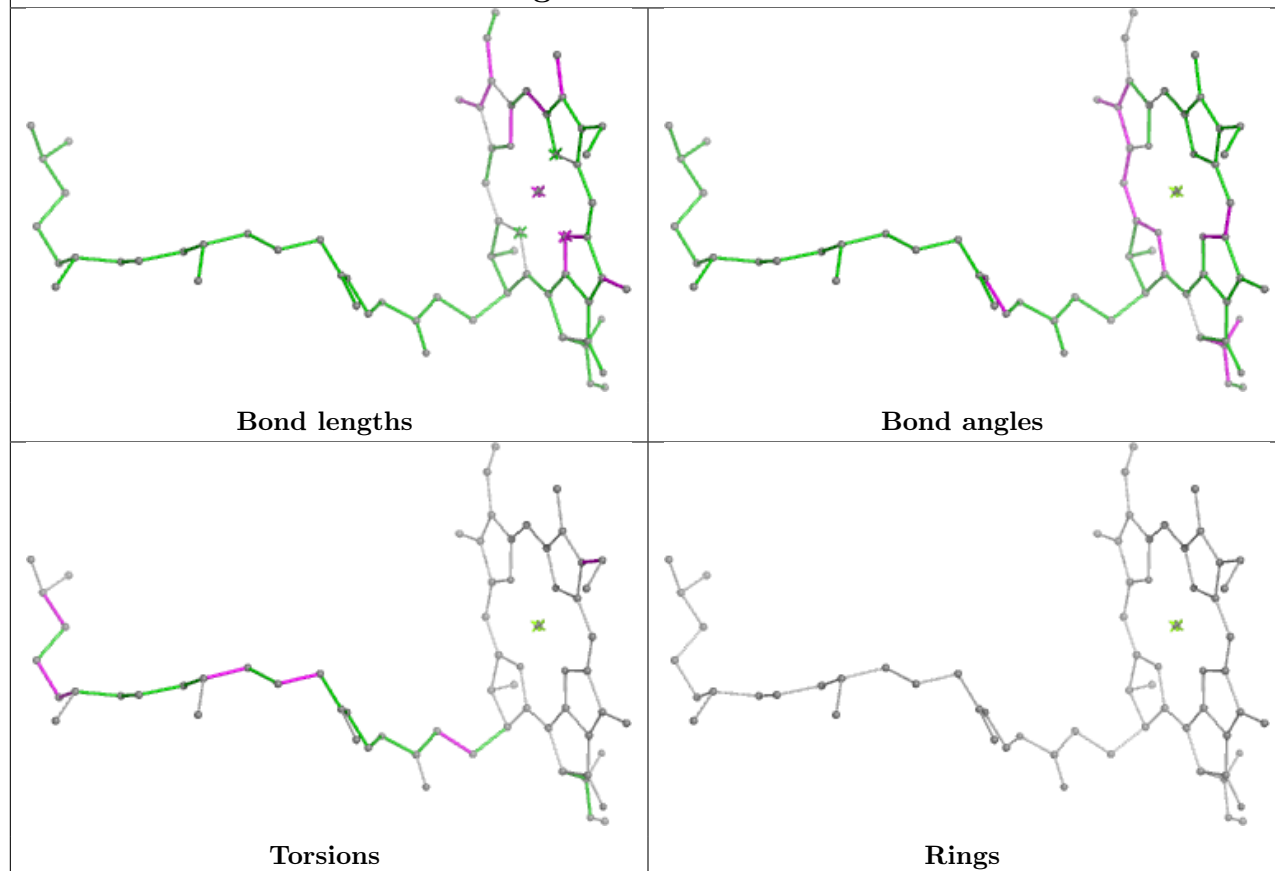
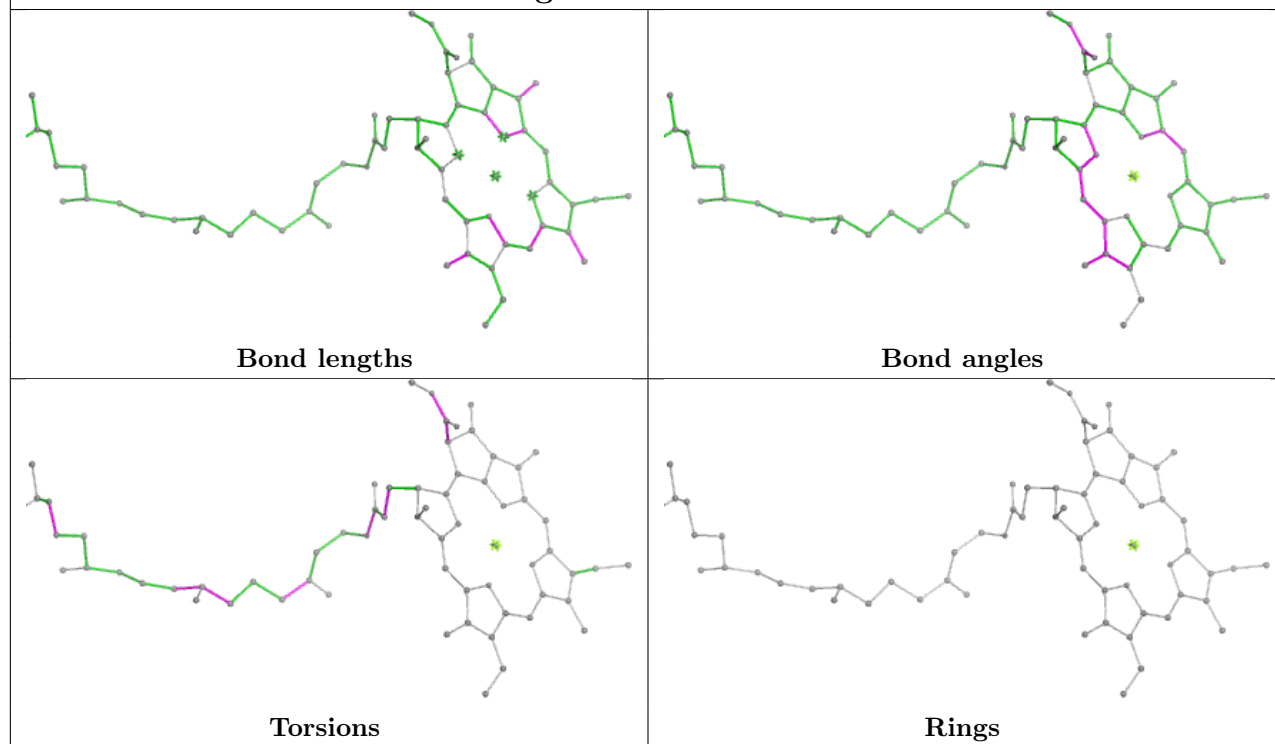




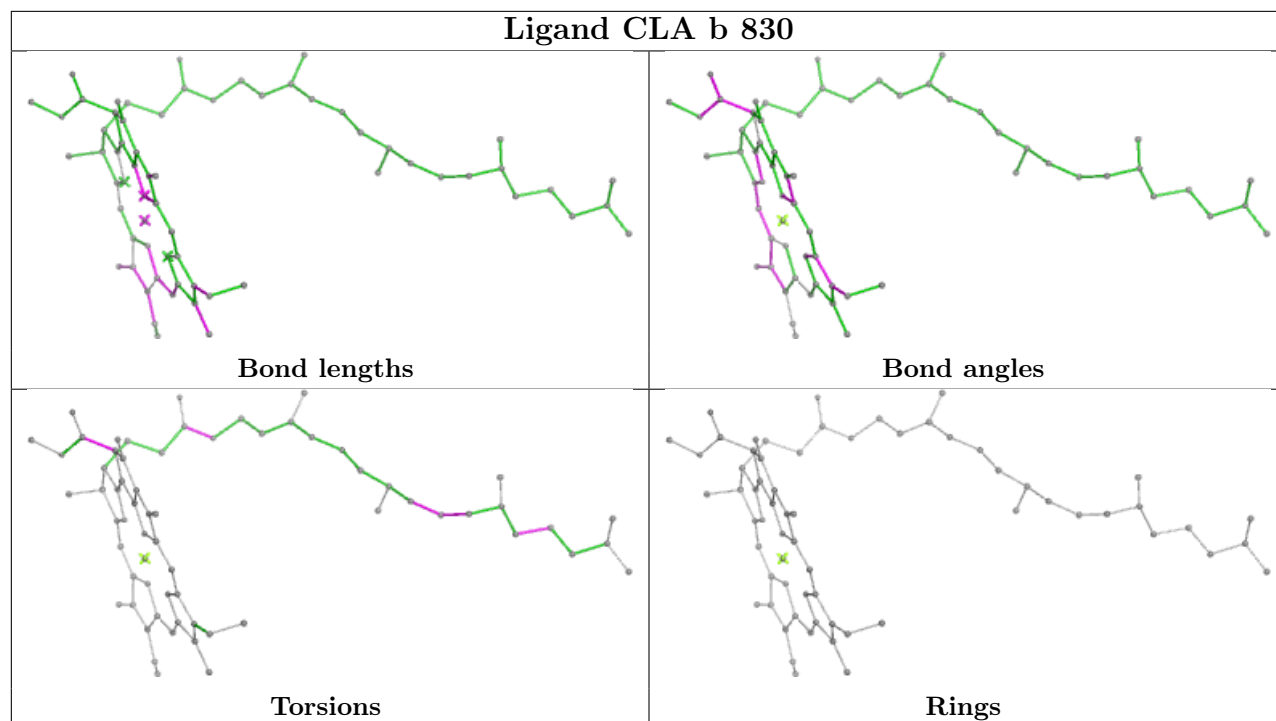




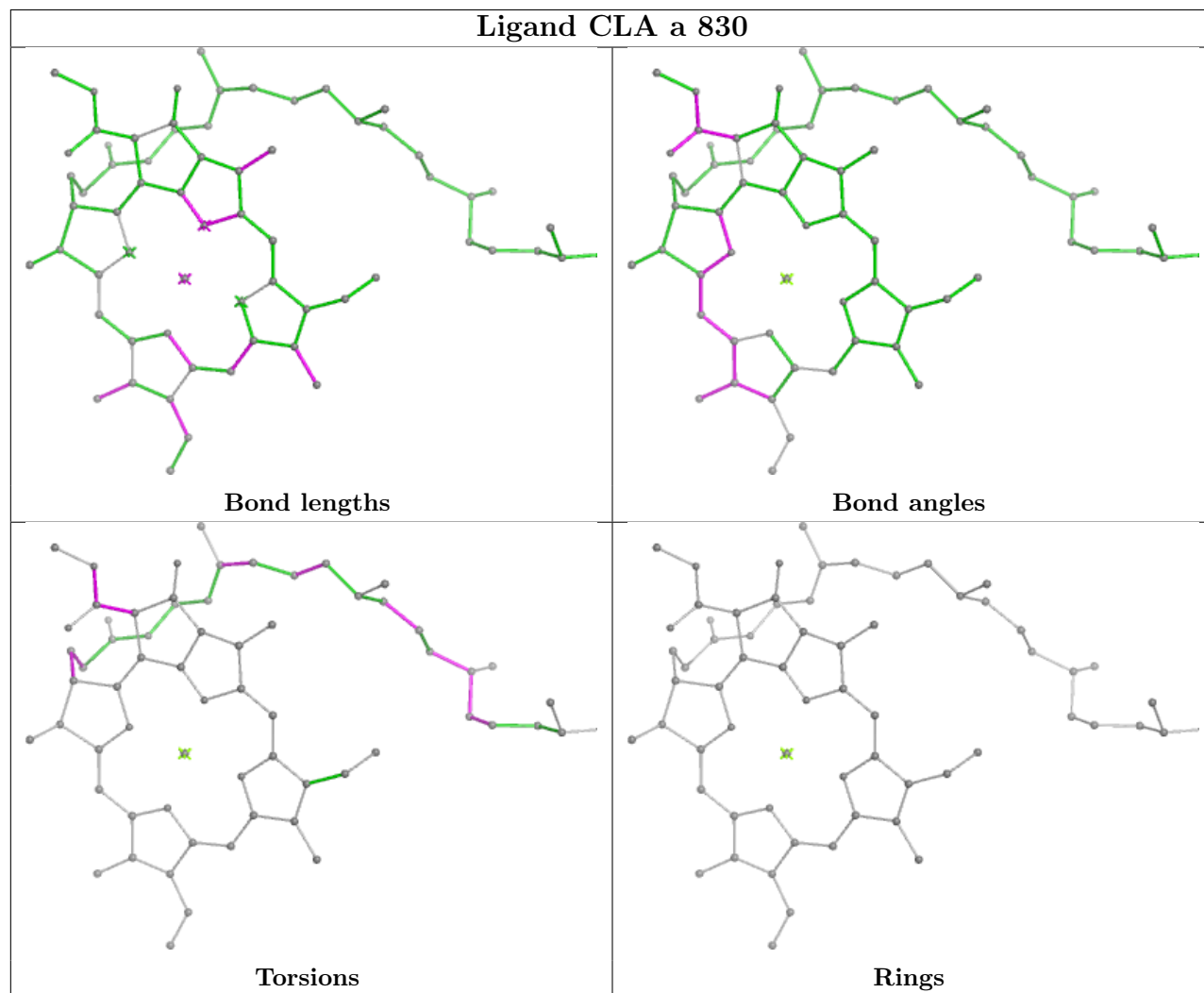


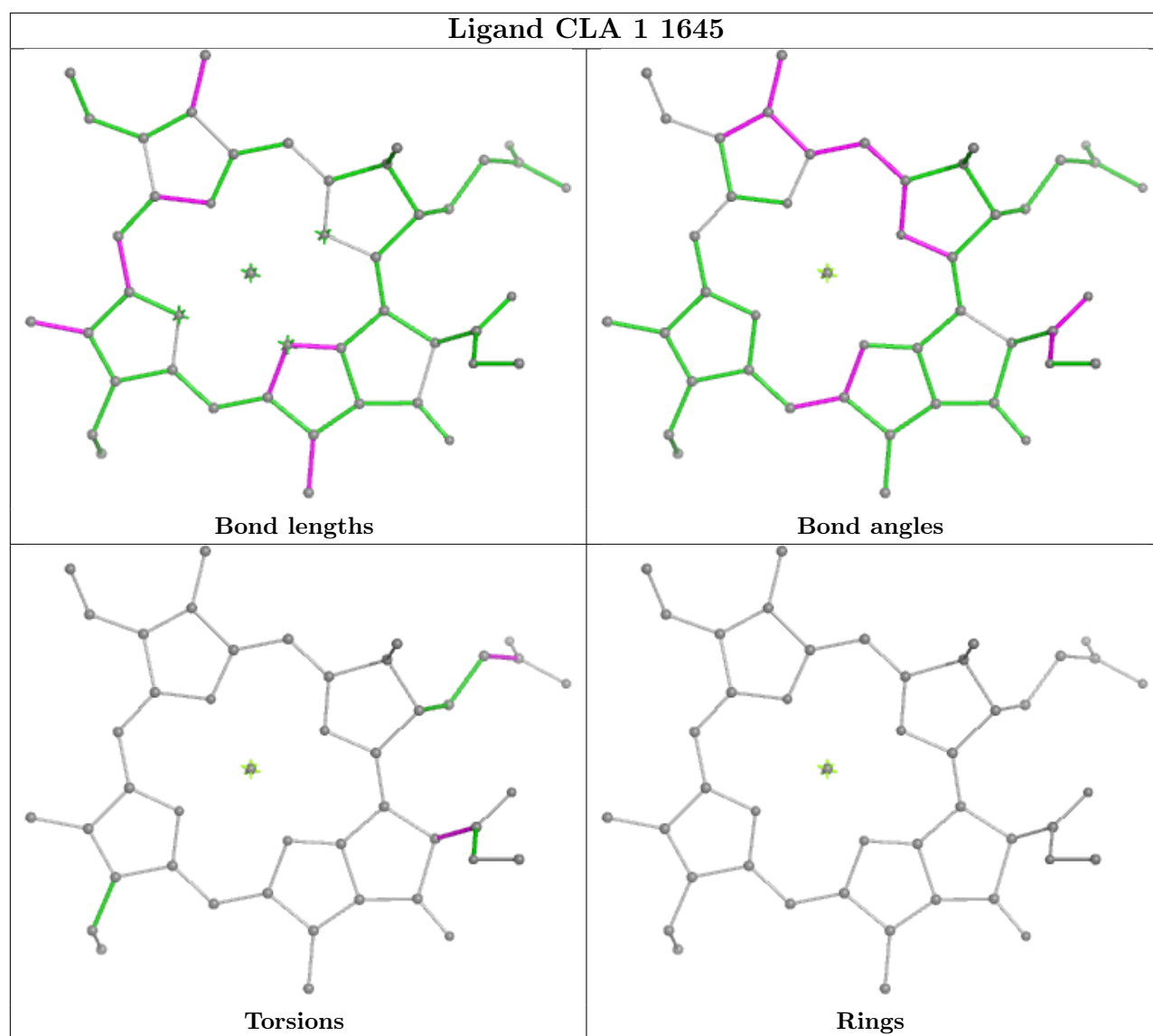
**Ligand CLA L 204****Ligand CLA a 822**

## Ligand CLA b 830

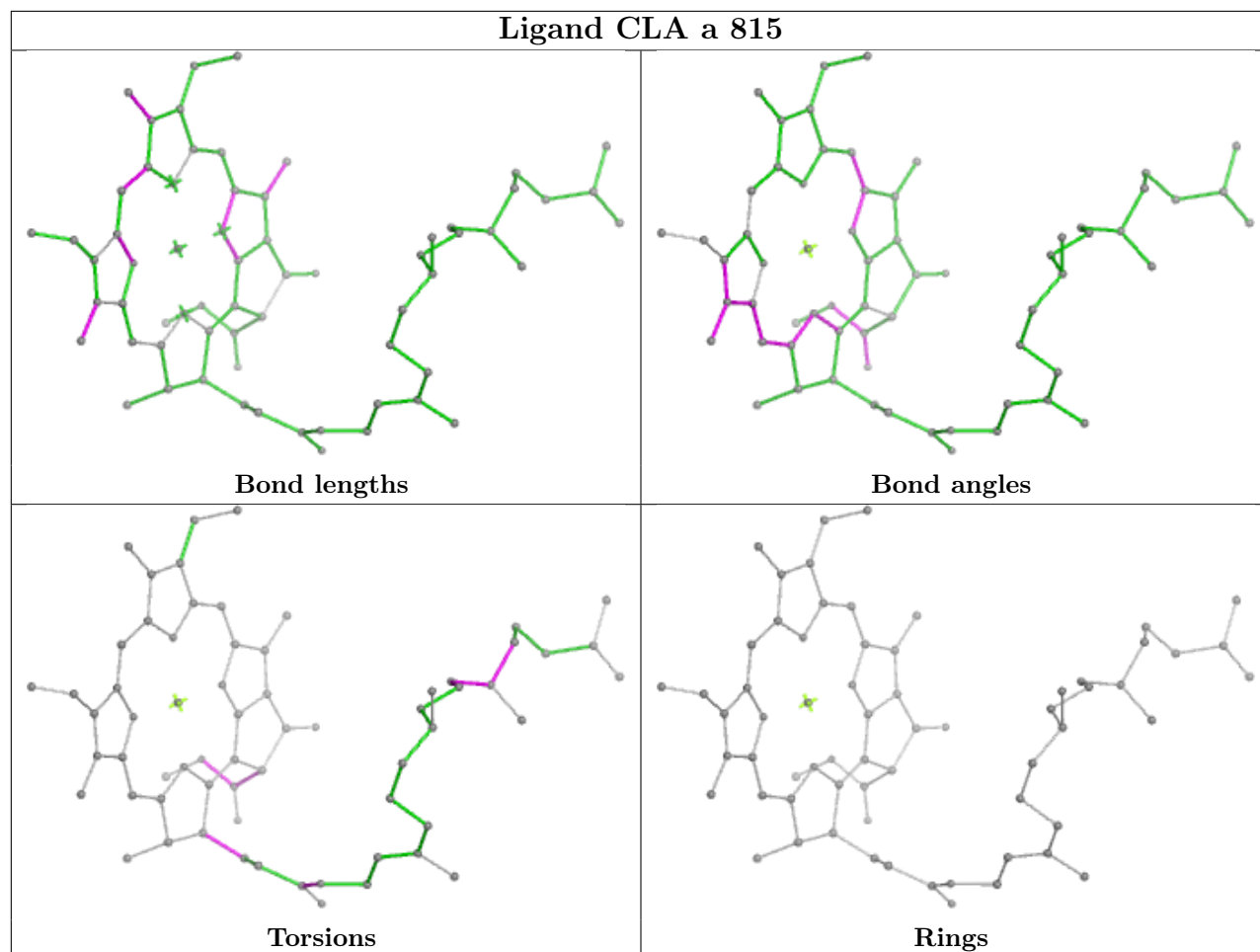


## Ligand CLA a 830

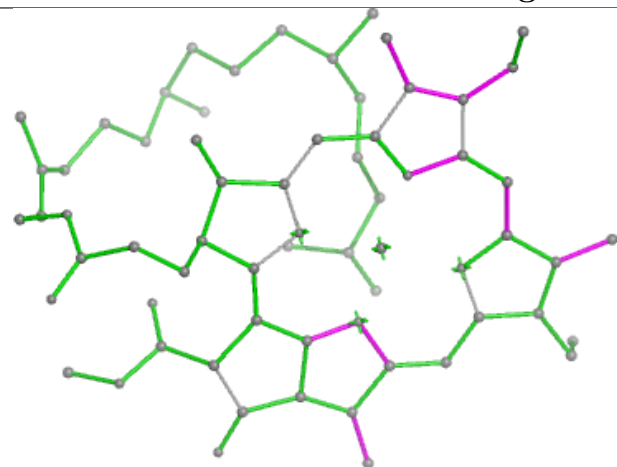




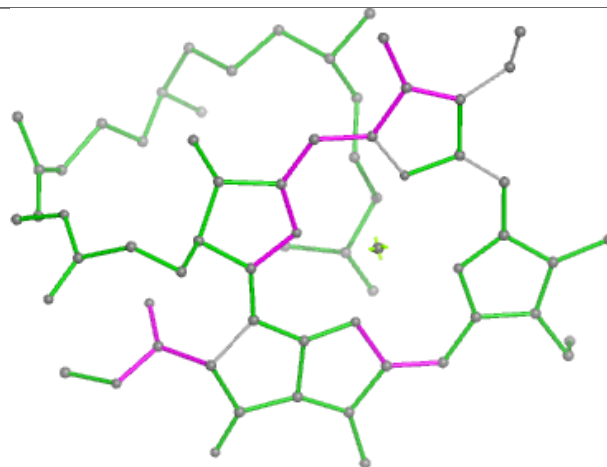
## Ligand CLA a 815



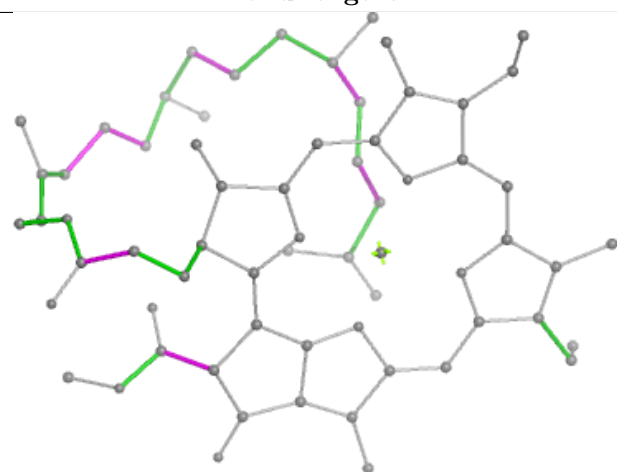
## Ligand CLA B 806



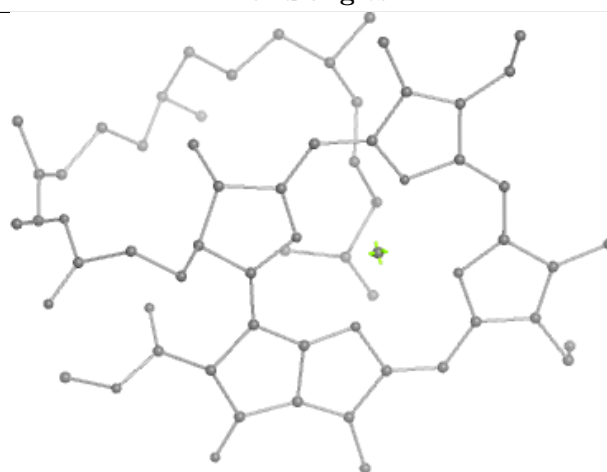
Bond lengths



Bond angles

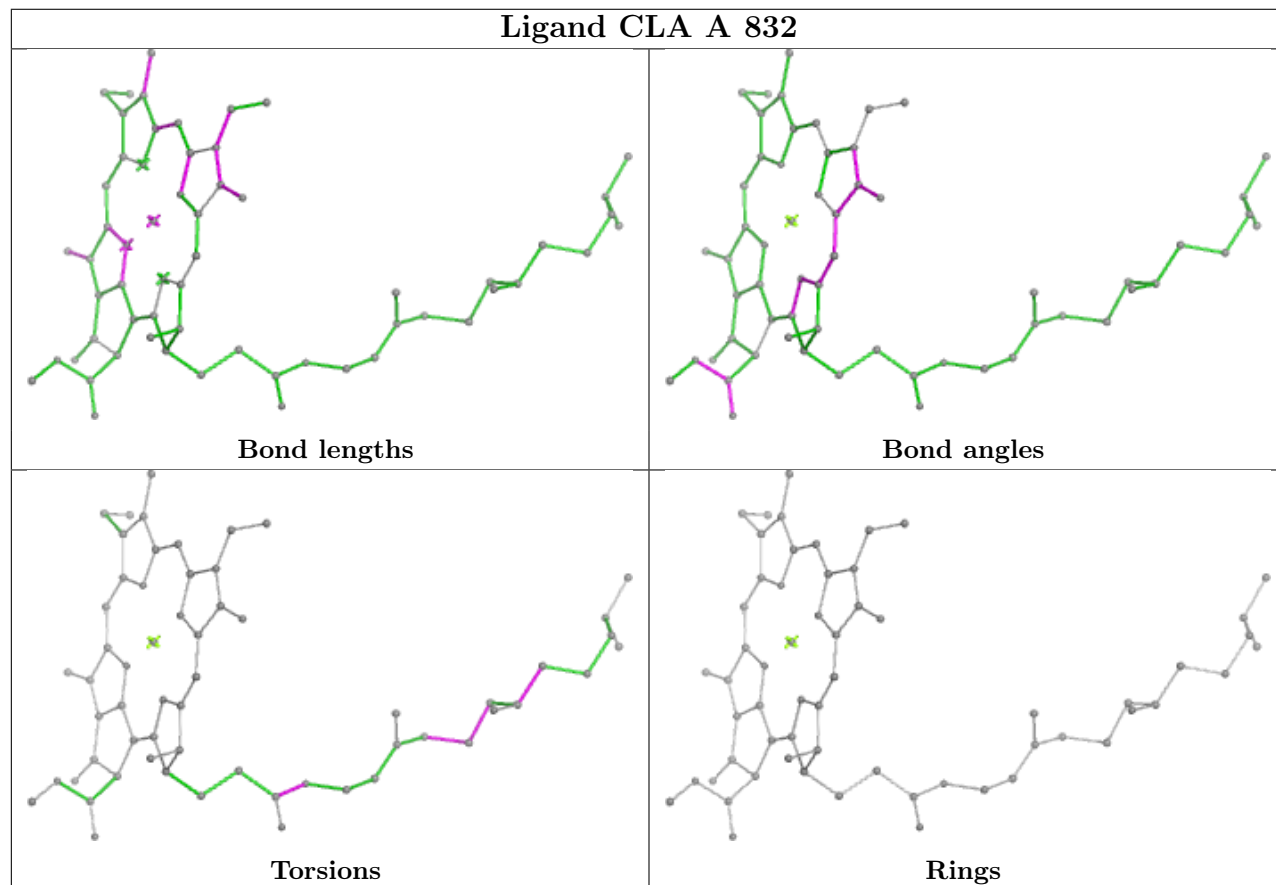
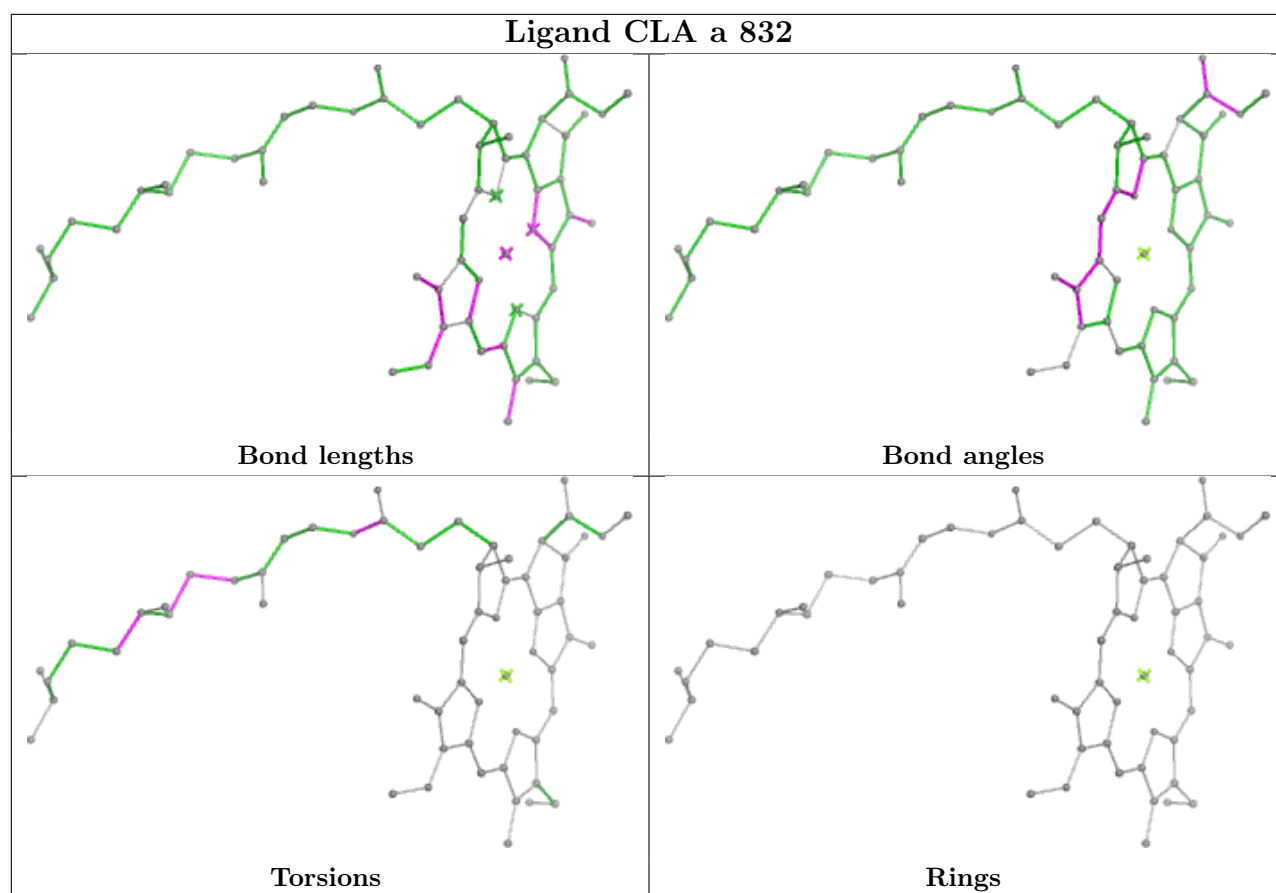


Torsions

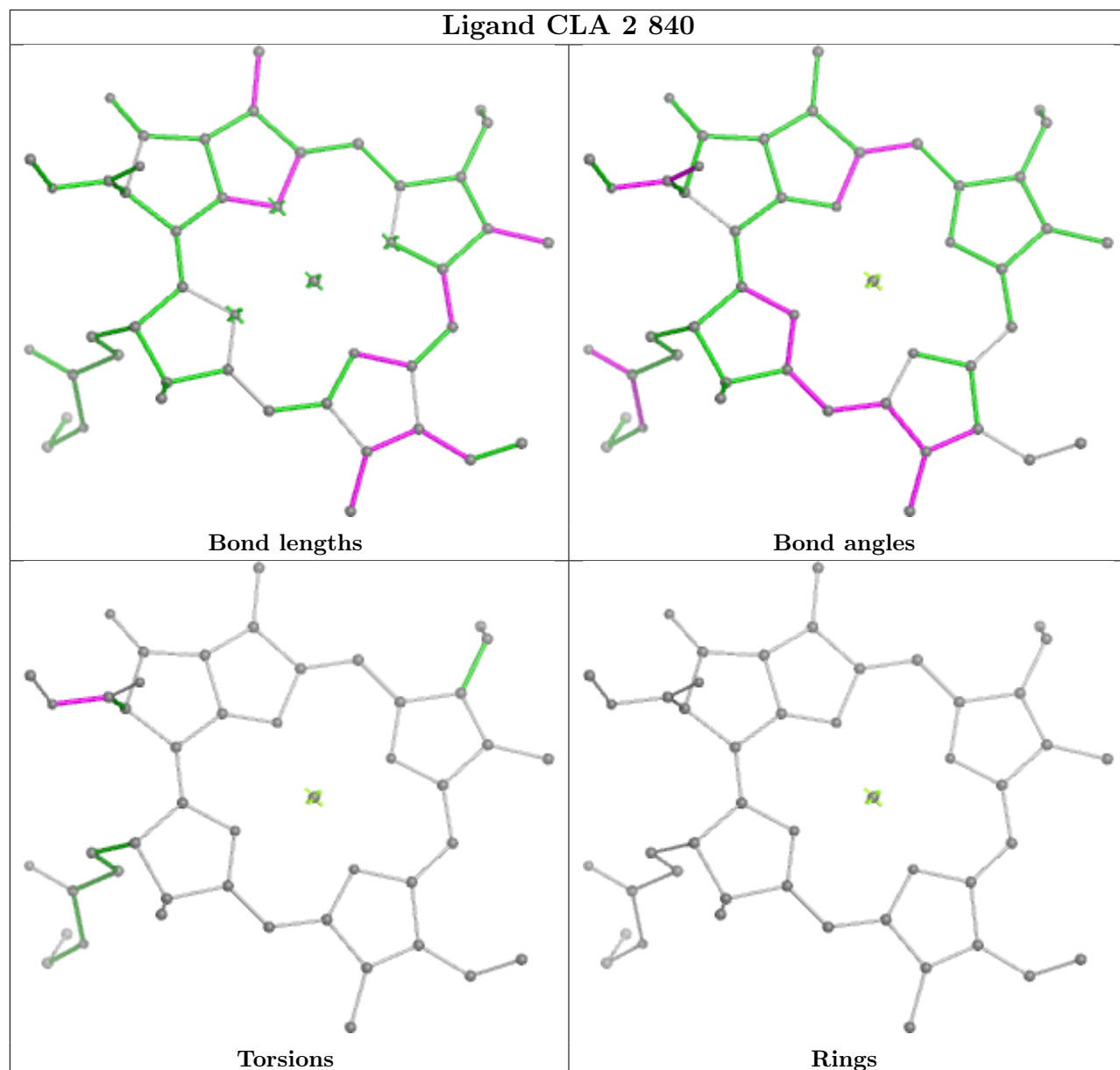


Rings

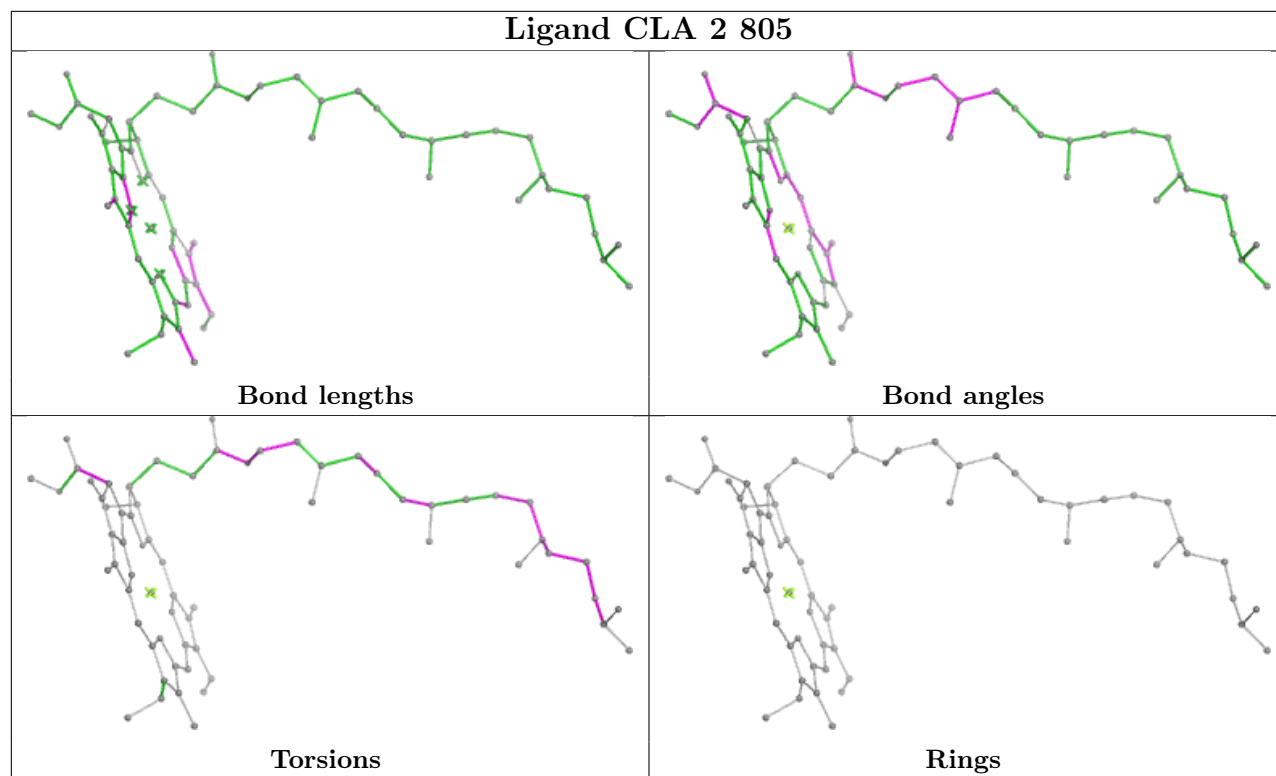




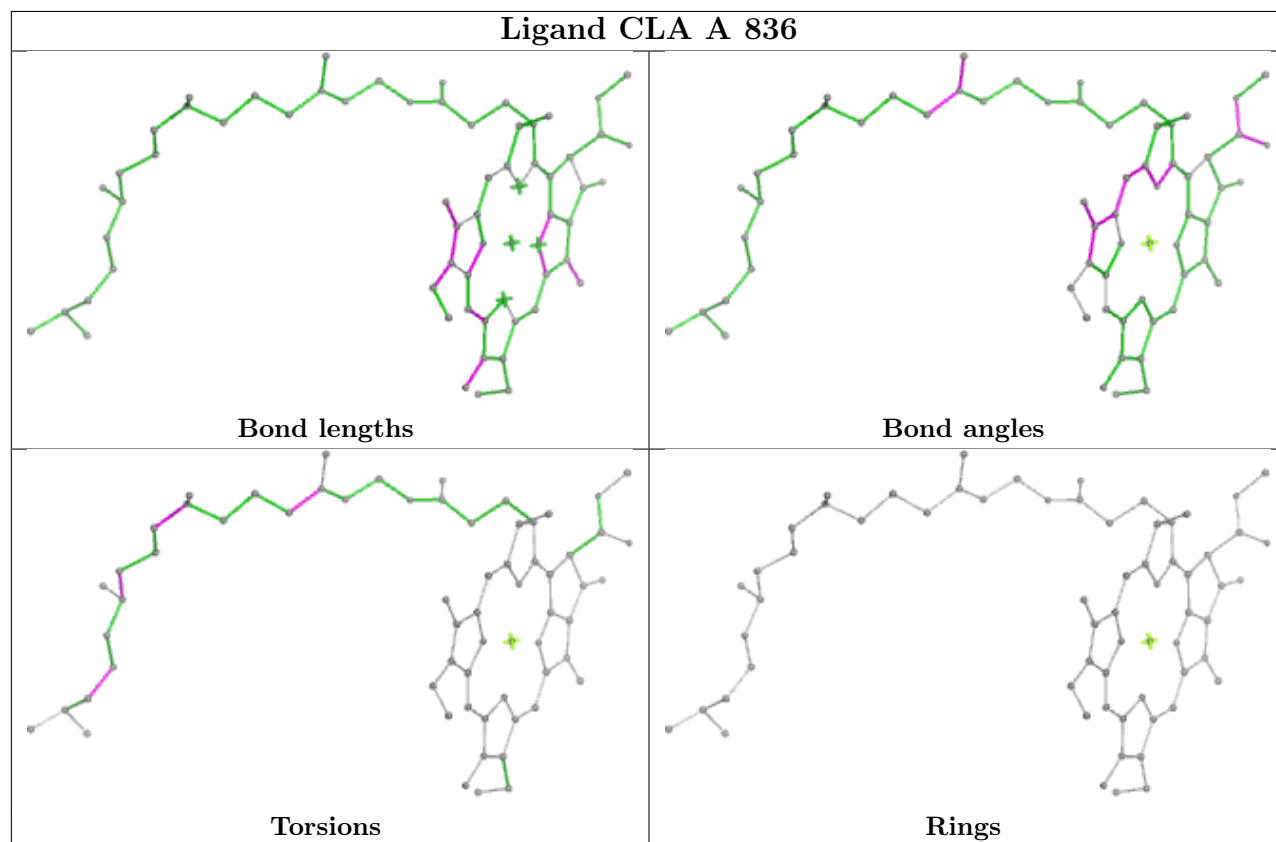
## Ligand CLA 2 840

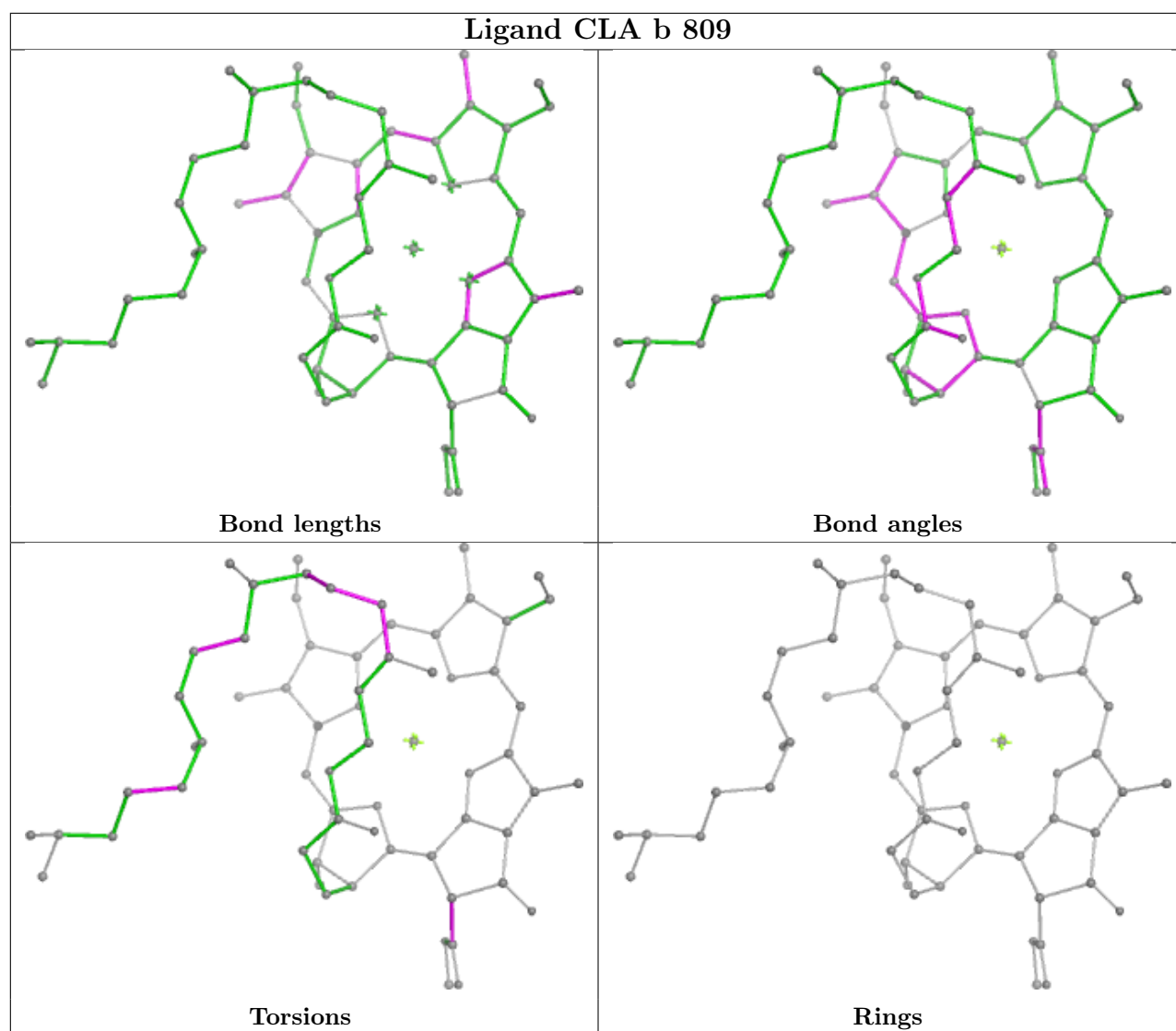


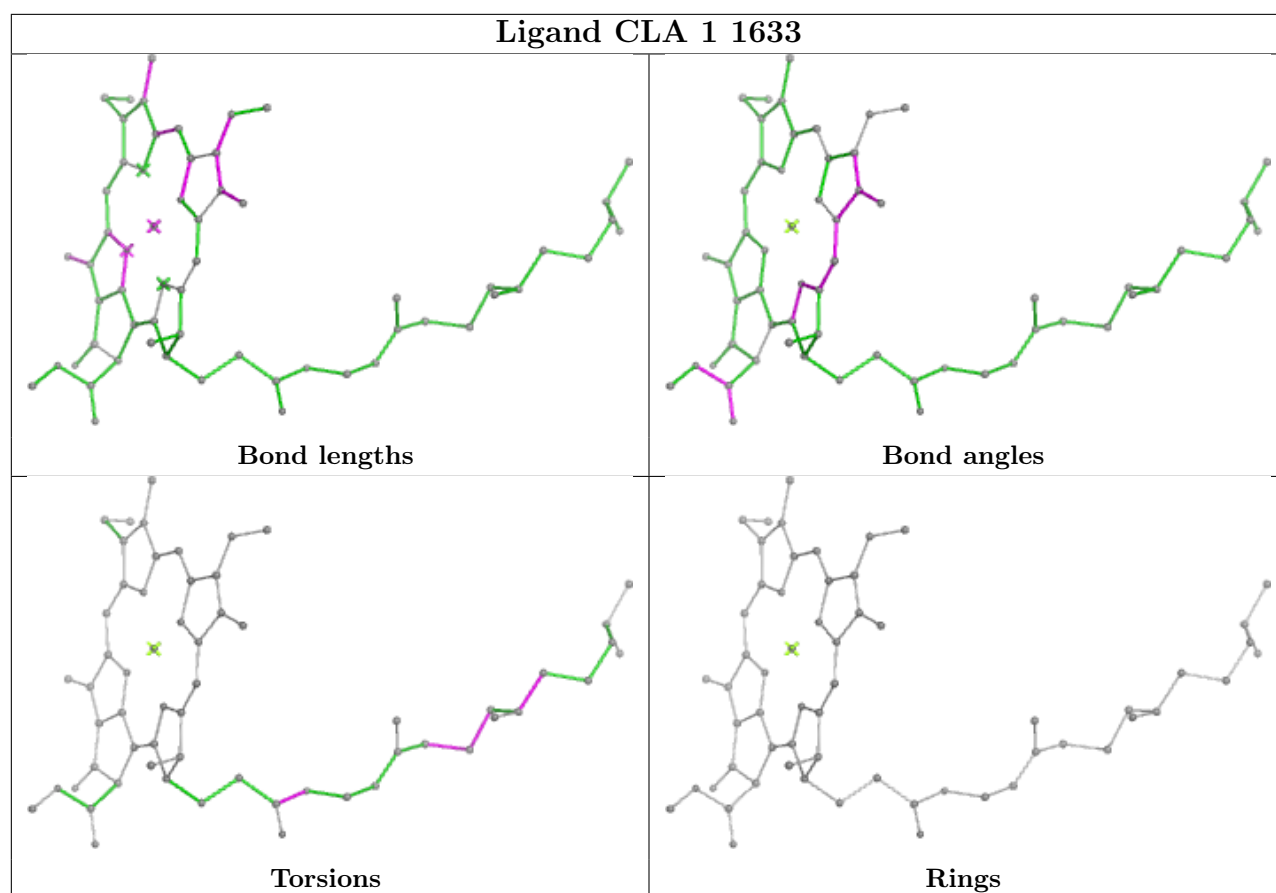
## Ligand CLA 2 805



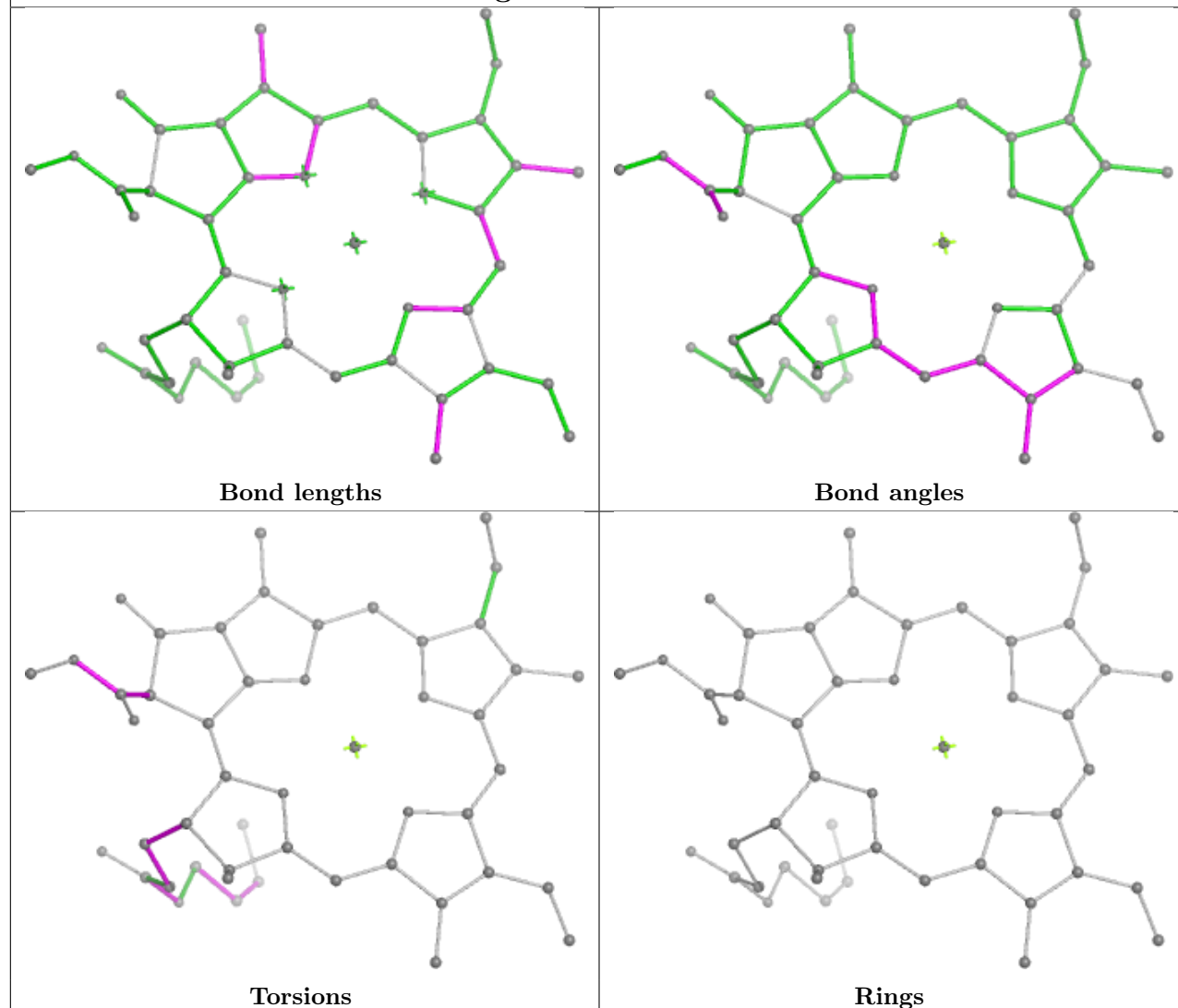
## Ligand CLA A 836



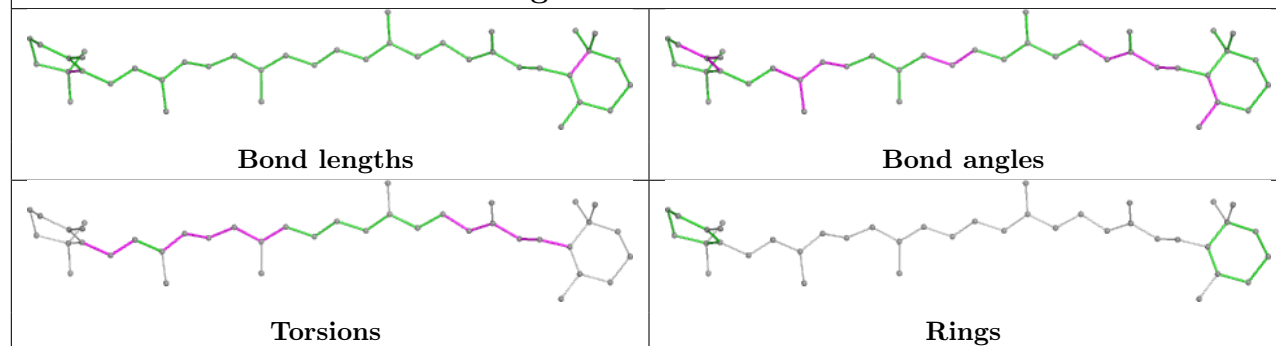


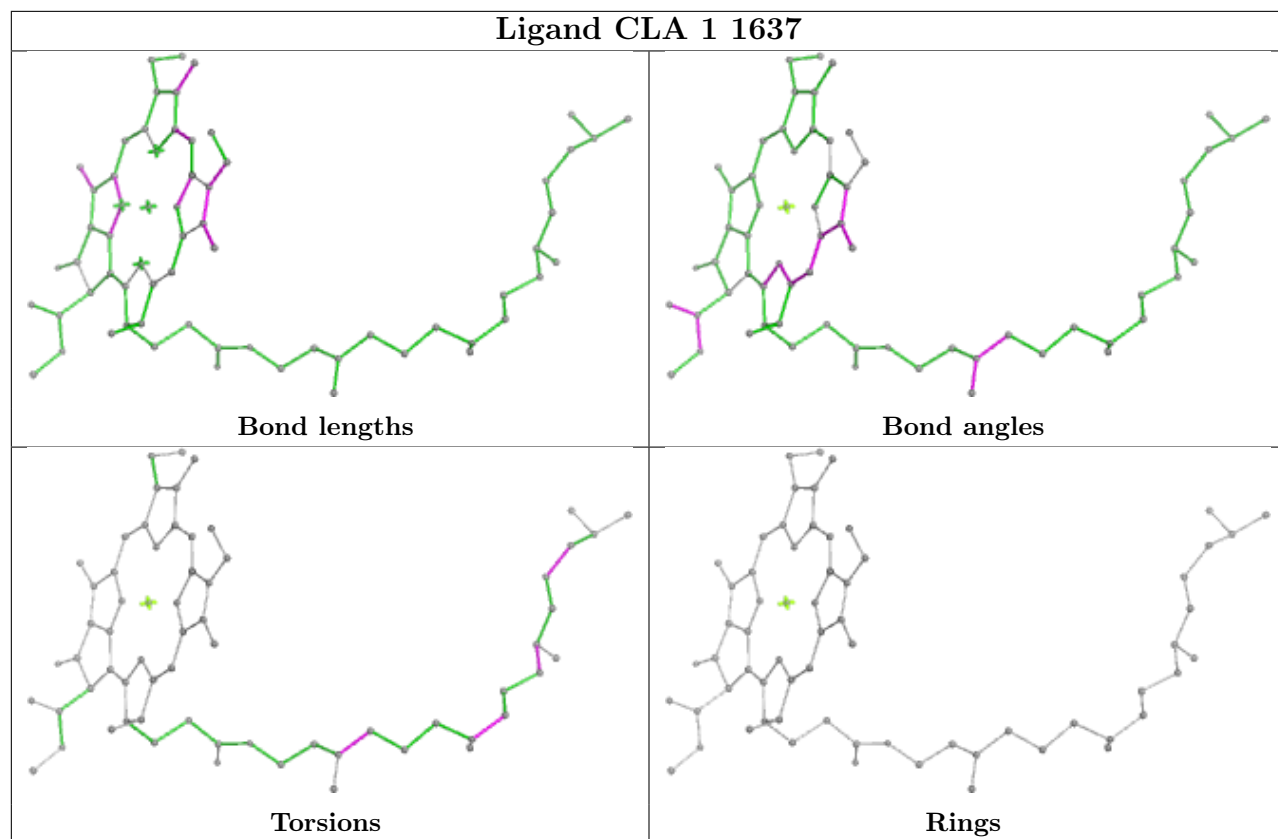


## Ligand CLA 2 832

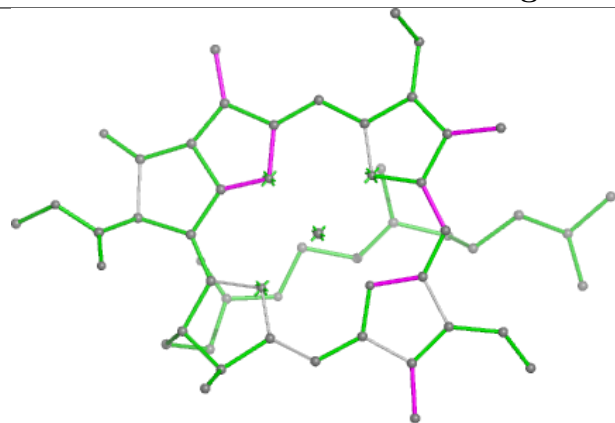


## Ligand BCR B 851

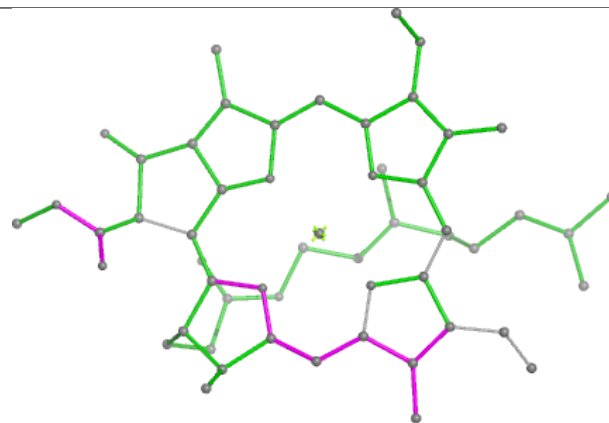




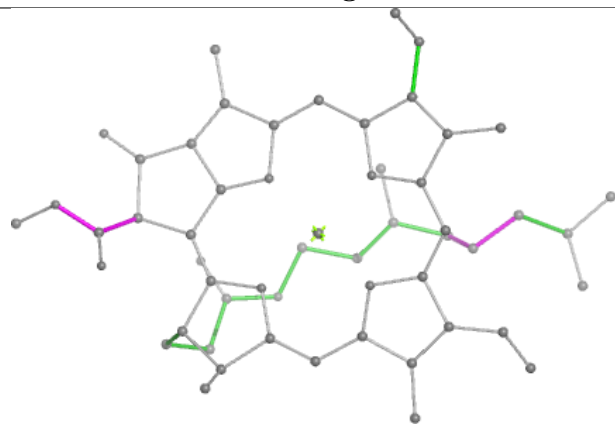
## Ligand CLA 2 823



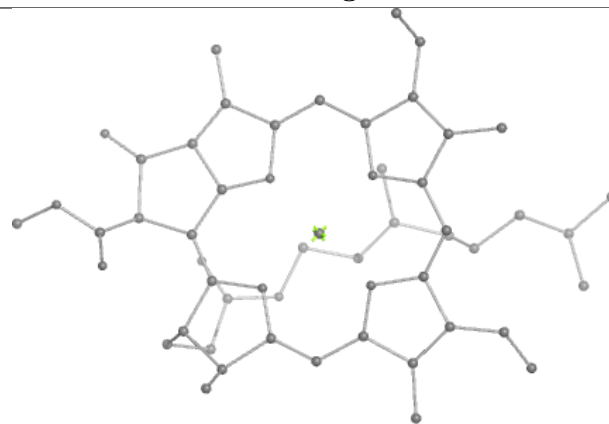
Bond lengths



Bond angles



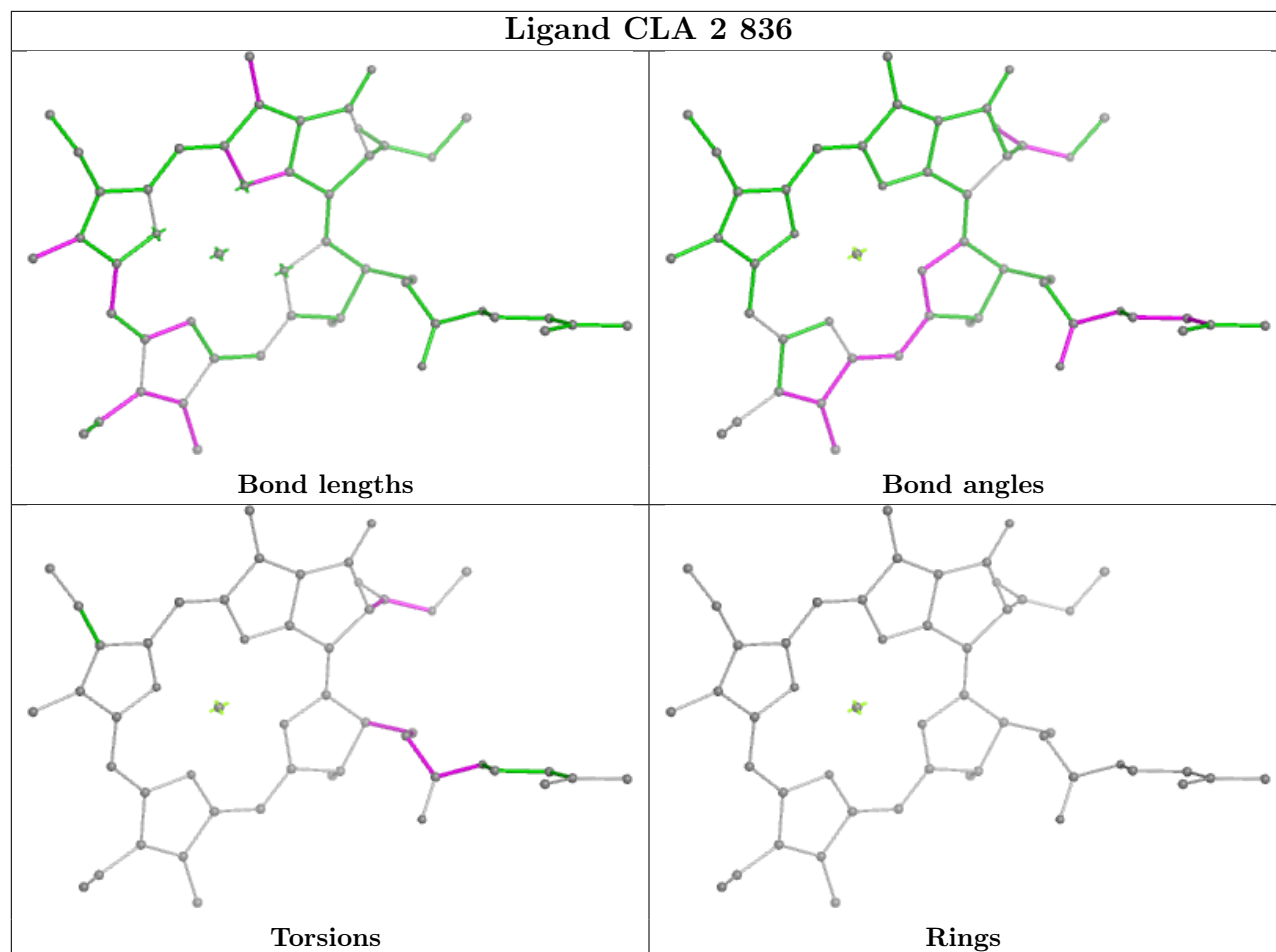
Torsions



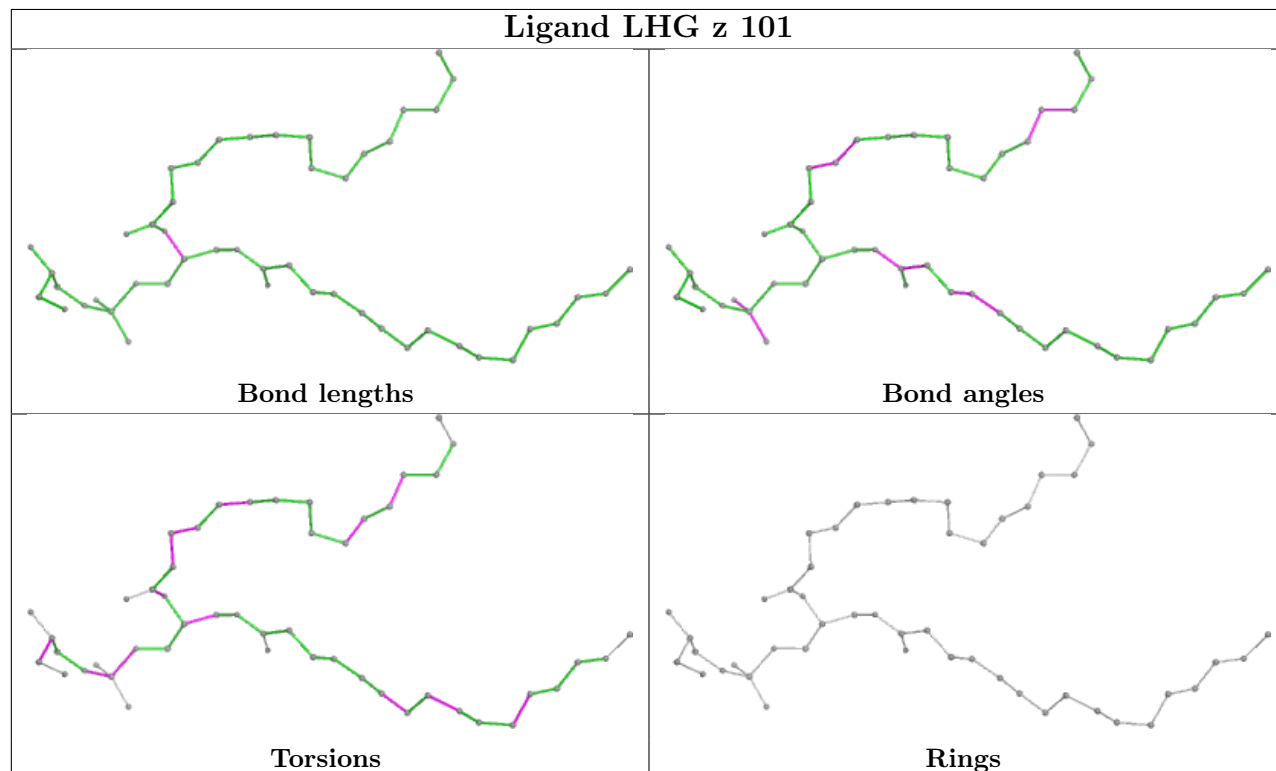
Rings

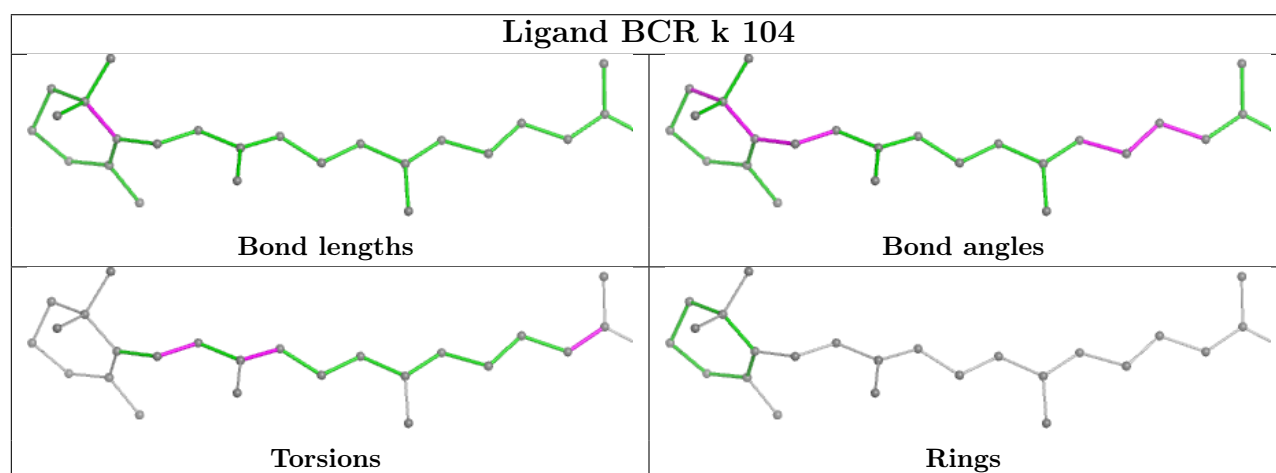
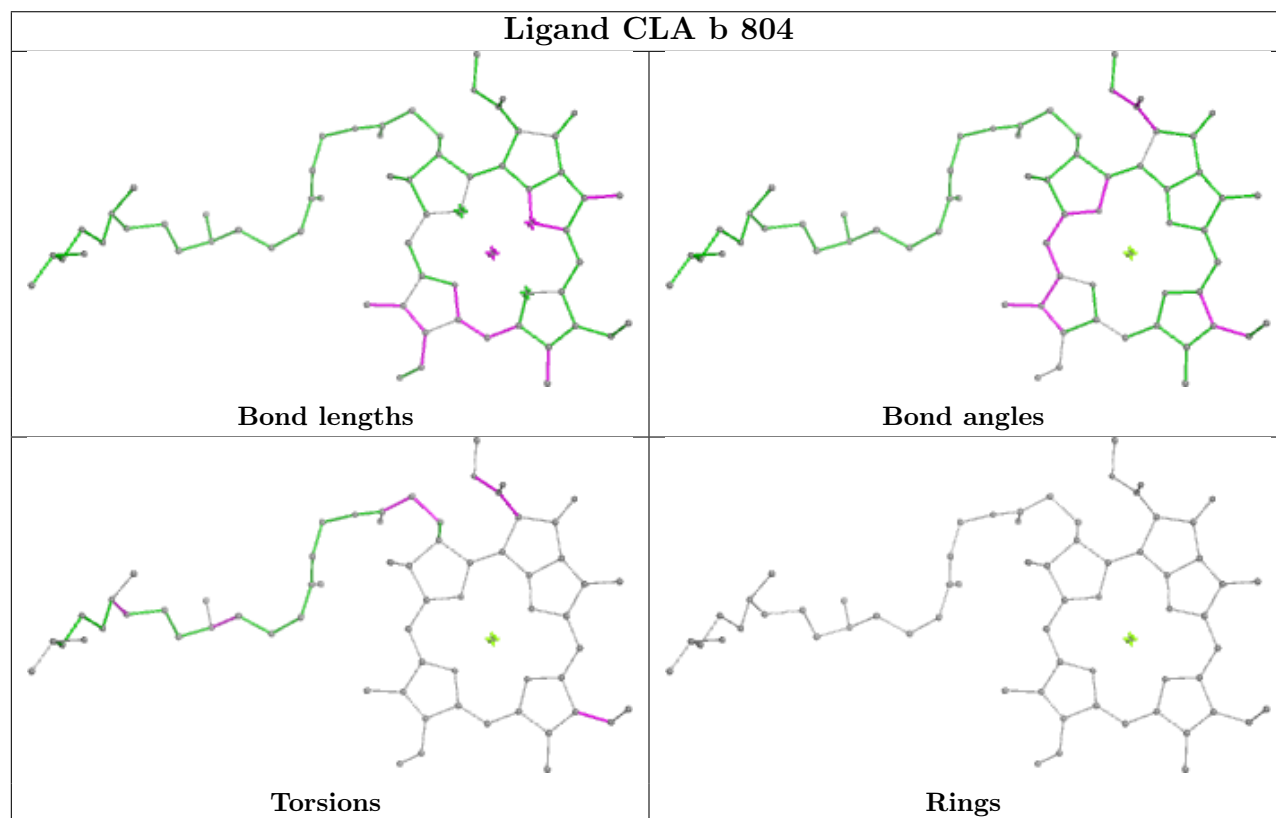
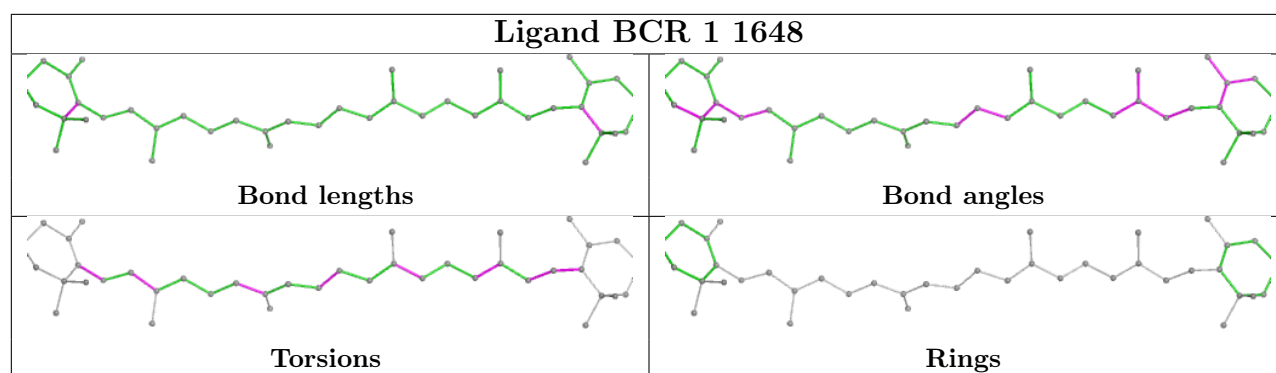


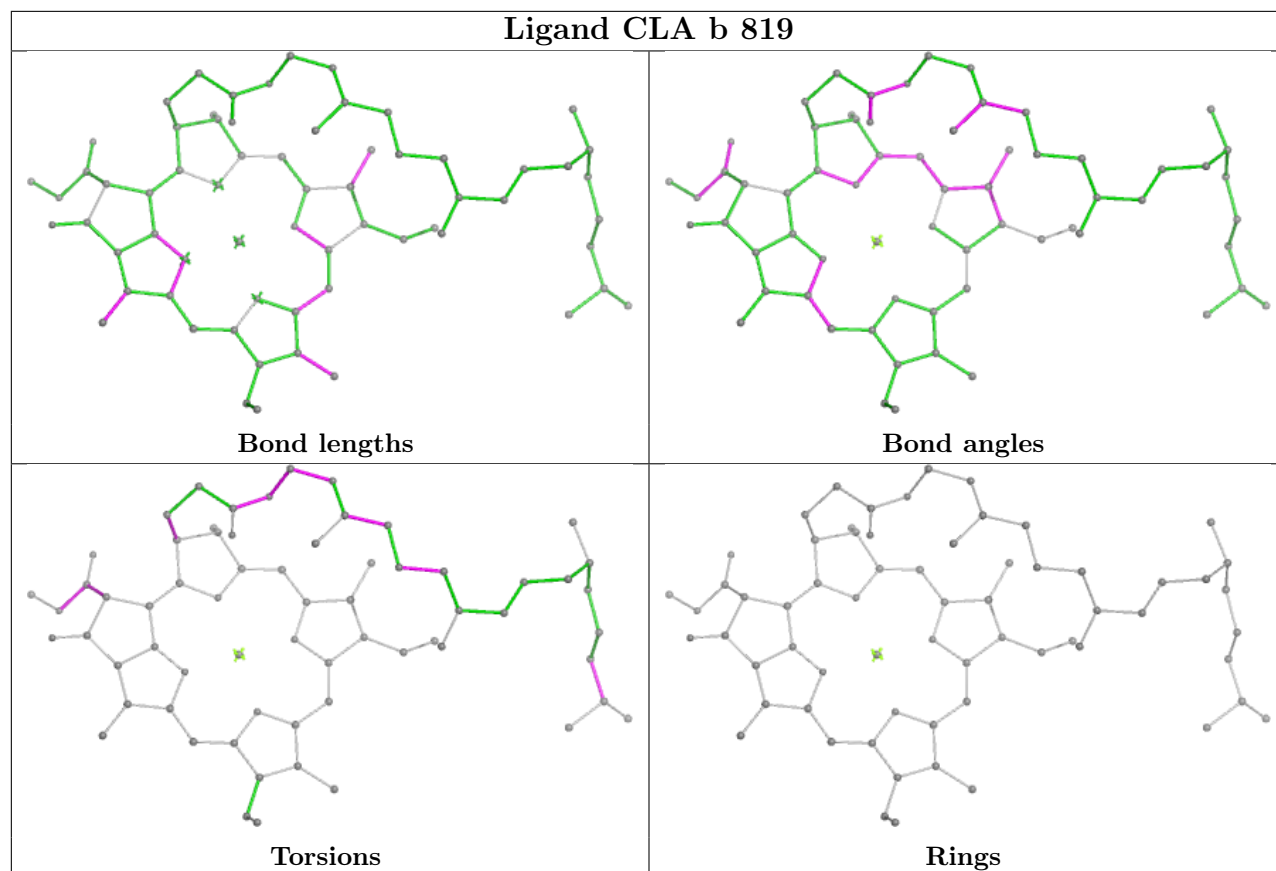
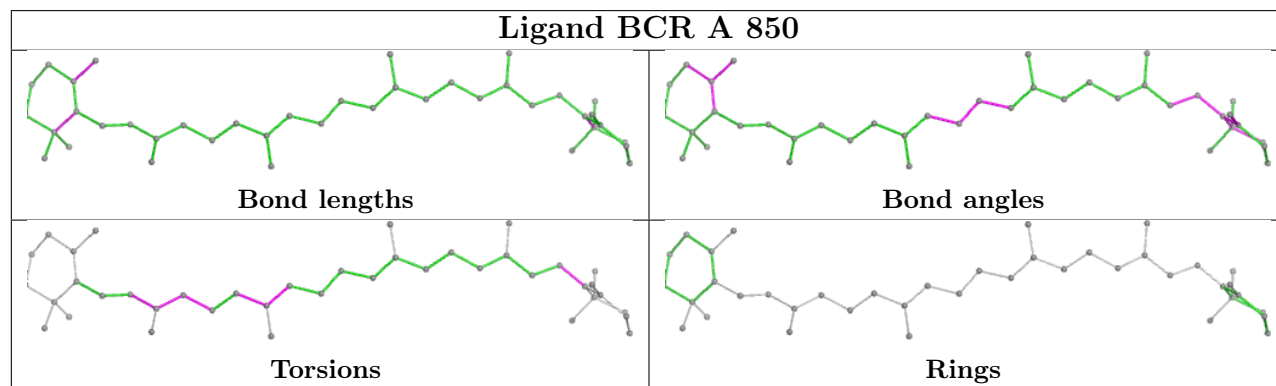
## Ligand CLA 2 836

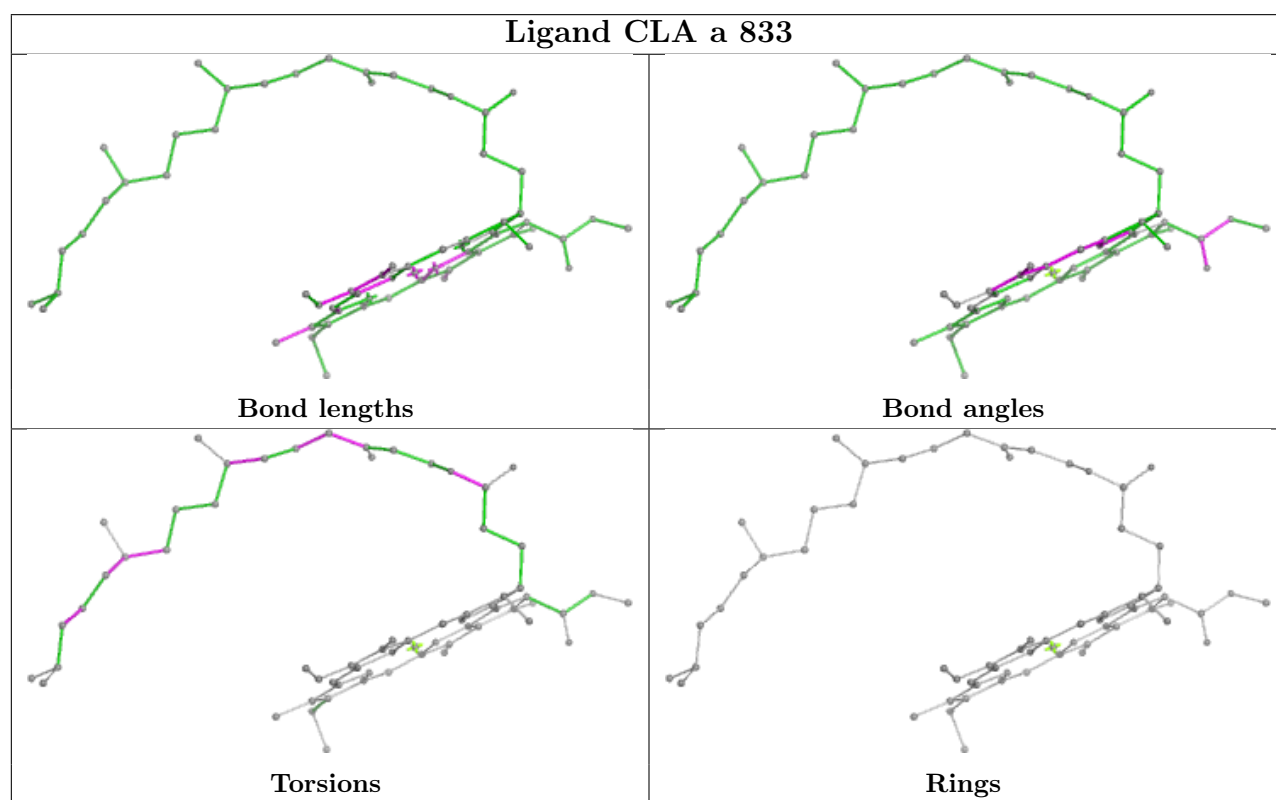
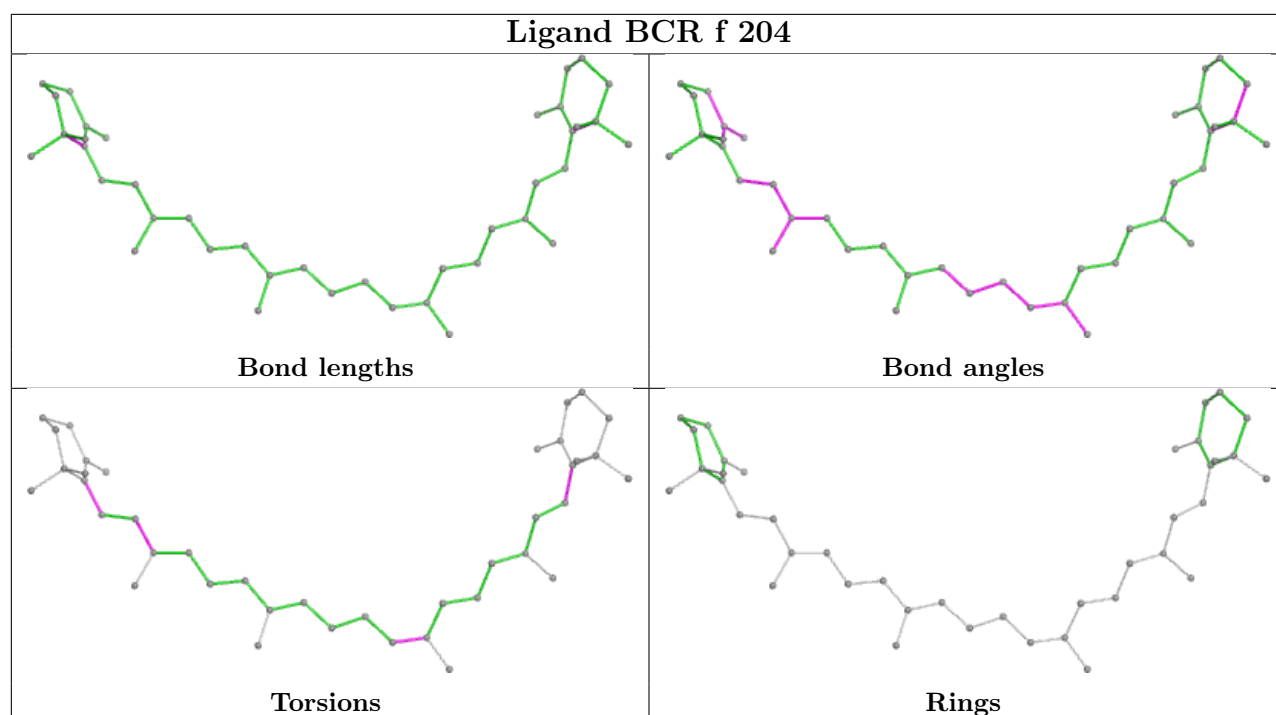


## Ligand LHG z 101

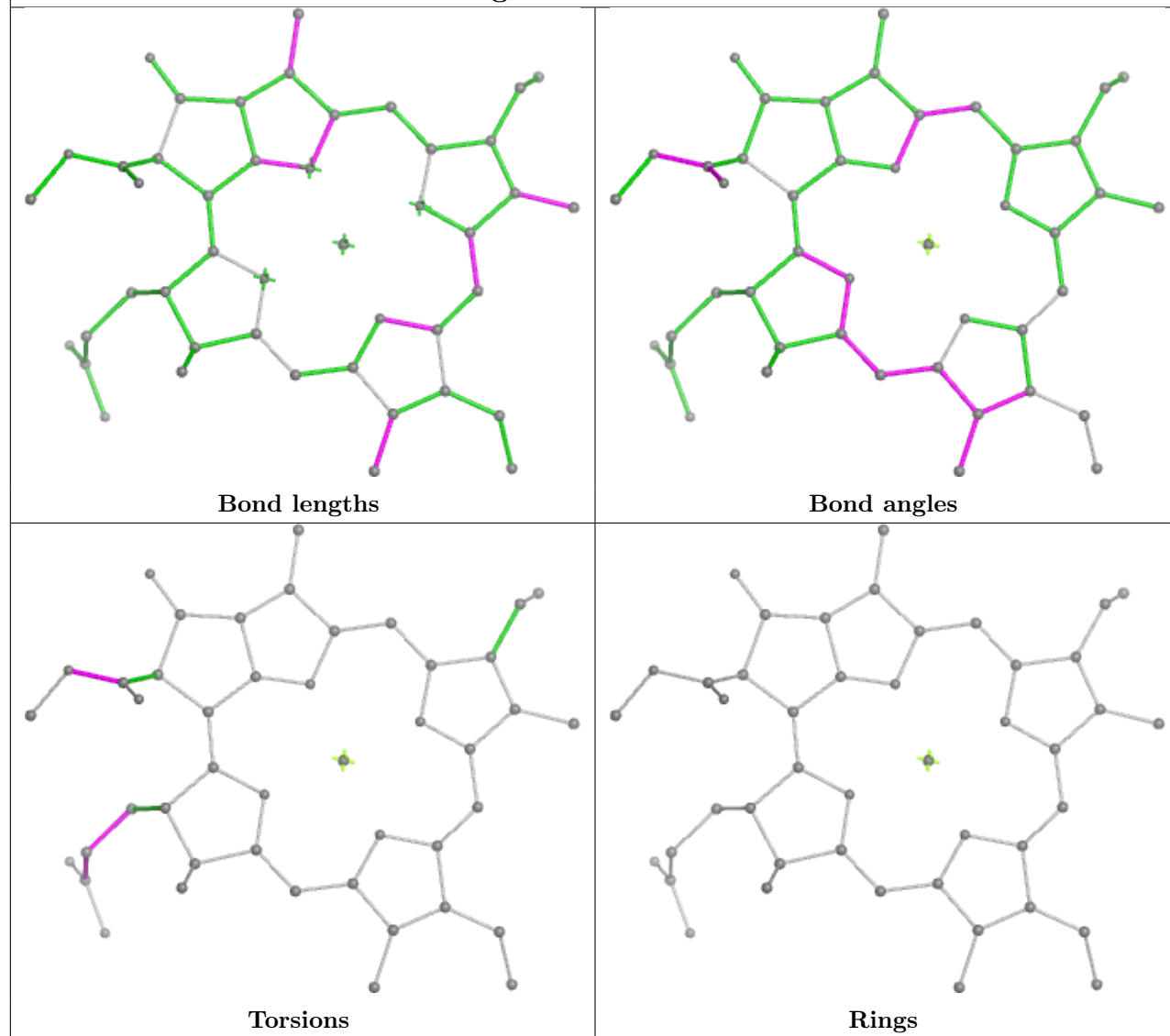




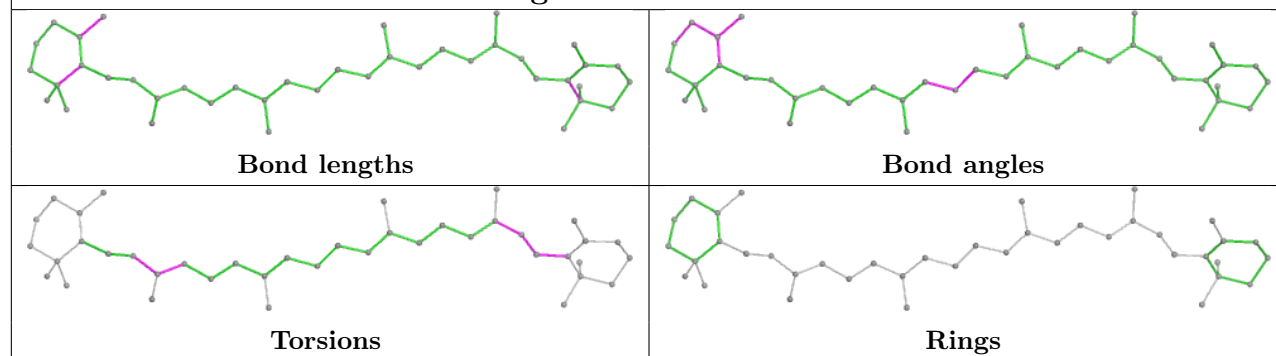
**Ligand CLA b 819****Ligand BCR A 850**

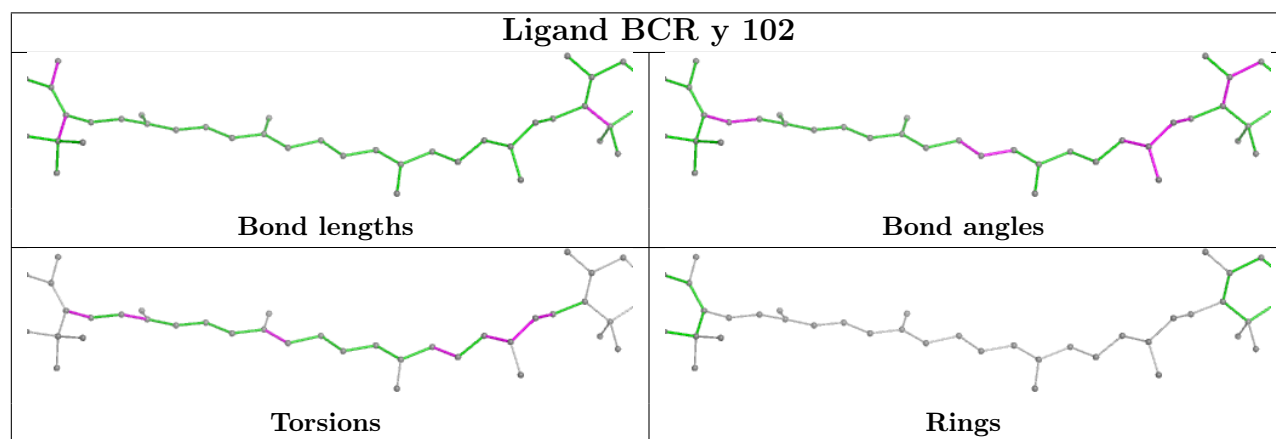
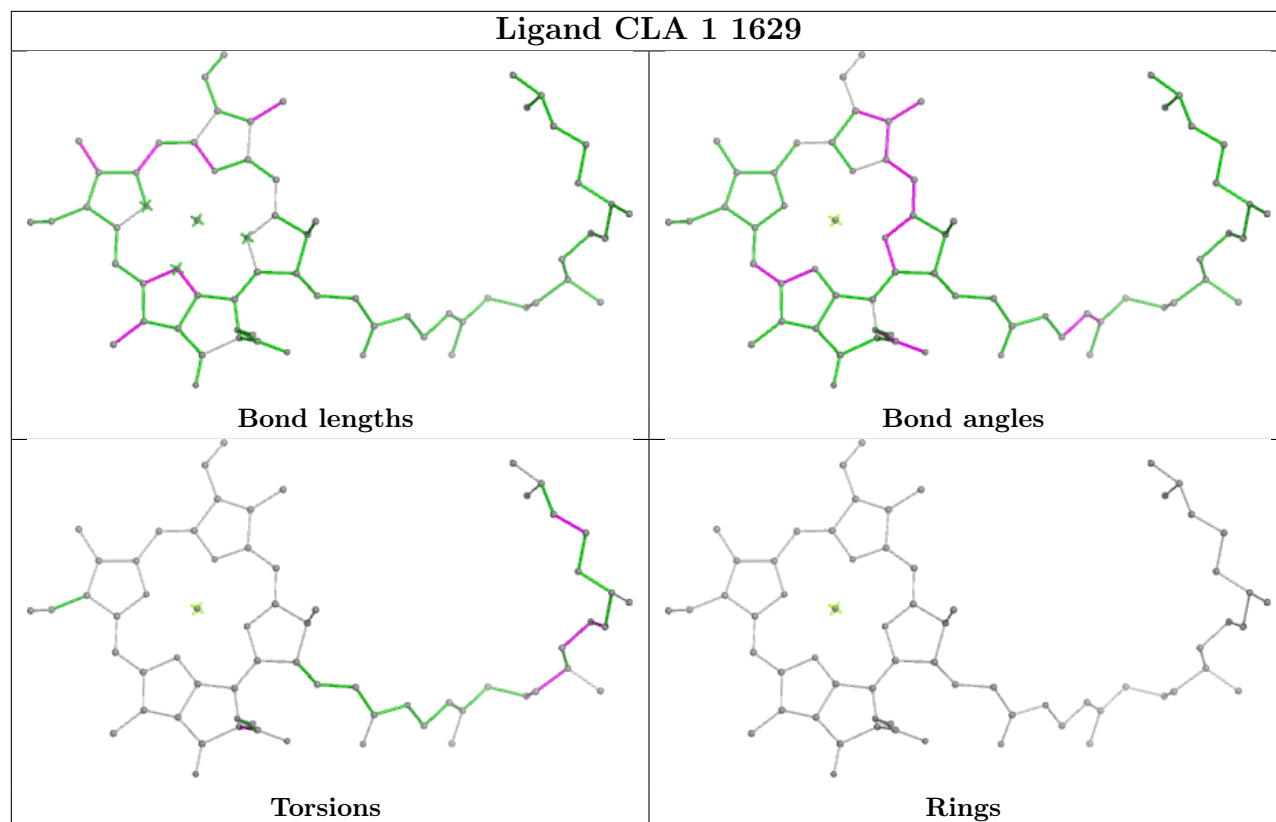


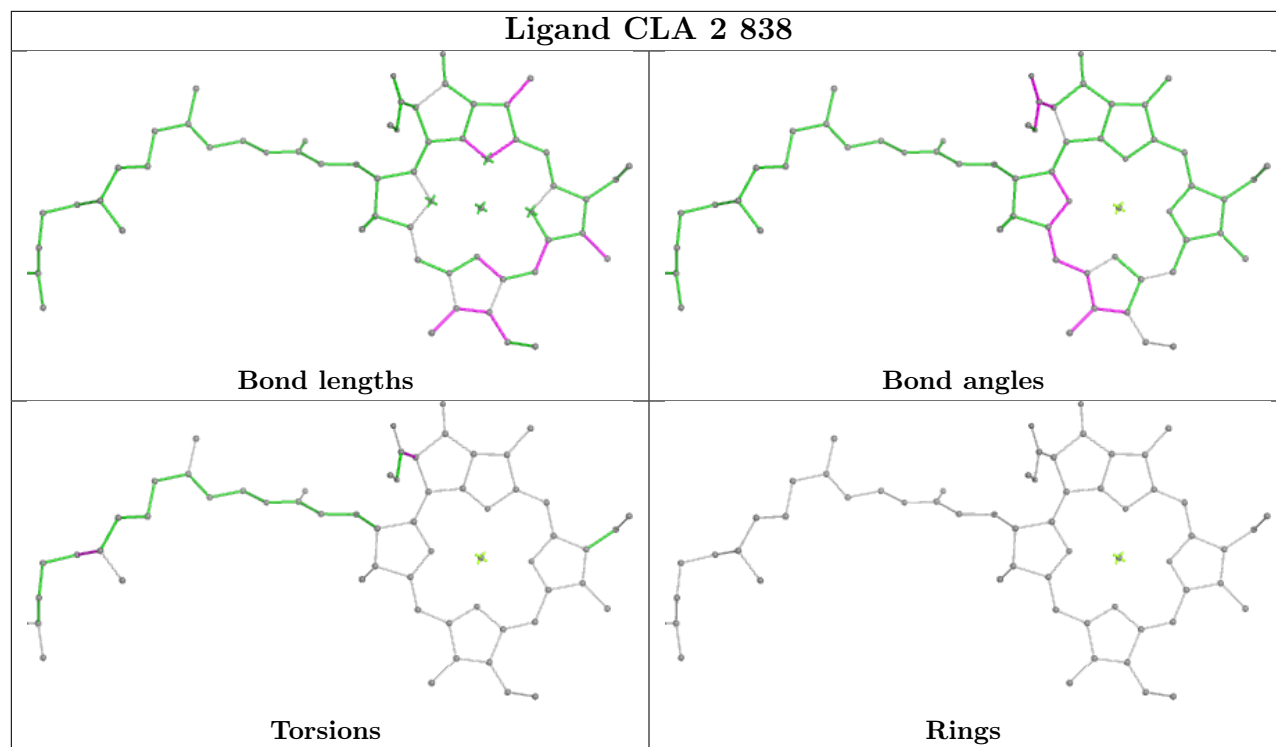
## Ligand CLA 2 824



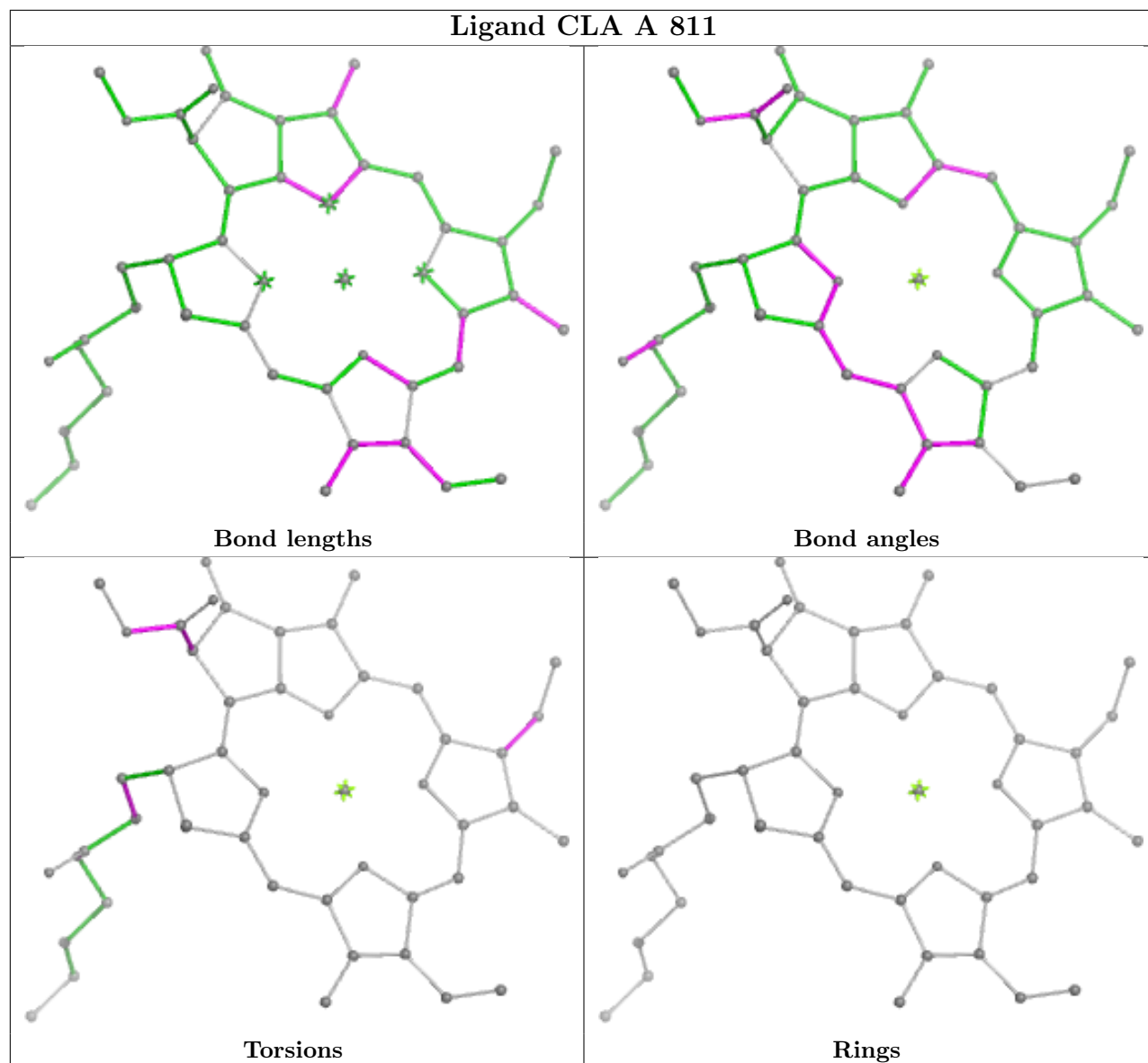
## Ligand BCR B 844



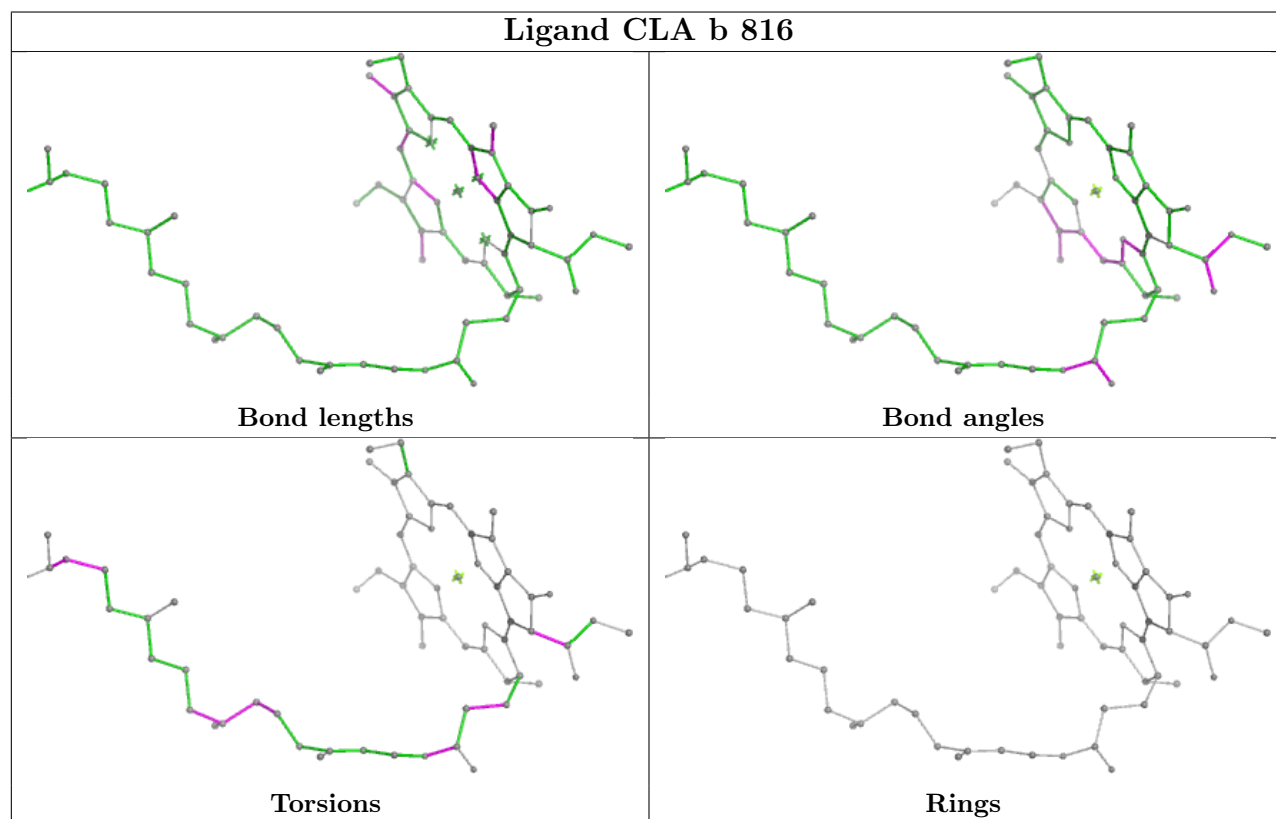
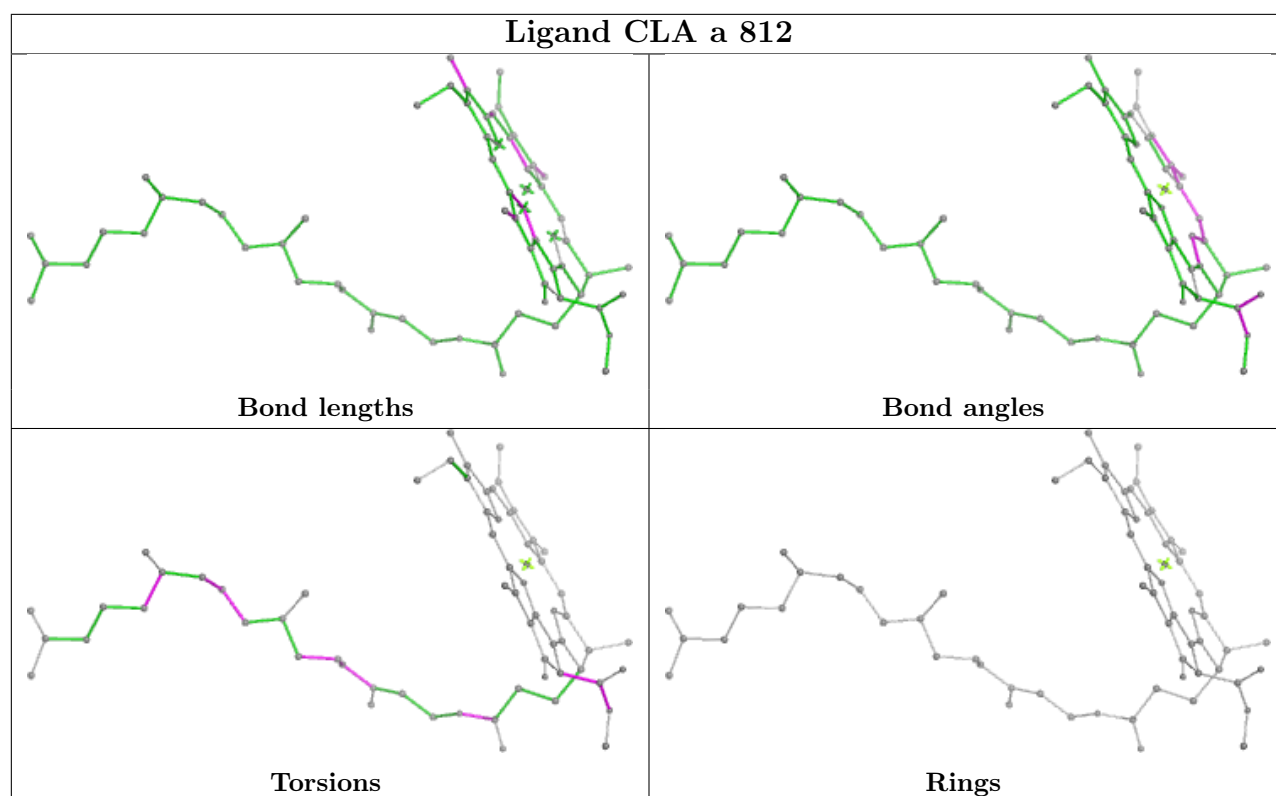


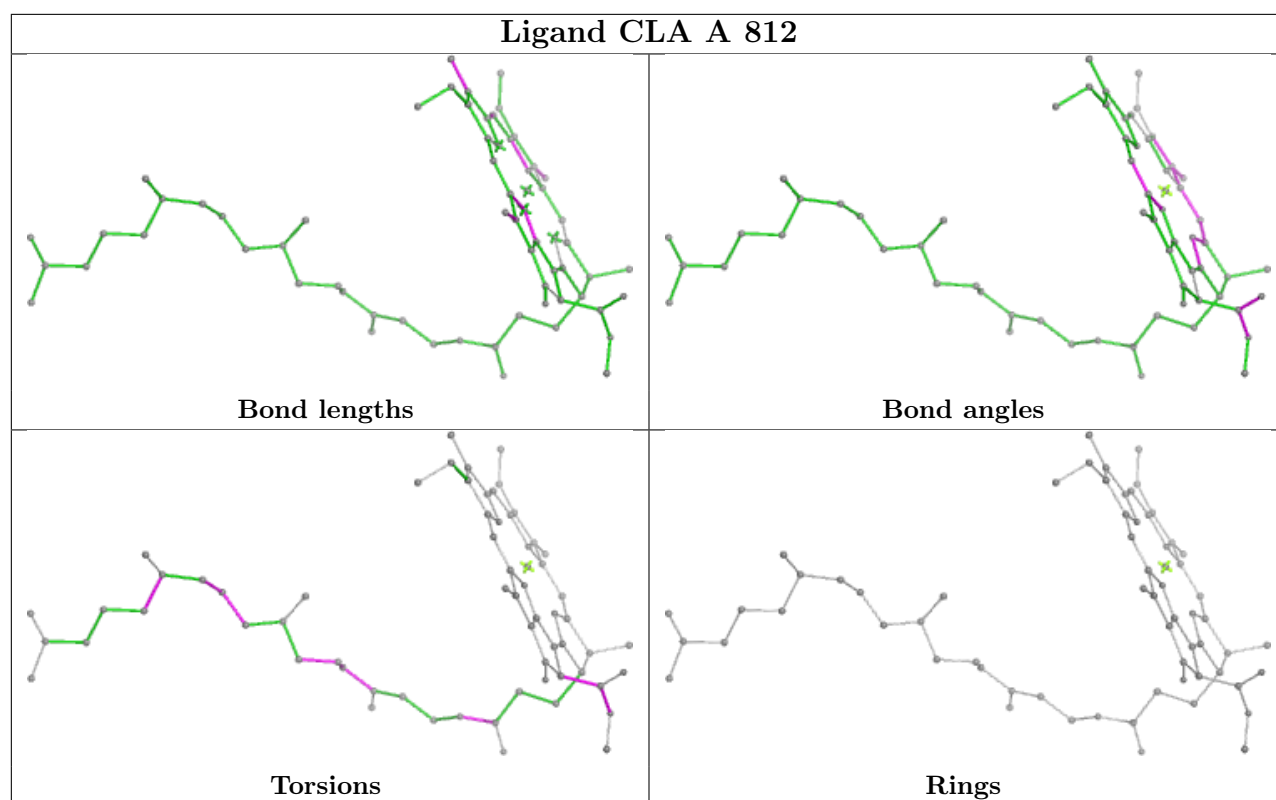


## Ligand CLA A 811

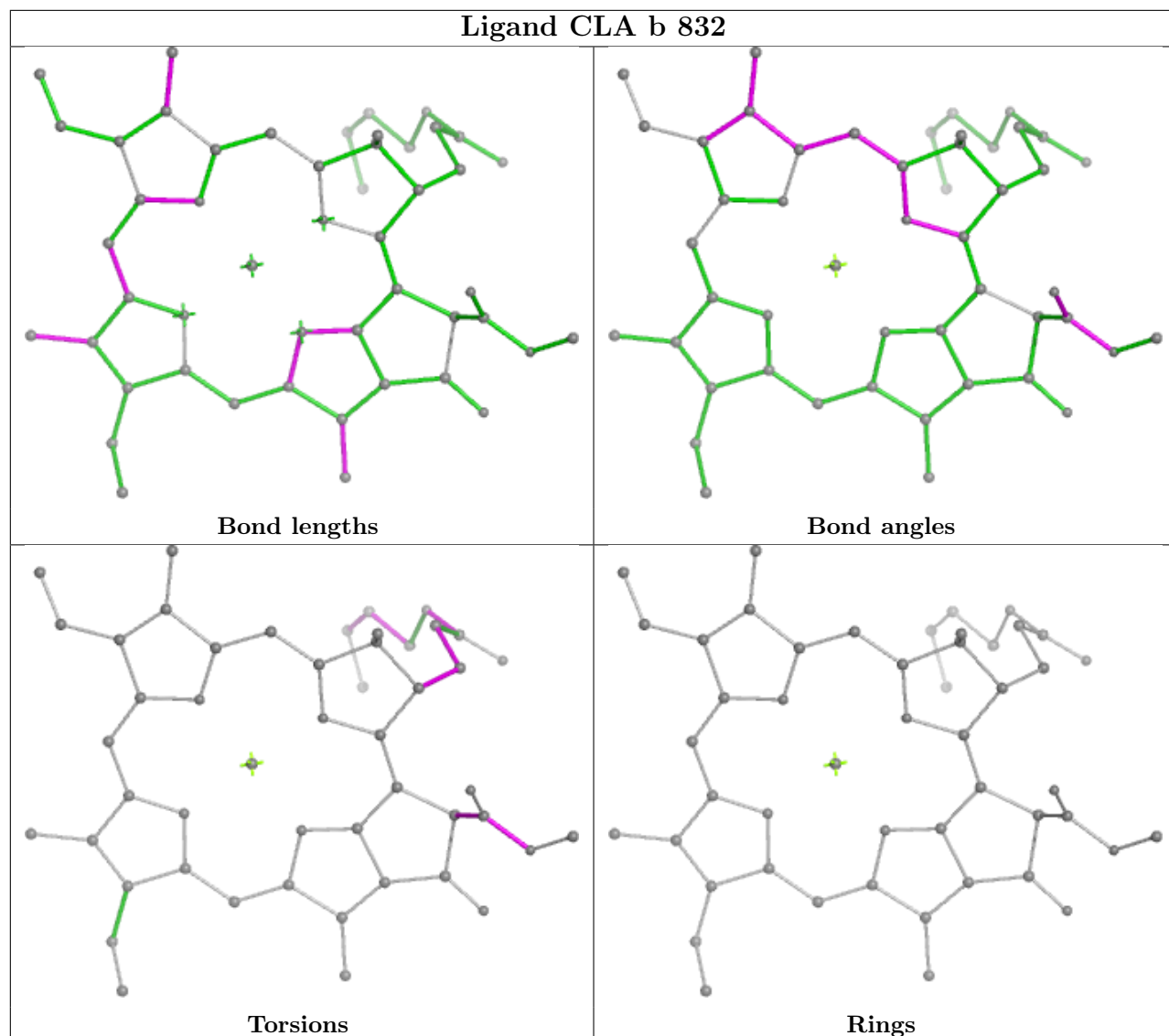


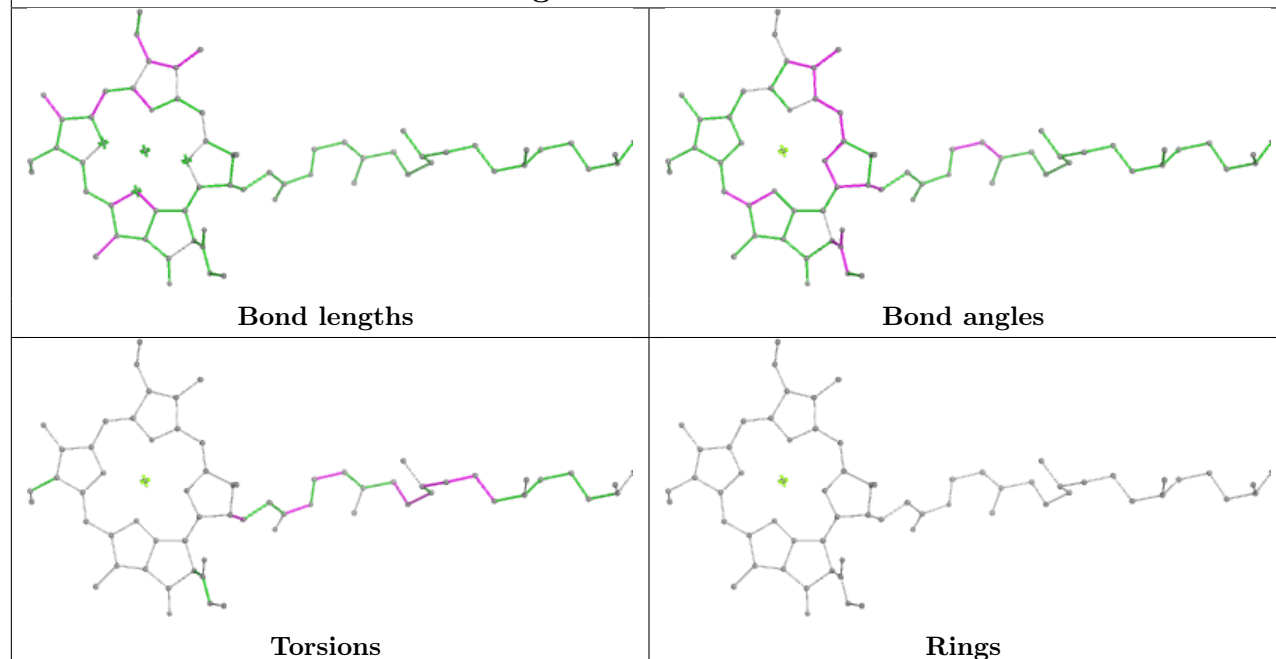
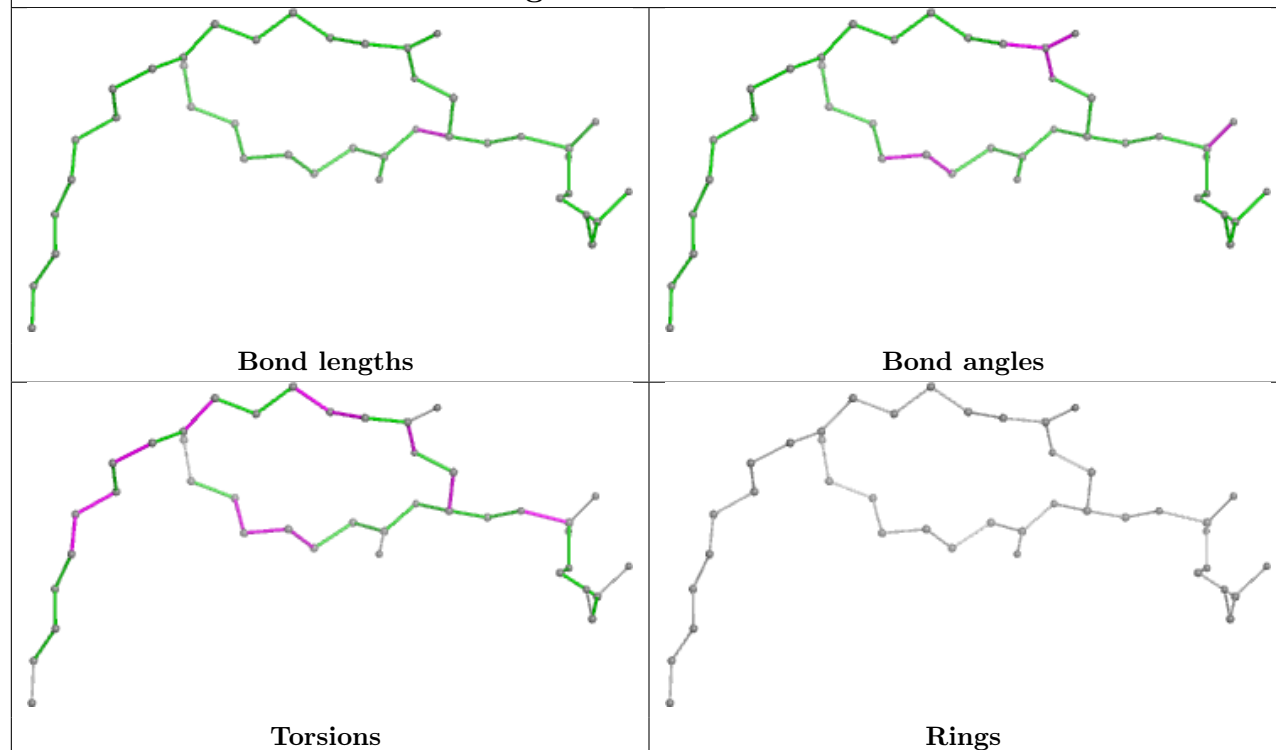




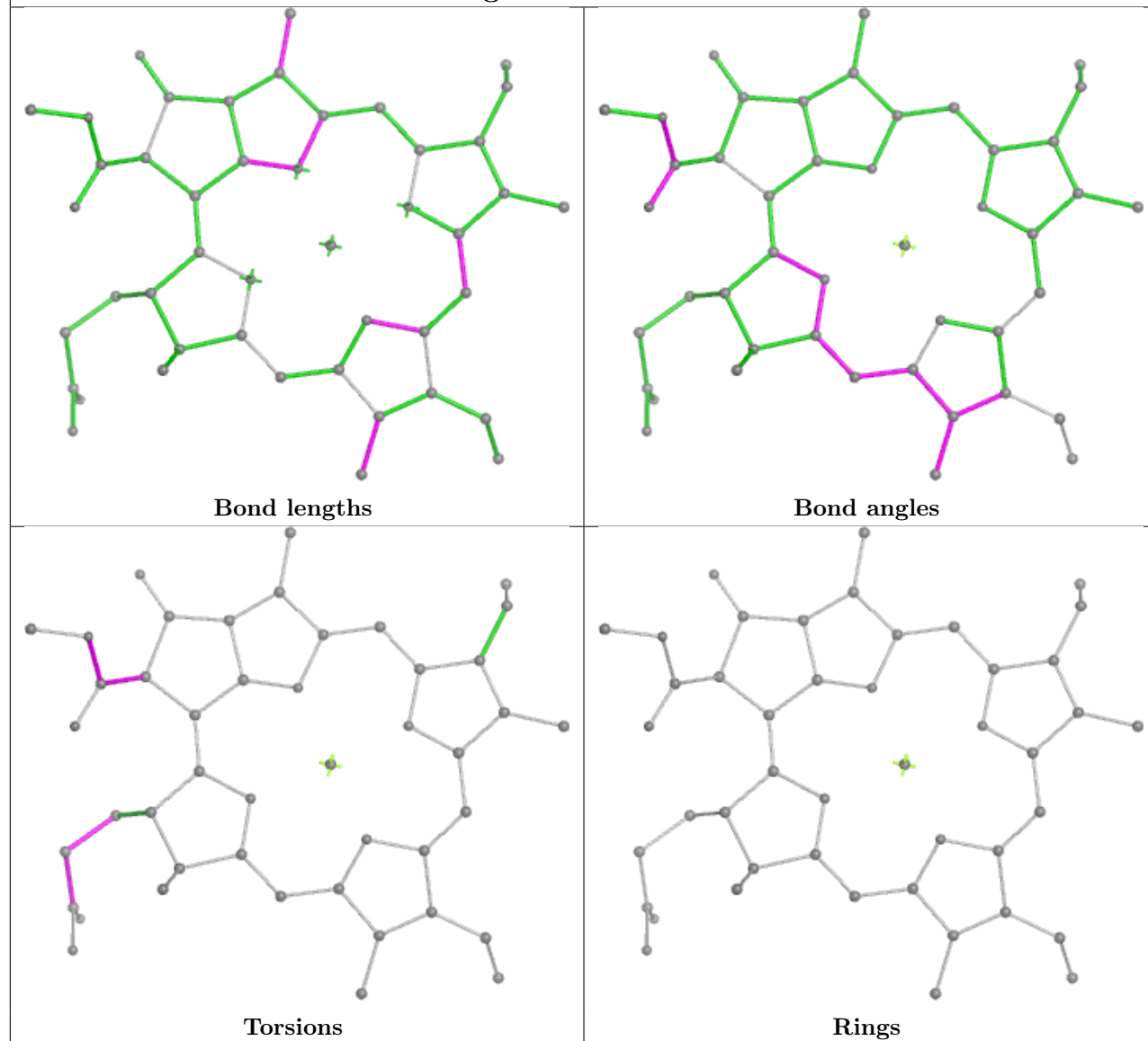


## Ligand CLA b 832

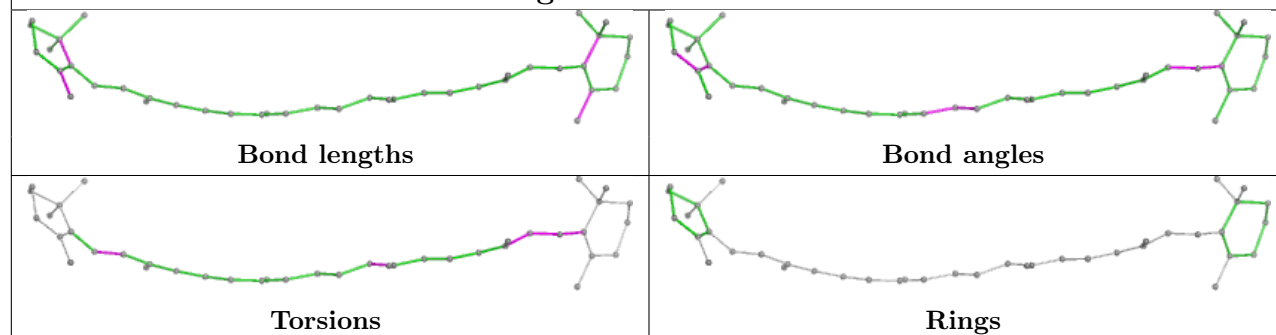


**Ligand CLA B 825****Ligand LHG 1 1655**

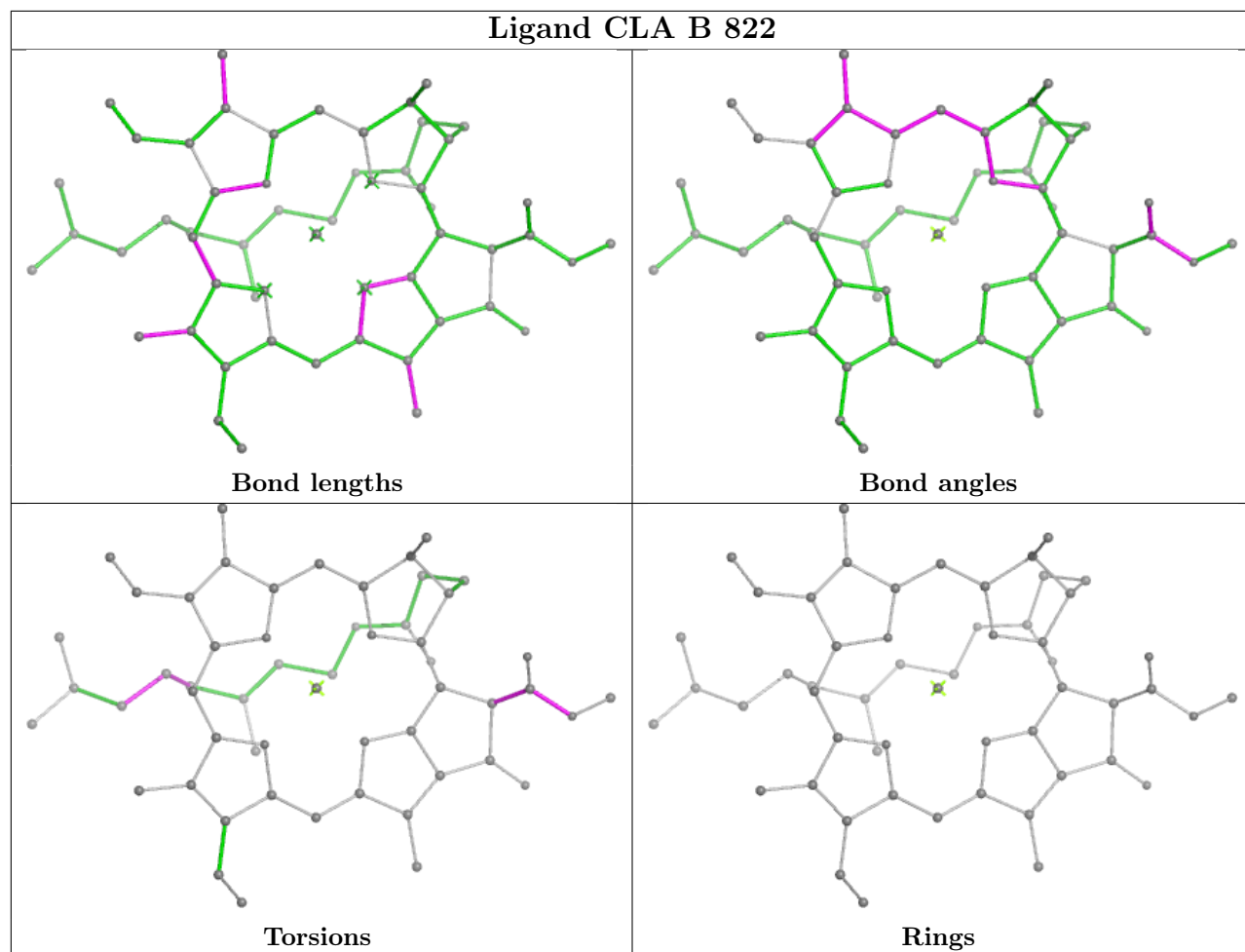
## Ligand CLA z 102

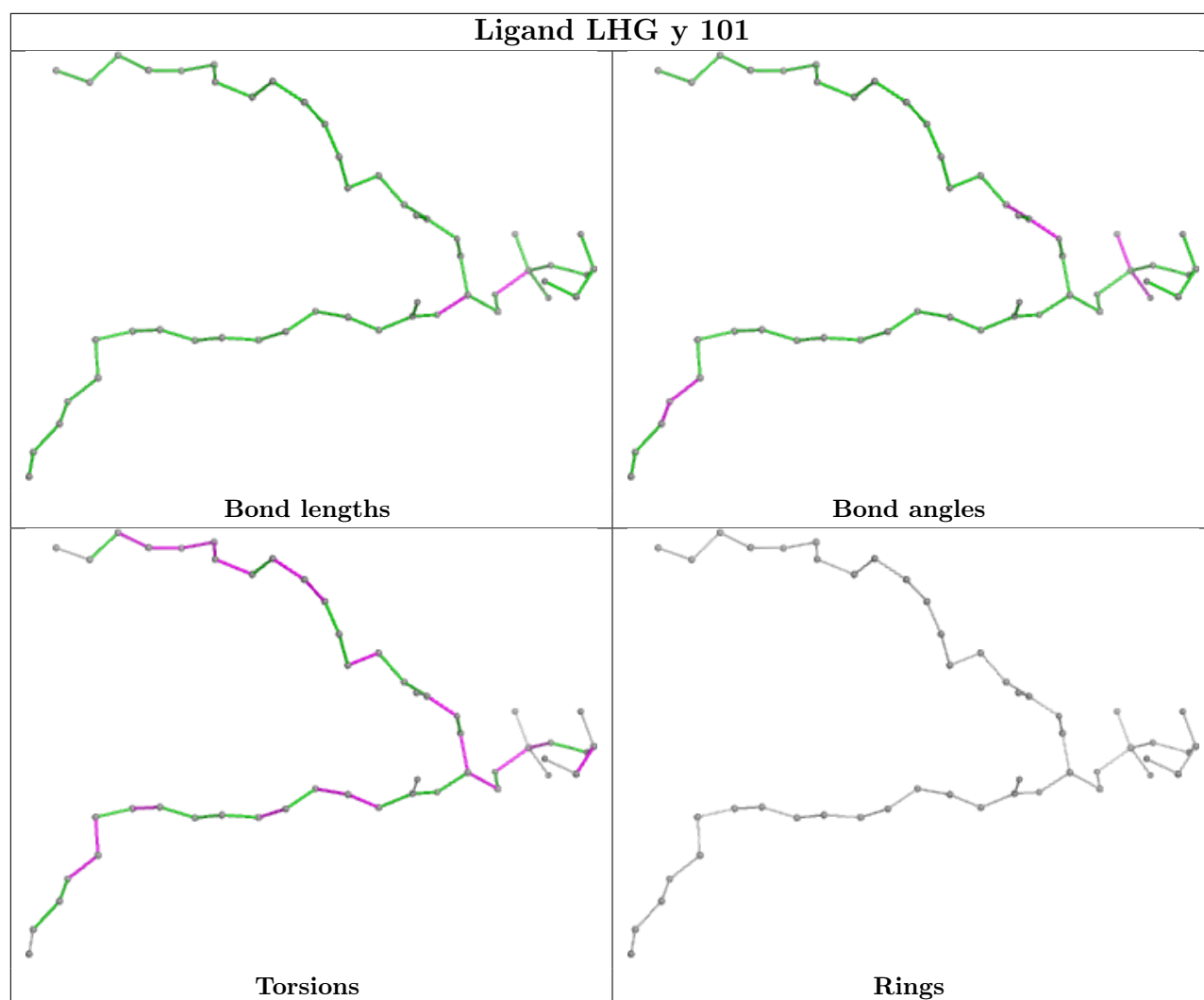


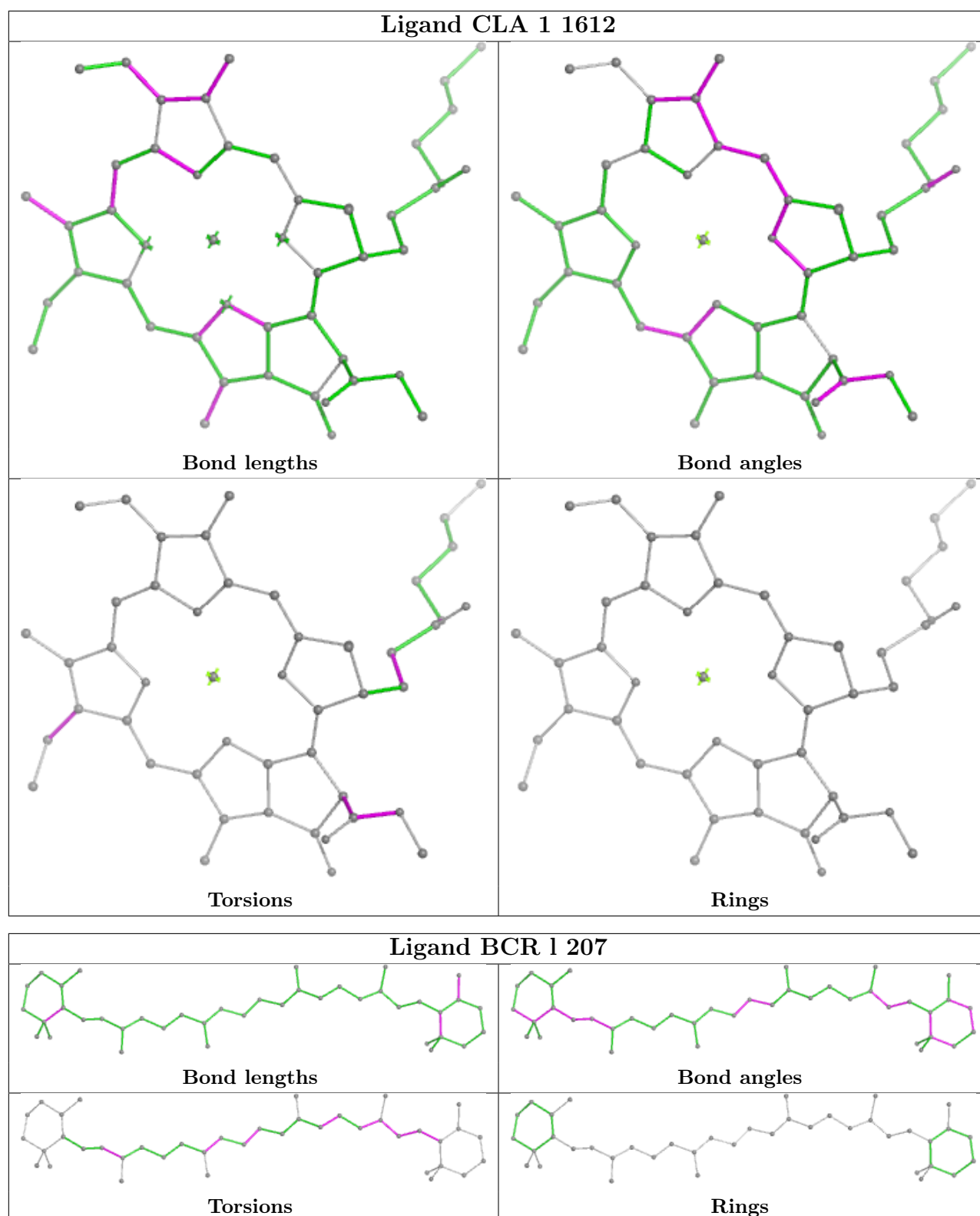
## Ligand BCR I 101



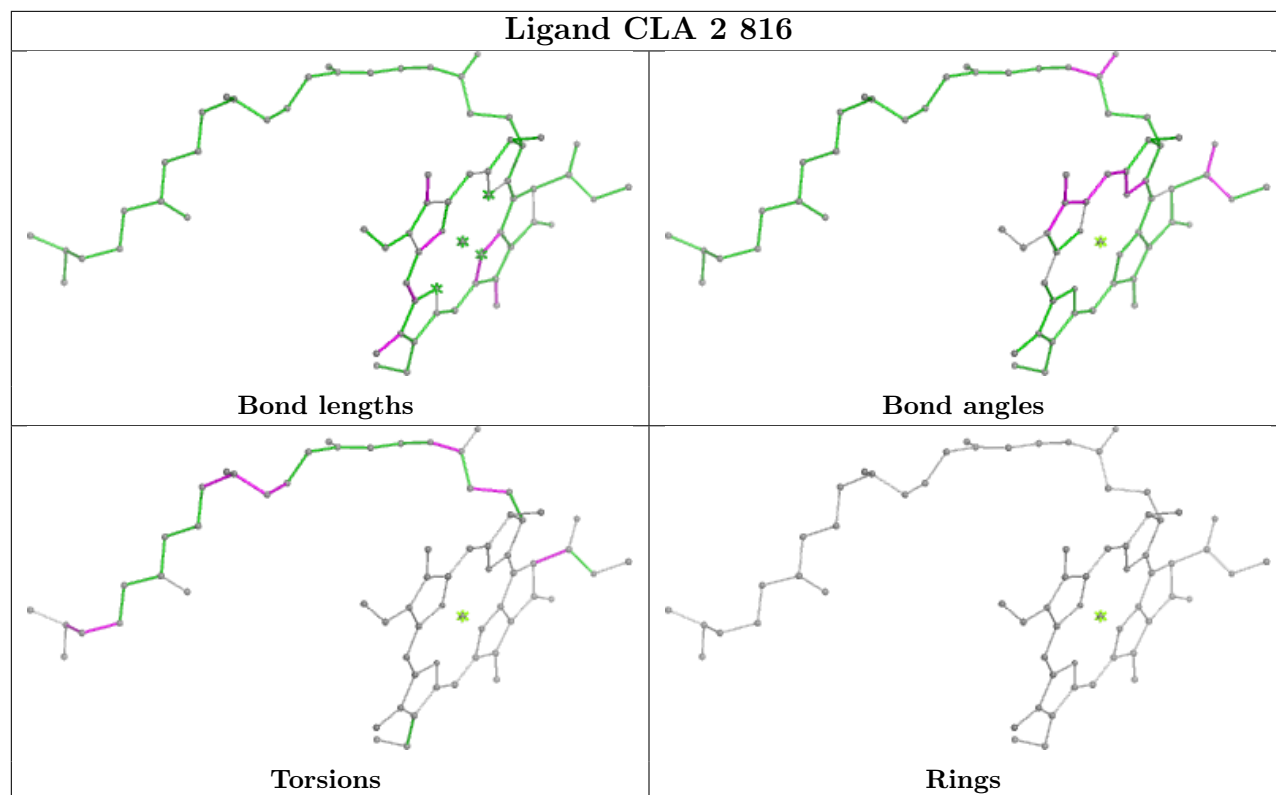
## Ligand CLA B 822



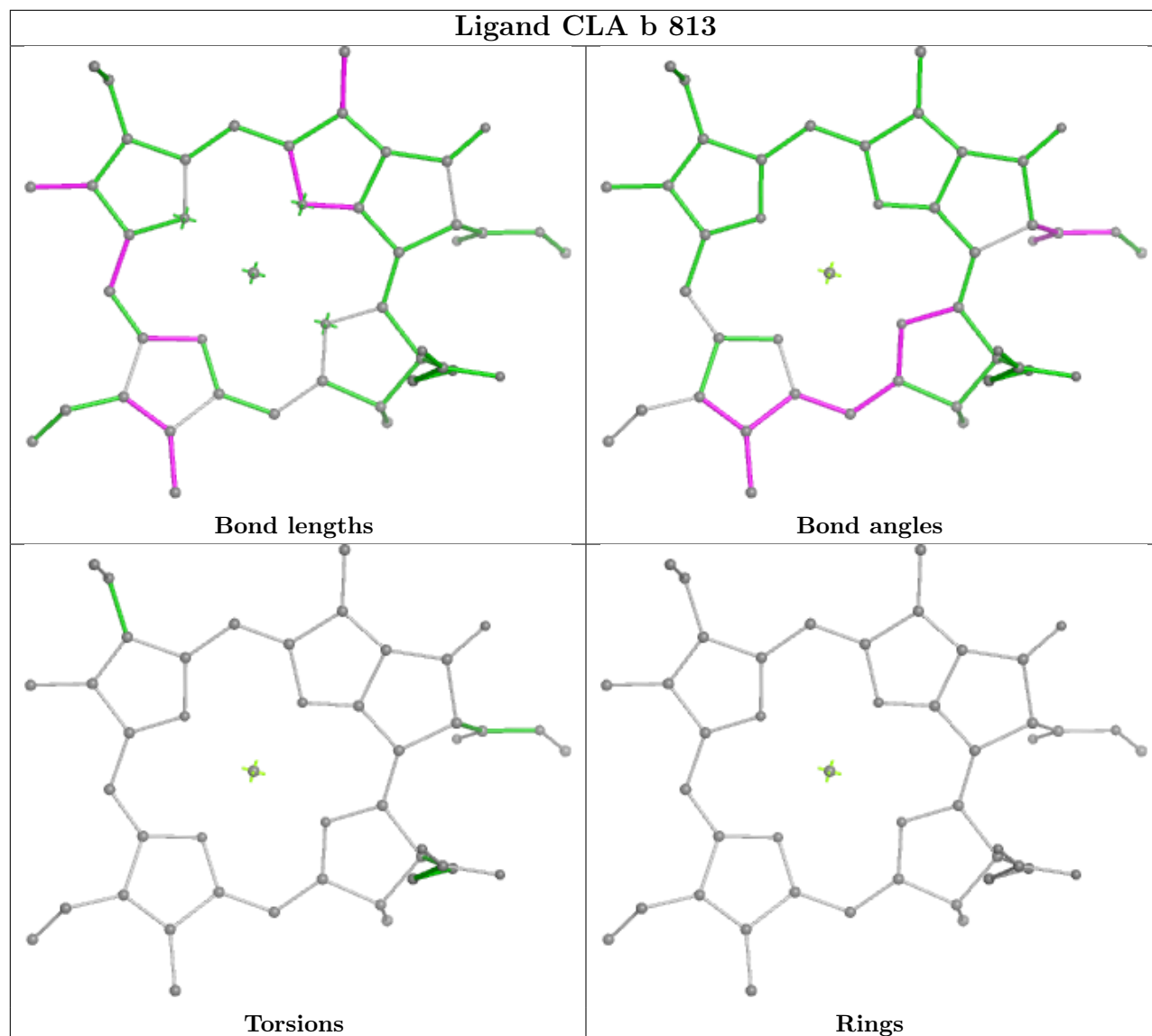


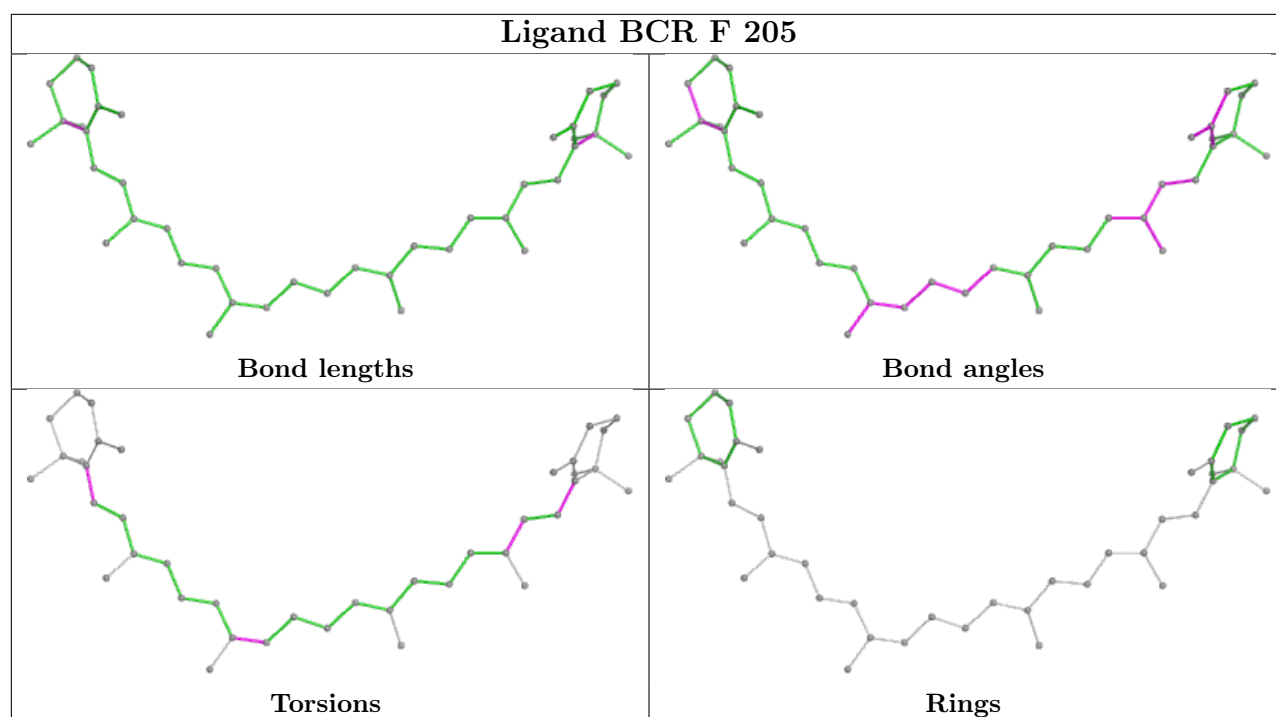


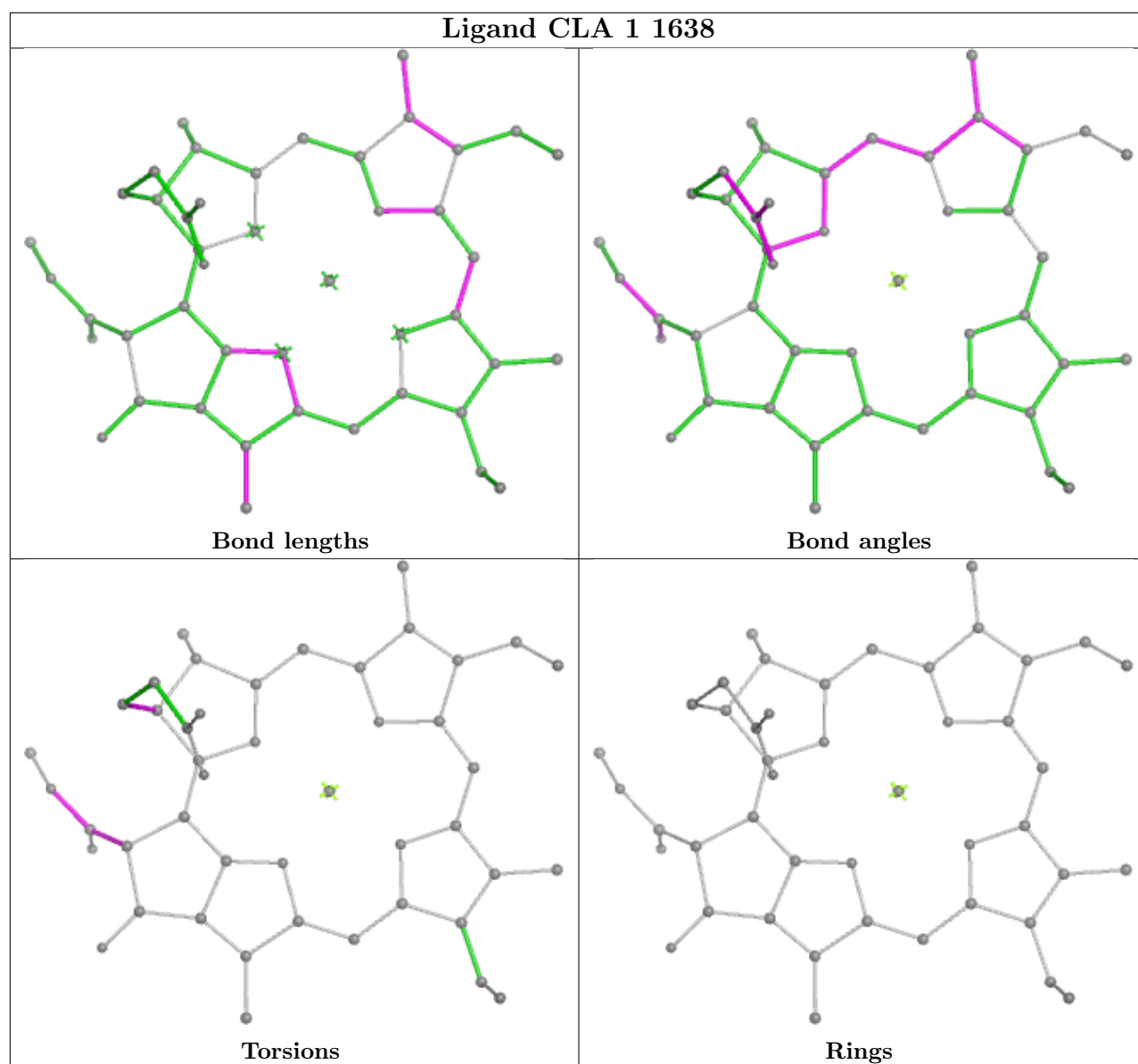


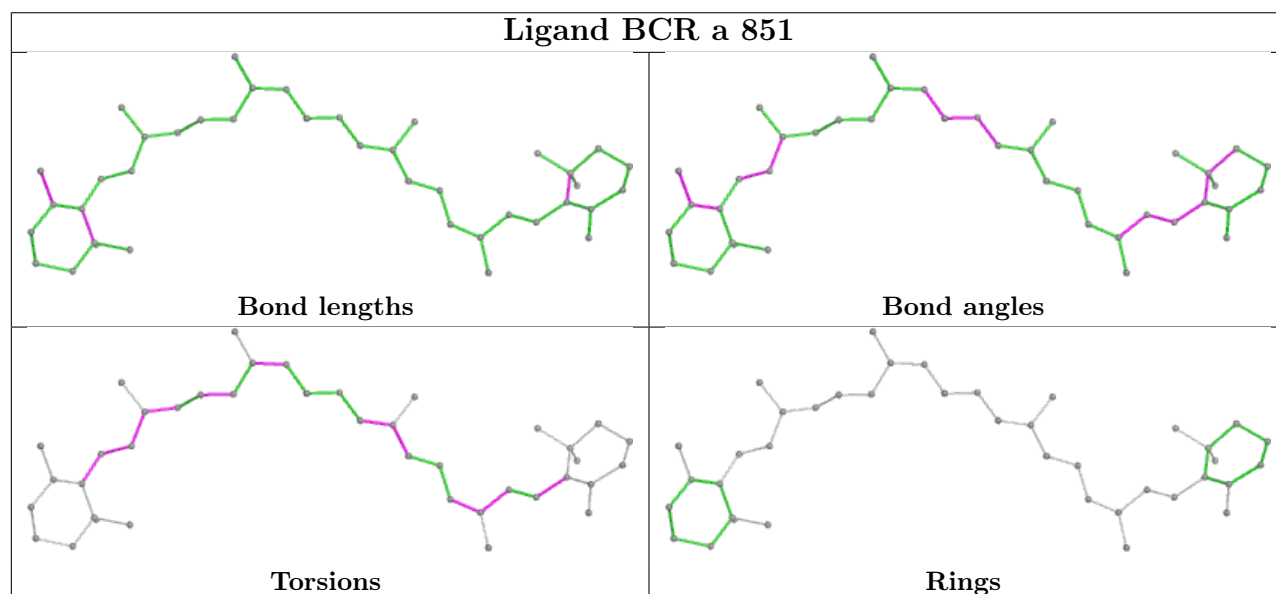
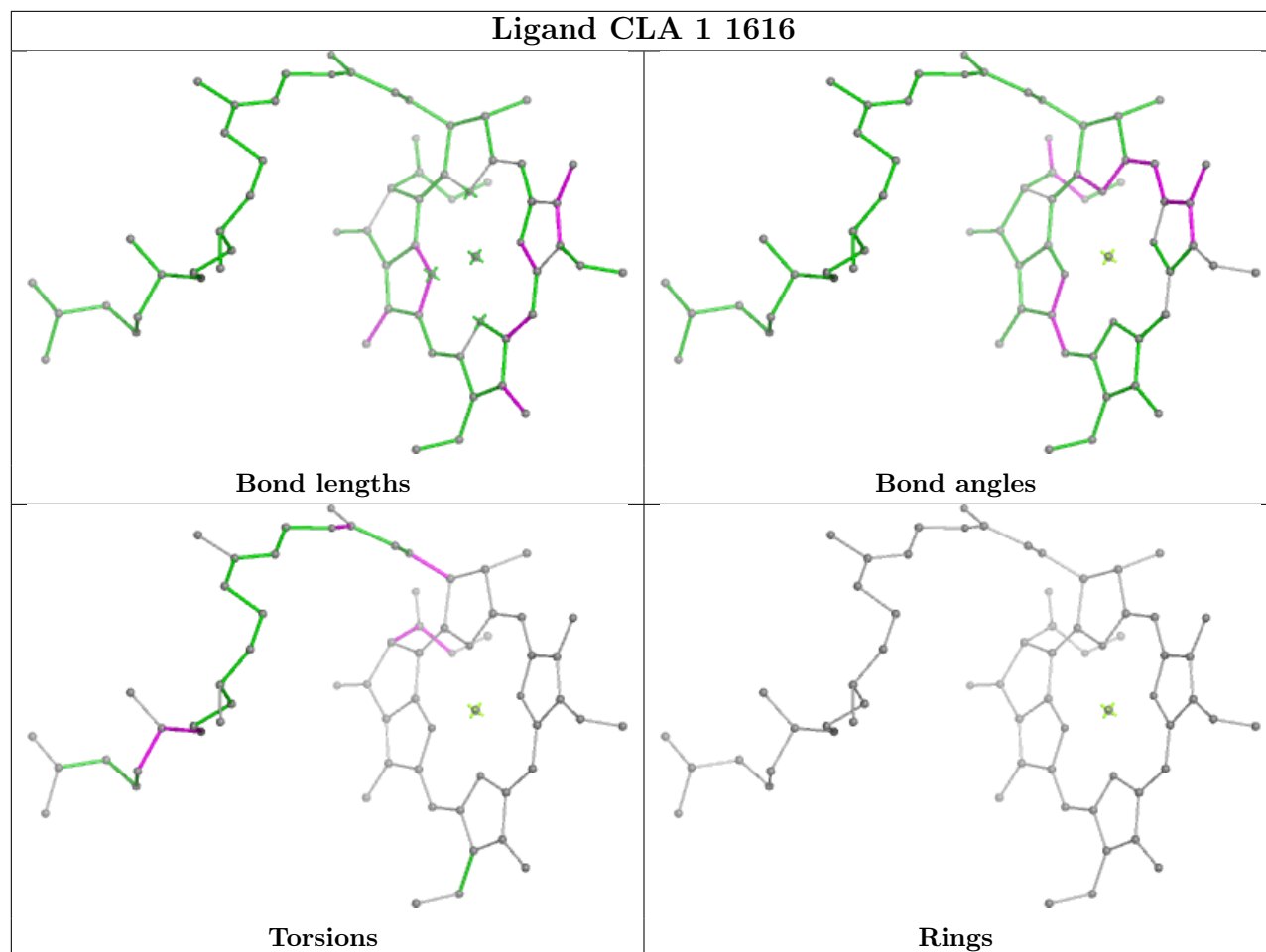


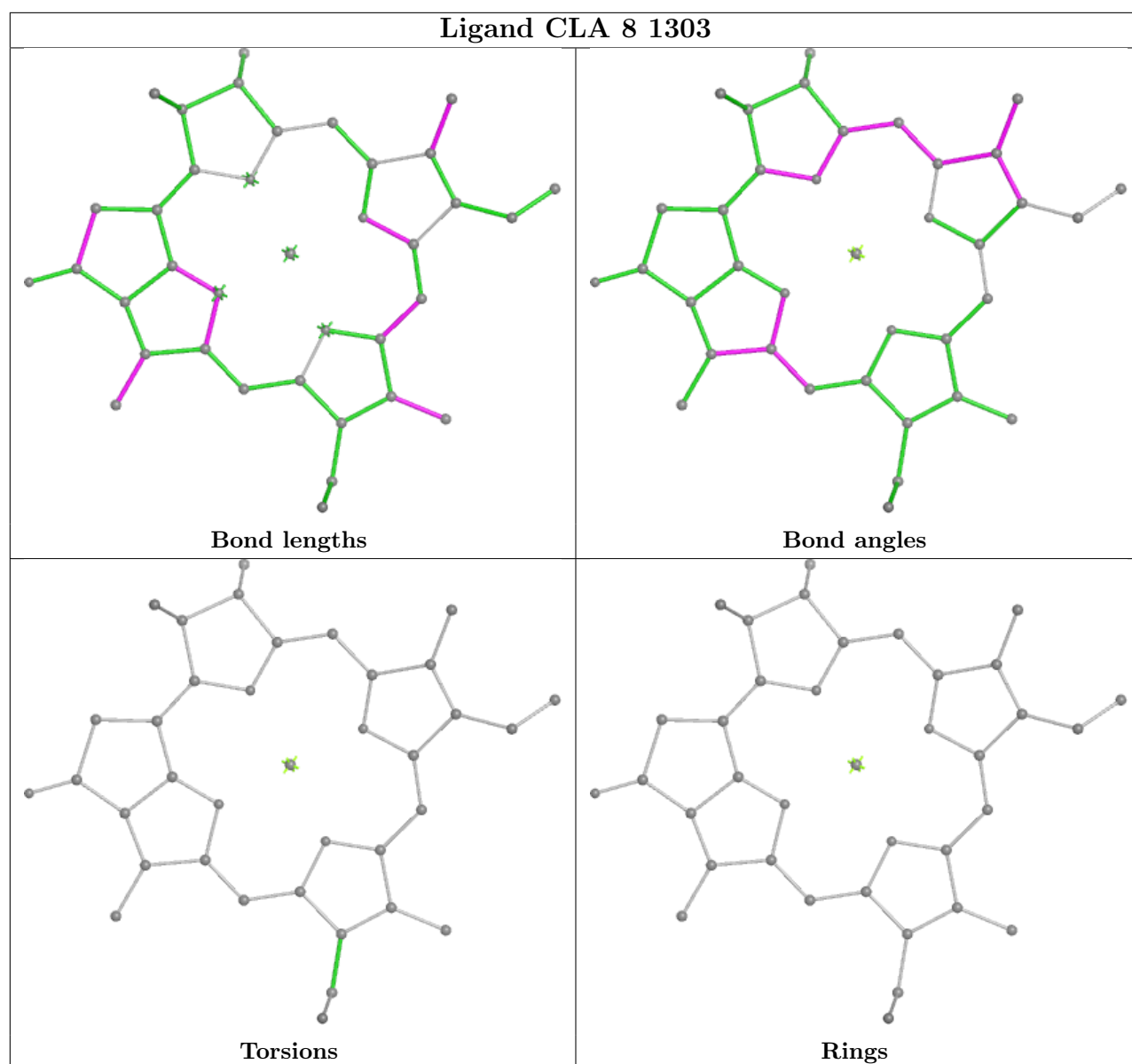
## Ligand CLA b 813

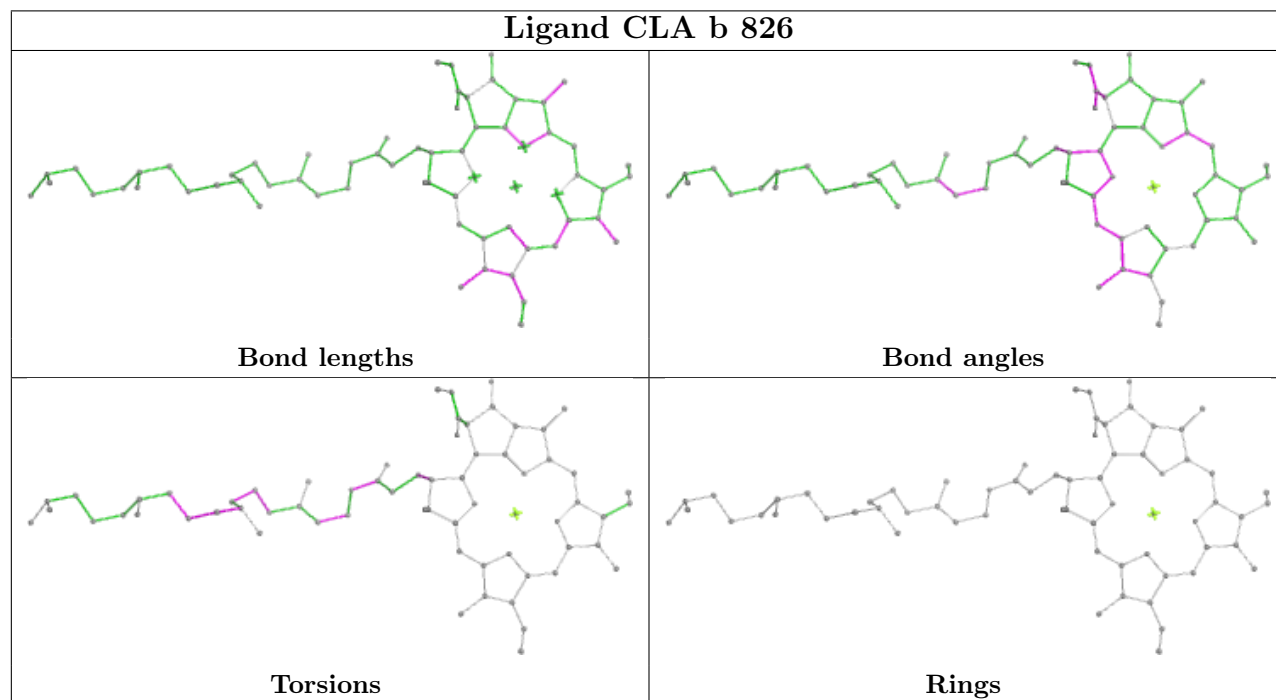
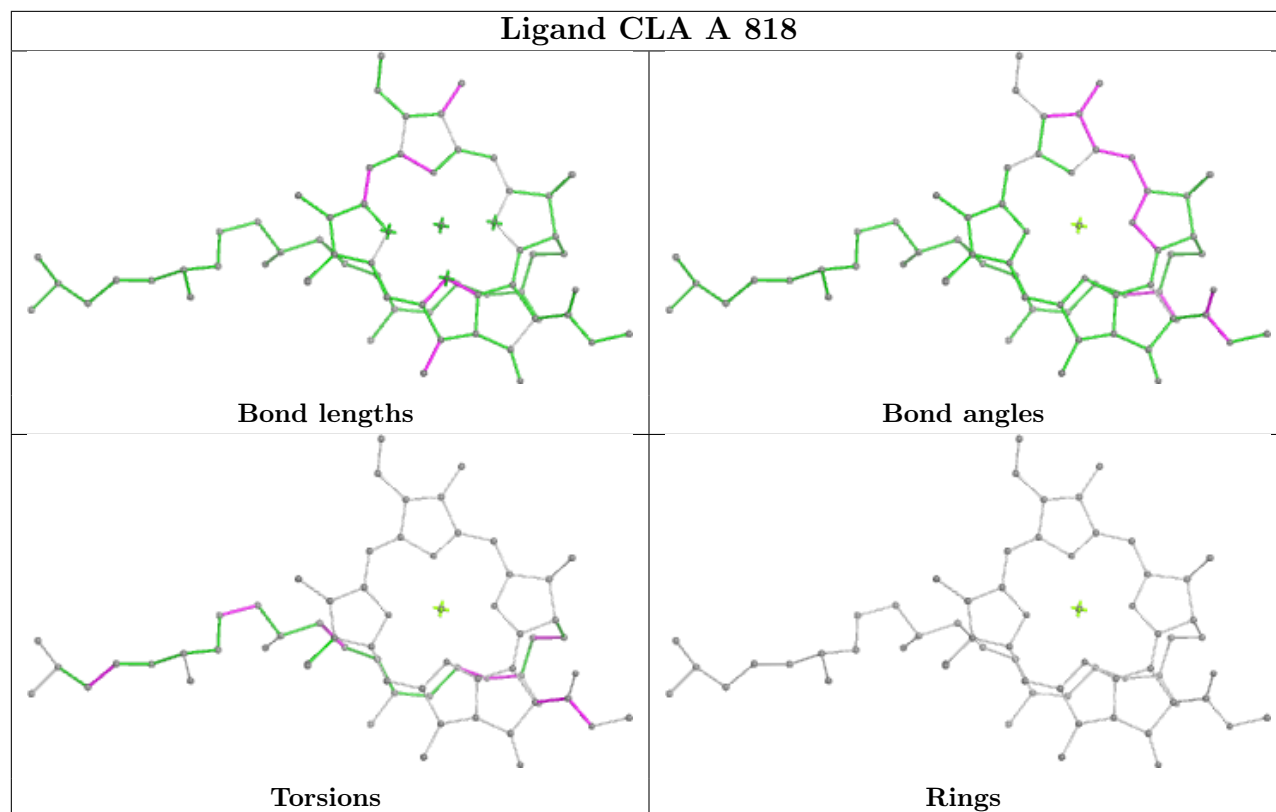




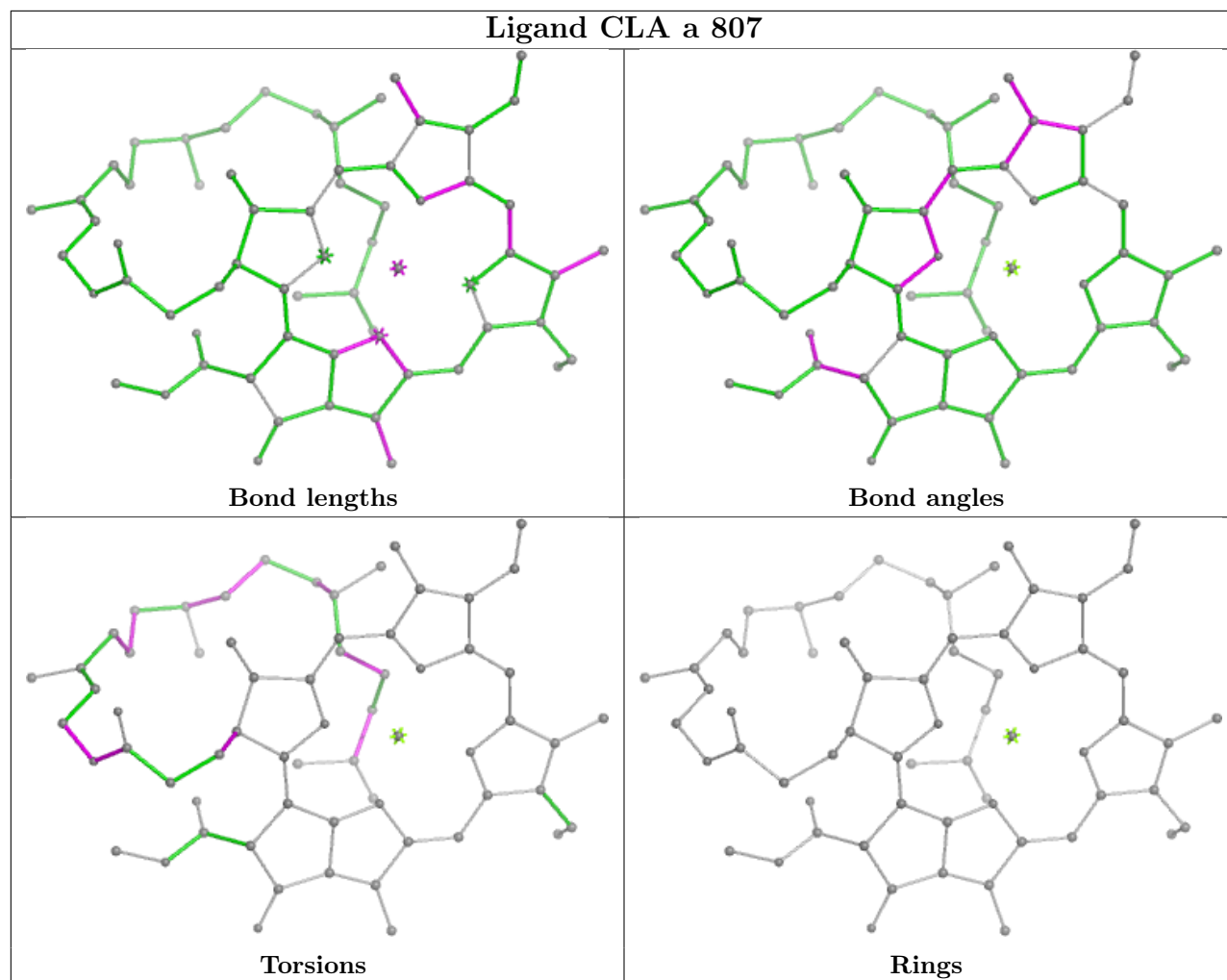




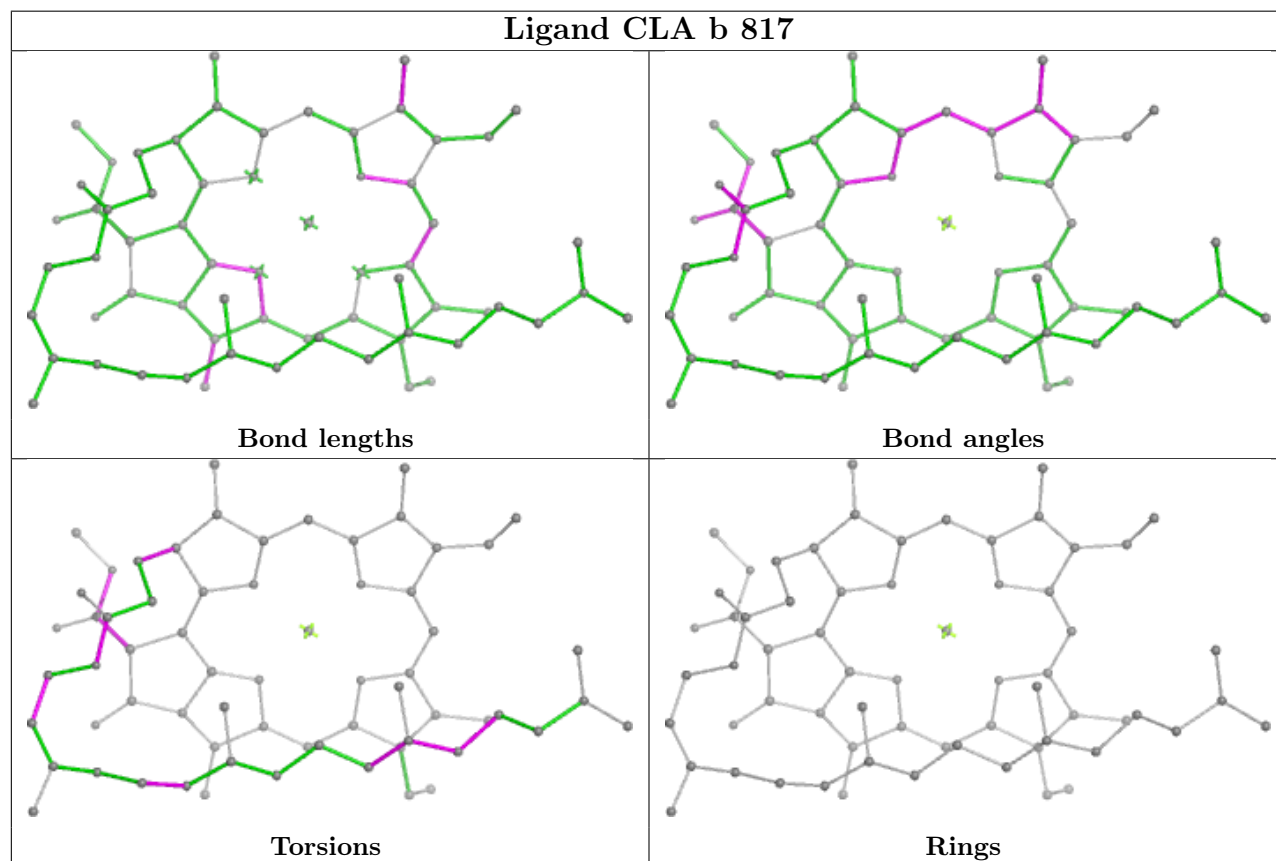
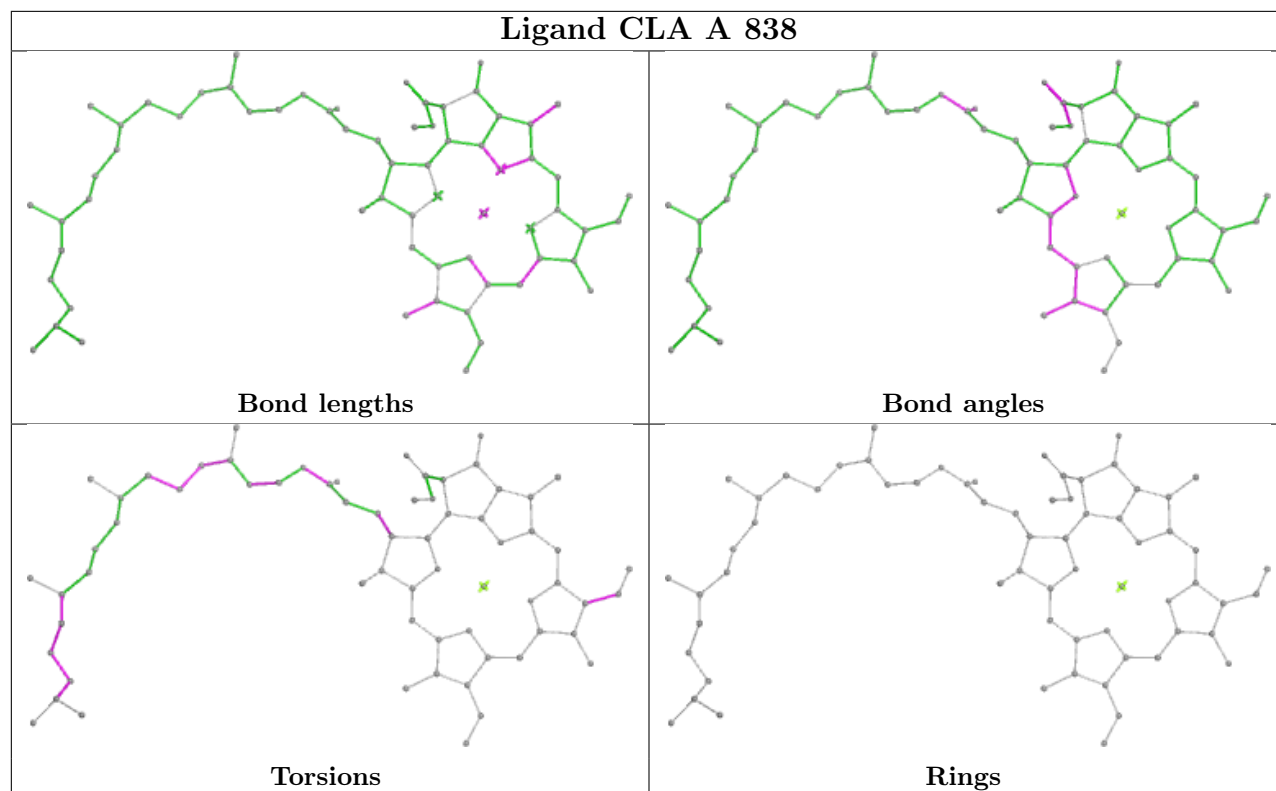


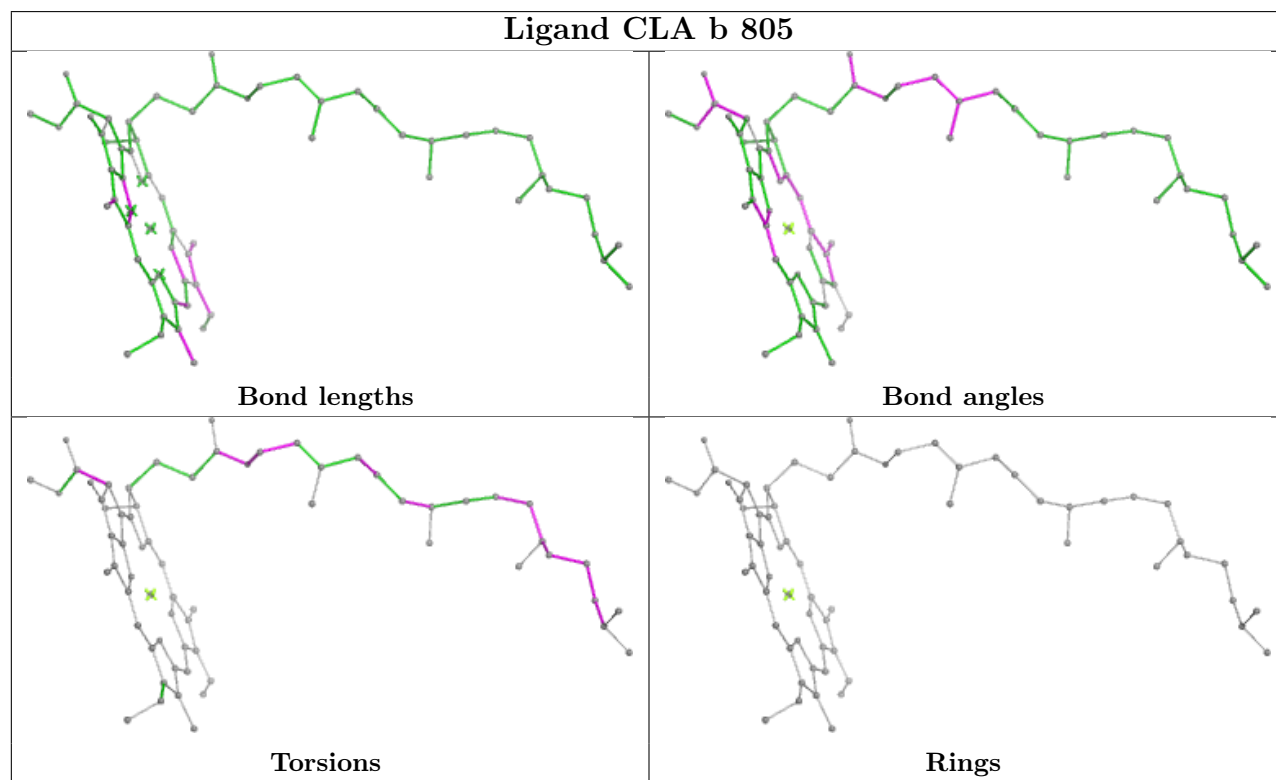
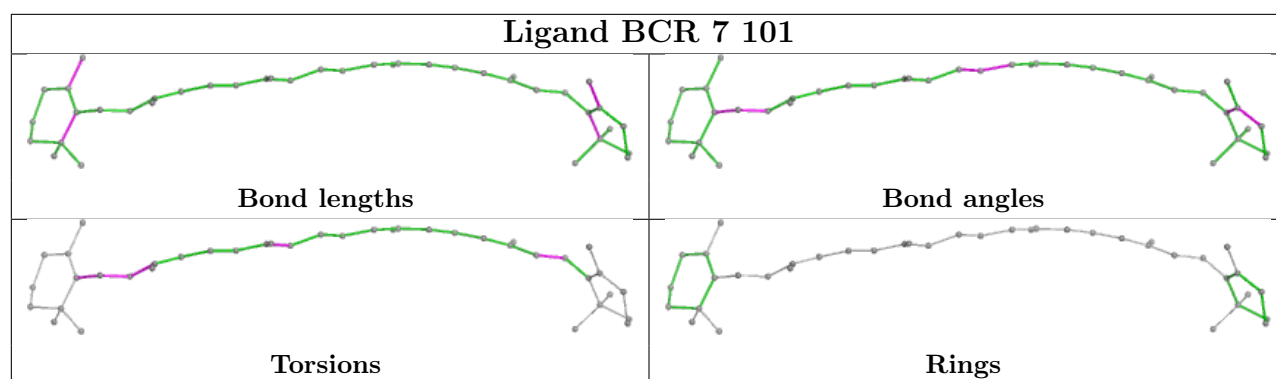


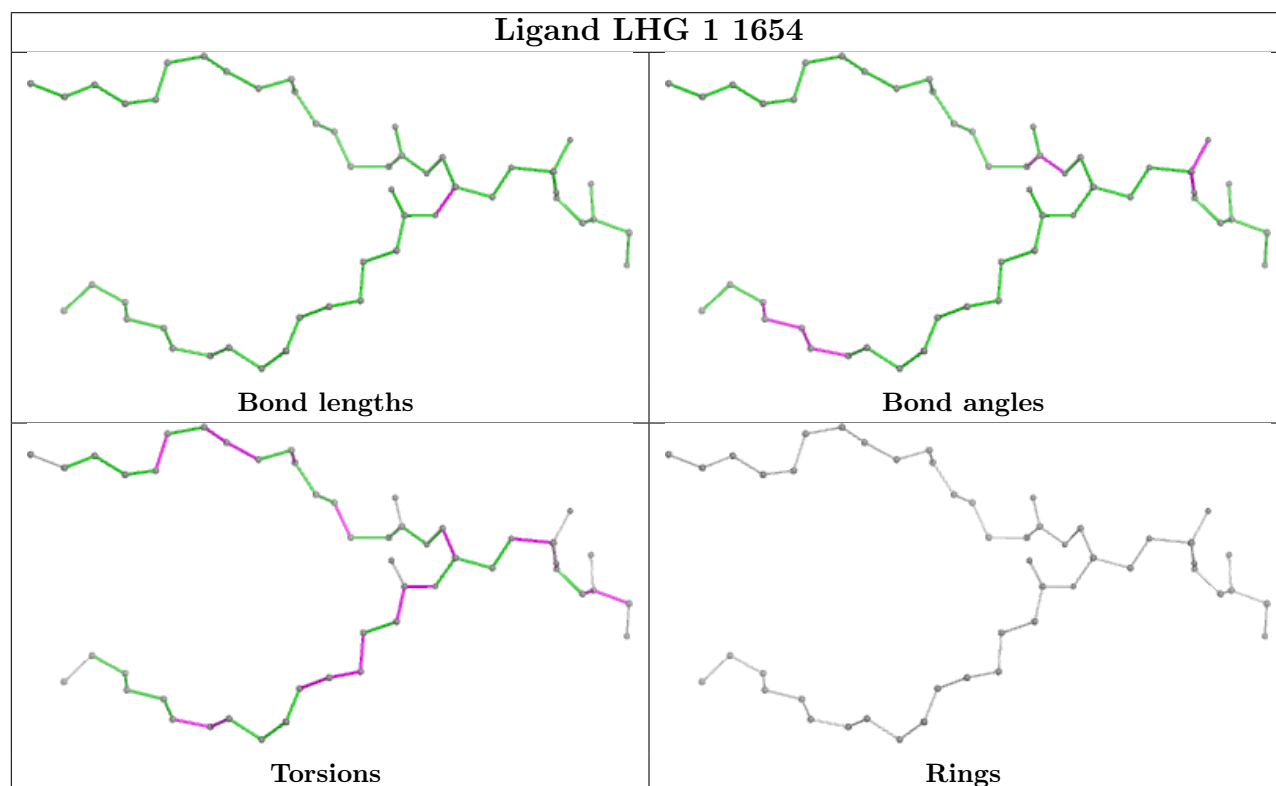
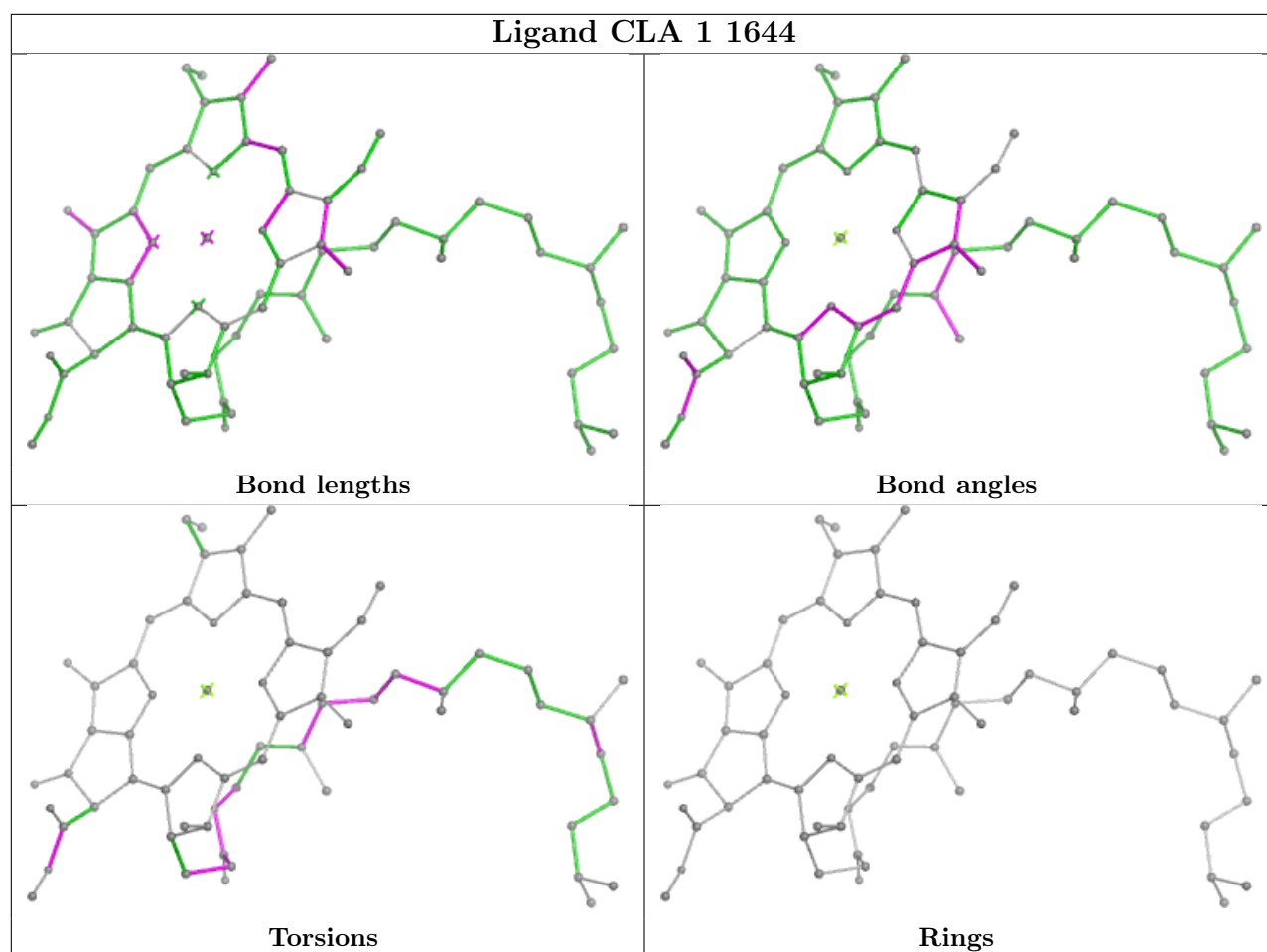
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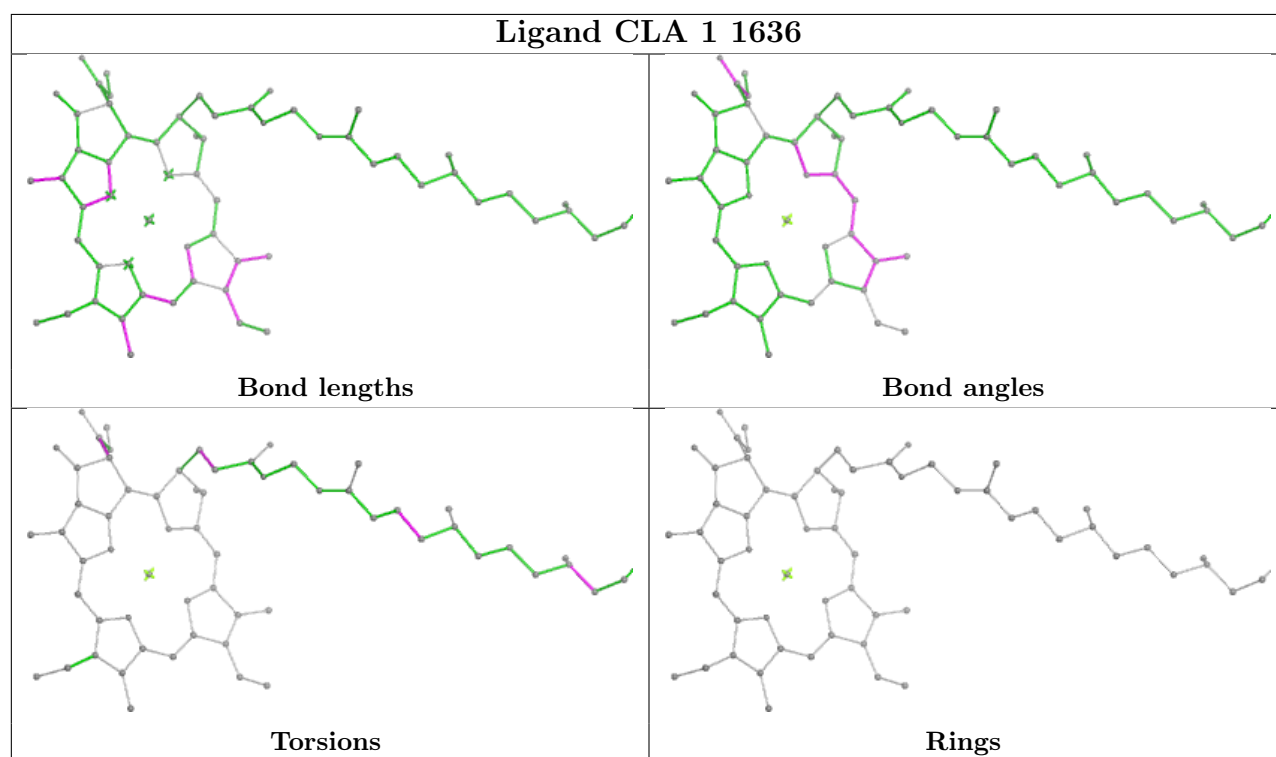
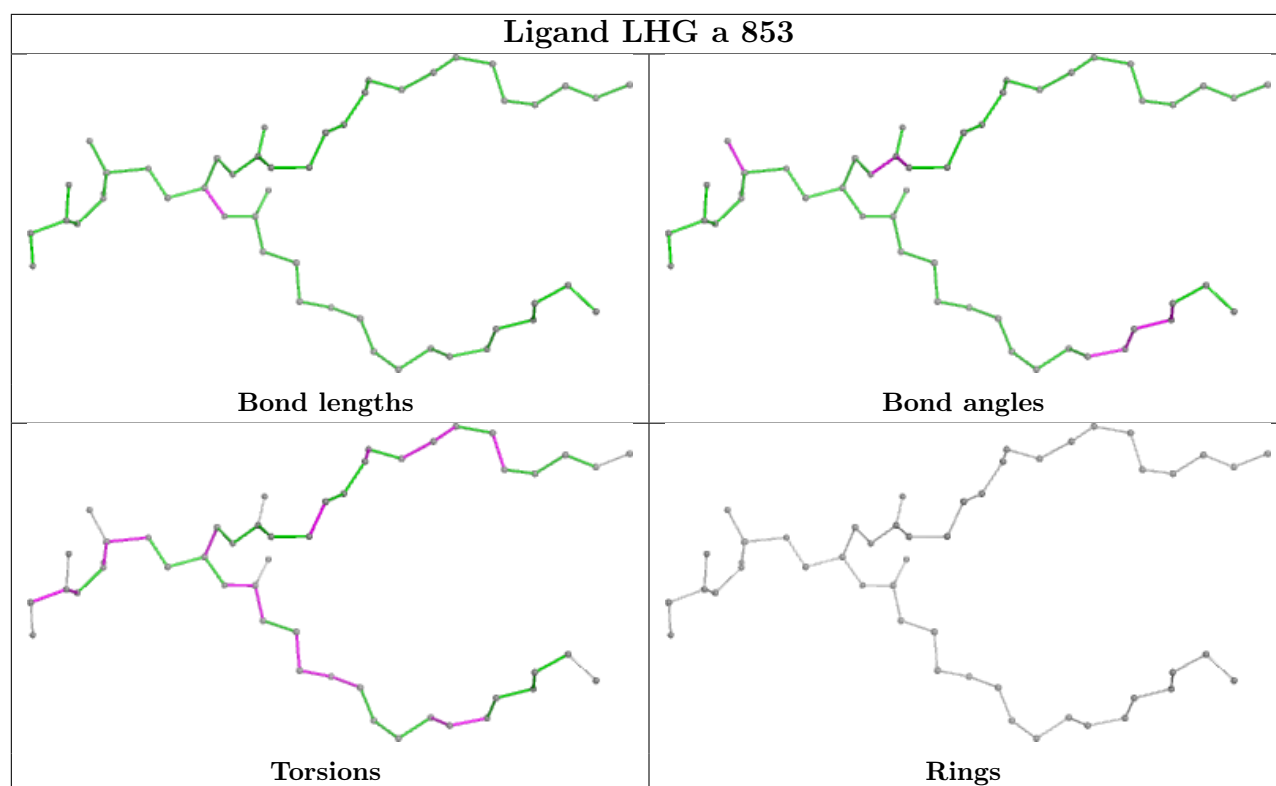




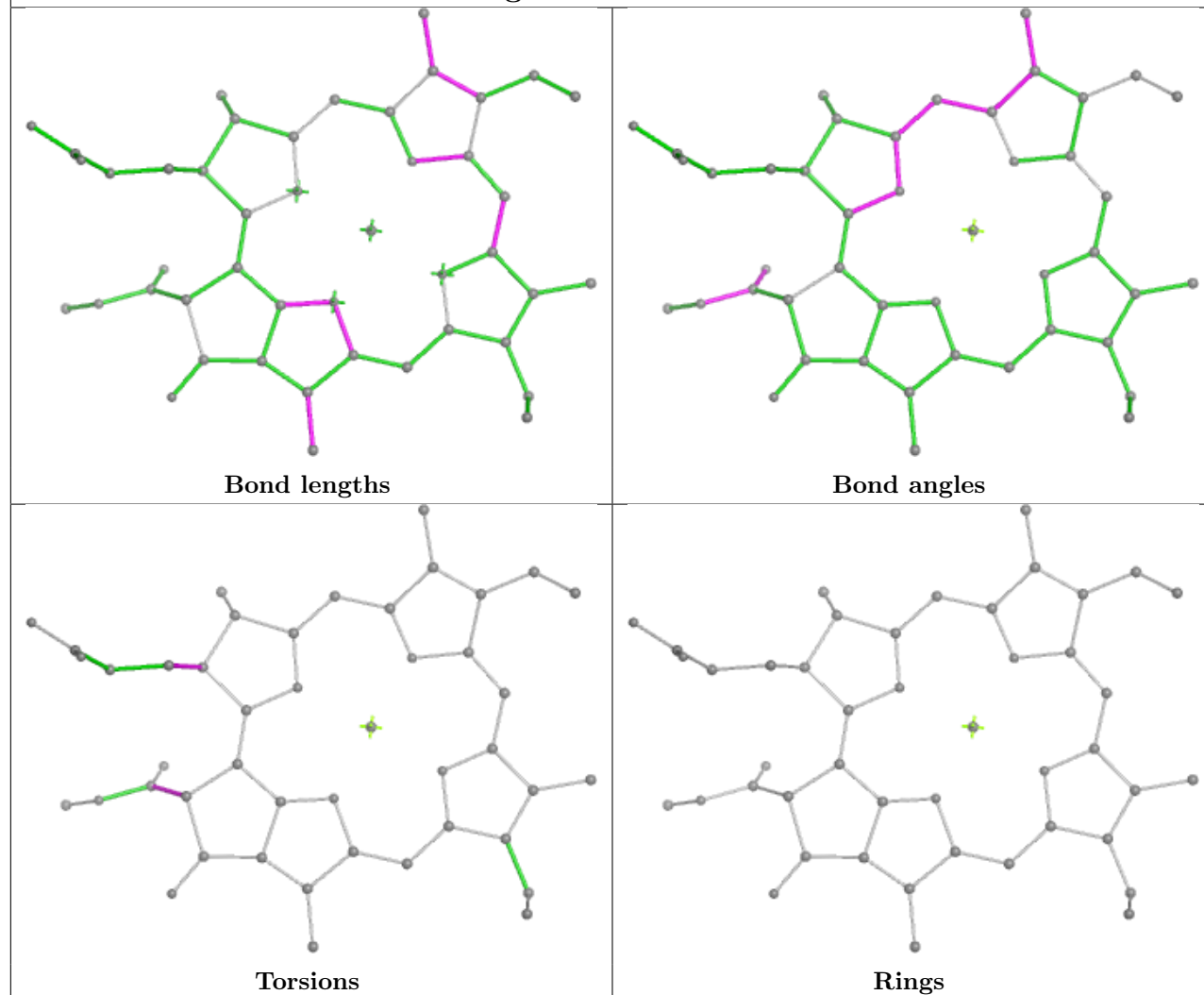




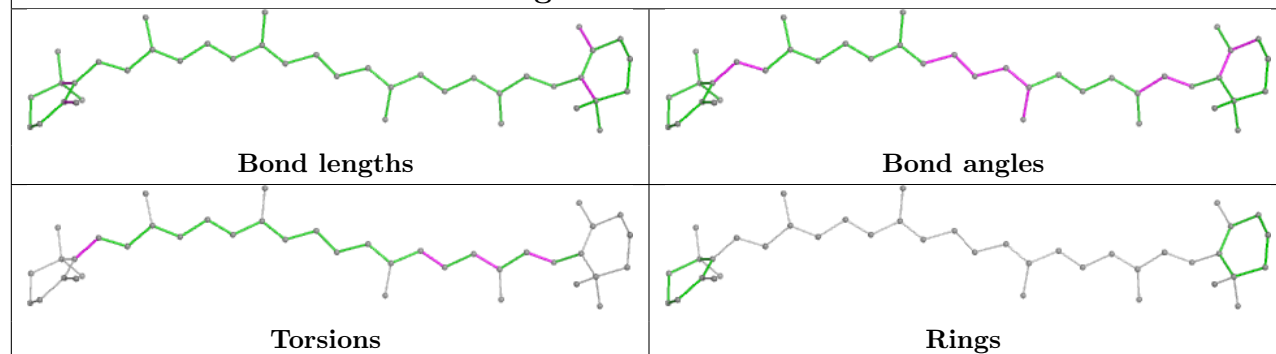




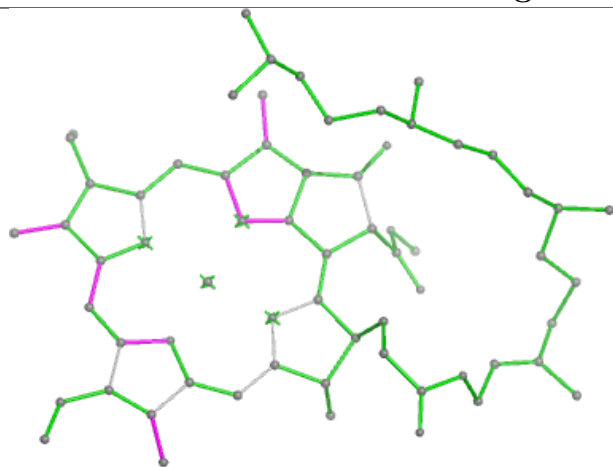
## Ligand CLA b 837



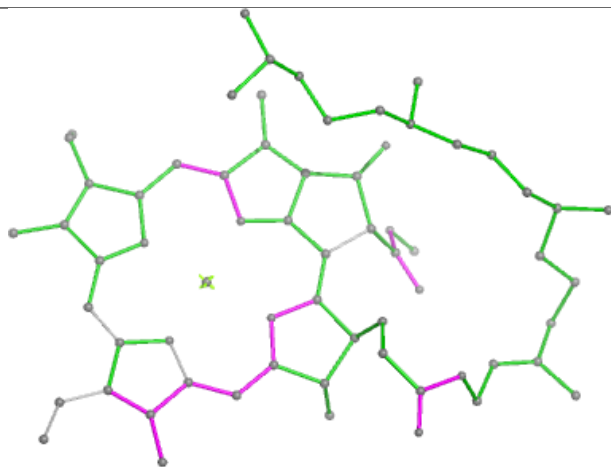
## Ligand BCR 2 849



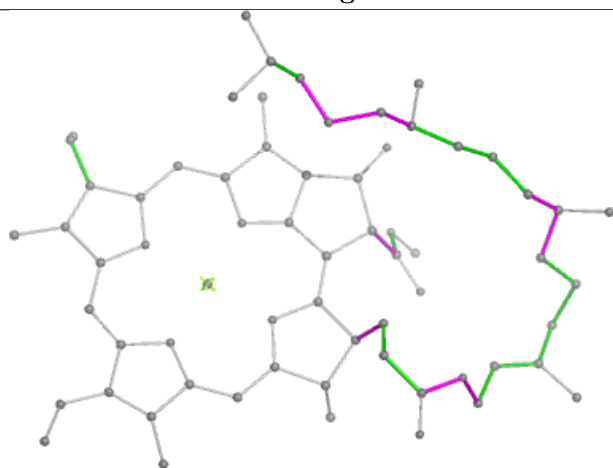
## Ligand CLA B 805



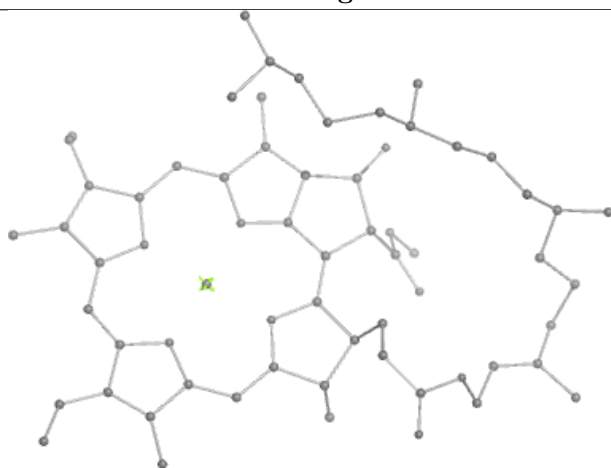
Bond lengths



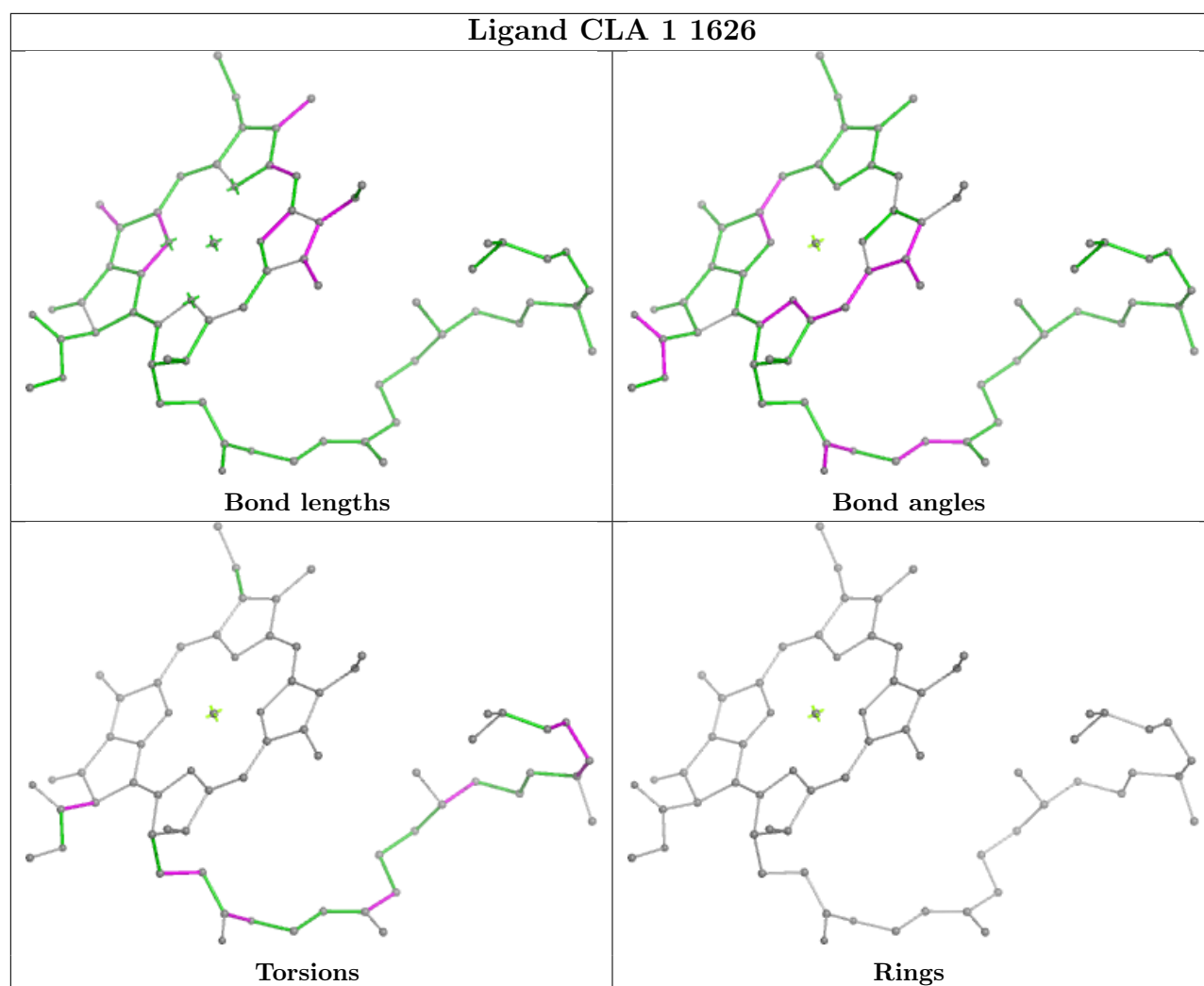
Bond angles

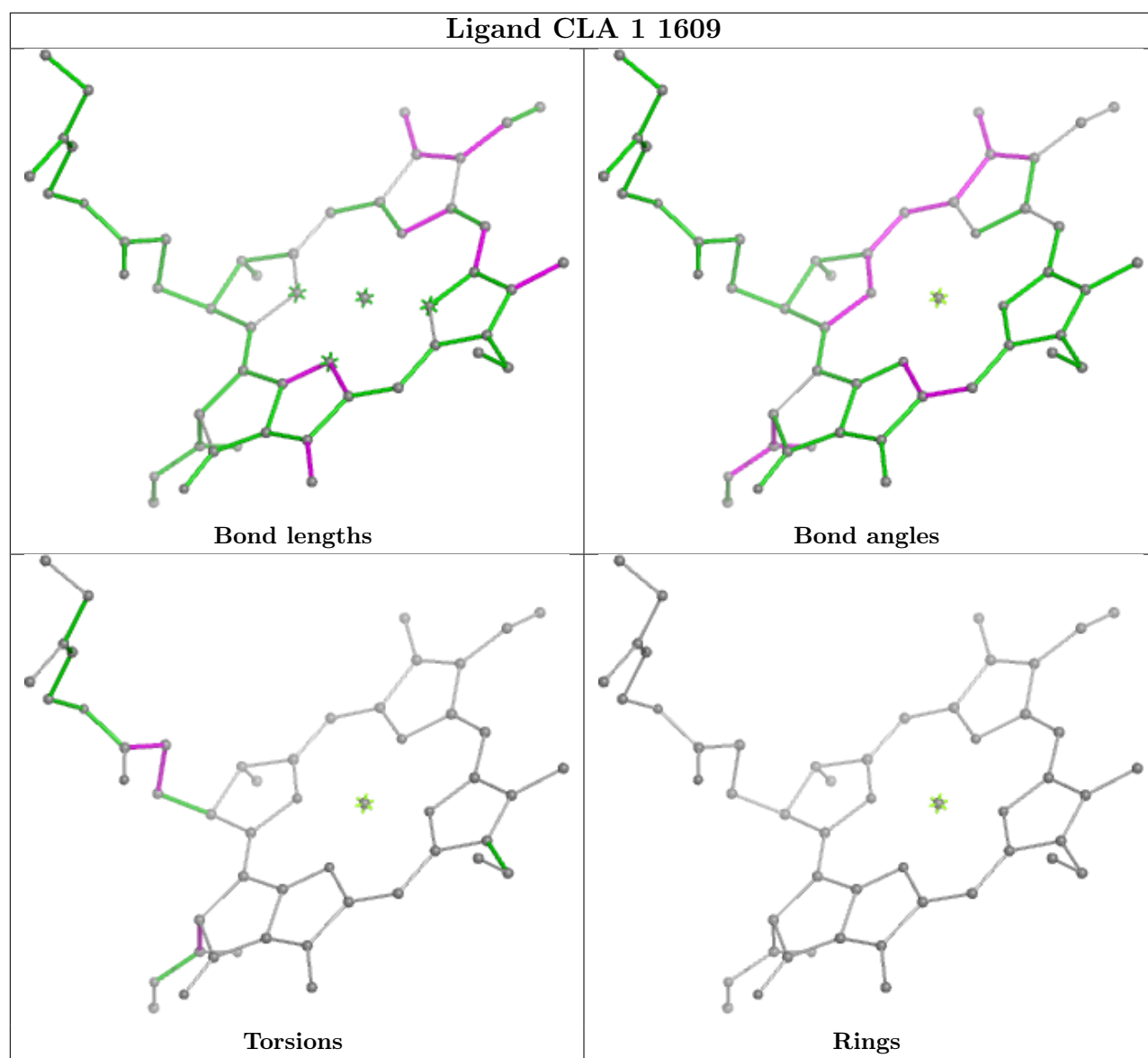


Torsions



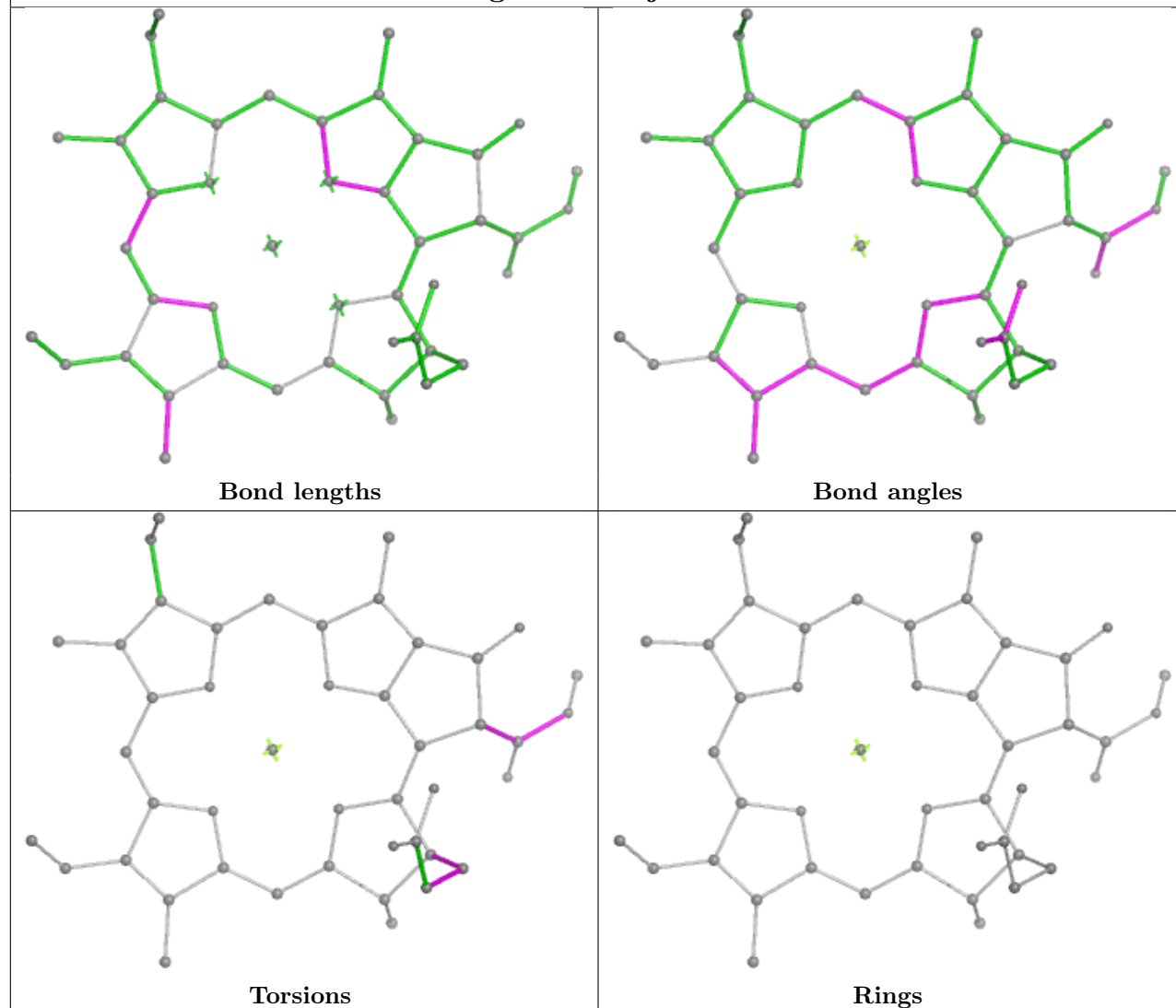
Rings



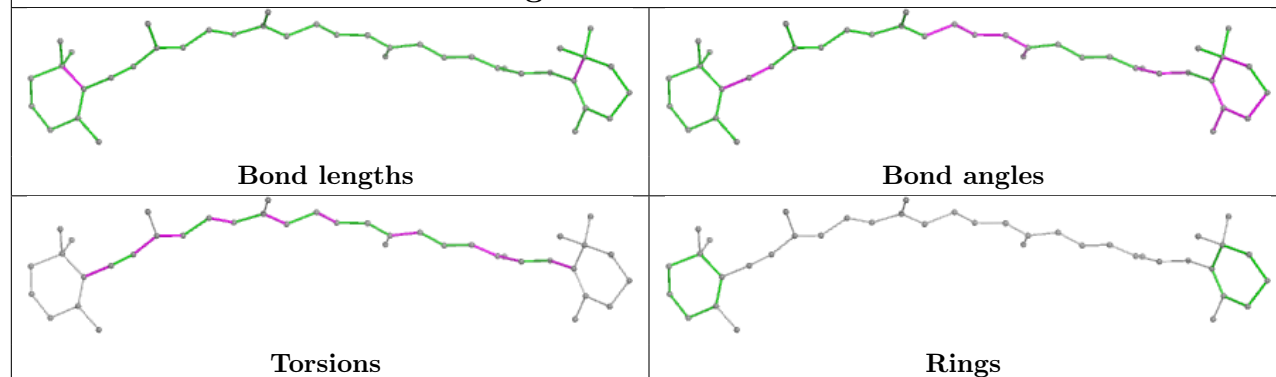


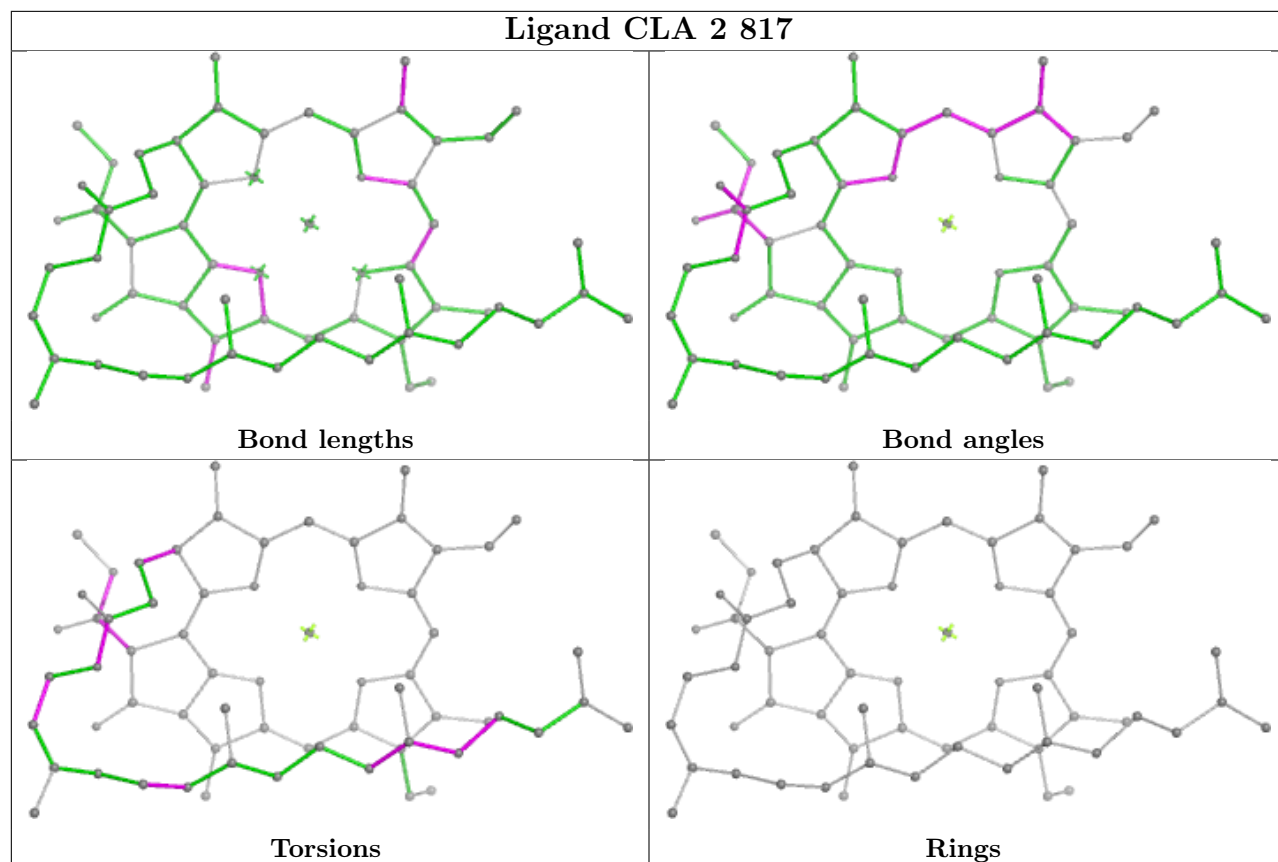


## Ligand CLA j 1302

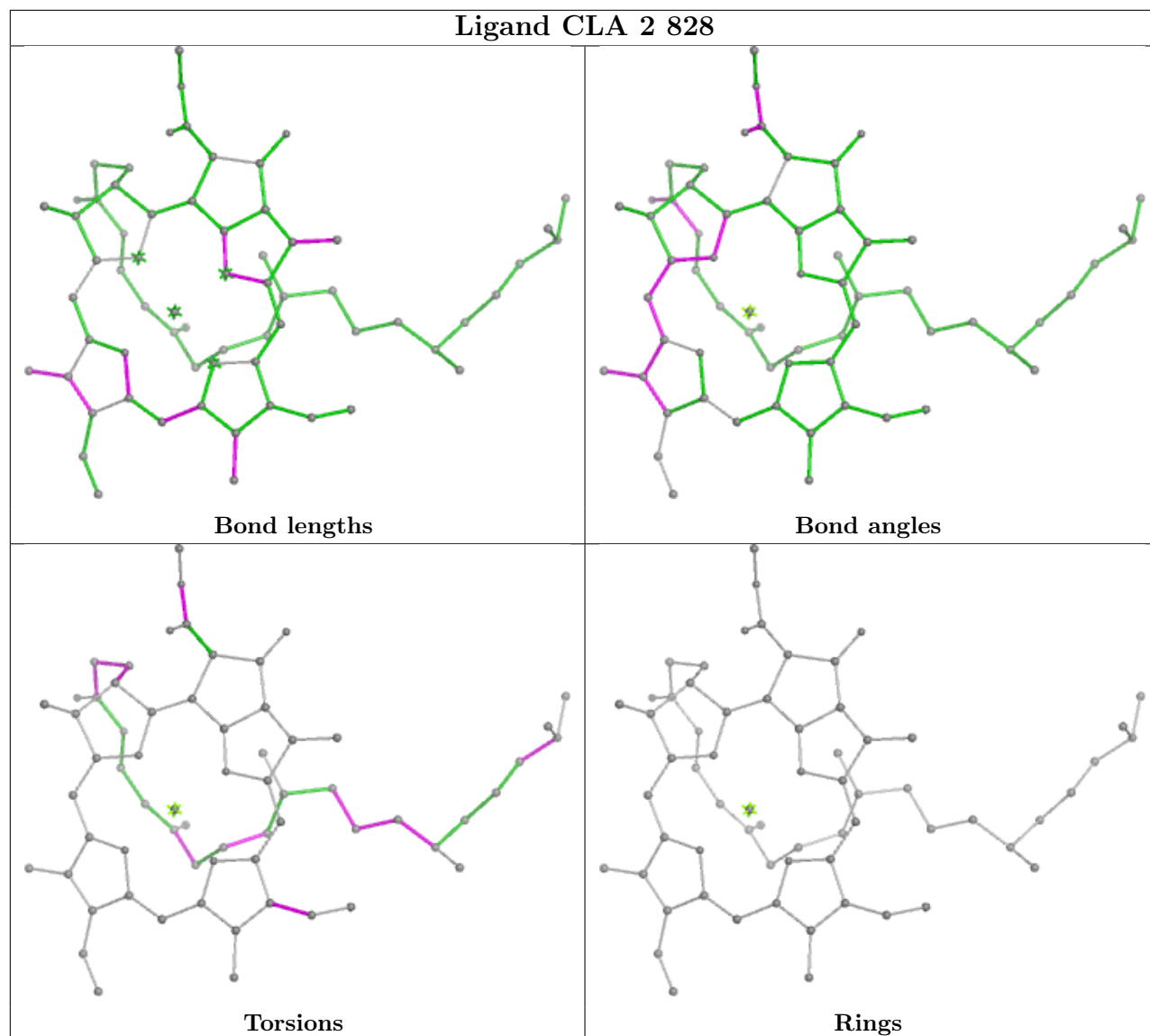


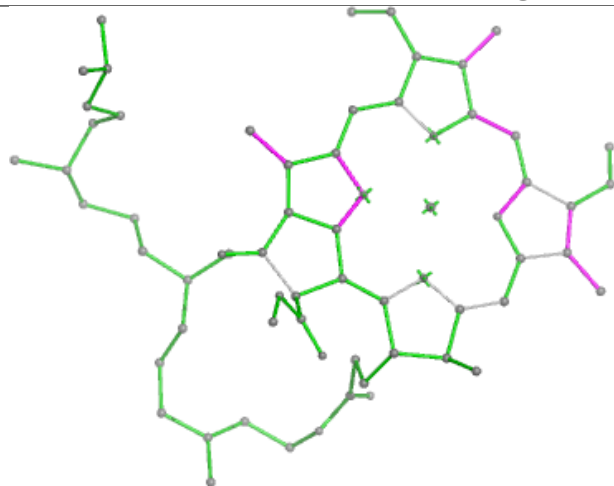
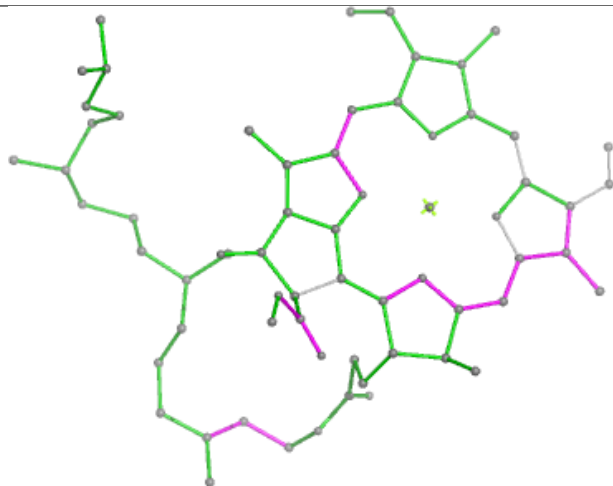
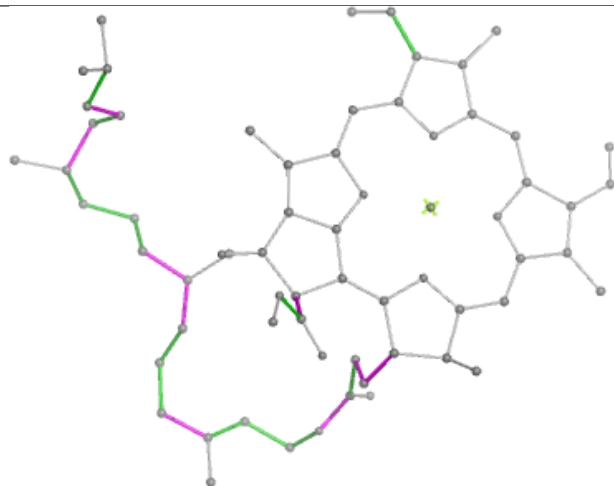
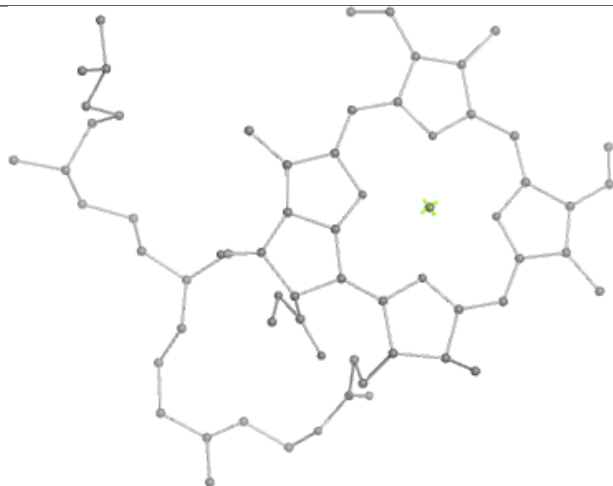
## Ligand BCR 8 1305

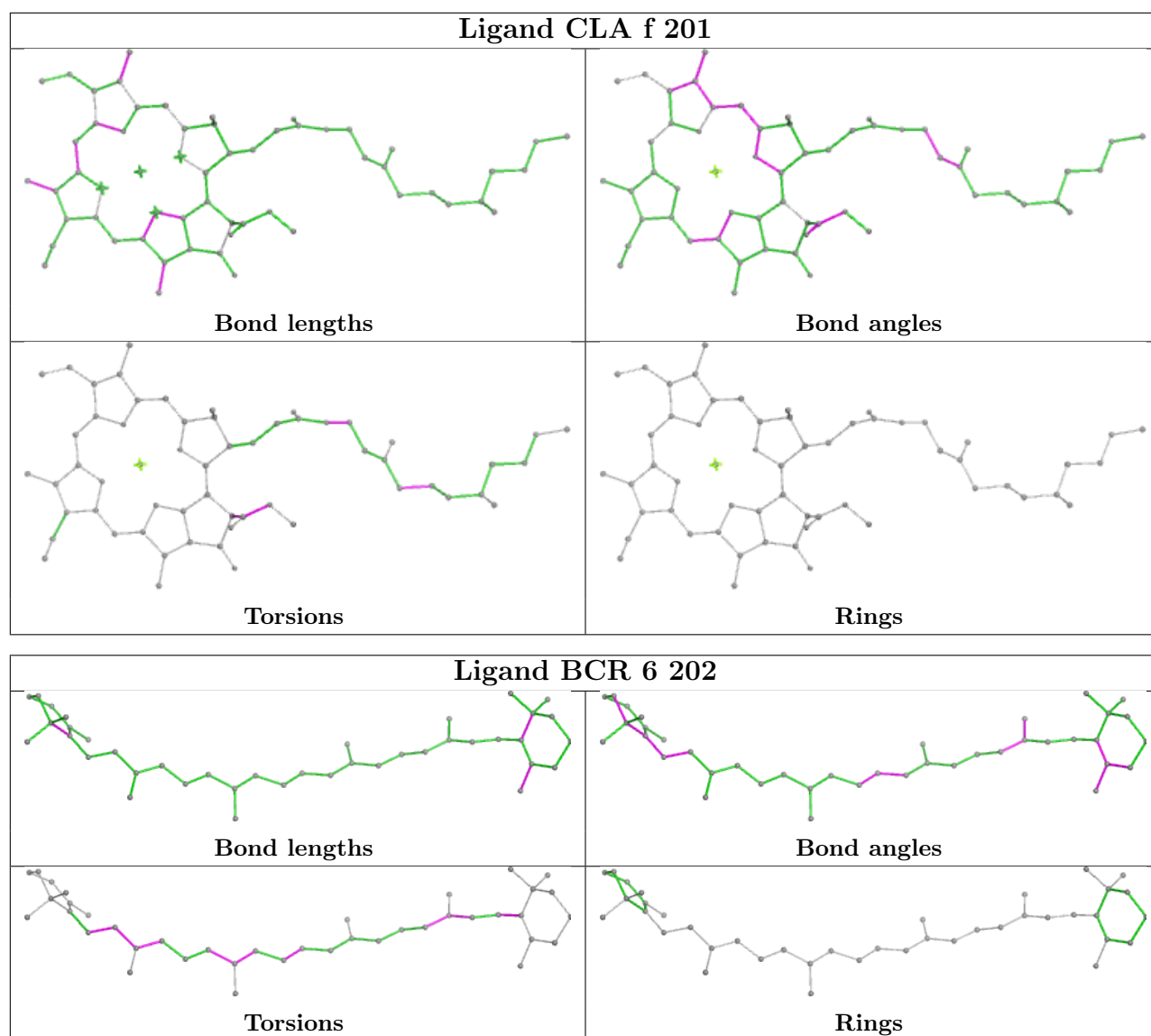




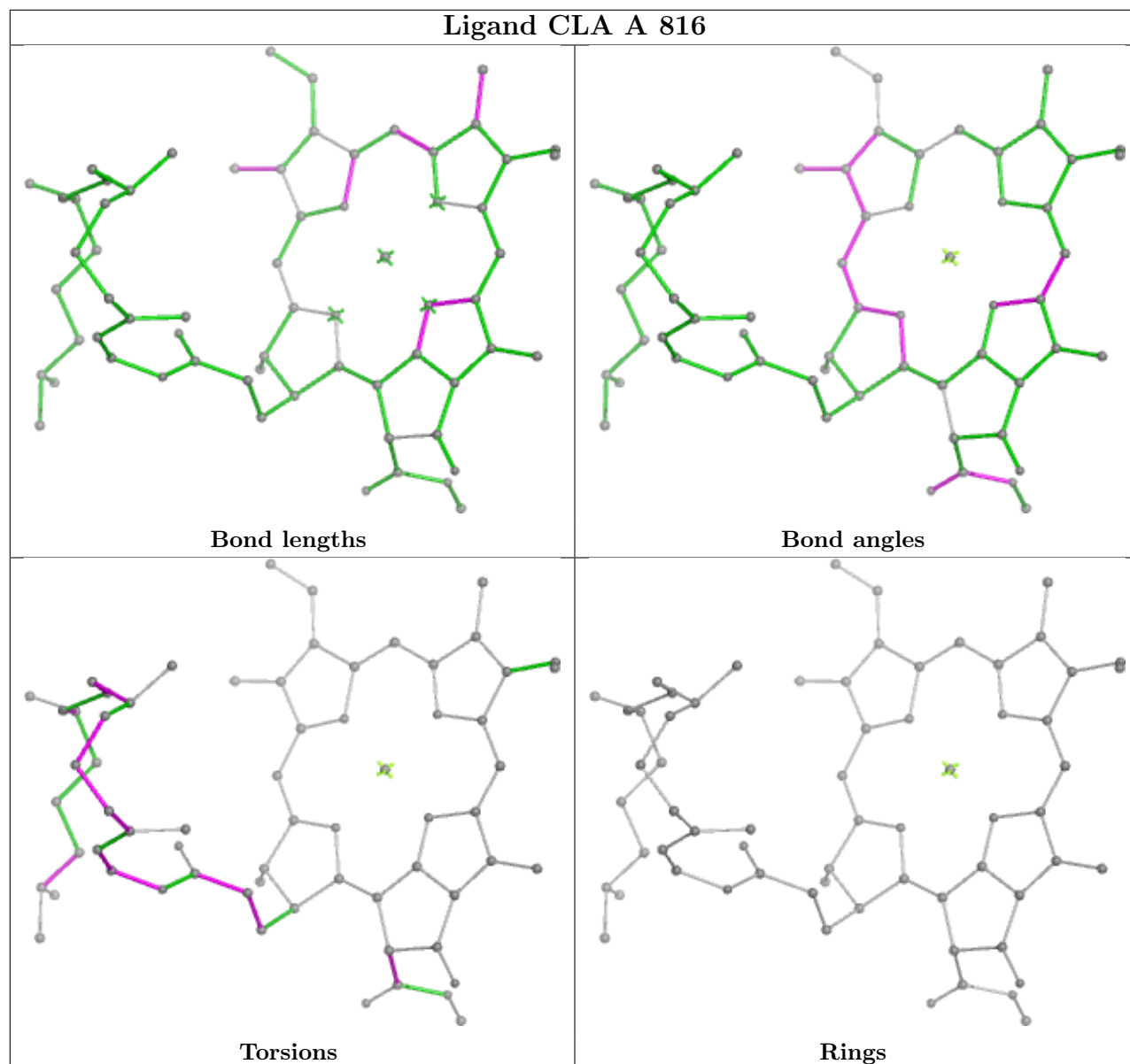
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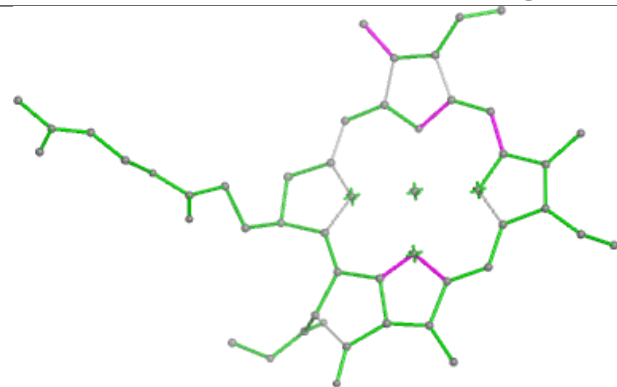
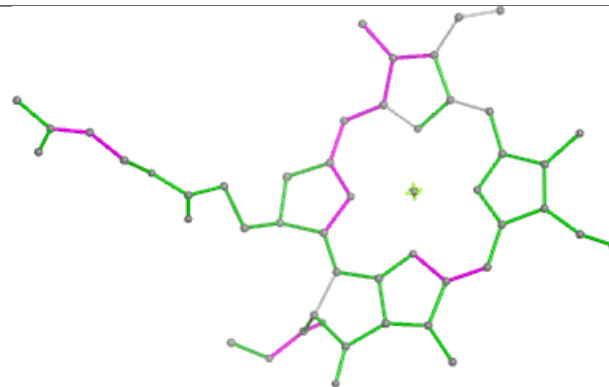
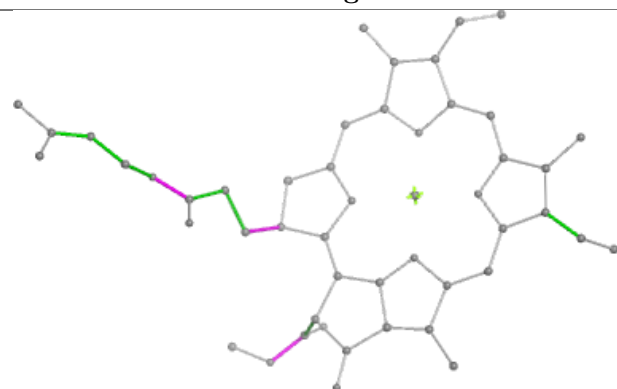
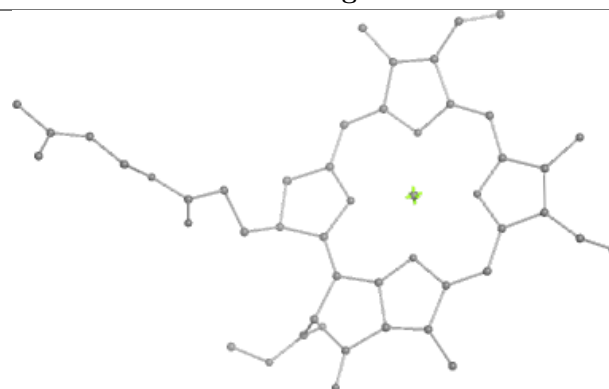
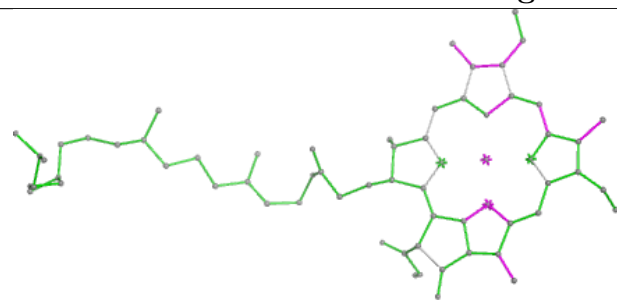
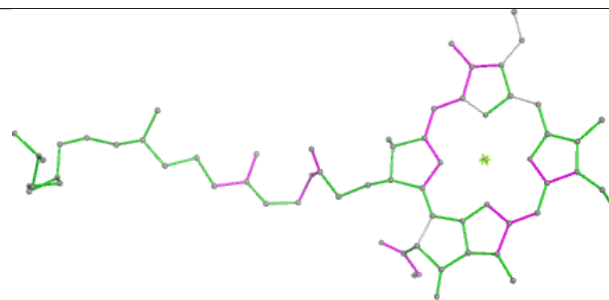
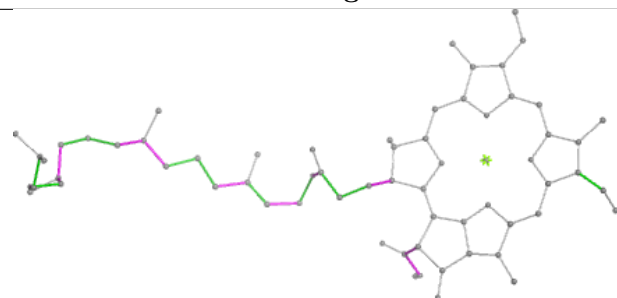
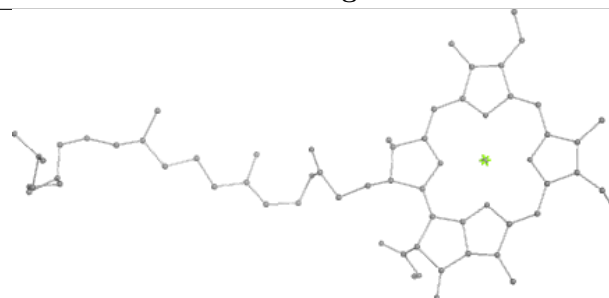


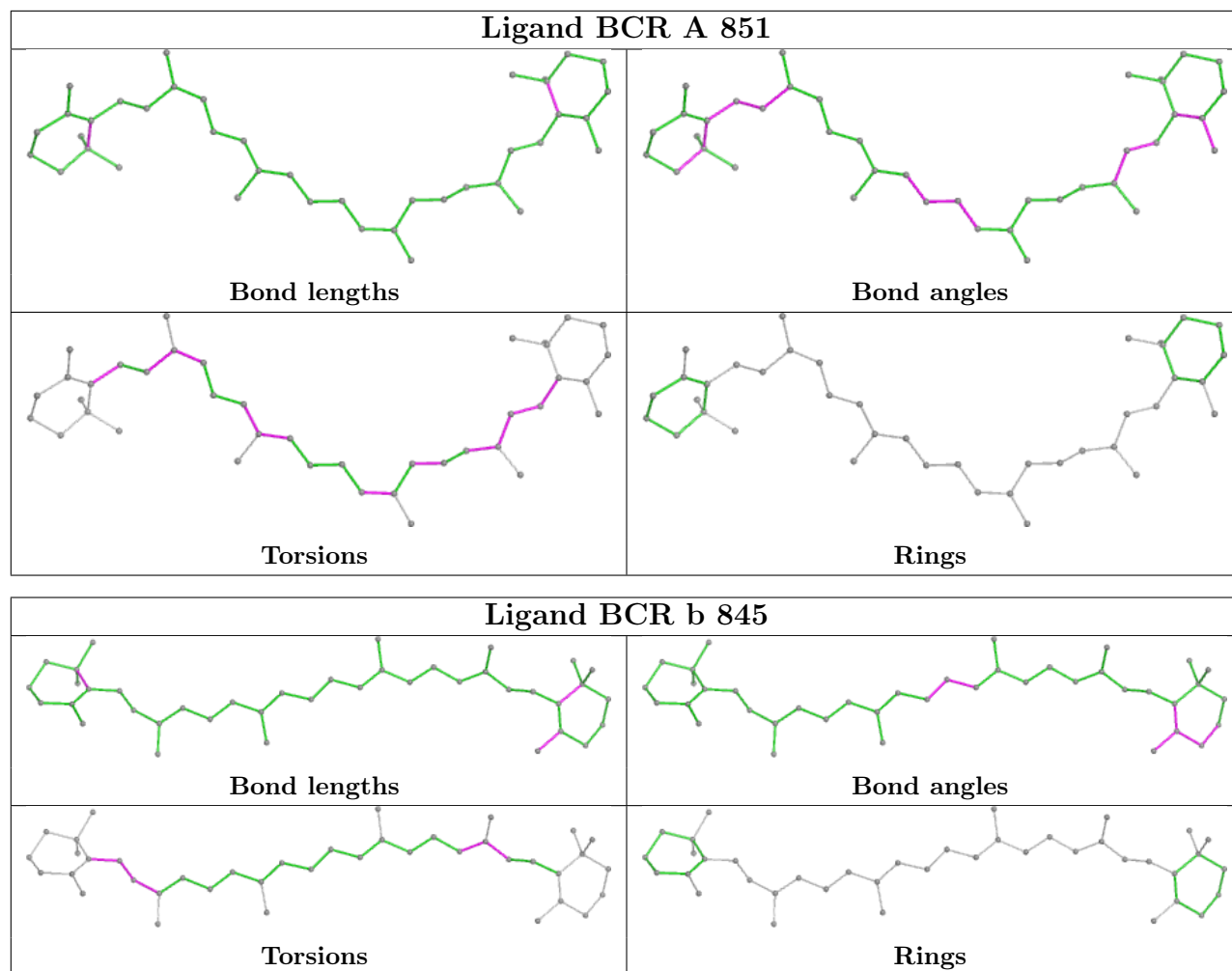
**Ligand CLA B 832****Bond lengths****Bond angles****Torsions****Rings**



## Ligand CLA A 816

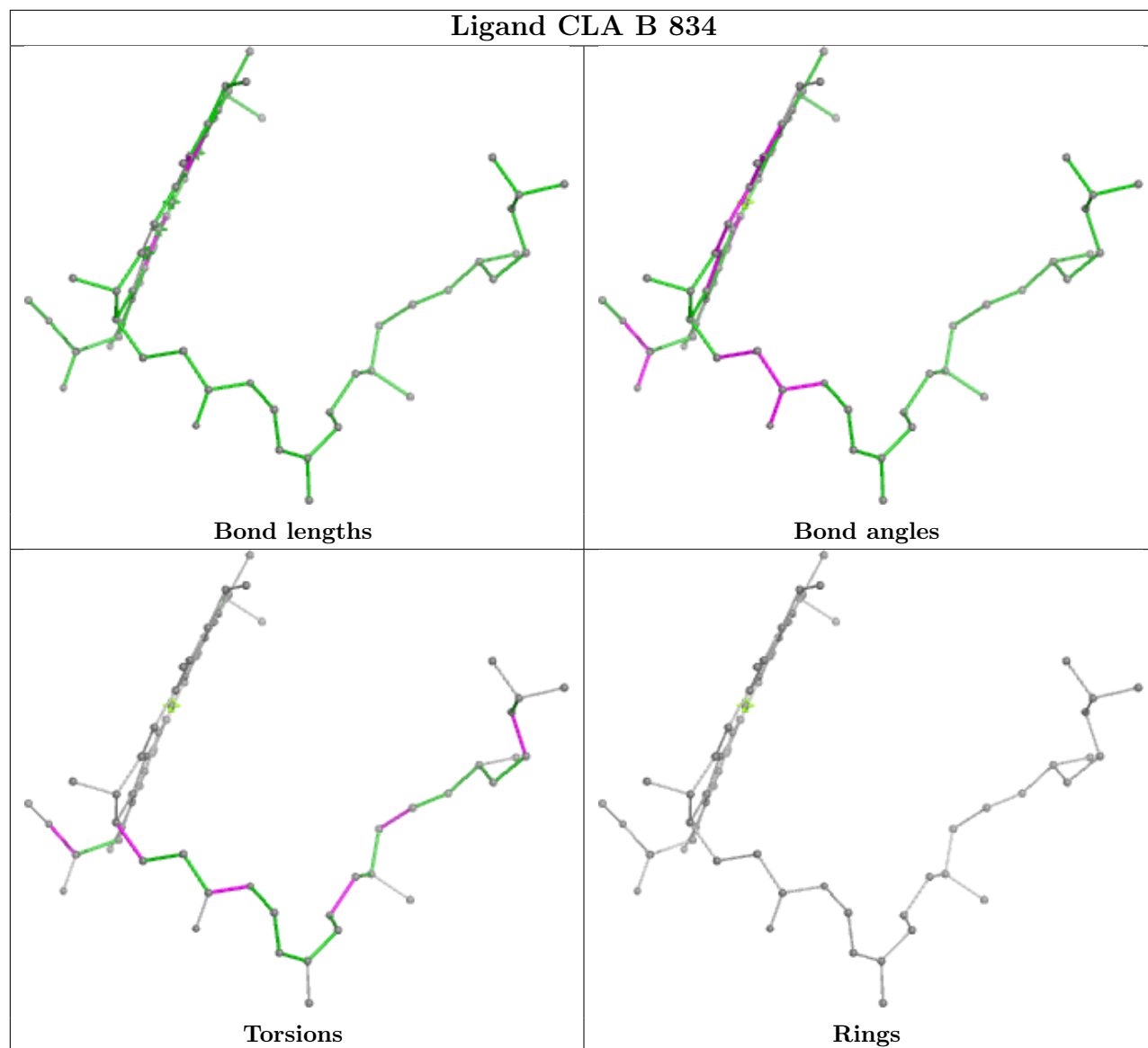


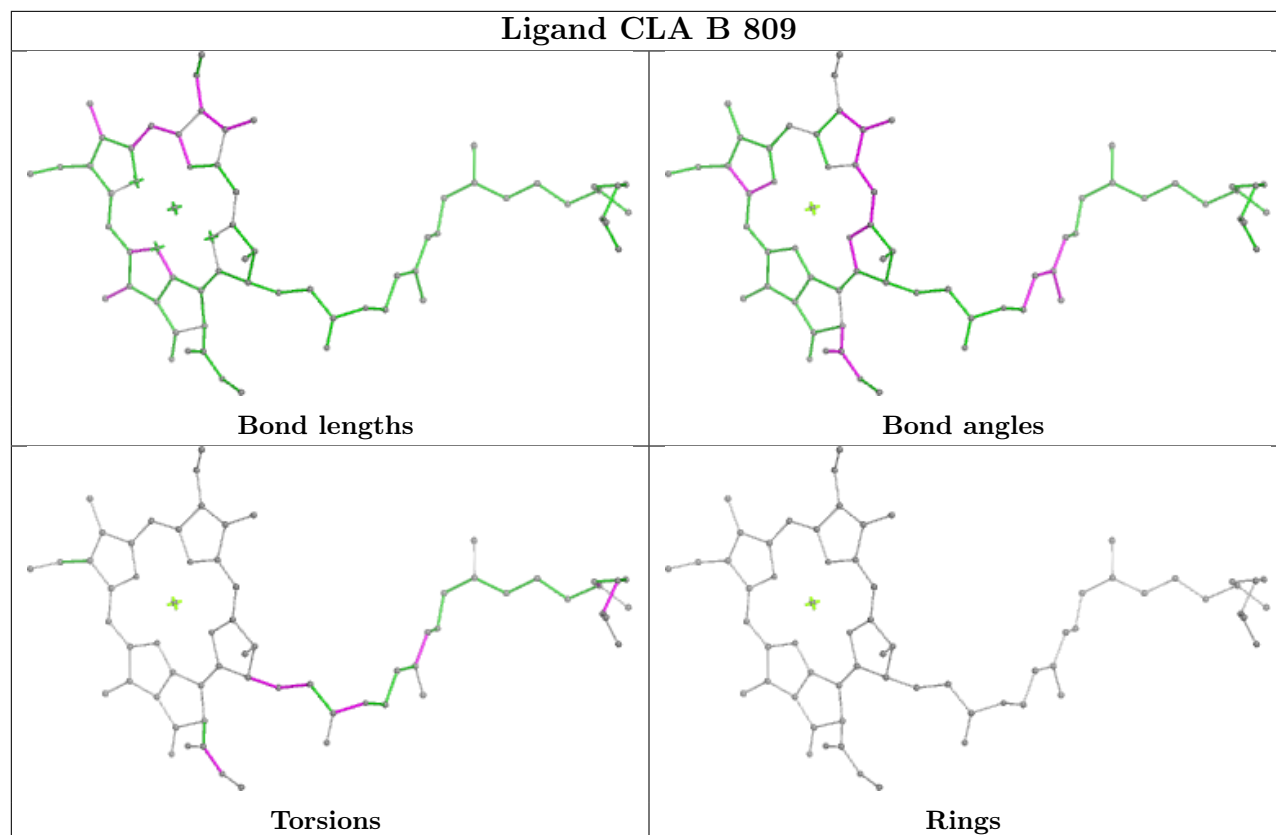
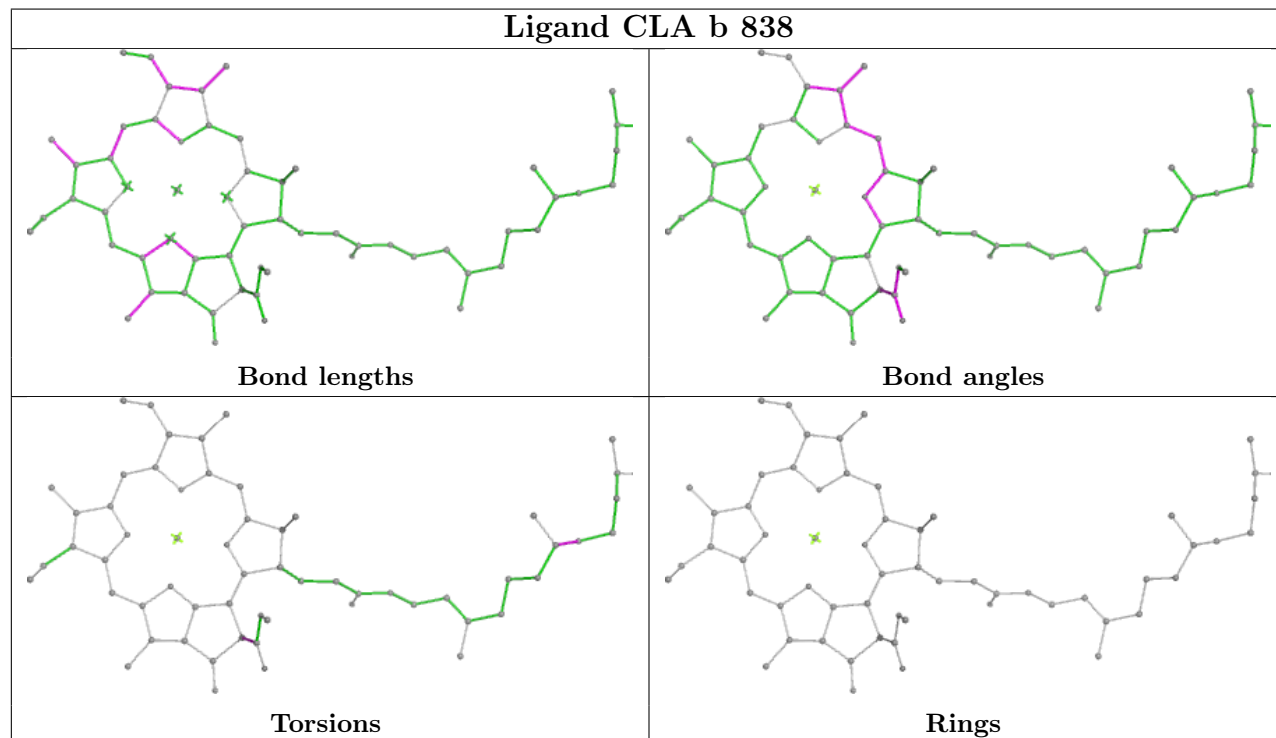
**Ligand CLA F 204****Bond lengths****Bond angles****Torsions****Rings****Ligand CLA A 806****Bond lengths****Bond angles****Torsions****Rings**

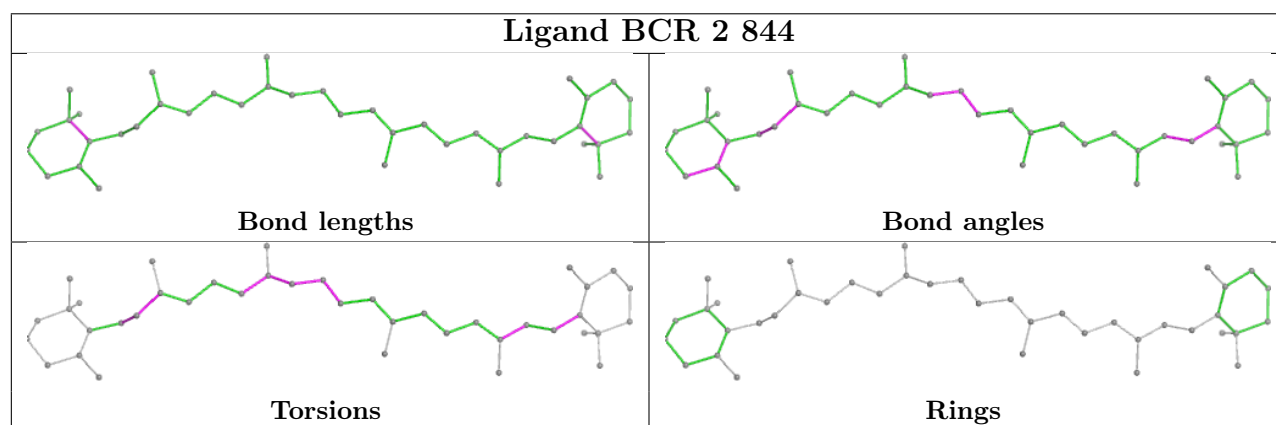
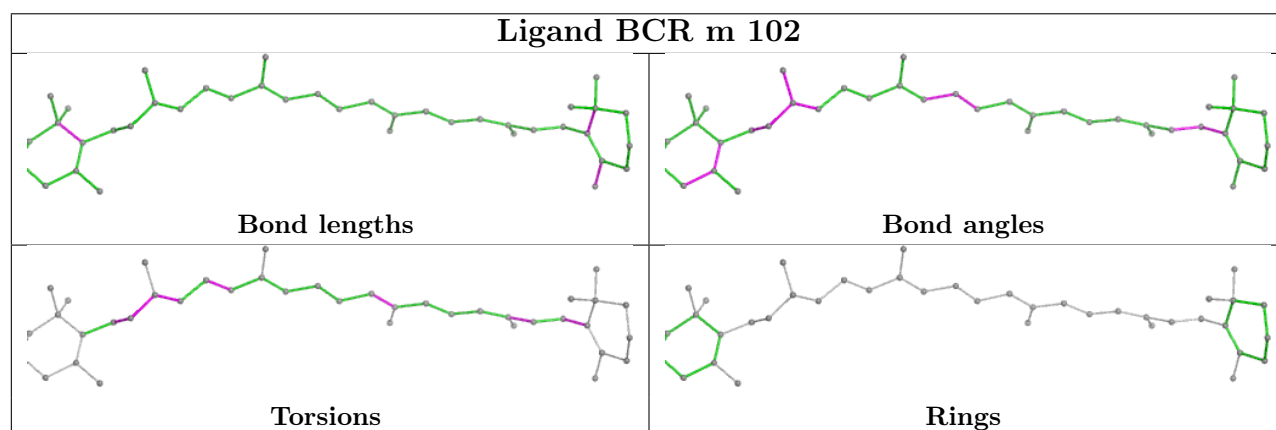
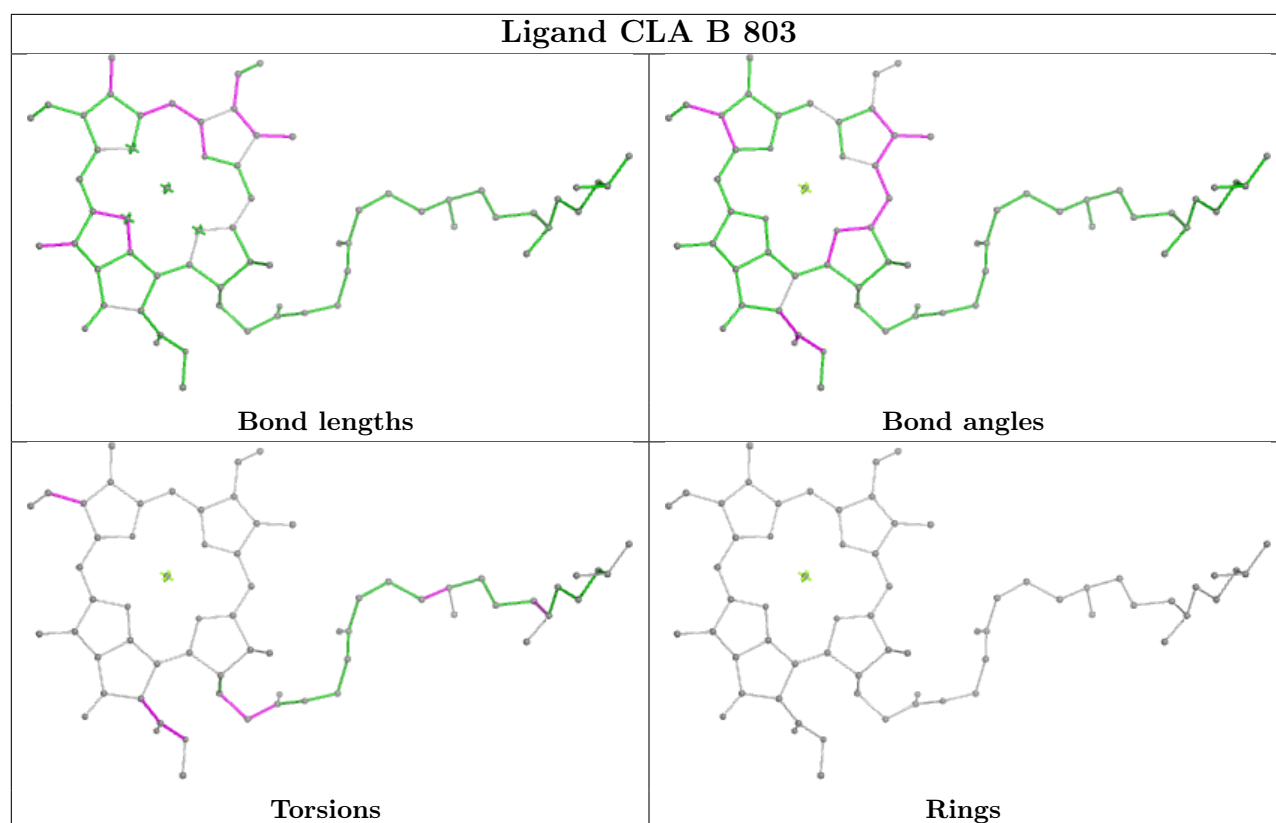


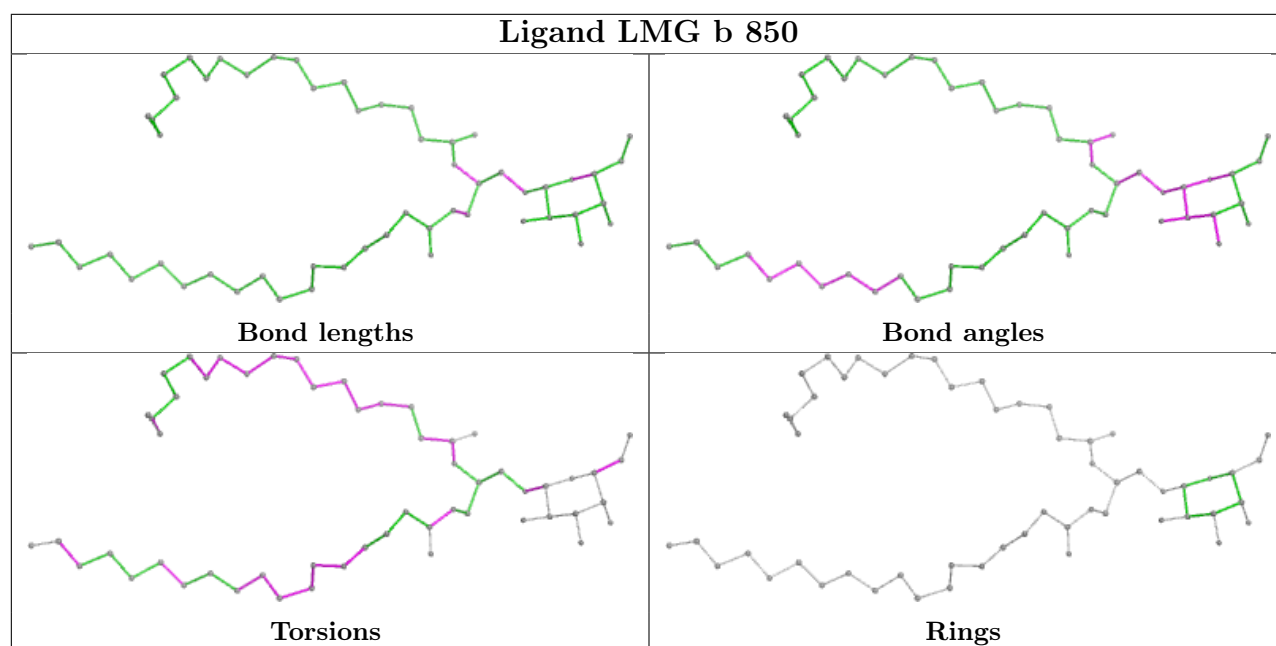
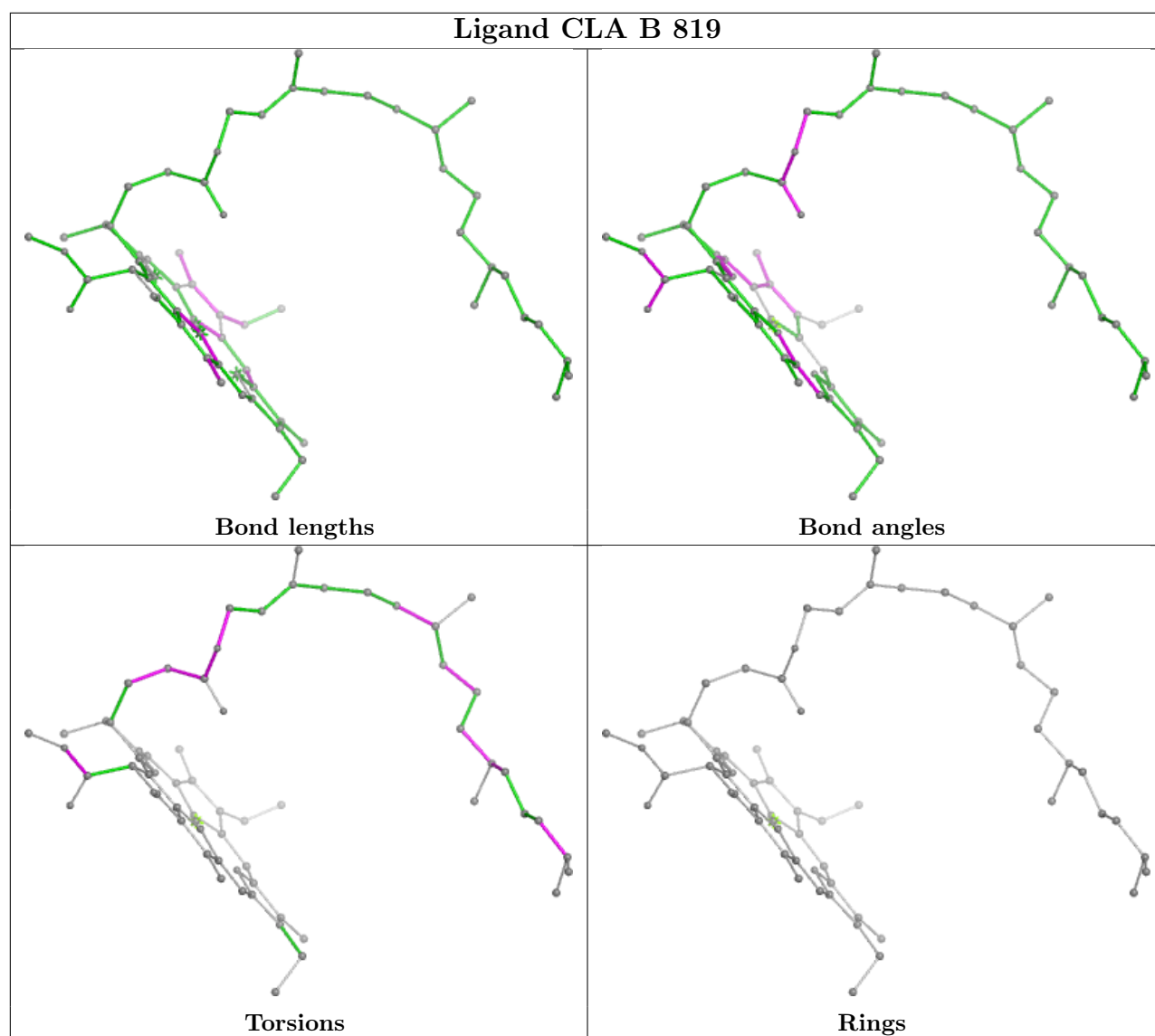


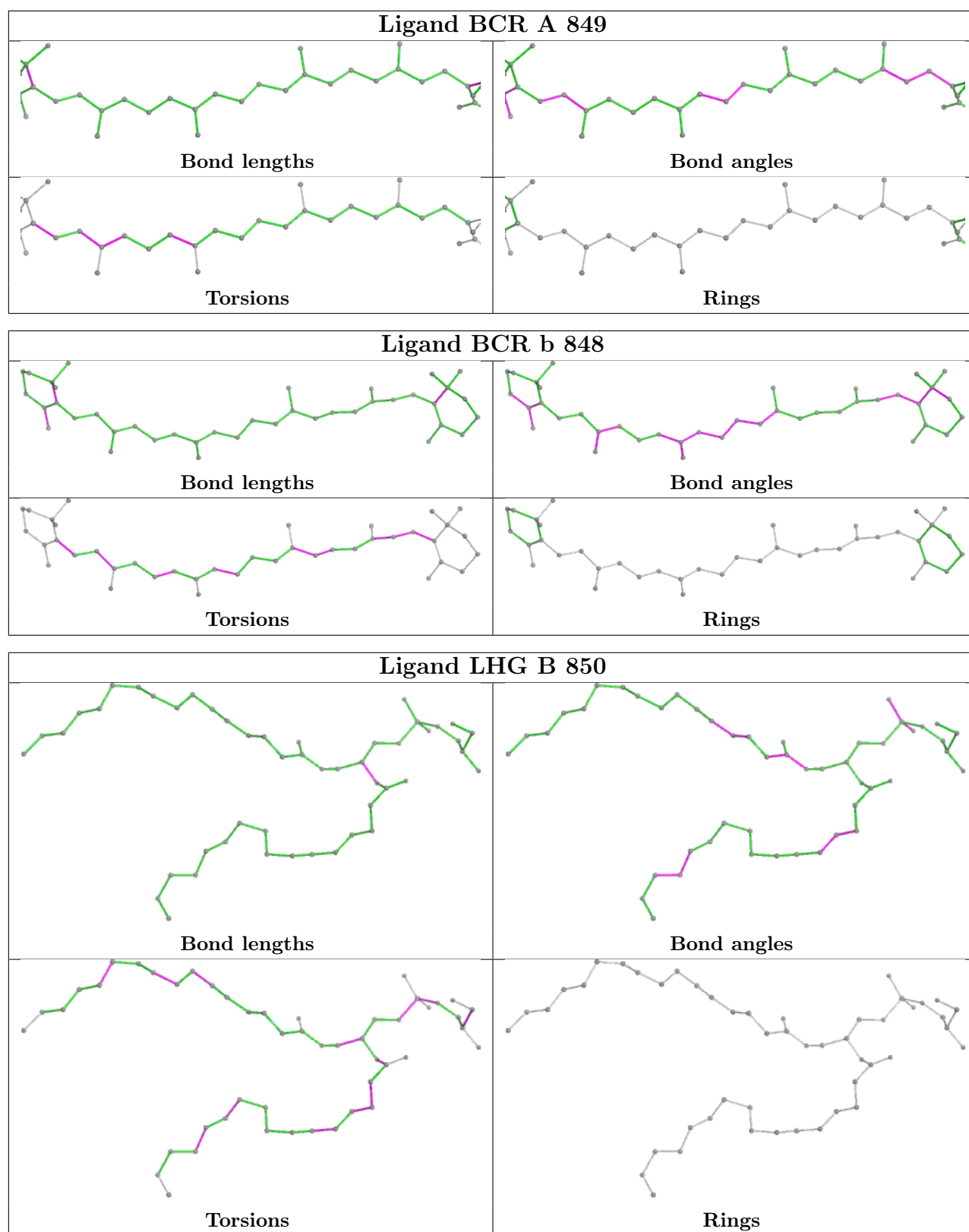
## Ligand CLA B 834

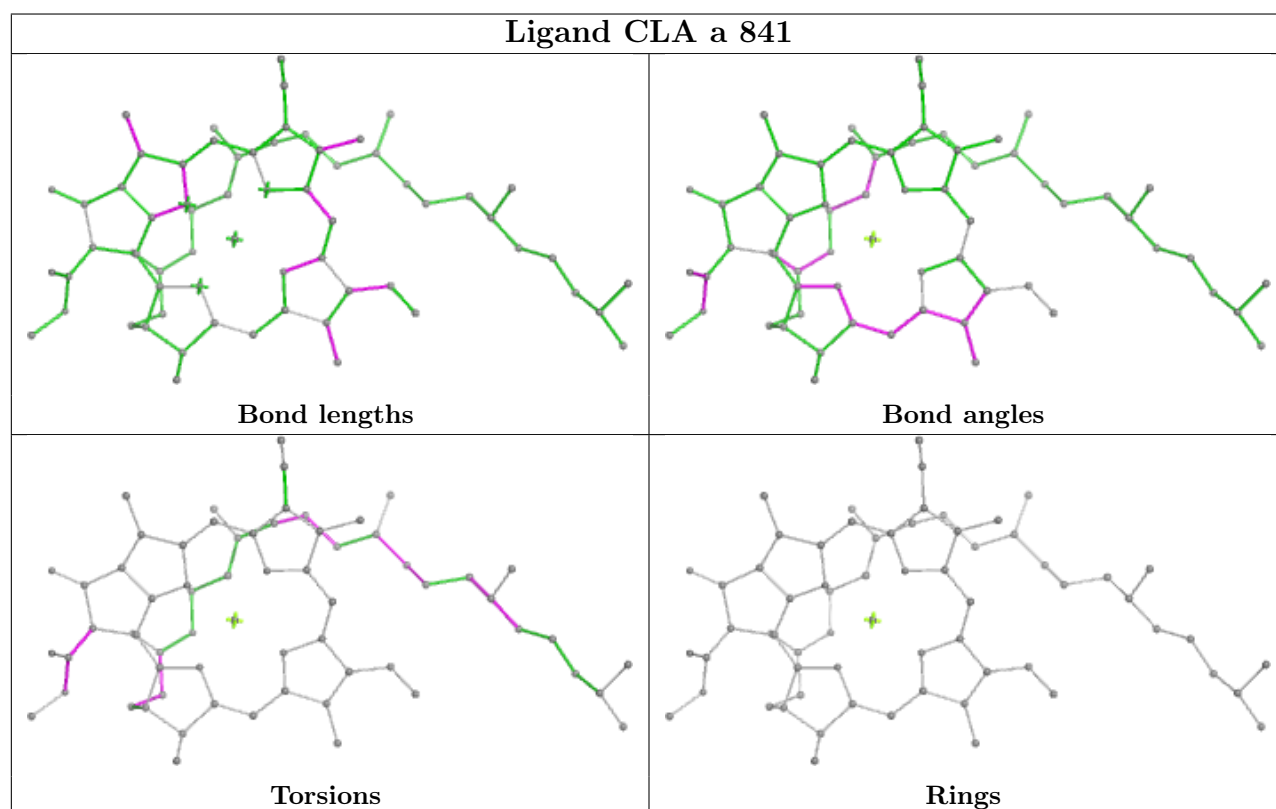
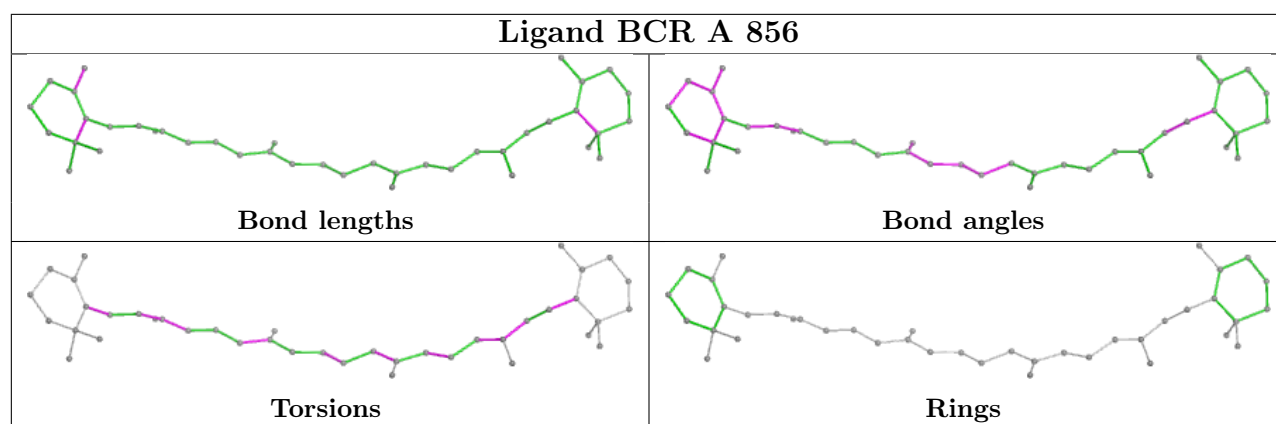


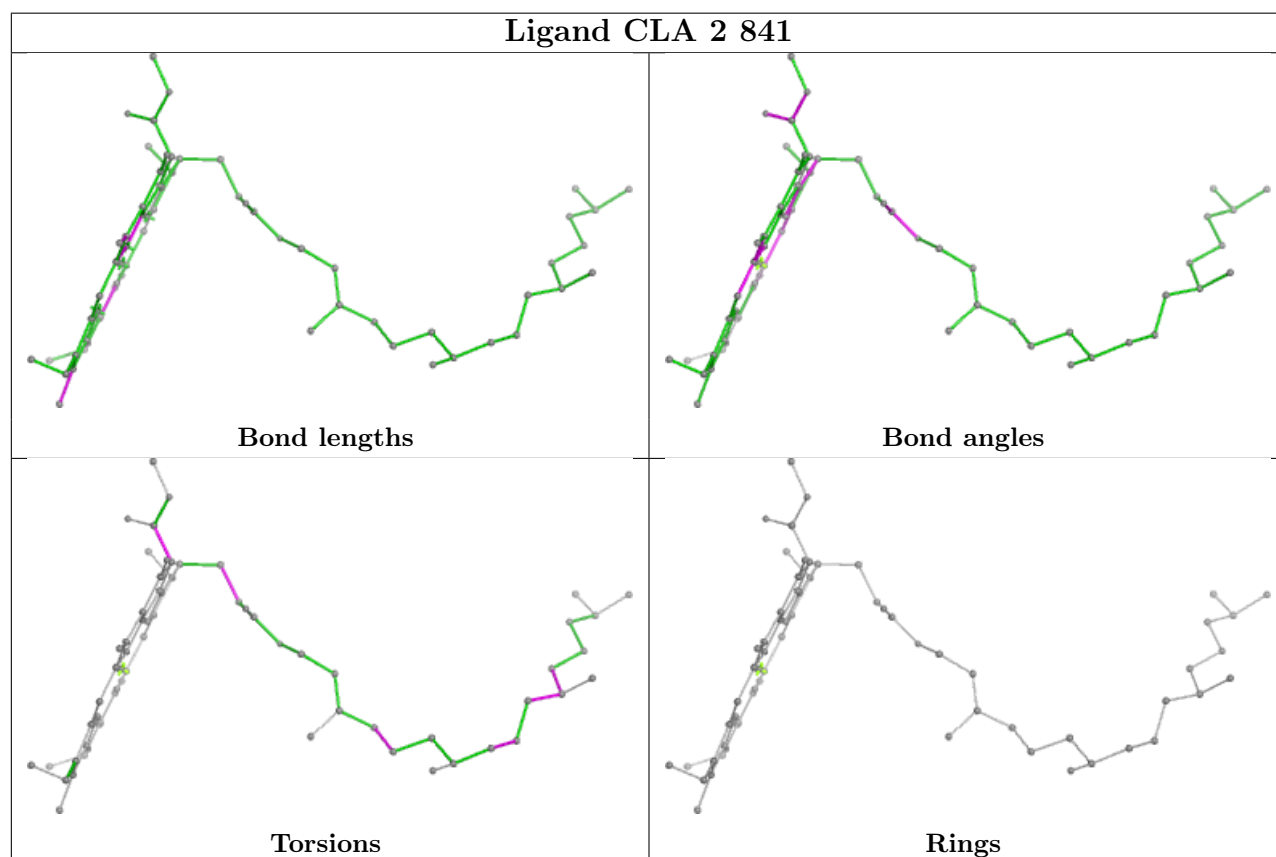
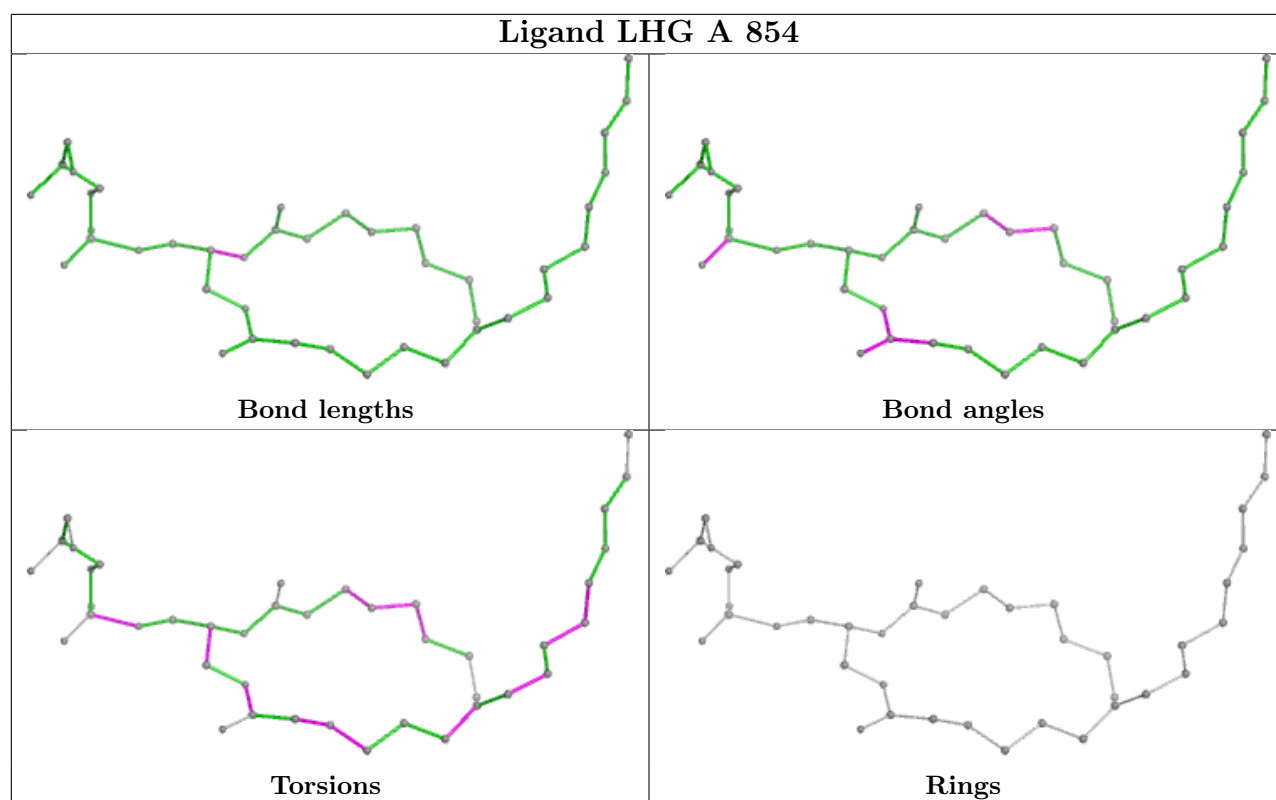
**Ligand CLA B 809****Ligand CLA b 838**

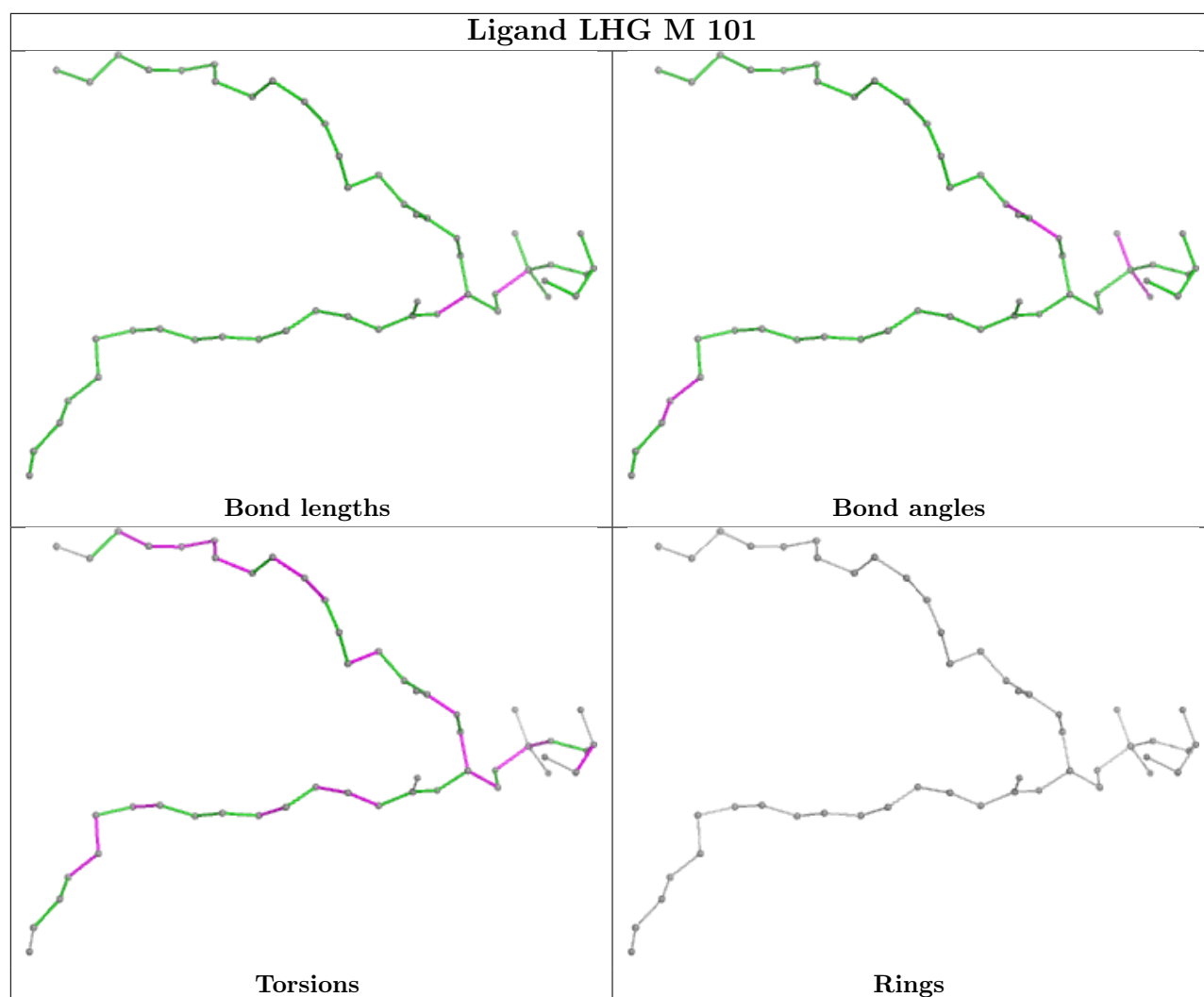




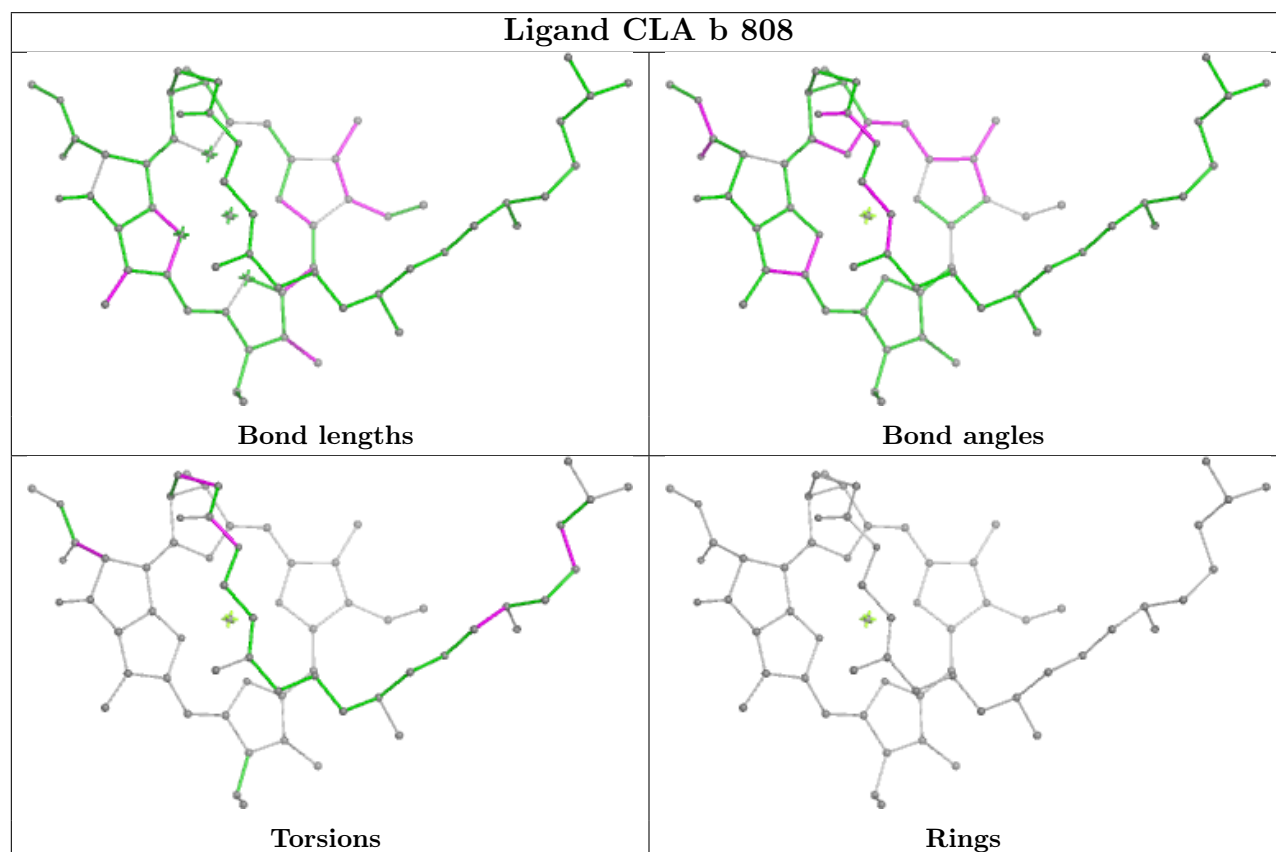
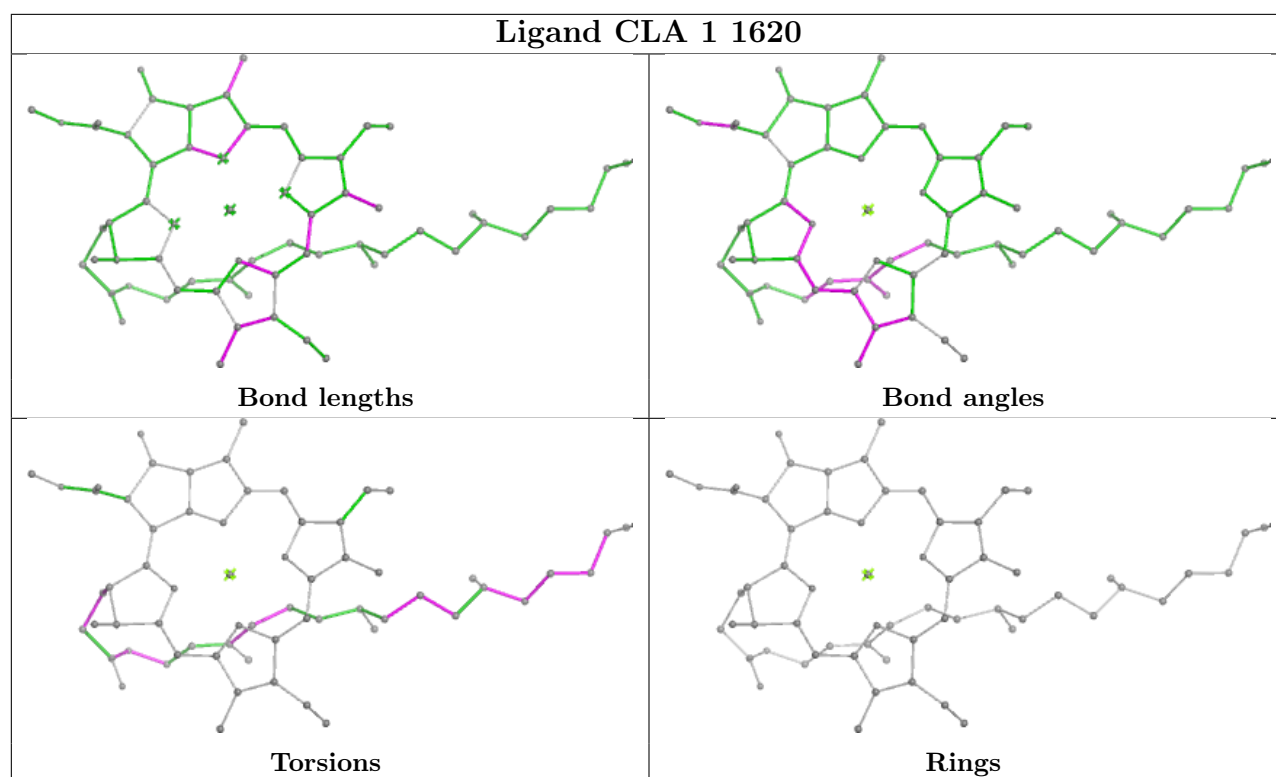


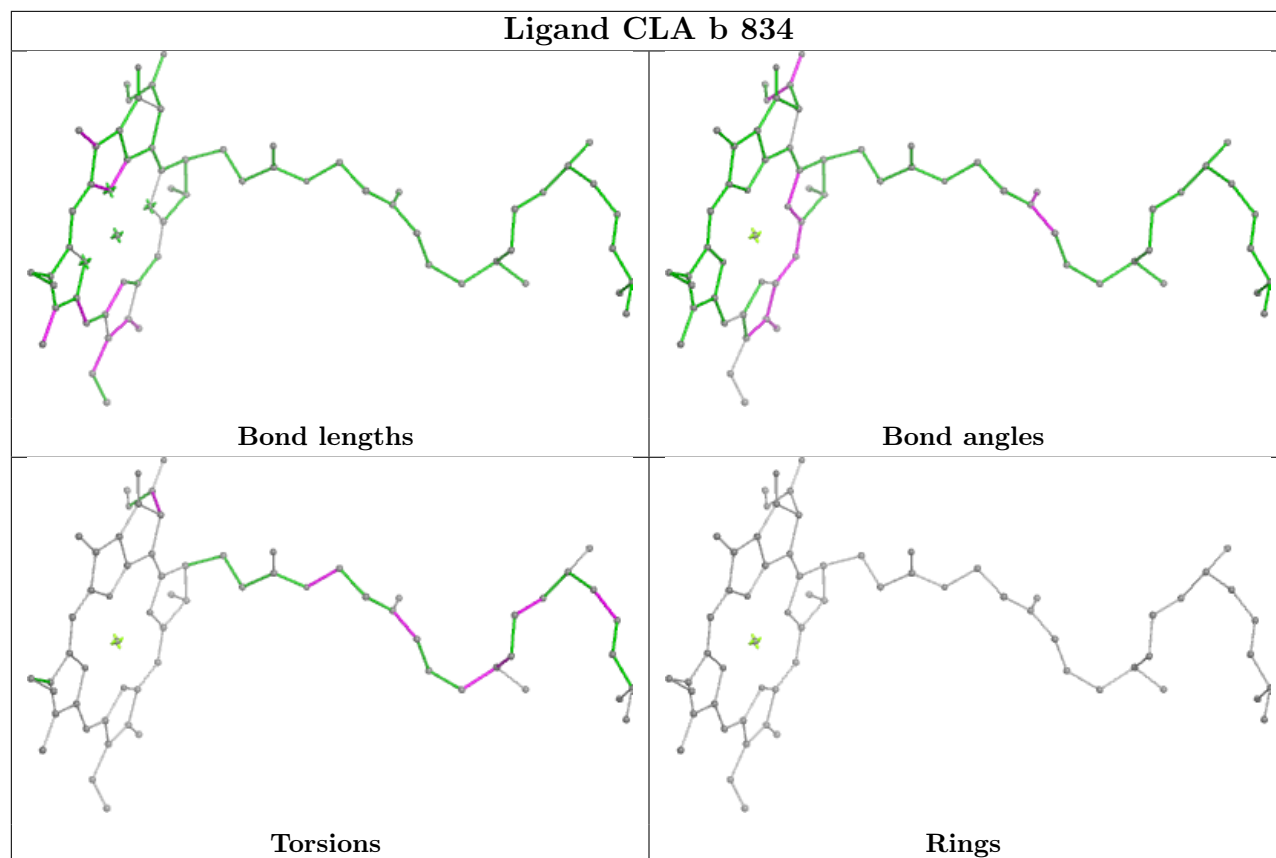
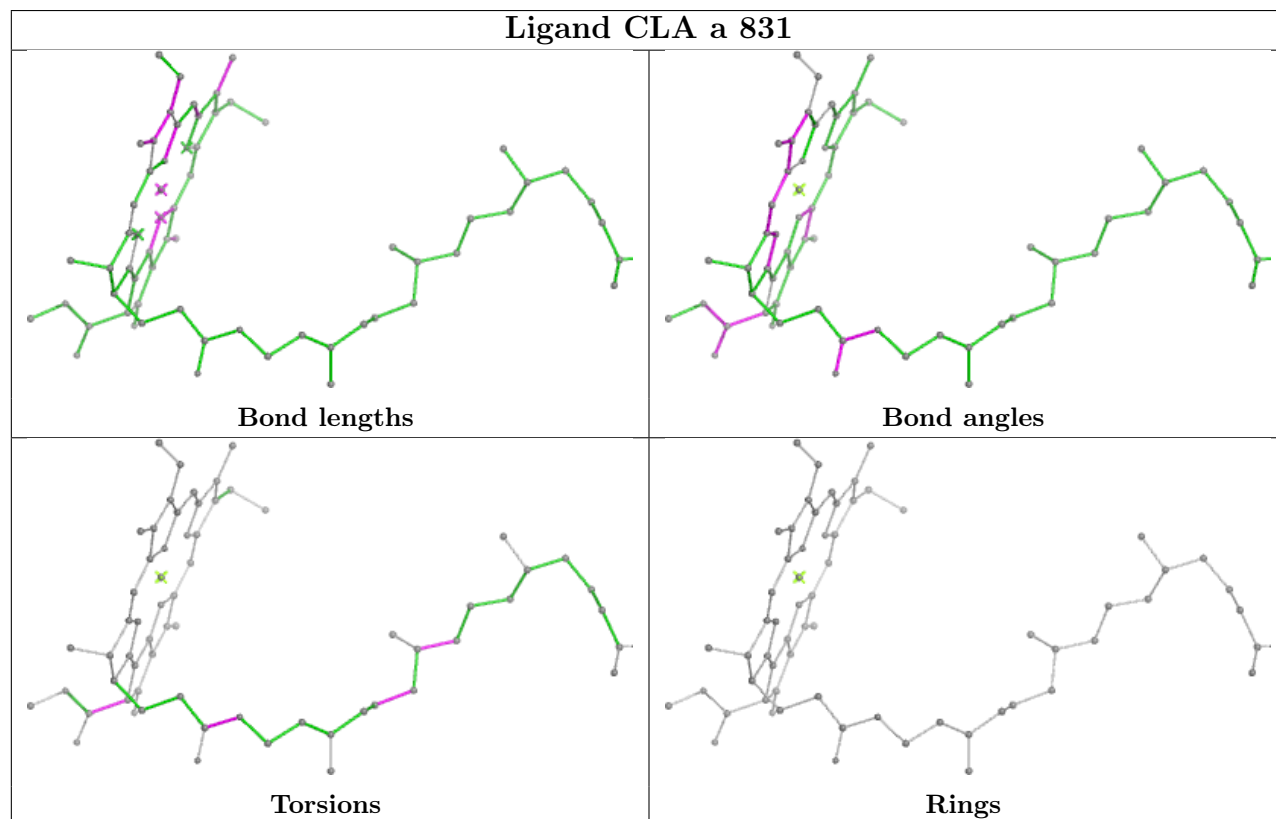


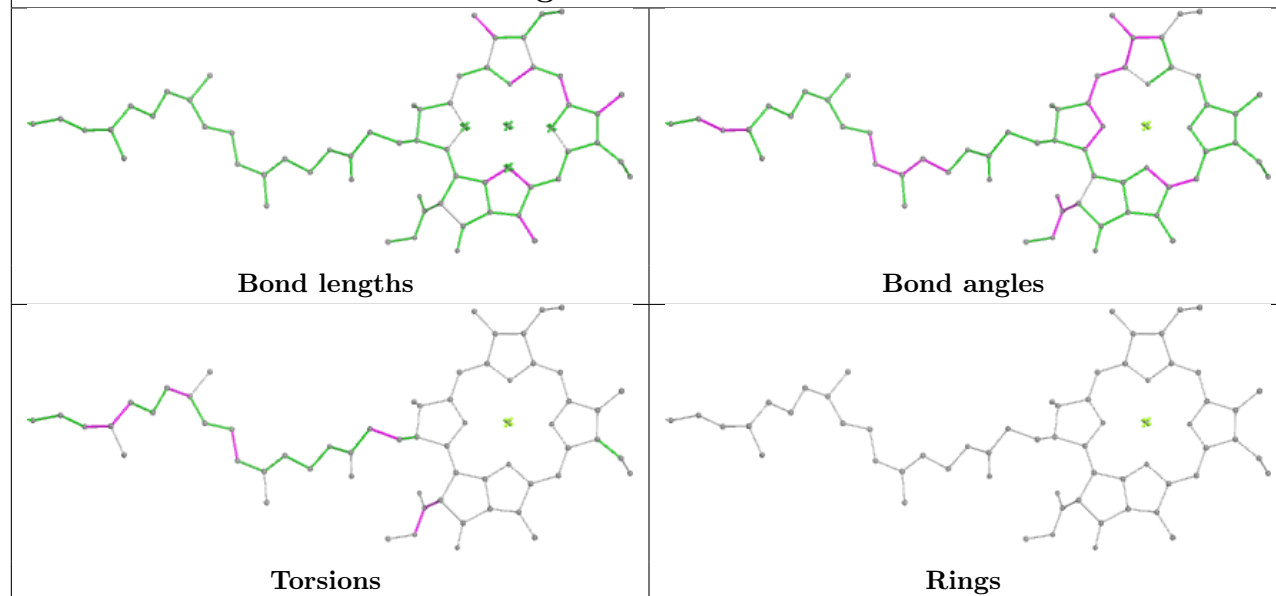
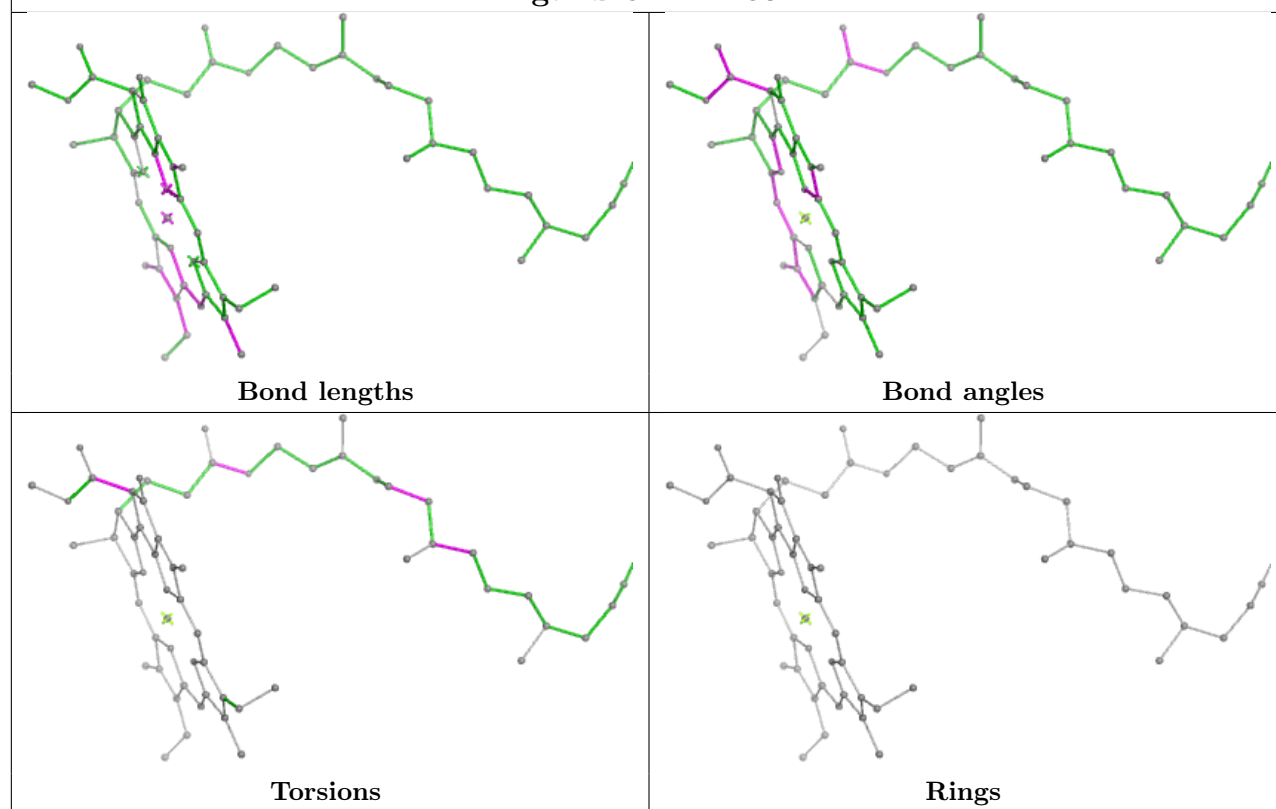




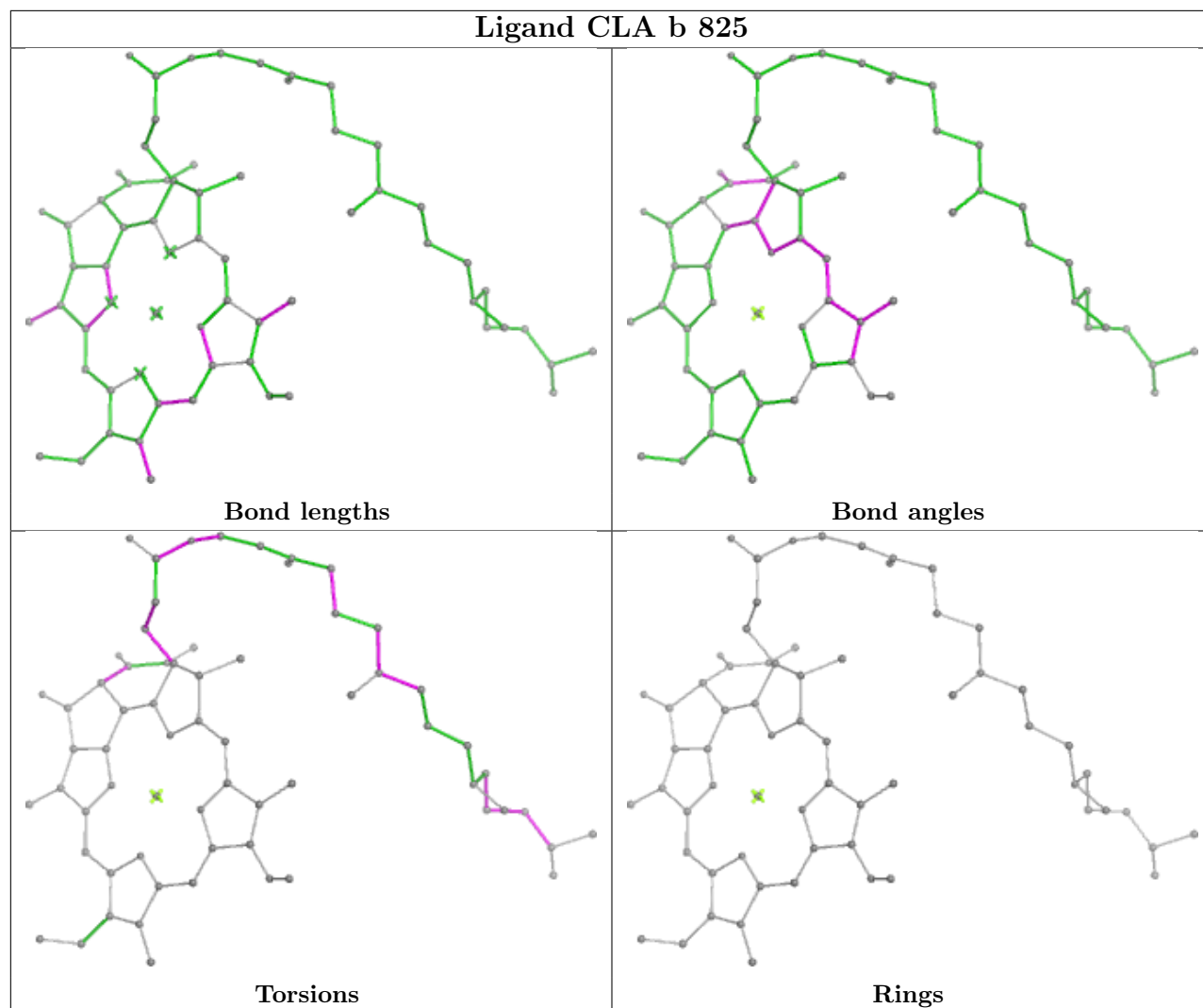




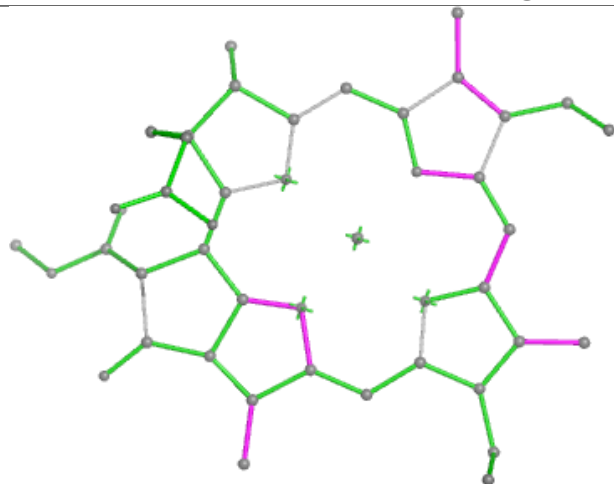
**Ligand CLA b 834****Ligand CLA a 831**

**Ligand CLA a 834****Ligand CLA A 831**

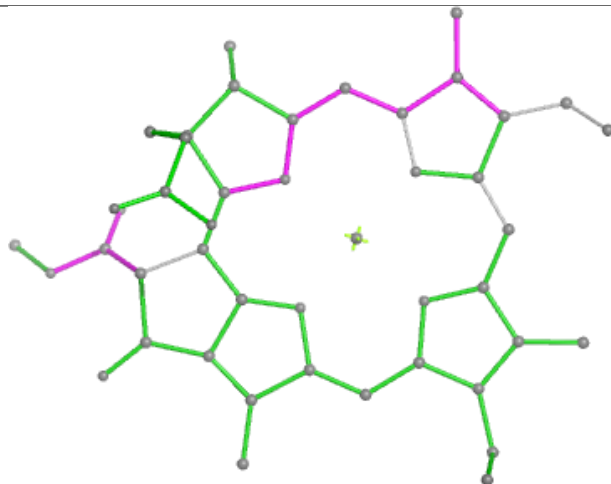
## Ligand CLA b 825



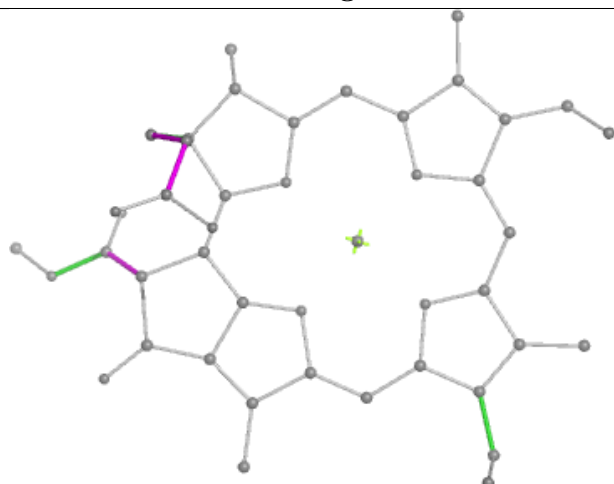
## Ligand CLA a 813



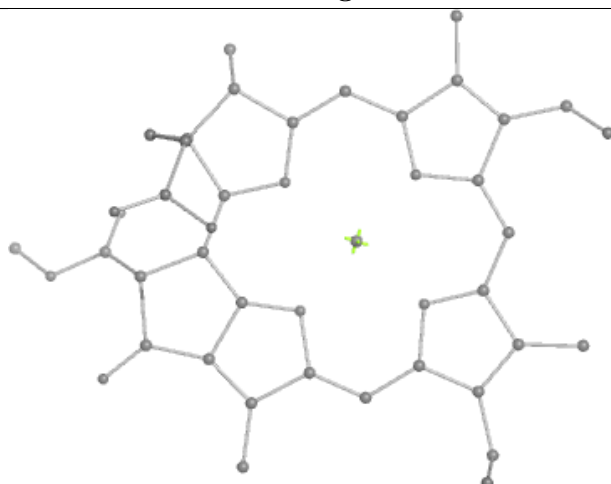
Bond lengths



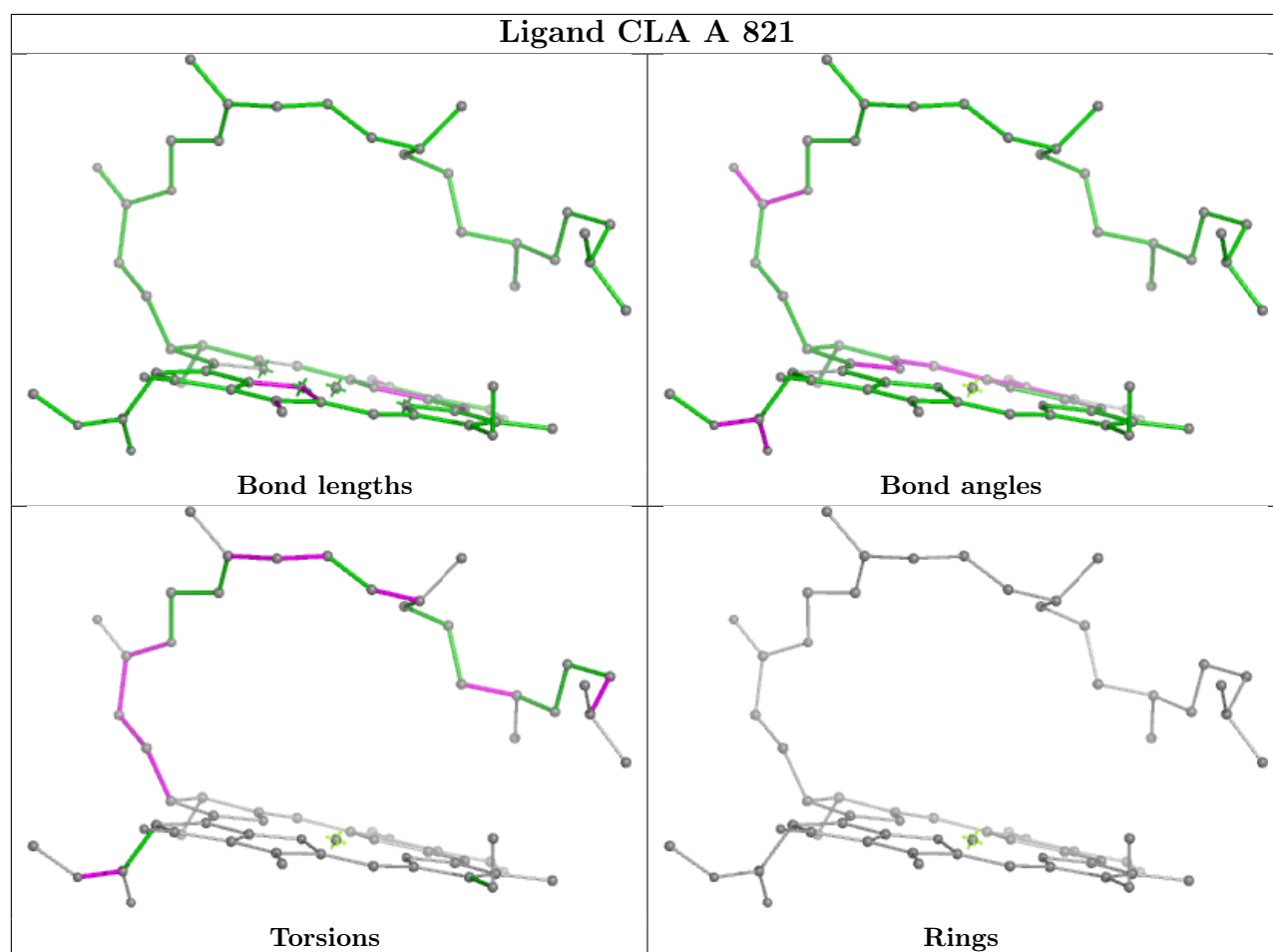
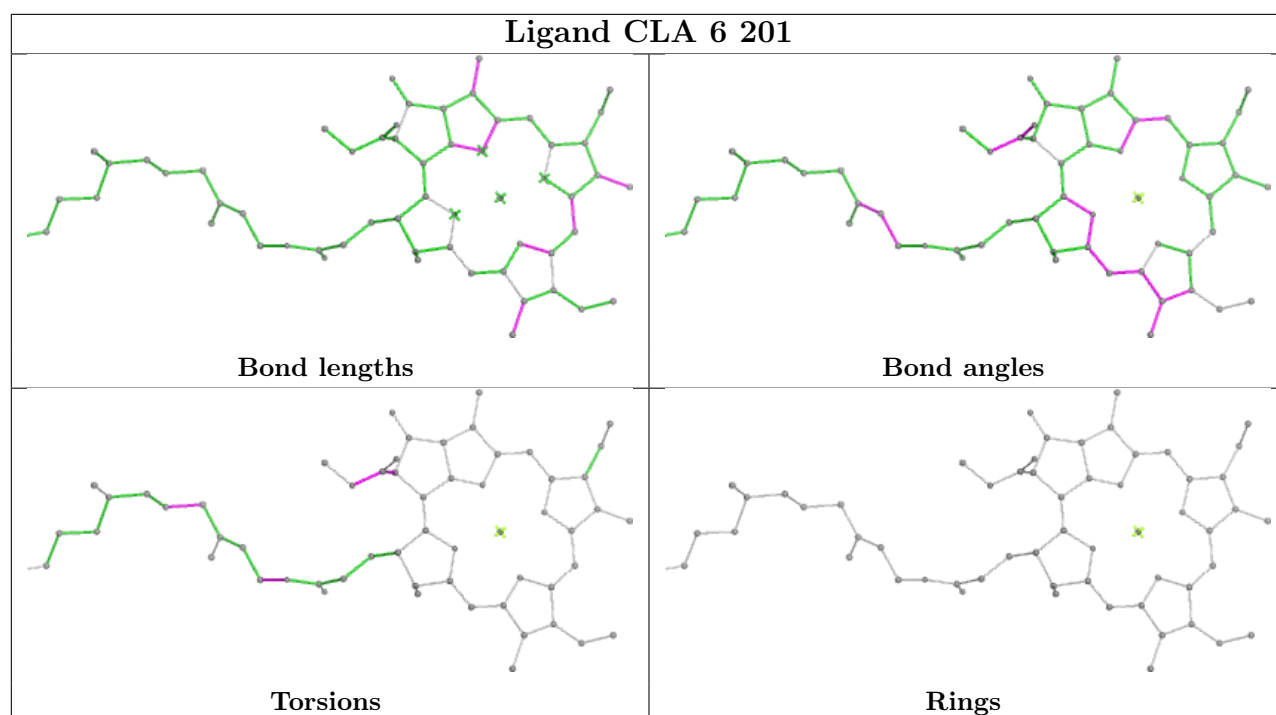
Bond angles

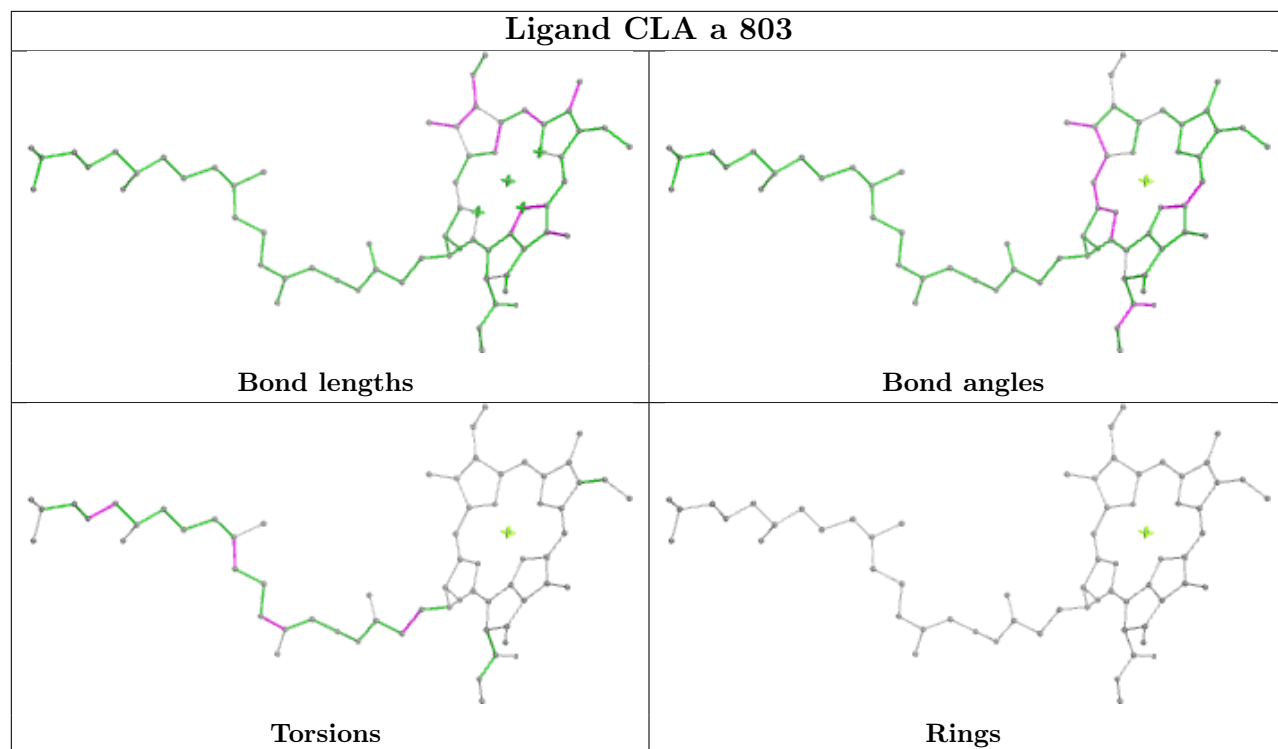
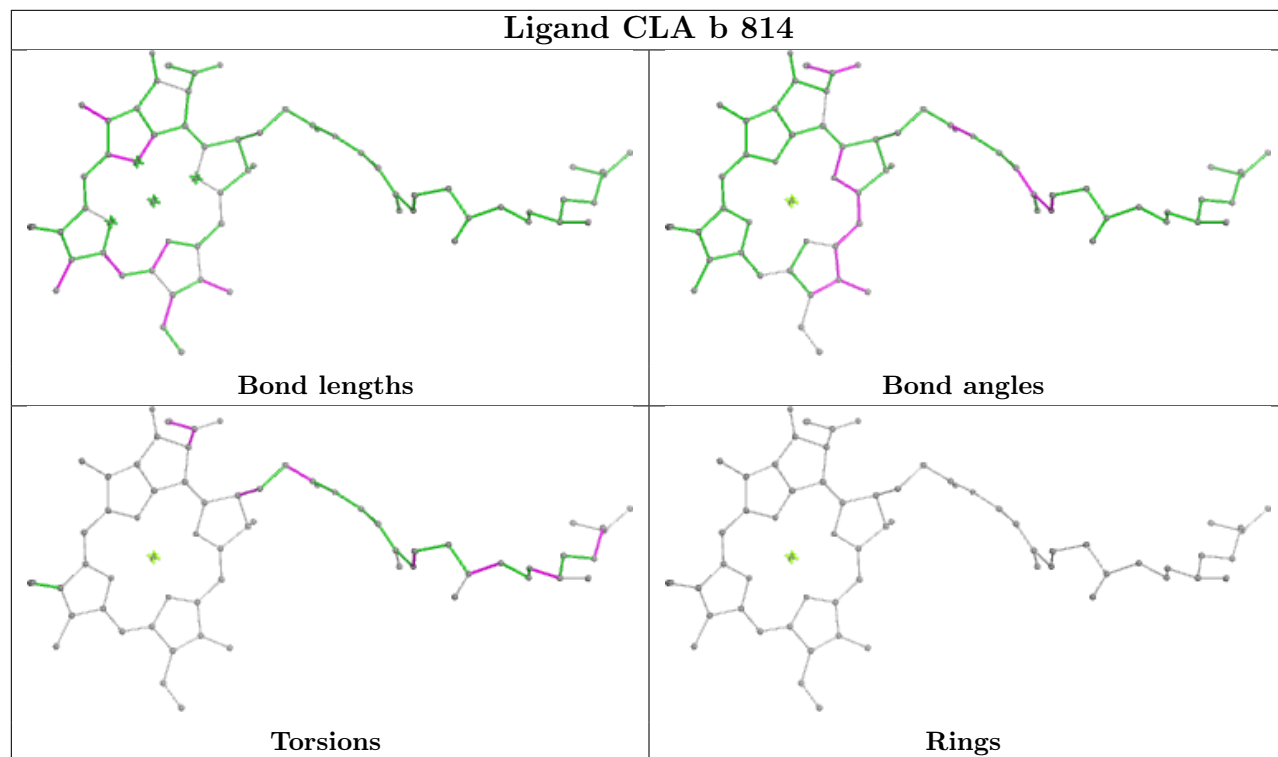


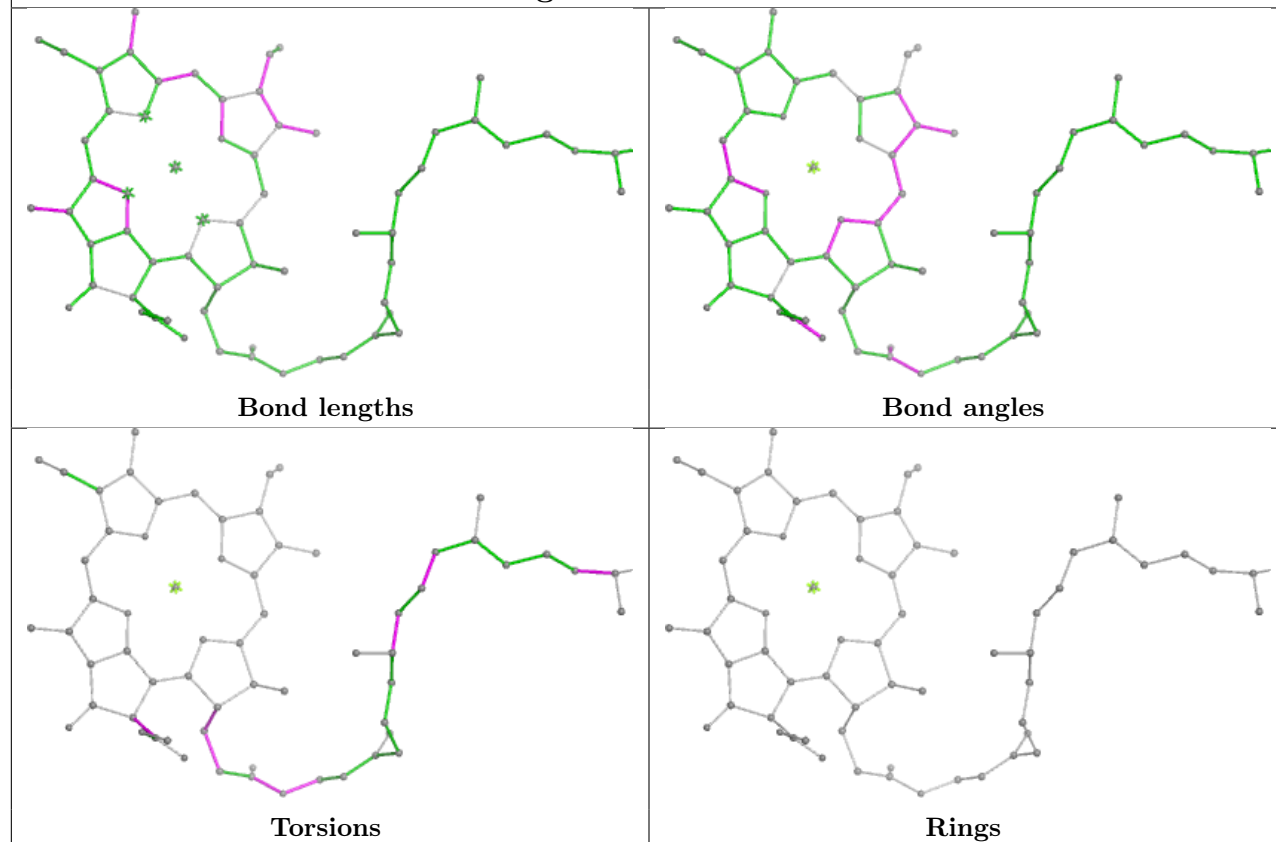
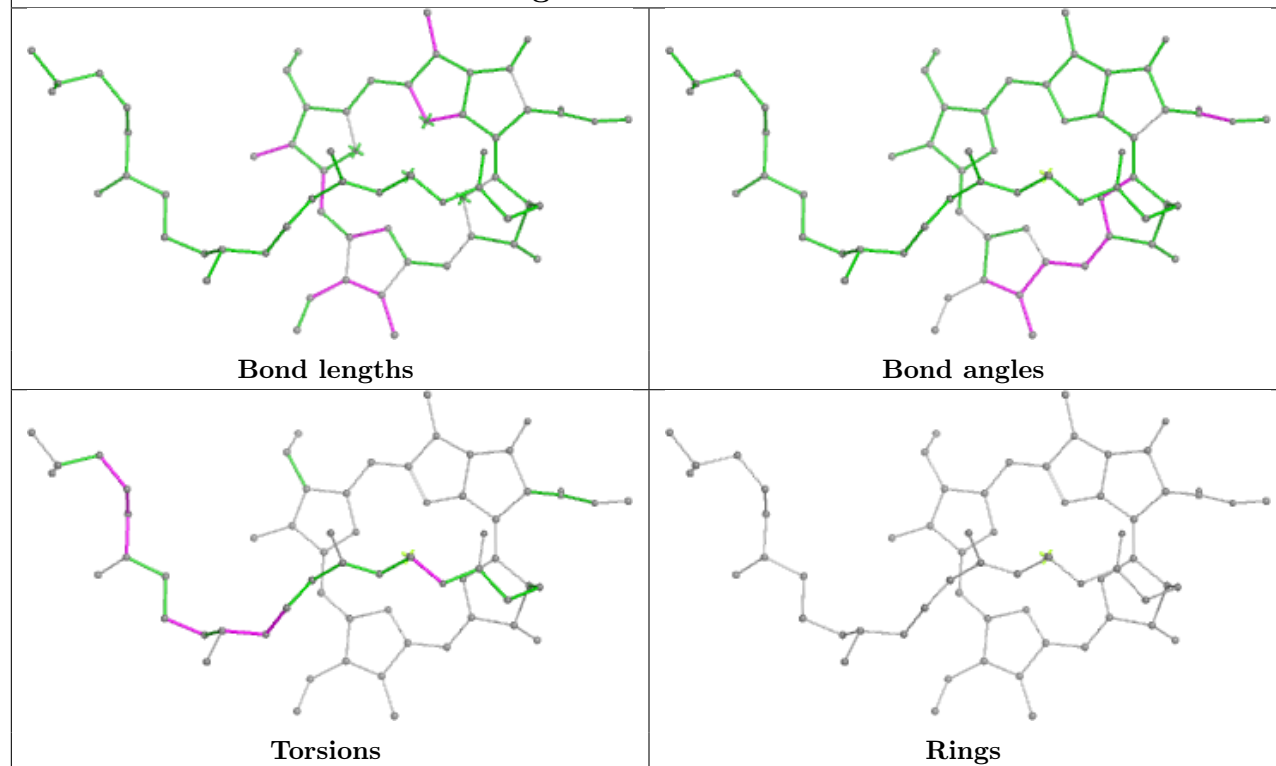
Torsions



Rings

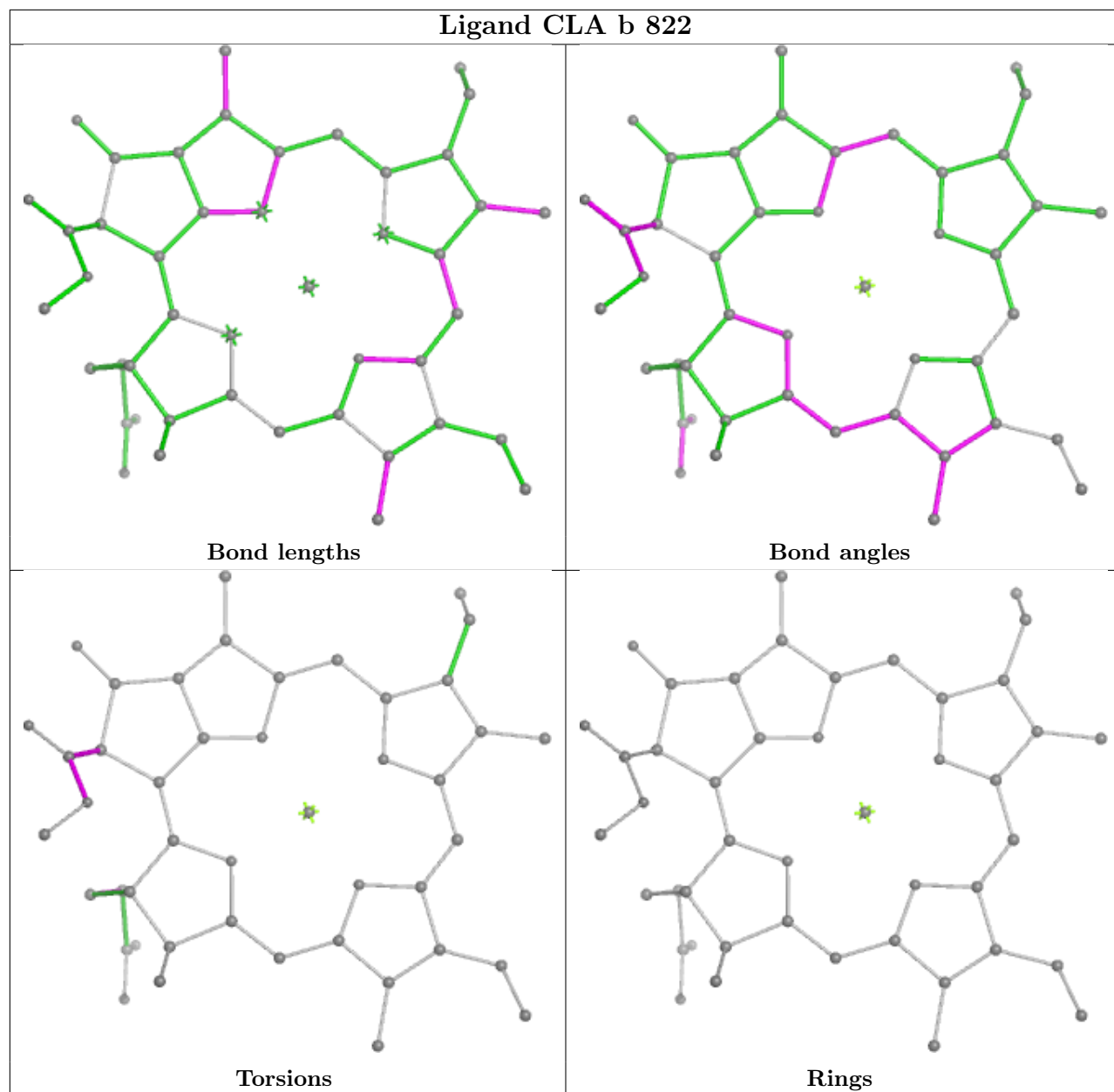


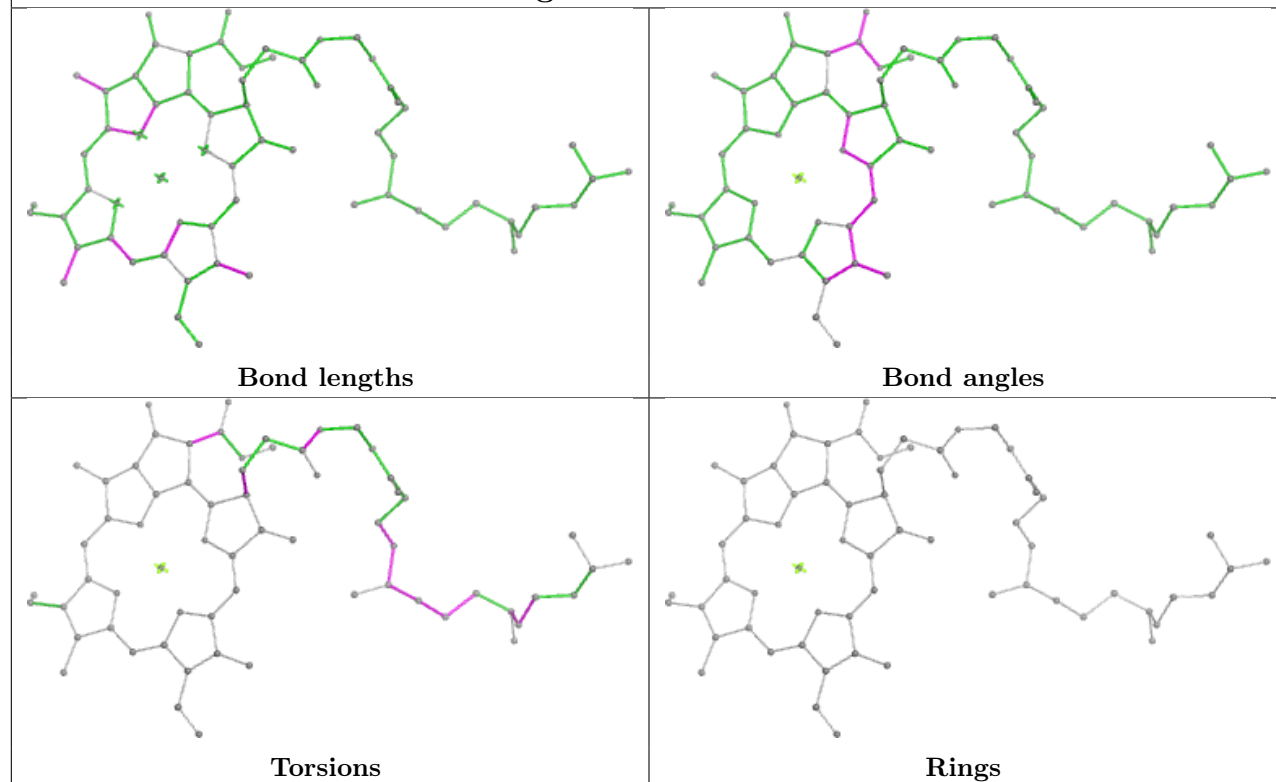
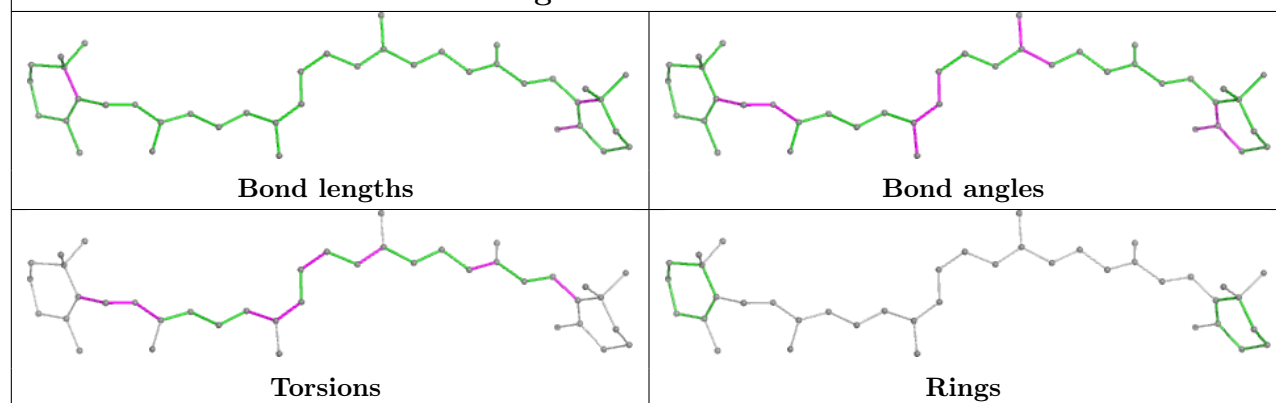
**Ligand CLA a 803****Ligand CLA b 814**

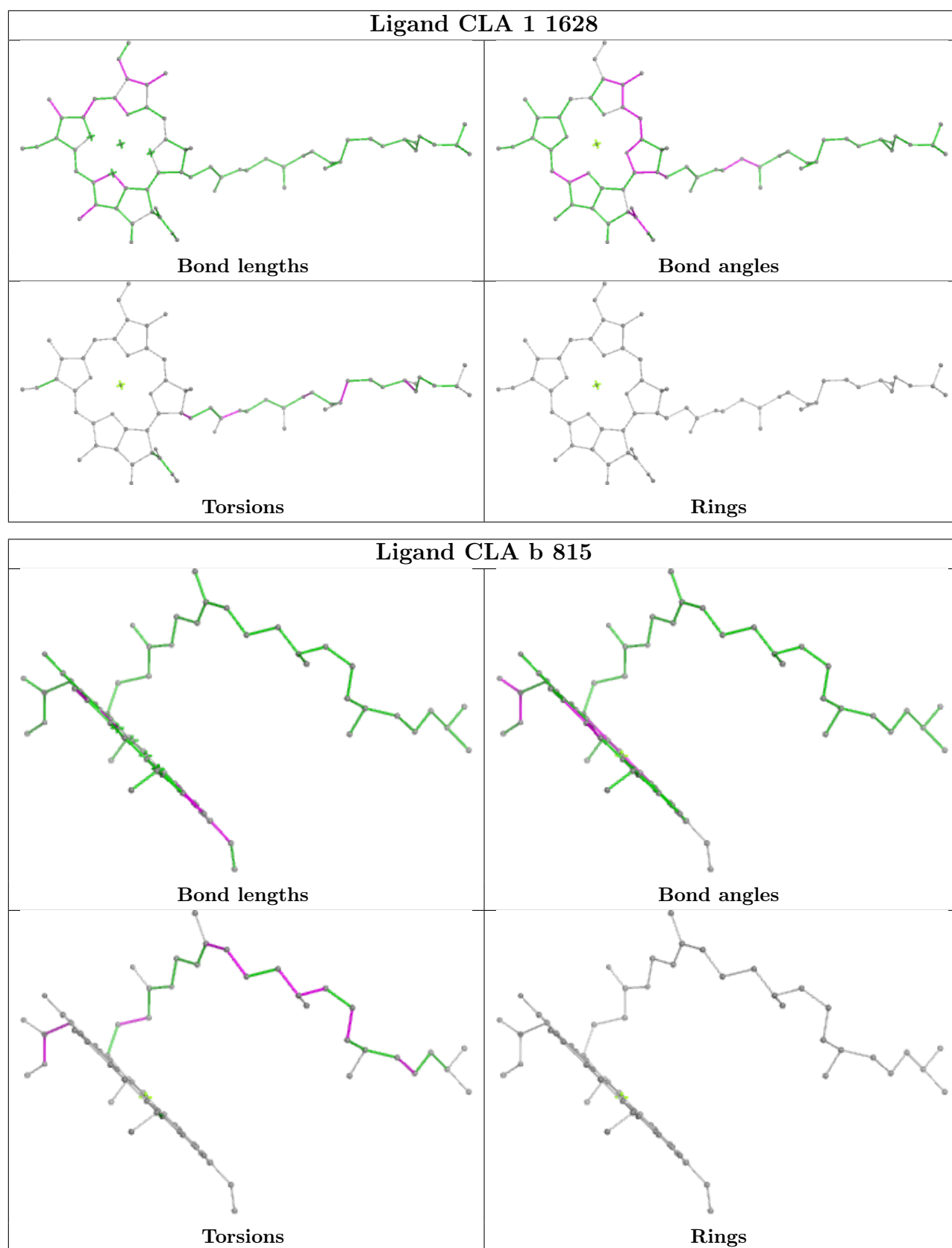
**Ligand CLA a 814****Ligand CLA B 838**



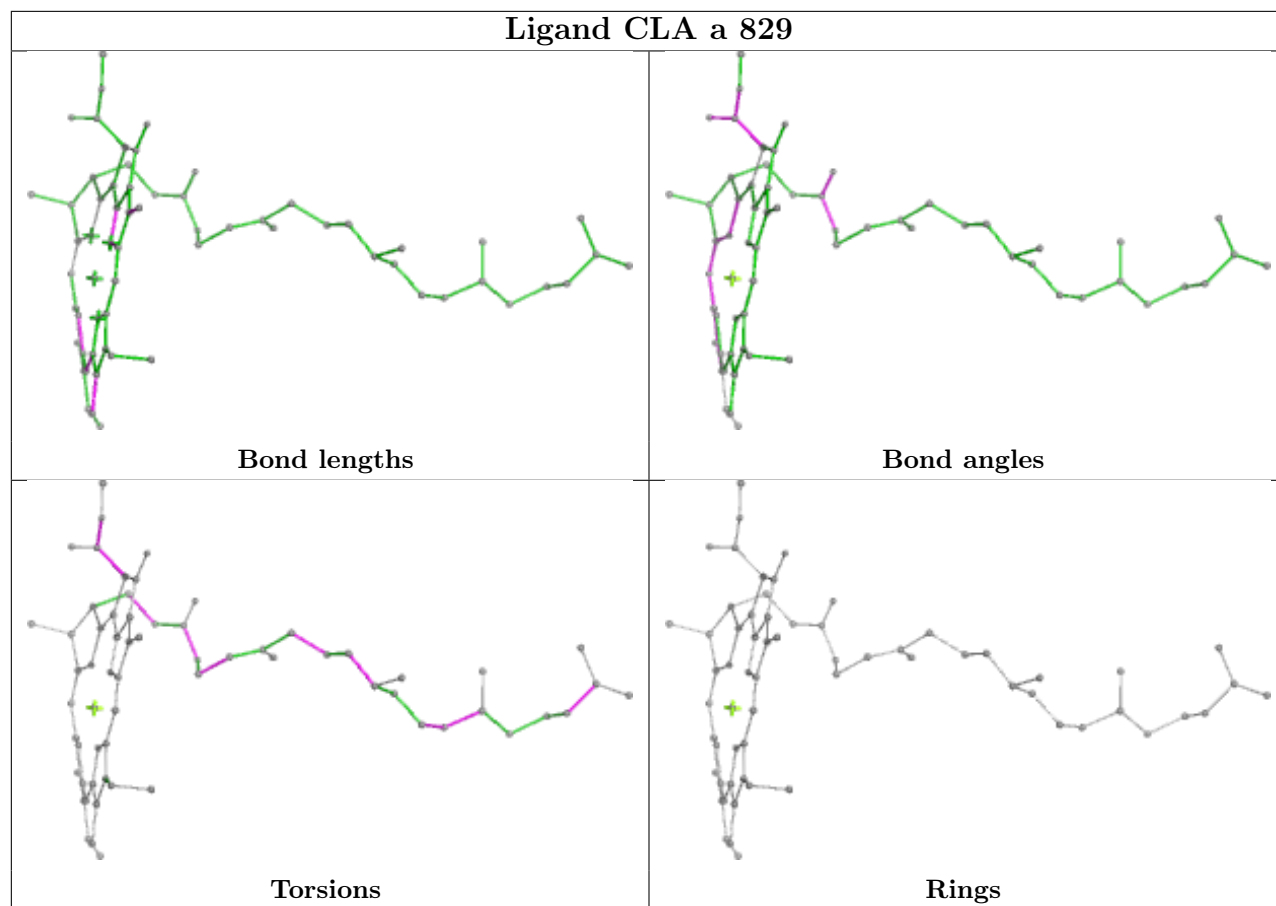
## Ligand CLA b 822



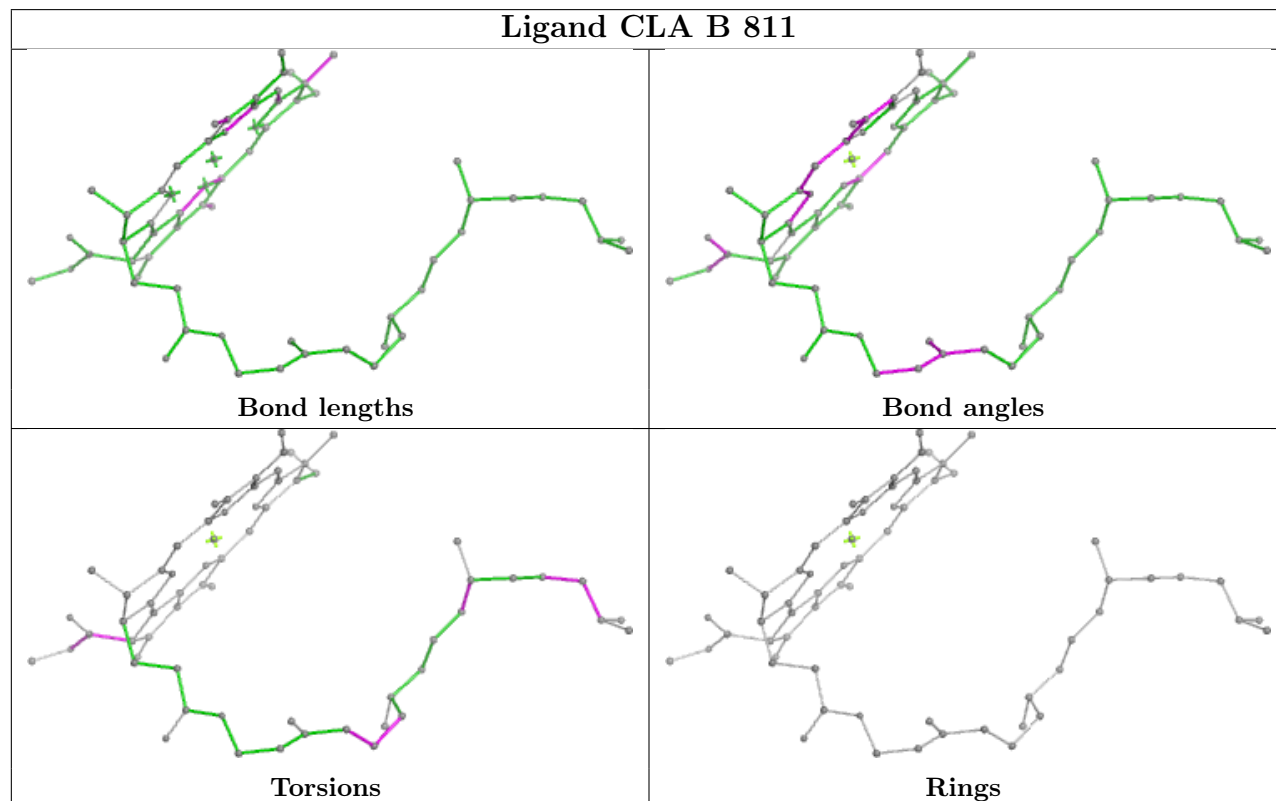
**Ligand CLA a 804****Ligand BCR 2 847**

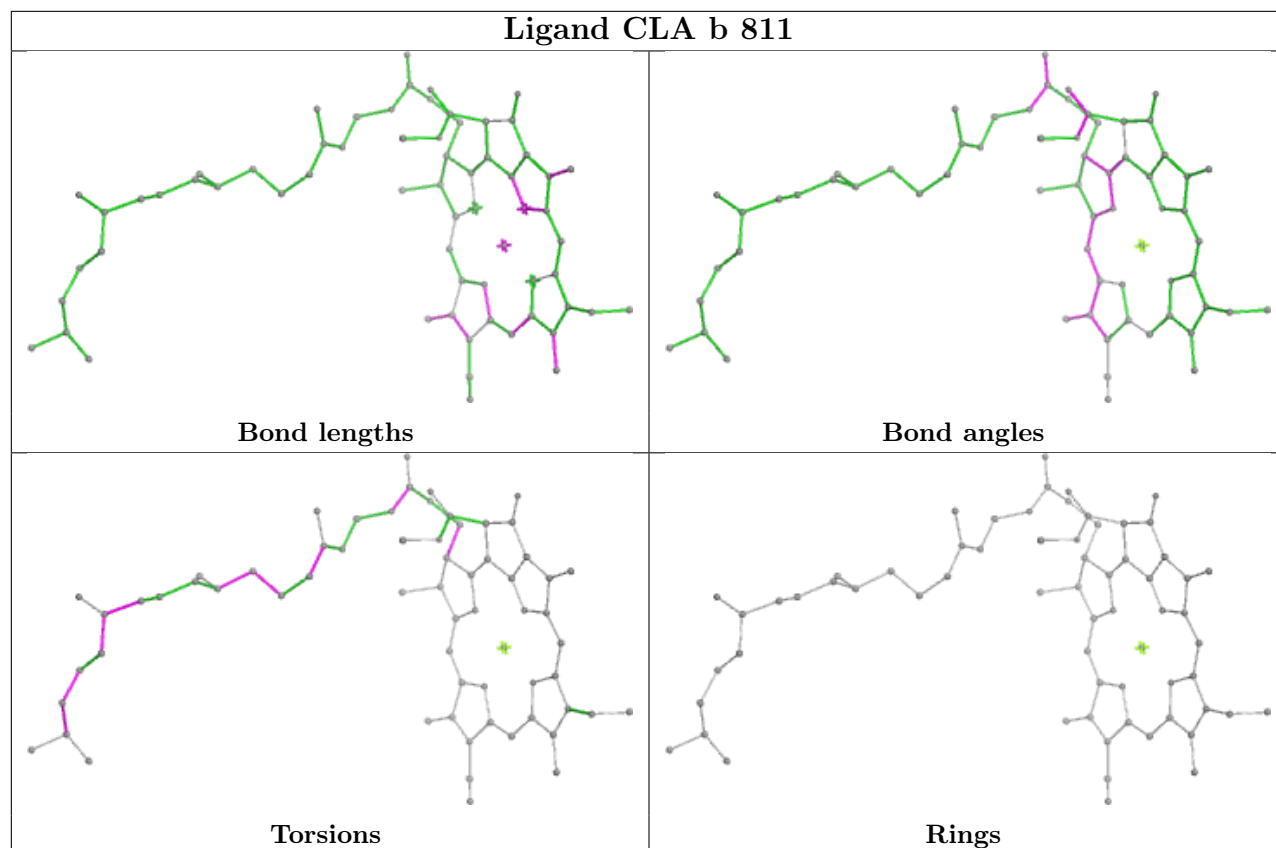
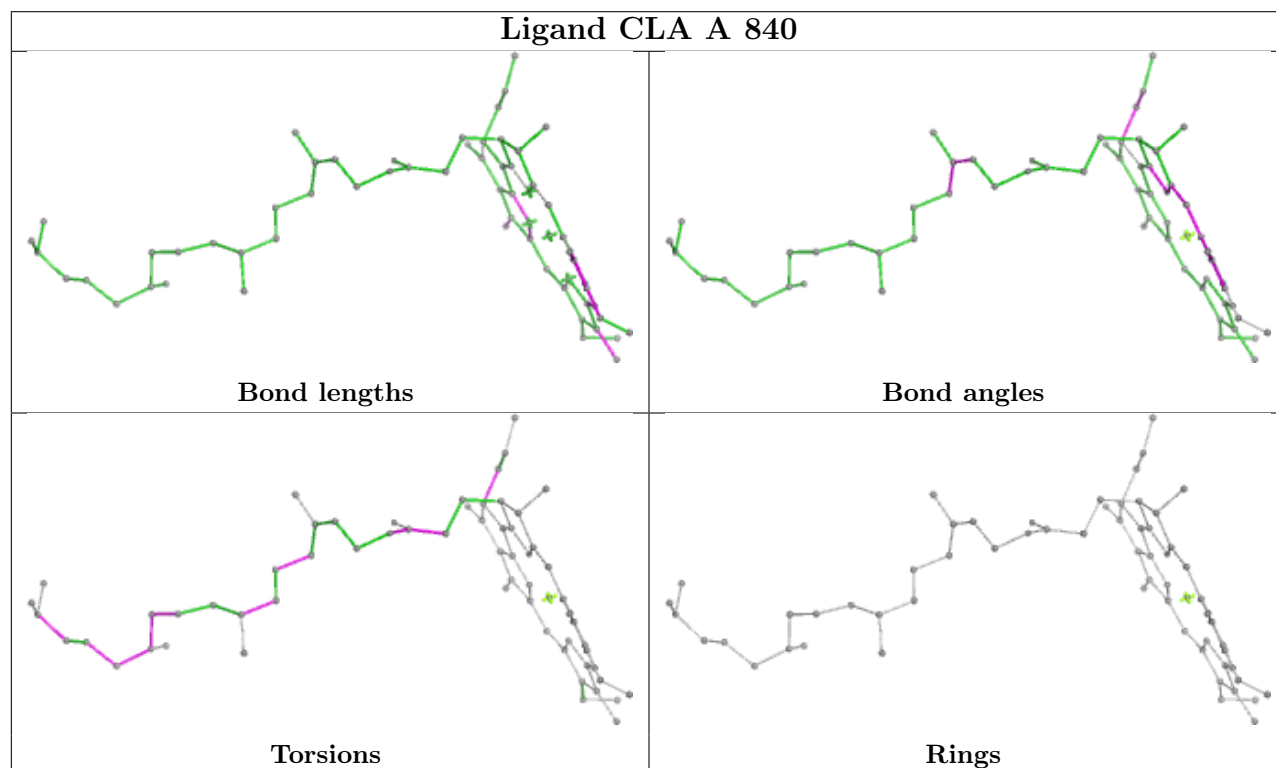


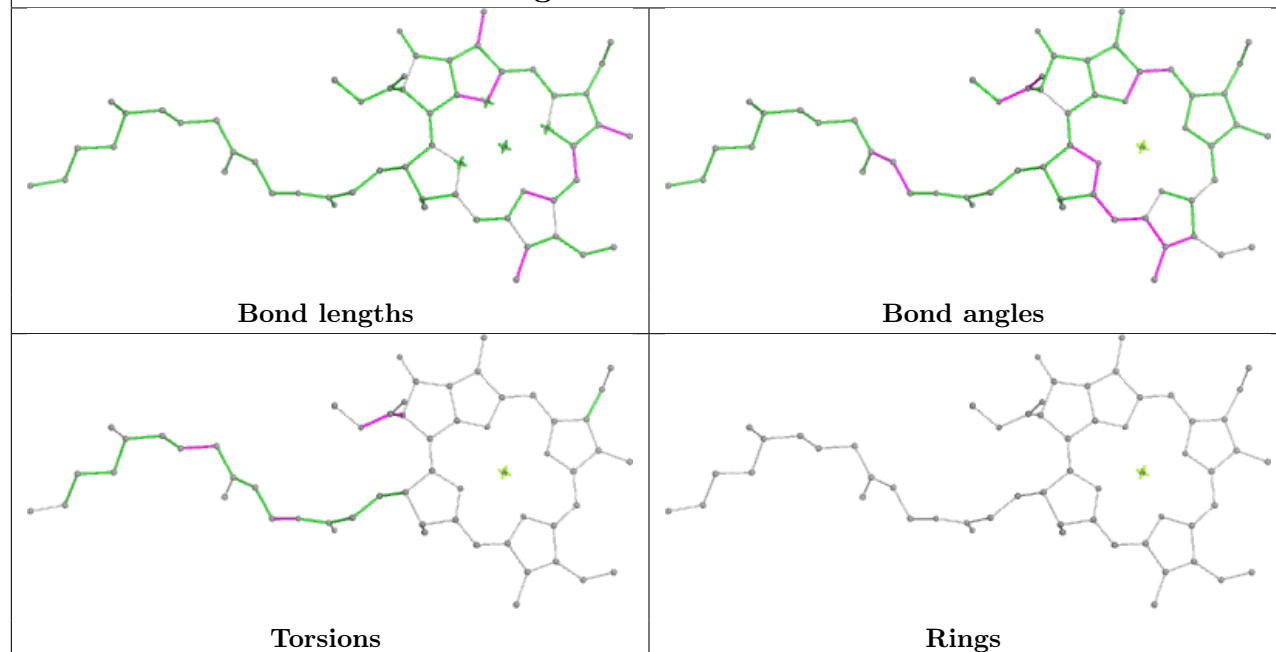
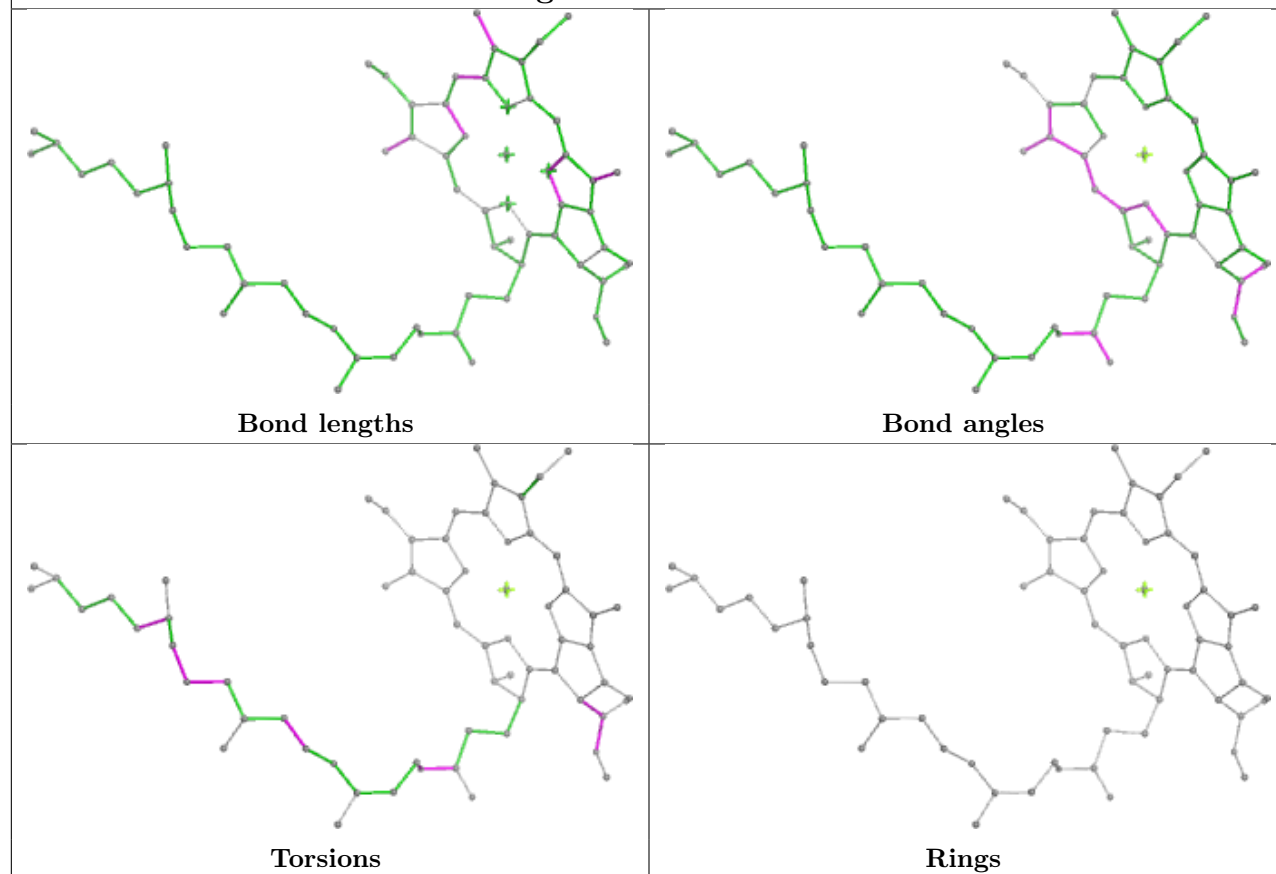
## Ligand CLA a 829

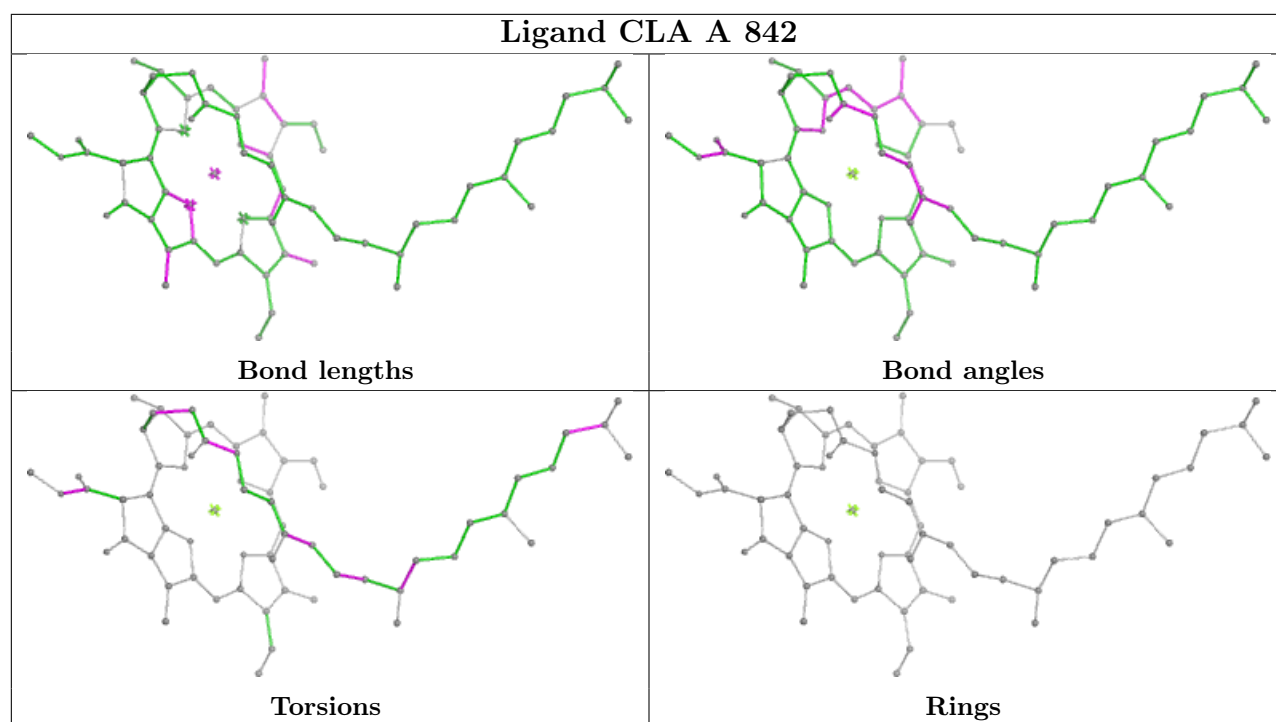


## Ligand CLA B 811

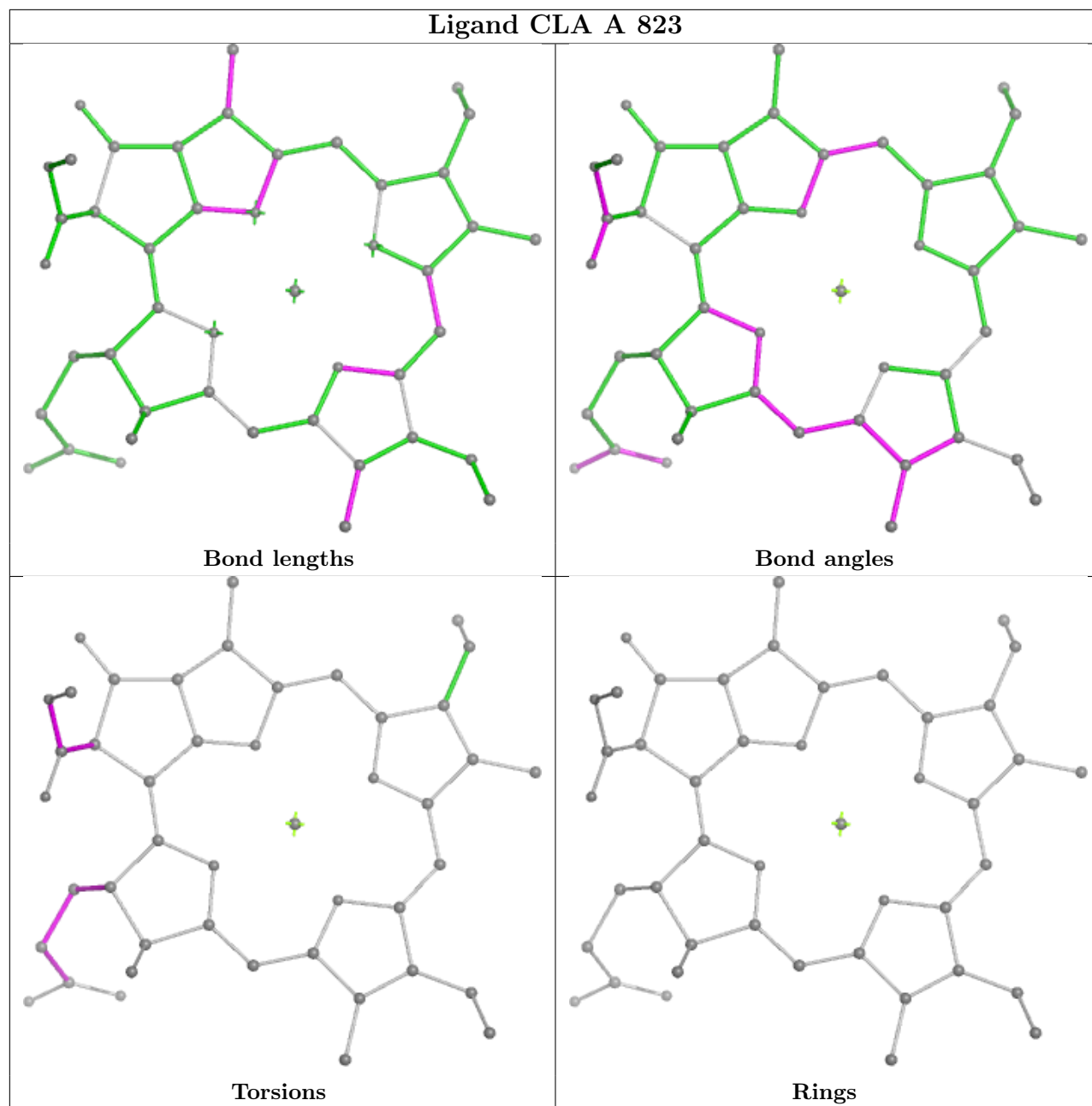


**Ligand CLA b 811****Ligand CLA A 840**

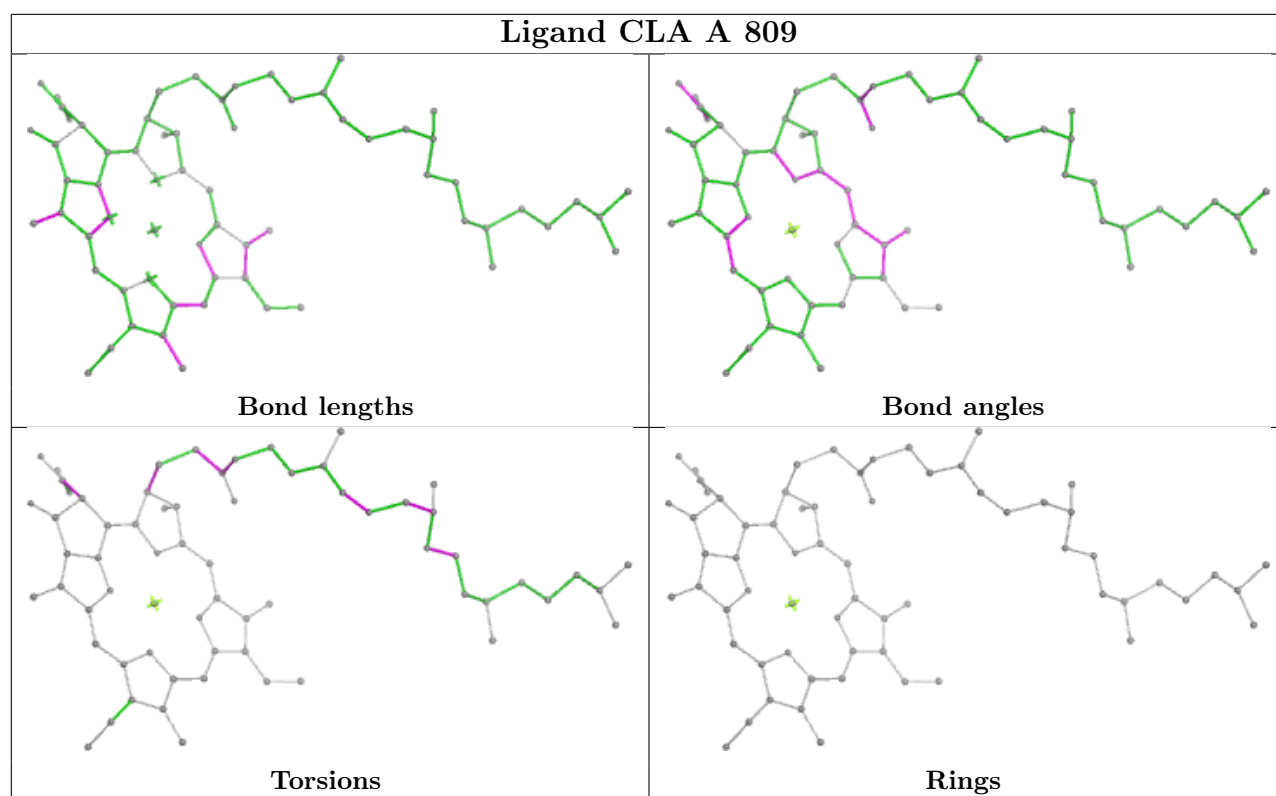
**Ligand CLA F 201****Ligand CLA a 817**



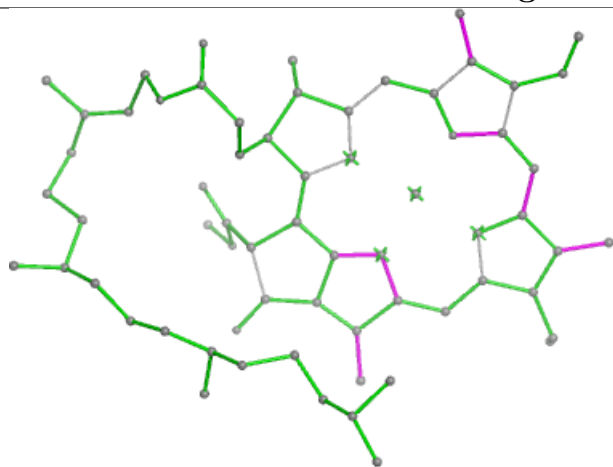
## Ligand CLA A 823



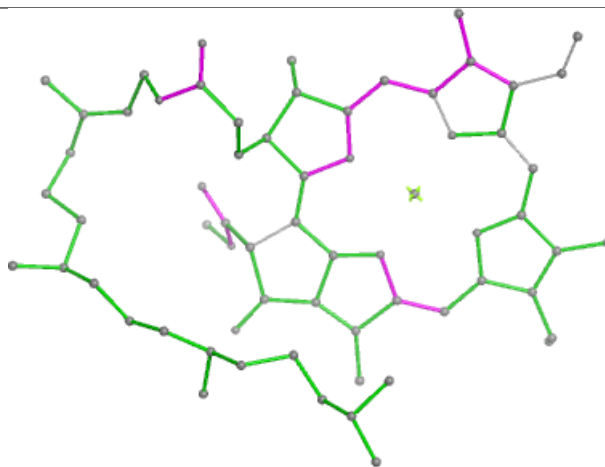




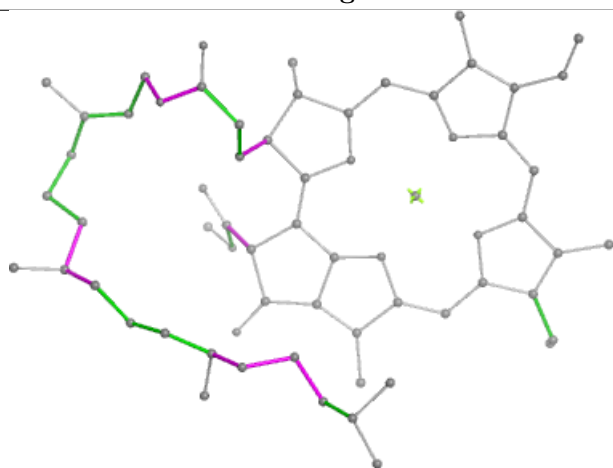
## Ligand CLA 2 806



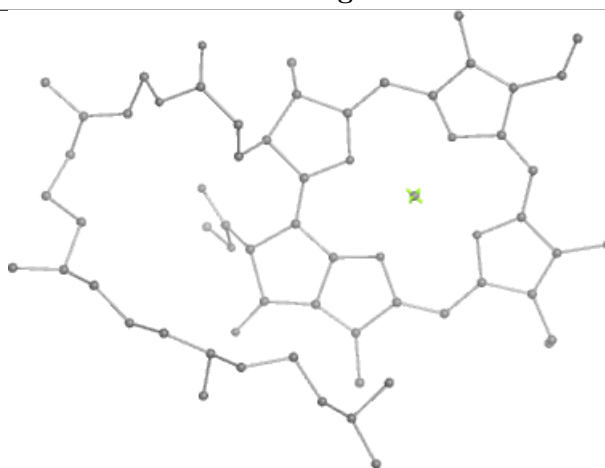
Bond lengths



Bond angles

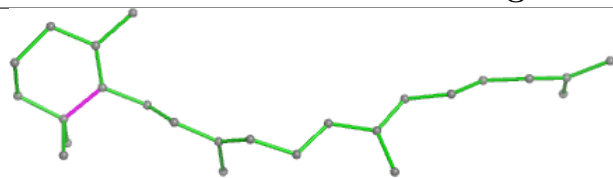


Torsions

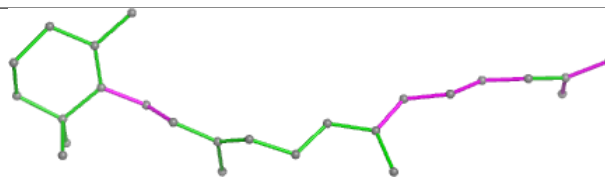


Rings

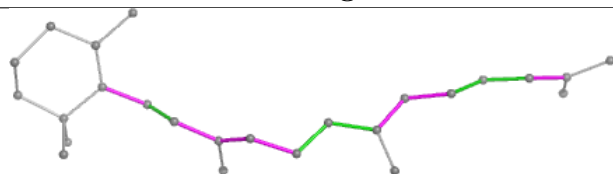
## Ligand BCR 1 1653



Bond lengths



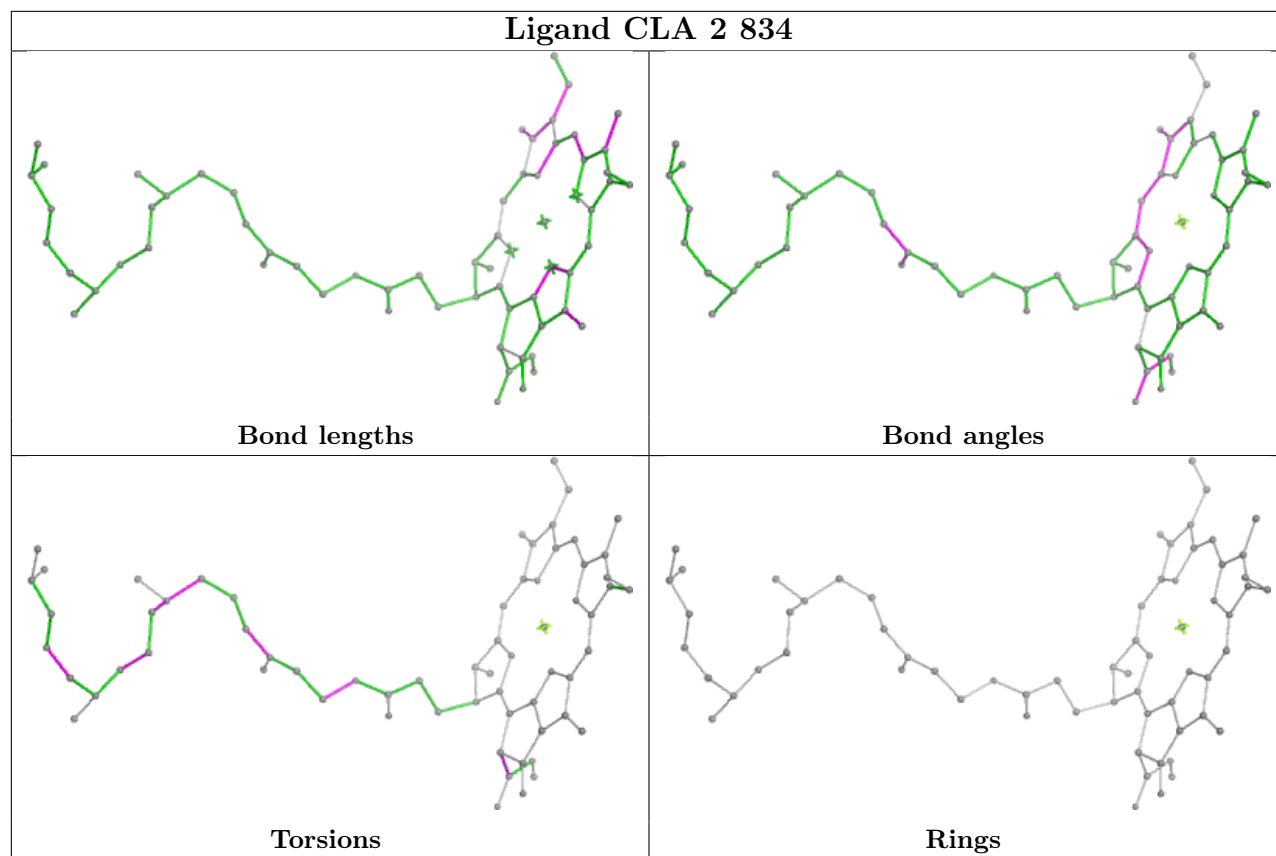
Bond angles



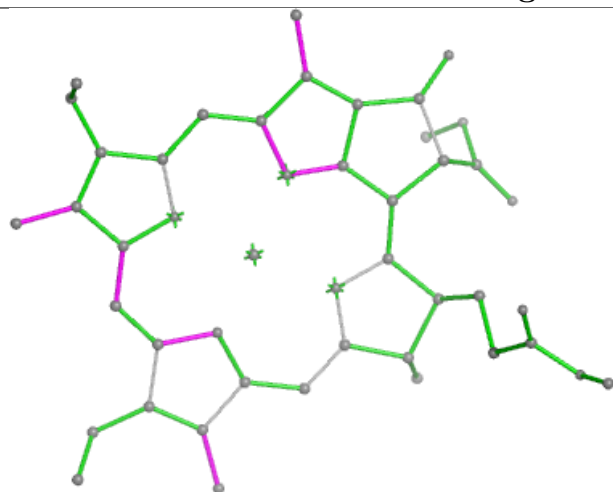
Torsions



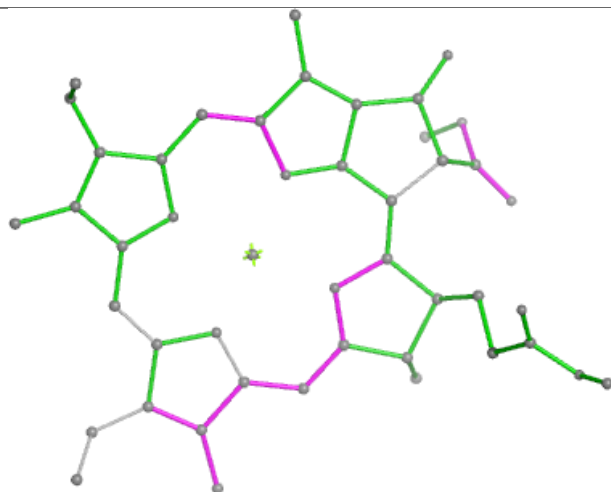
Rings



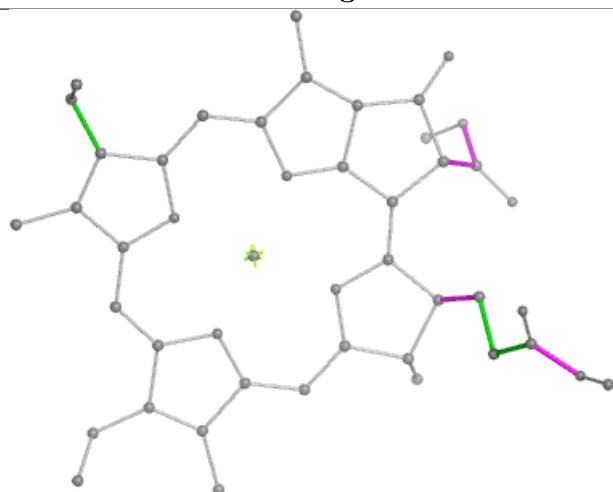
## Ligand CLA 9 101



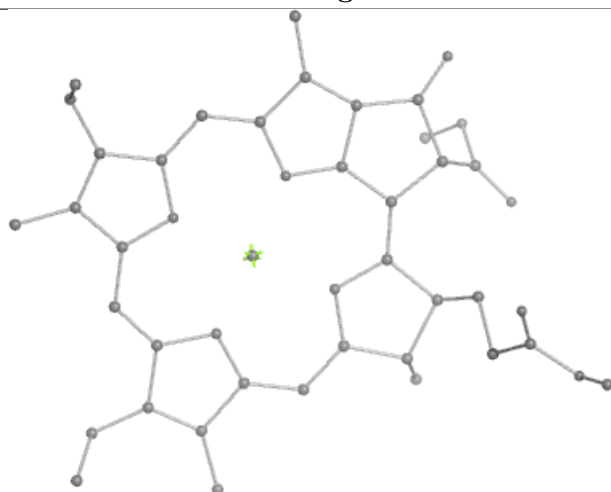
Bond lengths



Bond angles

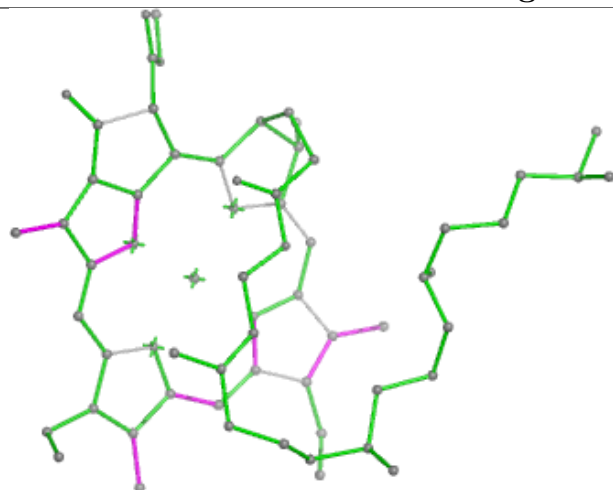


Torsions

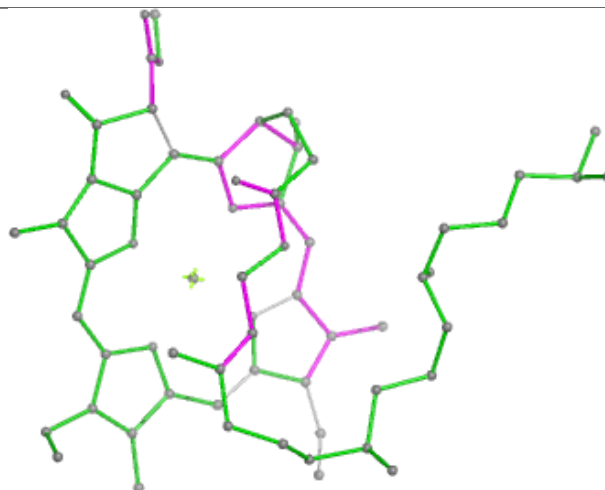


Rings

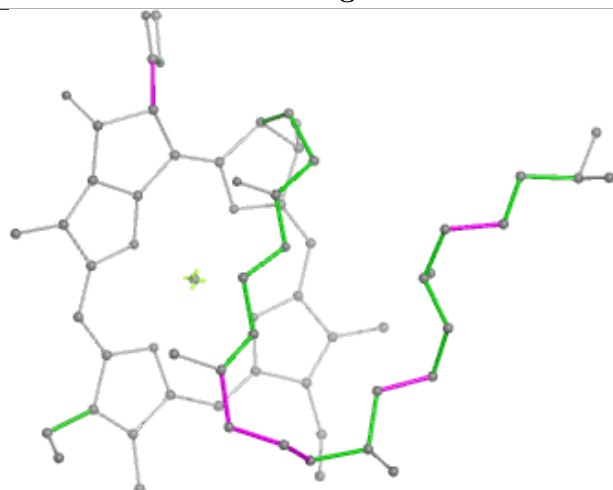
## Ligand CLA 2 809



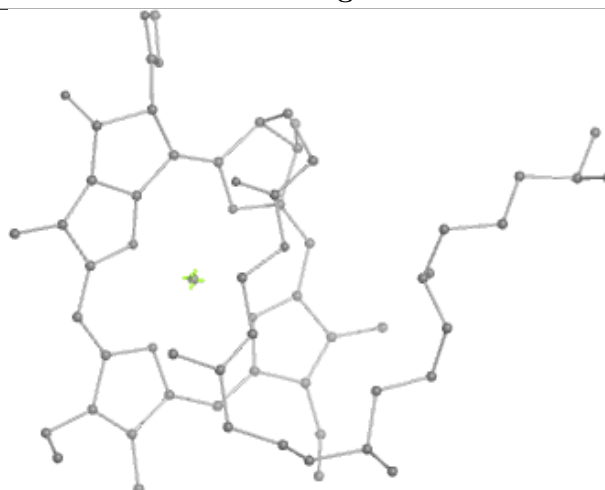
Bond lengths



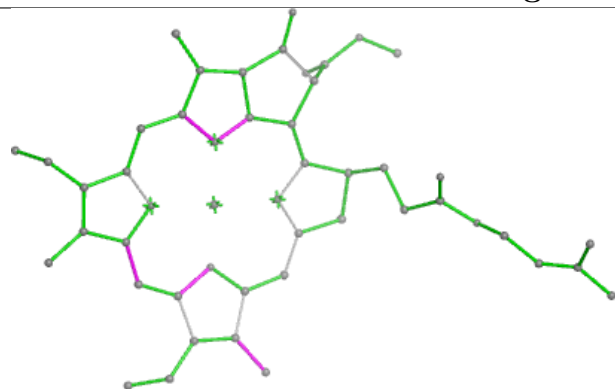
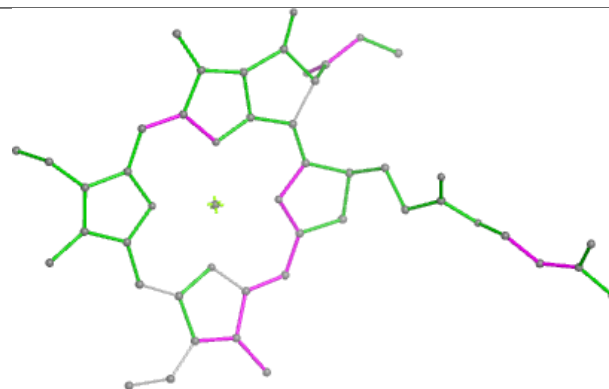
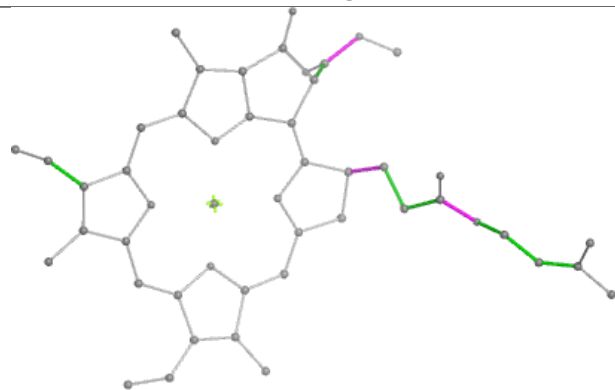
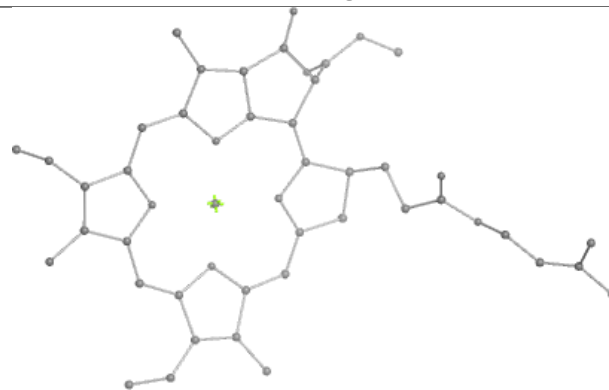
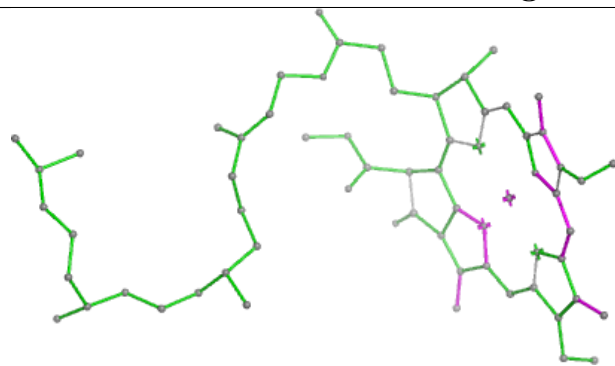
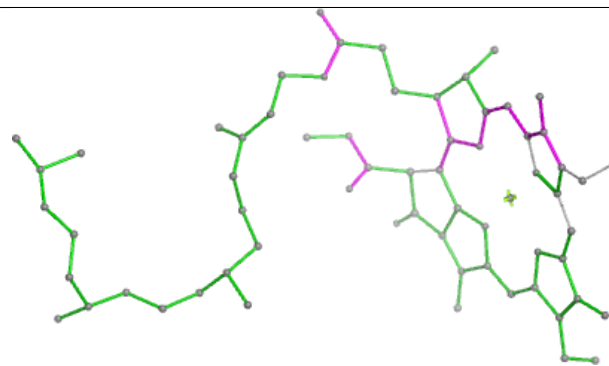
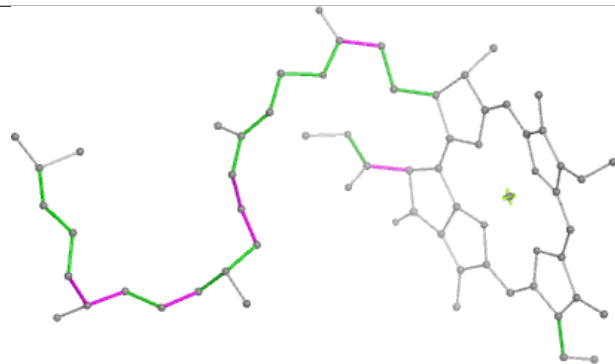
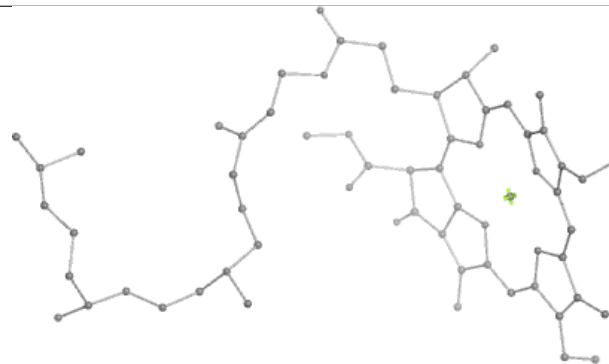
Bond angles

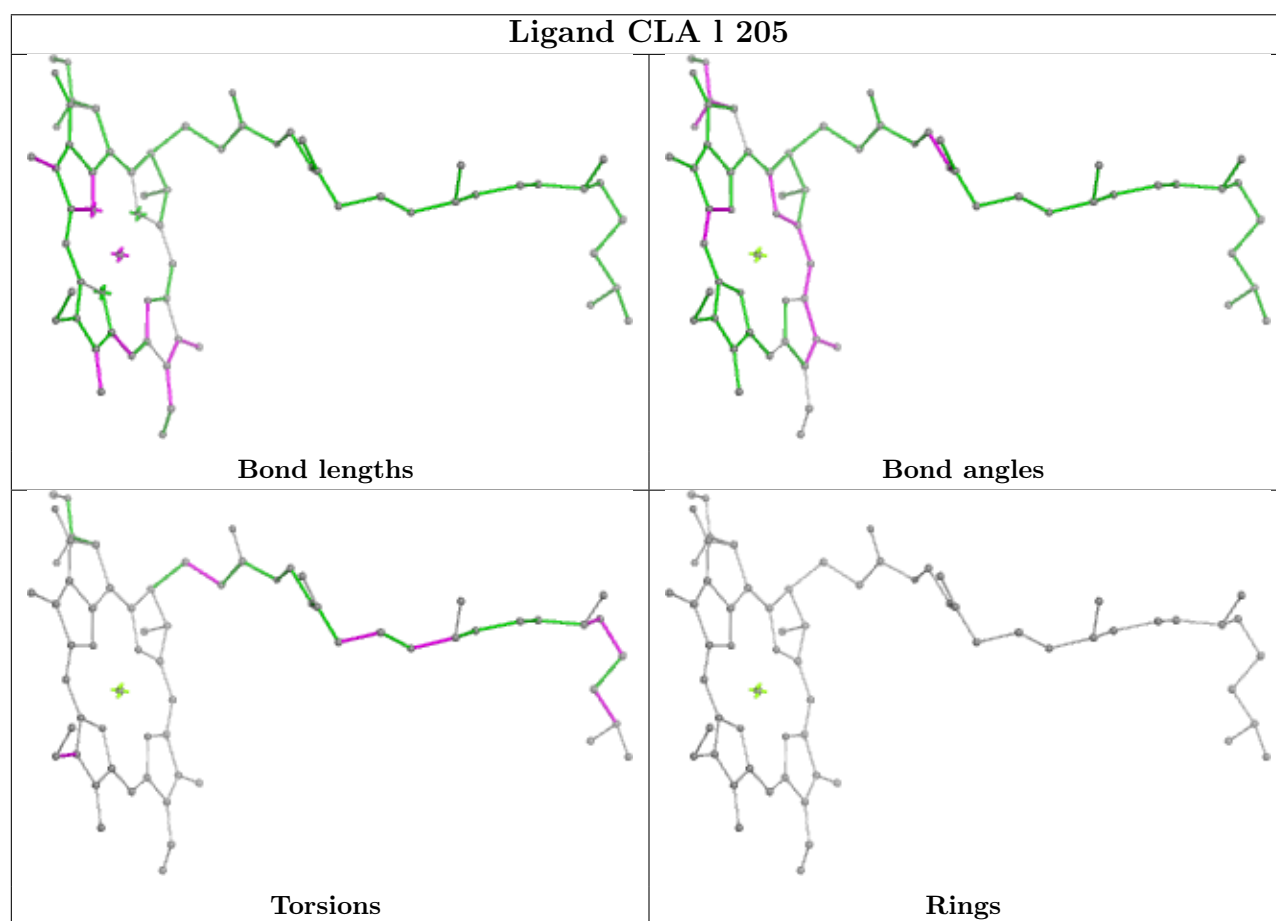
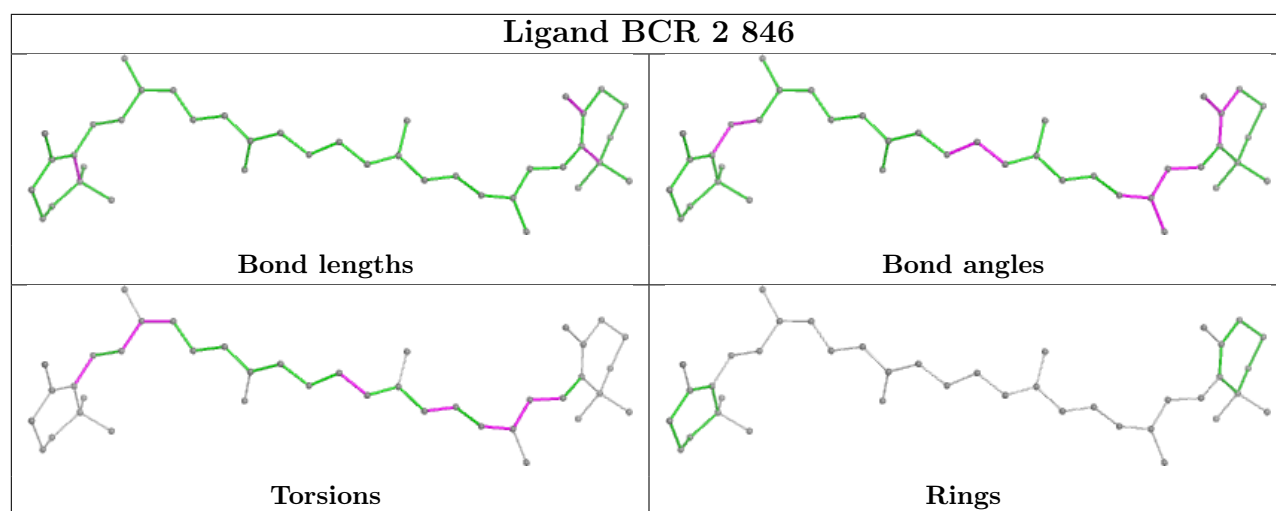


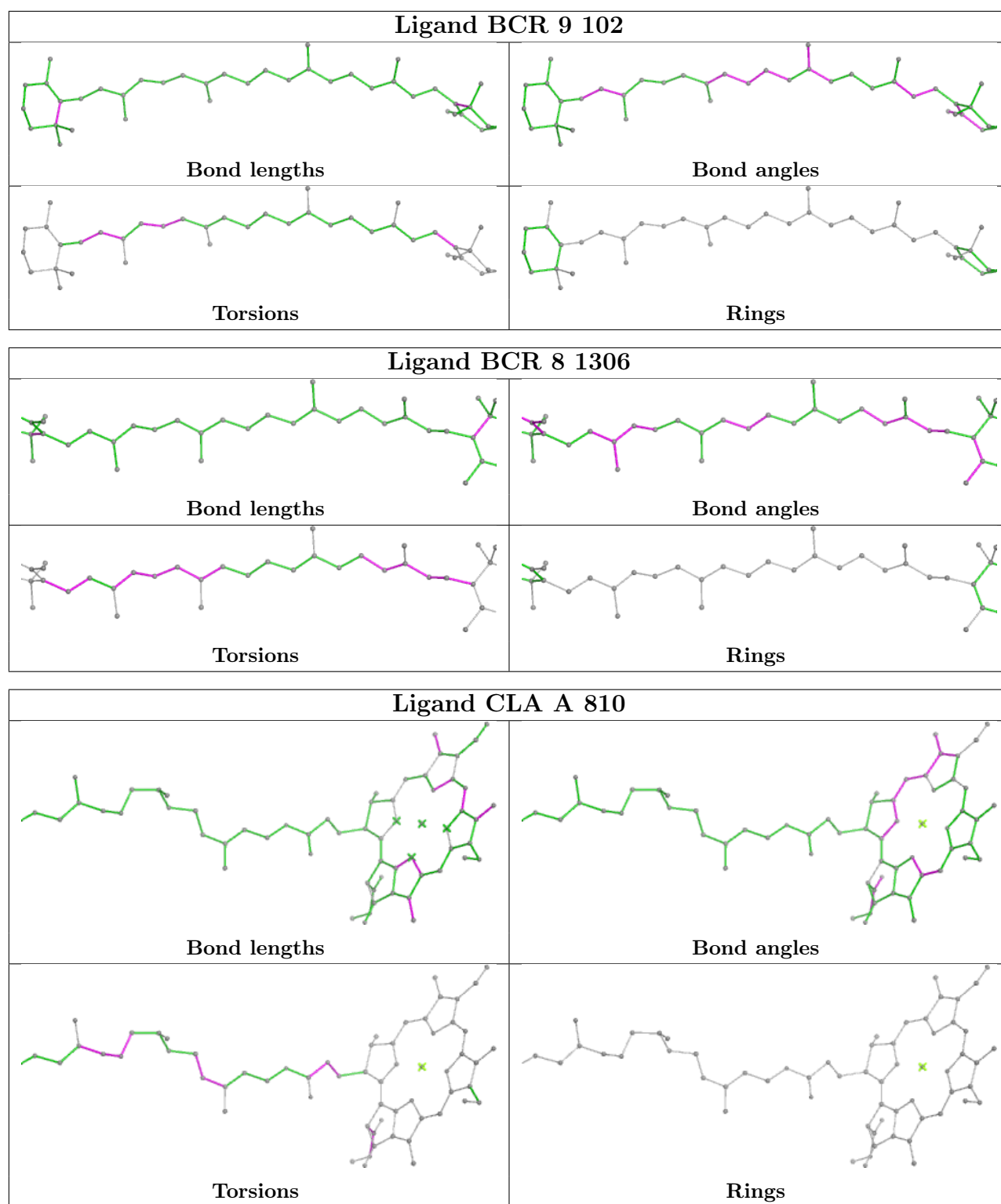
Torsions



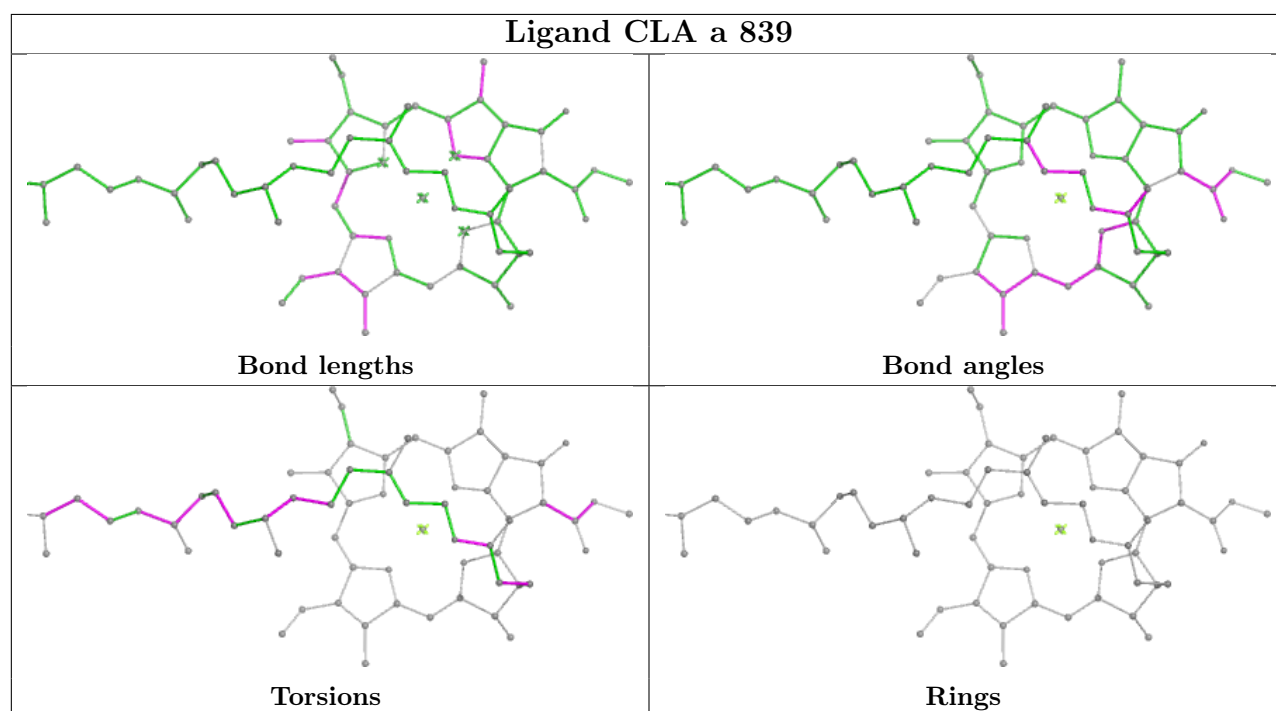
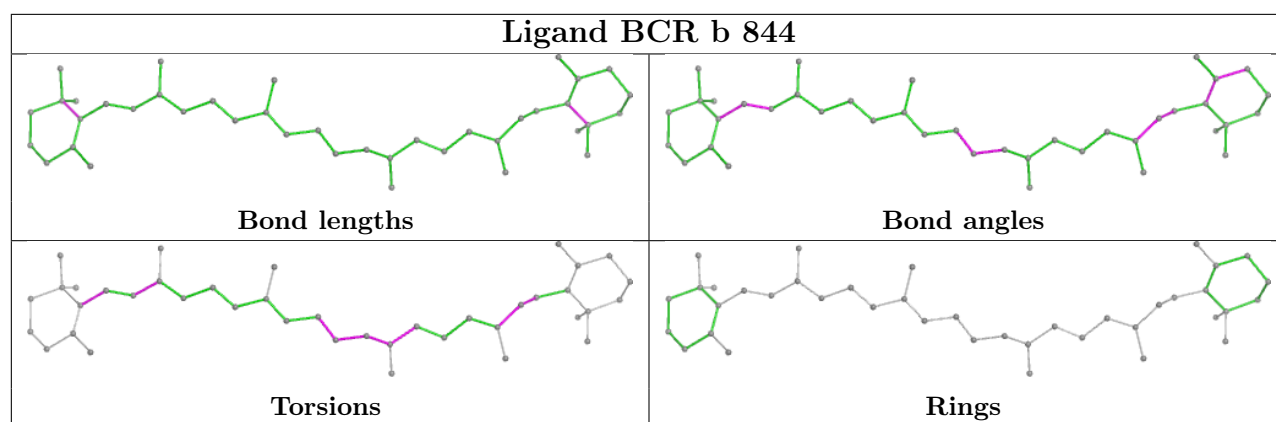
Rings

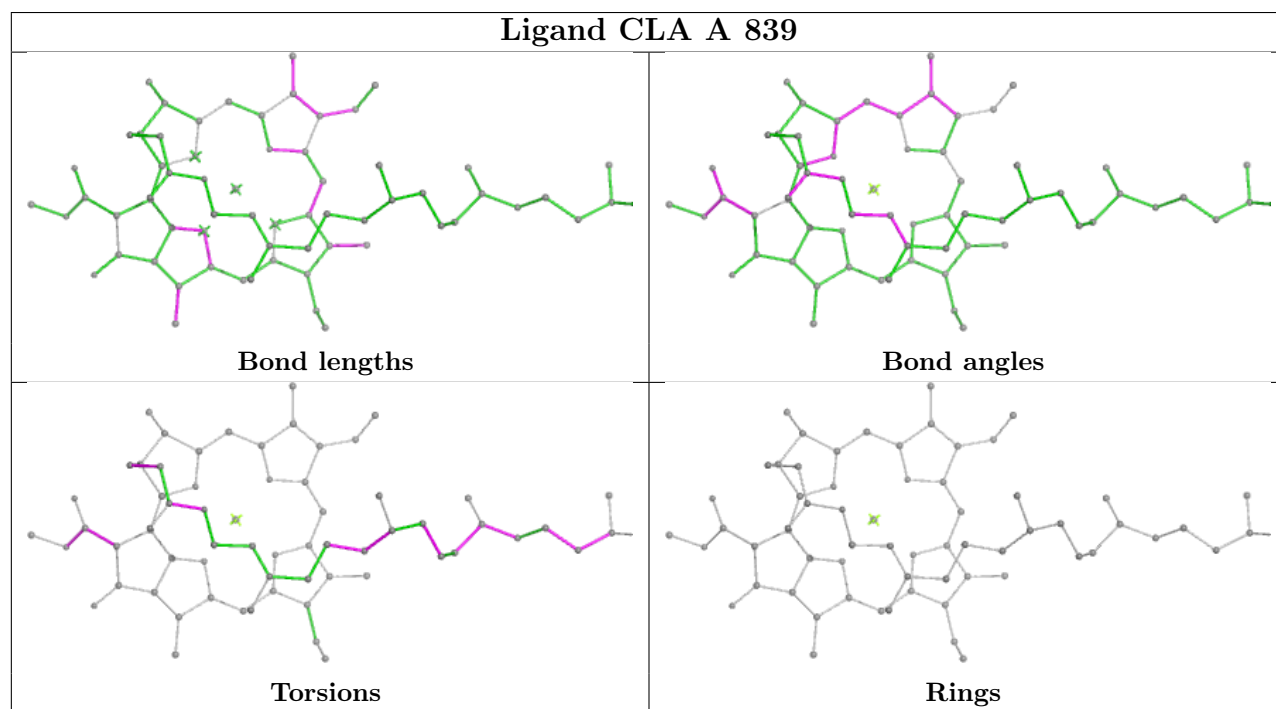
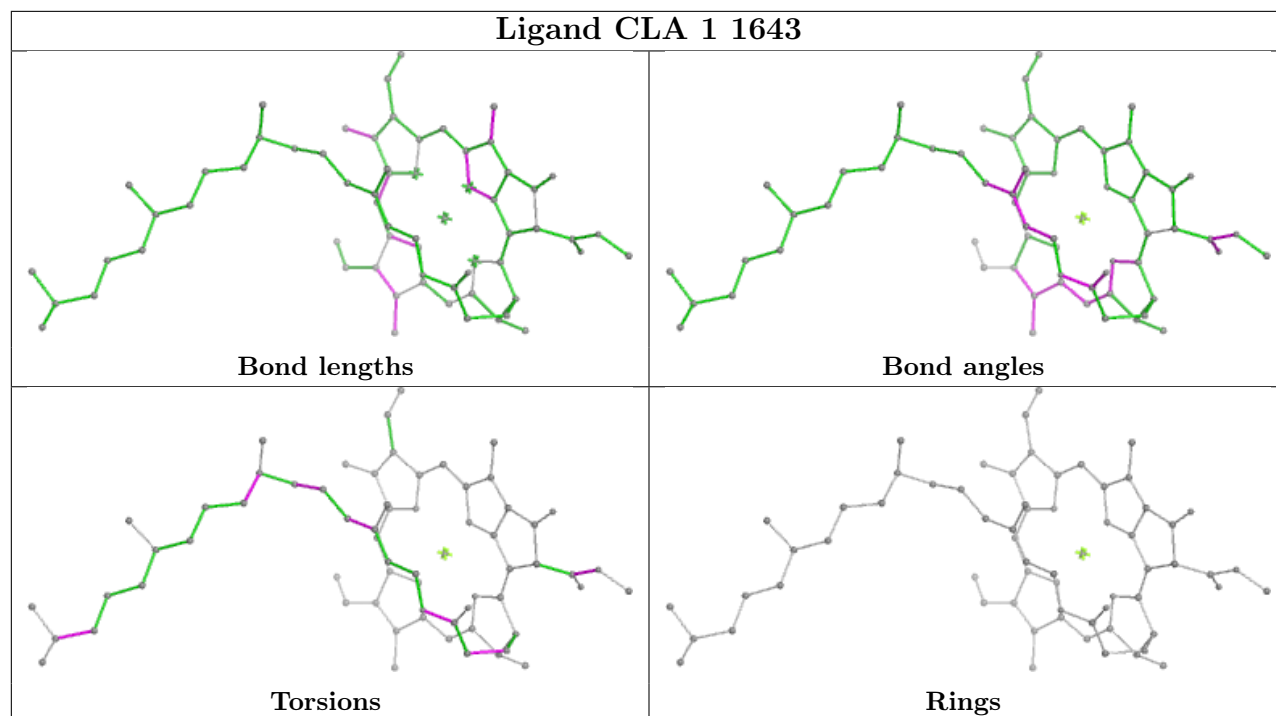
**Ligand CLA f 203****Bond lengths****Bond angles****Torsions****Rings****Ligand CL0 A 801****Bond lengths****Bond angles****Torsions****Rings**



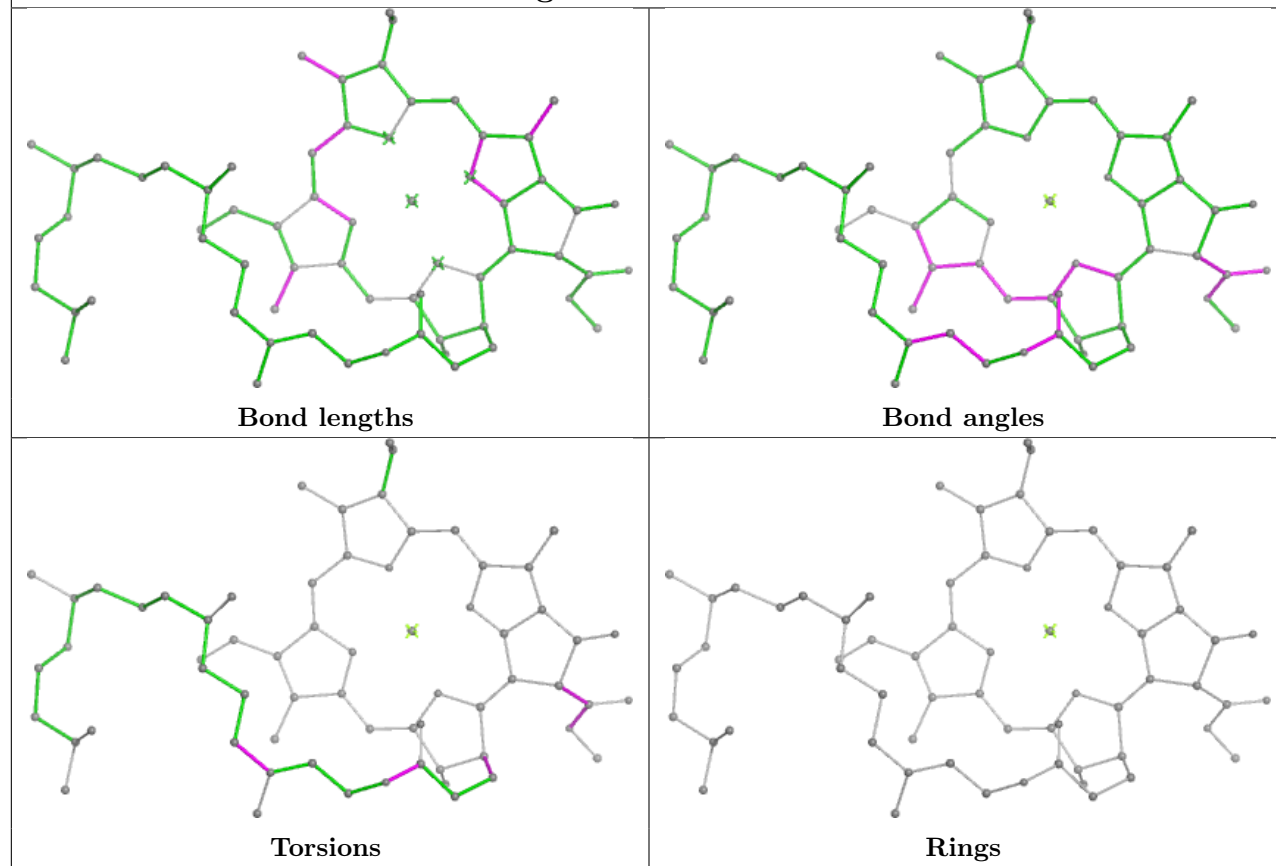




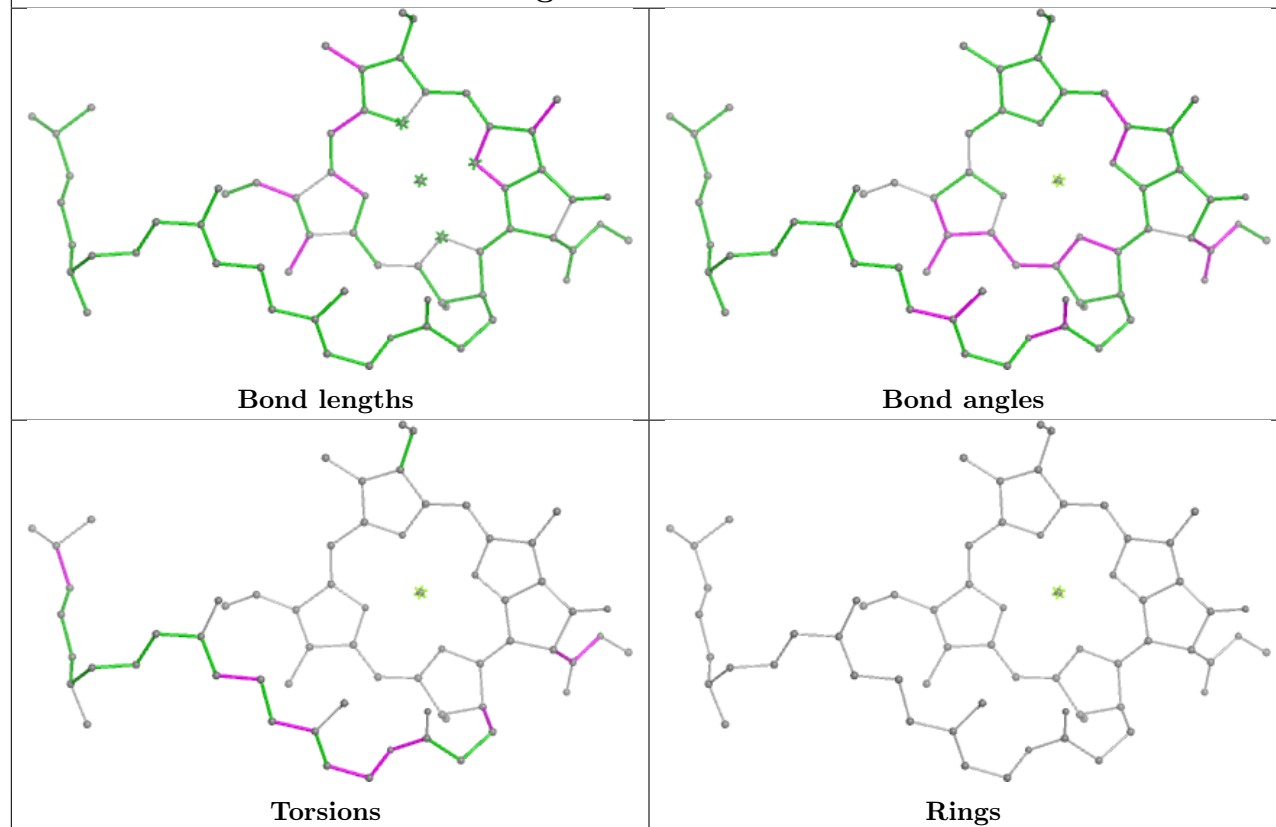


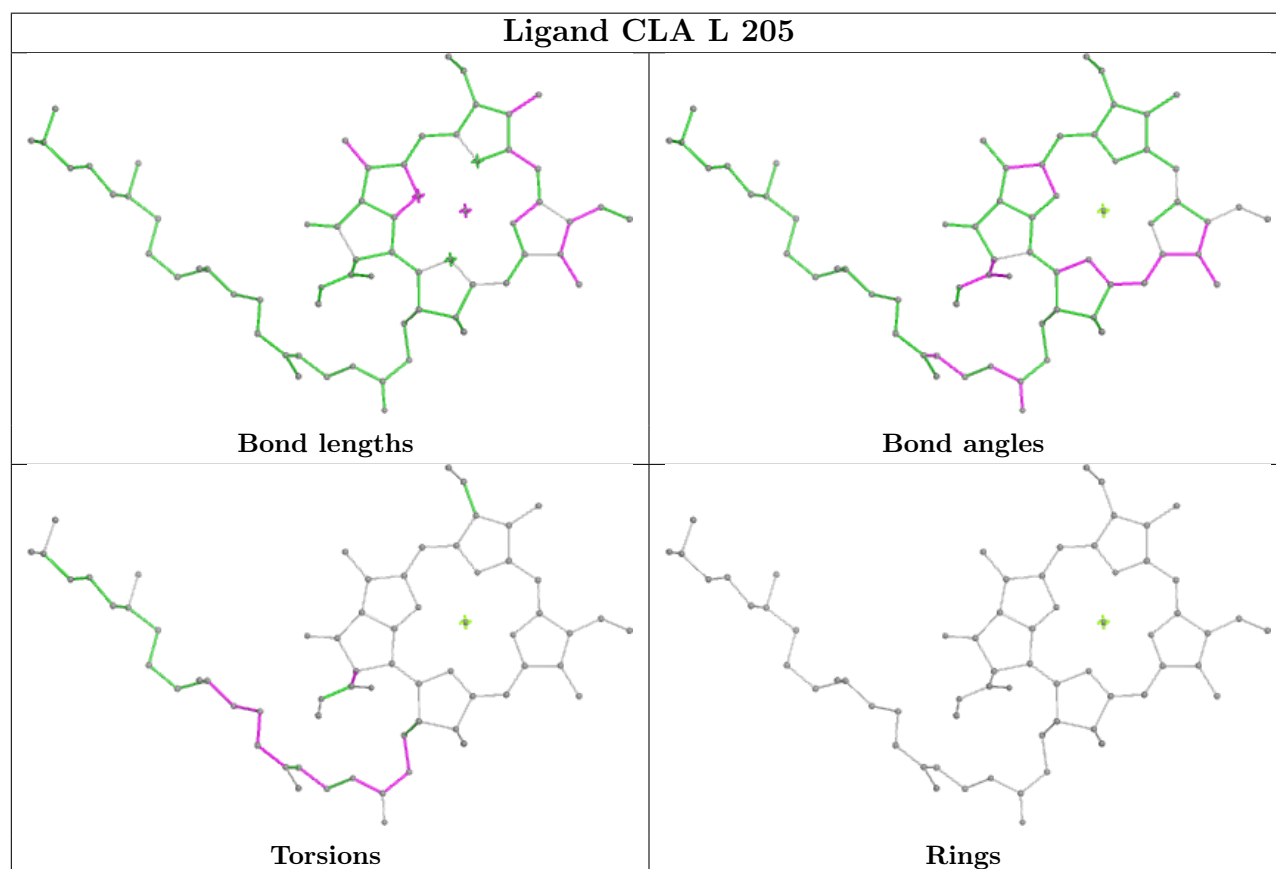
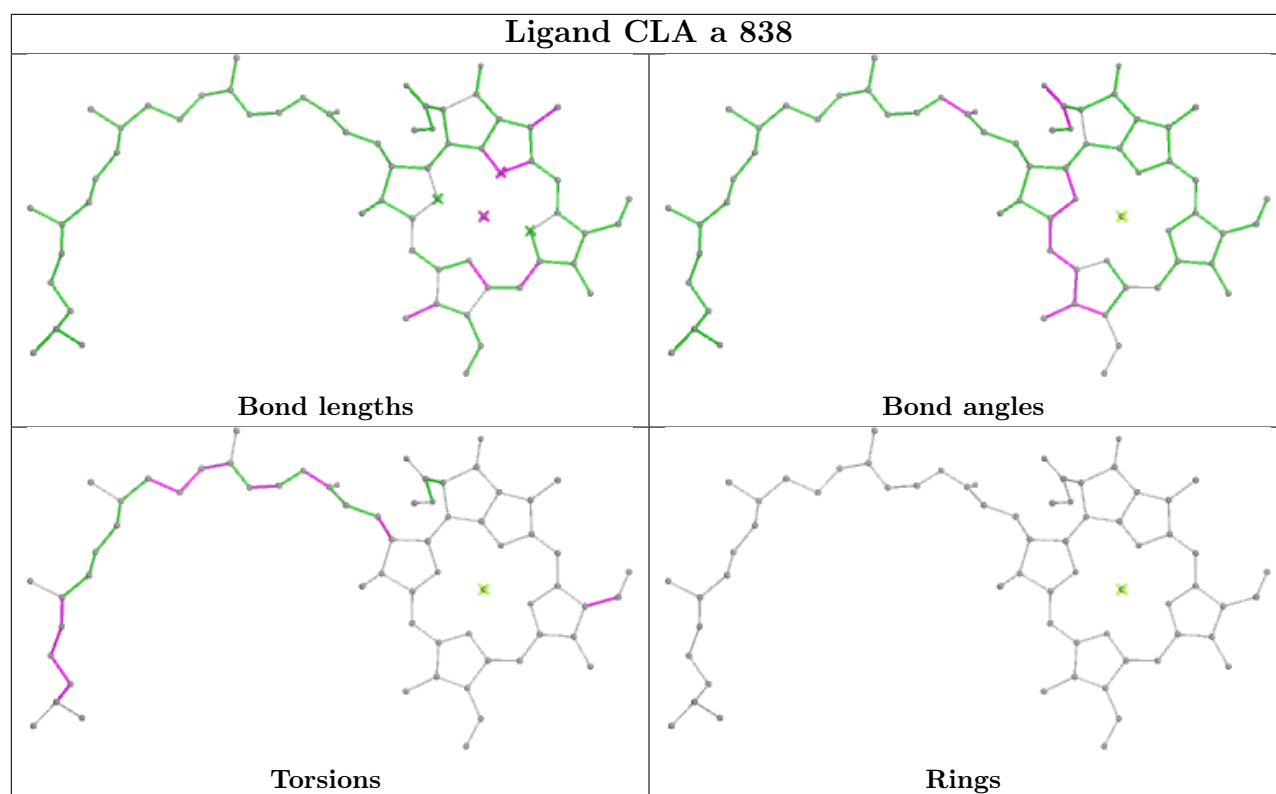


## Ligand CLA a 820

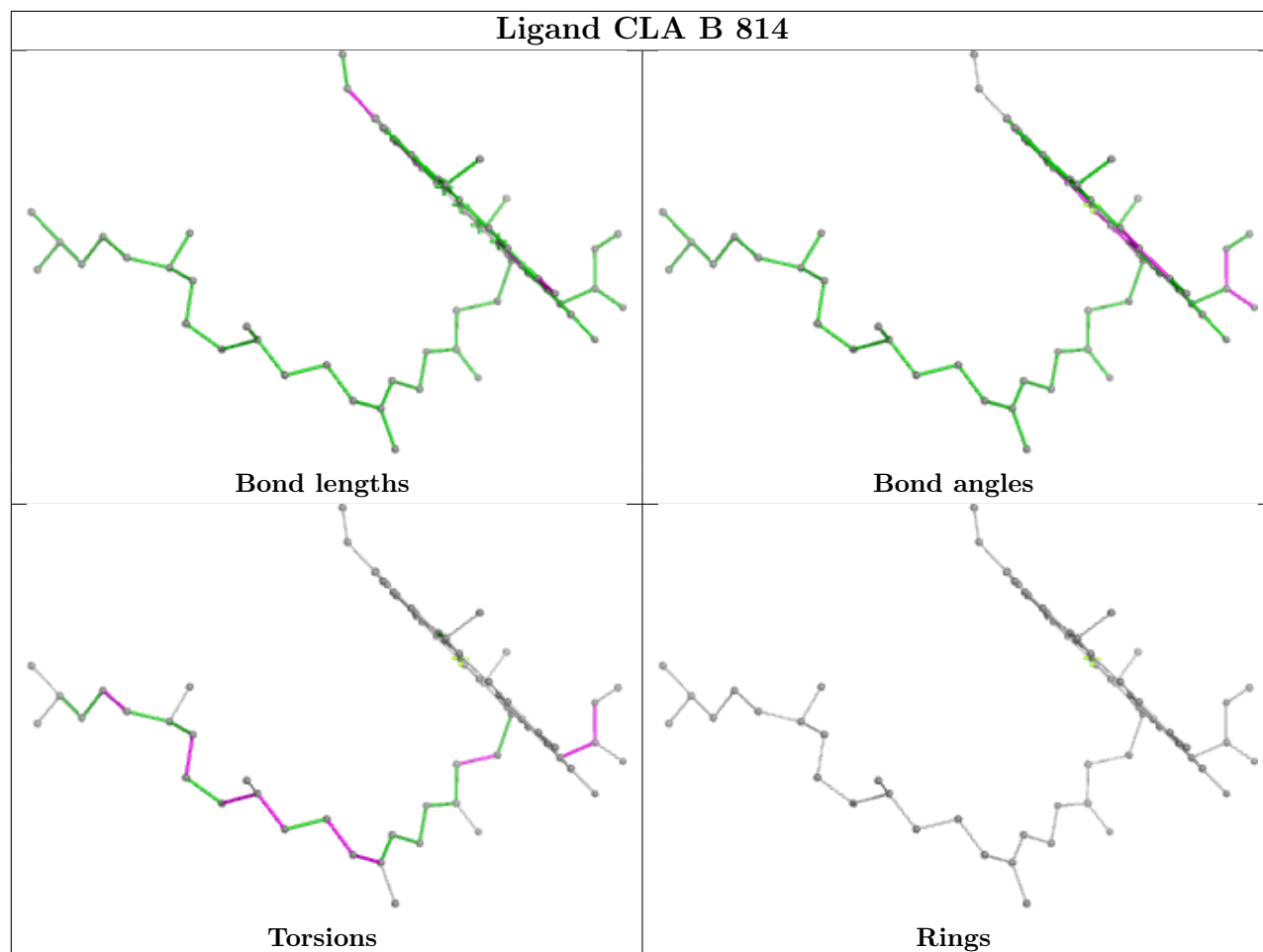


## Ligand CLA 2 819

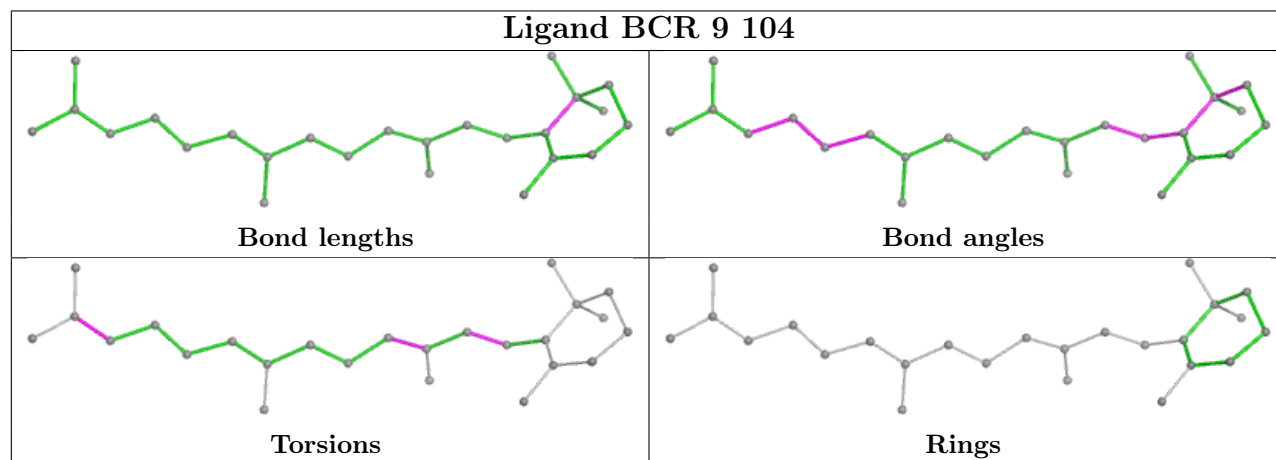




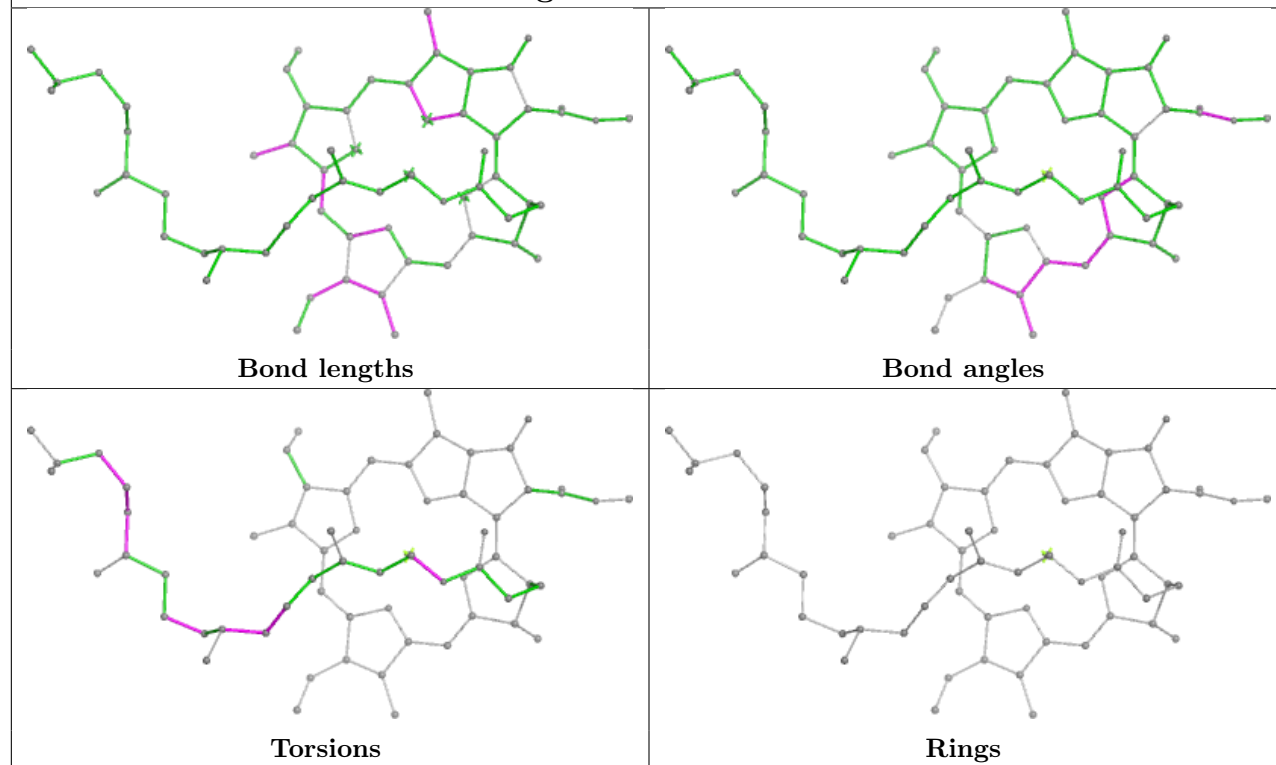
## Ligand CLA B 814



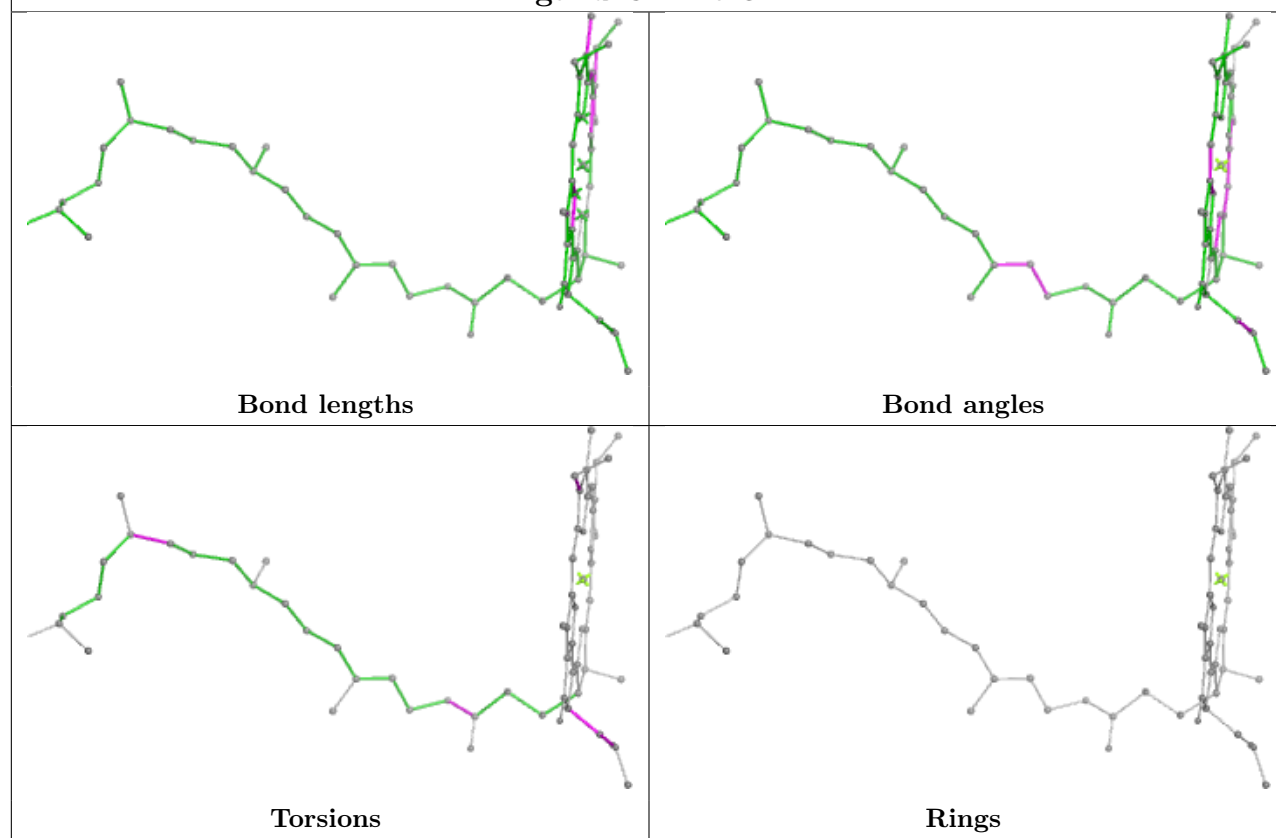
## Ligand BCR 9 104

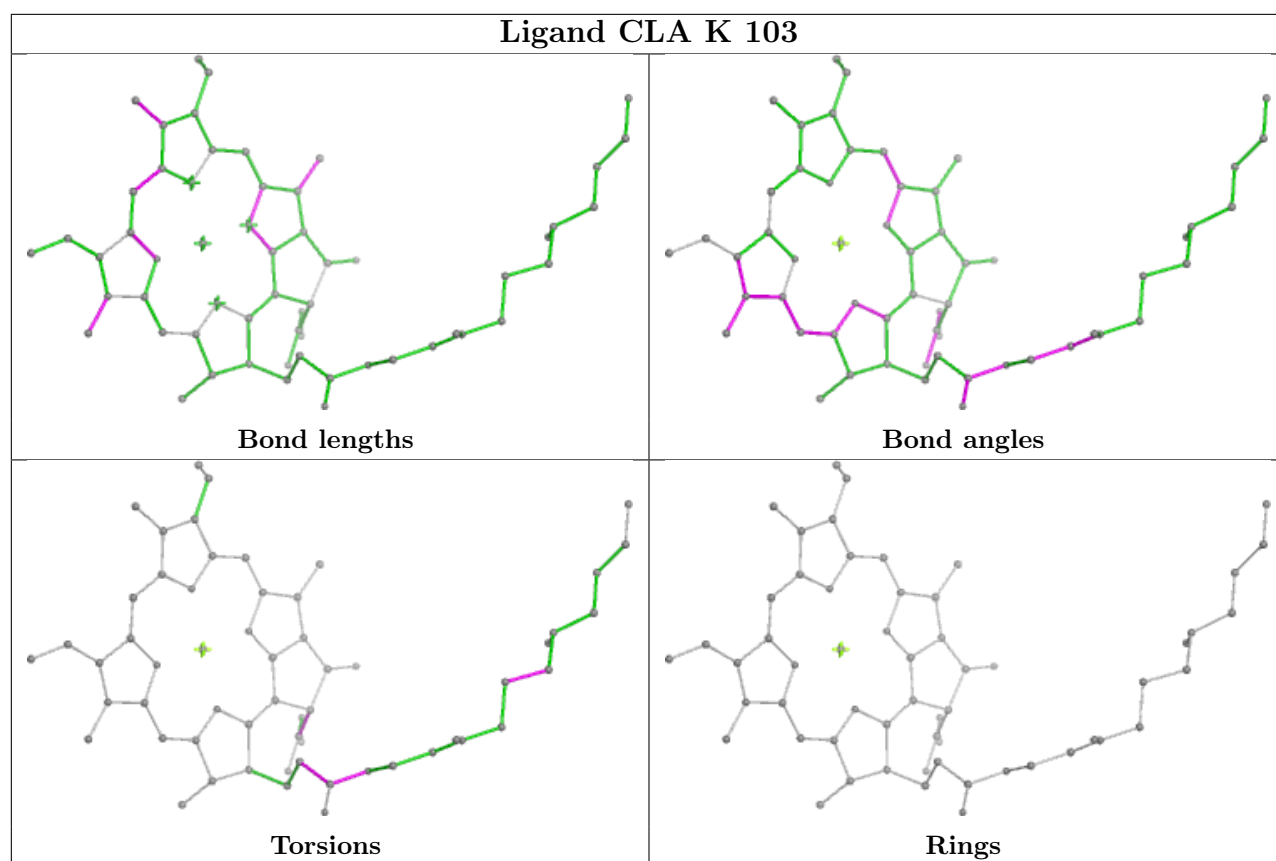


## Ligand CLA 2 839

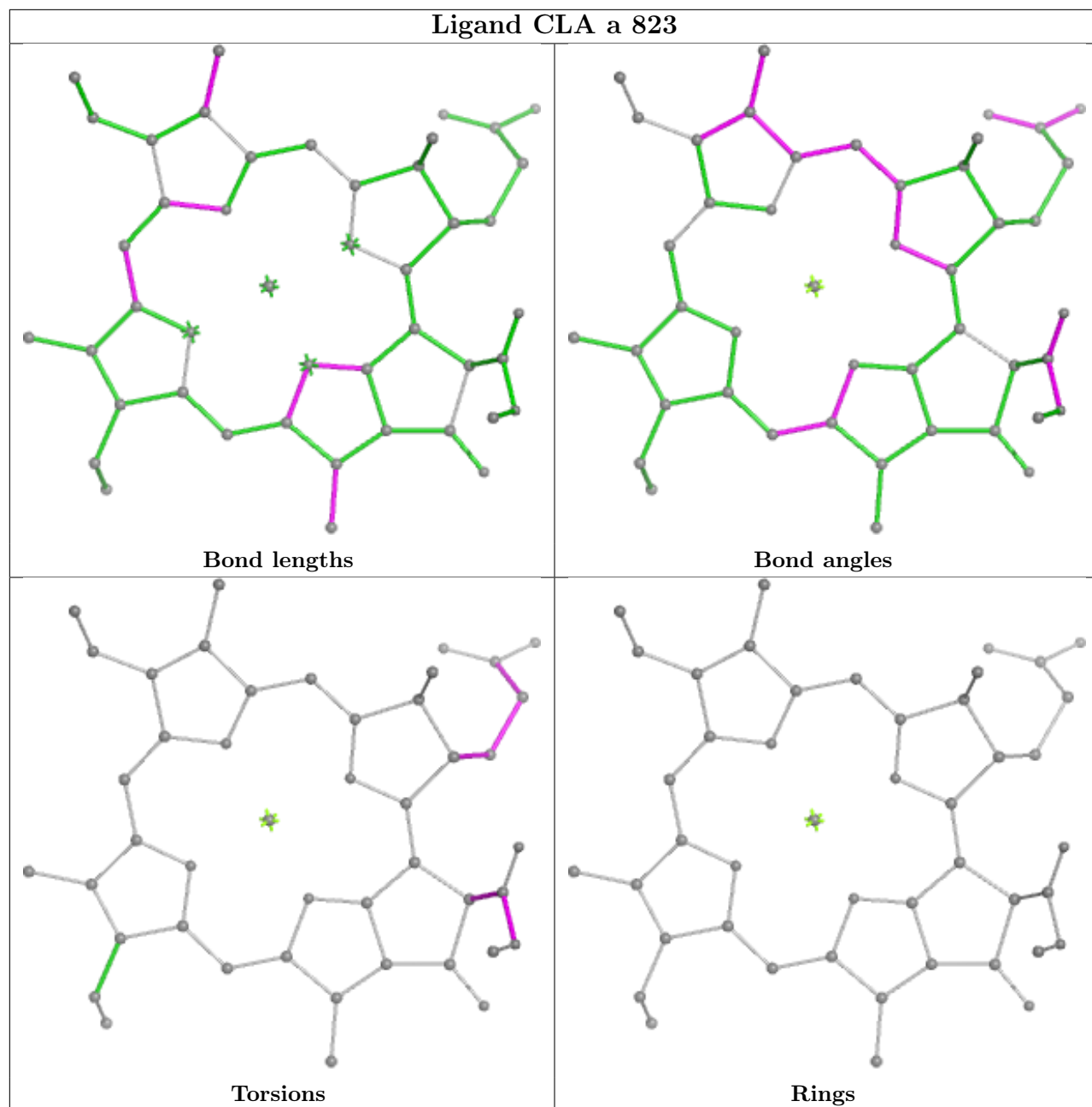


## Ligand CLA b 842



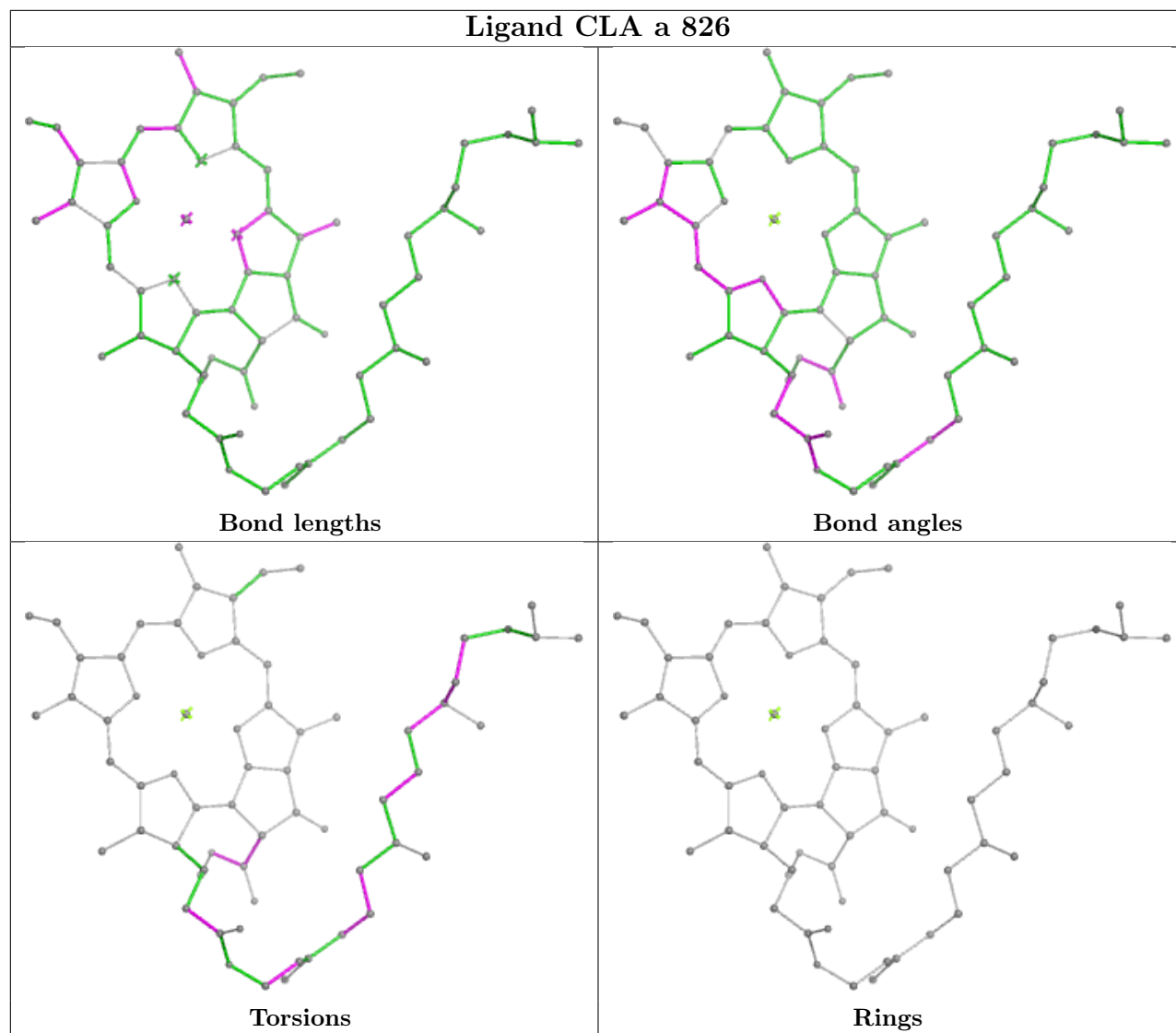


## Ligand CLA a 823

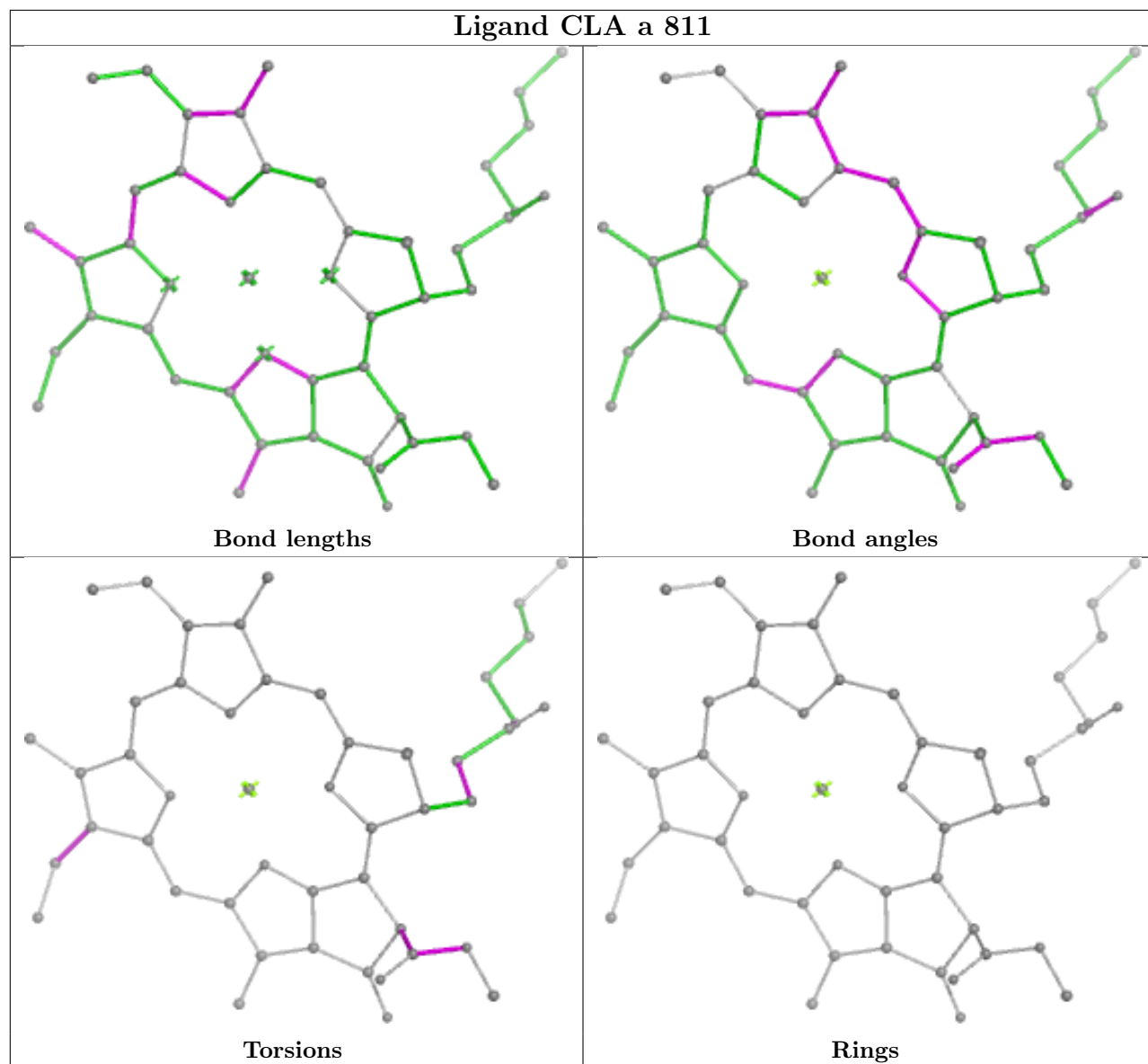


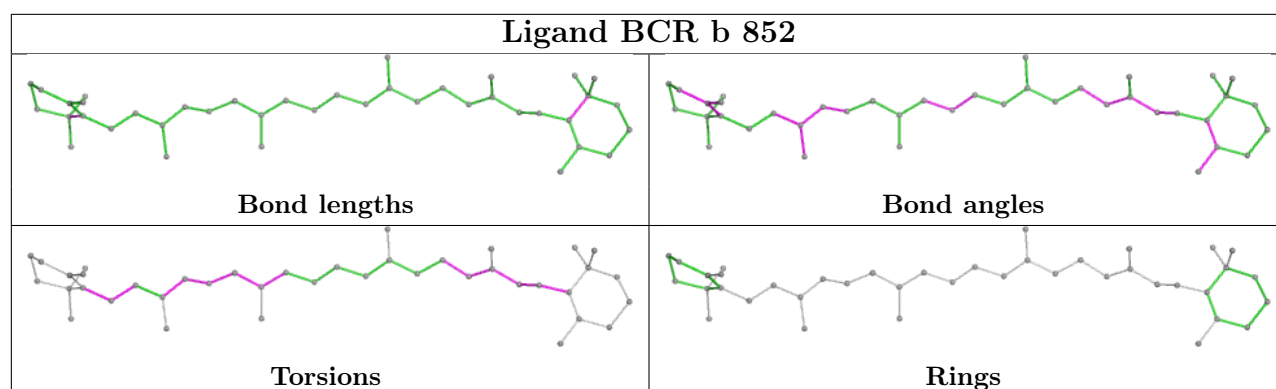
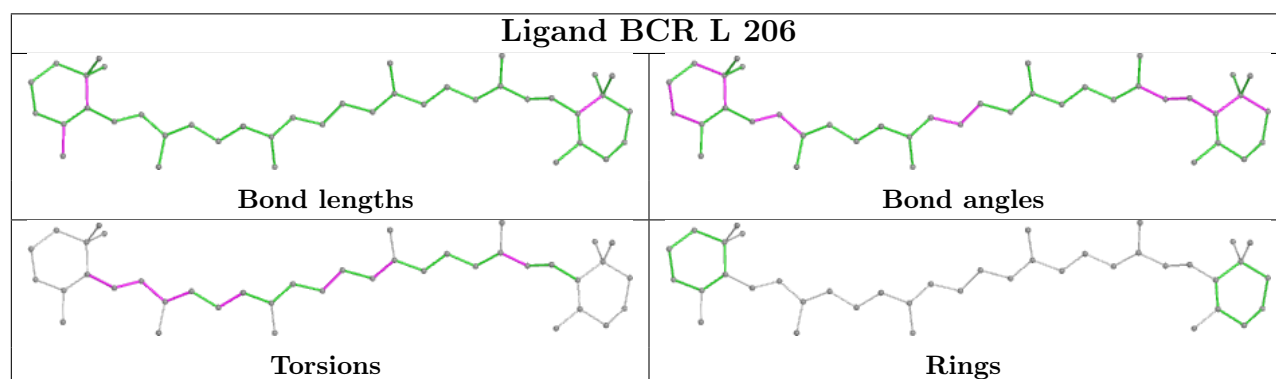
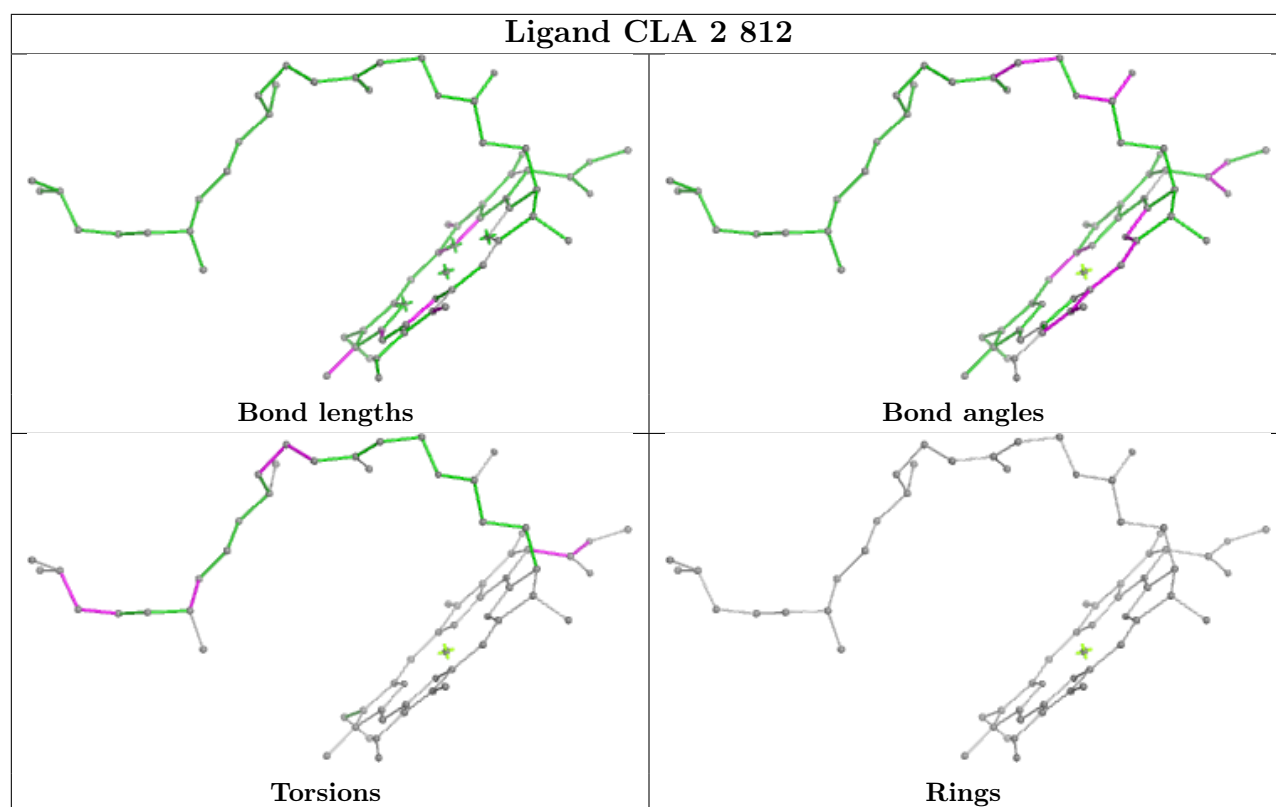


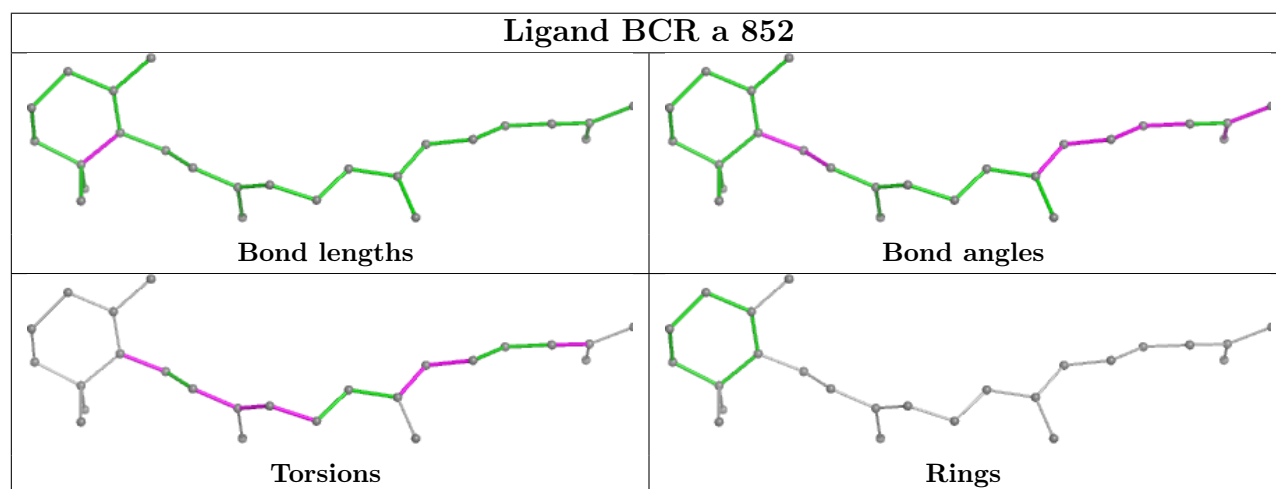
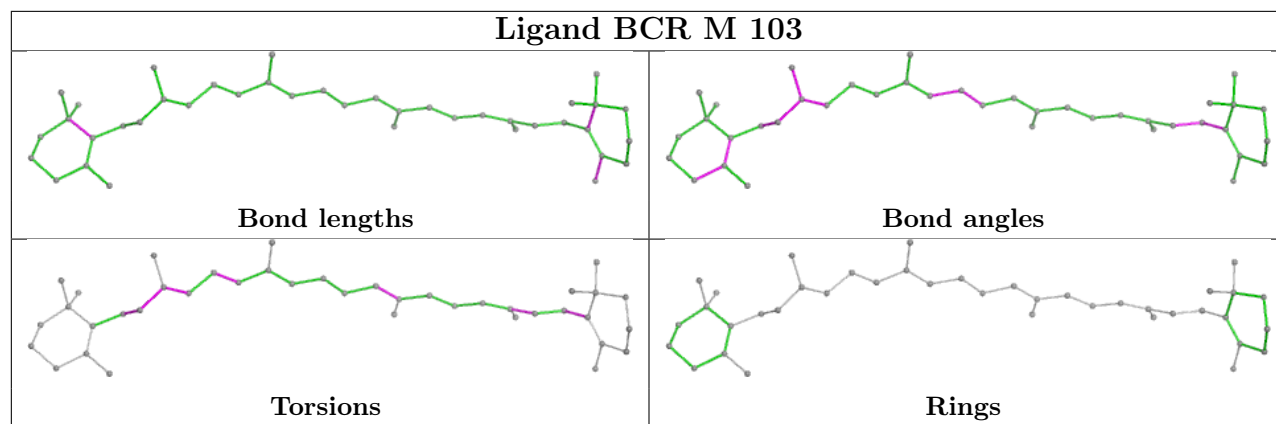
## Ligand CLA a 826



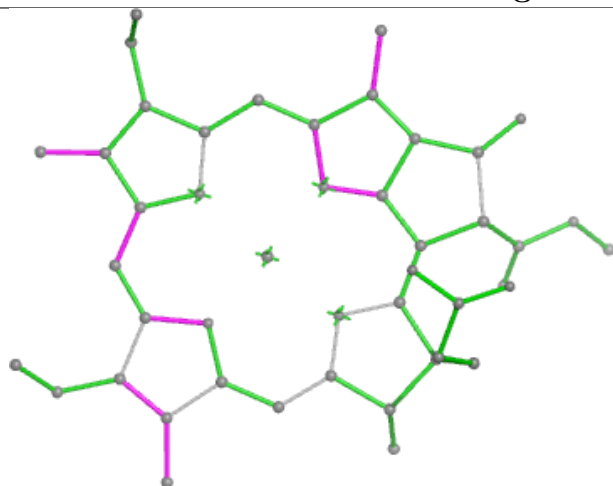
## Ligand CLA a 811



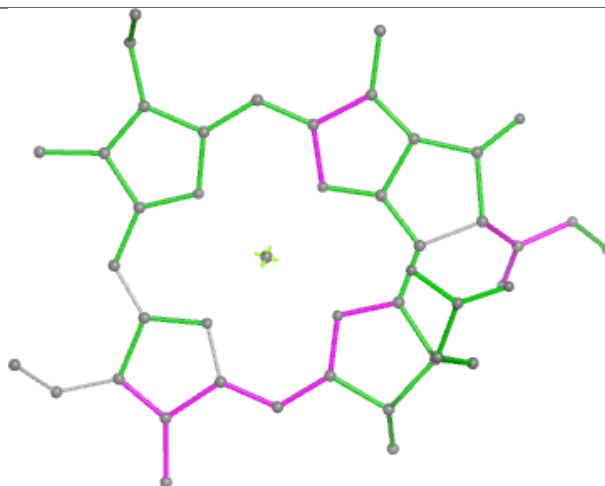




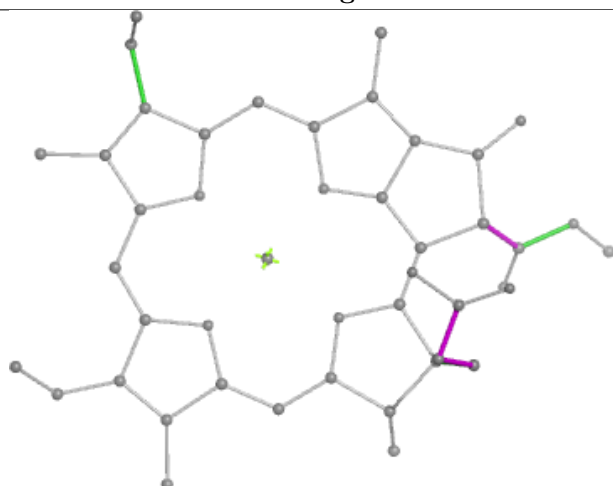
## Ligand CLA A 813



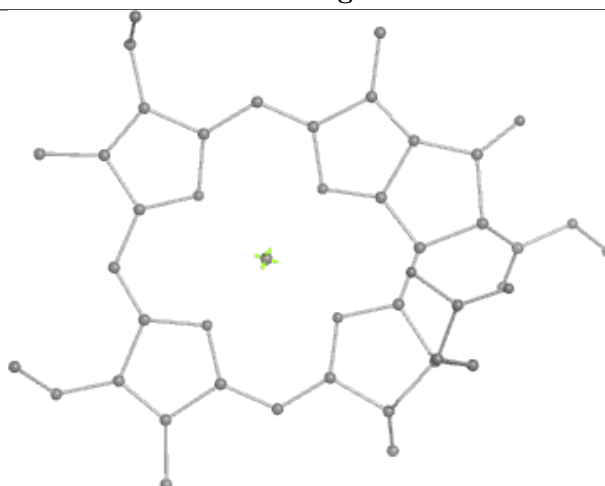
Bond lengths



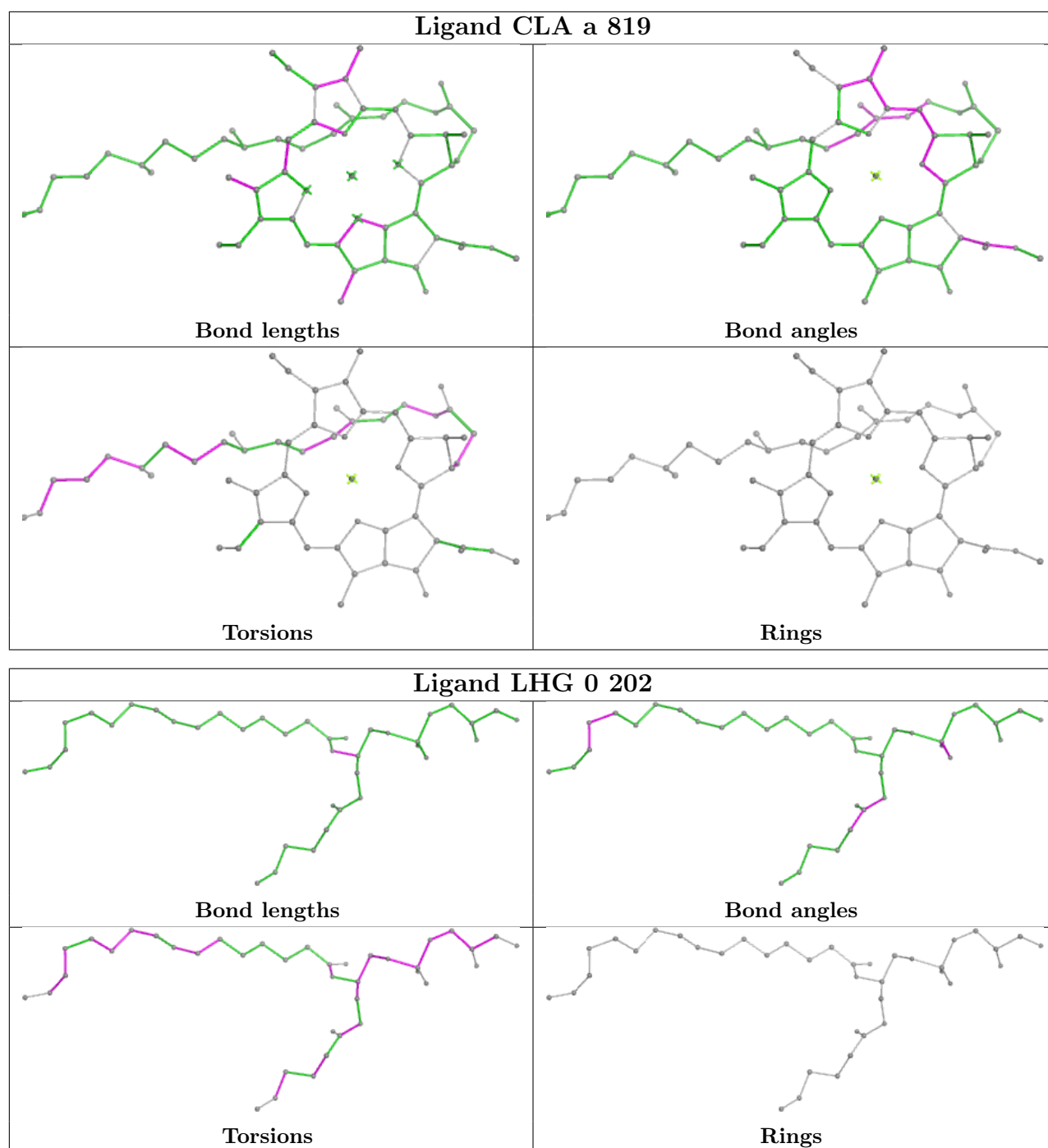
Bond angles



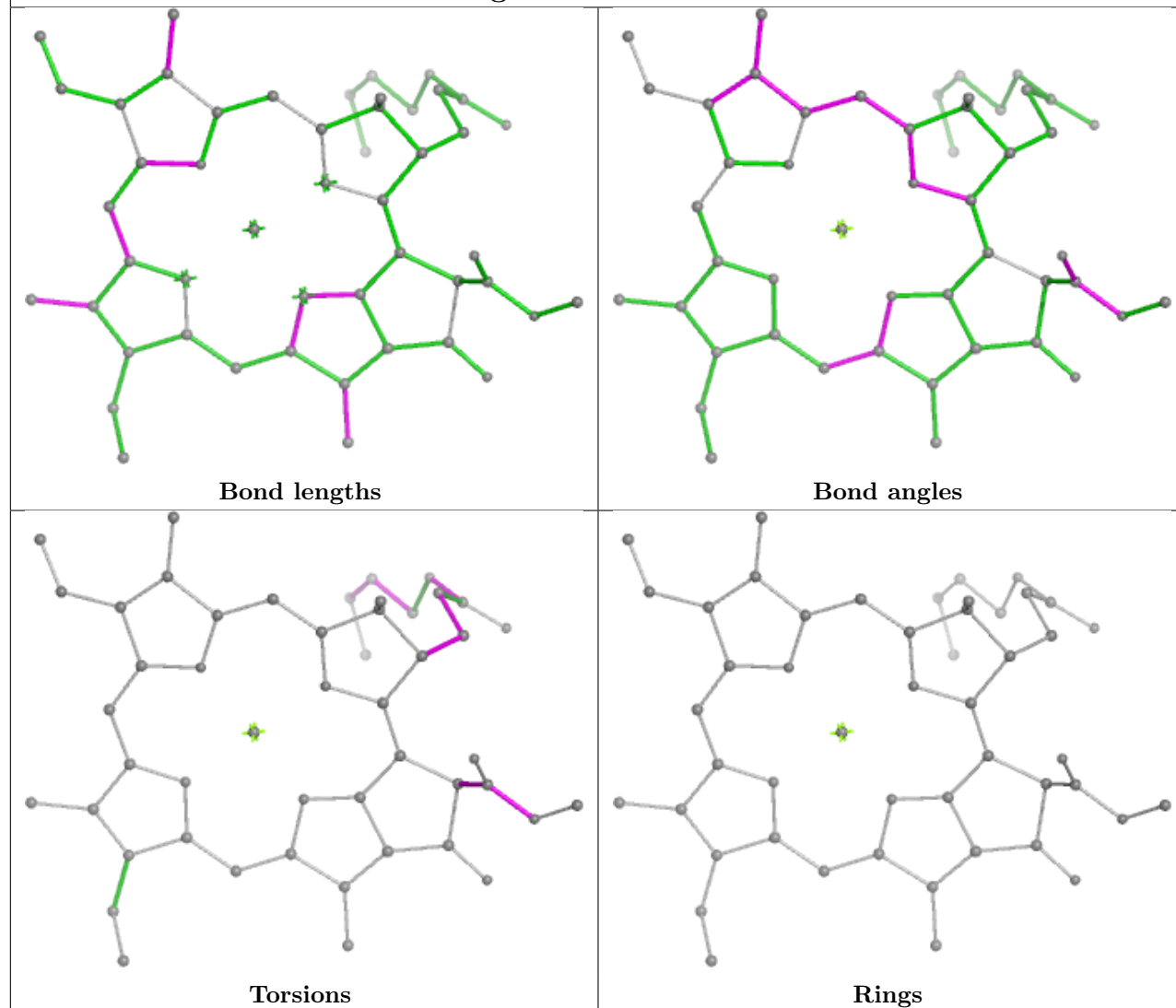
Torsions

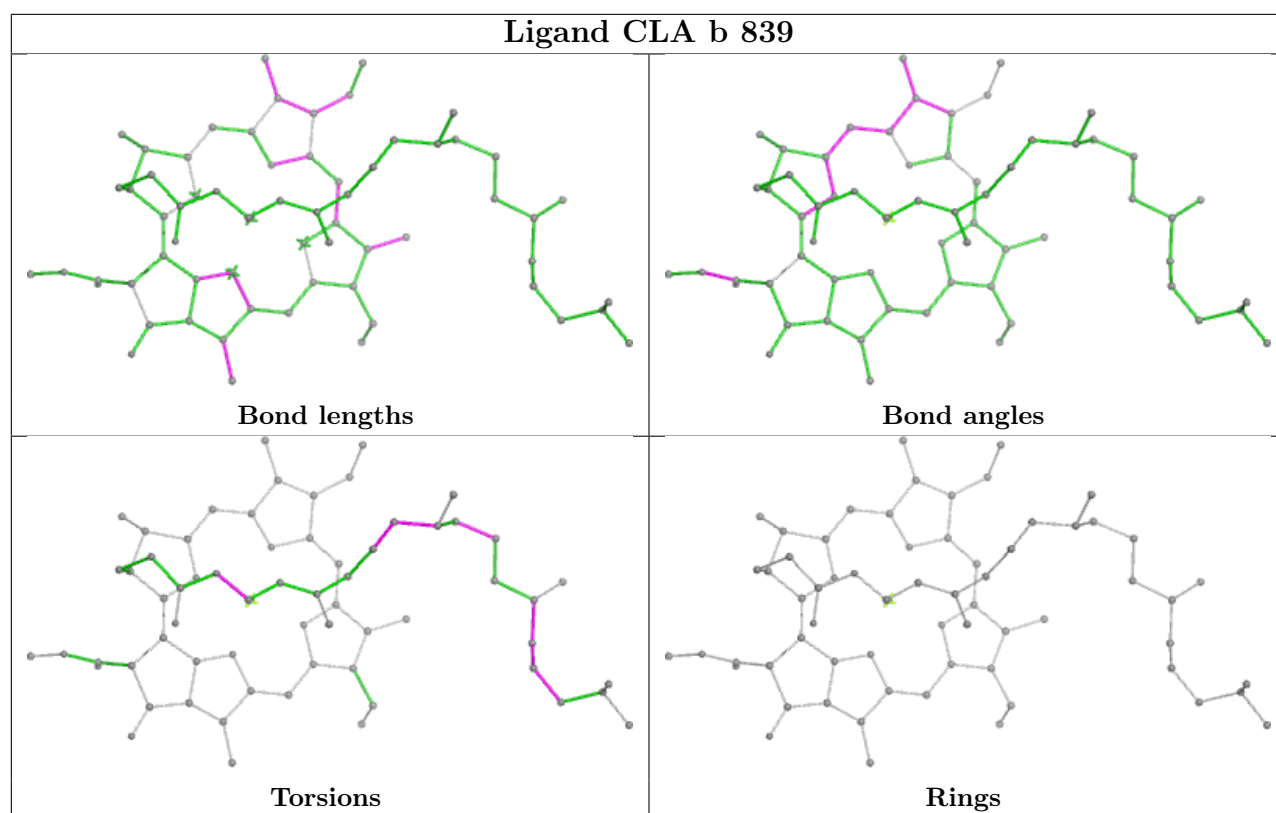


Rings



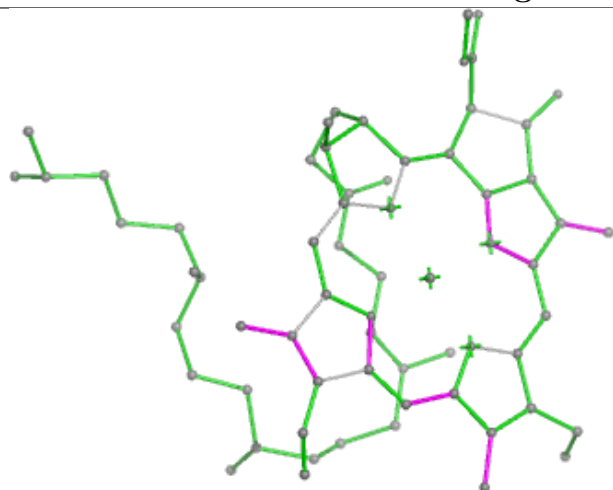
## Ligand CLA B 831



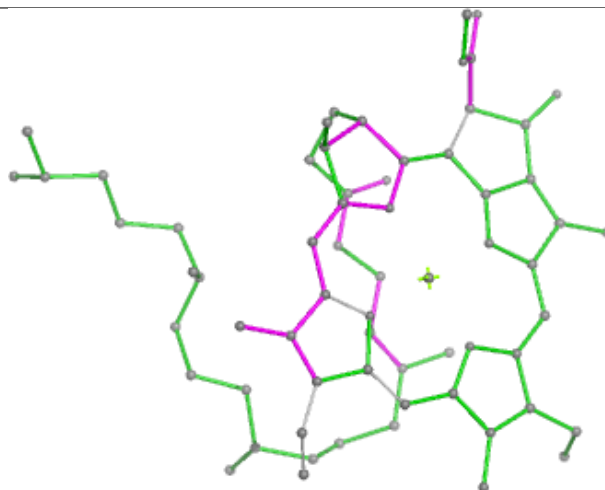




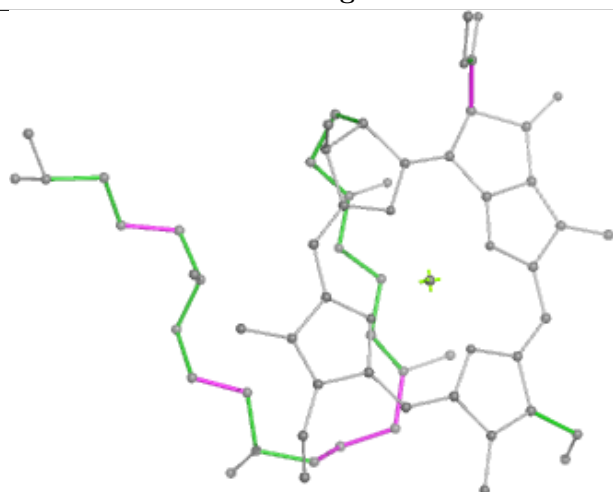
## Ligand CLA B 808



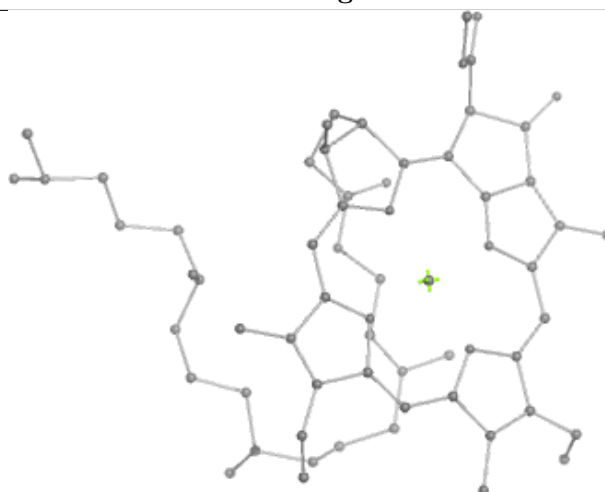
Bond lengths



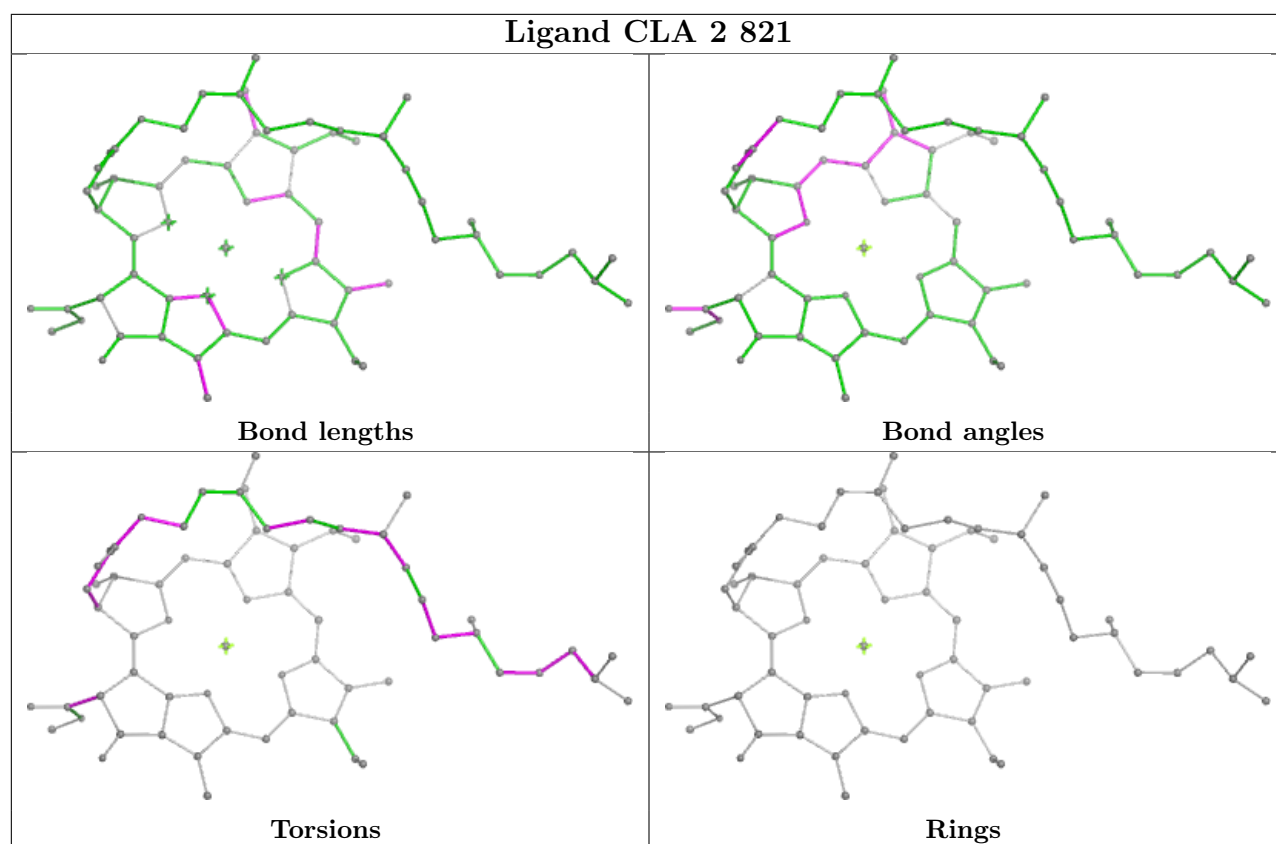
Bond angles



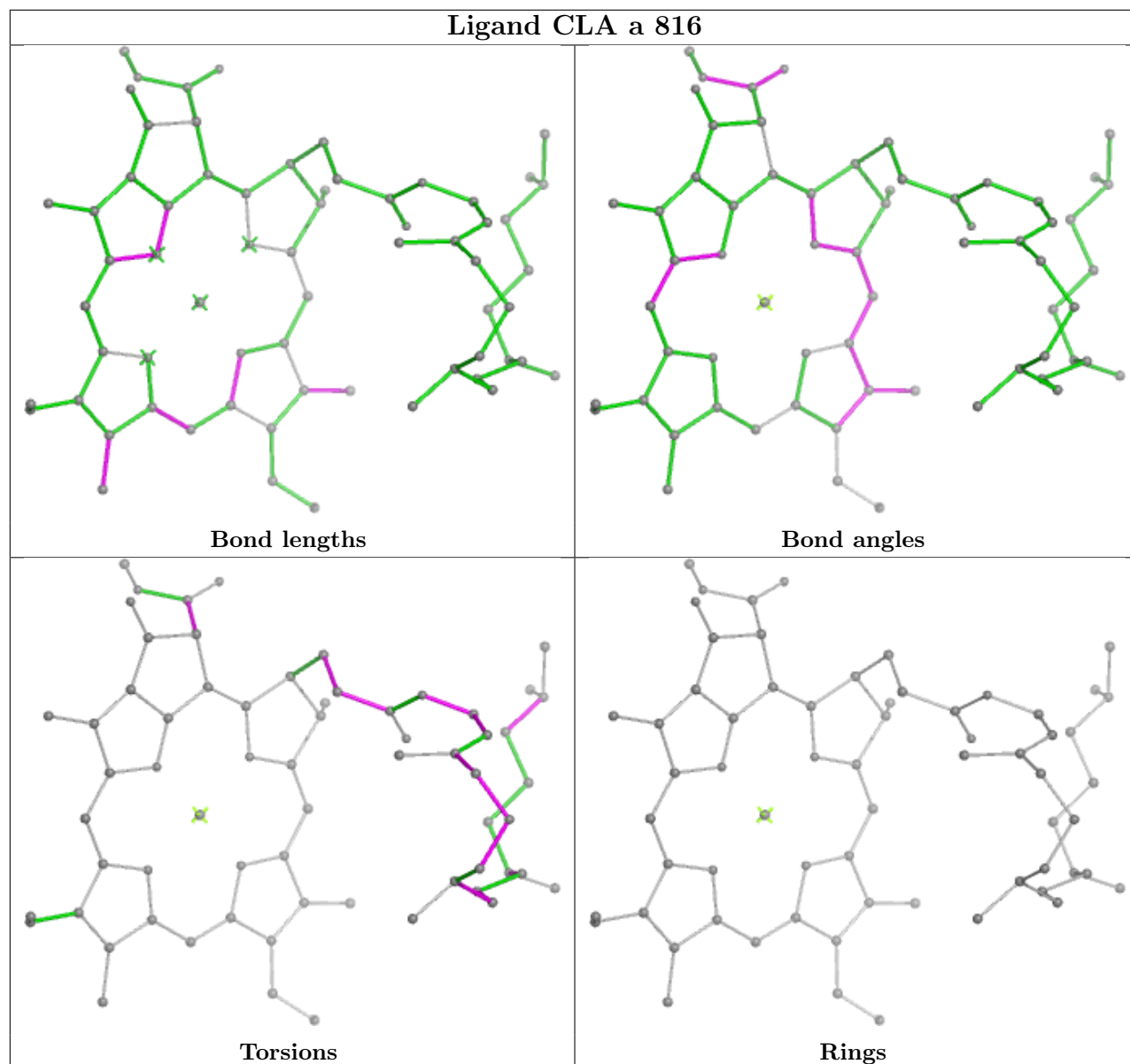
Torsions



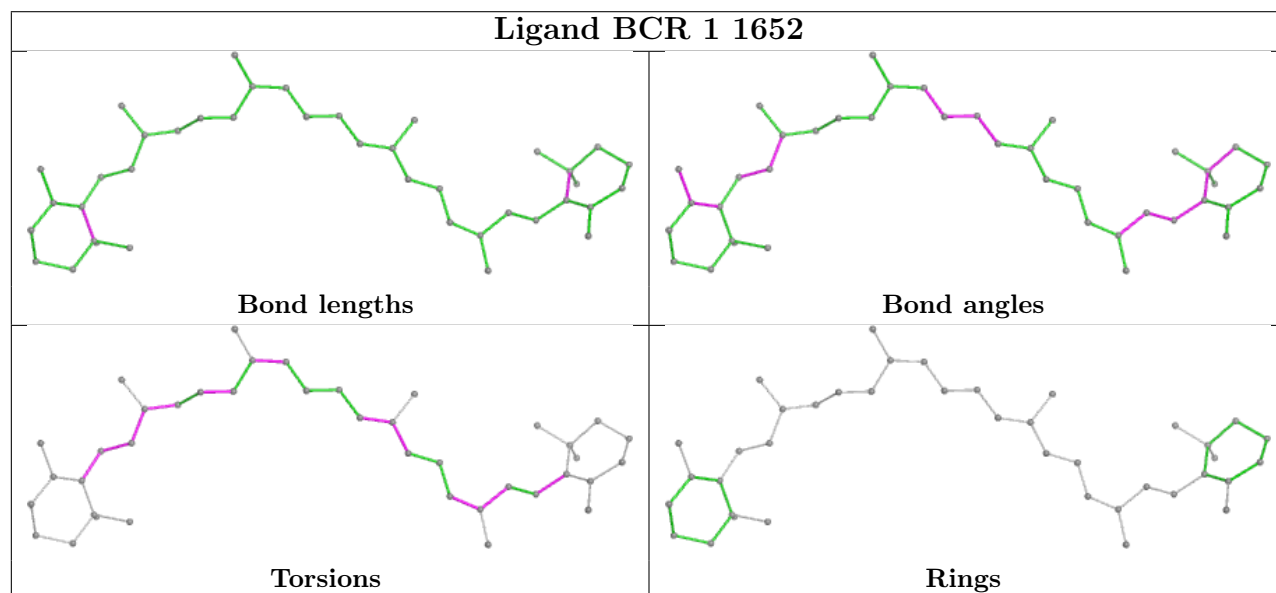
Rings

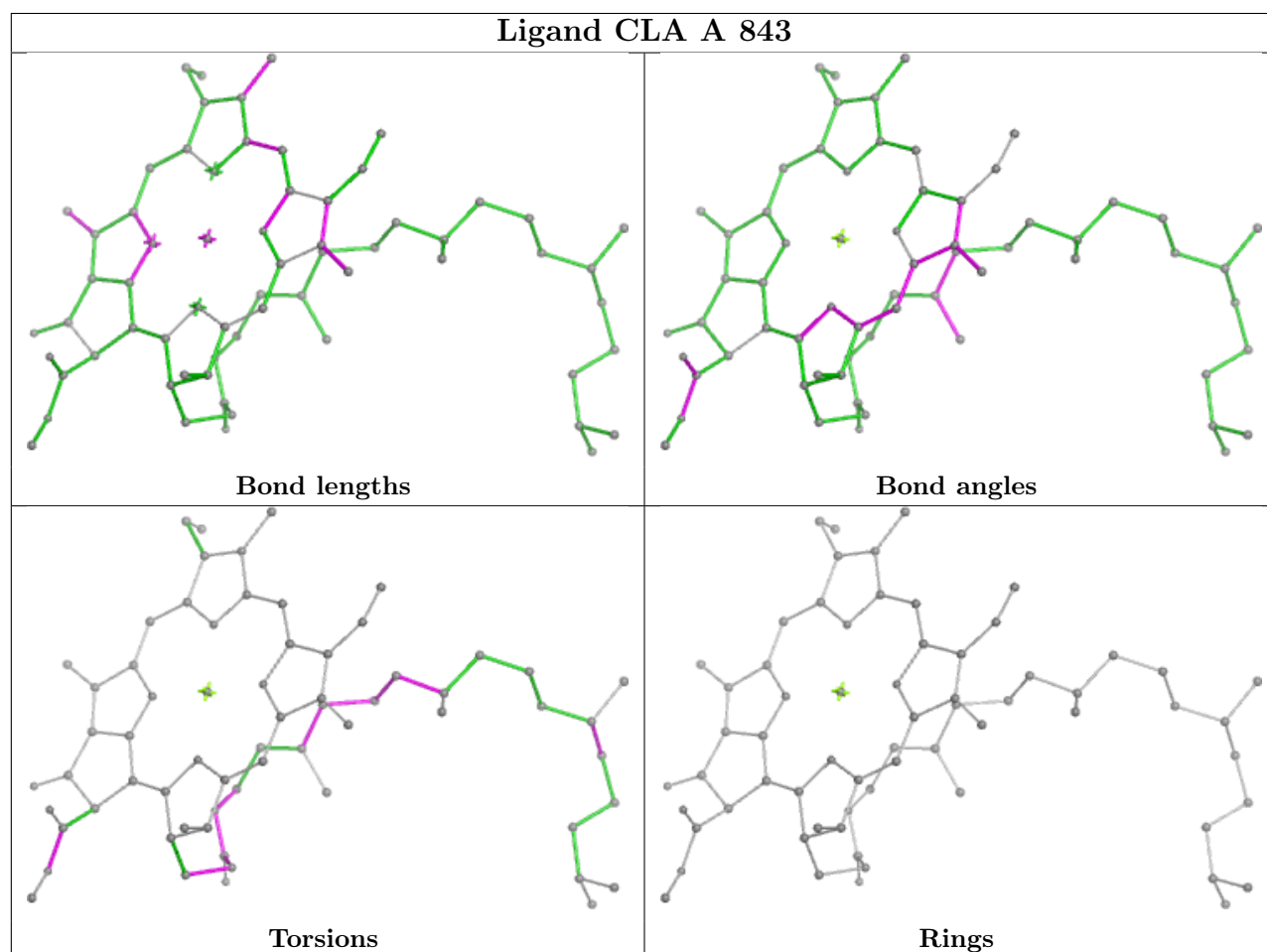
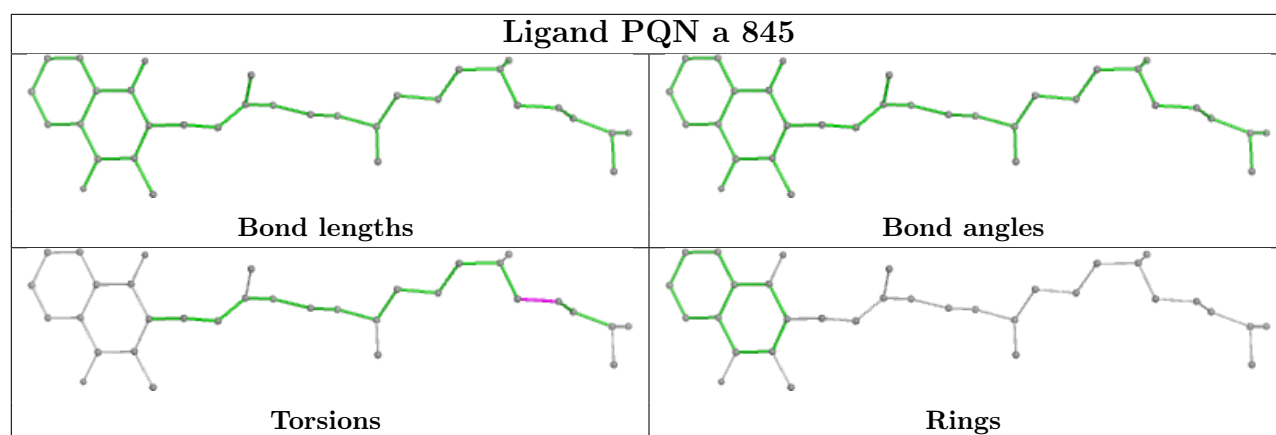


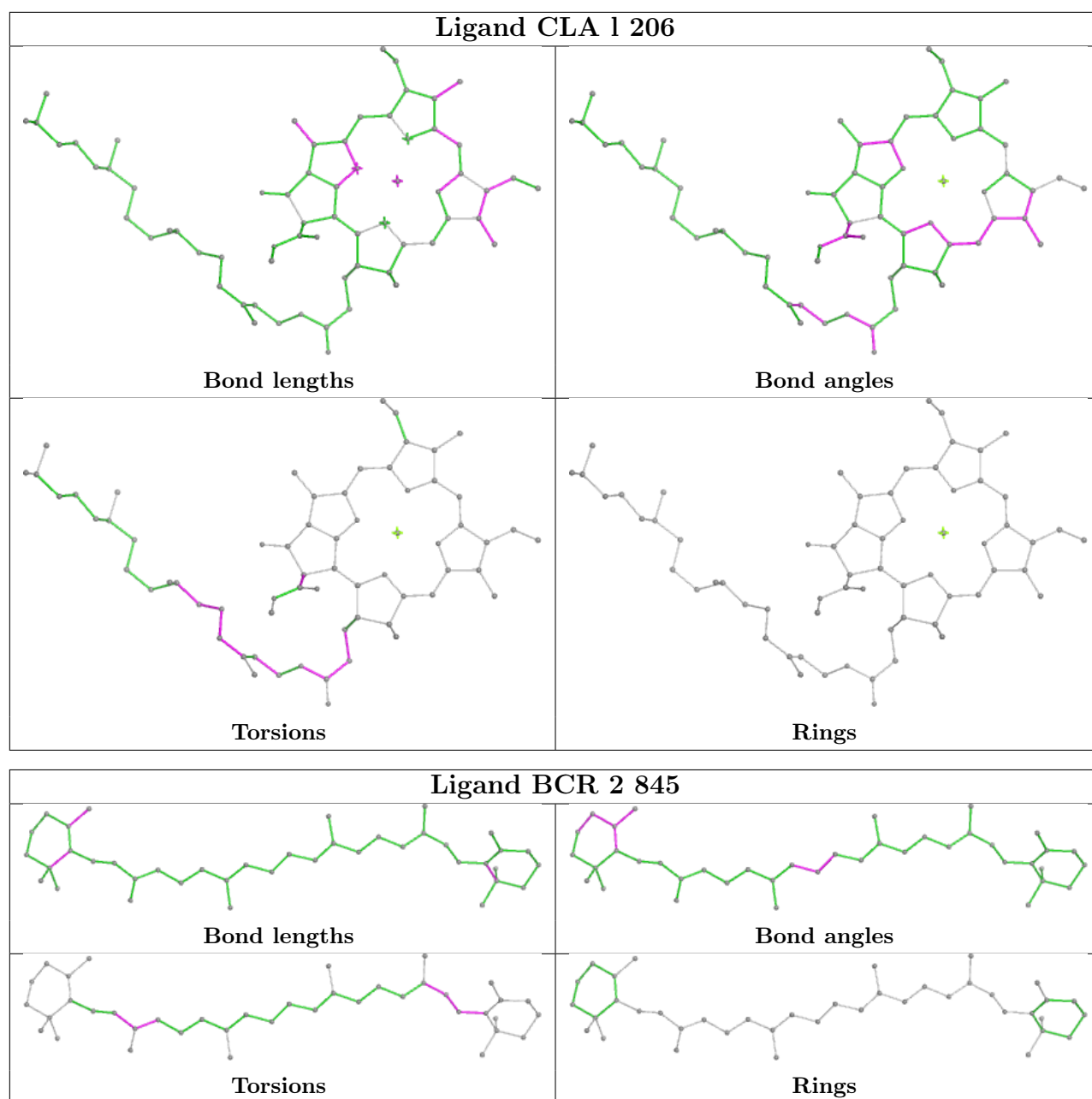
## Ligand CLA a 816

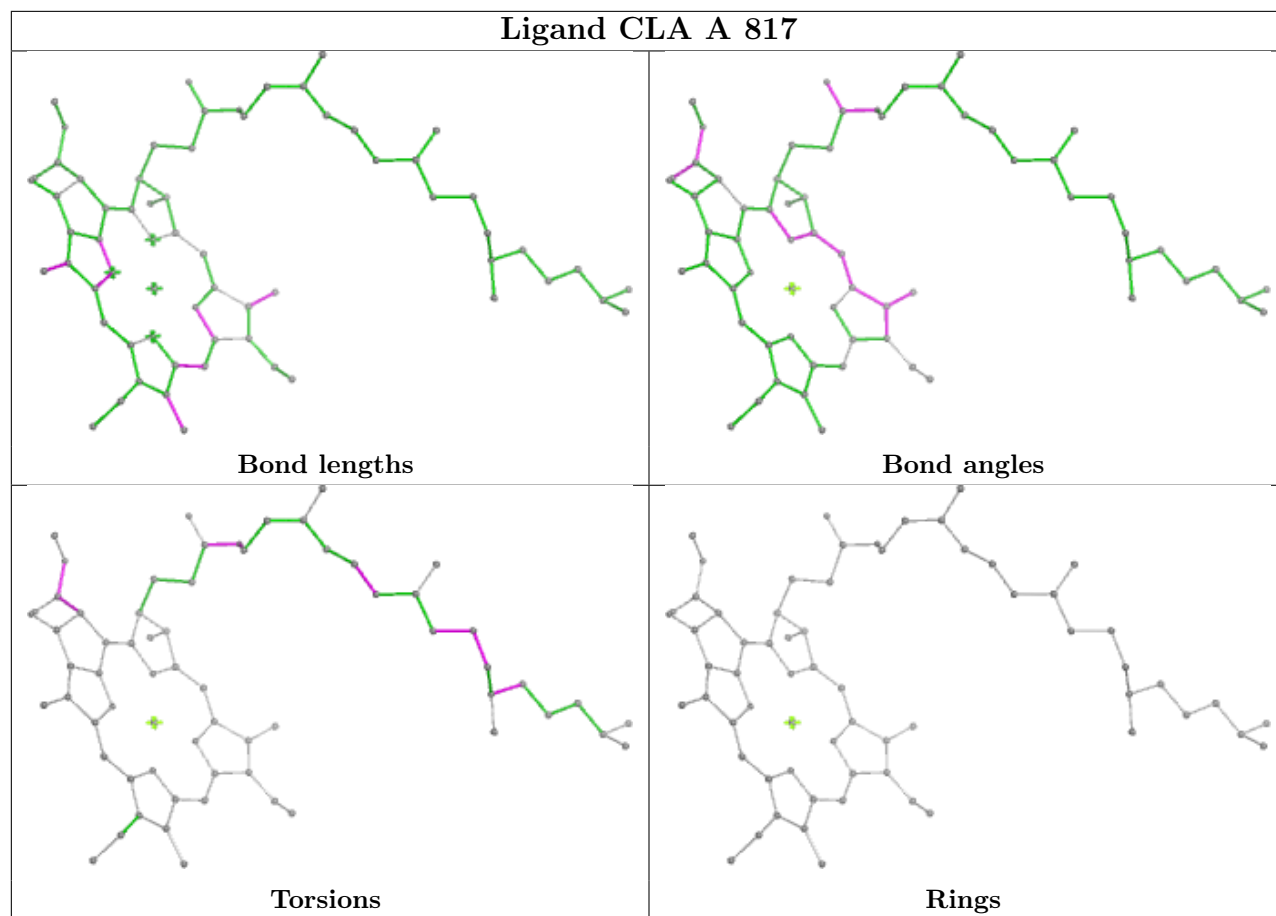


## Ligand BCR 1 1652

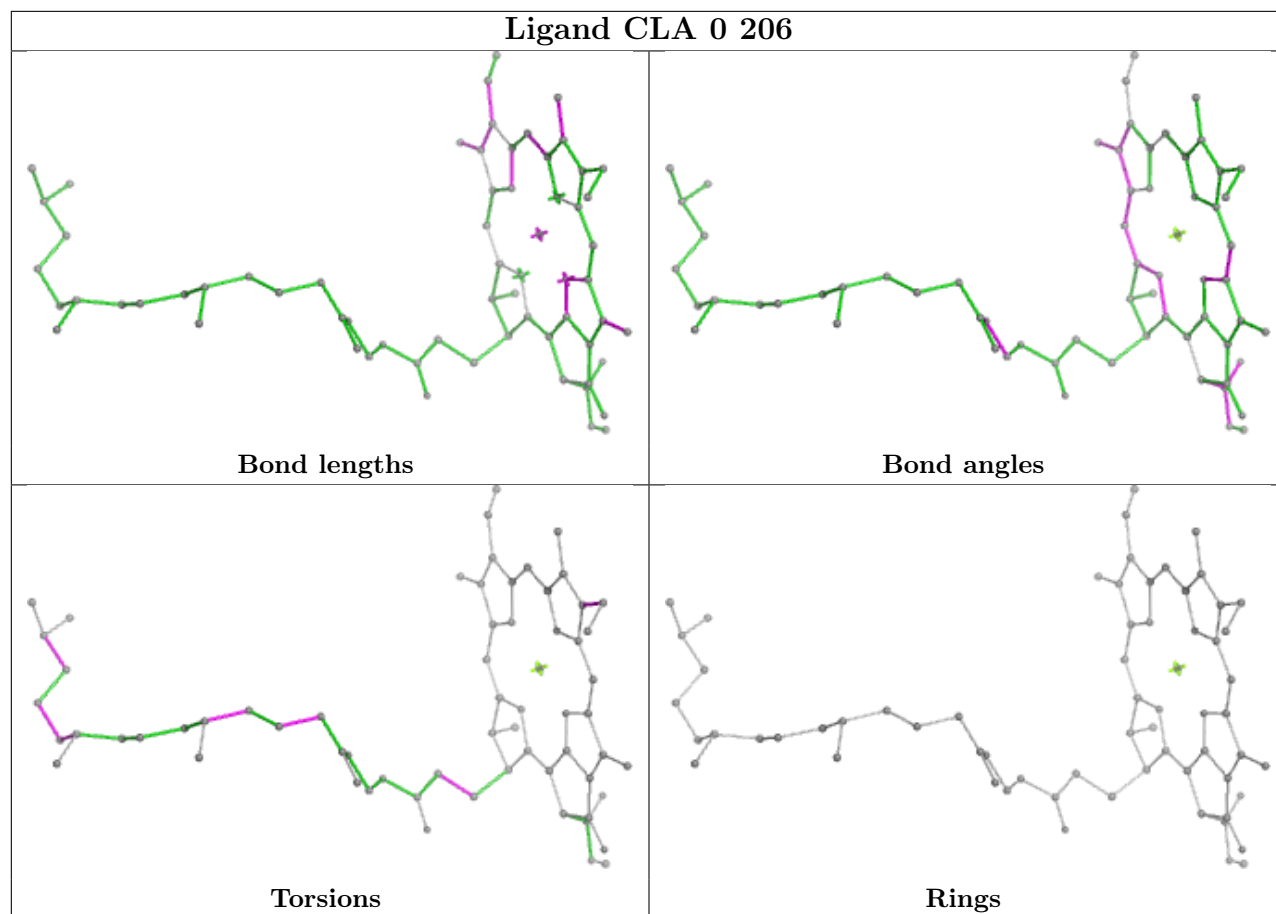


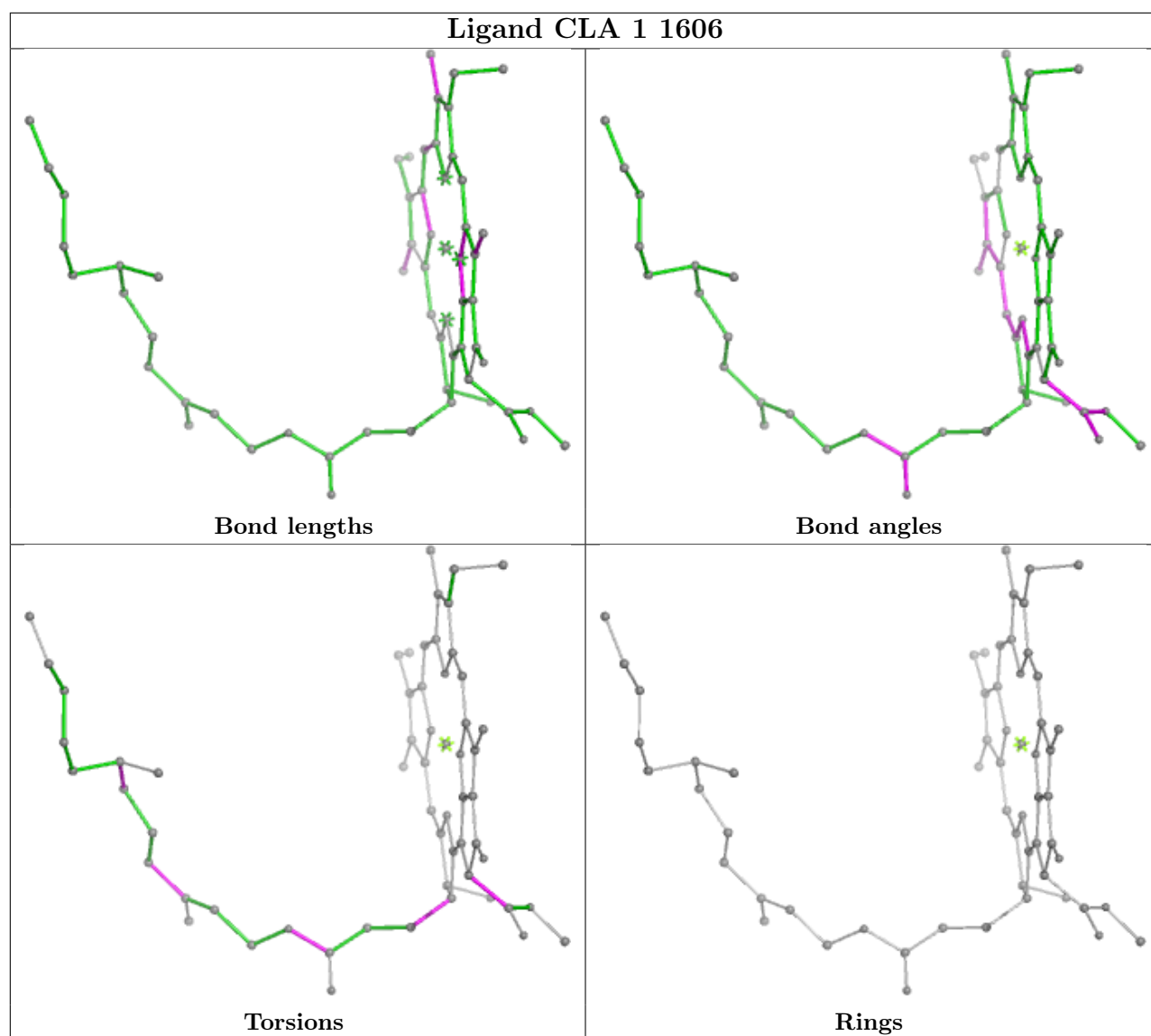






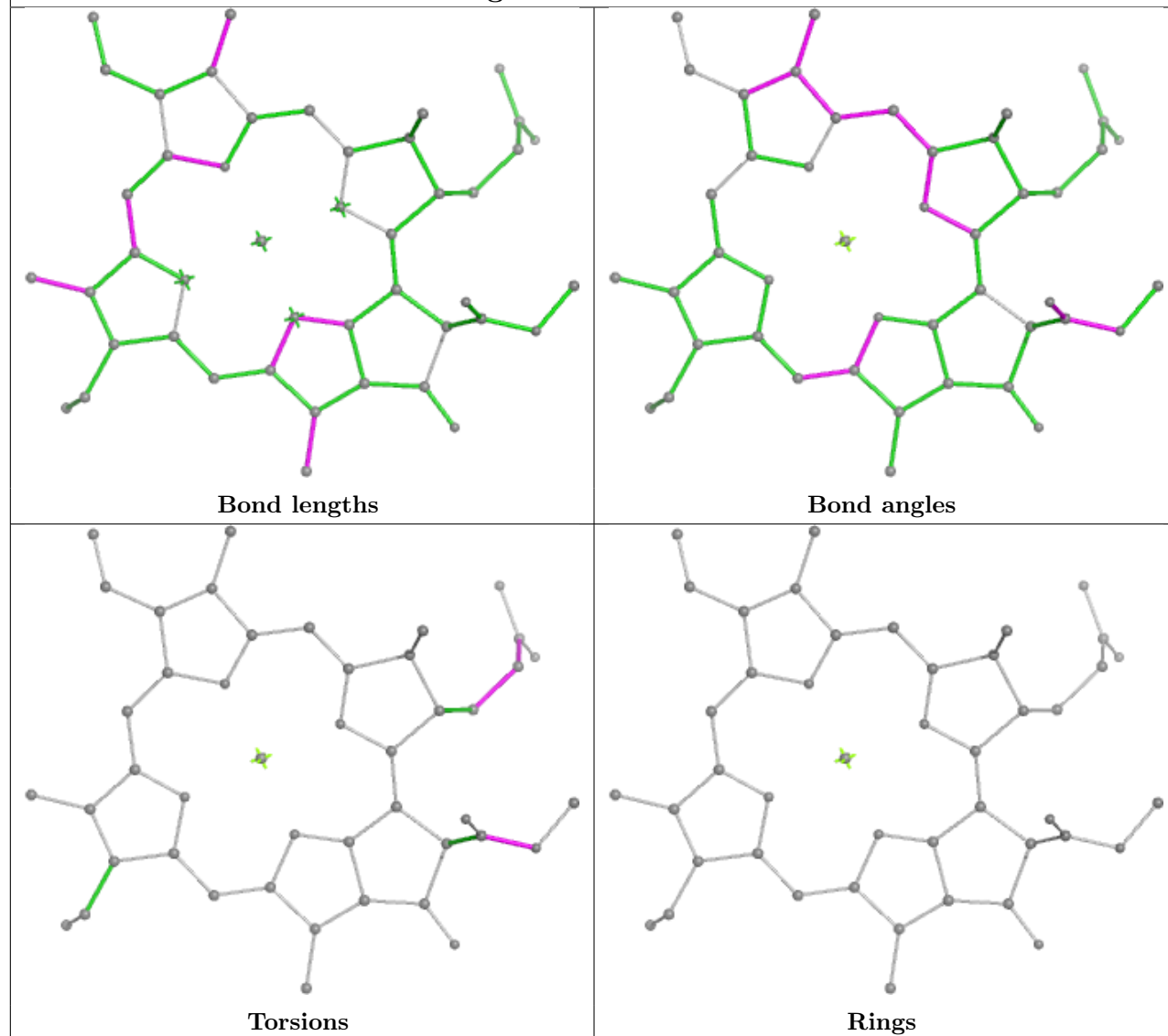
## Ligand CLA 0 206

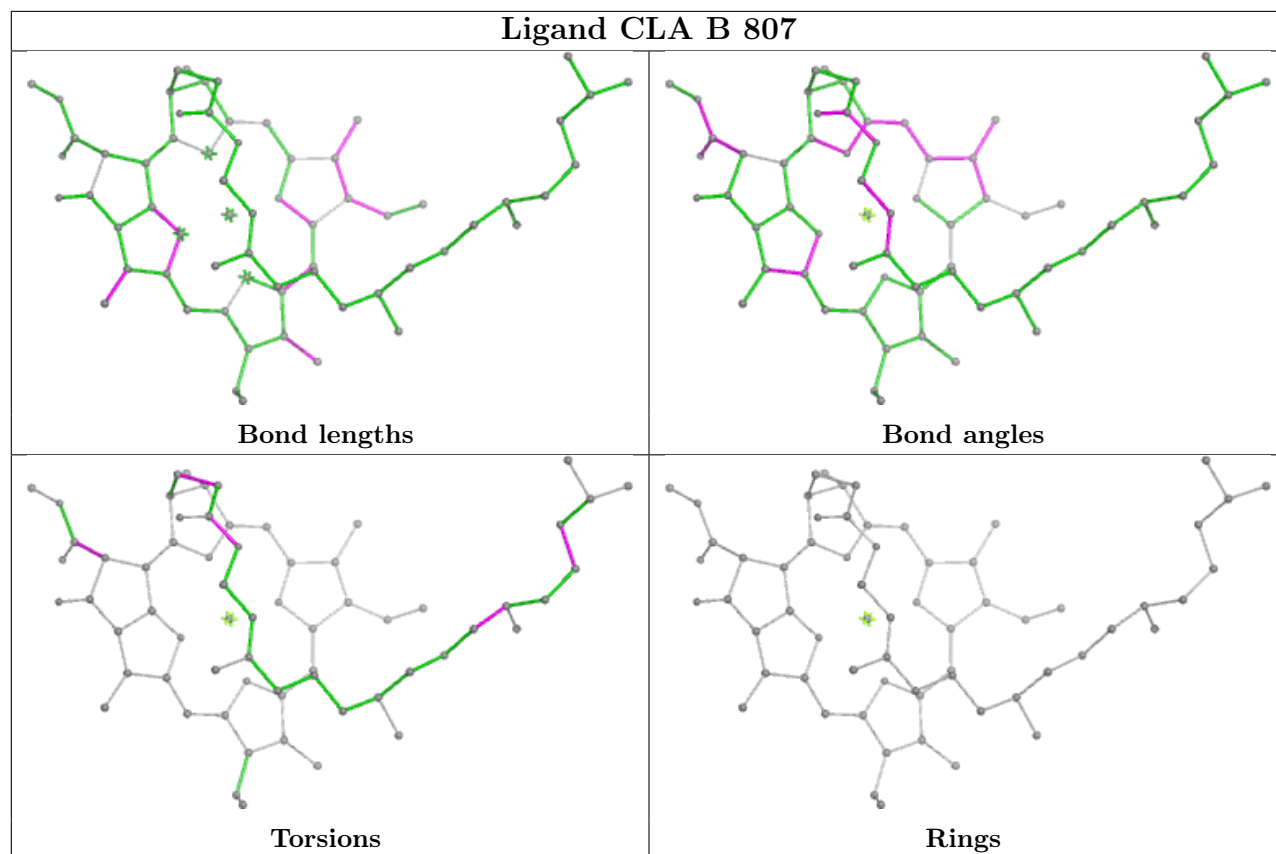




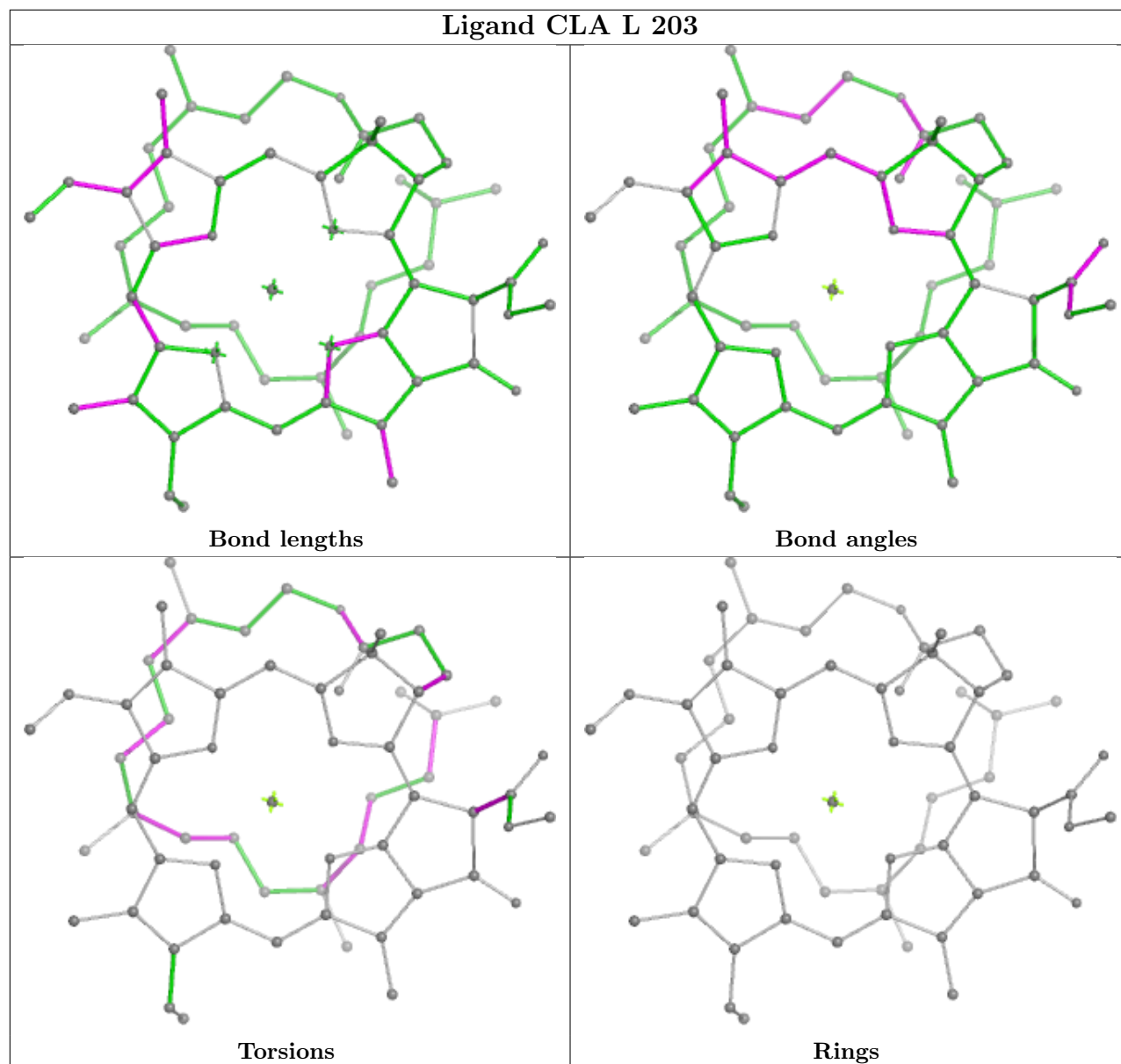


## Ligand CLA B 823

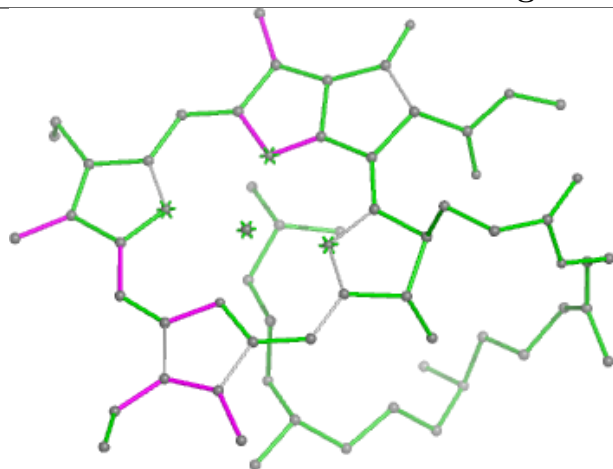




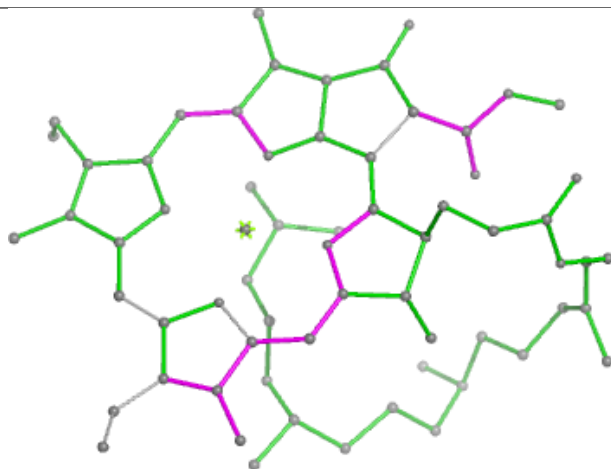
## Ligand CLA L 203



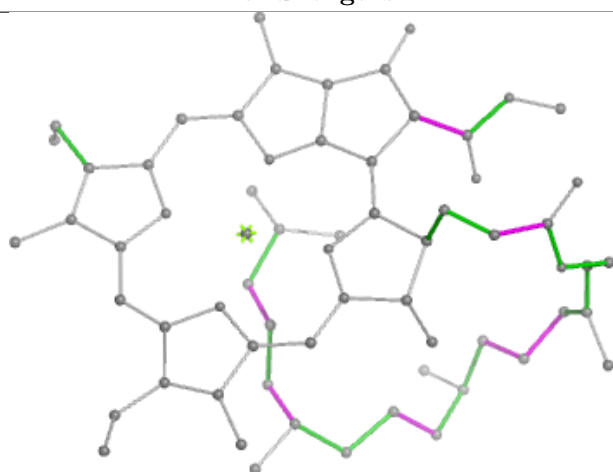
## Ligand CLA b 807



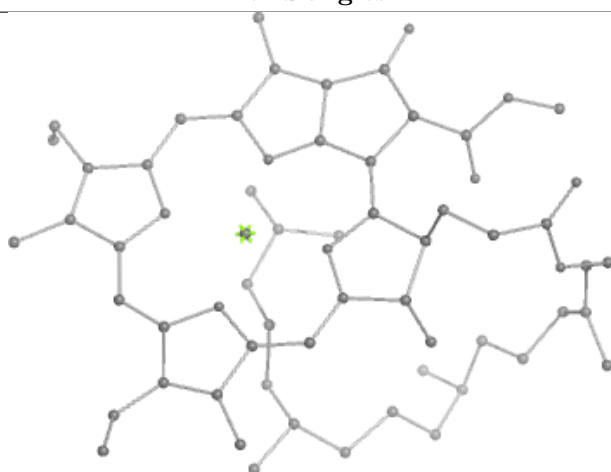
Bond lengths



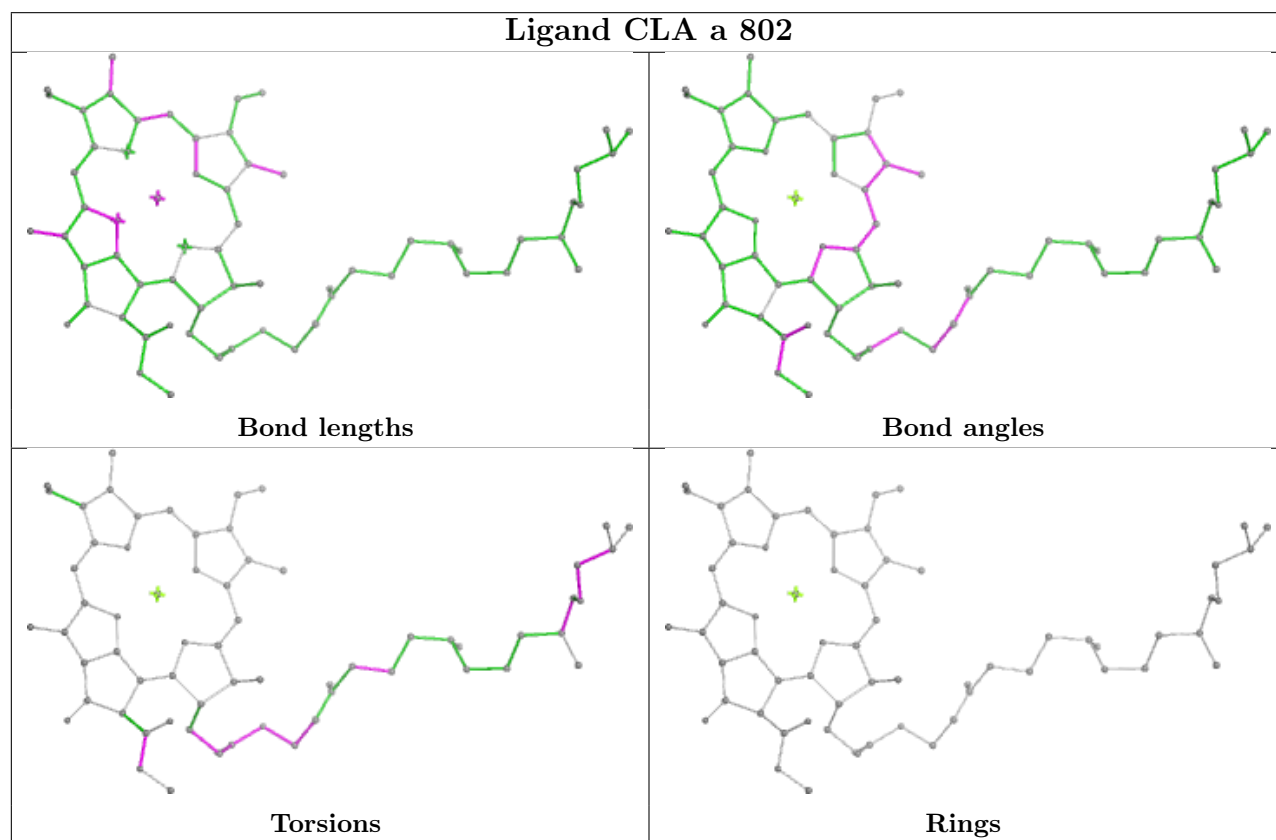
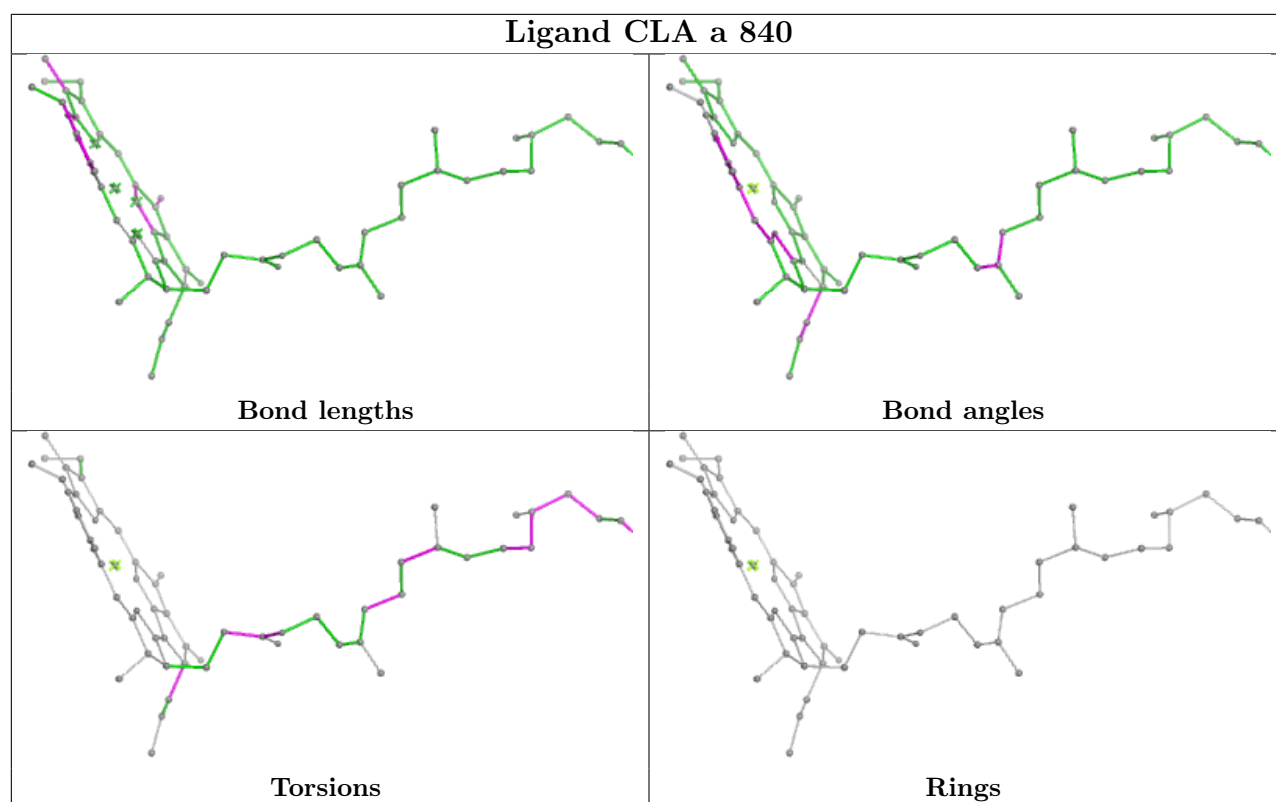
Bond angles

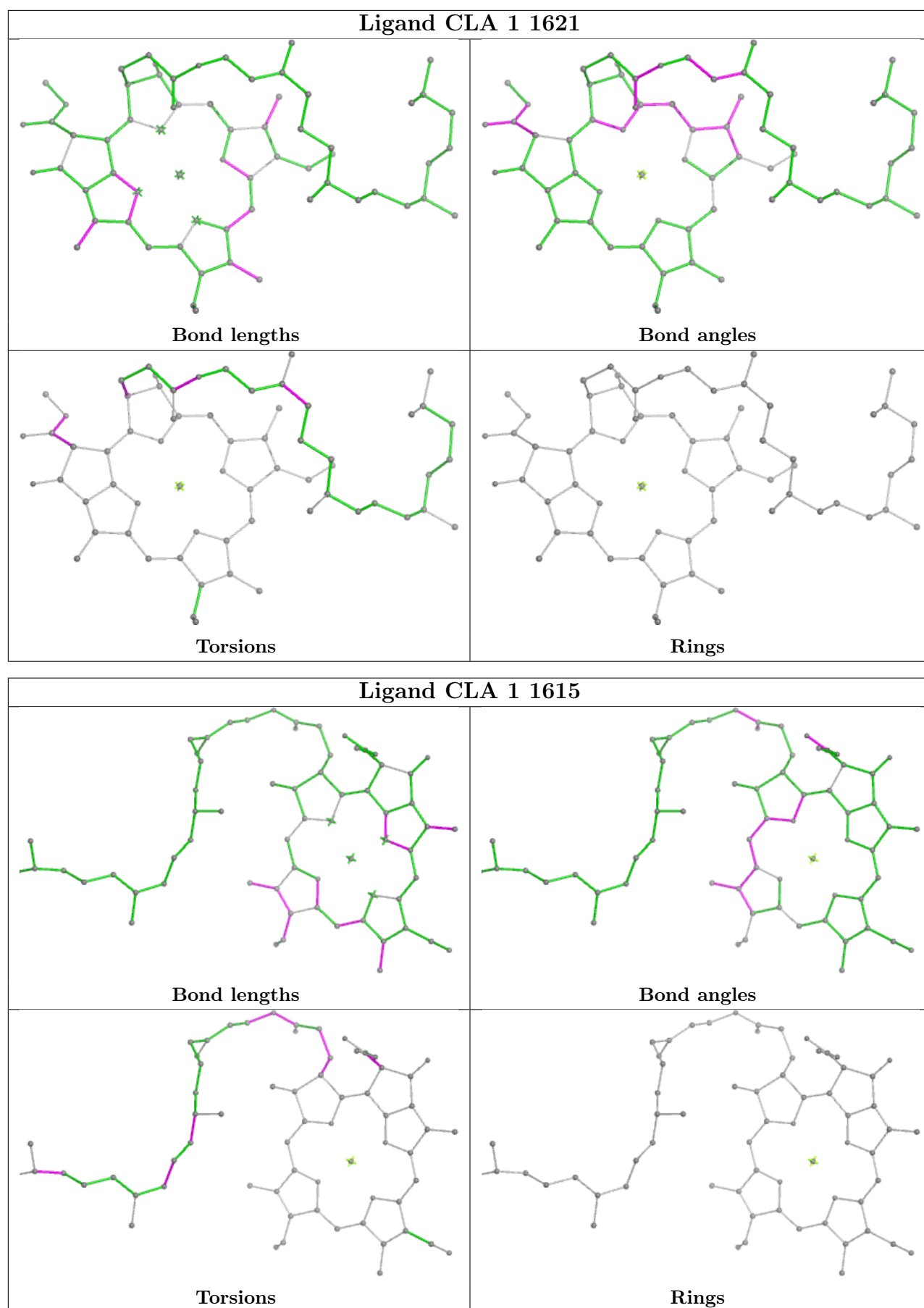


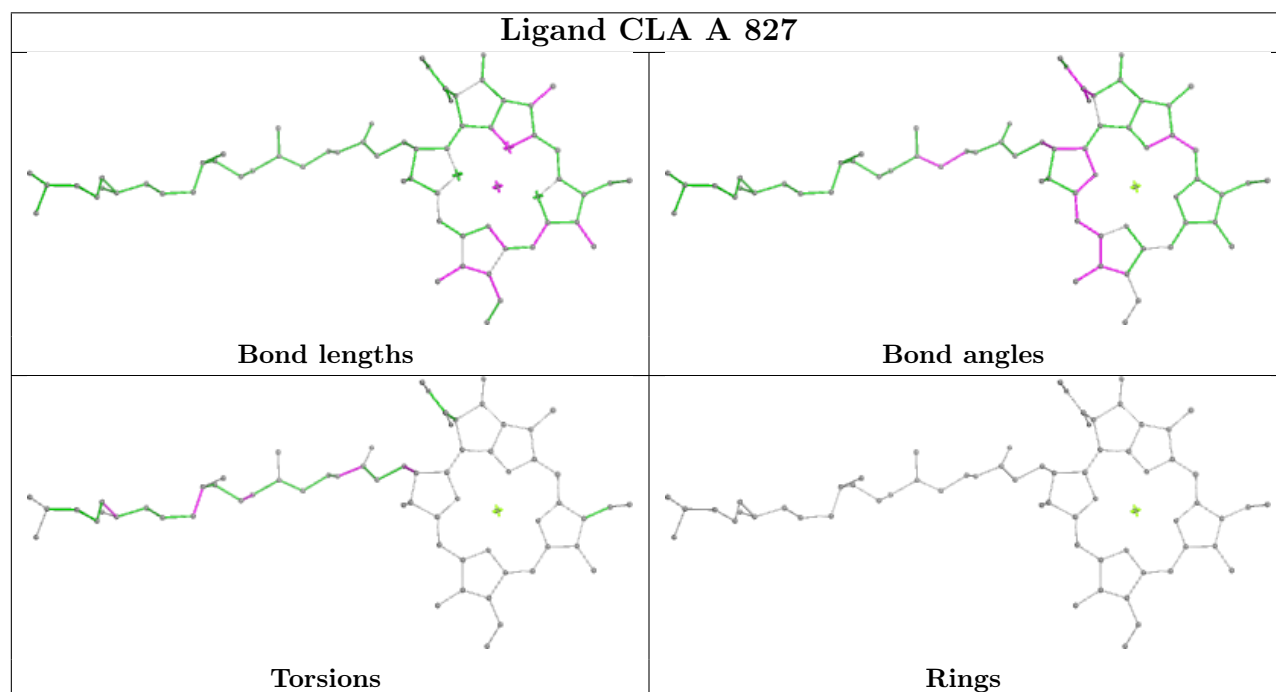
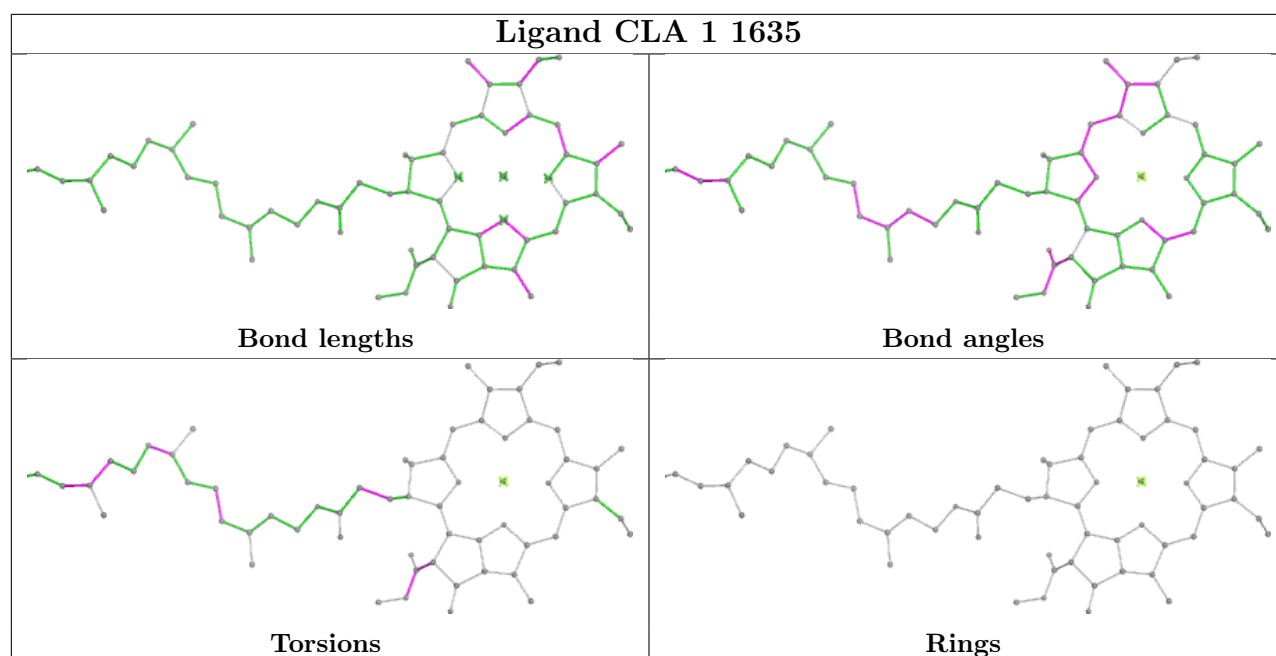
Torsions

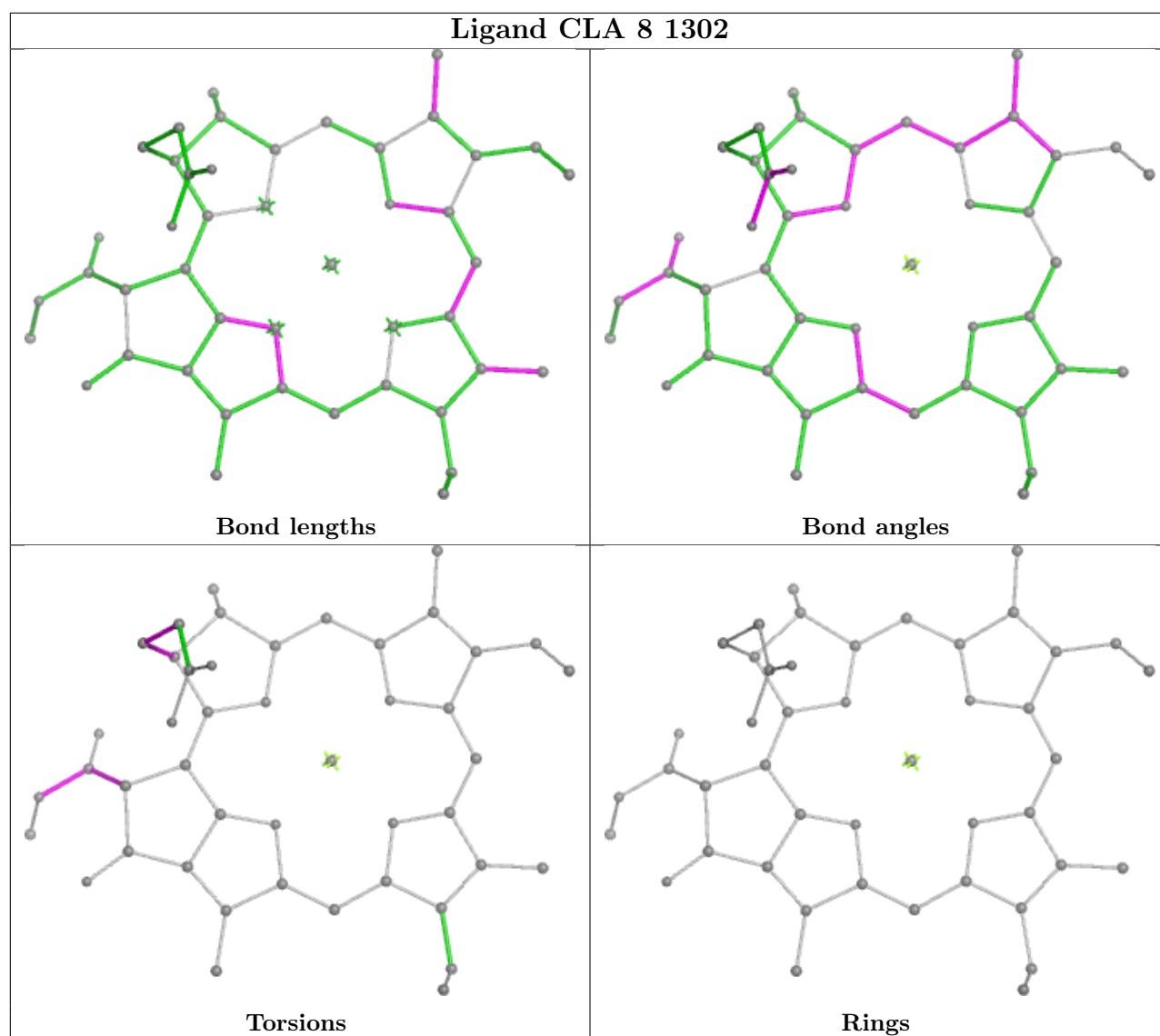


Rings

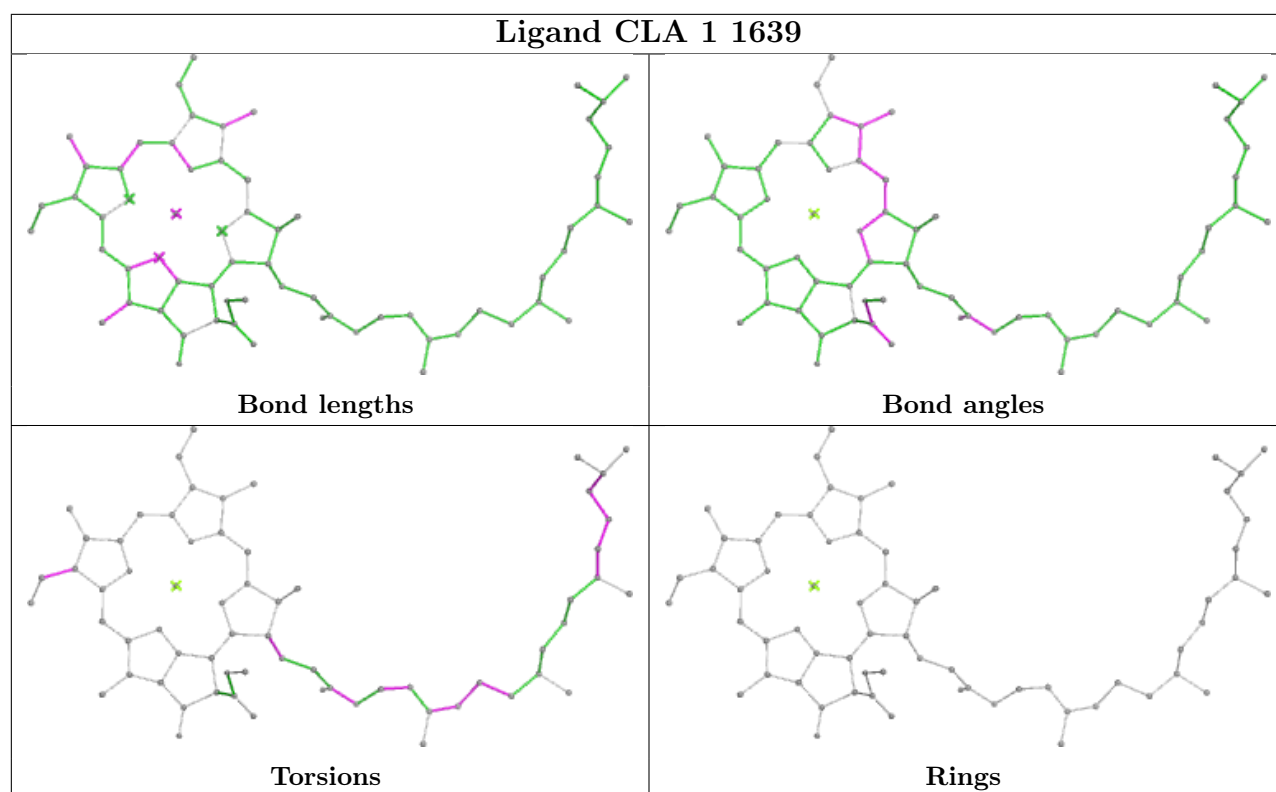




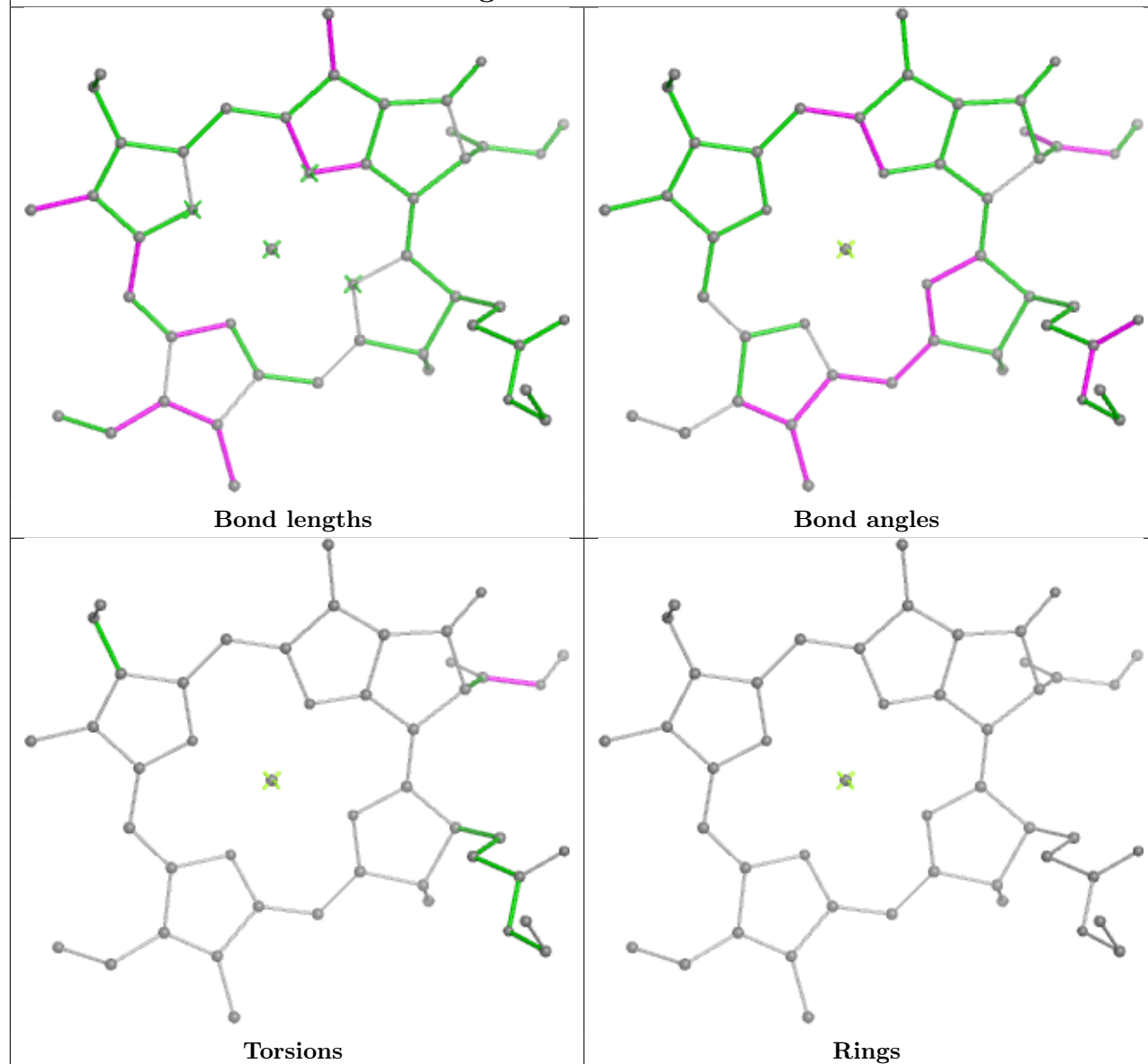




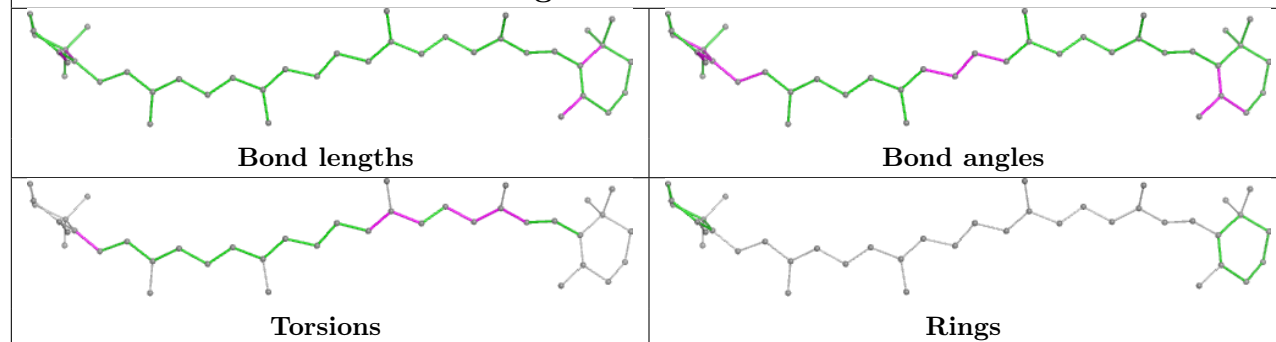


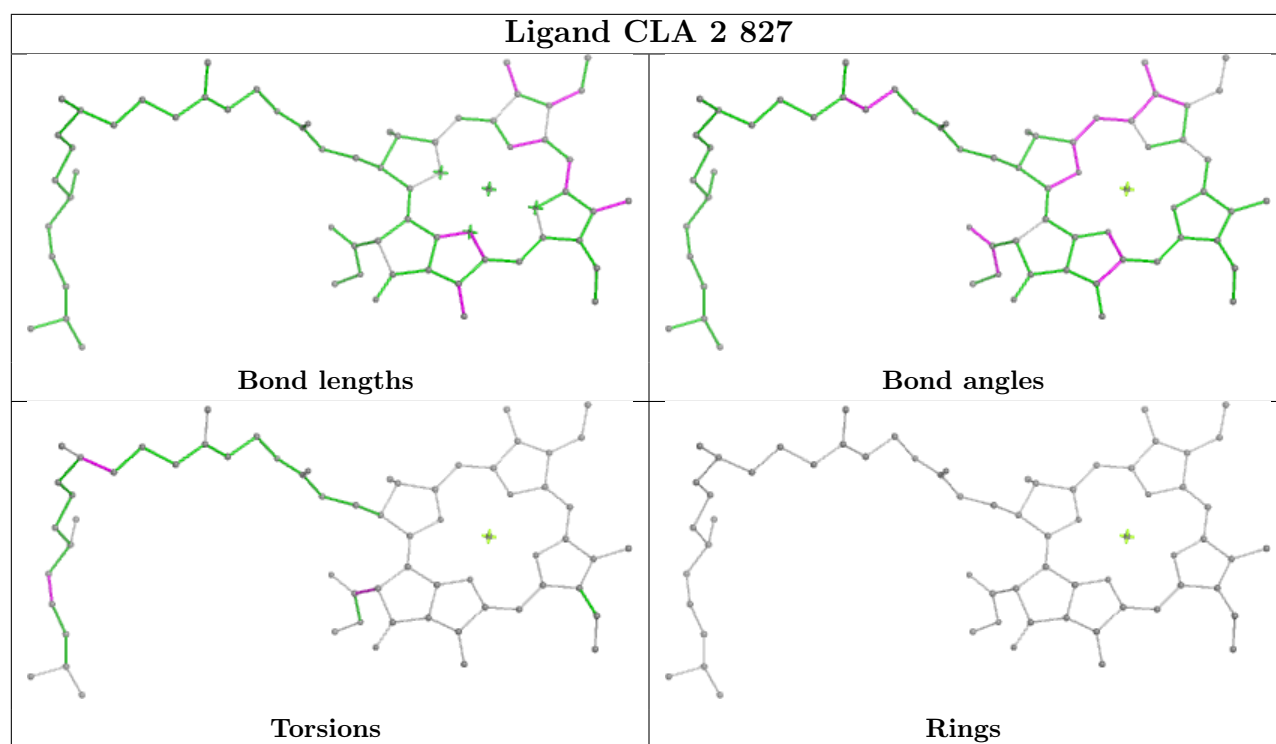


## Ligand CLA B 839

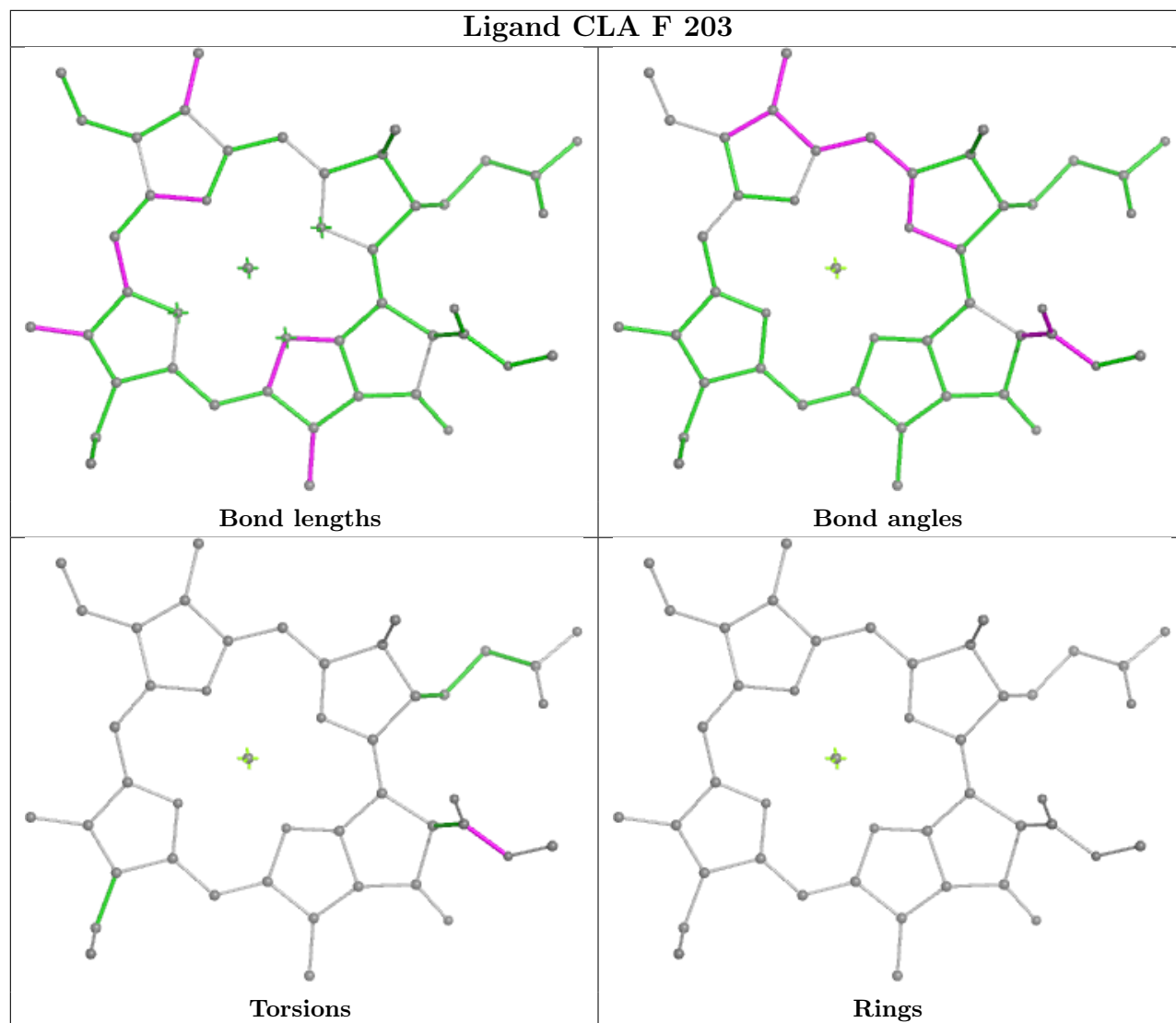


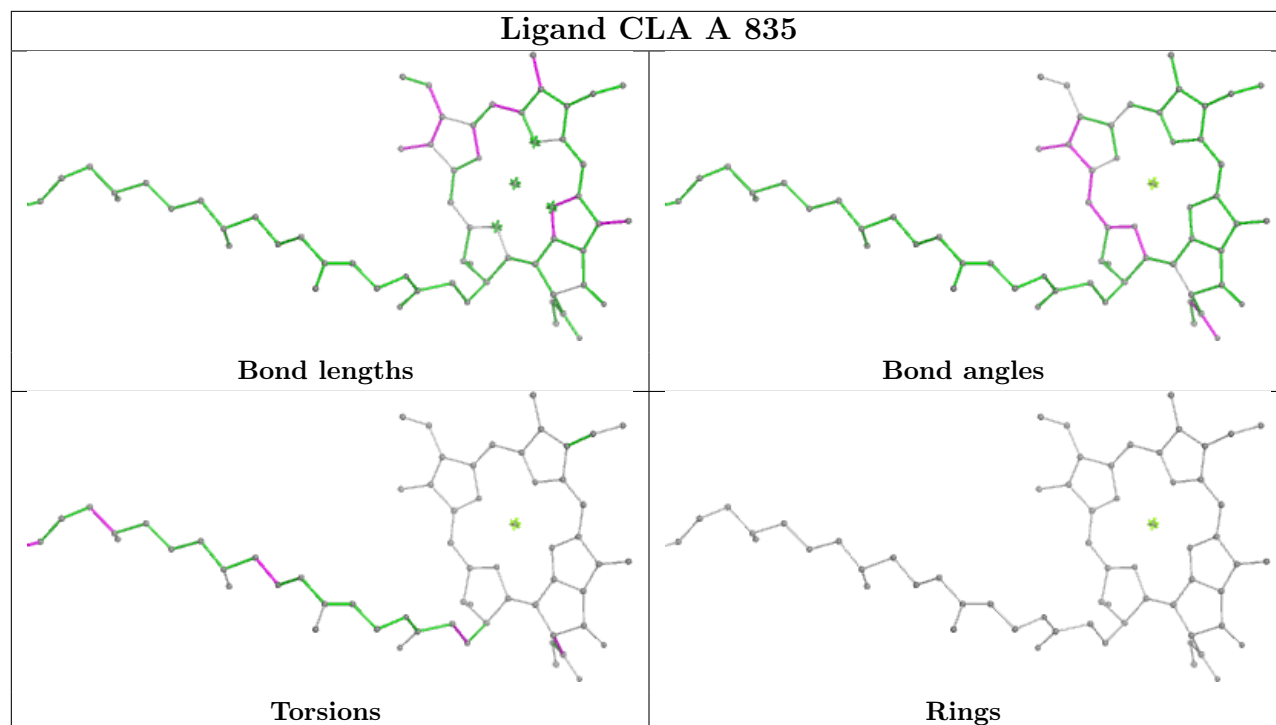
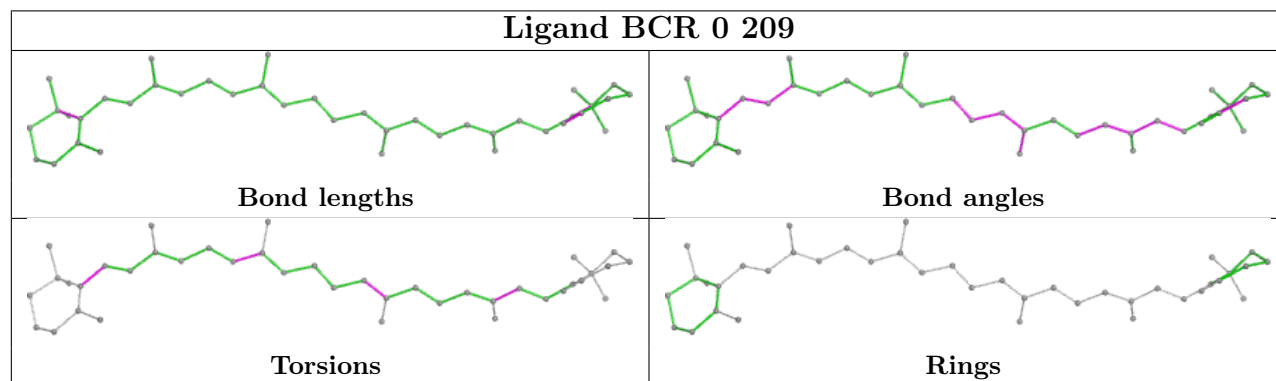
## Ligand BCR a 850



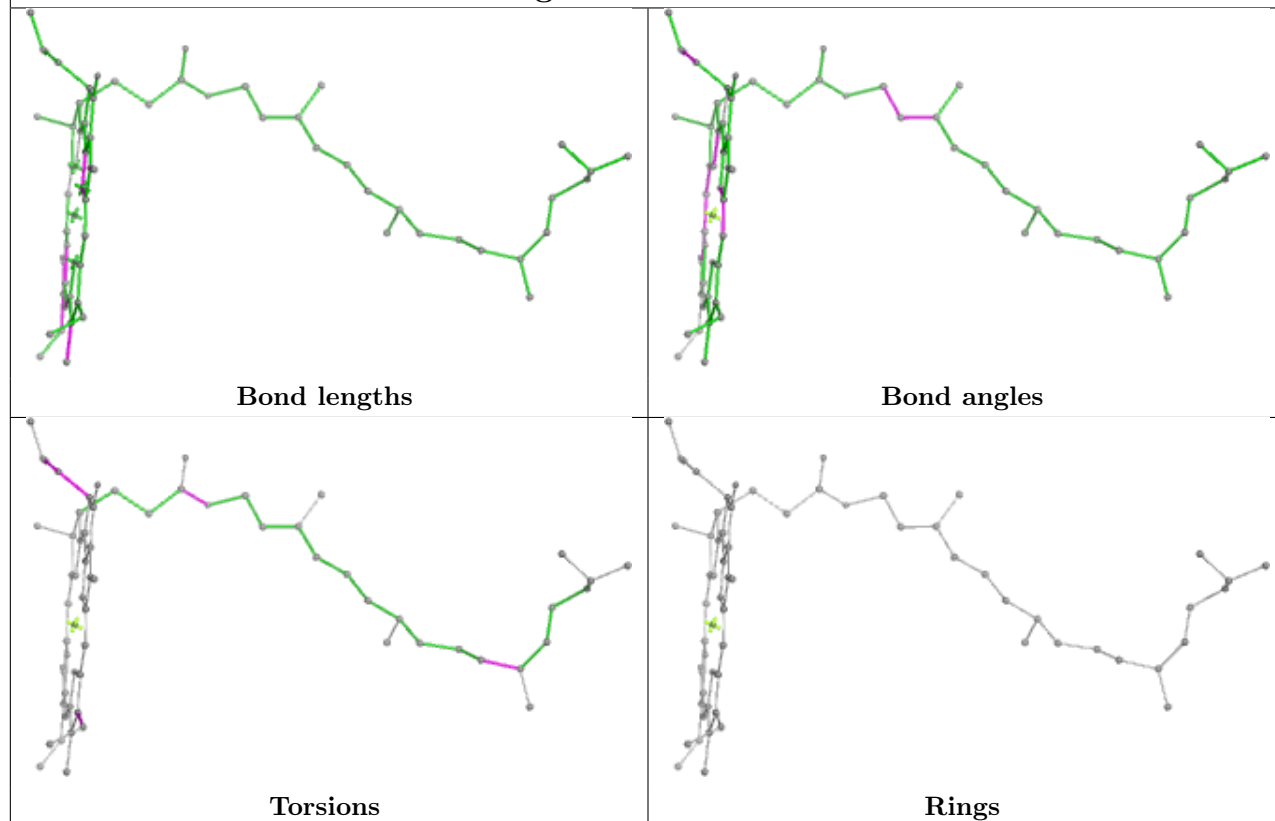


## Ligand CLA F 203

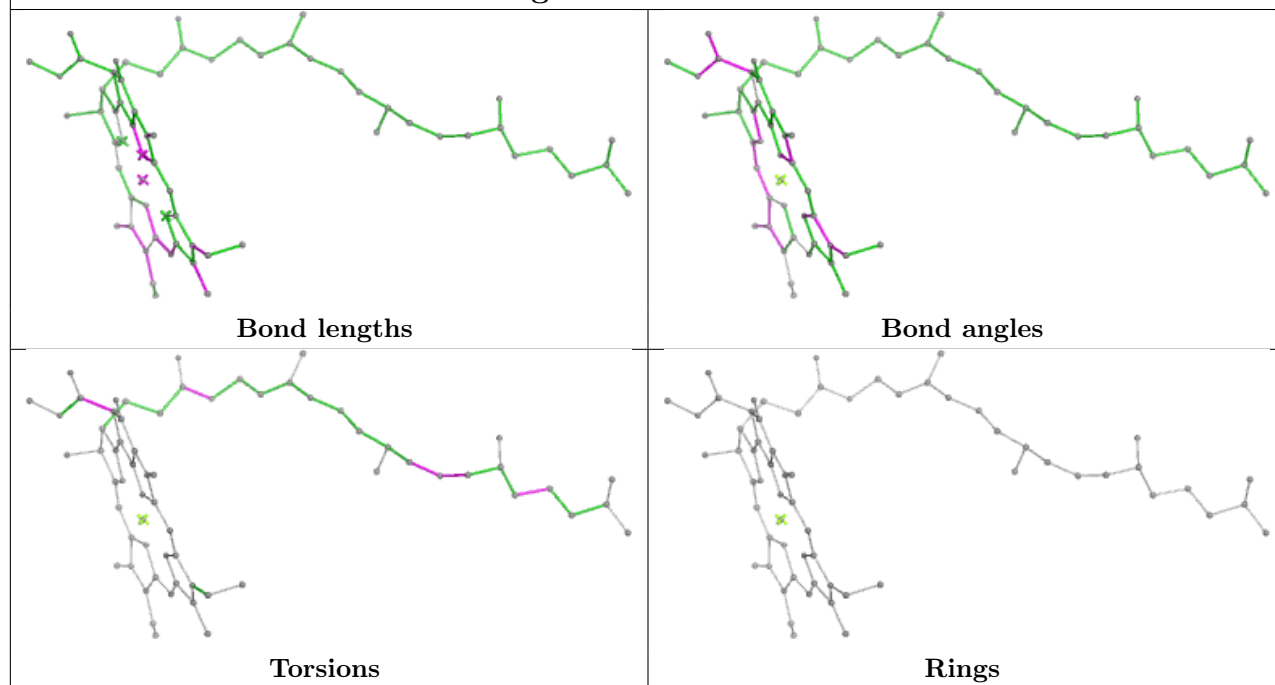


**Ligand CLA A 835****Ligand BCR 0 209**

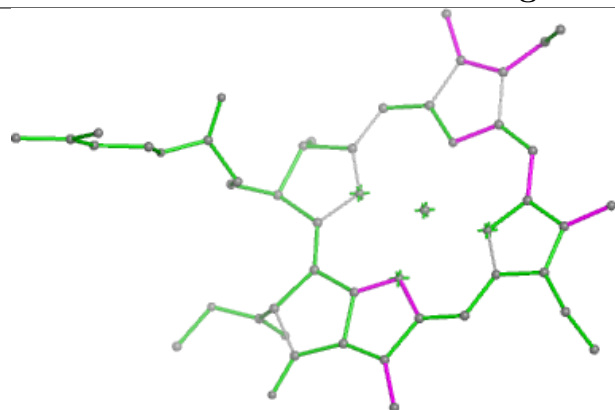
## Ligand CLA 2 842



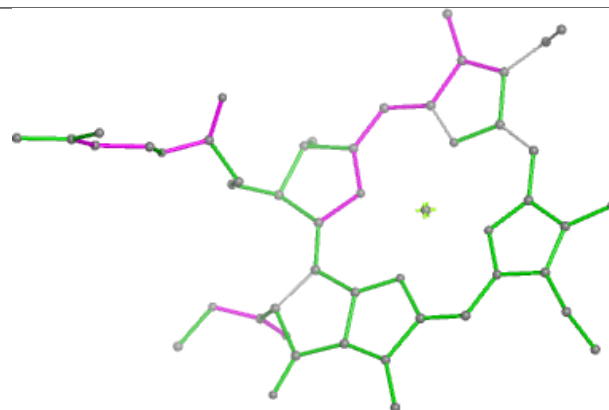
## Ligand CLA B 829



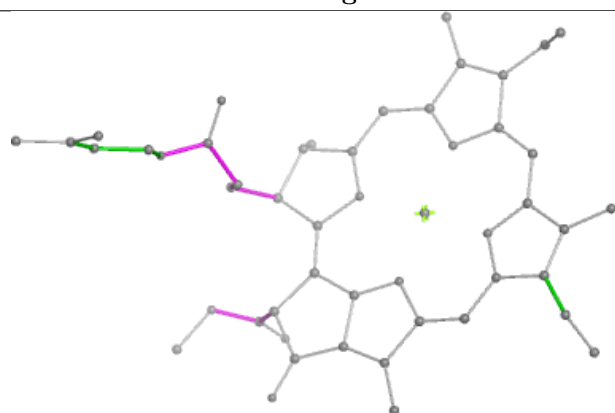
## Ligand CLA b 836



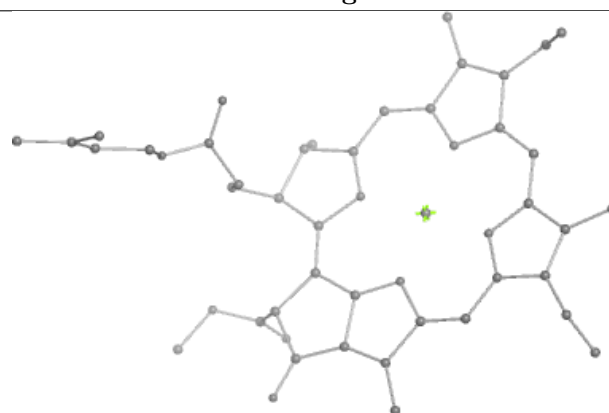
Bond lengths



Bond angles

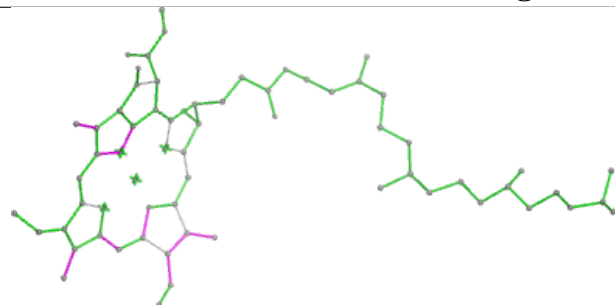


Torsions

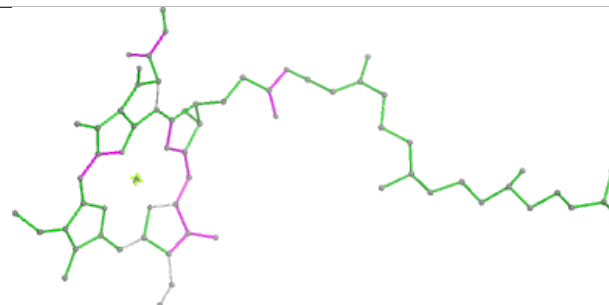


Rings

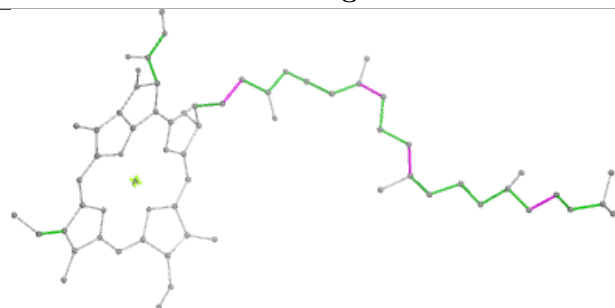
## Ligand CLA A 803



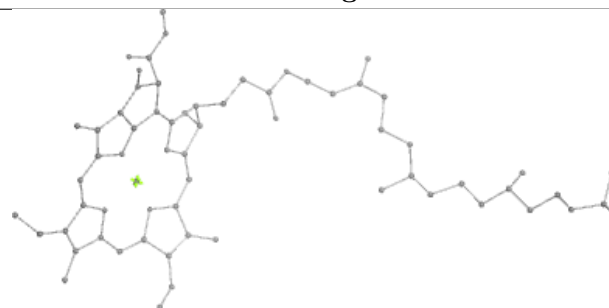
Bond lengths



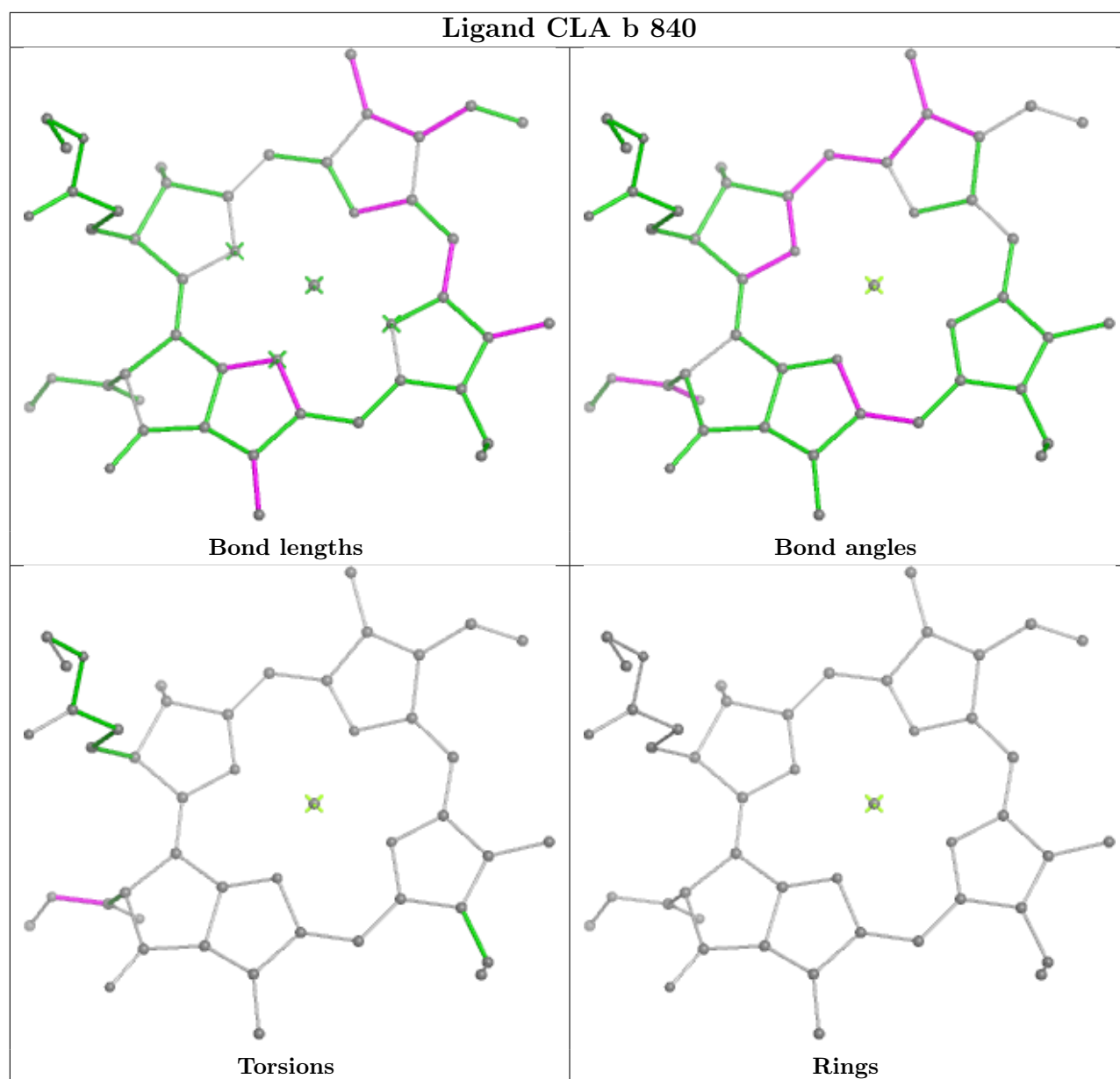
Bond angles



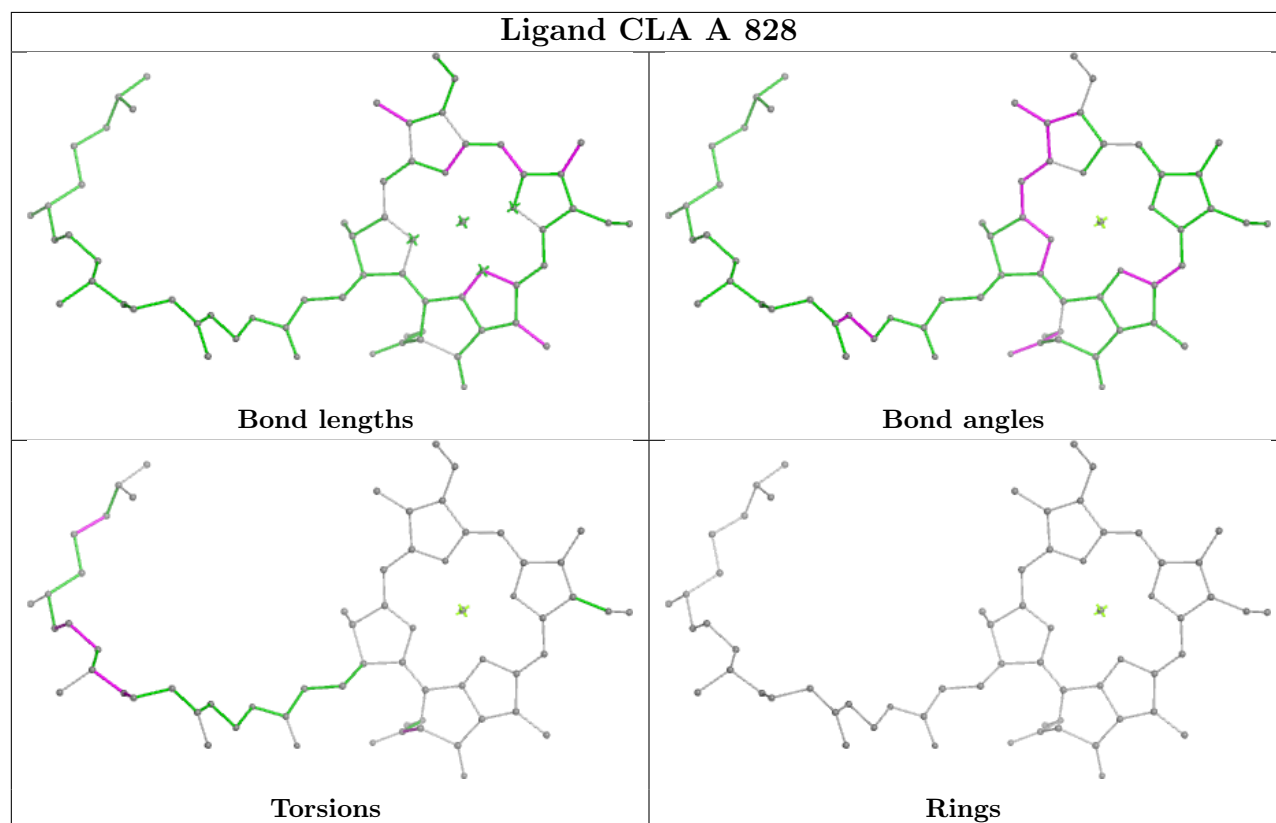
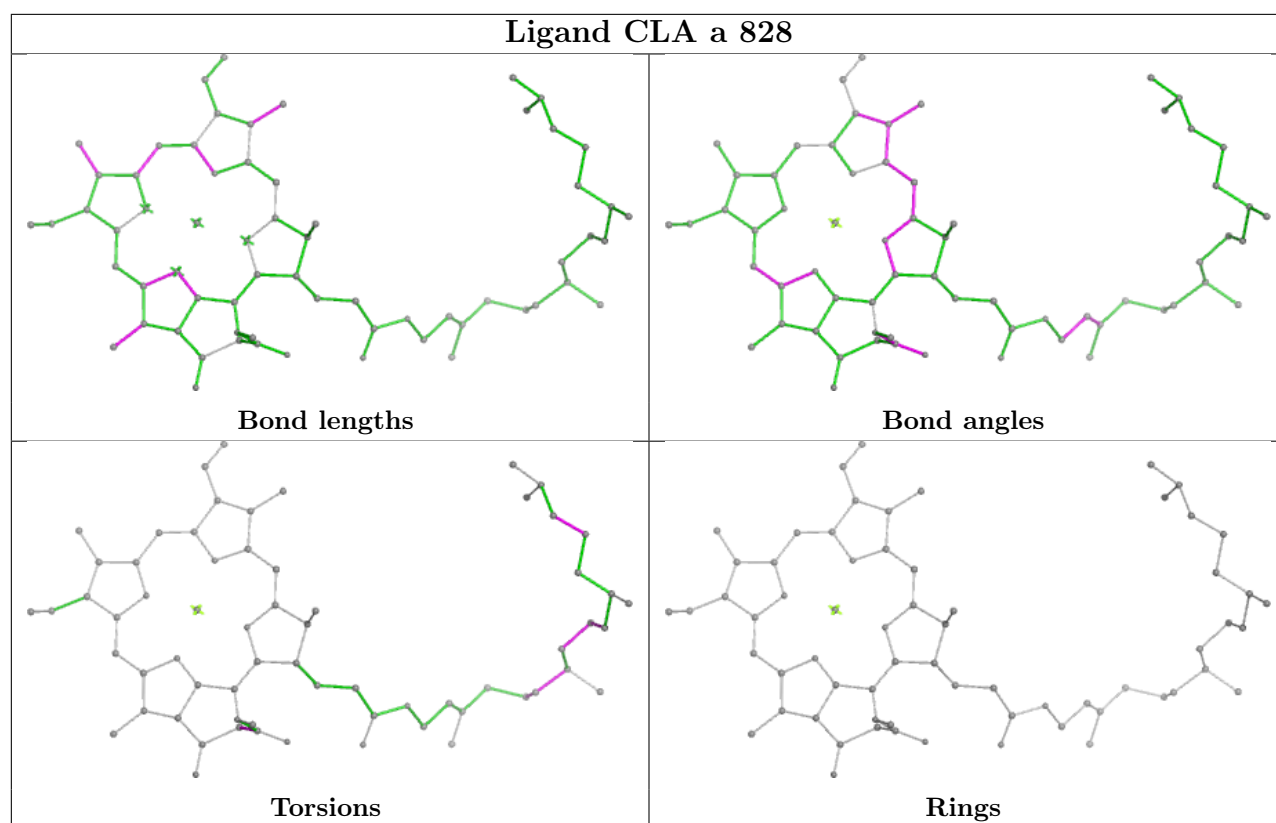
Torsions

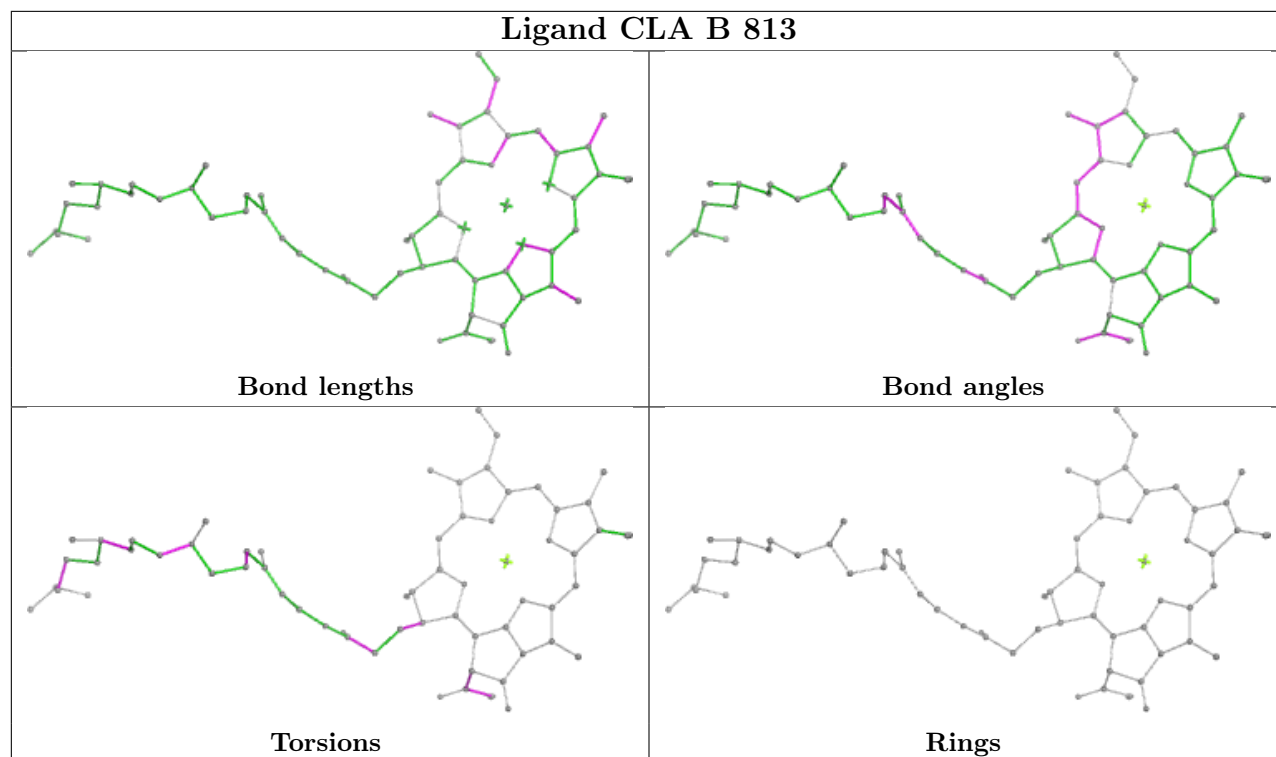
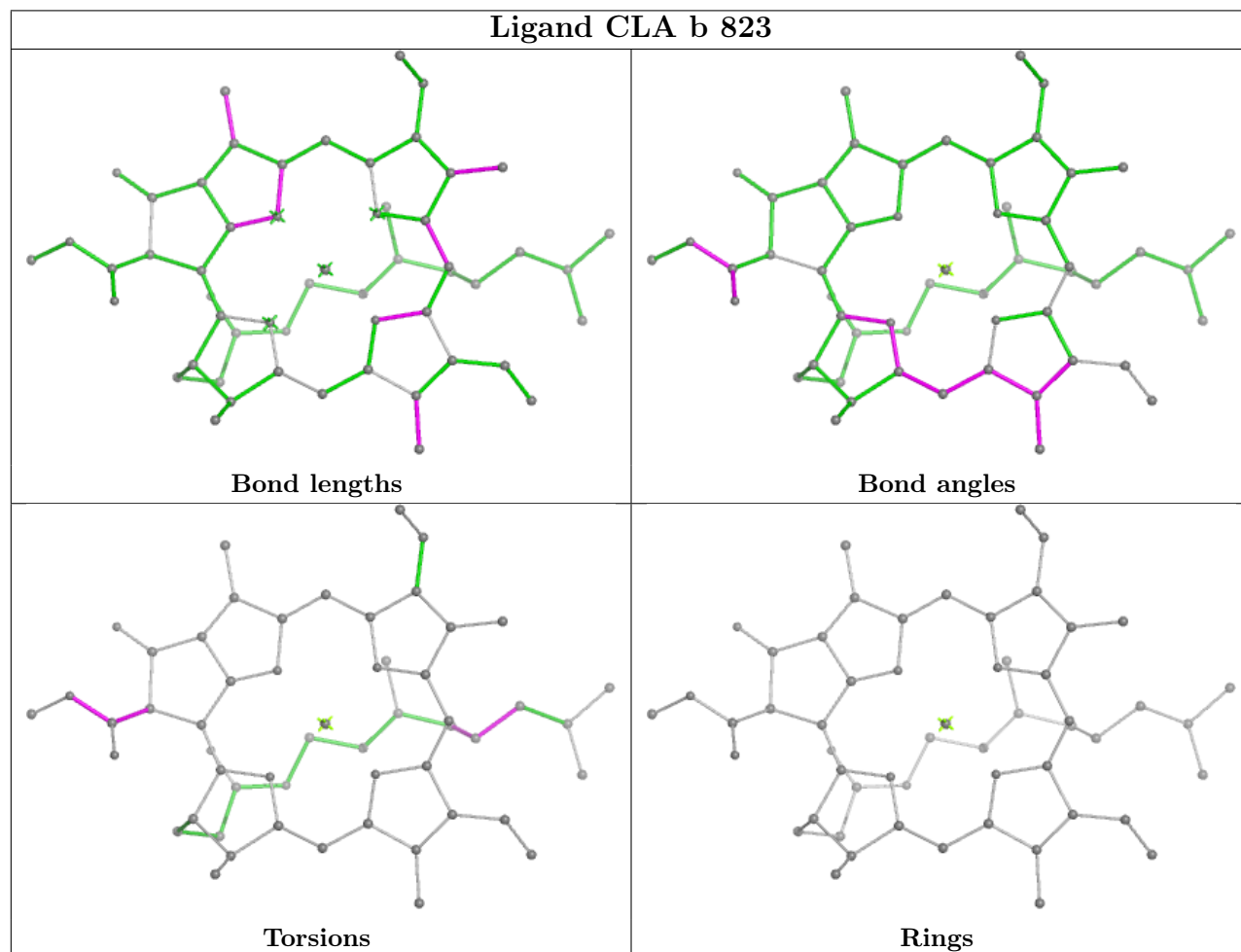


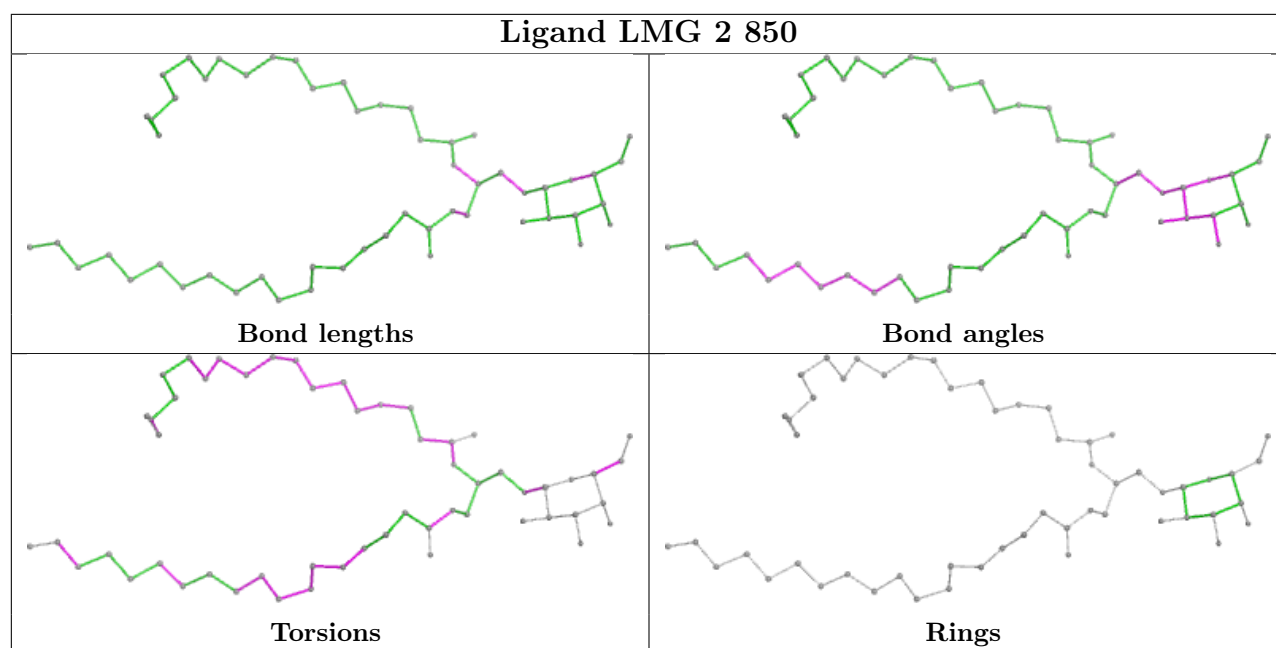
Rings



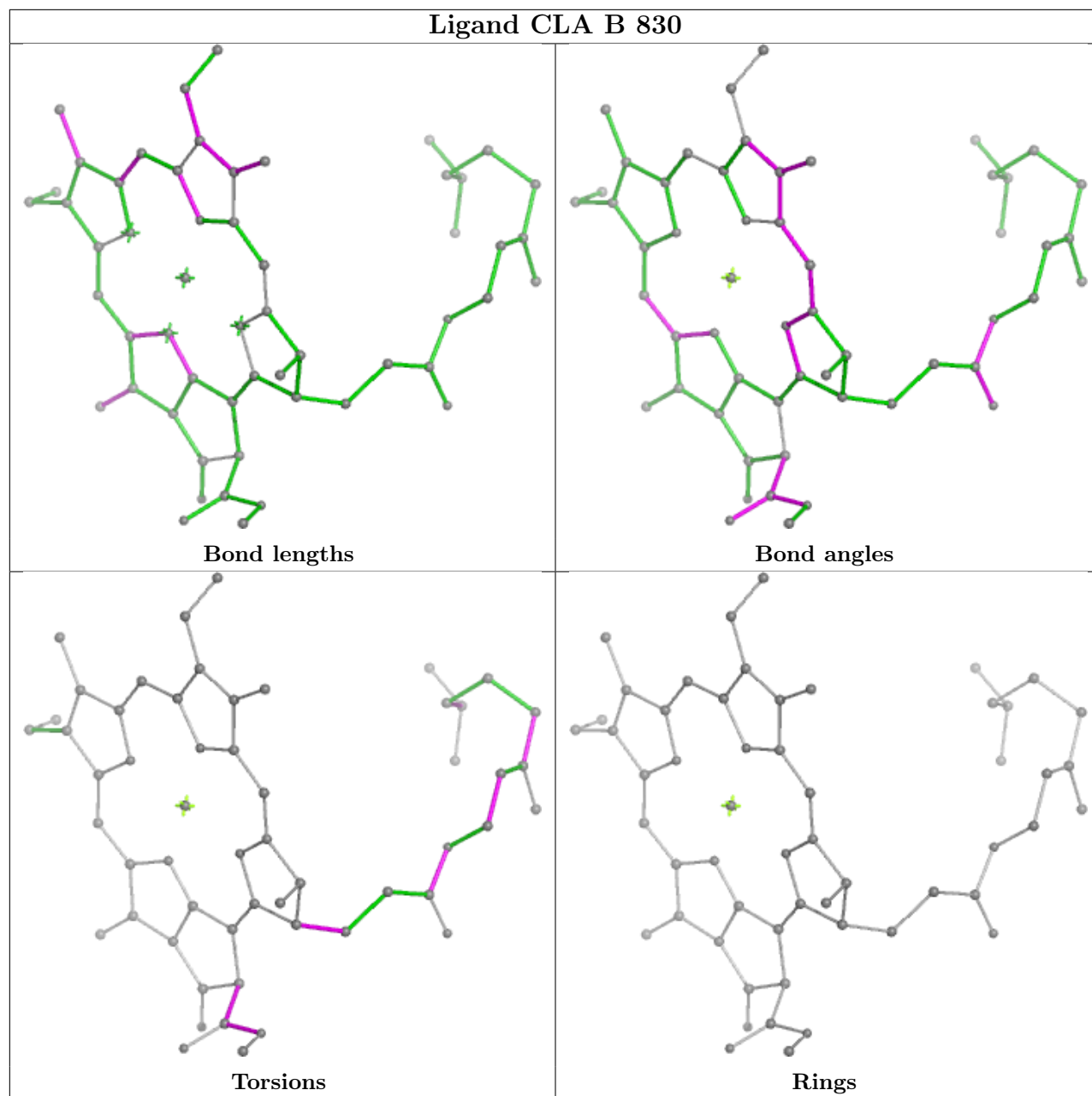




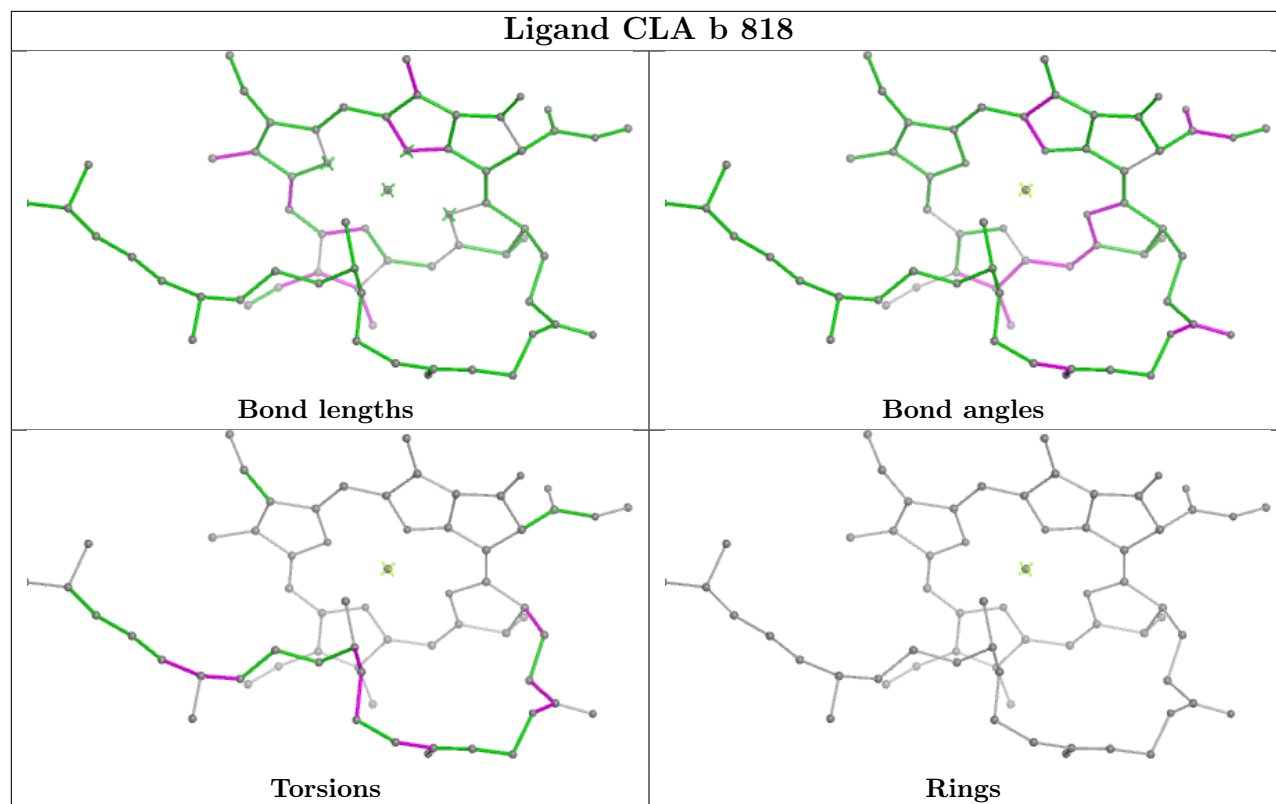
**Ligand CLA B 813****Ligand CLA b 823**



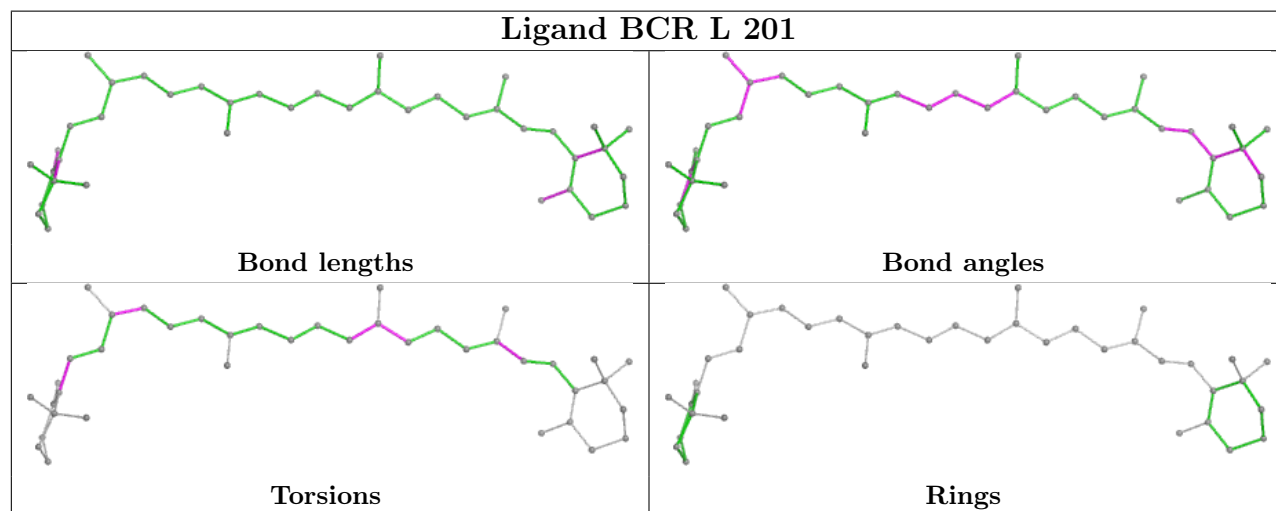
## Ligand CLA B 830

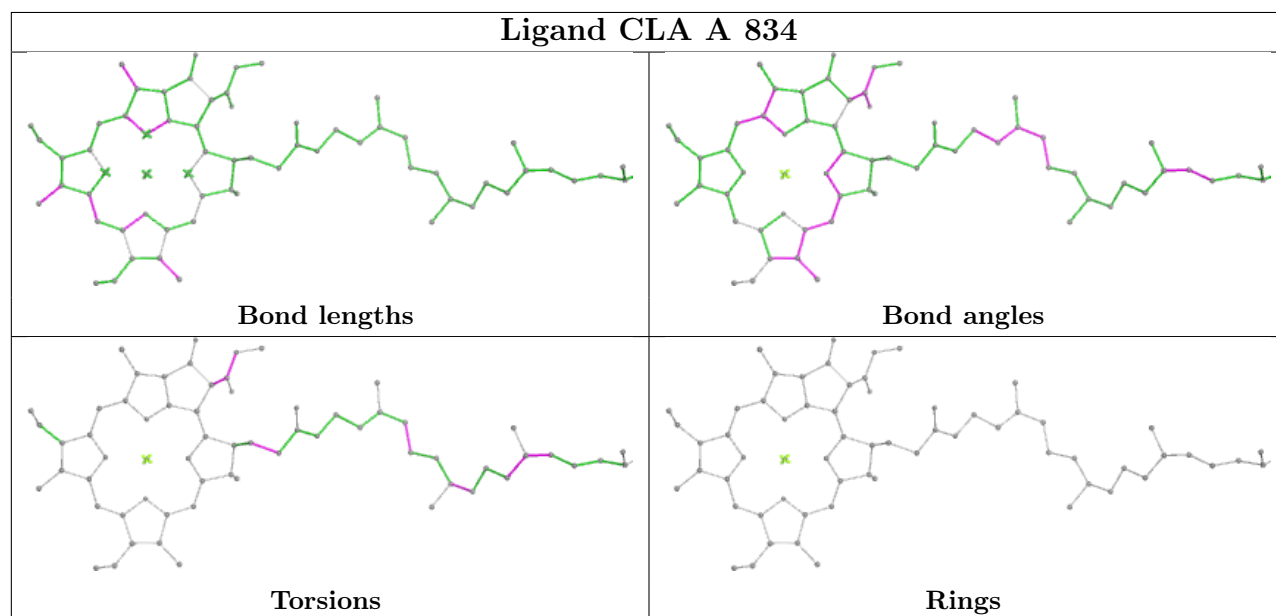
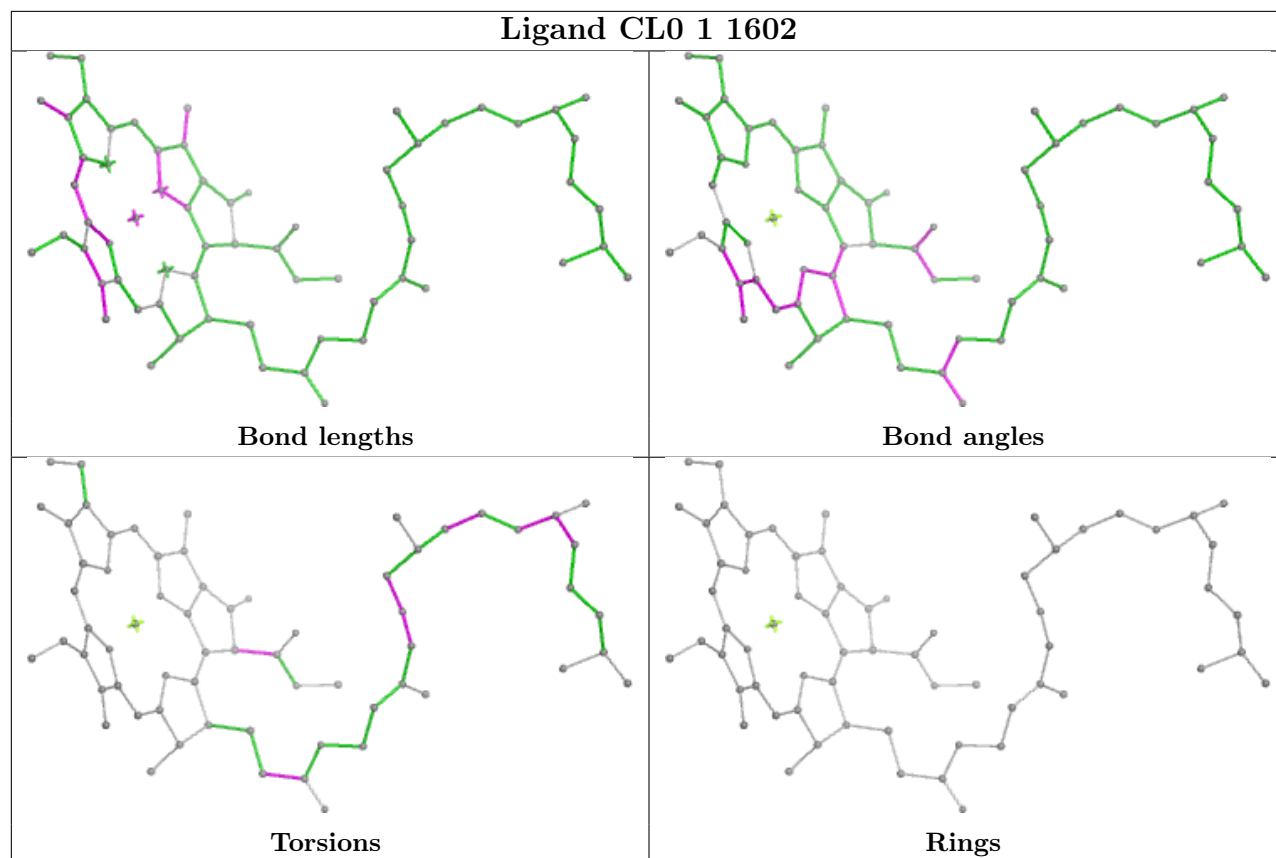


## Ligand CLA b 818

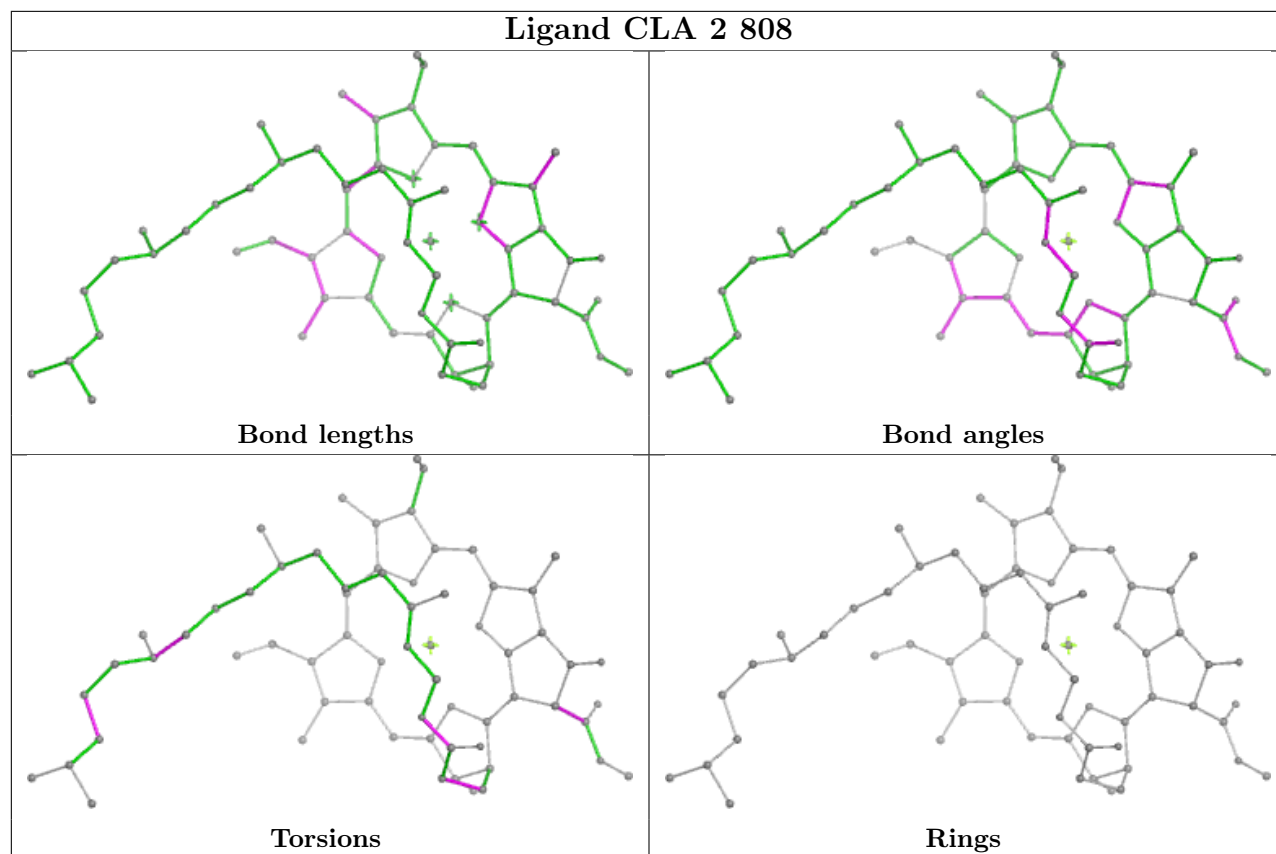


## Ligand BCR L 201

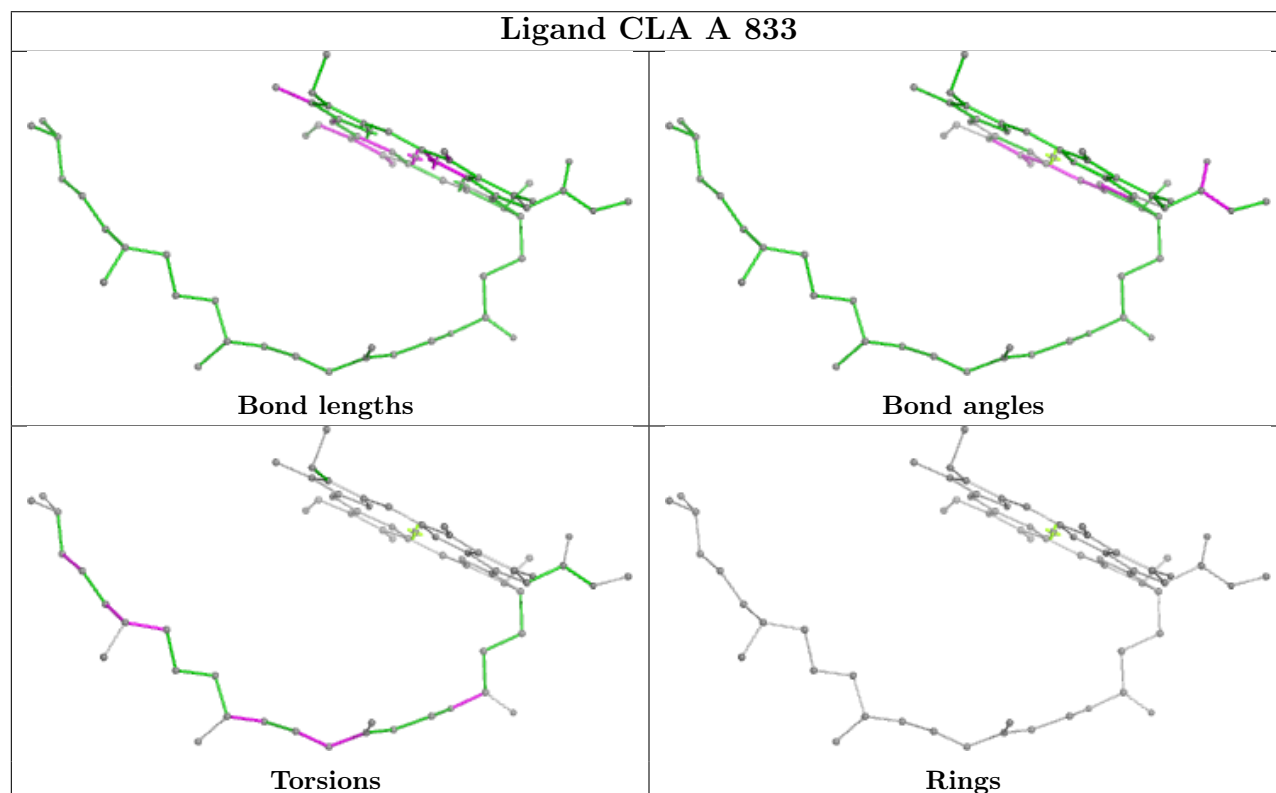


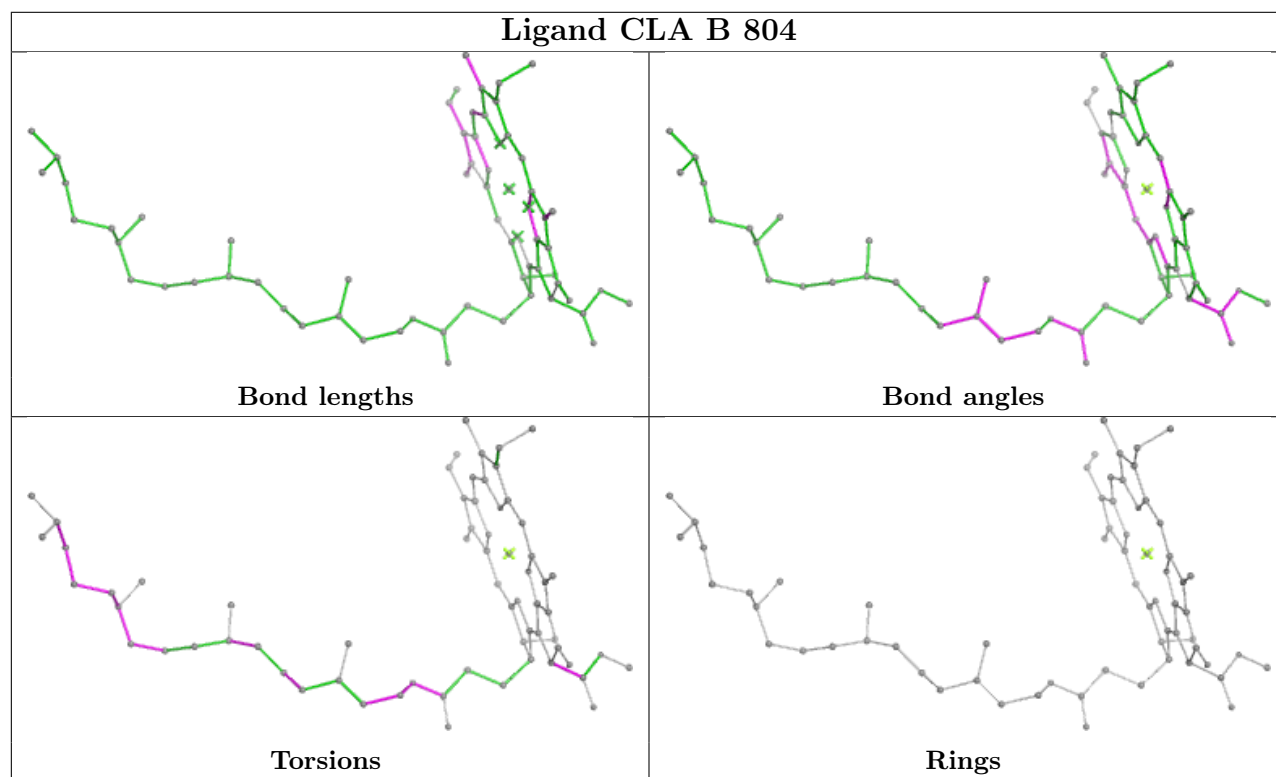
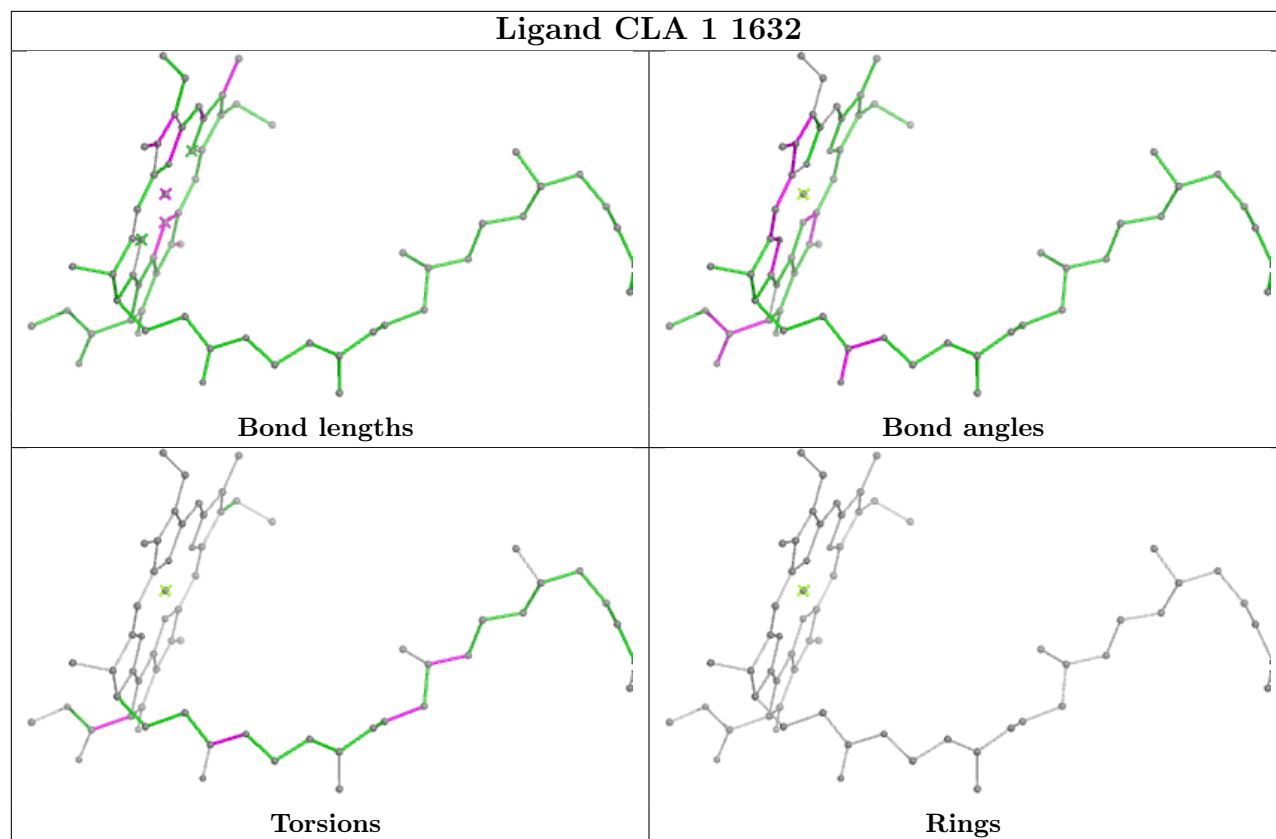


## Ligand CLA 2 808

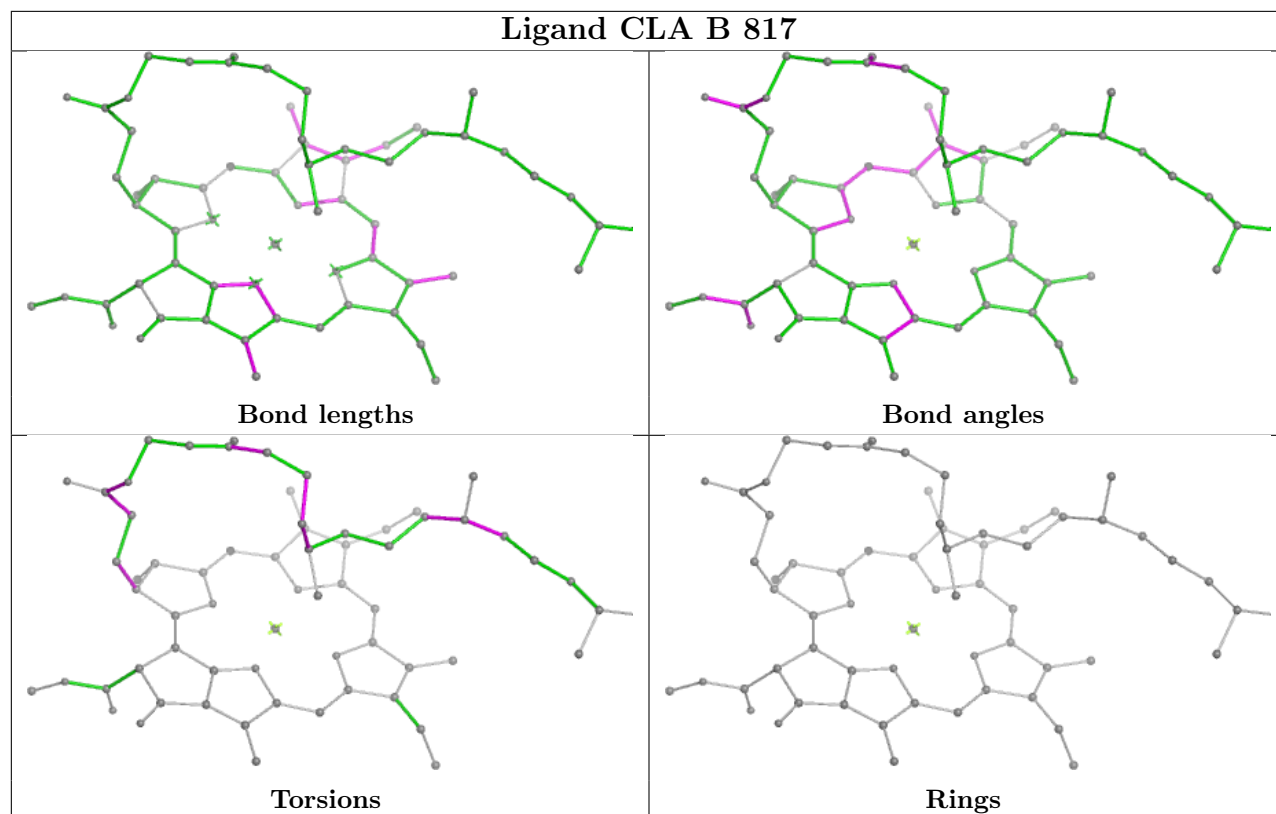


## Ligand CLA A 833

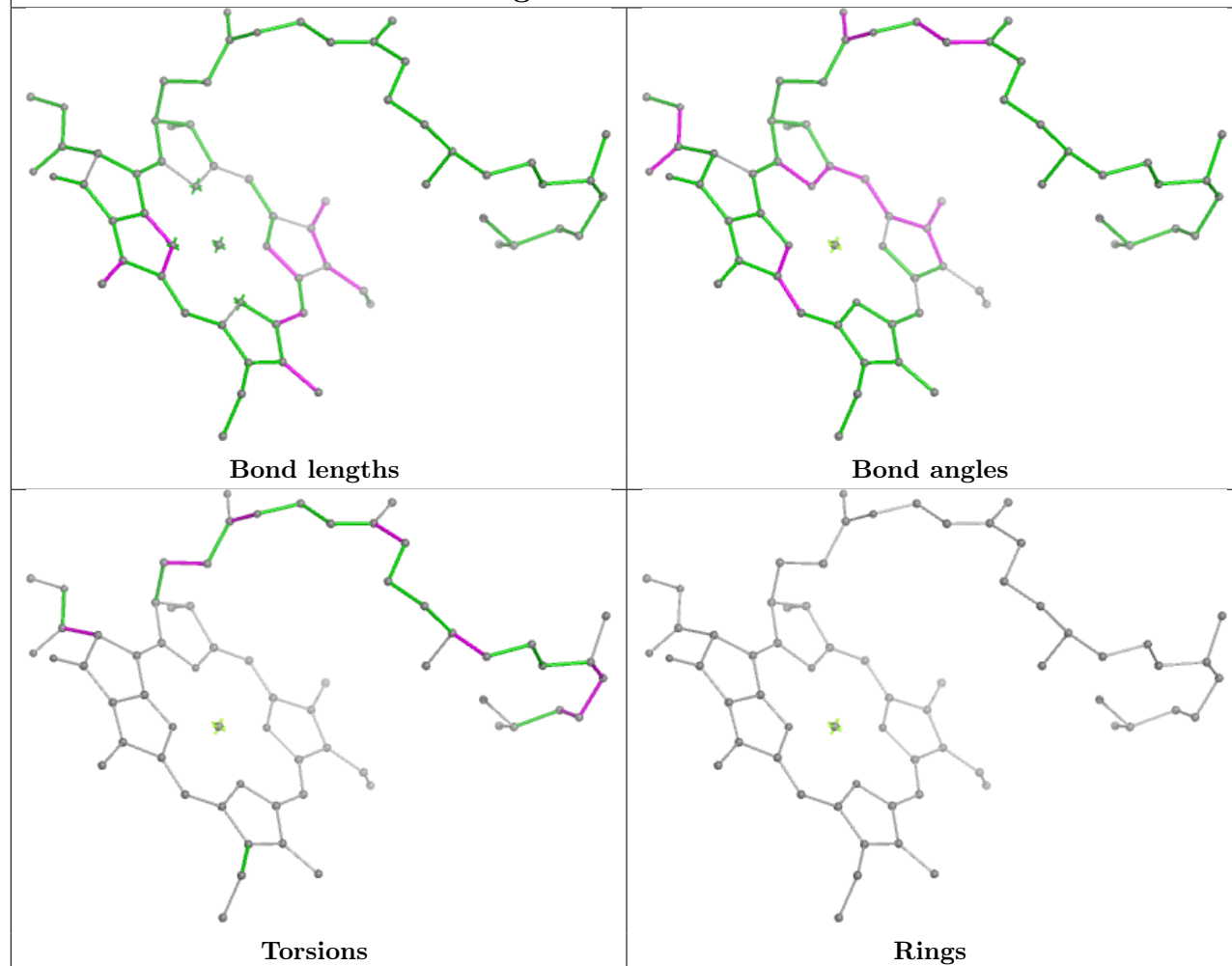




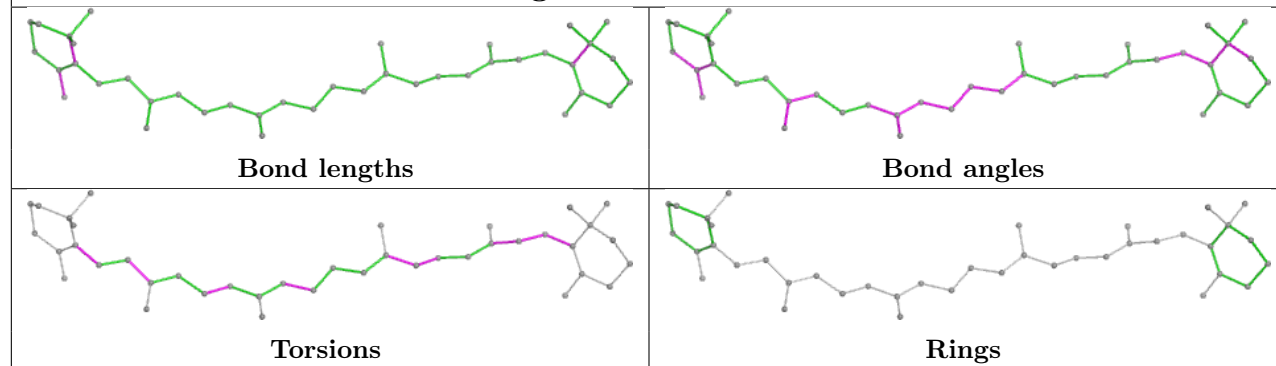




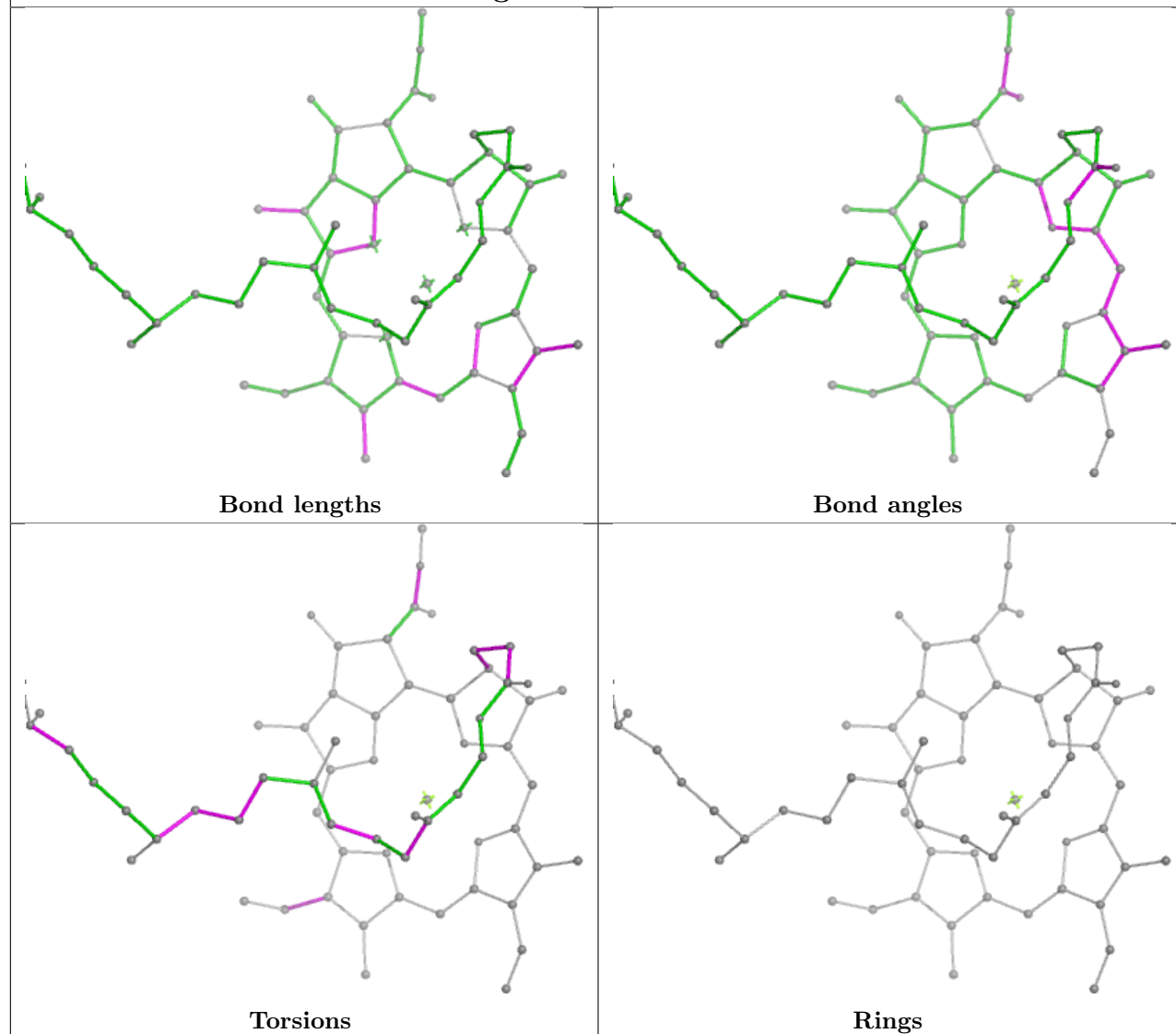
## Ligand CLA A 825



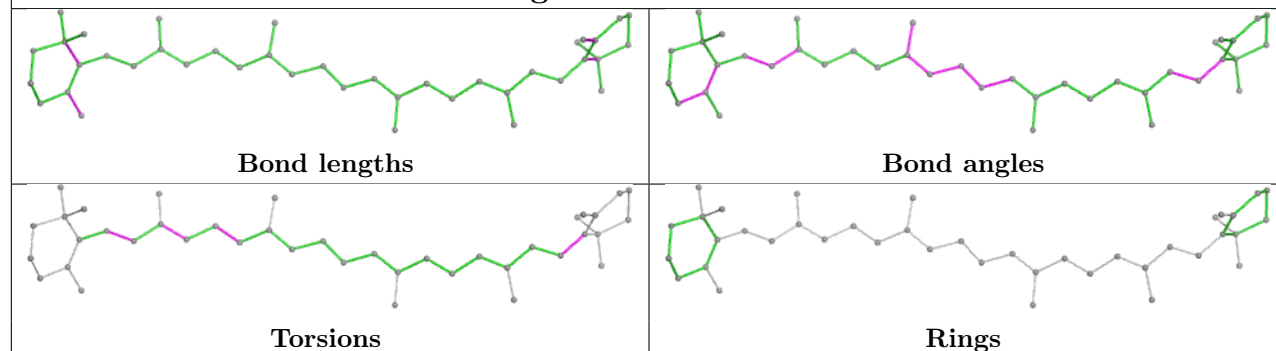
## Ligand BCR B 847

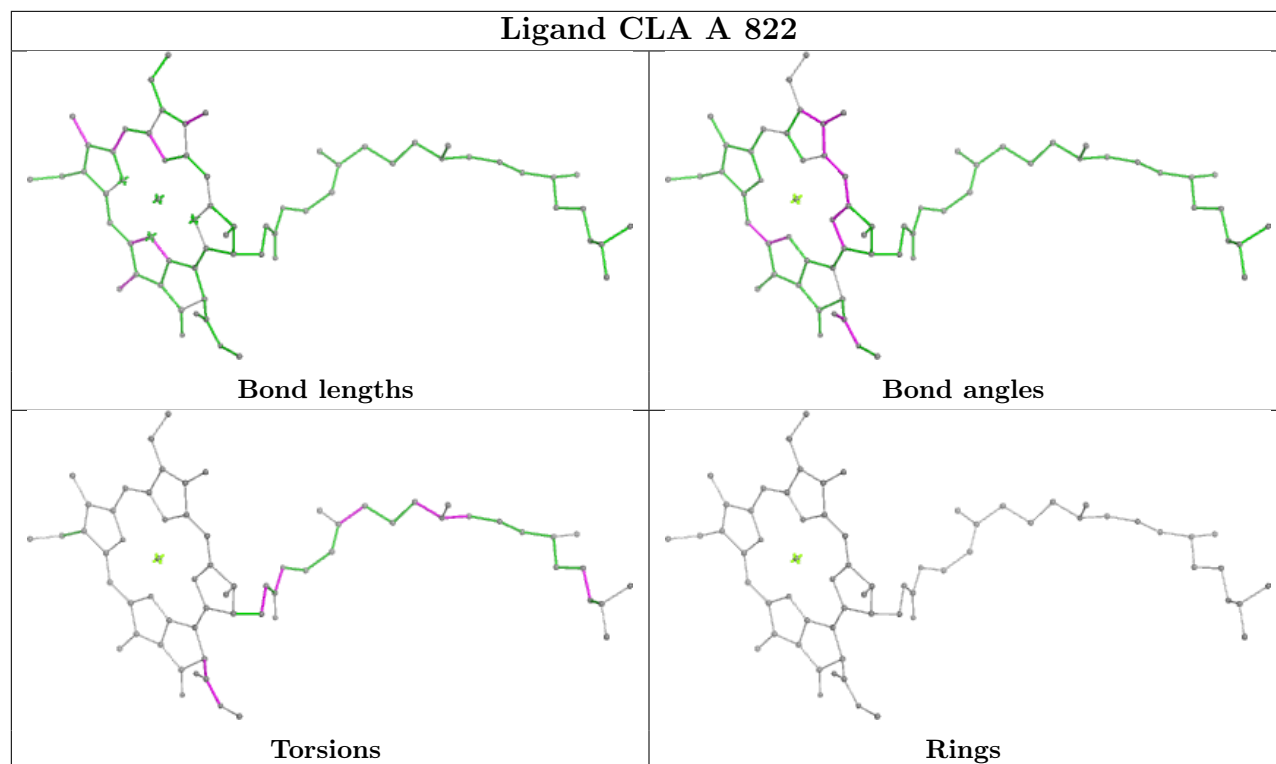
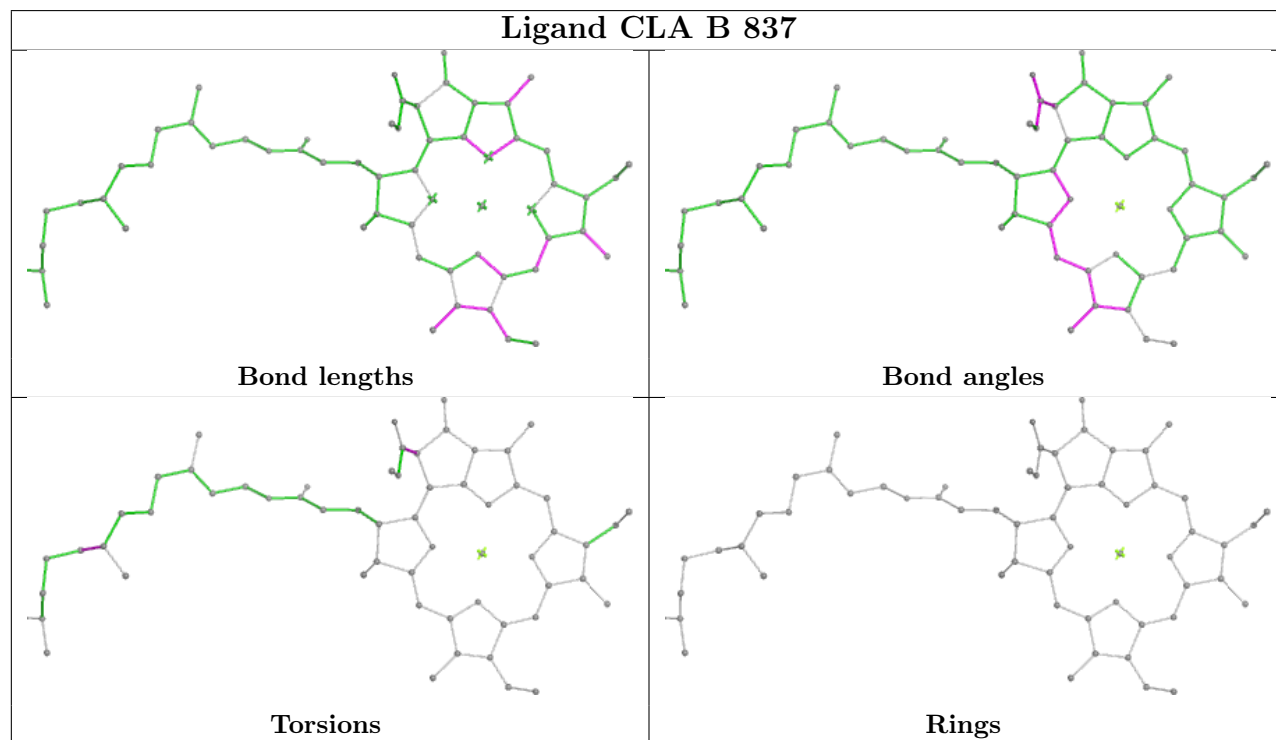


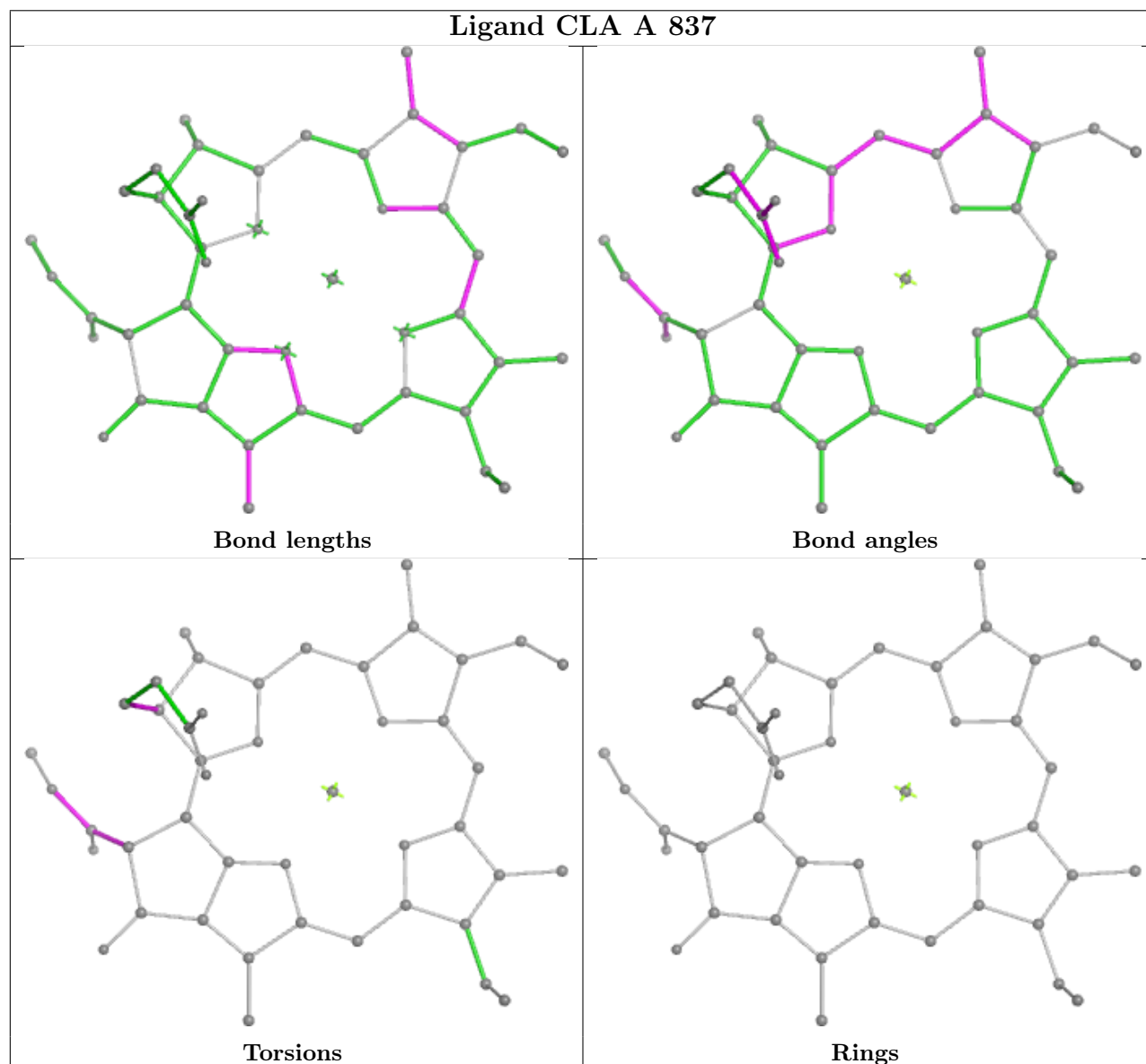
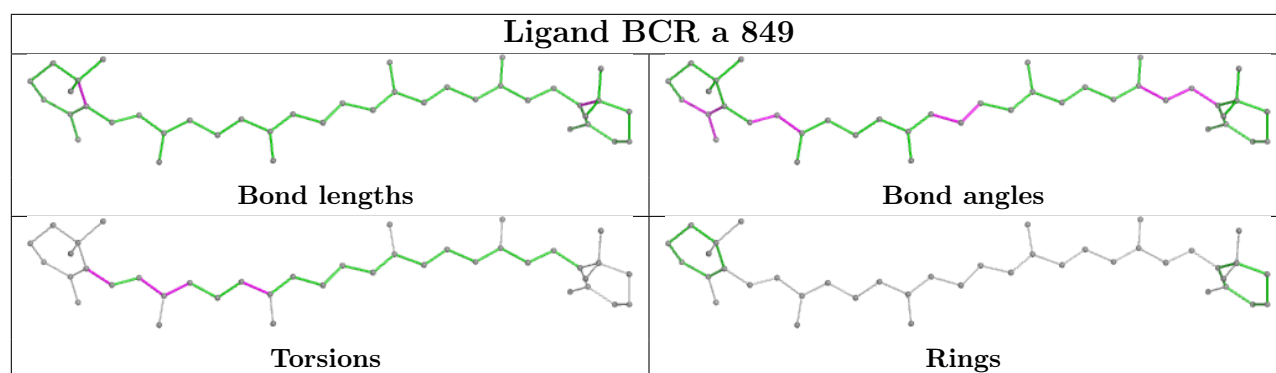
## Ligand CLA b 828

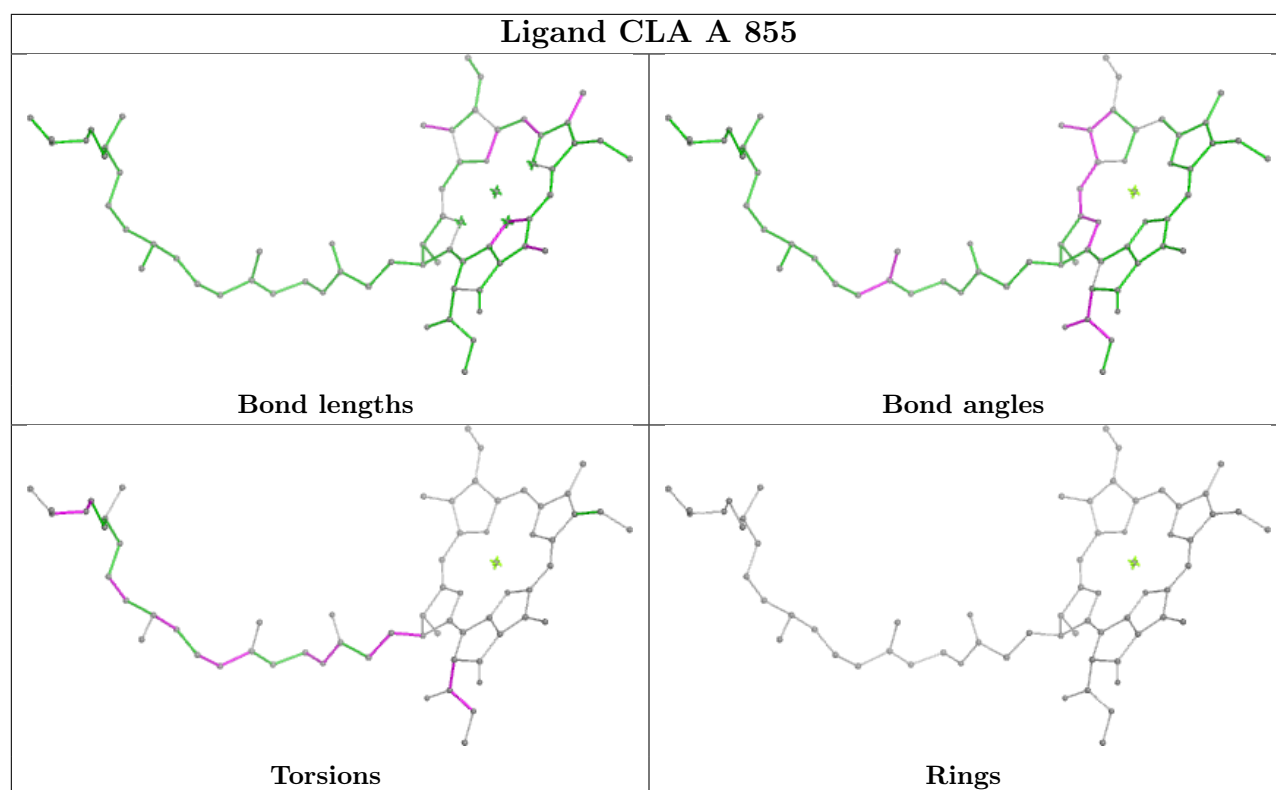


## Ligand BCR B 848

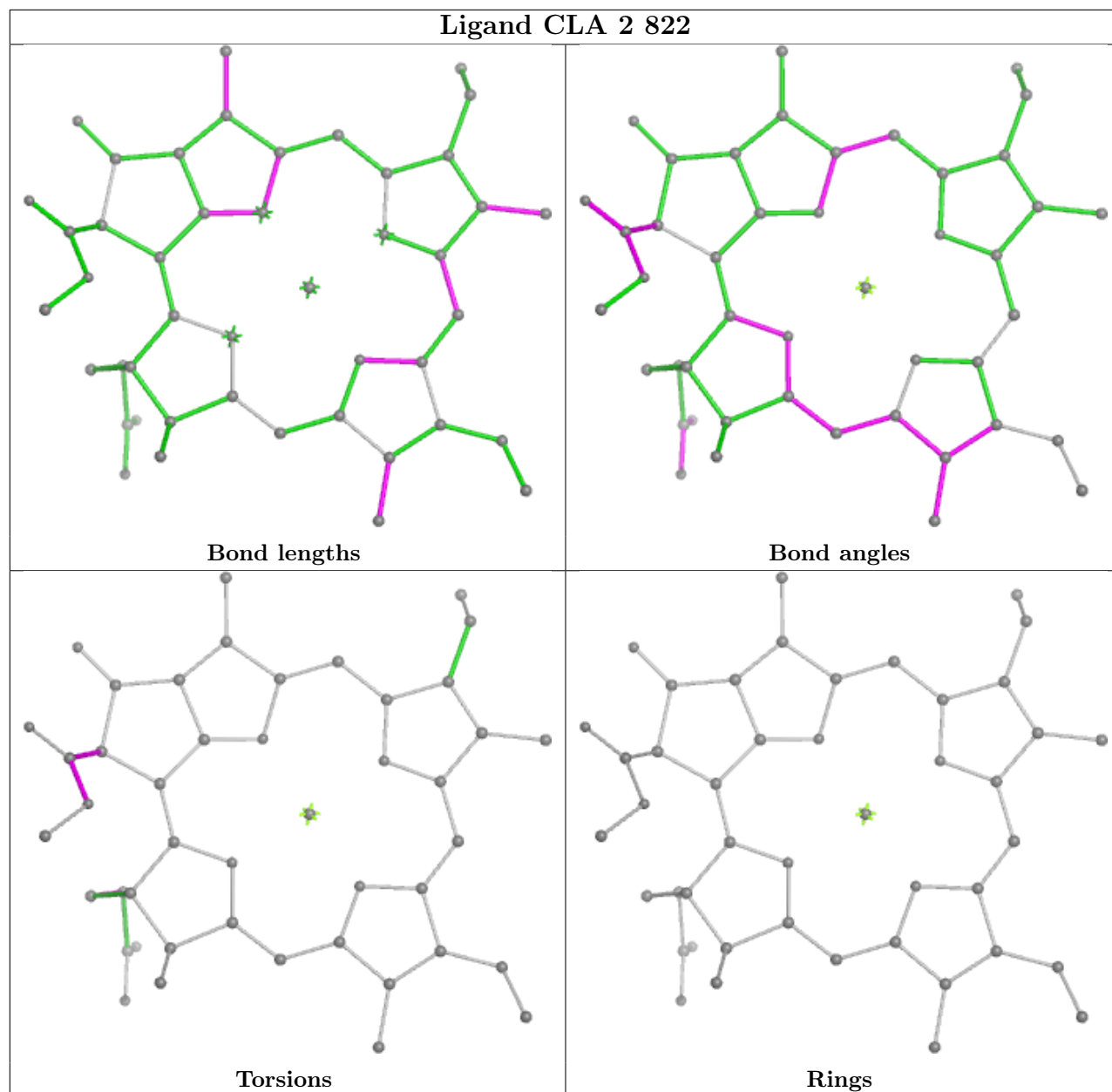


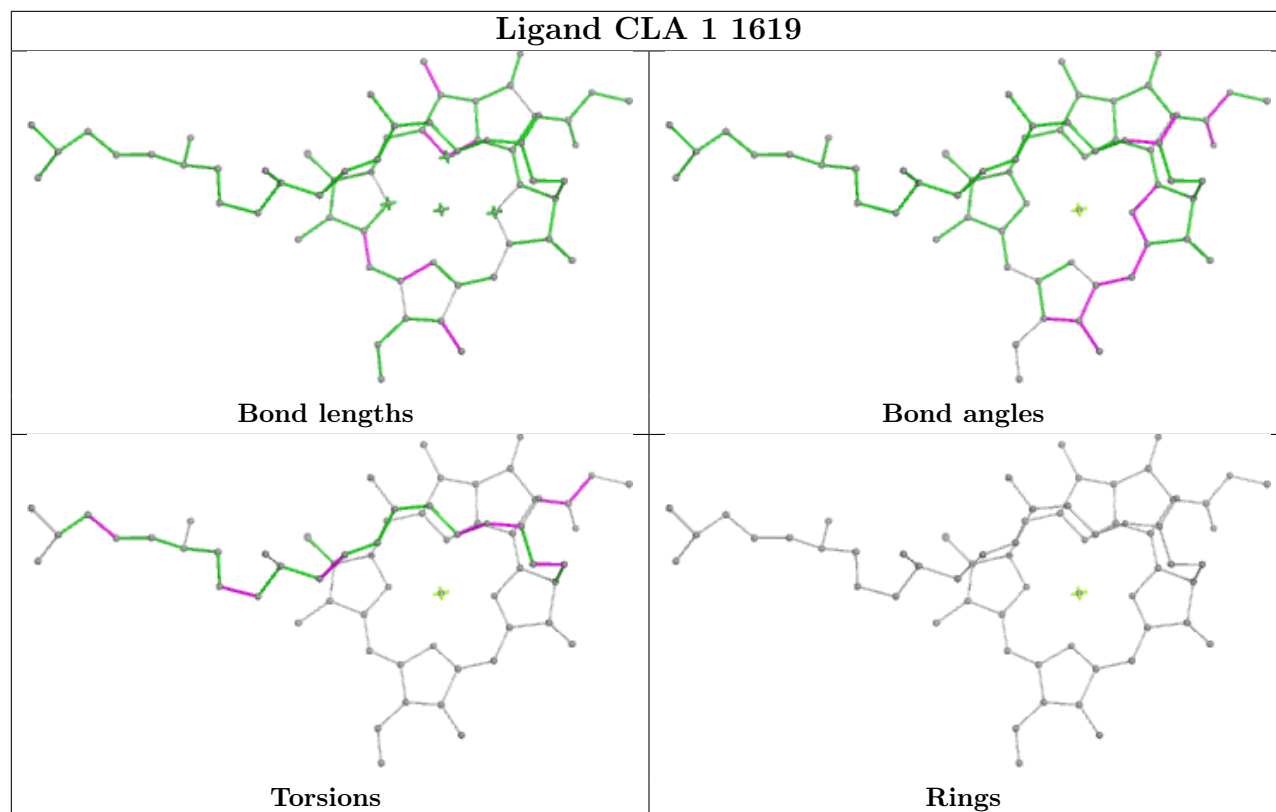
**Ligand CLA A 822****Ligand CLA B 837**





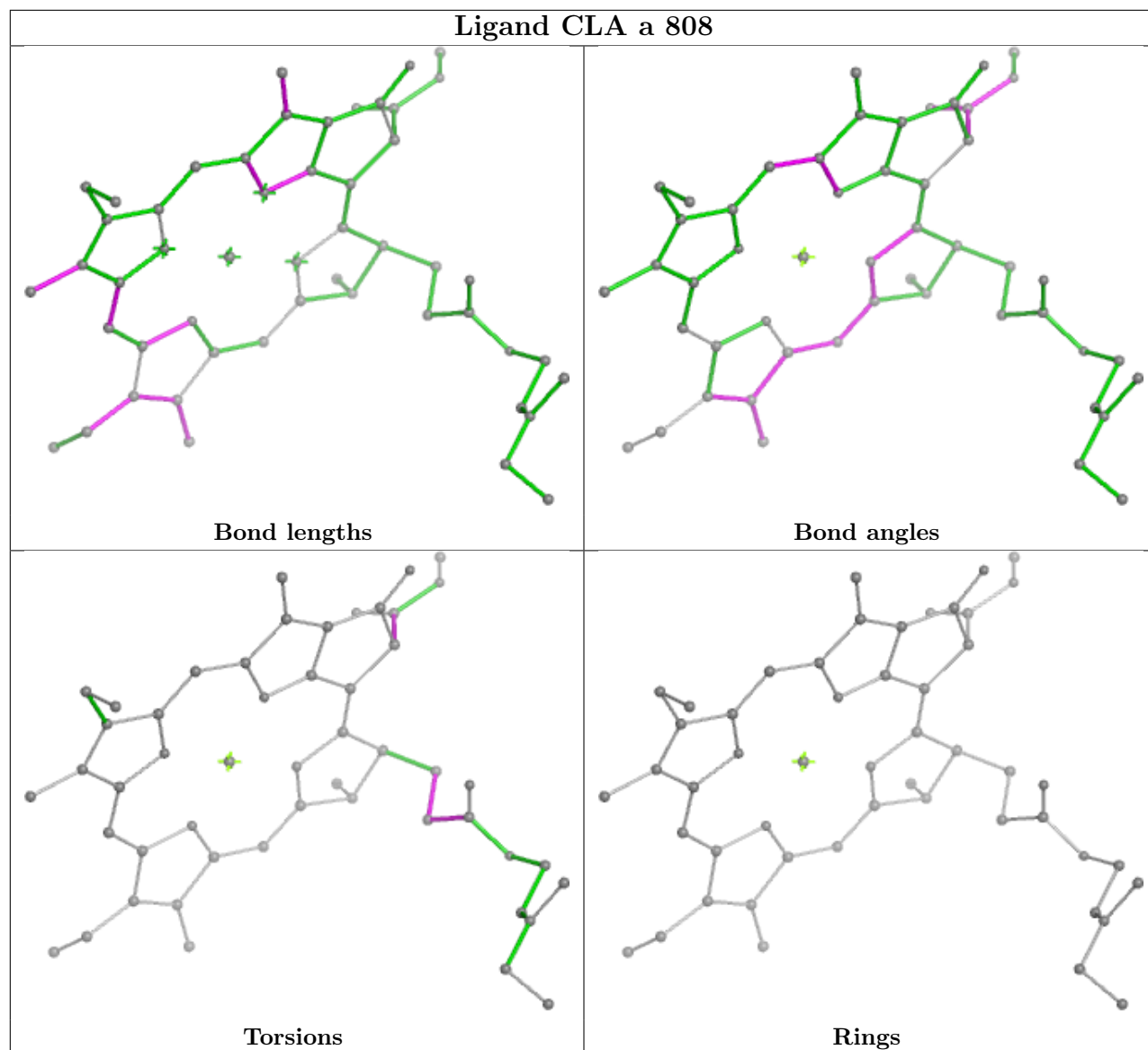
## Ligand CLA 2 822

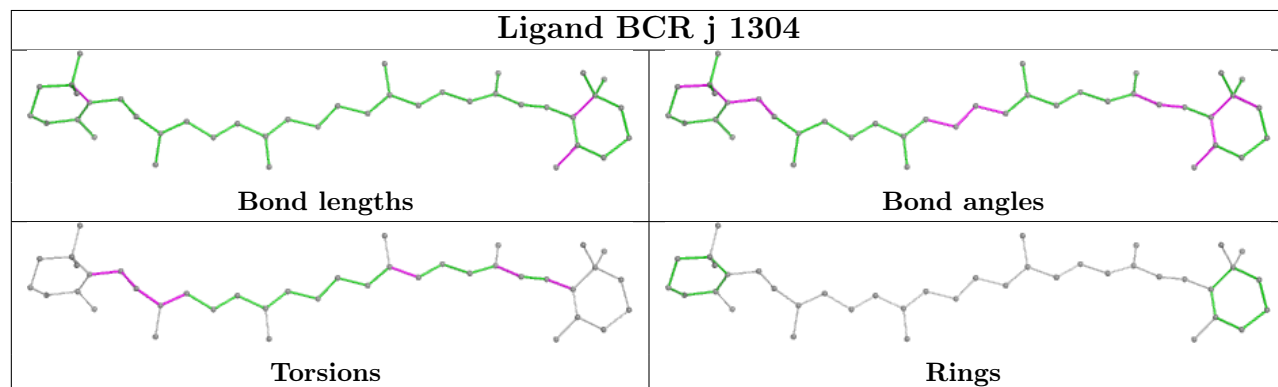
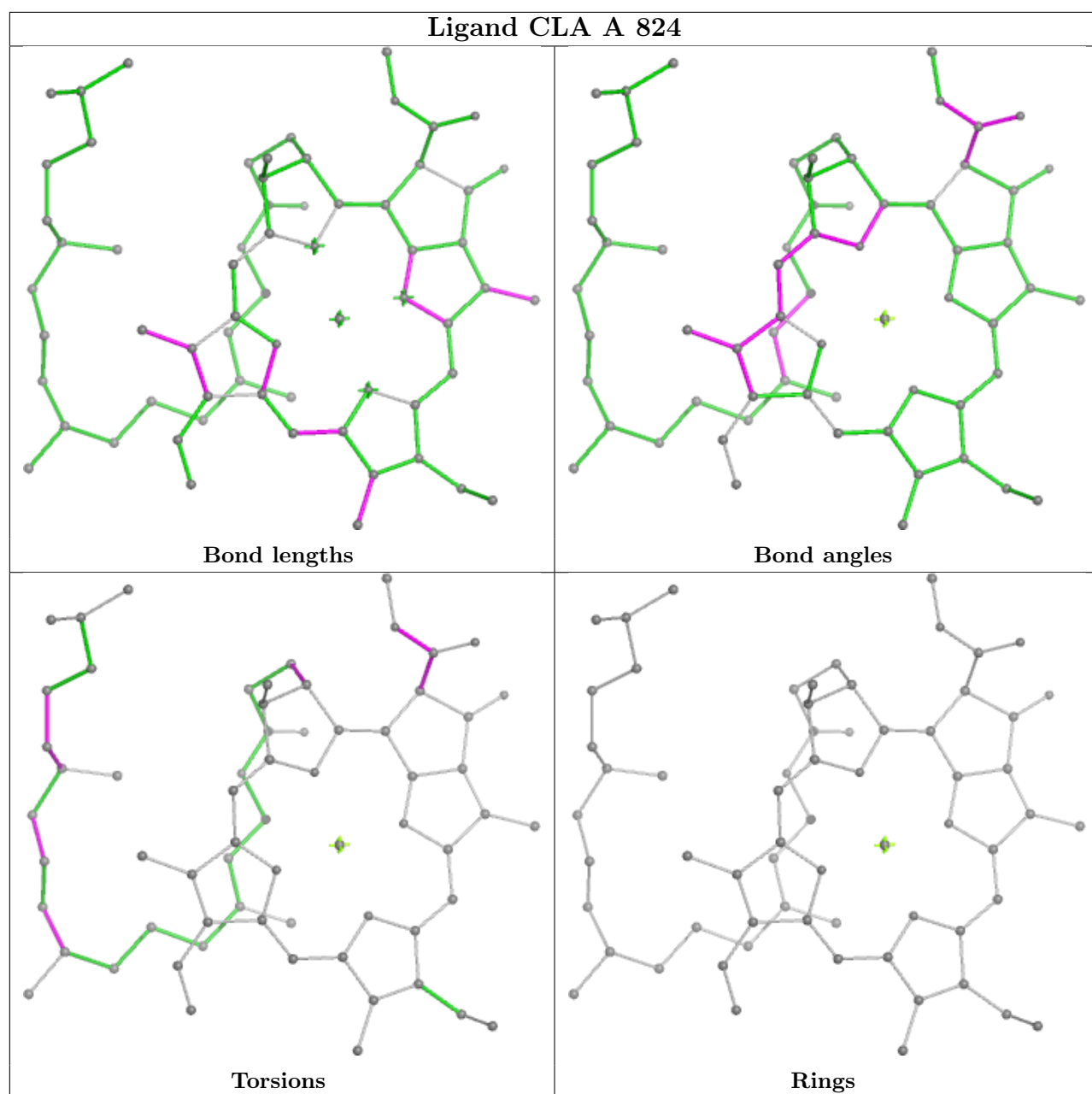




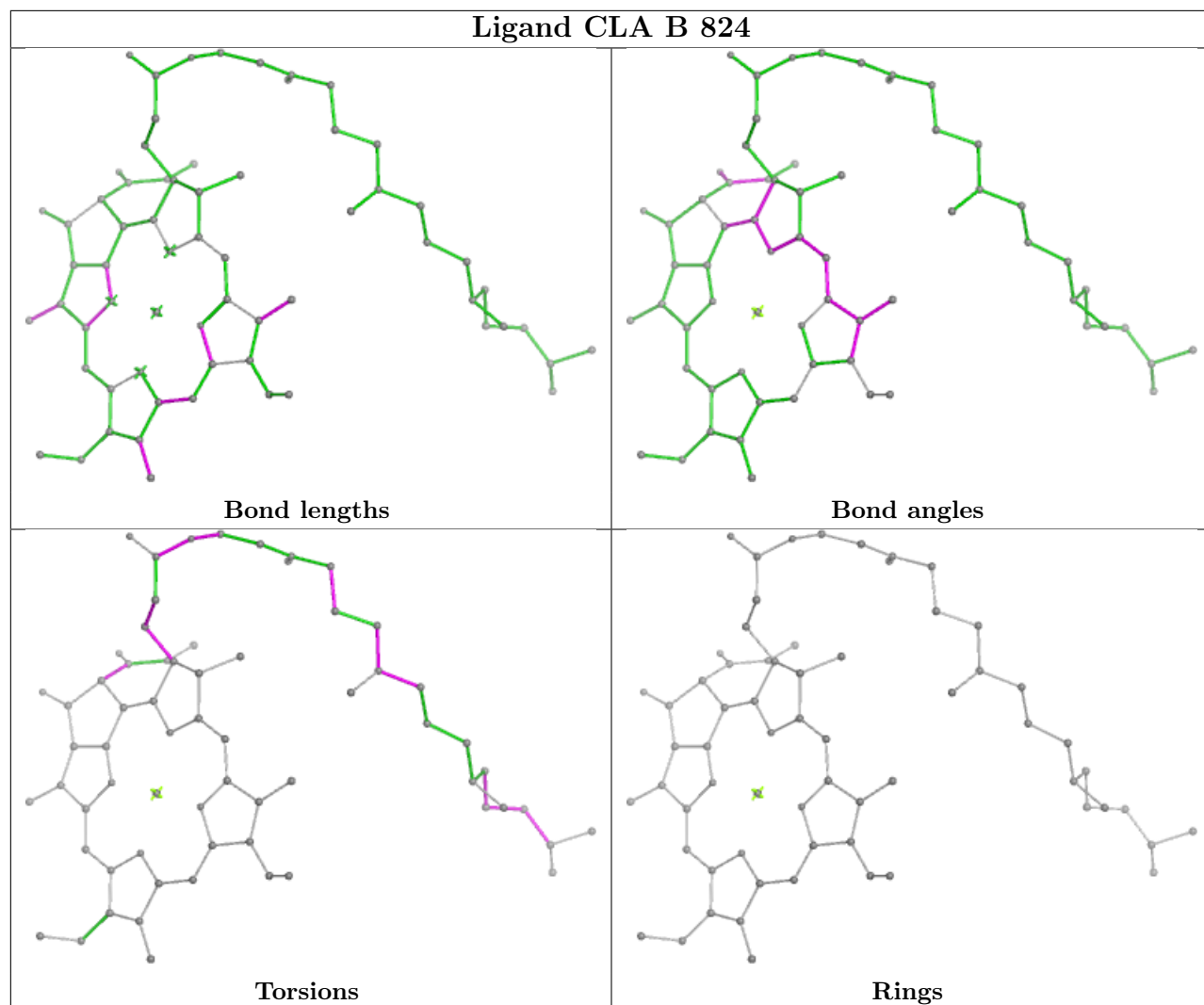


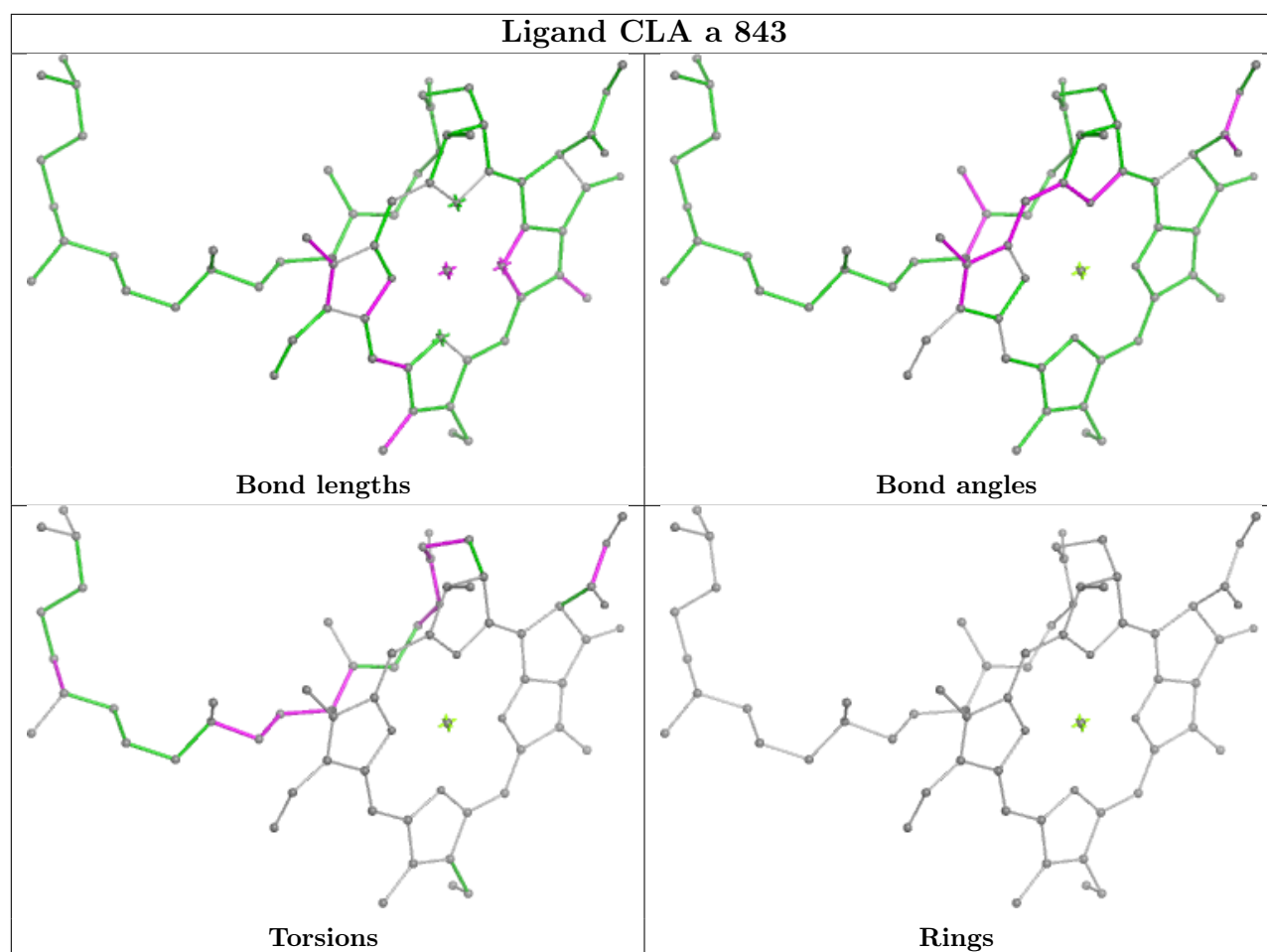
## Ligand CLA a 808

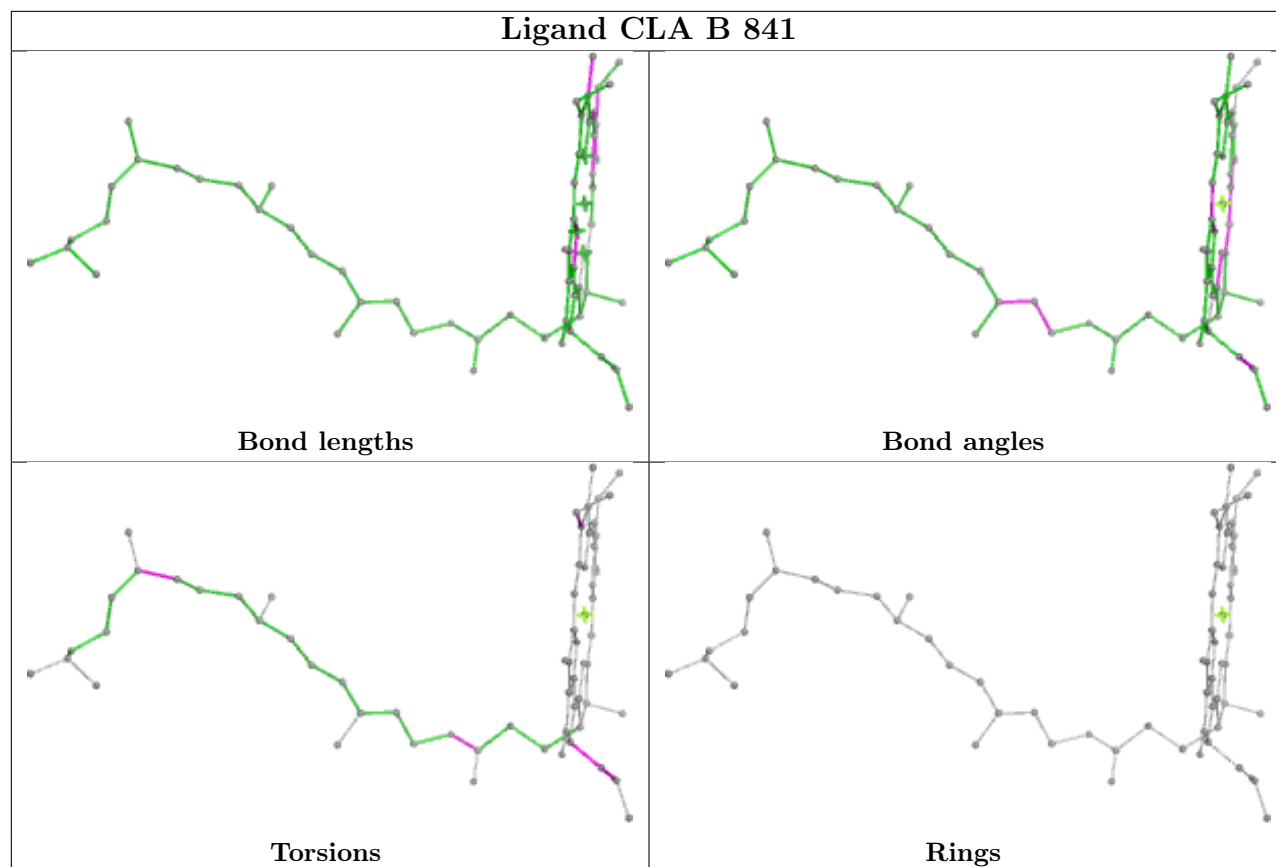
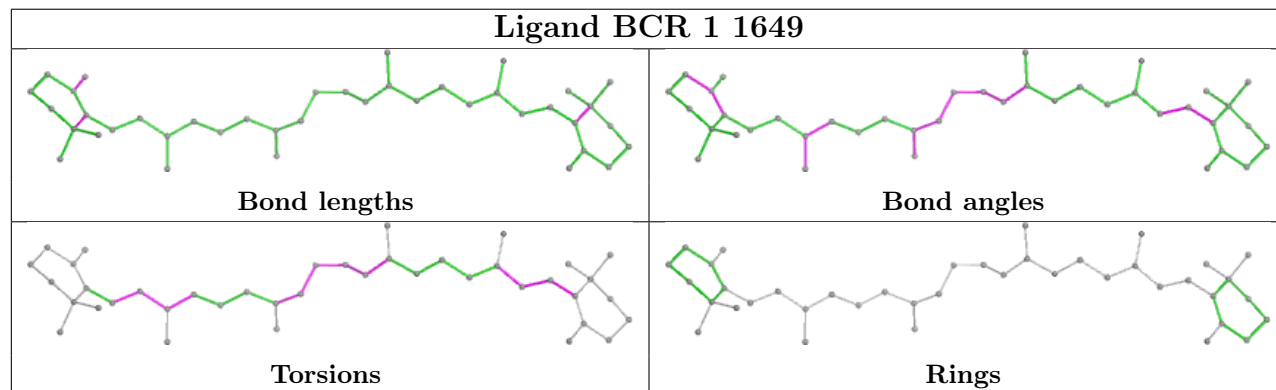
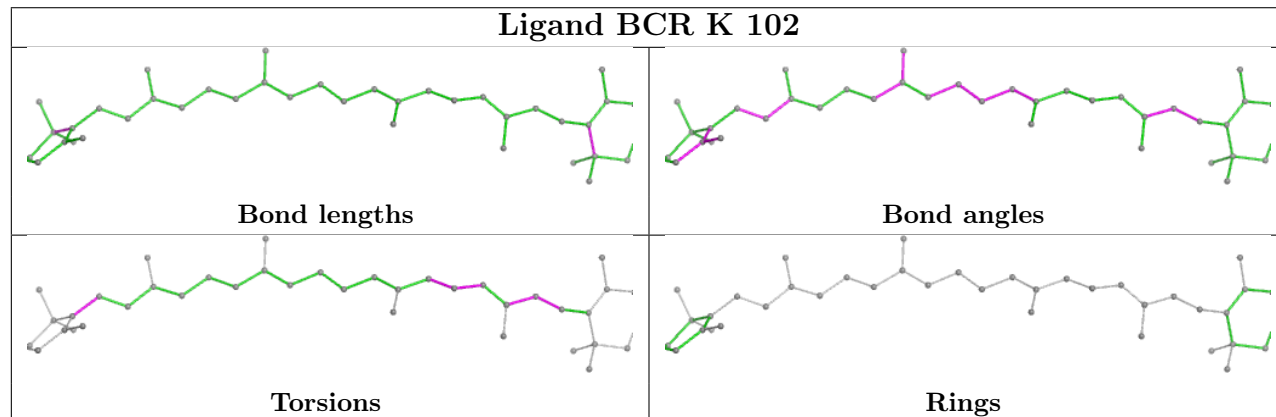


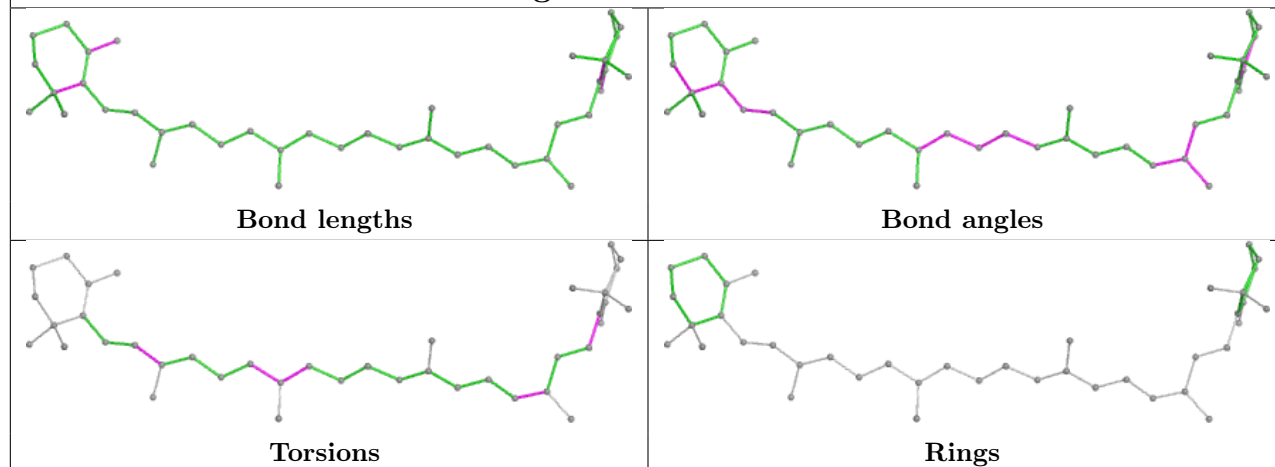
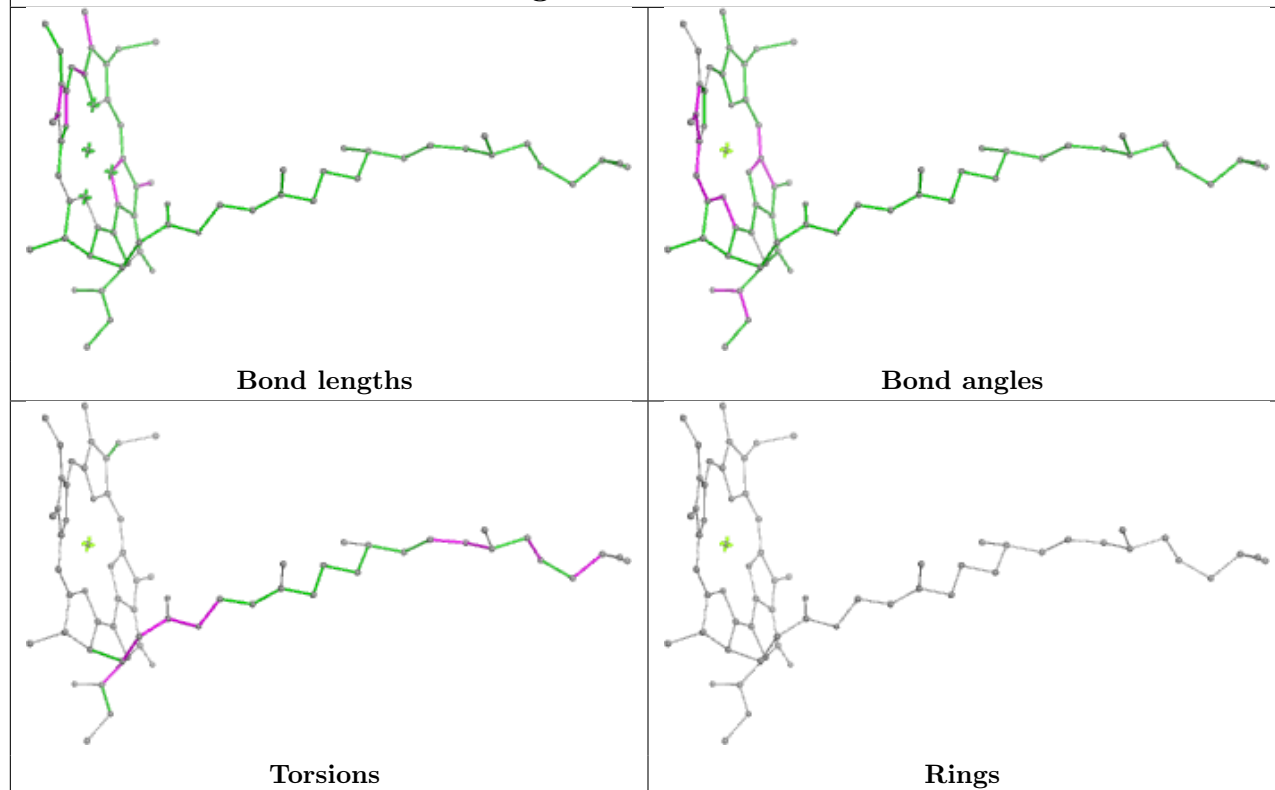


## Ligand CLA B 824

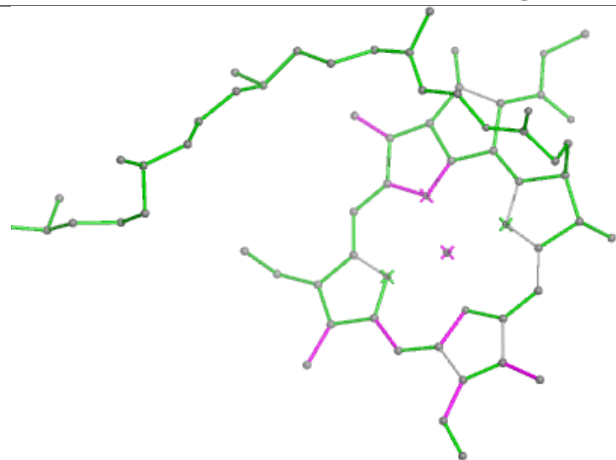




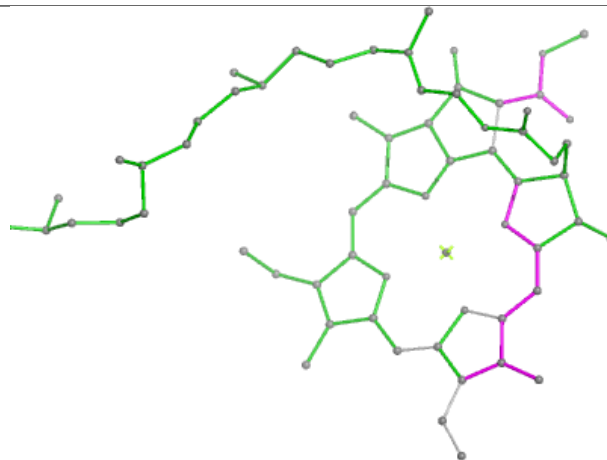
**Ligand CLA B 841****Ligand BCR 1 1649****Ligand BCR K 102**

**Ligand BCR 0 203****Ligand CLA B 828**

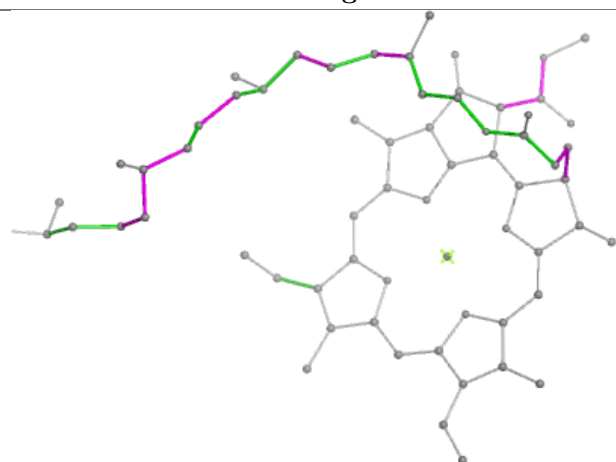
## Ligand CLA A 830



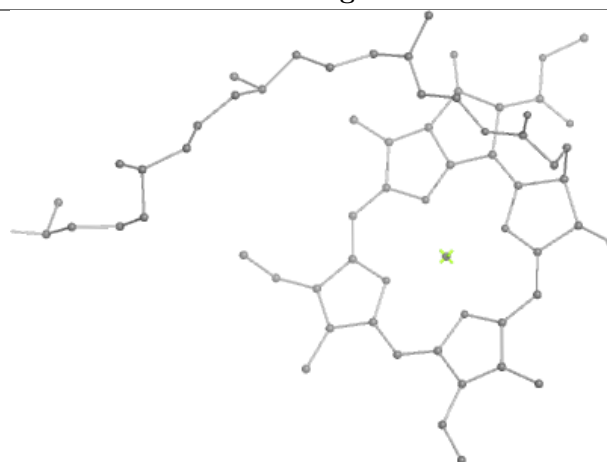
Bond lengths



Bond angles

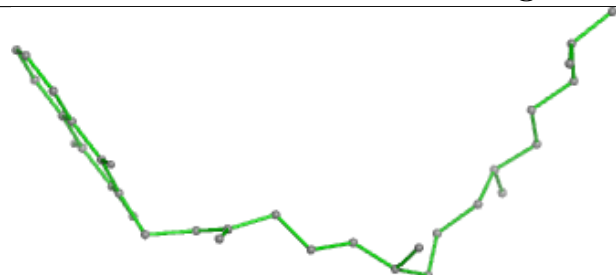


Torsions

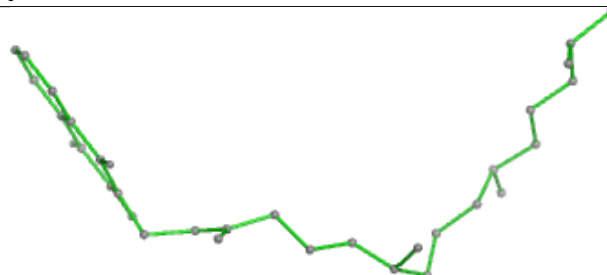


Rings

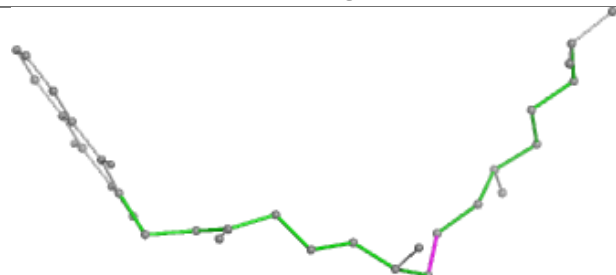
## Ligand PQN 2 843



Bond lengths



Bond angles



Torsions



Rings

## 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.



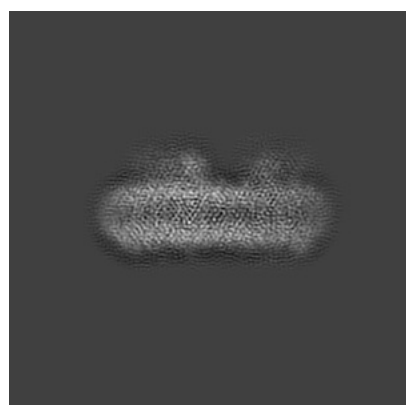
## 6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-10559. These allow visual inspection of the internal detail of the map and identification of artifacts.

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

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

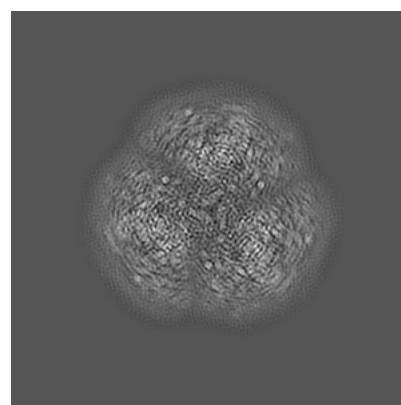
#### 6.1.1 Primary map



X



Y

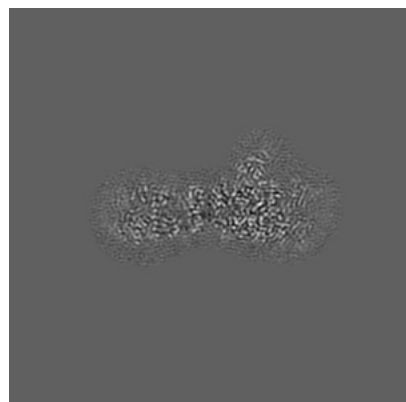


Z

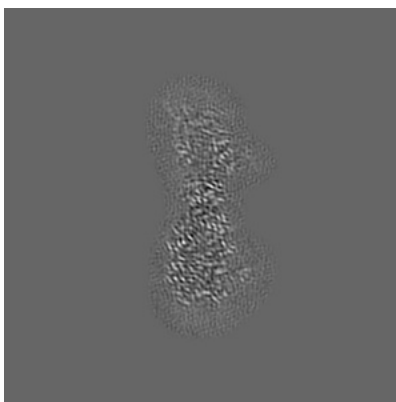
The images above show the map projected in three orthogonal directions.

### 6.2 Central slices [i](#)

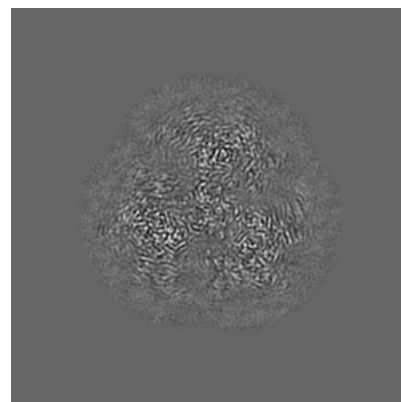
#### 6.2.1 Primary map



X Index: 280



Y Index: 280

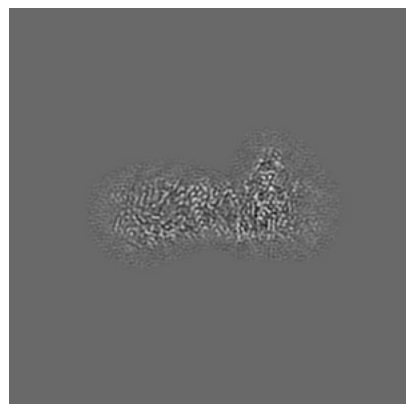


Z Index: 280

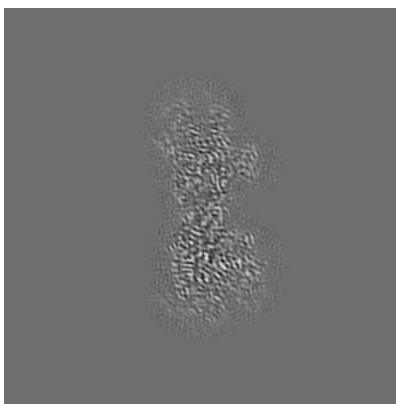
The images above show central slices of the map in three orthogonal directions.

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

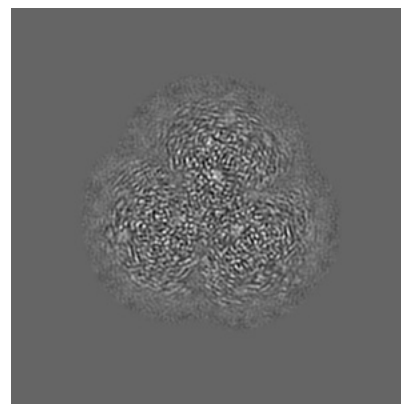
### 6.3.1 Primary map



X Index: 298



Y Index: 253

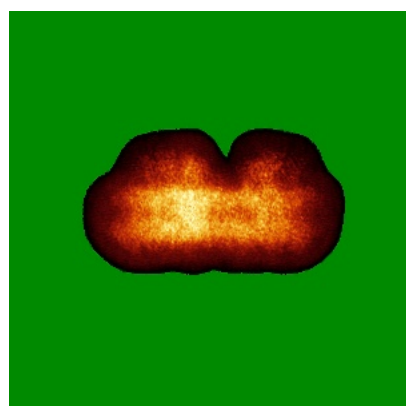


Z Index: 298

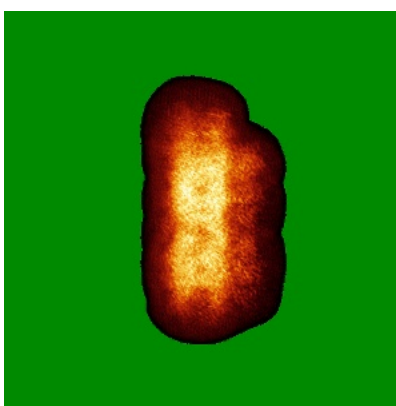
The images above show the largest variance slices of the map in three orthogonal directions.

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

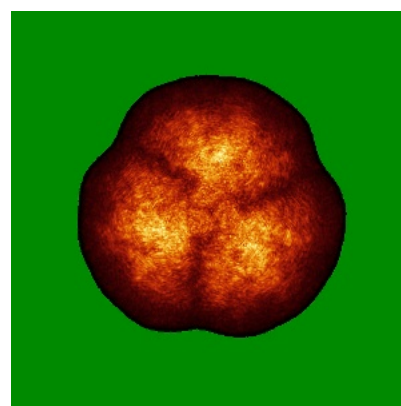
### 6.4.1 Primary map



X



Y

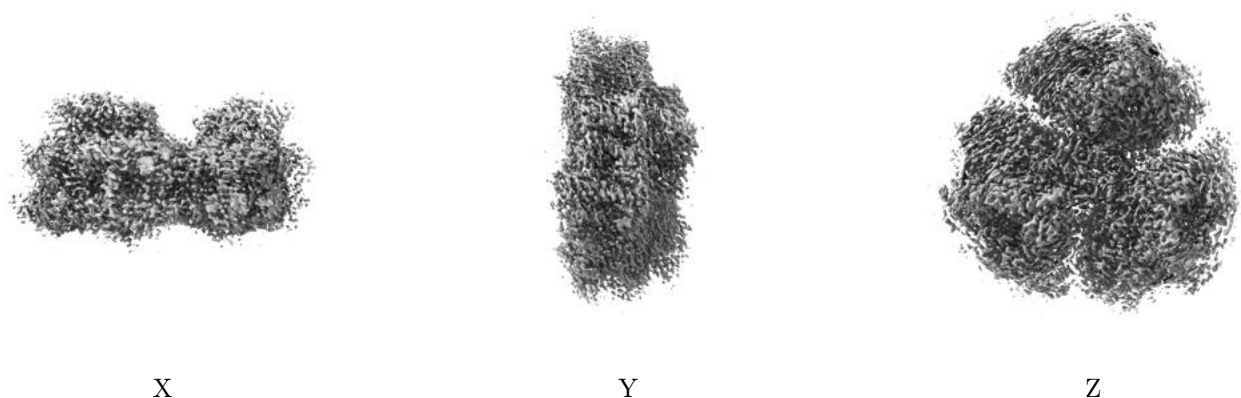


Z

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

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

### 6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.011. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

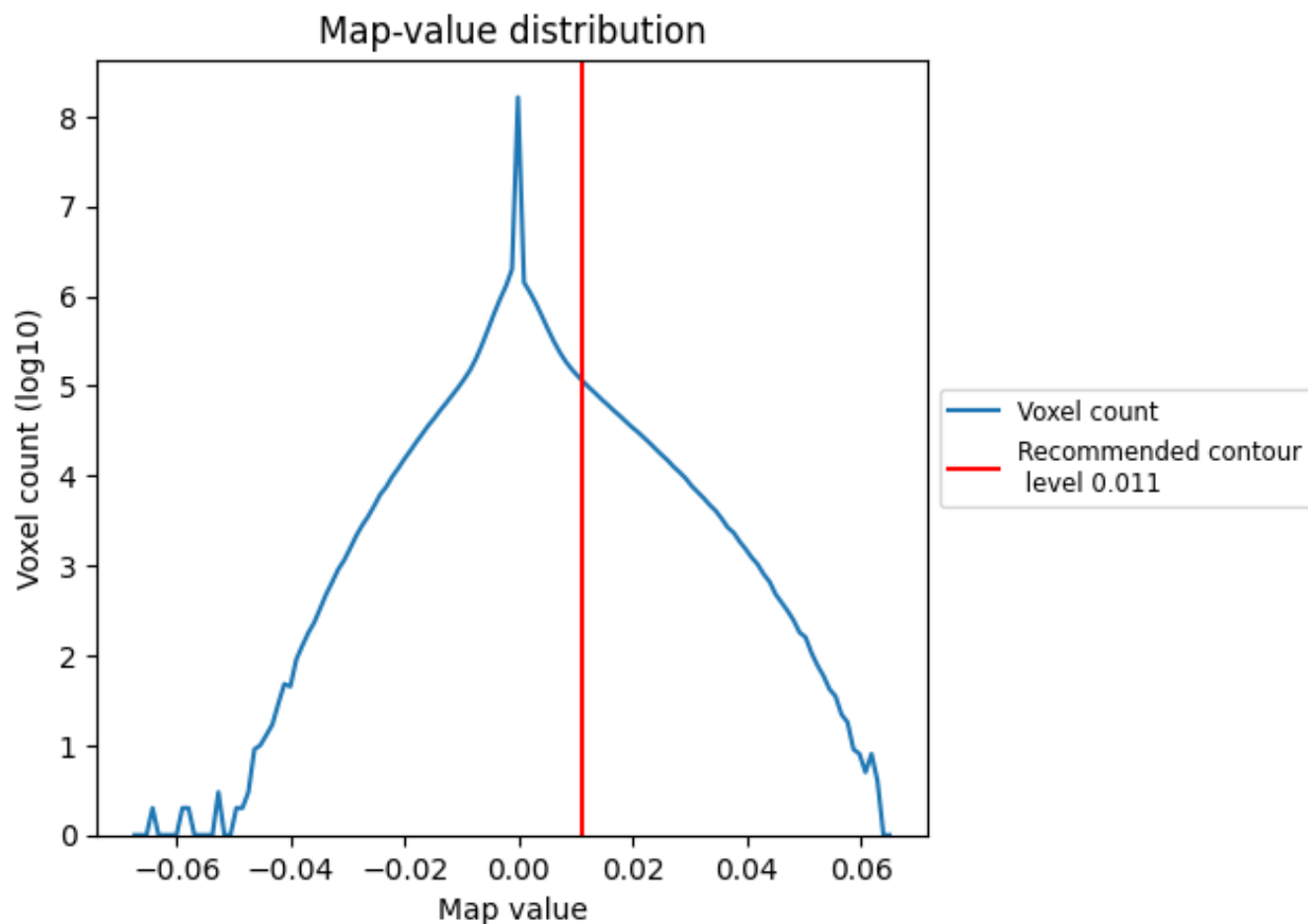
## 6.6 Mask visualisation [i](#)

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

## 7 Map analysis [i](#)

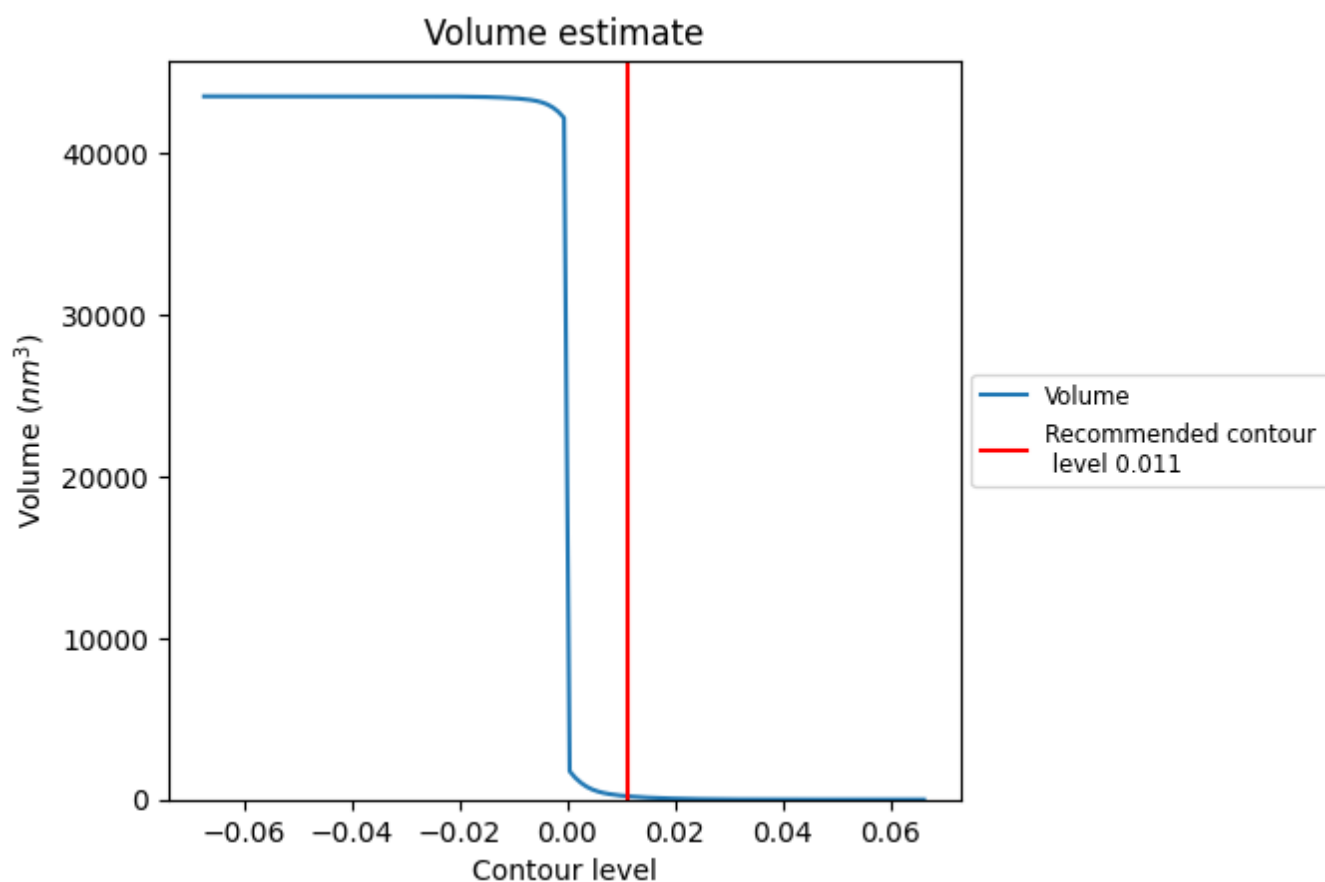
This section contains the results of statistical analysis of the map.

### 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.

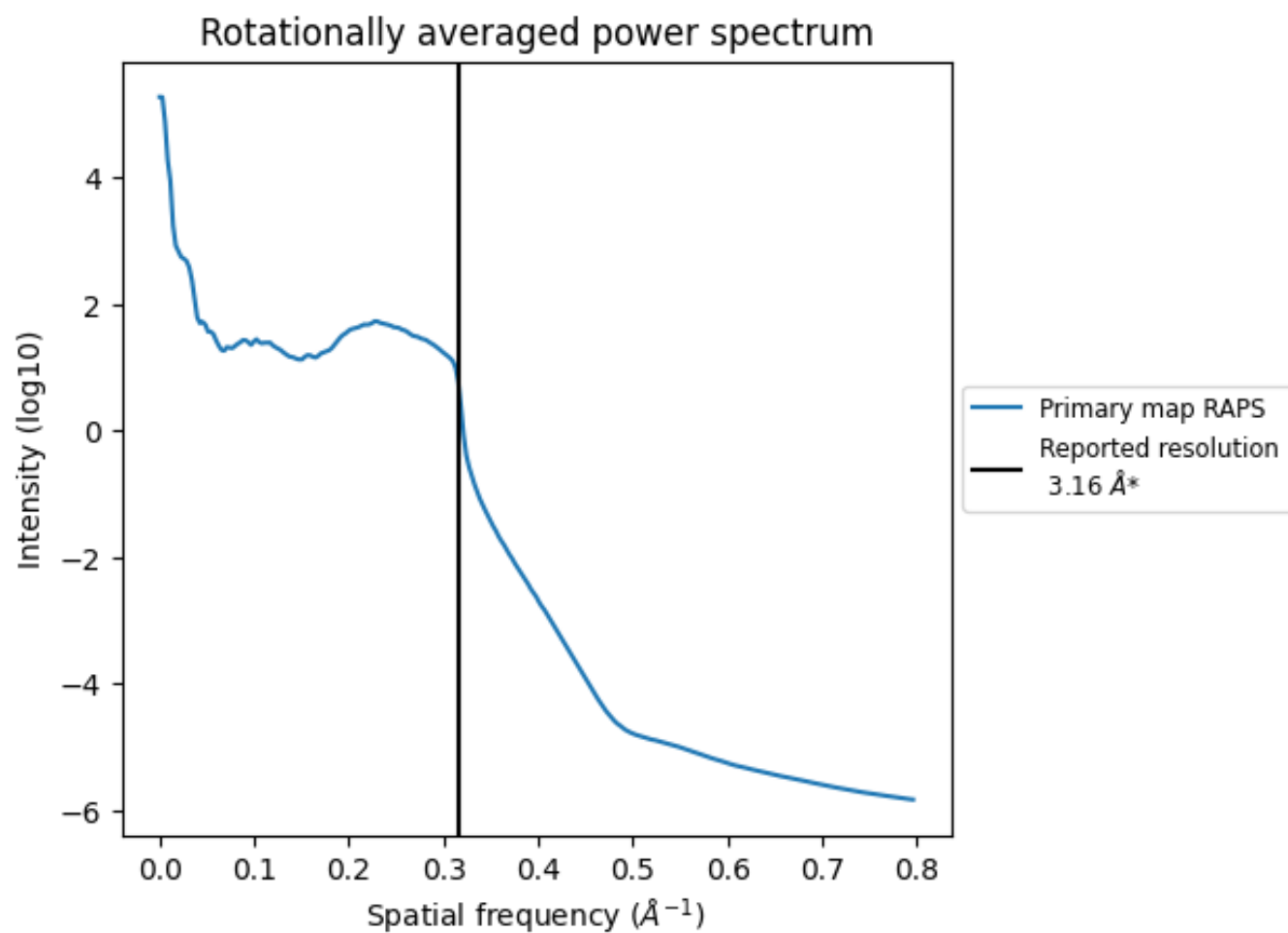
## 7.2 Volume estimate [i](#)



The volume at the recommended contour level is 212 nm<sup>3</sup>; this corresponds to an approximate mass of 191 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 ⓘ

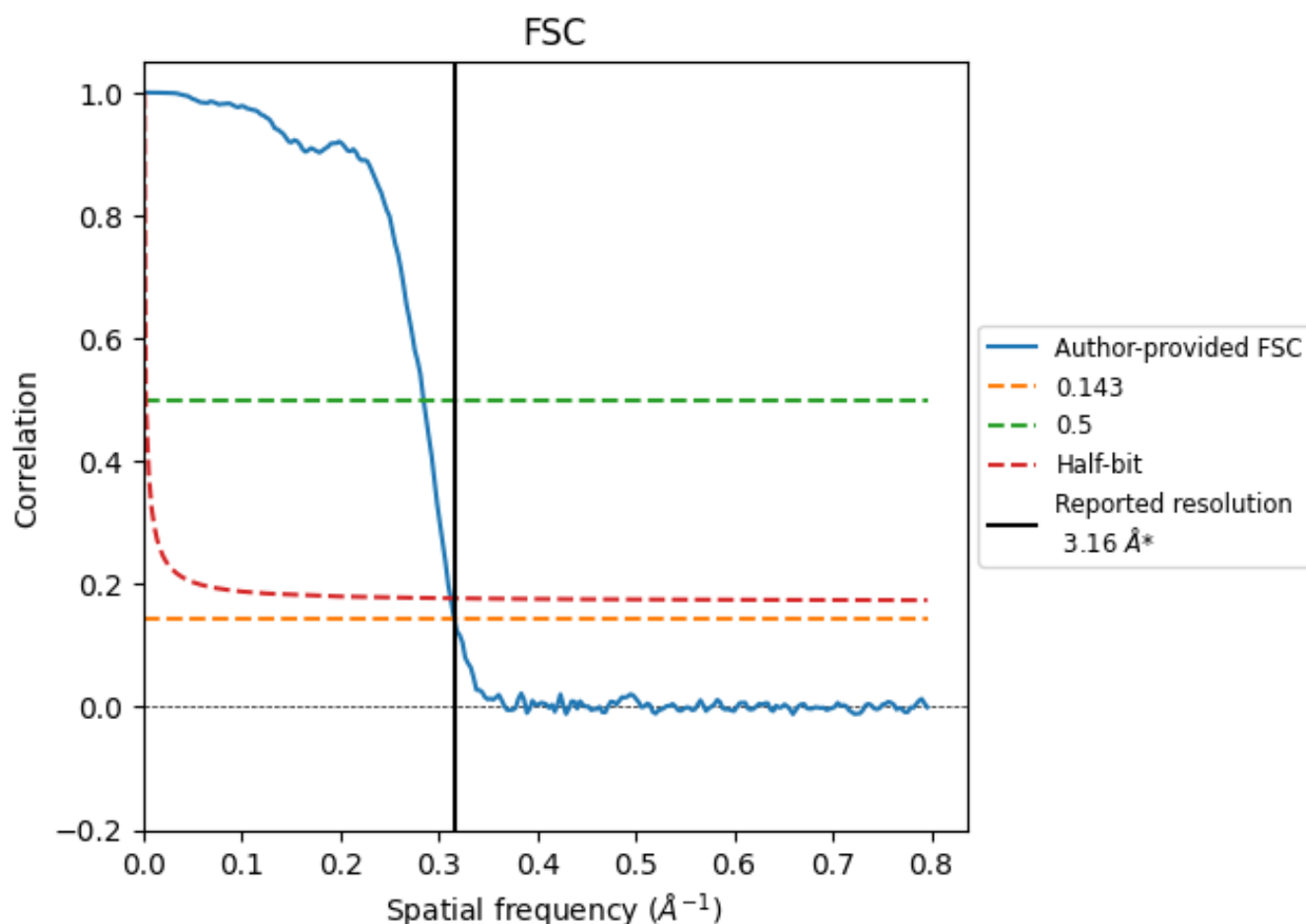


\*Reported resolution corresponds to spatial frequency of 0.316  $\text{\AA}^{-1}$

## 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 0.316 Å<sup>-1</sup>

## 8.2 Resolution estimates [i](#)

| Resolution estimate (Å)   | Estimation criterion (FSC cut-off) |      |          |
|---------------------------|------------------------------------|------|----------|
|                           | 0.143                              | 0.5  | Half-bit |
| Reported by author        | 3.16                               | -    | -        |
| Author-provided FSC curve | 3.17                               | 3.51 | 3.20     |
| Unmasked-calculated*      | -                                  | -    | -        |

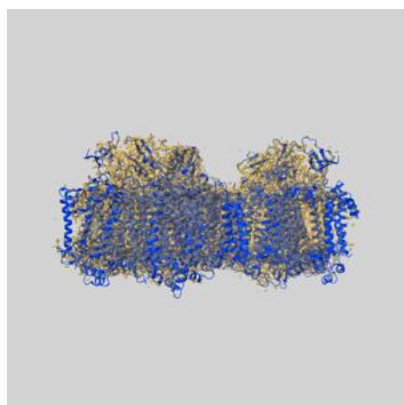
\*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps.



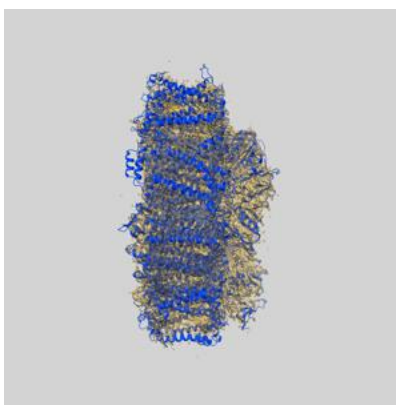
## 9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-10559 and PDB model 6TRD. Per-residue inclusion information can be found in section [3](#) on page [39](#).

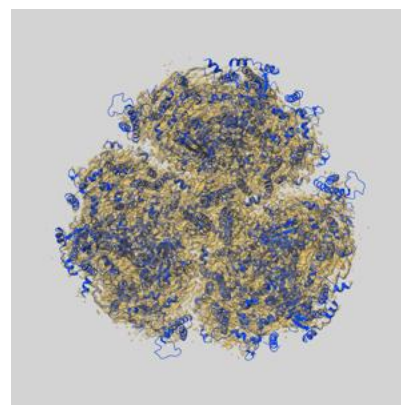
### 9.1 Map-model overlay [i](#)



X



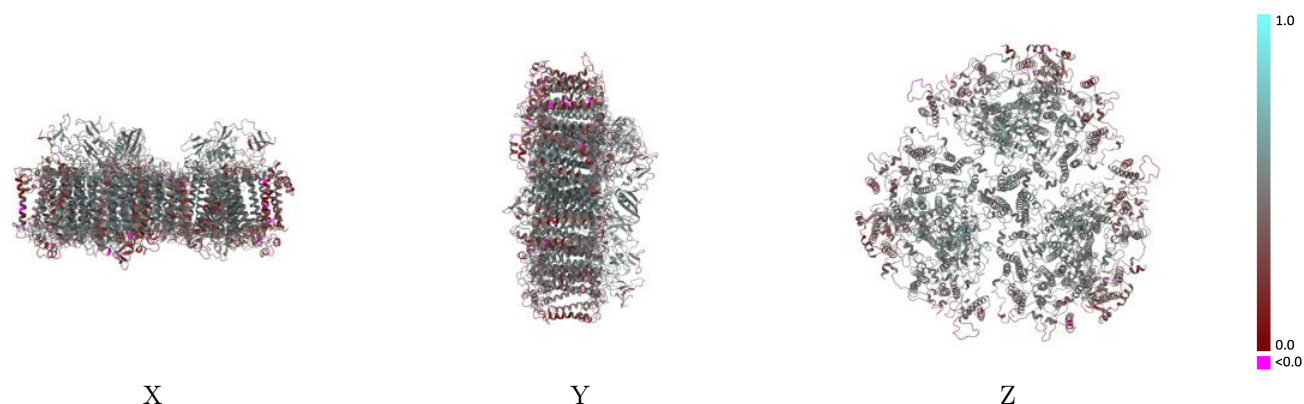
Y



Z

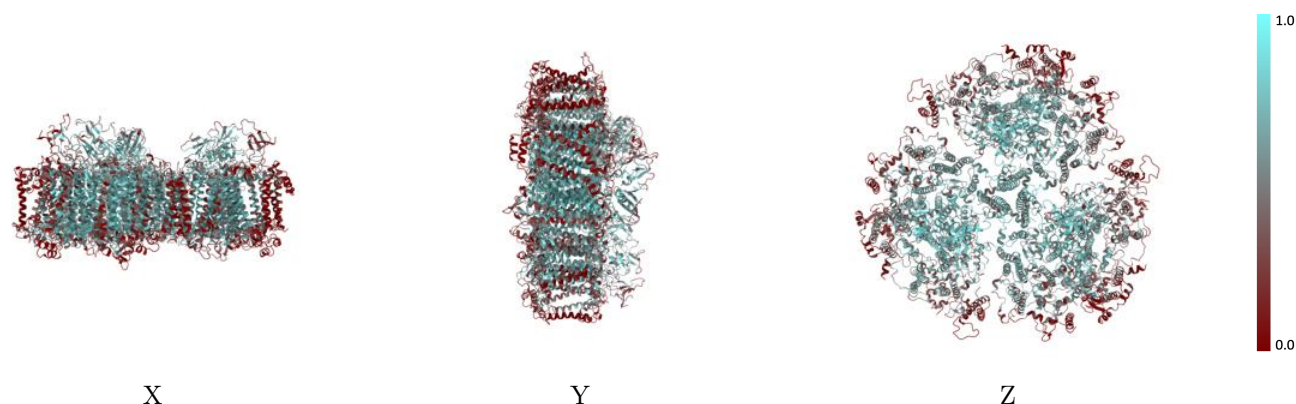
The images above show the 3D surface view of the map at the recommended contour level 0.011 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



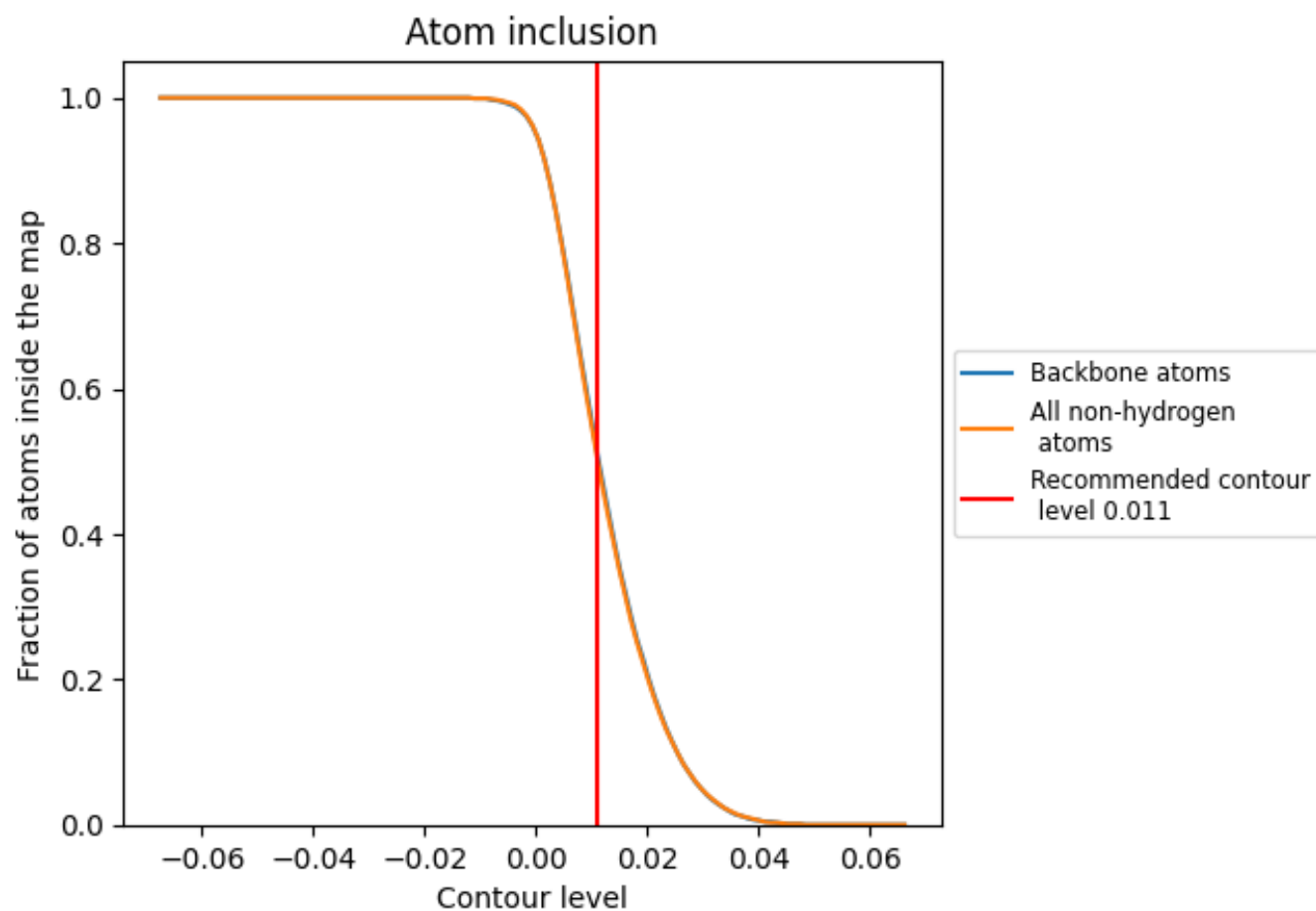
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.011).

## 9.4 Atom inclusion [i](#)



At the recommended contour level, 51% of all backbone atoms, 50% 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 (0.011) and Q-score for the entire model and for each chain.

| Chain | Atom inclusion                                                                             | Q-score                                                                                    |
|-------|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| All   |  0.5030   |  0.4500   |
| 0     |  0.6800   |  0.5210   |
| 1     |  0.5780   |  0.4730   |
| 2     |  0.5740   |  0.4770   |
| 3     |  0.6630   |  0.4830   |
| 4     |  0.5650   |  0.4700   |
| 5     |  0.3820   |  0.4120   |
| 6     |  0.2120   |  0.3470   |
| 7     |  0.6730   |  0.5060   |
| 8     |  0.1880   |  0.3310   |
| 9     |  0.1280   |  0.3720   |
| A     |  0.5250   |  0.4540   |
| B     |  0.5130   |  0.4490   |
| C     |  0.6830   |  0.4970   |
| D     |  0.5520  |  0.4870  |
| E     |  0.3260 |  0.4300 |
| F     |  0.1000 |  0.2840 |
| I     |  0.6640 |  0.5280 |
| J     |  0.1140 |  0.3370 |
| K     |  0.1480 |  0.3590 |
| L     |  0.6840 |  0.5250 |
| M     |  0.4780 |  0.4820 |
| X     |  0.0000 |  0.1740 |
| a     |  0.5030 |  0.4360 |
| b     |  0.5760 |  0.4770 |
| c     |  0.6120 |  0.4930 |
| d     |  0.5010 |  0.4630 |
| e     |  0.3390 |  0.4240 |
| f     |  0.1730 |  0.3380 |
| i     |  0.7050 |  0.5110 |
| j     |  0.1620 |  0.3670 |
| k     |  0.0590 |  0.2860 |
| l     |  0.6620 |  0.5180 |
| m     |  0.5240 |  0.4520 |
| x     |  0.0110 |  0.2250 |



*Continued on next page...*

*Continued from previous page...*

| Chain | Atom inclusion                                                                           | Q-score                                                                                  |
|-------|------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| y     |  0.5120 |  0.4820 |
| z     |  0.0220 |  0.2350 |