

Integrative Structure Validation Report

July 22, 2024 - 04:08 PM PDT

The following software was used in the production of this report:

Python-IHM Version 1.3

MolProbity Version 4.5.2

Integrative Modeling Validation Version 1.2

| | |
|-------------------|---|
| PDB ID | 9A0G |
| PDB-Dev ID | PDBDEV_00000052 |
| Structure Title | Integrative model of Nup116 knockout (at 25C) yeast nuclear pore complex |
| Structure Authors | Vasileios Rantos; Matteo Allegretti; Christian E. Zimmerli; Florian Wilfling; Paolo Ronchi; Herman K.H. Fung; Chia-Wei Lee; Wim Hagen; Beata Turonova; Kai Karius; Mandy Boermel; Xiaojie Zhang; Christoph Mueller; Yannick Schwab; Julia Mahamid; Boris Pfander; Martin Beck; Jan Kosinski |

This is a PDB-Dev IM Structure Validation Report for a publicly released PDB-Dev entry.

We welcome your comments at pdb-dev@mail.wwpdb.org

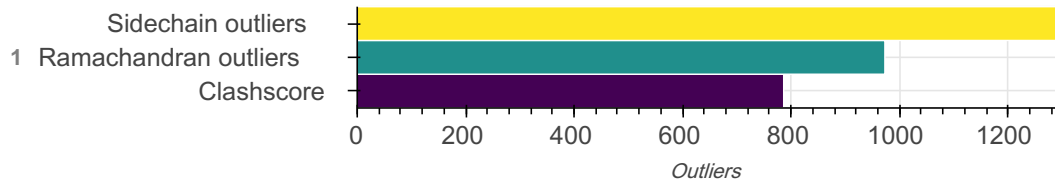
A user guide is available at https://pdb-dev.wwpdb.org/validation_help.html with specific help available everywhere you see the  symbol.

List of references used to build this report is available [here](#).

Overall quality

This validation report contains model quality assessments for all structures, data quality assessment for SAS datasets and fit to model assessments for SAS datasets. Data quality and fit to model assessments for other datasets and model uncertainty are under development. Number of plots is limited to 256.

Model Quality: MolProbity Analysis



Ensemble information ?

This entry consists of 0 distinct ensemble(s).

Summary ?

This entry consists of 1 unique models, with 38 subunits in each model. A total of 6 datasets or restraints were used to build this entry. Each model is represented by 0 rigid bodies and 38 flexible or non-rigid units.

Entry composition ?

There is 1 unique type of models in this entry. This model is titled None/None.

| Model ID | Subunit number | Subunit ID | Subunit name | Chain ID | Chain ID [auth] | Total residues |
|----------|----------------|------------|--------------|----------|-----------------|----------------|
| 1 | 1 | 1 | Nup133 | K1 | K1 | 1157 |
| 1 | 2 | 1 | Nup133 | K2 | K2 | 1157 |
| 1 | 3 | 2 | Nup84 | L1 | L1 | 726 |
| 1 | 4 | 2 | Nup84 | L2 | L2 | 726 |
| 1 | 5 | 3 | Nup145c | M1 | M1 | 712 |
| 1 | 6 | 3 | Nup145c | M2 | M2 | 712 |
| 1 | 7 | 4 | Sec13 | N1 | N1 | 297 |
| 1 | 8 | 4 | Sec13 | N2 | N2 | 297 |
| 1 | 9 | 5 | Seh1 | O1 | O1 | 349 |
| 1 | 10 | 5 | Seh1 | O2 | O2 | 349 |
| 1 | 11 | 6 | Nup85 | P1 | P1 | 744 |

| Model ID | Subunit number | Subunit ID | Subunit name | Chain ID | Chain ID [auth] | Total residues |
|----------|----------------|------------|--------------|----------|-----------------|----------------|
| 1 | 12 | 6 | Nup85 | P2 | P2 | 744 |
| 1 | 13 | 7 | Nup120 | R1 | R1 | 1037 |
| 1 | 14 | 7 | Nup120 | R2 | R2 | 1037 |
| 1 | 15 | 8 | Nic96 | A1 | A1 | 839 |
| 1 | 16 | 8 | Nic96 | A2 | A2 | 839 |
| 1 | 17 | 8 | Nic96 | A3 | A3 | 839 |
| 1 | 18 | 8 | Nic96 | A4 | A4 | 839 |
| 1 | 19 | 9 | Nup188 | B1 | B1 | 1655 |
| 1 | 20 | 9 | Nup188 | B2 | B2 | 1655 |
| 1 | 21 | 10 | Nup157 | D1 | D1 | 1391 |
| 1 | 22 | 10 | Nup157 | D2 | D2 | 1391 |
| 1 | 23 | 11 | Nup57 | H1 | H1 | 541 |
| 1 | 24 | 11 | Nup57 | H2 | H2 | 541 |
| 1 | 25 | 11 | Nup57 | H3 | H3 | 541 |
| 1 | 26 | 11 | Nup57 | H4 | H4 | 541 |
| 1 | 27 | 12 | Nup49 | I1 | I1 | 472 |
| 1 | 28 | 12 | Nup49 | I2 | I2 | 472 |
| 1 | 29 | 12 | Nup49 | I3 | I3 | 472 |
| 1 | 30 | 12 | Nup49 | I4 | I4 | 472 |
| 1 | 31 | 13 | Nsp1 | J1 | J1 | 823 |
| 1 | 32 | 13 | Nsp1 | J2 | J2 | 823 |
| 1 | 33 | 13 | Nsp1 | J3 | J3 | 823 |
| 1 | 34 | 13 | Nsp1 | J4 | J4 | 823 |

| Model ID | Subunit number | Subunit ID | Subunit name | Chain ID | Chain ID [auth] | Total residues |
|----------|----------------|------------|--------------|----------|-----------------|----------------|
| 1 | 35 | 14 | Nup192 | C1 | C1 | 1683 |
| 1 | 36 | 14 | Nup192 | C2 | C2 | 1683 |
| 1 | 37 | 15 | Nup170 | d1 | d1 | 1502 |
| 1 | 38 | 15 | Nup170 | d2 | d2 | 1502 |

Datasets used for modeling ?

There are 6 unique datasets used to build the models in this entry.

| ID | Dataset type | Database name | Data access code |
|----|-------------------|---------------|---|
| 1 | 3DEM volume | EMDB | EMD-10660 |
| 2 | 3DEM volume | File | 10.5281/zenodo.3820319 |
| 3 | Integrative model | PDB-Dev | PDBDEV_00000051 |
| 4 | Integrative model | PDB-Dev | PDBDEV_00000051 |
| 5 | Integrative model | PDB-Dev | PDBDEV_00000051 |
| 6 | Other | File | https://doi.org/10.1038/nsmb1194 |

Representation ?

This entry has only one representation and includes 0 rigid bodies and 38 flexible units

| Chain ID | Rigid bodies | Non-rigid segments |
|----------|--------------|--------------------|
| K1 | - | 1-1157 |
| L1 | - | 1-726 |
| M1 | - | 1-712 |
| N1 | - | 1-297 |

| Chain ID | Rigid bodies | Non-rigid segments |
|----------|--------------|--------------------|
| O1 | - | 1-349 |
| P1 | - | 1-744 |
| R1 | - | 1-1037 |
| K2 | - | 1-1157 |
| L2 | - | 1-726 |
| M2 | - | 1-712 |
| N2 | - | 1-297 |
| O2 | - | 1-349 |
| P2 | - | 1-744 |
| R2 | - | 1-1037 |
| A1 | - | 1-839 |
| B1 | - | 1-1655 |
| D1 | - | 1-1391 |
| H1 | - | 1-541 |
| I1 | - | 1-472 |
| J1 | - | 1-823 |
| A2 | - | 1-839 |
| C1 | - | 1-1683 |
| H2 | - | 1-541 |
| I2 | - | 1-472 |
| J2 | - | 1-823 |
| d1 | - | 1-1502 |
| A3 | - | 1-839 |

| Chain ID | Rigid bodies | Non-rigid segments |
|----------|--------------|--------------------|
| C2 | - | 1-1683 |
| H3 | - | 1-541 |
| I3 | - | 1-472 |
| J3 | - | 1-823 |
| d2 | - | 1-1502 |
| A4 | - | 1-839 |
| B2 | - | 1-1655 |
| D2 | - | 1-1391 |
| H4 | - | 1-541 |
| I4 | - | 1-472 |
| J4 | - | 1-823 |

Methodology and software

This entry is a result of 1 distinct protocol(s).

| Step number | Protocol ID | Method name | Method type | Method description | Number of computed models | Multi state modeling | Multi scale modeling |
|-------------|-------------|--|--|--------------------|---------------------------|----------------------|----------------------|
| 1 | 1 | Monte Carlo simulated annealing optimization for CR Y-complex, NR Y-complex and IR asymmetric unit | Monte Carlo simulated annealing optimization of multiple rigid bodies with IMP | None | None | False | False |

There is 1 software package reported in this entry.

| ID | Software name | Software version | Software classification | Software location |
|----|---|------------------|----------------------------|---|
| 1 | Integrative Modeling Platform (IMP) | 2.9.0 | integrative model building | https://integrativemodeling.org |

Data quality

3DEM volume

Validation for this section is under development.

Model quality

For models with atomic structures, molprobtity analysis is performed. For models with coarse-grained or multi-scale structures, excluded volume analysis is performed.

Standard geometry: bond outliers

Bond length outliers can not be evaluated for this model

Standard geometry: angle outliers

There are 8756 angle outliers in this entry. A summary is provided below, and a detailed list of outliers can be found [here](#).

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------------------------|--------------------|-----------------|--------------------|
| N-CA-CB | 103.00 | 15.31 | 1 |
| N-CA-CB | 103.00 | 15.37 | 1 |
| CA-N-CD | 112.00 | 5.39 | 1 |
| CA-N-CD | 112.00 | 5.41 | 1 |
| CA-N-CA-N-CA-N-CD | 112.00 | 10.65 | 1 |
| CA-N-CD | 112.00 | 10.75 | 1 |
| C-N-C-N-CA-C-CA-C-CA-C-CA-C-CA-C-N | 116.90 | 19.75 | 1 |
| CA-C-N | 116.90 | 19.76 | 1 |
| CA-N-CD | 112.00 | 21.54 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--------------------------|--------------------|-----------------|--------------------|
| CA-N-CD | 112.00 | 21.55 | 1 |
| CA-N-CA-N-N-CA-CB | 103.00 | 172.86 | 1 |
| N-CA-CB | 103.00 | 172.76 | 1 |
| CA-C-CA-C-C-N-CA | 121.70 | 9.22 | 1 |
| C-N-CA | 121.70 | 9.26 | 1 |
| CA-N-CD | 112.00 | 24.89 | 1 |
| CA-N-CD | 112.00 | 24.91 | 1 |
| C-N-CA | 121.70 | 9.75 | 1 |
| C-N-CA | 121.70 | 9.77 | 1 |
| C-N-CA | 121.70 | 9.80 | 1 |
| C-N-CA | 121.70 | 9.82 | 1 |
| CA-C-CA-C-C-N-C-N-CA | 121.70 | 12.15 | 1 |
| C-N-C-N-CA | 121.70 | 12.23 | 1 |
| CA-N-CD | 112.00 | 27.14 | 1 |
| CA-N-CD | 112.00 | 27.15 | 1 |
| CA-C-O | 120.80 | 18.17 | 1 |
| CA-C-O | 120.80 | 18.22 | 1 |
| CA-N-CA-N-C-N-C-N-C-N-CA | 121.70 | 14.48 | 1 |
| C-N-CA | 121.70 | 14.49 | 1 |
| CA-N-CD | 112.00 | 28.83 | 2 |
| C-N-CA | 121.70 | 15.46 | 1 |
| C-N-CA | 121.70 | 15.50 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------------------------|--------------------|-----------------|--------------------|
| C-N-C-N-CA-N-CD | 112.00 | 30.04 | 1 |
| CA-N-CD | 112.00 | 30.05 | 1 |
| C-N-CA | 121.70 | 16.87 | 1 |
| C-N-CA | 121.70 | 16.88 | 1 |
| CA-C-CA-C-N-CA-CB | 110.50 | 11.82 | 1 |
| N-CA-CB | 110.50 | 11.85 | 1 |
| C-N-C-N-C-N-CA | 121.70 | 17.82 | 1 |
| C-N-CA | 121.70 | 17.82 | 1 |
| CA-N-CD | 112.00 | 31.47 | 1 |
| CA-N-CD | 112.00 | 31.49 | 1 |
| CA-N-CA-N-N-CA-N-CA-C-N-C-N-C-N-CA | 121.70 | 19.92 | 1 |
| C-N-CA | 121.70 | 20.00 | 1 |
| CA-N-CA-N-C-N-CA | 121.70 | 21.41 | 1 |
| C-N-CA | 121.70 | 21.48 | 1 |
| C-N-CA | 121.70 | 21.56 | 1 |
| C-N-CA | 121.70 | 21.58 | 1 |
| C-N-C-N-C-N-CA | 121.70 | 22.09 | 1 |
| C-N-CA | 121.70 | 22.10 | 1 |
| C-N-CA | 121.70 | 22.11 | 1 |
| C-N-CA | 121.70 | 22.19 | 1 |
| C-N-CA | 121.70 | 22.27 | 2 |
| CA-C-CA-C-C-N-CA | 121.70 | 22.89 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|----------------------------------|--------------------|-----------------|--------------------|
| C-N-CA | 121.70 | 22.93 | 1 |
| CA-C-N | 116.20 | 7.18 | 1 |
| CA-C-N | 116.20 | 7.22 | 1 |
| CA-C-CA-C-O-C-N | 123.00 | 36.35 | 1 |
| CA-C-N | 116.20 | 7.96 | 1 |
| O-C-N | 123.00 | 36.44 | 1 |
| CA-C-N | 116.20 | 8.00 | 1 |
| CA-N-CA-N-C-N-C-N-C-N-CA | 121.70 | 25.26 | 1 |
| C-N-CA | 121.70 | 25.32 | 1 |
| CA-N-CA-N-CA-C-N | 116.20 | 10.22 | 1 |
| CA-C-N | 116.20 | 10.26 | 1 |
| C-N-C-N-C-N-C-N-CA-C-N | 116.90 | 38.59 | 1 |
| CA-C-N | 116.90 | 38.65 | 1 |
| C-CA-CB | 110.10 | 11.07 | 1 |
| C-CA-CB | 110.10 | 11.10 | 1 |
| CA-N-CA-N-C-N-C-N-C-N-C-N-CA-C-N | 116.90 | 39.27 | 1 |
| CA-C-N | 116.90 | 39.34 | 1 |
| C-N-CA | 121.70 | 28.72 | 1 |
| C-N-CA | 121.70 | 28.78 | 1 |
| C-N-CA | 121.70 | 28.80 | 1 |
| C-N-CA | 121.70 | 28.82 | 1 |
| C-N-CA | 121.70 | 29.04 | 2 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------------------------|--------------------|-----------------|--------------------|
| C-N-CA | 121.70 | 29.08 | 1 |
| C-N-CA | 121.70 | 29.11 | 1 |
| CA-C-CA-C-CA-N-CA-N-C-N-CA | 121.70 | 30.17 | 1 |
| C-N-CA | 121.70 | 30.19 | 1 |
| CA-C-CA-C-C-N-C-N-N-CA-N-CA-C-N-CA | 121.70 | 30.49 | 1 |
| C-N-CA | 121.70 | 30.54 | 1 |
| N-CA-CB | 110.40 | 34.78 | 1 |
| N-CA-CB | 110.40 | 34.79 | 1 |
| C-N-C-N-C-N-C-N-CA-C-O | 120.80 | 35.60 | 1 |
| CA-C-O | 120.80 | 35.69 | 1 |
| CA-C-O | 120.80 | 35.91 | 1 |
| CA-C-O | 120.80 | 35.97 | 1 |
| CA-N-CA-N-CA-C-N | 116.20 | 17.44 | 1 |
| CA-C-CA-C-N | 116.20 | 17.47 | 1 |
| CA-C-C-N-C-N-C-N-C-N-CA-C-N | 116.20 | 18.80 | 1 |
| CA-C-N | 116.20 | 18.84 | 1 |
| CA-C-N | 116.20 | 18.90 | 1 |
| CA-C-N | 116.20 | 18.96 | 1 |
| C-N-CA | 121.70 | 34.48 | 1 |
| C-N-CA | 121.70 | 34.49 | 1 |
| O-C-O-C-CA-C-N | 116.20 | 19.75 | 1 |
| CA-C-N | 116.20 | 19.79 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------|--------------------|-----------------|--------------------|
| C-N-C-N-C-N-CA | 121.70 | 35.32 | 1 |
| C-N-CA | 121.70 | 35.34 | 1 |
| CA-C-O | 120.80 | 39.39 | 1 |
| CA-C-O | 120.80 | 39.51 | 1 |
| CA-C-N | 116.20 | 20.57 | 1 |
| CA-C-N | 116.20 | 20.61 | 1 |
| CA-C-N | 116.20 | 20.96 | 1 |
| CA-C-N | 116.20 | 20.97 | 1 |
| C-N-CA | 121.70 | 36.24 | 1 |
| C-N-CA | 121.70 | 36.26 | 1 |
| N-CA-CB | 110.50 | 29.82 | 1 |
| C-N-CA | 121.70 | 36.32 | 1 |
| C-N-CA | 121.70 | 36.34 | 1 |
| N-CA-CB | 110.50 | 29.91 | 1 |
| C-N-CA | 121.70 | 36.41 | 1 |
| C-N-CA | 121.70 | 36.42 | 1 |
| N-CA-CB | 110.50 | 30.12 | 1 |
| N-CA-CB | 110.50 | 30.17 | 1 |
| CA-C-CA-C-C-N-CA | 121.70 | 36.77 | 1 |
| C-N-CA | 121.70 | 36.78 | 1 |
| C-N-CA | 121.70 | 36.82 | 1 |
| C-N-CA | 121.70 | 36.88 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--------------------------------------|--------------------|-----------------|--------------------|
| CA-N-CA-N-CA-C-N | 116.20 | 22.21 | 1 |
| CA-C-N | 116.20 | 22.21 | 1 |
| CA-N-CD | 112.00 | 46.82 | 1 |
| CA-N-CD | 112.00 | 46.83 | 1 |
| C-N-C-N-N-CA-C-N-N-CA-C-N-C-N-C-N-CA | 121.70 | 39.23 | 1 |
| C-N-CA | 121.70 | 39.24 | 1 |
| C-N-C-CA-CB | 110.10 | 23.19 | 1 |
| C-CA-CB | 110.10 | 23.19 | 1 |
| CA-C-O | 120.80 | 43.05 | 1 |
| C-N-CA | 121.70 | 39.39 | 1 |
| CA-C-O | 120.80 | 43.08 | 1 |
| C-N-CA | 121.70 | 39.43 | 1 |
| CA-C-N | 116.20 | 24.80 | 1 |
| CA-C-N | 116.20 | 24.82 | 1 |
| CA-C-CA-C-CA-N-CD | 112.00 | 48.82 | 1 |
| CA-N-CD | 112.00 | 48.88 | 1 |
| C-N-C-N-C-N-C-N-N-CA-CB | 110.40 | 43.86 | 1 |
| N-CA-CB | 110.40 | 43.86 | 1 |
| N-CA-N-CA-CA-C-O | 120.80 | 46.69 | 1 |
| CA-C-CA-C-O | 120.80 | 46.78 | 1 |
| CA-C-O-C-N | 123.00 | 53.48 | 1 |
| C-N-CA | 121.70 | 43.83 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--------------------------------------|--------------------|-----------------|--------------------|
| C-N-CA | 121.70 | 43.84 | 1 |
| C-N-CA | 121.70 | 44.00 | 2 |
| C-N-CA | 121.70 | 44.44 | 1 |
| C-N-CA | 121.70 | 44.46 | 1 |
| CA-C-CA-C-CA-N-CA-N-CA-C-CA-C-CA-C-N | 116.20 | 31.68 | 1 |
| CA-C-N | 116.20 | 31.72 | 1 |
| C-N-C-N-CA | 121.70 | 46.65 | 1 |
| C-N-CA | 121.70 | 46.67 | 1 |
| C-N-N-CD-CG | 103.20 | 40.74 | 1 |
| N-CD-CG | 103.20 | 40.74 | 1 |
| CA-C-N | 116.20 | 32.92 | 1 |
| CA-C-N | 116.20 | 32.99 | 1 |
| CA-C-CA-C-CA-C-N | 116.20 | 34.04 | 1 |
| N-CA-CA-C-N | 116.20 | 34.16 | 1 |
| N-CA-N-CA-N-CA-CA-C-N | 116.20 | 34.60 | 1 |
| CA-C-N | 116.20 | 34.66 | 1 |
| C-CA-CB | 110.10 | 32.77 | 1 |
| C-CA-CB | 110.10 | 32.81 | 1 |
| CA-C-O | 120.80 | 51.73 | 1 |
| C-N-C-N-CA-C-O | 120.80 | 51.77 | 1 |
| C-N-C-N-N-CA-C | 112.10 | 10.82 | 1 |
| N-CA-C | 112.10 | 10.82 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--|--------------------|-----------------|--------------------|
| CA-C-N | 116.20 | 35.88 | 1 |
| CA-C-N | 116.20 | 35.89 | 1 |
| N-CA-N-CA-CB | 110.50 | 42.33 | 1 |
| N-CA-CB | 110.50 | 42.36 | 1 |
| N-CA-CA-C-N | 116.20 | 36.44 | 1 |
| CA-C-O | 120.80 | 53.02 | 1 |
| CA-C-O | 120.80 | 53.05 | 1 |
| CA-C-N | 116.20 | 36.50 | 1 |
| CA-C-O | 120.80 | 37.38 | 1 |
| CA-C-O | 120.80 | 37.47 | 1 |
| C-N-C-N-CA | 121.70 | 50.60 | 1 |
| C-N-CA-C-CA-C-C-N-CA | 121.70 | 50.67 | 1 |
| C-N-CA | 121.70 | 50.68 | 2 |
| C-N-CA | 121.70 | 51.04 | 1 |
| CA-C-CA-C-C-N-CA | 121.70 | 51.10 | 1 |
| C-N-CA | 121.70 | 51.17 | 1 |
| C-CA-C-CA-C-N-CA | 121.70 | 51.43 | 1 |
| N-CA-C | 111.00 | 1.75 | 2 |
| C-N-C-N-N-CA-N-CA-CA-C-CA-C-CA-C-CA-C-N-CA-C | 112.10 | 15.70 | 1 |
| N-CA-C | 112.10 | 15.72 | 1 |
| CA-C-CA-C-N | 116.20 | 39.27 | 1 |
| CA-C-CA-C-N | 116.20 | 39.34 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--------------------------|--------------------|-----------------|--------------------|
| CA-C-O | 120.80 | 55.65 | 1 |
| CA-C-O | 120.80 | 55.66 | 1 |
| CA-C-O | 120.80 | 55.67 | 1 |
| CA-C-O | 120.80 | 55.72 | 1 |
| N-CA-N-CA-CA-C-O | 120.80 | 55.97 | 1 |
| CA-C-O | 120.80 | 55.99 | 1 |
| CA-C-CA-C-C-N-C-N-CA-C-O | 120.80 | 56.26 | 1 |
| CA-C-O | 120.80 | 56.29 | 1 |
| CB-CG-OD1 | 120.80 | 44.93 | 1 |
| CB-CG-OD1 | 120.80 | 45.04 | 1 |
| N-CA-CB | 110.50 | 46.42 | 1 |
| N-CA-CB | 110.50 | 46.43 | 1 |
| CA-C-N | 116.20 | 40.83 | 1 |
| CA-C-N | 116.20 | 40.85 | 1 |
| N-CA-N-CA-N-CA-C | 112.10 | 18.61 | 1 |
| N-CA-C | 112.10 | 18.61 | 1 |
| N-CA-CB | 103.00 | 144.07 | 1 |
| N-CA-CB | 103.00 | 144.06 | 1 |
| N-CA-N-CA-C-N-C-N-CA | 121.70 | 54.69 | 1 |
| C-N-CA-C-N-CA-C | 111.00 | 6.85 | 1 |
| N-CA-C | 111.00 | 6.88 | 2 |
| N-CA-C | 111.00 | 6.90 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--|--------------------|-----------------|--------------------|
| CA-C-O | 120.80 | 57.62 | 1 |
| CA-C-CA-C-O | 120.80 | 57.64 | 1 |
| CA-C-O | 120.80 | 57.65 | 1 |
| CA-C-O | 120.80 | 57.66 | 1 |
| CA-C-O | 120.80 | 42.92 | 1 |
| CA-C-O | 120.80 | 42.99 | 1 |
| N-CA-C-N-CA | 121.70 | 55.04 | 1 |
| N-CA-N-CA-C | 111.00 | 7.75 | 1 |
| N-CA-C | 111.00 | 7.77 | 1 |
| N-CA-C | 111.00 | 7.79 | 1 |
| N-CA-C | 111.00 | 7.82 | 1 |
| N-CA-N-CA-N-CA-C | 111.00 | 8.09 | 1 |
| N-CA-C | 111.00 | 8.10 | 1 |
| CA-C-CA-C-N-CA-CA-C-N-CA-CA-C-CA-C-CA-C-N-CA-N-CA-N-CA-C | 111.00 | 8.47 | 1 |
| N-CA-C | 111.00 | 8.48 | 1 |
| C-N-CA | 121.70 | 56.24 | 1 |
| C-N-CA | 121.70 | 56.29 | 1 |
| N-CA-C | 111.00 | 9.34 | 1 |
| N-CA-C | 111.00 | 9.35 | 1 |
| C-N-CA | 121.70 | 56.58 | 1 |
| C-N-CA | 121.70 | 56.63 | 1 |
| N-CA-CB | 110.40 | 164.54 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---|--------------------|-----------------|--------------------|
| N-CA-CB | 110.40 | 164.53 | 1 |
| CA-C-O | 120.80 | 59.56 | 1 |
| CA-C-O | 120.80 | 59.58 | 1 |
| N-CA-C | 111.00 | 10.52 | 1 |
| N-CA-C | 111.00 | 10.55 | 1 |
| N-CA-C | 111.00 | 10.58 | 2 |
| N-CA-N-CA-N-CA-N-CA-N-CA-N-CA-N-CA-C | 111.00 | 10.87 | 1 |
| N-CA-C | 111.00 | 10.89 | 1 |
| CA-C-N | 116.20 | 44.71 | 1 |
| C-N-CA | 121.70 | 57.36 | 1 |
| CA-C-O | 120.80 | 60.06 | 1 |
| CA-C-N | 116.20 | 44.75 | 1 |
| C-N-CA | 121.70 | 57.40 | 1 |
| N-CA-C | 111.00 | 11.01 | 1 |
| N-CA-C | 111.00 | 11.02 | 1 |
| CA-C-O | 120.80 | 60.10 | 1 |
| C-CA-CB | 110.10 | 42.30 | 2 |
| N-CA-N-CA-N-CA-N-CA-CA-C-N | 116.20 | 44.89 | 1 |
| CA-C-N | 116.20 | 44.91 | 1 |
| N-CA-N-CA-N-CA-N-CA-N-CA-N-CA-N-CA-N-CA-N-CA-CB | 110.40 | 163.24 | 1 |
| N-CA-CB | 110.40 | 163.21 | 1 |
| CA-C-O | 120.80 | 60.96 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------------|--------------------|-----------------|--------------------|
| CA-C-O | 120.80 | 60.97 | 1 |
| CA-C-N-CD-N-CD-CA-C-N-CA-CB | 110.40 | 163.09 | 1 |
| CA-C-N-CA-CB | 110.50 | 50.82 | 1 |
| CA-C-N-CA-N-CA-N-CA-CB | 110.50 | 50.86 | 1 |
| N-CA-C | 111.00 | 12.78 | 1 |
| CA-C-N-CA-C | 111.00 | 12.80 | 1 |
| CA-C-N-CA-C | 111.00 | 12.82 | 1 |
| N-CA-C | 111.00 | 12.82 | 1 |
| C-CA-C-CA-N-CA-C | 111.00 | 12.93 | 1 |
| N-CA-C | 111.00 | 12.93 | 1 |
| N-CA-CB | 110.40 | 162.91 | 1 |
| N-CA-CB | 110.40 | 162.87 | 1 |
| N-CA-N-CA-N-CA-C | 111.00 | 13.12 | 1 |
| N-CA-C | 111.00 | 13.12 | 1 |
| N-CA-N-CA-N-CA-C | 111.00 | 13.13 | 1 |
| N-CA-C | 111.00 | 13.14 | 1 |
| N-CA-CB | 110.40 | 162.82 | 1 |
| CA-C-N | 116.20 | 46.35 | 1 |
| CA-C-N | 116.20 | 46.41 | 1 |
| CA-C-CA-C-N-CA-C | 111.00 | 13.36 | 1 |
| N-CA-C | 111.00 | 13.36 | 1 |
| N-CA-C | 111.00 | 13.52 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--|--------------------|-----------------|--------------------|
| N-CA-C | 111.00 | 13.54 | 1 |
| C-CA-CB | 110.10 | 43.98 | 1 |
| C-CA-CB | 110.10 | 44.00 | 1 |
| CA-C-N | 116.20 | 46.72 | 1 |
| N-CA-C | 111.00 | 13.75 | 1 |
| N-CA-C | 111.00 | 13.77 | 3 |
| CA-C-N | 116.20 | 46.83 | 1 |
| CA-C-O | 120.80 | 61.86 | 1 |
| CA-C-O | 120.80 | 61.88 | 1 |
| N-CA-N-CA-N-CA-N-CA-N-CA-N-CA-N-CA-C-CA-CB | 111.40 | 45.87 | 1 |
| C-CA-CB | 111.40 | 45.89 | 1 |
| N-CA-C | 111.00 | 14.48 | 2 |
| N-CA-N-CA-N-CA-N-CA-N-CA-N-CA-N-CA-CA-N-CD | 112.00 | 63.93 | 1 |
| CA-N-CD | 112.00 | 63.94 | 1 |
| N-CA-N-CA-N-CA-N-CA-N-CA-N-CA-N-CA-N-CA-C | 111.00 | 15.23 | 1 |
| N-CA-C | 111.00 | 15.25 | 1 |
| CA-C-CA-C-N-CA-C | 111.00 | 15.34 | 1 |
| N-CA-C | 111.00 | 15.36 | 2 |
| CA-C-N-CA-C | 111.00 | 15.37 | 1 |
| C-CA-CA-C-C-CA-C-N-C-N-N-CA-N-CA-CB | 110.40 | 161.33 | 1 |
| N-CA-CB | 110.40 | 161.31 | 1 |
| N-CA-C | 111.00 | 15.98 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------------|--------------------|-----------------|--------------------|
| N-CA-C | 111.00 | 16.01 | 1 |
| N-CA-N-CA-C | 111.00 | 16.22 | 1 |
| N-CA-C | 111.00 | 16.22 | 1 |
| N-CA-N-CA-N-CA-N-CA-CB | 110.50 | 167.91 | 1 |
| CA-C-N | 116.20 | 48.66 | 1 |
| N-CA-CB | 110.50 | 167.82 | 1 |
| CA-C-N | 116.20 | 48.77 | 1 |
| N-CA-N-CA-N-CA-N-CA-C | 111.00 | 16.89 | 1 |
| N-CA-C | 111.00 | 16.90 | 1 |
| C-N-C-N-CA-C-O | 120.80 | 63.77 | 1 |
| CA-C-CA-C-C-CA-CA-C-O | 120.80 | 63.79 | 1 |
| O-C-N | 123.00 | 69.34 | 1 |
| N-CA-O-C-N | 123.00 | 69.38 | 1 |
| C-CA-N-CA-N-CA-C | 111.00 | 17.29 | 1 |
| N-CA-C | 111.00 | 17.30 | 1 |
| C-N-C-N-C-N-C-N-N-CA-CB | 110.50 | 53.94 | 1 |
| CA-C-N-CA-C | 111.00 | 17.88 | 1 |
| N-CA-CB | 110.50 | 53.97 | 1 |
| N-CA-C | 111.00 | 17.91 | 1 |
| CA-C-N-CA-C | 111.00 | 17.94 | 1 |
| N-CA-C | 111.00 | 17.95 | 1 |
| N-CA-C | 111.00 | 17.99 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--|--------------------|-----------------|--------------------|
| N-CA-C | 111.00 | 18.03 | 1 |
| N-CA-C | 111.00 | 18.05 | 1 |
| N-CA-C | 111.00 | 18.06 | 1 |
| N-CA-N-CA-N-CA-N-CA-CA-C-CA-C-N-CA-N-CA-N-CA-N-CA-N-CA-C | 111.00 | 18.50 | 1 |
| N-CA-C | 111.00 | 18.50 | 1 |
| N-CA-CB | 103.00 | 139.34 | 1 |
| O-C-N | 123.00 | 70.15 | 1 |
| N-CA-O-C-N | 123.00 | 70.17 | 1 |
| N-CA-N-CA-N-CA-N-CA-N-CA-N-CA-N-CA-CB | 103.00 | 139.26 | 1 |
| CA-C-O | 120.80 | 176.76 | 1 |
| N-CA-C | 113.30 | 18.01 | 2 |
| CA-C-O | 120.80 | 176.59 | 1 |
| CA-C-O | 120.80 | 65.03 | 1 |
| N-CA-N-CA-CA-C-O | 120.80 | 65.09 | 1 |
| N-CA-N-CA-C | 111.00 | 19.46 | 1 |
| N-CA-N-CA-C | 111.00 | 19.48 | 1 |
| N-CA-C | 111.00 | 19.48 | 1 |
| N-CA-C | 111.00 | 19.49 | 1 |
| CA-C-O | 120.80 | 65.25 | 1 |
| C-N-CA | 121.70 | 62.89 | 1 |
| CA-C-O | 120.80 | 65.30 | 1 |
| C-N-CA | 121.70 | 62.94 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--|--------------------|-----------------|--------------------|
| N-CA-C-N-CA | 121.70 | 63.02 | 1 |
| N-CA-N-CA-N-CA-C-N-CA | 121.70 | 63.04 | 1 |
| N-CA-C | 111.00 | 19.79 | 1 |
| N-CA-C | 111.00 | 19.80 | 1 |
| N-CA-N-CA-N-CD-N-CD-N-CA-C | 111.00 | 20.74 | 1 |
| N-CA-C | 111.00 | 20.74 | 1 |
| N-CA-N-CA-N-CA-N-CA-N-CA-CA-C-N-CA-N-CA-N-CA-CA-C-N-CA-C | 111.00 | 21.65 | 1 |
| N-CA-C | 111.00 | 21.66 | 3 |
| N-CA-N-CA-N-CA-C | 111.00 | 21.73 | 1 |
| N-CA-CB | 110.50 | 164.70 | 1 |
| N-CA-C | 111.00 | 21.74 | 1 |
| N-CA-CB | 110.50 | 164.69 | 1 |
| CA-C-N | 116.90 | 69.10 | 1 |
| CA-C-N | 116.90 | 69.11 | 1 |
| CA-C-CA-C-C-N-C-N-C-CA-N-CA-CB | 110.50 | 164.49 | 1 |
| N-CA-CB | 110.50 | 164.47 | 1 |
| N-CA-C | 111.00 | 22.15 | 1 |
| N-CA-C | 111.00 | 22.16 | 1 |
| CA-C-C-CA-C-CA-CA-C-C-CA-N-CA-CB | 111.50 | 57.63 | 1 |
| N-CA-CB | 111.50 | 57.68 | 1 |
| N-CA-N-CA-N-CA-CB | 110.50 | 56.80 | 1 |
| N-CA-CB | 110.50 | 56.80 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---|--------------------|-----------------|--------------------|
| N-CA-C | 111.00 | 22.57 | 1 |
| N-CA-C | 111.00 | 22.59 | 1 |
| N-CA-N-CA-N-CA-C | 111.00 | 22.82 | 1 |
| N-CA-C | 111.00 | 22.82 | 3 |
| N-CA-CB | 111.50 | 165.03 | 1 |
| CA-C-N | 116.20 | 53.23 | 1 |
| CA-C-N | 116.20 | 53.27 | 1 |
| N-CA-N-CA-CB | 111.50 | 164.96 | 1 |
| N-CA-N-CA-C | 111.00 | 22.99 | 1 |
| N-CA-C | 111.00 | 23.01 | 1 |
| CA-C-N | 116.20 | 53.36 | 2 |
| CA-C-O | 120.80 | 67.41 | 1 |
| C-N-C-N-CA-C-O | 120.80 | 67.43 | 1 |
| CA-C-CA-C-O | 120.80 | 67.51 | 1 |
| N-CA-N-CA-CA-C-O | 120.80 | 67.59 | 1 |
| CA-C-N-CA-C | 111.00 | 23.57 | 1 |
| N-CA-C | 111.00 | 23.61 | 1 |
| N-CA-N-CA-N-CA-C | 111.00 | 23.81 | 1 |
| N-CA-C | 111.00 | 23.82 | 3 |
| N-CA-CA-C-CA-C-N-CA-N-CA-N-CA-N-CA-N-CA-N-CA-N-CA-N-CA-CB | 111.50 | 164.24 | 1 |
| N-CA-CB | 111.50 | 164.19 | 1 |
| N-CA-C | 111.00 | 24.27 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---------------------------------------|--------------------|-----------------|--------------------|
| N-CA-C | 111.00 | 24.29 | 1 |
| C-N-CA | 121.70 | 66.04 | 1 |
| C-N-CA | 121.70 | 66.07 | 1 |
| N-CD-CG | 103.20 | 149.46 | 2 |
| N-CA-C | 111.00 | 24.65 | 1 |
| N-CA-C | 111.00 | 24.68 | 1 |
| CA-N-CD | 112.00 | 68.85 | 2 |
| C-CA-CB | 110.10 | 51.60 | 1 |
| C-CA-CB | 110.10 | 51.61 | 1 |
| N-CA-N-CA-CA-C-CA-C-C-CA-CB | 110.10 | 168.35 | 1 |
| C-CA-CB | 110.10 | 168.29 | 1 |
| C-N-CA | 121.70 | 66.64 | 1 |
| C-N-CA | 121.70 | 66.69 | 1 |
| N-CA-C | 111.00 | 25.43 | 1 |
| N-CA-C | 111.00 | 25.45 | 1 |
| C-CA-CB | 110.10 | 168.15 | 1 |
| C-CA-CB | 110.10 | 168.14 | 1 |
| N-CA-C-CA-CB | 110.10 | 168.09 | 1 |
| N-CA-N-CA-C-CA-CB | 110.10 | 168.08 | 1 |
| N-CA-N-CA-N-CA-N-CD-N-CD-C-CA-N-CD-CG | 103.20 | 57.54 | 1 |
| C-CA-CA-C-N-CD-CG | 103.20 | 57.63 | 1 |
| CA-C-CA-C-N-CA-C | 111.00 | 26.09 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--|--------------------|-----------------|--------------------|
| N-CA-C | 111.00 | 26.10 | 1 |
| N-CA-C | 111.00 | 26.11 | 1 |
| N-CA-C | 111.00 | 26.12 | 1 |
| CA-C-C-CA-CA-C-O | 120.80 | 69.44 | 1 |
| C-CA-CA-C-O | 120.80 | 69.50 | 1 |
| N-CA-C | 112.10 | 36.65 | 1 |
| N-CA-C | 112.10 | 36.69 | 1 |
| CA-C-C-CA-CB | 110.10 | 167.22 | 1 |
| CA-C-N-CA-CB | 111.50 | 162.55 | 1 |
| C-CA-CB | 110.10 | 167.15 | 1 |
| N-CA-C | 111.00 | 26.93 | 1 |
| N-CA-CB | 111.50 | 162.54 | 1 |
| N-CA-C | 111.00 | 26.97 | 1 |
| N-CA-N-CA-N-CA-N-CA-N-CA-N-CA-N-CA-N-CA-CB | 110.50 | 59.69 | 1 |
| N-CA-CB | 110.50 | 59.70 | 1 |
| N-CA-N-CA-C-N-N-CA-N-CA-C-N-N-CA-CB | 110.50 | 160.95 | 1 |
| N-CA-CB | 110.50 | 160.93 | 1 |
| CA-C-O | 120.80 | 171.19 | 1 |
| N-CA-C | 111.00 | 28.00 | 1 |
| N-CA-C | 111.00 | 28.02 | 1 |
| C-N-CA-C-O | 120.80 | 171.17 | 1 |
| CA-C-O | 120.80 | 171.16 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---|--------------------|-----------------|--------------------|
| C-N-CA-C-O | 120.80 | 171.14 | 1 |
| N-CA-C | 111.00 | 28.10 | 1 |
| N-CA-C | 111.00 | 28.11 | 1 |
| C-CA-C-CA-N-CA-C | 111.00 | 28.37 | 1 |
| N-CA-C | 111.00 | 28.39 | 1 |
| N-CA-N-CA-N-CA-N-CA-N-CA-N-CA-N-CA-N-CA-N-CA-N-CA-C | 111.00 | 28.58 | 1 |
| N-CA-N-CA-C | 111.00 | 28.59 | 1 |
| N-CA-N-CA-C-CA-N-CA-N-CA-C | 111.00 | 28.75 | 1 |
| C-CA-N-CA-C | 111.00 | 28.78 | 1 |
| N-CA-N-CA-N-CA-N-CA-N-CA-N-CA-N-CA-C-N-CA-C-N | 116.20 | 57.71 | 1 |
| N-CA-N-CA-C-N-CA-C-CA-C-N | 116.20 | 57.86 | 1 |
| CA-C-N-CA-C | 111.00 | 29.44 | 1 |
| C-N-N-CA-C | 111.00 | 29.46 | 1 |
| C-CA-CB | 109.10 | 45.04 | 1 |
| C-CA-CB | 110.10 | 54.79 | 2 |
| CA-C-C-CA-CB | 109.10 | 45.12 | 1 |
| C-N-CA-C-N-CA-C | 111.00 | 29.62 | 1 |
| N-CA-C | 111.00 | 29.64 | 1 |
| N-CA-C | 111.00 | 29.68 | 1 |
| CA-C-N-CA-C | 111.00 | 29.70 | 1 |
| C-CA-CB | 109.10 | 45.25 | 1 |
| C-CA-CB | 109.10 | 45.30 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--|--------------------|-----------------|--------------------|
| N-CA-CB | 111.50 | 160.76 | 1 |
| CA-C-N-CA-CB | 111.50 | 160.73 | 1 |
| C-CA-CB | 110.10 | 165.07 | 1 |
| C-CA-CB | 110.10 | 165.05 | 1 |
| C-CA-CB | 110.10 | 165.02 | 1 |
| C-CA-CB | 110.10 | 164.97 | 1 |
| C-N-C-N-N-CA-N-CA-N-CA-N-CA-CA-C-O | 120.80 | 71.99 | 1 |
| CA-C-O | 120.80 | 72.01 | 1 |
| C-CA-C-CA-N-CD-C-CA-C-CA-N-CA-C | 111.00 | 31.23 | 1 |
| N-CA-C | 111.00 | 31.28 | 1 |
| N-CA-N-CD-N-CA-N-CA-N-CA-C-N-N-CD-C-N-N-CD-CA-C-N-CA-N-CA-N-CA-C | 111.00 | 31.53 | 1 |
| N-CA-C | 111.00 | 31.56 | 1 |
| CA-C-N-CA-N-CA-CB | 110.50 | 158.69 | 1 |
| N-CA-C | 113.30 | 31.11 | 1 |
| N-CA-C | 113.30 | 31.12 | 1 |
| N-CA-N-CA-C | 111.00 | 31.69 | 1 |
| N-CA-C | 111.00 | 31.70 | 1 |
| CA-C-CA-C-N-CA-CB | 110.50 | 62.39 | 1 |
| CA-C-N-CA-CB | 110.50 | 158.58 | 1 |
| N-CA-CB | 110.50 | 62.43 | 1 |
| CA-C-N | 116.20 | 59.65 | 1 |
| N-CA-N-CA-C | 111.00 | 31.88 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------------|--------------------|-----------------|--------------------|
| N-CA-C | 111.00 | 31.88 | 1 |
| CA-C-N | 116.20 | 59.69 | 1 |
| N-CA-C | 111.00 | 31.89 | 2 |
| CA-C-N | 116.20 | 59.71 | 2 |
| N-CA-C-N-CA | 121.70 | 70.90 | 1 |
| N-CA-N-CA-C-N-CA | 121.70 | 70.96 | 1 |
| N-CA-N-CA-N-CA-C | 111.00 | 32.24 | 1 |
| N-CA-C | 111.00 | 32.25 | 1 |
| N-CD-C-CA-CB | 110.10 | 56.70 | 1 |
| CA-C-N | 116.20 | 59.99 | 1 |
| CA-C-CA-C-N | 116.20 | 60.04 | 1 |
| N-CD-N-CA-N-CA-C-CA-CB | 110.10 | 56.77 | 1 |
| C-CA-CB | 110.50 | 68.44 | 1 |
| C-CA-CB | 110.50 | 68.45 | 1 |
| N-CA-C | 111.00 | 32.69 | 1 |
| N-CA-C | 111.00 | 32.72 | 1 |
| CA-C-O-C-N | 123.00 | 78.40 | 1 |
| O-C-N | 123.00 | 78.41 | 1 |
| CA-C-CA-C-N | 116.20 | 60.50 | 1 |
| CA-C-N | 116.20 | 60.51 | 1 |
| CA-C-CA-C-N | 116.20 | 60.53 | 1 |
| CA-C-N | 116.20 | 60.53 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--|--------------------|-----------------|--------------------|
| CA-C-N | 116.20 | 60.54 | 1 |
| CA-C-N | 116.20 | 60.56 | 1 |
| N-CA-C | 111.00 | 33.10 | 1 |
| C-CA-N-CA-C | 111.00 | 33.12 | 1 |
| C-CA-C-CA-CA-C-C-CA-N-CA-N-CA-C-N-C-N-N-CA-CA-C-CA-C-N-CA-N-CA-N-CA-CA-C-O | 120.80 | 73.85 | 1 |
| CA-C-O | 120.80 | 73.85 | 1 |
| CA-C-O | 120.80 | 167.69 | 1 |
| CA-C-N-CA-C | 111.00 | 33.80 | 1 |
| N-CA-C | 111.00 | 33.80 | 1 |
| CA-C-O | 120.80 | 167.65 | 1 |
| CA-C-N-CA-C | 111.00 | 33.97 | 1 |
| N-CA-C | 111.00 | 33.99 | 1 |
| C-CA-CA-C-N-CA-C-CA-N-CA-CA-C-N-CA-C | 111.00 | 34.09 | 1 |
| N-CA-C | 111.00 | 34.09 | 1 |
| N-CA-C | 111.00 | 34.14 | 2 |
| C-N-CA | 121.70 | 72.29 | 1 |
| N-CA-C | 111.00 | 34.15 | 1 |
| N-CA-C | 111.00 | 34.16 | 1 |
| C-N-CA | 121.70 | 72.31 | 1 |
| N-CA-N-CA-N-CA-C | 111.00 | 34.26 | 1 |
| N-CA-C | 111.00 | 34.27 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--|--------------------|-----------------|--------------------|
| N-CA-N-CA-CA-C-C-CA-CB | 110.50 | 69.53 | 1 |
| CA-C-C-CA-CB | 110.50 | 69.56 | 1 |
| C-CA-N-CA-C-CA-N-CA-N-CA-N-CA-N-CA-C | 111.00 | 34.92 | 1 |
| N-CA-C | 111.00 | 34.94 | 1 |
| N-CA-N-CA-C | 111.00 | 35.00 | 1 |
| N-CA-N-CA-C | 111.00 | 35.07 | 1 |
| N-CD-CG | 103.20 | 62.56 | 1 |
| C-CA-CB | 110.10 | 161.56 | 1 |
| C-CA-CB | 110.10 | 161.54 | 1 |
| N-CD-CG | 103.20 | 62.60 | 1 |
| C-CA-CB | 110.10 | 58.71 | 1 |
| CA-C-CA-C-N-CA-N-CA-C-CA-C-CA-C-CA-CB | 110.10 | 58.83 | 1 |
| CA-C-CA-C-CA-C-CA-C-N-CA-N-CA-C | 111.00 | 35.82 | 1 |
| N-CA-C | 111.00 | 35.83 | 1 |
| N-CA-C-CA-N-CA-C-CA-N-CA-CB-CG1-C-N-CA | 121.70 | 73.75 | 1 |
| N-CA-N-CA-CA-C-N | 116.90 | 76.97 | 1 |
| N-CA-CB-CG1-C-N-CA | 121.70 | 73.80 | 1 |
| N-CA-CA-C-N | 116.90 | 77.03 | 1 |
| N-CA-C | 111.00 | 36.59 | 1 |
| N-CA-N-CA-C | 111.00 | 36.61 | 1 |
| C-N-CA | 121.70 | 169.52 | 1 |
| C-N-CA | 121.70 | 169.51 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---------------------------|--------------------|-----------------|--------------------|
| N-CA-C-CA-C-CA-N-CA-C | 111.00 | 36.78 | 1 |
| N-CA-C | 111.00 | 36.82 | 1 |
| CA-C-CA-C-C-N-C-CA-CB | 110.10 | 59.96 | 1 |
| C-CA-CB | 110.10 | 59.97 | 1 |
| C-N-N-CA-C | 113.30 | 36.83 | 1 |
| N-CA-C | 113.30 | 36.83 | 1 |
| N-CA-C | 113.30 | 36.84 | 2 |
| N-CA-CB | 110.50 | 65.71 | 1 |
| N-CA-N-CA-C-CA-CB | 110.10 | 60.08 | 1 |
| N-CA-CB | 110.50 | 65.75 | 1 |
| C-N-N-CA-N-CA-C-N-C-CA-CB | 110.10 | 60.18 | 1 |
| CA-C-O | 120.80 | 165.42 | 1 |
| CA-C-O | 120.80 | 165.41 | 1 |
| N-CA-CB | 110.40 | 71.08 | 1 |
| CA-C-N | 116.20 | 63.80 | 1 |
| CA-C-N | 116.20 | 63.81 | 1 |
| C-N-CA | 121.70 | 74.57 | 1 |
| CA-C-N | 116.20 | 63.83 | 1 |
| N-CA-CB | 110.40 | 71.14 | 1 |
| C-N-CA-C-N | 116.20 | 63.90 | 1 |
| C-CA-C-CA-C-N-CA | 121.70 | 74.63 | 1 |
| C-N-CA-N-CD | 112.00 | 75.41 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|----------------------------|--------------------|-----------------|--------------------|
| CA-N-CD | 112.00 | 75.45 | 1 |
| CA-N-CA-N-CA-C-O | 120.80 | 165.05 | 1 |
| CA-C-O | 120.80 | 76.61 | 2 |
| CA-C-O | 120.80 | 164.91 | 1 |
| N-CA-N-CA-N-CA-C | 111.00 | 38.41 | 1 |
| N-CA-N-CA-N-CA-CA-C-N-CA-C | 111.00 | 38.49 | 1 |
| N-CA-CA-C-O | 120.80 | 76.82 | 1 |
| C-N-N-CA-CA-C-O | 120.80 | 76.85 | 1 |
| CA-C-O | 120.80 | 76.85 | 1 |
| CA-C-C-N-N-CA-CA-C-O | 120.80 | 76.88 | 1 |
| C-CA-C-CA-C-CA-CB | 110.10 | 159.13 | 1 |
| C-CA-CB | 110.10 | 159.12 | 1 |
| C-CA-CB | 110.10 | 159.10 | 1 |
| C-CA-C-CA-C-N-CA | 121.70 | 75.30 | 1 |
| C-N-CA | 121.70 | 75.30 | 1 |
| C-CA-CB | 110.10 | 159.07 | 1 |
| C-CA-C-CA-C-N-CA | 121.70 | 75.32 | 1 |
| C-CA-CB | 110.10 | 159.03 | 2 |
| C-N-CA | 121.70 | 75.35 | 1 |
| C-CA-CB | 110.10 | 158.98 | 2 |
| CA-C-C-CA-CB | 110.10 | 158.90 | 1 |
| C-CA-CB | 110.10 | 158.89 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---|--------------------|-----------------|--------------------|
| CA-C-N-CD-CG | 103.20 | 141.63 | 1 |
| N-CD-CG | 103.20 | 141.62 | 1 |
| N-CA-N-CA-CA-C-O | 120.80 | 77.27 | 1 |
| N-CA-C | 111.00 | 39.31 | 1 |
| N-CA-C | 111.00 | 39.34 | 1 |
| N-CA-CB | 110.50 | 67.01 | 1 |
| N-CA-CB | 110.50 | 153.99 | 1 |
| N-CA-CB | 110.50 | 67.02 | 1 |
| N-CA-CB | 110.50 | 153.92 | 1 |
| CA-C-O | 120.80 | 77.39 | 1 |
| N-CA-N-CA-N-CA-C-CA-N-CA-C-CA-CB | 110.10 | 61.73 | 1 |
| C-CA-C-CA-CB | 110.10 | 61.77 | 1 |
| N-CA-C | 111.00 | 39.88 | 1 |
| N-CA-C | 111.00 | 39.91 | 1 |
| N-CA-C | 111.00 | 39.92 | 1 |
| N-CA-C | 111.00 | 39.93 | 1 |
| C-CA-CB | 110.10 | 158.31 | 1 |
| N-CA-N-CA-C-CA-CB | 110.10 | 158.26 | 1 |
| C-CA-N-CA-N-CA-C-CA-C-CA-N-CA-C-CA-C-N-CA | 121.70 | 76.23 | 1 |
| N-CA-N-CA-C-CA-CB | 110.50 | 72.64 | 1 |
| N-CA-C-N-CA | 121.70 | 76.30 | 1 |
| C-CA-CB | 110.50 | 72.70 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--|--------------------|-----------------|--------------------|
| C-N-CA | 121.70 | 76.35 | 1 |
| C-N-CA | 121.70 | 76.39 | 1 |
| N-CA-CB | 110.50 | 153.28 | 1 |
| C-N-CA | 121.70 | 76.40 | 2 |
| C-N-C-N-CA | 121.70 | 166.97 | 1 |
| C-N-C-CA-C-N-C-N-C-CA-N-CA-CB | 110.50 | 153.19 | 1 |
| C-CA-CB | 110.10 | 157.80 | 1 |
| CA-C-C-N-CA | 121.70 | 166.84 | 1 |
| C-CA-CB | 110.10 | 157.72 | 1 |
| CA-C-N-CA-N-CA-N-CA-N-CA-N-CA-N-CA-N-CA-N-CA-N-CA-N-CA-N-CA-CA-C-O | 120.80 | 78.44 | 1 |
| N-CA-CA-C-O | 120.80 | 78.47 | 1 |
| N-CA-C-CA-CA-C-N-CD-CG | 103.20 | 65.99 | 1 |
| CA-C-N-CD-CG | 103.20 | 66.01 | 1 |
| C-CA-CA-N-CA-N-N-CA-CB | 103.00 | 130.15 | 1 |
| N-CA-CB | 103.00 | 130.15 | 1 |
| CA-C-C-N-CA-C-C-N-C-CA-C-CA-N-CA-CB | 110.50 | 152.25 | 1 |
| N-CA-N-CA-N-CA-CB | 110.50 | 152.23 | 1 |
| N-CA-CB | 103.00 | 129.99 | 1 |
| N-CA-CB | 110.50 | 152.20 | 1 |
| C-CA-CB | 111.60 | 62.55 | 2 |
| N-CA-CB | 103.00 | 129.95 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---------------------------|--------------------|-----------------|--------------------|
| N-CA-N-CA-CB | 110.50 | 152.12 | 1 |
| N-CA-C-N-CA | 121.70 | 77.66 | 1 |
| N-CA-C-N-CA | 121.70 | 77.69 | 1 |
| N-CA-N-CA-C-N-C-N-C-CA-CB | 110.10 | 63.82 | 1 |
| N-CA-C-CA-CB | 110.10 | 156.37 | 1 |
| N-CA-CB | 110.50 | 151.90 | 1 |
| C-CA-CB | 110.10 | 63.85 | 1 |
| C-CA-CB | 110.10 | 63.86 | 1 |
| N-CA-CB | 110.50 | 151.86 | 1 |
| C-CA-CB | 110.10 | 156.31 | 1 |
| N-CA-CB | 110.50 | 151.84 | 1 |
| C-CA-CB | 110.10 | 63.90 | 1 |
| N-CA-CB | 111.50 | 152.82 | 1 |
| N-CA-CB | 110.50 | 151.82 | 1 |
| N-CA-CB | 110.50 | 151.81 | 2 |
| N-CA-CB | 110.50 | 69.22 | 1 |
| N-CA-CB | 111.50 | 152.76 | 1 |
| N-CA-CB | 110.50 | 69.26 | 1 |
| N-CA-N-CA-CA-C-N | 116.20 | 67.87 | 1 |
| CA-C-O | 120.80 | 161.87 | 1 |
| N-CA-CB | 110.50 | 151.53 | 1 |
| C-CA-CB | 110.10 | 64.27 | 2 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------|--------------------|-----------------|--------------------|
| C-N-CA-C-N | 116.20 | 67.98 | 1 |
| N-CA-CB | 110.50 | 69.52 | 1 |
| CA-C-N | 116.20 | 67.99 | 1 |
| C-N-CA-C-N | 116.20 | 68.00 | 1 |
| N-CA-CB | 110.50 | 151.47 | 1 |
| N-CA-C | 111.00 | 43.53 | 1 |
| CA-C-O | 120.80 | 161.76 | 1 |
| N-CA-C | 111.00 | 43.55 | 1 |
| N-CA-CB | 111.50 | 70.56 | 1 |
| N-CA-CB | 110.50 | 69.57 | 1 |
| N-CA-N-CA-CA-C-N | 116.20 | 68.08 | 1 |
| CA-C-N | 116.20 | 68.08 | 1 |
| N-CA-CB | 111.50 | 70.64 | 1 |
| CA-C-N | 116.20 | 68.17 | 1 |
| CA-C-N | 116.20 | 68.19 | 1 |
| N-CA-CB | 110.50 | 69.71 | 1 |
| N-CA-N-CA-N-CA-CB | 110.50 | 69.76 | 1 |
| N-CA-CB | 110.50 | 69.76 | 1 |
| C-CA-CB | 110.10 | 155.62 | 1 |
| N-CA-CB | 110.50 | 69.78 | 1 |
| CA-C-N | 116.20 | 68.31 | 1 |
| N-CA-CB | 110.50 | 69.82 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--|--------------------|-----------------|--------------------|
| CA-C-N | 116.20 | 68.35 | 1 |
| N-CA-CB | 110.50 | 69.84 | 1 |
| C-N-CA | 121.70 | 78.67 | 1 |
| C-CA-CB | 110.10 | 155.51 | 1 |
| C-N-CA | 121.70 | 78.76 | 1 |
| N-CA-N-CA-N-CA-C | 111.00 | 44.25 | 1 |
| N-CA-C | 111.00 | 44.25 | 1 |
| CA-C-C-N-C-N-CA-C-N-CA-N-CA-N-CA-C-CA-CB | 111.60 | 158.95 | 1 |
| N-CA-N-CA-CB | 110.50 | 70.26 | 1 |
| N-CA-CB | 110.50 | 70.27 | 1 |
| N-CA-CB | 110.50 | 150.73 | 1 |
| CA-C-N | 116.20 | 68.87 | 1 |
| CA-C-N | 116.20 | 68.88 | 1 |
| N-CA-CB | 110.50 | 70.29 | 1 |
| CA-C-C-CA-CB | 110.10 | 65.19 | 1 |
| CA-C-C-CA-CB | 111.60 | 158.84 | 1 |
| C-CA-CB | 110.10 | 65.22 | 1 |
| N-CA-CB | 110.50 | 150.65 | 1 |
| N-CA-CB | 110.50 | 70.37 | 1 |
| C-N-N-CA-C-N-N-CA-C-CA-N-CA-N-CA-N-CA-N-CA-C-CA-CB | 110.50 | 75.23 | 1 |
| C-N-CA | 121.70 | 79.39 | 2 |
| C-CA-C-CA-N-CA-C-CA-C-CA-C-CA-CB | 110.50 | 75.29 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---------------------------------|--------------------|-----------------|--------------------|
| N-CA-C | 111.00 | 47.17 | 1 |
| C-N-CA | 121.70 | 162.72 | 1 |
| CA-C-N | 116.20 | 161.71 | 1 |
| C-CA-CB | 110.10 | 66.86 | 1 |
| C-CA-CB | 110.10 | 66.97 | 1 |
| CA-N-CD | 112.00 | 80.37 | 1 |
| C-CA-CB | 110.10 | 67.22 | 1 |
| C-CA-CB | 110.10 | 67.24 | 1 |
| CA-N-CD | 112.00 | 80.43 | 2 |
| C-N-CA | 121.70 | 81.13 | 1 |
| C-CA-CA-C-CA-N-CD | 112.00 | 80.49 | 1 |
| C-N-CA | 121.70 | 81.18 | 1 |
| N-CA-C | 111.00 | 48.02 | 1 |
| C-CA-CB | 110.10 | 67.38 | 2 |
| N-CA-C | 111.00 | 48.06 | 1 |
| N-CA-C | 112.10 | 55.93 | 1 |
| C-CA-C-N-N-CA-C | 112.10 | 55.95 | 1 |
| N-CA-C | 111.00 | 48.22 | 1 |
| C-N-N-CA-C | 111.00 | 48.26 | 1 |
| N-CA-N-CA-N-CA-C-CA-C-CA-CA-C-O | 120.80 | 82.77 | 1 |
| CA-C-O | 120.80 | 82.77 | 1 |
| CA-C-CA-C-N-CA-C | 111.00 | 48.40 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------------|--------------------|-----------------|--------------------|
| N-CA-C | 111.00 | 48.40 | 1 |
| C-CA-C-CA-N-CA-C-CA-CB | 111.40 | 68.96 | 1 |
| C-CA-C-CA-CB | 111.40 | 69.02 | 1 |
| C-CA-C-CA-CA-C-CA-C-O | 120.80 | 82.92 | 1 |
| N-CD-CG | 103.20 | 69.80 | 1 |
| N-CA-N-CA-CA-C-O | 120.80 | 82.98 | 1 |
| C-CA-N-CD-CG | 103.20 | 69.87 | 1 |
| C-CA-CB | 110.10 | 152.32 | 1 |
| N-CA-N-CA-C-CA-CB | 110.10 | 152.28 | 1 |
| N-CA-N-CA-N-CA-C | 111.00 | 49.03 | 1 |
| N-CA-C | 111.00 | 49.04 | 1 |
| CA-C-CA-C-O | 120.80 | 83.20 | 1 |
| CA-C-N-CA-N-CA-CA-C-O | 120.80 | 83.24 | 1 |
| CA-C-O | 120.80 | 158.24 | 1 |
| C-CA-CA-C-O | 120.80 | 158.21 | 1 |
| N-CA-CB | 110.50 | 147.89 | 1 |
| N-CA-CB | 110.50 | 147.88 | 1 |
| C-CA-CA-C-O | 120.80 | 83.46 | 1 |
| CA-C-O | 120.80 | 83.46 | 1 |
| N-CA-CB | 111.50 | 74.17 | 2 |
| N-CA-C | 111.00 | 49.59 | 1 |
| N-CA-C | 111.00 | 49.60 | 3 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|----------------------------|--------------------|-----------------|--------------------|
| C-CA-CA-C-N | 116.20 | 72.38 | 1 |
| C-CA-CB | 110.10 | 68.49 | 1 |
| CA-C-N | 116.20 | 72.42 | 1 |
| N-CD-CG | 103.20 | 70.37 | 1 |
| C-CA-C-CA-CA-C-N | 116.20 | 72.47 | 1 |
| CA-C-N | 116.20 | 72.47 | 1 |
| C-CA-CB | 110.10 | 68.58 | 1 |
| N-CD-CG | 103.20 | 70.43 | 1 |
| C-CA-C-CA-N-CA-N-CA-C-N-CA | 121.70 | 82.55 | 1 |
| C-CA-C-N-CA | 121.70 | 82.59 | 1 |
| N-CA-N-CA-C | 111.00 | 50.30 | 1 |
| N-CA-N-CA-C | 111.00 | 50.38 | 1 |
| C-CA-CB | 110.10 | 151.18 | 1 |
| C-CA-C-CA-CB | 110.10 | 151.15 | 1 |
| C-CA-N-CA-CB | 110.50 | 73.82 | 1 |
| C-CA-N-CA-CB | 110.50 | 73.83 | 1 |
| C-CA-C-CA-CB | 110.10 | 69.26 | 1 |
| CA-C-O | 120.80 | 84.27 | 1 |
| N-CA-C-CA-CB | 110.10 | 69.31 | 1 |
| CA-C-O | 120.80 | 84.30 | 1 |
| N-CA-CB | 110.50 | 74.01 | 1 |
| N-CA-N-CA-CB | 110.50 | 74.03 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--|--------------------|-----------------|--------------------|
| N-CA-N-CA-C-CA-CB | 110.10 | 150.84 | 1 |
| CA-N-CD | 112.00 | 82.00 | 1 |
| CA-C-O | 120.80 | 157.21 | 1 |
| N-CA-C | 111.00 | 51.04 | 1 |
| C-CA-CB | 110.10 | 150.78 | 1 |
| CA-C-O | 120.80 | 157.20 | 1 |
| CA-N-CD | 112.00 | 82.04 | 1 |
| N-CA-N-CA-C | 111.00 | 51.10 | 1 |
| N-CA-N-CA-N-CA-C-CA-C-CA-CA-C-CA-C-C-CA-CB | 111.40 | 70.94 | 1 |
| N-CA-N-CA-N-CA-CB | 111.50 | 147.68 | 1 |
| C-CA-CB | 111.40 | 70.97 | 1 |
| C-N-CA | 121.70 | 159.94 | 1 |
| N-CA-CB | 111.50 | 147.61 | 1 |
| C-N-CA | 121.70 | 159.93 | 1 |
| C-CA-CB | 110.10 | 69.75 | 1 |
| N-CA-C | 112.10 | 59.07 | 1 |
| N-CA-C | 112.10 | 59.08 | 1 |
| CA-C-O | 120.80 | 84.76 | 1 |
| C-CA-CB | 110.10 | 69.84 | 1 |
| CA-C-O | 120.80 | 156.81 | 1 |
| CA-C-O | 120.80 | 84.84 | 1 |
| C-CA-CA-C-N | 116.20 | 158.47 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---------------------------------------|--------------------|-----------------|--------------------|
| CA-C-O | 120.80 | 156.72 | 1 |
| CA-C-N | 116.20 | 158.36 | 1 |
| N-CA-C | 111.00 | 52.01 | 1 |
| C-CA-N-CA-C | 111.00 | 52.02 | 1 |
| N-CA-CA-C-O | 120.80 | 156.56 | 1 |
| CA-C-O | 120.80 | 156.55 | 1 |
| N-CA-N-CA-CB | 111.50 | 147.21 | 1 |
| C-CA-CB | 110.10 | 70.20 | 1 |
| C-CA-CB | 110.10 | 70.22 | 1 |
| N-CA-CB | 111.50 | 147.17 | 1 |
| CA-C-C-N-N-CA-CB | 111.50 | 75.91 | 1 |
| C-CA-C-N-CA-C-N-CA-CB | 111.50 | 75.97 | 1 |
| C-CA-CA-N-CA-N-N-CA-N-CA-C-CA-CA-C-N | 116.20 | 74.56 | 1 |
| CA-C-N | 116.20 | 74.56 | 1 |
| C-CA-N-CA-N-CA-CB | 110.50 | 145.83 | 1 |
| N-CA-CB | 110.50 | 145.82 | 1 |
| N-CA-CA-N-CA-N-CA-C-CA-N-C-CA-N-CA-CB | 110.50 | 145.74 | 1 |
| CA-N-CA-C-C-CA-N-CA-CB | 110.50 | 145.69 | 1 |
| C-CA-CB | 110.10 | 149.43 | 1 |
| C-CA-CB | 110.10 | 149.40 | 1 |
| C-CA-CB | 110.10 | 149.35 | 1 |
| C-CA-CB | 110.10 | 70.86 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---|--------------------|-----------------|--------------------|
| C-CA-CB | 110.10 | 149.33 | 1 |
| N-CA-N-CA-C-CA-CB | 110.10 | 70.92 | 1 |
| N-CA-C-CA-C-CA-CA-C-N-CA-CA-C-N-CA-CA-C-O | 120.80 | 85.92 | 1 |
| CA-C-N-CA-N-CA-CA-C-N | 116.20 | 157.20 | 1 |
| N-CA-CB | 110.50 | 75.66 | 1 |
| CA-C-N | 116.20 | 157.17 | 1 |
| CA-C-O-C-N | 123.00 | 90.23 | 1 |
| N-CA-N-CA-O-C-N | 123.00 | 90.25 | 1 |
| N-CA-N-CA-CB | 110.50 | 75.72 | 1 |
| C-N-CA-C-O | 120.80 | 86.03 | 1 |
| N-CA-N-CA-C-N-N-CA-C | 111.00 | 53.77 | 1 |
| N-CA-C | 111.00 | 53.78 | 1 |
| N-CA-CB | 110.50 | 75.77 | 1 |
| N-CA-CB | 110.50 | 75.85 | 1 |
| N-CA-C-CA-C-CA-C-CA-N-CA-CA-C-O | 120.80 | 155.37 | 1 |
| C-CA-CA-C-O | 120.80 | 155.32 | 1 |
| C-CA-N-CA-C | 111.00 | 54.27 | 1 |
| C-CA-N-CA-C | 111.00 | 54.30 | 1 |
| C-CA-CB | 110.10 | 71.63 | 1 |
| C-CA-CB | 110.10 | 71.64 | 1 |
| C-CA-C-CA-N-CA-CA-C-C-CA-CA-C-C-CA-N-CA-CA-C-C-CA-C-CA-N-CA-C-CA-N-CA-CA-C-C-CA-CA-C-N-CA-CA-C-N-CA-N-CA-N-CA-CA-C-N-CA-C | 111.00 | 54.87 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|----------------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 110.10 | 72.01 | 1 |
| CA-C-N-CA-C | 111.00 | 54.89 | 1 |
| N-CA-N-CA-C-CA-CB | 110.10 | 72.14 | 1 |
| N-CA-N-CA-CA-C-O | 120.80 | 86.86 | 1 |
| CA-C-O | 120.80 | 154.73 | 1 |
| CA-C-N | 116.20 | 76.31 | 1 |
| C-N-C-N-CA | 121.70 | 85.83 | 1 |
| C-N-CA | 121.70 | 85.83 | 1 |
| CA-C-N | 116.20 | 76.35 | 1 |
| CA-C-O | 120.80 | 154.66 | 1 |
| CA-C-O | 120.80 | 86.94 | 1 |
| CA-C-N | 116.20 | 76.37 | 1 |
| CA-C-N | 116.20 | 76.39 | 1 |
| CA-C-O | 120.80 | 154.64 | 1 |
| C-CA-CA-C-CA-C-N-CA-C | 111.00 | 55.31 | 1 |
| N-CA-C | 111.00 | 55.34 | 1 |
| N-CA-C-CA-C-N-C-N-CA-C-O | 120.80 | 154.49 | 1 |
| C-N-N-CA-C-N-N-CA-CA-C-N | 116.20 | 155.78 | 1 |
| N-CA-N-CA-CA-C-N | 116.20 | 155.72 | 1 |
| N-CA-N-CA-N-CA-CB | 110.50 | 76.95 | 1 |
| C-N-N-CA-N-CA-CB | 110.50 | 76.97 | 1 |
| CA-C-CA-C-C-CA-C-CA-N-CA-C | 111.00 | 55.84 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--|--------------------|-----------------|--------------------|
| N-CA-C | 111.00 | 55.85 | 2 |
| N-CA-C | 111.00 | 55.86 | 1 |
| C-CA-C-CA-CB | 111.40 | 148.80 | 1 |
| C-CA-CA-C-C-CA-CA-C-C-CA-CA-C-C-CA-C-CA-CB | 110.10 | 72.79 | 1 |
| C-CA-CB | 111.40 | 148.71 | 1 |
| N-CA-N-CA-C-CA-C-CA-CB | 110.10 | 72.84 | 1 |
| C-N-CA | 121.70 | 156.94 | 1 |
| CA-C-C-N-N-CA-C-N-C-CA-CB | 110.10 | 147.28 | 1 |
| C-N-CA | 121.70 | 156.91 | 1 |
| C-CA-C-CA-CB | 110.10 | 147.25 | 1 |
| C-CA-CB | 110.10 | 147.24 | 1 |
| C-CA-N-CA-N-CA-C | 111.00 | 56.39 | 1 |
| N-CA-N-CA-N-CA-C | 111.00 | 56.41 | 1 |
| N-CA-N-CA-C-CA-CB | 110.10 | 147.10 | 1 |
| N-CA-CB | 110.50 | 143.57 | 1 |
| CA-C-O-C-CA-C-CA-C-C-CA-N-CA-CB | 110.40 | 139.49 | 1 |
| C-CA-O-C-N-CA-C | 111.00 | 56.74 | 1 |
| N-CA-C | 111.00 | 56.74 | 1 |
| N-CA-C | 111.00 | 56.76 | 1 |
| N-CA-C | 111.00 | 56.77 | 1 |
| N-CA-CB | 110.40 | 139.45 | 1 |
| N-CA-CB | 110.50 | 143.43 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---------------------------------------|--------------------|-----------------|--------------------|
| CA-C-N | 116.90 | 145.94 | 2 |
| CA-C-C-CA-CB | 110.10 | 146.80 | 1 |
| C-CA-CB | 110.10 | 146.79 | 1 |
| CA-C-N | 116.20 | 154.82 | 1 |
| N-CA-N-CA-C | 111.00 | 56.93 | 1 |
| N-CA-C | 111.00 | 56.94 | 1 |
| N-CA-C-CA-CB | 110.10 | 146.73 | 1 |
| CA-C-N | 116.20 | 154.75 | 1 |
| C-CA-CB | 110.10 | 146.71 | 1 |
| N-CA-CA-C-N | 116.20 | 77.71 | 1 |
| N-CA-N-CA-N-CA-N-CA-N-CA-N-CA-N-CA-CB | 110.50 | 143.17 | 1 |
| C-CA-CB | 110.10 | 73.60 | 1 |
| CA-C-N | 116.20 | 77.78 | 1 |
| N-CA-CB | 110.50 | 143.14 | 1 |
| C-CA-CB | 110.10 | 73.64 | 1 |
| N-CA-C | 111.00 | 57.27 | 1 |
| N-CA-C | 111.00 | 57.28 | 1 |
| N-CA-C | 111.00 | 57.32 | 1 |
| N-CA-C | 111.00 | 57.35 | 1 |
| N-CA-C | 113.30 | 168.78 | 1 |
| N-CA-N-CA-CA-C-O | 120.80 | 88.31 | 1 |
| CA-C-O | 120.80 | 88.32 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---|--------------------|-----------------|--------------------|
| N-CA-C | 113.30 | 168.70 | 1 |
| N-CA-C-N-N-CA-C | 111.00 | 57.55 | 1 |
| CA-C-N | 116.20 | 154.37 | 1 |
| N-CA-CA-C-N-CA-C | 111.00 | 57.62 | 1 |
| C-N-N-CA-N-CA-CA-C-O | 120.80 | 153.19 | 1 |
| CA-C-N | 116.20 | 154.30 | 1 |
| N-CA-N-CA-CA-C-CA-C-N-CA-C | 112.10 | 159.63 | 1 |
| CA-C-O | 120.80 | 153.10 | 1 |
| CD-NE-C-CA-CB | 110.10 | 74.03 | 1 |
| CA-C-O | 120.80 | 88.54 | 1 |
| N-CA-C | 112.10 | 159.54 | 1 |
| N-CA-CA-C-N-CA-N-CA-C-CA-CD-NE-C-CA-C-CA-N-CA-C-CA-CB | 110.10 | 74.10 | 1 |
| C-CA-N-CA-N-CA-CA-C-O | 120.80 | 88.65 | 1 |
| C-CA-N-CA-C | 111.00 | 163.89 | 1 |
| N-CA-C | 111.00 | 163.79 | 1 |
| C-CA-CB | 110.10 | 145.92 | 2 |
| N-CA-C-CA-CB | 110.10 | 145.91 | 1 |
| C-CA-CB | 110.10 | 145.91 | 1 |
| N-CA-C | 111.00 | 58.27 | 1 |
| C-CA-N-CA-C | 111.00 | 58.33 | 1 |
| N-CA-N-CA-N-CA-N-CA-CA-C-N-CA-C-N-CA | 121.70 | 87.86 | 1 |
| C-N-CA | 121.70 | 87.87 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---------------------------|--------------------|-----------------|--------------------|
| N-CA-CB | 110.50 | 142.41 | 1 |
| CA-C-N-CA-CB | 110.50 | 142.40 | 1 |
| N-CA-CB | 110.50 | 142.39 | 1 |
| N-CA-CB | 110.50 | 142.36 | 1 |
| N-CA-CB | 110.50 | 78.64 | 1 |
| C-CA-CB | 110.10 | 74.53 | 1 |
| N-CA-CB | 110.50 | 78.68 | 1 |
| C-CA-CB | 110.10 | 74.54 | 1 |
| C-CA-CB | 110.50 | 82.45 | 1 |
| C-CA-CB | 110.50 | 82.47 | 1 |
| C-N-CA-C-C-N-CA-C-N-CA-CB | 110.50 | 142.22 | 1 |
| C-N-CA | 121.70 | 88.13 | 1 |
| N-CA-CB | 110.50 | 142.20 | 1 |
| C-N-N-CA-CB | 110.50 | 142.19 | 1 |
| C-N-C-CA-C-N-CA | 121.70 | 88.20 | 1 |
| C-CA-N-CA-CB | 110.50 | 142.11 | 1 |
| N-CA-N-CA-N-CA-CB | 110.50 | 142.03 | 1 |
| N-CA-CB | 110.50 | 142.01 | 1 |
| C-CA-CA-C-N | 116.90 | 89.11 | 1 |
| C-CA-N-CA-CB | 110.50 | 141.99 | 1 |
| N-CA-CB | 110.50 | 79.01 | 1 |
| C-CA-N-CA-CB | 110.50 | 141.98 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|----------------------------|--------------------|-----------------|--------------------|
| C-CA-C-CA-C-CA-CB | 110.10 | 74.94 | 1 |
| C-CA-CB | 110.10 | 74.96 | 1 |
| CA-C-N-CA-CB | 110.50 | 141.94 | 1 |
| N-CA-CB | 110.50 | 141.93 | 1 |
| C-N-CA-C-C-CA-C-CA-CB | 110.10 | 75.02 | 1 |
| C-CA-CB | 110.10 | 75.02 | 1 |
| N-CA-CB | 110.50 | 79.11 | 1 |
| N-CA-CB | 110.50 | 141.88 | 1 |
| C-N-CA-C-N | 116.90 | 89.22 | 1 |
| CA-C-N | 116.90 | 89.23 | 1 |
| C-CA-C-N-C-CA-C-N-N-CA-C | 111.00 | 59.40 | 1 |
| C-CA-C-CA-C-CA-N-CA-C | 111.00 | 59.43 | 1 |
| C-CA-CA-C-N | 116.90 | 89.29 | 1 |
| N-CA-CB | 110.50 | 141.77 | 1 |
| N-CA-CB | 110.50 | 79.25 | 1 |
| CA-C-N-CA-CB | 110.50 | 141.70 | 1 |
| N-CA-CB | 110.50 | 79.31 | 1 |
| CA-C-C-CA-N-CA-C-CA-N-CA-C | 111.00 | 59.73 | 1 |
| N-CA-N-CA-CB | 110.50 | 141.57 | 1 |
| N-CA-C | 111.00 | 59.85 | 1 |
| N-CA-CB | 111.50 | 142.54 | 1 |
| N-CA-C | 111.00 | 162.12 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--------------------------------------|--------------------|-----------------|--------------------|
| N-CA-CB | 111.50 | 142.52 | 2 |
| N-CA-CB | 111.50 | 142.50 | 1 |
| N-CA-C | 111.00 | 162.03 | 1 |
| N-CA-N-CA-CA-C-O | 120.80 | 151.74 | 1 |
| N-CA-N-CA-CB | 110.50 | 141.43 | 1 |
| N-CA-C | 111.00 | 60.06 | 1 |
| N-CA-N-CA-CA-C-N-CA-N-CA-N-CA-C | 111.00 | 60.13 | 1 |
| N-CA-N-CA-N-CA-N-CA-CA-C-N-CA-CA-C-O | 120.80 | 151.65 | 1 |
| CA-C-CA-C-N-CA-CB | 110.50 | 141.33 | 1 |
| CA-C-CA-C-O | 120.80 | 151.62 | 1 |
| CA-C-O | 120.80 | 151.61 | 1 |
| N-CA-C | 111.00 | 60.25 | 1 |
| N-CA-C | 111.00 | 60.28 | 1 |
| N-CA-N-CA-CA-C-N-CA-N-CA-CA-C-N | 116.20 | 80.04 | 1 |
| CA-C-N | 116.20 | 80.10 | 1 |
| C-CA-CB | 110.10 | 144.38 | 1 |
| CA-C-N | 116.20 | 152.27 | 1 |
| CA-C-CA-C-C-CA-CB | 110.10 | 144.35 | 1 |
| CA-C-N-CA-CA-C-N-CA-CA-C-N | 116.20 | 152.24 | 1 |
| N-CA-N-CA-N-CA-N-CA-N-CA-CB | 110.50 | 141.06 | 1 |
| N-CA-CB | 110.50 | 141.05 | 1 |
| N-CA-N-CA-N-CA-C | 113.30 | 61.24 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------|--------------------|-----------------|--------------------|
| N-CA-C | 113.30 | 61.26 | 1 |
| CA-C-CA-C-C-CA-CB | 111.60 | 147.44 | 1 |
| C-CA-CB | 111.60 | 147.37 | 1 |
| C-CA-CB | 110.10 | 144.07 | 1 |
| CA-C-N-CA-CB | 110.50 | 80.11 | 1 |
| CA-C-CA-C-N-CA-CB | 110.50 | 80.15 | 1 |
| N-CA-C-CA-CB | 110.10 | 144.00 | 1 |
| N-CA-N-CA-N-CA-N-CA-C | 111.00 | 61.12 | 1 |
| CA-C-N-CA-C | 111.00 | 61.14 | 1 |
| N-CA-C | 111.00 | 61.17 | 1 |
| N-CA-C | 111.00 | 61.24 | 1 |
| N-CA-N-CA-C-CA-CB | 110.50 | 83.89 | 1 |
| C-CA-CB | 110.50 | 83.89 | 1 |
| N-CA-N-CA-CA-C-O | 120.80 | 90.70 | 1 |
| CA-C-CA-C-N-CA-C | 111.00 | 61.48 | 1 |
| C-CA-CB | 110.10 | 76.51 | 1 |
| N-CA-C | 111.00 | 61.52 | 1 |
| CA-C-C-CA-CB | 110.10 | 76.53 | 1 |
| C-CA-CB | 110.10 | 143.65 | 1 |
| CA-C-C-CA-C-CA-CB | 110.10 | 143.63 | 1 |
| C-CA-N-CA-CB | 110.50 | 140.49 | 1 |
| C-N-CA | 121.70 | 89.95 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--|--------------------|-----------------|--------------------|
| N-CA-CB | 110.50 | 140.48 | 1 |
| CA-C-O | 120.80 | 90.82 | 1 |
| CA-C-O | 120.80 | 90.84 | 1 |
| CA-C-O | 120.80 | 90.87 | 1 |
| C-CA-C-CA-CB | 110.10 | 143.55 | 1 |
| C-CA-CB | 110.10 | 143.52 | 1 |
| C-CA-N-CD-N-CA-CB | 110.50 | 140.40 | 1 |
| N-CA-CB | 110.50 | 140.38 | 1 |
| C-CA-CB | 110.10 | 143.50 | 1 |
| C-N-CA | 121.70 | 90.08 | 1 |
| N-CA-N-CA-C-CA-CB | 110.10 | 143.46 | 1 |
| N-CA-N-CA-N-CD-CA-C-N-CA-C-CA-N-CA-N-CA-N-CA-C-CA-CA-C-CA-C-C-N-CA | 121.70 | 153.13 | 1 |
| CA-C-CA-C-CA-C-C-CA-CB | 111.60 | 76.74 | 1 |
| C-CA-CB | 111.60 | 76.75 | 1 |
| C-N-CA | 121.70 | 153.04 | 1 |
| CA-C-C-CA-N-CA-CA-C-CA-C-CA-C-C-CA-CB | 110.10 | 77.08 | 1 |
| N-CA-N-CA-O-C-N | 123.00 | 95.20 | 1 |
| C-CA-O-C-N | 123.00 | 95.21 | 1 |
| C-CA-CB | 110.10 | 77.13 | 1 |
| N-CA-C-CA-CB | 110.10 | 77.15 | 1 |
| C-CA-CB | 110.10 | 77.15 | 1 |
| N-CA-N-CA-C | 111.00 | 62.48 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|----------------------------------|--------------------|-----------------|--------------------|
| N-CA-C | 111.00 | 62.48 | 1 |
| C-CA-N-CA-N-CA-N-CA-CB | 111.50 | 82.06 | 1 |
| CA-C-N-CA-CA-C-CA-C-C-CA-N-CA-CB | 111.50 | 82.10 | 1 |
| C-CA-N-CA-C | 111.00 | 62.61 | 1 |
| N-CA-C | 111.00 | 62.62 | 1 |
| C-CA-C-CA-CB | 110.10 | 77.30 | 1 |
| N-CA-CA-C-C-CA-CB | 110.10 | 77.33 | 1 |
| N-CA-CB | 110.50 | 81.18 | 1 |
| C-N-CA-C-N-CA-N-CA-C | 111.00 | 159.27 | 1 |
| C-N-N-CD-CA-C-N-CA-CB | 110.50 | 81.22 | 1 |
| C-CA-CB | 110.10 | 77.39 | 1 |
| N-CA-C | 111.00 | 159.20 | 1 |
| N-CD-C-CA-CB | 110.10 | 77.42 | 1 |
| CA-C-O | 120.80 | 91.56 | 1 |
| N-CA-C | 111.00 | 62.89 | 1 |
| CA-C-O | 120.80 | 91.61 | 1 |
| CA-C-N-CA-C | 111.00 | 62.94 | 1 |
| N-CA-C | 111.00 | 62.94 | 1 |
| C-CA-CB | 110.10 | 77.49 | 1 |
| N-CA-C | 111.00 | 62.95 | 1 |
| N-CA-C | 111.00 | 62.99 | 2 |
| C-CA-CB | 110.10 | 77.54 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------------|--------------------|-----------------|--------------------|
| CA-C-N-CA-C | 111.00 | 63.04 | 1 |
| C-N-N-CA-C | 111.00 | 63.05 | 1 |
| C-N-N-CA-N-CA-C-N-CD | 125.00 | 55.04 | 1 |
| C-N-CD | 125.00 | 55.04 | 1 |
| C-CA-CA-C-N | 116.20 | 150.27 | 1 |
| C-CA-C-CA-CA-C-N | 116.20 | 150.18 | 1 |
| C-CA-N-CA-C | 111.00 | 158.53 | 1 |
| C-CA-CB | 110.10 | 142.34 | 1 |
| C-N-CD | 125.00 | 55.45 | 1 |
| C-CA-CB | 110.50 | 135.94 | 1 |
| CA-C-N-CA-C | 111.00 | 158.44 | 1 |
| C-N-CD | 125.00 | 55.53 | 1 |
| N-CA-CB | 110.50 | 139.29 | 1 |
| C-CA-CB | 110.10 | 142.27 | 1 |
| N-CA-CB | 110.40 | 85.01 | 1 |
| N-CA-CB | 110.50 | 139.27 | 1 |
| CA-C-CA-C-CA-C-C-CA-CB | 110.50 | 135.87 | 1 |
| C-CA-CB | 109.10 | 146.31 | 1 |
| C-CA-CB | 110.10 | 77.97 | 1 |
| N-CA-CB | 110.40 | 85.04 | 1 |
| CA-C-N | 116.20 | 82.40 | 1 |
| C-CA-CB | 110.10 | 78.00 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---------------------------------|--------------------|-----------------|--------------------|
| C-N-CA | 121.70 | 152.11 | 1 |
| CA-C-N | 116.20 | 82.42 | 1 |
| N-CA-C | 111.00 | 63.76 | 1 |
| C-CA-CB | 109.10 | 146.19 | 1 |
| N-CA-C | 111.00 | 63.81 | 1 |
| CA-C-N-CA-CA-C-C-N-CA | 121.70 | 151.99 | 1 |
| N-CA-N-CD-N-CA-C | 111.00 | 158.05 | 1 |
| N-CA-N-CA-C | 111.00 | 158.00 | 1 |
| N-CA-N-CD-N-CA-N-CA-C-N-CA-C-N | 116.20 | 149.73 | 1 |
| C-N-CA-C-N | 116.20 | 149.71 | 1 |
| N-CA-C | 111.00 | 64.08 | 1 |
| N-CA-C | 111.00 | 64.11 | 1 |
| N-CA-N-CA-C | 111.00 | 64.14 | 1 |
| CA-C-N-CA-N-CA-C | 111.00 | 64.16 | 1 |
| N-CA-N-CA-N-CA-C-N-N-CA-CA-N-CD | 112.00 | 88.62 | 1 |
| CA-C-C-N-CA-C-N-CA-C | 111.00 | 64.32 | 1 |
| N-CA-CA-N-CD | 112.00 | 88.67 | 1 |
| N-CA-C | 111.00 | 64.34 | 1 |
| CA-C-N-CA-CB | 110.50 | 138.80 | 1 |
| CA-C-O | 120.80 | 92.50 | 1 |
| CA-C-N-CA-CB | 110.50 | 138.78 | 1 |
| CA-C-CA-C-C-CA-CB | 110.10 | 78.54 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---------------------------|--------------------|-----------------|--------------------|
| CA-C-CA-N-CD | 112.00 | 88.75 | 1 |
| CA-C-O | 120.80 | 92.57 | 1 |
| CA-N-CD | 112.00 | 88.75 | 1 |
| C-CA-CB | 110.10 | 78.55 | 1 |
| N-CA-C | 111.00 | 64.52 | 1 |
| CA-C-N | 116.20 | 83.00 | 1 |
| N-CA-C | 111.00 | 64.53 | 1 |
| CA-C-C-CA-CB | 110.10 | 78.58 | 1 |
| N-CA-N-CA-C-CA-CB | 110.10 | 78.61 | 1 |
| C-N-CA | 121.70 | 91.87 | 1 |
| C-N-N-CA-CB | 103.00 | 121.22 | 1 |
| N-CA-CA-C-C-N-N-CA-C-N-CA | 121.70 | 91.92 | 1 |
| N-CA-CB | 103.00 | 121.20 | 1 |
| C-CA-N-CA-CA-C-N | 116.20 | 83.12 | 1 |
| N-CA-C-N-N-CA-C | 111.00 | 64.73 | 1 |
| N-CA-CB | 103.00 | 121.18 | 1 |
| N-CA-C | 111.00 | 64.75 | 1 |
| C-CA-C-N-N-CA-C-CA-CB | 110.10 | 141.46 | 1 |
| CA-C-N-CA-CB | 103.00 | 121.13 | 1 |
| C-CA-CB | 110.10 | 141.39 | 1 |
| C-N-CA | 121.70 | 92.06 | 1 |
| CA-C-N-CA-C-CA-CB | 110.10 | 141.35 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 111.40 | 80.16 | 1 |
| C-N-CA | 121.70 | 92.11 | 1 |
| N-CA-C-CA-CB | 111.40 | 80.19 | 1 |
| C-CA-CB | 110.10 | 141.28 | 1 |
| CA-C-C-CA-CB | 111.40 | 80.24 | 1 |
| C-CA-CB | 111.40 | 80.25 | 1 |
| N-CA-C-CA-CB | 110.10 | 141.24 | 1 |
| C-CA-C-CA-C-CA-CB | 110.10 | 141.24 | 1 |
| C-CA-CA-C-CA-C-C-CA-CB | 110.10 | 141.18 | 1 |
| C-CA-C-N-CA | 121.70 | 92.26 | 1 |
| N-CA-C | 111.00 | 65.21 | 1 |
| C-CA-CB | 110.10 | 141.16 | 1 |
| N-CA-C | 111.00 | 65.23 | 1 |
| N-CA-C-N-CA | 121.70 | 92.32 | 1 |
| N-CA-CB | 111.50 | 83.78 | 1 |
| N-CA-CB | 111.50 | 83.79 | 2 |
| CA-C-CA-C-N-CA-CB | 111.50 | 83.82 | 1 |
| CA-C-O | 120.80 | 93.12 | 1 |
| CA-C-O | 120.80 | 93.13 | 1 |
| CA-C-O | 120.80 | 148.47 | 1 |
| N-CA-C | 111.00 | 65.44 | 1 |
| N-CA-N-CA-C | 111.00 | 65.48 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------------|--------------------|-----------------|--------------------|
| N-CA-N-CA-CA-C-N-CA-CA-C-N | 116.20 | 148.67 | 1 |
| C-CA-C-CA-CB | 110.10 | 140.94 | 1 |
| CA-C-CA-N-CD | 112.00 | 89.29 | 1 |
| C-CA-C-N-N-CA-C-CA-CB | 110.10 | 140.91 | 1 |
| C-N-CA-C-O | 120.80 | 148.36 | 1 |
| CA-N-CD | 112.00 | 89.31 | 1 |
| CA-C-N-CA-CA-C-N | 116.20 | 148.59 | 1 |
| N-CA-N-CA-N-CA-CA-C-C-CA-CB | 110.10 | 79.38 | 1 |
| CA-C-N-CA-N-CA-N-CA-C-CA-CB | 110.10 | 79.44 | 1 |
| C-CA-C-CA-N-CA-C | 111.00 | 156.06 | 1 |
| C-CA-N-CA-CB | 110.50 | 137.83 | 1 |
| N-CA-C | 111.00 | 156.00 | 1 |
| N-CA-C | 111.00 | 155.96 | 1 |
| C-CA-CB | 110.10 | 140.61 | 1 |
| N-CA-CB | 110.50 | 137.79 | 1 |
| N-CA-C | 111.00 | 155.93 | 1 |
| C-CA-CB | 110.10 | 140.58 | 1 |
| N-CA-C | 111.00 | 66.08 | 1 |
| N-CA-CB | 110.50 | 137.77 | 1 |
| N-CA-C | 111.00 | 66.12 | 1 |
| C-CA-N-CA-CB | 110.50 | 137.75 | 1 |
| C-CA-CB | 110.10 | 79.65 | 2 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--|--------------------|-----------------|--------------------|
| C-CA-CB | 110.10 | 79.68 | 1 |
| C-CA-CB | 110.10 | 79.69 | 2 |
| C-CA-CB | 110.10 | 79.70 | 1 |
| C-CA-CB | 110.10 | 79.71 | 1 |
| C-CA-CB | 110.10 | 79.73 | 1 |
| N-CA-N-CA-C-N-CA | 121.70 | 150.47 | 1 |
| C-CA-C-CA-C-CA-N-CA-N-CA-N-CA-N-CA-C-CA-CB | 110.10 | 140.41 | 1 |
| C-CA-C-CA-CB | 110.10 | 140.36 | 1 |
| C-CA-C-N-CA | 121.70 | 150.34 | 1 |
| C-CA-C-CA-CB | 110.10 | 79.87 | 1 |
| N-CA-C | 111.00 | 155.54 | 1 |
| N-CA-C | 111.00 | 155.52 | 1 |
| CA-C-C-CA-N-CA-N-CA-CA-C-CA-N-CD | 112.00 | 89.79 | 1 |
| C-CA-CB | 110.10 | 79.97 | 1 |
| C-CA-CB | 110.10 | 79.98 | 1 |
| C-CA-CB | 110.10 | 79.99 | 1 |
| C-CA-N-CD-CA-N-N-CA-CB | 103.00 | 120.42 | 1 |
| C-CA-CA-N-N-CA-C-CA-CB | 110.10 | 80.05 | 1 |
| N-CA-N-CA-CA-C-N | 116.20 | 147.81 | 1 |
| C-N-C-CA-CB | 110.10 | 80.08 | 1 |
| C-N-CA | 121.70 | 150.13 | 1 |
| C-CA-N-CD-CA-N-CD | 112.00 | 89.90 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---------------------|--------------------|-----------------|--------------------|
| C-N-CA | 121.70 | 150.11 | 1 |
| N-CA-N-CA-CA-C-O | 120.80 | 93.98 | 1 |
| C-N-C-N-CA | 121.70 | 150.09 | 1 |
| N-CA-C-CA-N-CA-CB | 103.00 | 120.34 | 1 |
| C-CA-N-CA-CB-CG-ND2 | 116.40 | 92.76 | 1 |
| CA-C-O | 120.80 | 94.01 | 1 |
| C-CA-CA-C-N | 116.20 | 147.71 | 1 |
| C-CA-CB | 110.10 | 140.04 | 1 |
| CA-C-N | 116.20 | 84.70 | 2 |
| N-CA-CA-C-N | 116.20 | 84.73 | 1 |
| C-N-CA | 121.70 | 150.02 | 1 |
| CB-CG-ND2 | 116.40 | 92.80 | 1 |
| N-CA-N-CA-N-CA-C | 111.00 | 66.97 | 1 |
| C-N-CA-C-N | 116.20 | 84.76 | 1 |
| N-CA-C | 111.00 | 66.99 | 1 |
| C-CA-N-CA-CB | 110.50 | 137.22 | 1 |
| C-CA-CB | 110.10 | 139.94 | 1 |
| C-CA-C-CA-C-CA-CB | 110.10 | 80.29 | 1 |
| CA-C-N | 116.20 | 147.54 | 1 |
| CA-C-N | 116.20 | 147.52 | 1 |
| C-N-C-CA-CB | 110.10 | 80.39 | 1 |
| C-CA-CB | 110.10 | 139.81 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--------------|--------------------|-----------------|--------------------|
| C-CA-CB | 110.10 | 139.80 | 1 |
| N-CA-C | 111.00 | 67.26 | 1 |
| N-CA-C | 111.00 | 67.28 | 1 |
| N-CA-N-CA-C | 111.00 | 67.31 | 1 |
| N-CA-C | 111.00 | 67.34 | 1 |
| N-CA-CA-C-O | 120.80 | 94.36 | 1 |
| CA-C-O | 120.80 | 94.40 | 1 |
| C-CA-CB | 110.50 | 87.21 | 1 |
| CA-C-O | 120.80 | 147.12 | 1 |
| N-CA-CA-C-O | 120.80 | 94.48 | 1 |
| C-CA-CB | 110.50 | 87.28 | 1 |
| CA-C-O | 120.80 | 94.50 | 1 |
| N-CA-CB | 110.50 | 136.80 | 1 |
| C-CA-CB | 110.10 | 80.71 | 2 |
| CA-C-O | 120.80 | 147.09 | 1 |
| C-CA-CB | 110.50 | 87.31 | 1 |
| N-CA-C-CA-CB | 110.50 | 87.32 | 1 |
| C-CA-CB | 111.40 | 82.05 | 1 |
| C-CA-CB | 110.10 | 139.45 | 1 |
| CD-NE-CZ | 124.40 | 146.02 | 1 |
| C-N-CA | 121.70 | 93.90 | 1 |
| N-CA-CB | 111.50 | 85.25 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|----------------------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 111.40 | 82.07 | 1 |
| N-CA-CB | 111.50 | 85.26 | 1 |
| CA-C-O | 120.80 | 147.04 | 1 |
| C-CA-CB | 110.10 | 139.42 | 1 |
| N-CA-CB | 111.50 | 85.28 | 2 |
| C-N-CA | 121.70 | 93.96 | 1 |
| N-CA-CB | 111.50 | 85.30 | 1 |
| N-CA-CB | 110.50 | 136.70 | 1 |
| N-CA-CB | 110.50 | 136.68 | 1 |
| C-CA-C-CA-C-CA-C-CA-N-CA-CB | 111.50 | 85.36 | 1 |
| C-CA-N-CA-C | 111.00 | 67.97 | 1 |
| CA-C-O | 120.80 | 146.92 | 1 |
| C-CA-CB | 110.10 | 139.28 | 1 |
| N-CA-C | 111.00 | 68.01 | 1 |
| C-CA-CB | 110.10 | 139.26 | 1 |
| N-CA-CB | 110.50 | 136.59 | 1 |
| N-CA-N-CA-C-CA-N-CA-N-CA-C-CA-CB | 110.10 | 139.24 | 1 |
| N-CA-C-CA-CA-C-C-N-N-CA-CB | 110.50 | 136.52 | 1 |
| C-CA-CB | 110.10 | 139.18 | 1 |
| C-N-CA | 121.70 | 149.24 | 1 |
| C-CA-CB | 110.50 | 87.55 | 1 |
| C-CA-N-CA-C-CA-CD-NE-CZ | 124.40 | 145.80 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------|--------------------|-----------------|--------------------|
| N-CA-CA-C-C-CA-CB | 110.50 | 87.58 | 1 |
| C-CA-C-N-CA | 121.70 | 149.19 | 1 |
| N-CA-CB | 103.00 | 119.80 | 1 |
| C-CA-CB | 110.10 | 81.09 | 1 |
| N-CA-N-CA-N-CA-CB | 103.00 | 119.78 | 1 |
| C-CA-C-CA-N-CA-CB | 111.50 | 85.58 | 1 |
| C-CA-C-N-C-CA-N-CA-CB | 111.50 | 85.61 | 1 |
| N-CA-N-CA-C | 111.00 | 153.61 | 1 |
| CA-C-N | 116.90 | 94.08 | 1 |
| CA-C-N | 116.90 | 94.09 | 1 |
| N-CA-N-CA-C | 111.00 | 68.44 | 1 |
| OD1-CG-ND2 | 122.60 | 137.80 | 1 |
| N-CA-C | 111.00 | 68.45 | 3 |
| C-CA-CB | 110.10 | 81.23 | 1 |
| CA-C-N-CA-CB | 110.50 | 136.33 | 1 |
| N-CA-N-CA-CB | 110.50 | 136.31 | 2 |
| N-CA-CB | 110.50 | 136.31 | 1 |
| CA-C-N | 116.20 | 85.86 | 1 |
| C-CA-CB | 110.10 | 138.92 | 1 |
| CA-C-N | 116.90 | 94.14 | 1 |
| CA-C-CA-C-N | 116.20 | 85.87 | 1 |
| N-CA-C | 111.00 | 153.45 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|----------------------|--------------------|-----------------|--------------------|
| N-CA-CB | 110.50 | 136.27 | 1 |
| CA-C-N-CA-CB | 110.50 | 136.26 | 1 |
| C-CA-CB | 110.10 | 138.89 | 1 |
| N-CA-N-CA-C | 111.00 | 153.41 | 1 |
| C-CA-CB | 110.10 | 81.34 | 1 |
| C-CA-CB | 110.10 | 81.35 | 1 |
| N-CA-N-CA-OD1-CG-ND2 | 122.60 | 137.72 | 1 |
| CA-C-N-CA-CB | 110.50 | 84.81 | 1 |
| N-CA-C | 111.00 | 153.32 | 1 |
| C-CA-CA-C-CA-C-N | 116.20 | 85.99 | 1 |
| N-CA-C | 111.00 | 153.30 | 1 |
| CA-C-N | 116.20 | 85.99 | 1 |
| N-CA-C | 111.00 | 153.27 | 1 |
| CA-C-N | 116.90 | 94.26 | 1 |
| C-CA-CA-C-C-N-CA | 121.70 | 94.55 | 1 |
| C-N-N-CA-C | 111.00 | 153.23 | 1 |
| N-CA-CA-C-O | 119.00 | 73.77 | 1 |
| N-CA-C | 111.00 | 153.21 | 1 |
| N-CA-CB | 110.50 | 84.88 | 1 |
| N-CA-C | 111.00 | 153.20 | 1 |
| N-CA-C | 111.00 | 153.19 | 1 |
| CA-C-O | 119.00 | 73.80 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---|--------------------|-----------------|--------------------|
| C-CA-CB | 110.50 | 87.91 | 1 |
| C-N-N-CA-C | 111.00 | 153.14 | 1 |
| N-CA-N-CA-N-CA-C | 111.00 | 153.13 | 1 |
| CA-C-C-CA-CB | 110.50 | 87.94 | 1 |
| C-N-N-CA-C-N-CA | 121.70 | 94.64 | 1 |
| N-CD-CA-C-C-N-N-CA-C-N-N-CA-CA-C-N-CD-C-N-CA-N-CD | 112.00 | 91.03 | 1 |
| C-N-CA | 121.70 | 94.75 | 2 |
| N-CA-CB | 110.50 | 135.94 | 1 |
| C-CA-CB | 110.10 | 138.52 | 1 |
| CA-C-N-CA-CB | 110.50 | 135.92 | 1 |
| C-CA-CB | 110.10 | 138.51 | 1 |
| CA-C-CA-N-CD | 112.00 | 91.07 | 1 |
| CA-C-CA-C-O | 120.80 | 95.40 | 1 |
| N-CA-CB | 110.50 | 85.10 | 1 |
| CA-C-O | 120.80 | 95.40 | 1 |
| N-CA-CB | 110.50 | 85.11 | 1 |
| C-CA-CB | 110.10 | 138.48 | 1 |
| N-CA-CB | 110.50 | 135.89 | 1 |
| N-CA-CA-C-N | 116.20 | 146.06 | 1 |
| N-CA-N-CA-CB | 103.00 | 119.40 | 1 |
| N-CA-N-CA-CB | 103.00 | 119.39 | 1 |
| N-CA-N-CA-CA-C-N | 116.20 | 145.98 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------|--------------------|-----------------|--------------------|
| N-CA-CB | 110.50 | 135.81 | 1 |
| C-CA-N-CA-C-CA-CB | 110.10 | 138.37 | 1 |
| C-CA-CB | 110.10 | 81.83 | 1 |
| CA-C-C-CA-N-CA-CB | 110.40 | 132.70 | 1 |
| N-CA-C-CA-CB | 110.10 | 81.86 | 1 |
| C-CA-CB | 110.10 | 81.86 | 1 |
| C-CA-N-CA-C-CA-N-CA-C | 112.10 | 149.21 | 1 |
| CA-C-N-CA-C | 112.10 | 149.19 | 1 |
| N-CA-CB | 110.40 | 132.65 | 1 |
| C-CA-CB | 110.10 | 138.29 | 1 |
| C-CA-CB | 110.10 | 138.28 | 1 |
| C-CA-CB | 110.10 | 81.92 | 2 |
| C-CA-CB | 110.10 | 81.93 | 1 |
| N-CA-C | 112.10 | 149.16 | 1 |
| N-CA-C | 112.10 | 149.15 | 1 |
| C-CA-CB | 110.10 | 81.97 | 1 |
| C-CA-CB | 110.10 | 81.99 | 1 |
| CA-C-N | 116.20 | 86.61 | 1 |
| C-CA-CB | 110.10 | 82.00 | 1 |
| C-CA-CB | 110.10 | 138.20 | 1 |
| C-CA-CA-C-O | 120.80 | 95.68 | 1 |
| N-CA-C-CA-CB | 110.10 | 82.03 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---------------------------------|--------------------|-----------------|--------------------|
| CA-C-O | 120.80 | 95.69 | 1 |
| CA-C-N | 116.20 | 86.66 | 1 |
| CA-C-C-CA-CB | 110.10 | 138.15 | 1 |
| N-CA-C-CA-CA-C-N | 116.20 | 86.71 | 1 |
| CA-C-N | 116.20 | 86.73 | 1 |
| N-CA-N-CA-CA-C-N | 116.20 | 86.76 | 1 |
| C-N-CA | 121.70 | 95.20 | 1 |
| CA-C-N | 116.20 | 86.76 | 1 |
| CA-C-O | 120.80 | 95.78 | 1 |
| CA-C-N-CA-C-CA-C-CA-C-CA-C-N-CA | 121.70 | 95.25 | 1 |
| CA-C-O | 120.80 | 95.82 | 1 |
| N-CA-CA-C-O | 120.80 | 95.83 | 1 |
| C-N-CA | 121.70 | 95.27 | 1 |
| N-CA-C | 111.00 | 152.11 | 2 |
| N-CA-N-CA-C-CA-N-CA-C | 111.00 | 152.09 | 1 |
| CA-C-O | 120.80 | 95.86 | 1 |
| C-N-CA | 121.70 | 95.30 | 1 |
| N-CA-C-CA-CB | 109.10 | 141.35 | 1 |
| N-CA-CA-C-N | 116.20 | 86.90 | 1 |
| C-CA-CB | 109.10 | 141.32 | 1 |
| N-CA-CA-C-N | 116.20 | 86.92 | 1 |
| C-CA-CA-C-N | 116.20 | 86.93 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--------------------------------------|--------------------|-----------------|--------------------|
| CA-C-N | 116.20 | 86.93 | 1 |
| N-CA-C | 111.00 | 151.98 | 1 |
| CA-C-C-CA-C-CA-C-CA-CA-C-C-CA-C-N-CA | 121.70 | 95.38 | 1 |
| N-CA-C | 111.00 | 70.07 | 1 |
| CA-C-N-CA-C | 111.00 | 70.12 | 1 |
| N-CA-N-CA-C | 111.00 | 70.13 | 1 |
| C-CA-N-CA-C | 111.00 | 70.17 | 1 |
| CA-C-CA-C-CA-C-CA-C-CA-C-C-N-CA | 121.70 | 147.92 | 1 |
| CA-C-CA-C-CA-C-C-N-CA | 121.70 | 147.90 | 1 |
| CA-C-C-N-CA | 121.70 | 147.89 | 1 |
| C-CA-CB | 110.50 | 88.67 | 1 |
| CA-C-C-CA-C-N-CA | 121.70 | 95.53 | 1 |
| CA-C-C-CA-CB | 110.10 | 137.72 | 1 |
| N-CA-C-CA-CB | 110.10 | 137.70 | 1 |
| C-N-CA | 121.70 | 147.82 | 1 |
| N-CA-C-CA-C-CA-CB | 110.50 | 88.75 | 1 |
| C-N-CA | 121.70 | 147.80 | 1 |
| C-CA-C-CA-C-N-CA | 121.70 | 147.76 | 1 |
| N-CA-C | 111.00 | 70.48 | 1 |
| CA-C-N-CA-C-CA-N-CA-C | 111.00 | 70.55 | 1 |
| C-CA-CB | 110.10 | 82.65 | 1 |
| C-CA-C-CA-C-CA-CB | 110.10 | 82.67 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--------------------------------------|--------------------|-----------------|--------------------|
| N-CA-N-CA-N-CA-CB | 110.50 | 135.03 | 1 |
| C-CA-CB | 110.10 | 82.70 | 1 |
| C-CA-N-CA-N-CA-CA-C-CA-C-CA-N-CA-C-O | 120.80 | 145.24 | 1 |
| N-CA-CB | 110.50 | 86.06 | 1 |
| N-CA-N-CA-CB | 110.50 | 86.07 | 1 |
| N-CA-CB | 110.50 | 134.92 | 1 |
| C-CA-C-CA-CA-C-C-CA-C-CA-C-CA-CB | 110.10 | 82.85 | 1 |
| CA-C-O | 120.80 | 145.18 | 1 |
| C-CA-C-CA-CB | 110.10 | 82.85 | 1 |
| CA-C-O | 120.80 | 145.17 | 1 |
| N-CA-N-CA-C | 111.00 | 70.86 | 1 |
| C-CA-N-CA-CA-C-O | 120.80 | 145.16 | 1 |
| C-CA-CB | 110.10 | 82.88 | 1 |
| CA-N-N-CA-CA-C-O | 120.80 | 145.15 | 1 |
| N-CA-C | 111.00 | 70.90 | 1 |
| CA-C-C-N-CA | 121.70 | 147.46 | 1 |
| CA-C-O | 120.80 | 145.12 | 2 |
| CA-C-CA-C-O | 120.80 | 145.11 | 1 |
| N-CA-CB | 110.50 | 86.19 | 1 |
| N-CA-N-CA-N-CA-CB | 110.50 | 86.24 | 1 |
| N-CA-CB | 110.50 | 86.26 | 1 |
| N-CA-N-CA-CB | 110.50 | 86.28 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 110.10 | 83.04 | 1 |
| N-CA-C-N-CA | 121.70 | 147.32 | 1 |
| C-CA-CA-C-O | 120.80 | 96.60 | 1 |
| N-CA-C-CA-CB | 110.10 | 83.07 | 1 |
| CA-C-O | 120.80 | 96.62 | 1 |
| C-CA-N-CA-CB | 110.50 | 86.33 | 1 |
| N-CA-N-CA-CB | 110.50 | 86.34 | 1 |
| C-CA-CB | 110.10 | 137.09 | 1 |
| C-CA-CB | 110.10 | 137.08 | 1 |
| N-CA-N-CA-C-CA-CB | 111.60 | 83.24 | 1 |
| C-N-CA | 121.70 | 147.21 | 1 |
| C-CA-CB | 111.60 | 83.28 | 1 |
| C-N-CA | 121.70 | 147.19 | 1 |
| N-CA-CB | 110.50 | 134.57 | 1 |
| CA-C-N-CA-CB | 110.50 | 134.55 | 1 |
| C-N-CA | 121.70 | 147.16 | 1 |
| C-CA-C-CA-CB | 111.60 | 139.84 | 1 |
| C-CA-CB | 111.60 | 139.83 | 1 |
| C-CA-CA-C-C-CA-CA-C-O | 120.80 | 96.83 | 1 |
| C-CA-N-CA-C-N-CA | 121.70 | 147.03 | 1 |
| C-CA-C-CA-CA-C-O | 120.80 | 144.70 | 1 |
| CA-C-O | 120.80 | 144.69 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---|--------------------|-----------------|--------------------|
| CA-C-C-N-CA-C-C-CA-N-CA-N-CA-C-N-CA-C-O | 120.80 | 96.98 | 1 |
| C-CA-CB | 110.10 | 136.69 | 2 |
| CA-C-C-CA-CB | 110.10 | 136.68 | 1 |
| C-CA-CB | 110.10 | 136.66 | 1 |
| C-N-CA | 121.70 | 96.55 | 2 |
| CA-C-C-CA-CA-C-O | 120.80 | 97.06 | 1 |
| C-CA-N-CA-CB | 111.50 | 135.21 | 1 |
| CA-C-O | 120.80 | 97.11 | 1 |
| CA-C-CA-C-O | 120.80 | 97.11 | 1 |
| C-CA-C-CA-CB | 110.10 | 136.52 | 1 |
| CA-C-O | 120.80 | 97.16 | 1 |
| CA-C-N-CA-CB | 110.50 | 86.87 | 1 |
| N-CA-CB | 111.50 | 135.13 | 1 |
| C-CA-CA-C-O | 120.80 | 97.17 | 1 |
| CA-C-CA-C-N-CA-CB | 110.50 | 86.88 | 1 |
| CA-C-N-CA-CB | 111.50 | 135.10 | 1 |
| N-CA-CB | 111.50 | 135.09 | 1 |
| C-CA-CB | 110.10 | 136.46 | 1 |
| C-N-CA-N-CA-C-C-CA-CB | 110.10 | 136.42 | 1 |
| C-N-CA-C-C-CA-CB | 111.60 | 83.91 | 1 |
| CA-N-C-CA-CB | 110.10 | 136.39 | 1 |
| C-N-CA-C-O | 120.80 | 97.28 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--|--------------------|-----------------|--------------------|
| N-CA-CB | 110.50 | 86.98 | 1 |
| C-CA-CB | 111.60 | 83.94 | 1 |
| C-CA-C-CA-CB | 110.10 | 136.37 | 1 |
| N-CA-CB | 110.50 | 87.01 | 1 |
| C-CA-CB | 110.50 | 89.78 | 1 |
| N-CA-C | 111.00 | 72.33 | 1 |
| N-CA-C | 111.00 | 72.34 | 2 |
| N-CA-C-N-N-CA-C-CA-CA-C-C-CA-CB | 110.50 | 89.79 | 1 |
| C-CA-N-CA-C | 111.00 | 72.39 | 1 |
| C-CA-CB | 110.10 | 136.29 | 1 |
| C-CA-CB | 110.10 | 83.93 | 1 |
| C-CA-C-CA-C-CA-C-CA-C-CA-CB | 110.10 | 136.24 | 1 |
| N-CA-C | 111.00 | 72.47 | 1 |
| N-CA-C-CA-CA-C-N-CA-C-CA-C-CA-N-CA-C-CA-CB | 110.10 | 84.00 | 1 |
| N-CA-C | 111.00 | 72.55 | 1 |
| N-CA-N-CA-CB | 110.50 | 133.84 | 1 |
| C-CA-CA-C-C-CA-C-CA-CB | 110.10 | 136.17 | 1 |
| CA-C-C-CA-CA-C-N-CA-CA-C-O | 120.80 | 144.06 | 1 |
| N-CA-N-CA-CB | 110.50 | 133.75 | 1 |
| N-CA-N-CA-C-CA-CB | 111.40 | 85.43 | 1 |
| C-CA-N-CA-CA-C-O | 120.80 | 143.97 | 1 |
| C-CA-N-CA-CB | 110.50 | 87.33 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|----------------------------------|--------------------|-----------------|--------------------|
| C-CA-C-CA-CB | 111.40 | 85.52 | 1 |
| N-CA-CB | 110.50 | 87.34 | 1 |
| C-CA-CA-C-O | 120.80 | 97.67 | 1 |
| N-CA-CA-C-C-CA-C-N-CA | 121.70 | 146.17 | 1 |
| CA-C-C-CA-CA-C-O | 120.80 | 97.71 | 1 |
| N-CA-N-CA-N-CA-C | 112.10 | 78.17 | 1 |
| N-CA-C | 111.00 | 148.99 | 1 |
| C-N-CA | 121.70 | 146.12 | 1 |
| N-CA-C | 111.00 | 148.98 | 1 |
| C-CA-CB | 111.40 | 85.63 | 1 |
| C-CA-CB | 111.40 | 85.64 | 1 |
| N-CA-C-CA-C-CA-N-CA-C-CA-C-CA-CB | 110.10 | 135.84 | 1 |
| C-CA-CB | 110.10 | 84.37 | 1 |
| C-CA-CB | 111.60 | 84.53 | 1 |
| N-CA-C | 112.10 | 78.28 | 1 |
| C-CA-CB | 110.10 | 135.80 | 1 |
| C-CA-CB | 111.60 | 84.56 | 1 |
| N-CA-CB | 110.50 | 87.52 | 1 |
| C-CA-N-CA-CB | 110.50 | 87.53 | 1 |
| C-CA-CB | 110.10 | 84.44 | 2 |
| C-CA-CB | 110.10 | 84.46 | 1 |
| N-CD-CG | 103.20 | 123.43 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 110.10 | 135.72 | 1 |
| N-CD-CG | 103.20 | 123.42 | 1 |
| C-CA-CB | 110.10 | 135.71 | 1 |
| CA-C-C-CA-CB | 110.10 | 135.69 | 1 |
| C-N-CA | 121.70 | 97.45 | 1 |
| C-CA-CB | 110.10 | 135.69 | 1 |
| N-CA-CB | 110.50 | 133.38 | 1 |
| N-CA-CB | 110.50 | 87.64 | 1 |
| C-CA-CB | 110.10 | 135.65 | 1 |
| C-CA-C-CA-CB | 110.10 | 135.64 | 1 |
| C-CA-N-CA-N-CA-CB | 110.50 | 87.66 | 1 |
| C-CA-C-N-CA | 121.70 | 97.53 | 1 |
| N-CA-CB | 111.50 | 134.31 | 1 |
| C-CA-CB | 110.10 | 84.62 | 2 |
| CA-C-O | 120.80 | 98.00 | 1 |
| CA-C-CA-C-O | 120.80 | 98.01 | 1 |
| N-CA-CA-C-N-CA-CB | 111.50 | 134.28 | 1 |
| N-CA-CB | 111.50 | 134.28 | 1 |
| CA-C-N-CA-CB | 111.50 | 134.27 | 1 |
| N-CA-CB | 110.50 | 133.27 | 1 |
| N-CA-CB | 111.50 | 134.26 | 1 |
| C-CA-C-N-CA | 122.60 | 55.71 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---------------------------------|--------------------|-----------------|--------------------|
| C-N-CA | 122.60 | 55.72 | 1 |
| C-N-CD | 125.00 | 70.21 | 1 |
| C-N-CD | 125.00 | 70.22 | 1 |
| N-CA-CB | 111.50 | 134.21 | 1 |
| C-CA-C-N-CA | 121.70 | 97.69 | 1 |
| N-CA-N-CA-CB | 110.50 | 87.84 | 1 |
| CA-C-C-CA-CB | 110.10 | 84.80 | 1 |
| O-C-N | 123.00 | 101.69 | 1 |
| CA-C-N | 116.20 | 142.83 | 1 |
| C-N-CA | 121.70 | 97.75 | 2 |
| C-CA-CB | 110.10 | 84.82 | 1 |
| C-CA-CA-C-N | 116.20 | 142.80 | 1 |
| C-CA-CB | 110.10 | 84.83 | 1 |
| N-CA-CB | 110.50 | 87.89 | 1 |
| C-CA-CB | 110.10 | 84.84 | 1 |
| C-CA-CB | 110.10 | 135.36 | 1 |
| C-CA-C-CA-CB | 110.10 | 135.34 | 1 |
| C-N-CA | 121.70 | 97.79 | 1 |
| CA-C-O | 120.80 | 98.22 | 1 |
| N-CA-N-CA-C-CA-N-CA-CA-C-C-N-CA | 121.70 | 145.58 | 1 |
| CA-C-O | 120.80 | 98.25 | 1 |
| CA-C-O | 120.80 | 98.26 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------------|--------------------|-----------------|--------------------|
| O-C-C-N-CA | 121.70 | 145.57 | 1 |
| O-C-N | 123.00 | 101.79 | 1 |
| CA-C-O-C-N | 123.00 | 101.80 | 1 |
| CA-C-C-N-CA | 121.70 | 145.54 | 1 |
| C-CA-CB | 110.10 | 84.94 | 1 |
| CA-C-O | 120.80 | 98.29 | 1 |
| O-C-O-C-N | 123.00 | 101.82 | 1 |
| O-C-C-N-CA | 121.70 | 145.52 | 1 |
| C-CA-CB | 110.10 | 84.96 | 1 |
| N-CA-C | 111.00 | 73.96 | 1 |
| O-C-N | 123.00 | 101.83 | 2 |
| C-N-CA | 121.70 | 145.51 | 2 |
| C-CA-CB | 110.10 | 84.97 | 1 |
| N-CA-C | 111.00 | 73.97 | 1 |
| O-C-N | 123.00 | 101.85 | 2 |
| C-CA-CB | 110.10 | 84.99 | 1 |
| O-C-O-C-N | 123.00 | 101.85 | 1 |
| C-CA-O-C-N | 123.00 | 101.86 | 1 |
| O-C-O-C-N | 123.00 | 101.87 | 1 |
| C-CA-O-C-O-C-O-C-N | 123.00 | 101.88 | 1 |
| O-C-O-C-CA-C-O-C-CA-C-O | 120.80 | 98.39 | 1 |
| O-C-N | 123.00 | 101.91 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--|--------------------|-----------------|--------------------|
| C-CA-CB | 109.10 | 138.10 | 2 |
| O-C-O-C-O-C-C-CA-CB | 110.10 | 85.06 | 1 |
| O-C-O-C-C-CA-C-CA-CB | 110.10 | 135.13 | 1 |
| O-C-N | 123.00 | 101.92 | 2 |
| O-C-O-C-C-CA-CB | 110.10 | 135.11 | 1 |
| N-CA-C | 111.00 | 147.86 | 1 |
| O-C-CA-C-O | 120.80 | 98.43 | 1 |
| CA-C-O | 120.80 | 98.43 | 1 |
| O-C-N | 123.00 | 101.95 | 1 |
| N-CA-C | 111.00 | 147.82 | 1 |
| C-CA-CB | 110.10 | 85.12 | 1 |
| C-N-C-N-O-C-C-CA-C-N-O-C-N-CA-N-CA-C-CA-CB | 110.10 | 85.16 | 1 |
| C-CA-CA-C-CA-C-O | 120.80 | 98.49 | 1 |
| C-CA-CB | 110.10 | 85.17 | 1 |
| C-CA-CB | 110.10 | 135.03 | 1 |
| C-CA-N-CA-C-CA-CB | 110.10 | 85.19 | 1 |
| CA-C-O | 120.80 | 98.51 | 1 |
| N-CA-C-CA-C-CA-CB | 110.10 | 85.21 | 1 |
| C-CA-C-N-N-CA-N-CD-C-CA-CB | 110.10 | 134.97 | 1 |
| C-CA-CB | 110.10 | 85.24 | 1 |
| C-CA-C-CA-C-CA-C-CA-N-CA-C | 111.00 | 147.62 | 1 |
| N-CD-N-CA-C | 111.00 | 147.61 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--------------------------------------|--------------------|-----------------|--------------------|
| N-CA-C-N-CA | 121.70 | 145.23 | 1 |
| CA-C-O | 120.80 | 98.57 | 1 |
| N-CA-C-CA-N-CA-C-CA-N-CA-C-CA-N-CA-C | 111.00 | 74.45 | 1 |
| CA-C-O | 119.00 | 79.85 | 1 |
| C-CA-CB | 110.10 | 134.89 | 1 |
| C-N-C-CA-CB | 110.10 | 134.88 | 1 |
| CA-C-O | 119.00 | 79.89 | 1 |
| C-CA-N-CA-C | 111.00 | 74.50 | 1 |
| C-CA-CB | 110.10 | 134.87 | 1 |
| C-CA-CB | 110.10 | 85.34 | 1 |
| C-CA-C-CA-C-N-N-CA-C-CA-CB | 110.10 | 134.81 | 1 |
| C-CA-CB | 110.10 | 134.80 | 1 |
| N-CA-CB | 110.50 | 88.40 | 1 |
| N-CA-N-CA-CB | 110.50 | 132.59 | 1 |
| C-CA-CB | 110.10 | 134.79 | 1 |
| C-CA-N-CA-C | 111.00 | 74.63 | 1 |
| N-CA-N-CA-CB | 110.50 | 132.58 | 1 |
| N-CA-CB | 110.50 | 132.57 | 1 |
| C-N-CA | 121.70 | 145.07 | 1 |
| C-CA-CB | 110.10 | 134.76 | 1 |
| N-CA-C | 111.00 | 74.65 | 1 |
| C-CA-CB | 110.10 | 134.75 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------|--------------------|-----------------|--------------------|
| C-CA-C-CA-CB | 110.10 | 134.74 | 1 |
| C-CA-CB | 110.10 | 134.74 | 1 |
| N-CA-C-N-CA-C-O | 120.80 | 98.77 | 1 |
| CA-C-O | 120.80 | 142.83 | 1 |
| C-N-C-N-CA | 121.70 | 145.02 | 1 |
| N-CA-N-CA-CB | 110.50 | 132.52 | 1 |
| CA-C-CA-C-O | 120.80 | 98.79 | 1 |
| C-CA-CB | 110.10 | 134.70 | 1 |
| C-N-CA | 121.70 | 145.00 | 1 |
| CA-C-O | 120.80 | 142.80 | 1 |
| C-CA-C-CA-CB | 110.10 | 134.67 | 1 |
| CA-C-O | 120.80 | 142.78 | 1 |
| N-CA-C-CA-N-CA-CB | 110.50 | 88.53 | 1 |
| C-CA-CB | 110.10 | 134.64 | 1 |
| N-CA-C-N-CA | 121.70 | 98.45 | 1 |
| C-N-CA | 121.70 | 144.95 | 1 |
| N-CA-CB | 110.50 | 132.45 | 1 |
| N-CA-CB | 103.00 | 117.20 | 1 |
| N-CA-C-CA-C-CA-CB | 110.10 | 134.62 | 1 |
| N-CA-CB | 110.50 | 132.44 | 1 |
| N-CA-C-CA-CA-C-O | 120.80 | 142.73 | 1 |
| N-CA-C | 112.10 | 144.35 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------------|--------------------|-----------------|--------------------|
| CA-C-O | 120.80 | 142.73 | 1 |
| C-CA-CB | 110.10 | 134.60 | 2 |
| CA-C-O | 120.80 | 98.88 | 1 |
| C-CA-CB | 110.10 | 134.59 | 1 |
| N-CA-CB | 103.00 | 117.17 | 1 |
| C-CA-CB | 111.40 | 86.92 | 2 |
| CA-C-O | 120.80 | 98.90 | 1 |
| C-CA-CB | 110.10 | 134.58 | 1 |
| N-CA-C | 112.10 | 144.30 | 1 |
| N-CA-CA-C-CA-C-N-CA-C-CA-CB | 110.10 | 134.55 | 1 |
| C-CA-CB | 110.10 | 134.55 | 1 |
| N-CA-C-CA-CB | 110.10 | 134.54 | 1 |
| C-N-CA | 121.70 | 98.55 | 1 |
| N-CA-N-CA-N-CA-CA-C-N | 116.20 | 141.89 | 1 |
| N-CA-C-N-CA | 121.70 | 144.82 | 1 |
| CA-C-CA-C-N | 116.20 | 141.88 | 1 |
| CA-C-N | 116.20 | 90.53 | 1 |
| N-CA-C-CA-CB | 110.10 | 134.48 | 1 |
| N-CA-CB | 110.50 | 132.31 | 2 |
| N-CA-CA-C-O | 120.80 | 99.02 | 1 |
| N-CA-CA-C-N | 116.20 | 90.58 | 1 |
| CA-C-O | 120.80 | 142.57 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---|--------------------|-----------------|--------------------|
| N-CA-CB | 110.50 | 132.26 | 1 |
| CA-C-CA-C-C-N-N-CA-N-CA-N-CA-CA-C-O | 120.80 | 99.07 | 1 |
| C-N-C-N-C-CA-CB | 110.10 | 134.35 | 1 |
| C-N-N-CA-CB | 110.50 | 132.19 | 1 |
| C-CA-CB | 110.50 | 91.37 | 1 |
| CA-C-O | 120.80 | 99.12 | 1 |
| N-CA-CA-C-O | 120.80 | 99.14 | 1 |
| C-N-C-CA-CB | 110.10 | 134.29 | 1 |
| N-CA-CB | 110.40 | 91.30 | 1 |
| N-CA-N-CA-C-CA-CB | 110.10 | 134.27 | 1 |
| C-CA-CB | 110.10 | 134.26 | 1 |
| N-CA-N-CA-CA-C-O | 120.80 | 99.19 | 1 |
| C-N-CA-C-CA-C-O | 120.80 | 99.19 | 1 |
| C-CA-CB | 110.50 | 91.44 | 1 |
| C-CA-C-CA-N-CA-N-CA-N-CA-CA-C-CA-C-CA-C-C-CA-CB | 110.10 | 134.21 | 1 |
| C-CA-CB | 111.60 | 86.23 | 1 |
| N-CA-N-CA-CB | 103.00 | 116.95 | 1 |
| CA-C-C-CA-CB | 110.10 | 86.01 | 1 |
| CA-C-N | 116.20 | 90.84 | 1 |
| C-CA-CB | 110.10 | 134.19 | 1 |
| CA-C-C-CA-CB | 111.60 | 86.25 | 1 |
| N-CA-CA-C-N | 116.20 | 90.86 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---------------------------------|--------------------|-----------------|--------------------|
| CA-C-O | 120.80 | 99.26 | 1 |
| N-CA-C | 111.00 | 75.53 | 1 |
| N-CA-CB | 110.40 | 91.40 | 1 |
| C-CA-CB | 110.10 | 86.03 | 1 |
| N-CA-C | 111.00 | 75.54 | 1 |
| C-CA-N-CA-N-CA-CA-C-CA-C-CA-C-O | 120.80 | 99.29 | 1 |
| C-CA-CB | 111.60 | 86.29 | 1 |
| CA-C-N-CA-N-CA-C | 111.00 | 75.58 | 1 |
| C-CA-CB | 110.10 | 86.07 | 1 |
| C-CA-CB | 110.10 | 86.08 | 1 |
| C-N-CA | 121.70 | 98.95 | 2 |
| C-CA-CB | 110.10 | 86.09 | 1 |
| N-CA-CA-C-O | 120.80 | 99.32 | 1 |
| N-CA-N-CA-CA-C-O | 120.80 | 142.28 | 1 |
| CA-C-N-CA-C | 111.00 | 75.64 | 1 |
| C-N-N-CA-C-N-CA | 121.70 | 98.97 | 1 |
| CA-C-N-CA-C | 111.00 | 146.34 | 1 |
| N-CA-C | 111.00 | 146.34 | 1 |
| N-CA-C-N-CA | 121.70 | 98.99 | 1 |
| C-CA-CB | 110.10 | 86.13 | 1 |
| N-CA-C-N-CA | 121.70 | 99.00 | 1 |
| N-CA-CB | 111.50 | 132.94 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|----------------------------------|--------------------|-----------------|--------------------|
| C-CA-C-N-CA | 121.70 | 99.02 | 1 |
| CA-C-O | 120.80 | 99.38 | 1 |
| N-CA-CB | 110.50 | 131.92 | 1 |
| CA-C-CA-C-C-CA-CB | 111.60 | 86.41 | 1 |
| CA-C-O | 120.80 | 142.21 | 1 |
| CA-C-C-CA-CB | 110.10 | 86.17 | 1 |
| C-N-CA | 121.70 | 99.03 | 1 |
| C-CA-CB | 110.10 | 86.19 | 1 |
| CA-C-CA-C-O | 120.80 | 99.42 | 1 |
| C-N-CA | 121.70 | 99.07 | 1 |
| C-N-CA | 121.70 | 99.08 | 1 |
| N-CA-CB | 110.50 | 131.86 | 1 |
| C-N-N-CA-CB | 111.50 | 132.85 | 1 |
| CA-C-O | 120.80 | 99.46 | 1 |
| C-N-CA | 121.70 | 99.10 | 1 |
| CA-C-C-N-CA-C-C-CA-CB | 110.10 | 133.92 | 1 |
| CA-C-C-N-C-N-C-CA-CB | 110.10 | 133.89 | 1 |
| C-CA-CB | 110.10 | 133.89 | 1 |
| N-CA-CB | 103.00 | 116.77 | 1 |
| C-CA-CB | 110.10 | 133.87 | 1 |
| CA-C-C-CA-CA-C-C-CA-C-CA-N-CA-CB | 110.50 | 131.74 | 1 |
| N-CA-N-CA-CB | 110.40 | 129.13 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|----------------------------|--------------------|-----------------|--------------------|
| C-CA-CA-C-C-N-CA | 121.70 | 144.15 | 1 |
| C-CA-CB | 110.10 | 133.80 | 2 |
| N-CA-C-N-CA | 121.70 | 144.14 | 1 |
| C-CA-CA-C-N-CA-C | 111.00 | 76.12 | 1 |
| N-CA-C | 111.00 | 76.15 | 1 |
| C-CA-N-CA-CB | 110.40 | 129.06 | 1 |
| C-N-C-CA-N-CA-CB | 110.50 | 131.64 | 1 |
| N-CA-C-CA-N-CA-C-CA-CA-C-N | 116.20 | 141.04 | 1 |
| C-CA-CB | 110.10 | 133.68 | 1 |
| C-CA-CB | 110.10 | 86.52 | 1 |
| N-CA-C-N-N-CA-N-CA-CB | 111.50 | 90.41 | 1 |
| C-CA-CB | 110.10 | 133.67 | 1 |
| N-CA-CB | 111.50 | 90.42 | 2 |
| CA-C-N | 116.20 | 141.00 | 1 |
| CA-C-N | 116.20 | 91.40 | 1 |
| CA-CB-CG | 112.60 | 125.00 | 1 |
| N-CA-CA-C-N | 116.90 | 98.31 | 1 |
| C-CA-N-CA-N-CA-CB | 111.50 | 90.44 | 1 |
| C-CA-CB | 110.10 | 86.56 | 2 |
| CA-C-N | 116.20 | 91.43 | 1 |
| CA-C-O | 120.80 | 141.84 | 1 |
| C-CA-N-CA-N-CA-C-CA-CB | 110.10 | 86.60 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------------|--------------------|-----------------|--------------------|
| CA-C-C-CA-CB | 110.10 | 86.60 | 1 |
| C-N-N-CA-C-CA-CB | 110.10 | 86.61 | 1 |
| N-CA-CA-C-N | 116.90 | 98.36 | 1 |
| C-CA-CB | 110.10 | 86.63 | 2 |
| N-CA-C | 111.00 | 145.57 | 1 |
| C-CA-CB | 110.10 | 86.64 | 1 |
| C-N-CA | 121.70 | 99.48 | 1 |
| N-CA-C | 111.00 | 145.56 | 1 |
| N-CA-C | 113.30 | 149.09 | 1 |
| C-CA-CA-C-C-CA-CA-CB-CG | 112.60 | 124.93 | 1 |
| C-CA-CA-C-O | 120.80 | 99.85 | 1 |
| CA-C-N-CA-C-CA-CB | 110.10 | 86.70 | 1 |
| C-CA-C-CA-CB | 110.10 | 133.50 | 1 |
| CA-C-O | 120.80 | 141.73 | 1 |
| C-N-CA | 121.70 | 99.54 | 1 |
| N-CA-C-CA-CB | 110.10 | 133.48 | 1 |
| C-CA-CA-C-C-CA-CA-C-N | 116.20 | 140.78 | 1 |
| C-CA-C-CA-CA-C-O | 120.80 | 99.92 | 1 |
| CA-C-N | 116.20 | 140.76 | 1 |
| N-CA-C | 111.00 | 76.61 | 1 |
| C-CA-CB | 110.10 | 86.77 | 3 |
| C-CA-CB | 110.10 | 133.43 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------|--------------------|-----------------|--------------------|
| CA-C-O | 120.80 | 99.94 | 1 |
| N-CD-CG | 103.20 | 84.79 | 1 |
| N-CA-C | 113.30 | 148.88 | 1 |
| N-CA-C | 111.00 | 76.65 | 1 |
| O-C-O-C-N-CD-CG | 103.20 | 84.81 | 1 |
| C-CA-CB | 110.10 | 133.39 | 1 |
| C-CA-N-CA-C | 111.00 | 76.69 | 1 |
| CA-C-C-CA-C-CA-CB | 110.10 | 133.37 | 1 |
| CA-C-CA-C-O | 120.80 | 99.98 | 1 |
| C-CA-CB | 110.10 | 86.84 | 1 |
| C-CA-CB | 110.10 | 133.36 | 1 |
| N-CA-N-CA-CB | 110.40 | 128.75 | 1 |
| N-CA-CB | 110.50 | 89.71 | 1 |
| N-CA-CB | 111.50 | 132.29 | 1 |
| N-CA-N-CA-C | 111.00 | 76.78 | 1 |
| N-CA-C | 111.00 | 145.20 | 2 |
| C-CA-CB | 110.10 | 86.89 | 1 |
| C-CA-CB | 110.10 | 86.90 | 1 |
| C-CA-CB | 110.10 | 133.30 | 1 |
| N-CA-CB | 110.40 | 128.72 | 1 |
| N-CA-C | 111.00 | 76.81 | 1 |
| N-CA-CB | 110.50 | 89.75 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---------------------------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 110.10 | 133.28 | 1 |
| N-CA-C | 111.00 | 76.85 | 1 |
| C-CA-CB | 110.10 | 86.94 | 1 |
| CA-C-N | 116.20 | 91.83 | 1 |
| N-CA-CB | 111.50 | 132.21 | 1 |
| C-CA-CB | 110.10 | 133.23 | 2 |
| CA-N-CA-N-CD | 112.00 | 94.96 | 1 |
| CA-C-N | 116.20 | 91.86 | 1 |
| C-CA-C-CA-CA-C-N | 116.20 | 91.86 | 1 |
| C-N-C-CA-CB | 110.10 | 133.20 | 1 |
| CA-C-N | 116.20 | 91.90 | 1 |
| N-CA-C | 111.00 | 145.01 | 1 |
| C-N-CA | 121.70 | 143.56 | 1 |
| C-CA-CB | 110.10 | 87.02 | 1 |
| C-CA-CB | 110.10 | 133.17 | 1 |
| N-CA-C | 111.00 | 144.99 | 1 |
| N-CA-CB | 110.50 | 131.13 | 1 |
| CA-N-CD | 112.00 | 95.01 | 1 |
| C-CA-CA-N-N-CA-CA-C-C-CA-C-CA-N-CA-CB | 110.50 | 131.09 | 1 |
| C-N-C-CA-N-CA-CB | 110.50 | 131.07 | 1 |
| CA-C-N-CA-C-CA-CB | 110.10 | 87.11 | 1 |
| N-CA-C-N-CA | 121.70 | 143.48 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--------------------------------------|--------------------|-----------------|--------------------|
| C-CA-N-CA-C | 111.00 | 144.86 | 1 |
| CA-C-N | 116.20 | 92.02 | 1 |
| N-CA-N-CA-C | 111.00 | 77.15 | 1 |
| C-CA-N-CA-C | 111.00 | 144.83 | 1 |
| N-CA-C-CA-CB | 110.10 | 133.05 | 1 |
| C-CA-CB | 109.10 | 82.53 | 1 |
| C-CA-N-CA-N-CA-CA-C-C-CA-C-CA-CA-C-N | 116.20 | 92.08 | 1 |
| C-CA-CB | 109.10 | 82.57 | 1 |
| N-CA-CB | 110.50 | 90.01 | 1 |
| C-CA-CB | 110.10 | 87.20 | 1 |
| N-CA-CB | 110.50 | 130.99 | 1 |
| CA-C-N-CA-C | 111.00 | 77.25 | 1 |
| N-CA-CB | 111.50 | 131.99 | 1 |
| N-CA-C | 111.00 | 77.26 | 1 |
| C-N-CA | 121.70 | 100.02 | 1 |
| CA-C-O | 120.80 | 141.28 | 1 |
| CA-C-C-CA-C-N-CA | 121.70 | 100.03 | 1 |
| N-CA-CB | 110.50 | 130.97 | 1 |
| N-CA-C | 111.00 | 77.29 | 1 |
| C-CA-N-CA-CB | 110.50 | 90.04 | 1 |
| C-CA-CB | 110.10 | 132.97 | 1 |
| N-CA-CA-C-N-CA-CB | 111.50 | 131.96 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------|--------------------|-----------------|--------------------|
| N-CA-CB | 110.50 | 130.96 | 1 |
| C-N-CA | 121.70 | 100.04 | 1 |
| C-CA-N-CA-CB | 110.50 | 90.06 | 1 |
| C-N-CA | 121.70 | 100.06 | 1 |
| C-CA-CB | 110.10 | 132.94 | 2 |
| C-N-C-CA-C-CA-CB | 110.10 | 132.93 | 1 |
| N-CA-C | 111.00 | 77.36 | 1 |
| N-CA-CA-C-O | 120.80 | 100.38 | 1 |
| N-CA-C-CA-CB | 111.60 | 87.58 | 1 |
| C-CA-C-CA-CB | 111.60 | 87.58 | 1 |
| C-CA-CB | 111.60 | 87.59 | 1 |
| N-CA-C | 111.00 | 77.38 | 1 |
| C-N-C-CA-N-CA-C-CA-CB | 111.60 | 87.61 | 1 |
| N-CA-N-CA-CB | 110.50 | 90.11 | 1 |
| CA-C-N-CA-CA-C-O | 120.80 | 141.19 | 1 |
| C-CA-CA-C-O | 120.80 | 100.41 | 1 |
| C-CA-C-CA-CB | 110.10 | 132.88 | 1 |
| CA-C-N | 116.20 | 140.18 | 1 |
| N-CA-CB | 110.50 | 90.12 | 1 |
| C-CA-N-CA-N-CA-CB | 110.50 | 90.12 | 1 |
| N-CA-CA-C-N-CA-CB | 110.50 | 90.14 | 1 |
| CA-C-N | 116.20 | 140.15 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--|--------------------|-----------------|--------------------|
| C-CA-C-CA-C-CA-C-N-N-CA-C-CA-C-N-CA-C-C-CA-C-CA-N-CA-C-CA-C-CA-N-CA-CB | 110.50 | 90.22 | 1 |
| C-N-CA-C-N | 116.20 | 140.05 | 1 |
| C-CA-C-N-N-CA-CB | 110.50 | 90.23 | 1 |
| CA-C-N | 116.20 | 140.04 | 1 |
| C-CA-CA-C-C-N-C-CA-N-CA-N-CA-CB | 111.50 | 131.73 | 1 |
| C-N-C-CA-CB | 110.10 | 87.50 | 1 |
| N-CA-N-CA-CB | 111.50 | 131.71 | 1 |
| C-CA-CB | 110.10 | 87.53 | 2 |
| C-CA-N-CA-C-N-C-N-C-N-CA | 121.70 | 143.07 | 1 |
| N-CA-C | 111.00 | 144.24 | 1 |
| C-N-N-CA-C-CA-CB | 110.10 | 87.55 | 1 |
| C-N-CA | 121.70 | 143.06 | 1 |
| N-CA-CB | 110.50 | 90.33 | 1 |
| N-CA-CB | 110.40 | 128.19 | 1 |
| C-N-CA | 121.70 | 143.04 | 1 |
| N-CA-N-CA-CB | 110.40 | 128.17 | 1 |
| C-CA-CA-N-CD | 112.00 | 95.43 | 1 |
| C-CA-N-CA-N-CA-C | 111.00 | 144.14 | 1 |
| CA-N-CD | 112.00 | 95.44 | 1 |
| C-CA-C-N-CA | 121.70 | 142.99 | 1 |
| C-CA-N-CA-C | 111.00 | 144.12 | 1 |
| C-CA-N-CA-C | 111.00 | 144.10 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------------|--------------------|-----------------|--------------------|
| CA-C-O | 120.80 | 100.71 | 1 |
| C-CA-C-CA-C-CA-CA-C-O | 120.80 | 100.72 | 1 |
| C-CA-N-CA-C-CA-C-CA-C-CA-CB | 110.10 | 87.70 | 1 |
| C-CA-CB | 110.10 | 87.70 | 1 |
| N-CA-CB | 110.50 | 90.47 | 1 |
| C-CA-N-CA-C | 111.00 | 143.96 | 1 |
| N-CA-C | 111.00 | 78.05 | 1 |
| C-CA-N-CA-C | 111.00 | 143.95 | 1 |
| N-CA-C | 111.00 | 78.06 | 1 |
| C-CA-CA-C-O | 120.80 | 100.81 | 1 |
| C-CA-CB | 110.10 | 132.44 | 1 |
| N-CA-N-CA-CA-C-N-CA-CB | 110.50 | 90.52 | 1 |
| CA-C-N | 116.20 | 139.68 | 1 |
| C-N-CA | 121.70 | 142.83 | 1 |
| C-CA-N-CA-N-CA-CA-C-O | 120.80 | 100.85 | 1 |
| C-CA-CB | 110.10 | 132.39 | 1 |
| N-CA-C-CA-N-CA-CA-C-O | 120.80 | 100.86 | 1 |
| CA-C-O | 120.80 | 145.42 | 1 |
| N-CA-CA-C-C-CA-C-CA-CB | 110.10 | 87.84 | 1 |
| N-CA-C-N-CA | 121.70 | 142.78 | 1 |
| C-CA-C-CA-C-CA-CB | 110.10 | 87.86 | 1 |
| C-CA-CB | 110.10 | 132.34 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------|--------------------|-----------------|--------------------|
| C-N-CA | 121.70 | 142.75 | 2 |
| CA-C-N | 116.20 | 139.59 | 1 |
| CA-C-O | 120.80 | 145.36 | 1 |
| C-N-CA-C-O | 120.80 | 100.92 | 1 |
| N-CA-CB | 110.50 | 130.35 | 1 |
| C-CA-CB | 110.10 | 132.28 | 1 |
| C-CA-C-CA-C-CA-CA-C-N | 116.20 | 92.87 | 1 |
| N-CA-CA-C-C-CA-CA-C-O | 120.80 | 100.99 | 1 |
| CA-C-N | 116.20 | 92.90 | 1 |
| C-CA-C-N-CA | 121.70 | 142.67 | 1 |
| C-N-CA | 121.70 | 142.67 | 1 |
| CA-C-O | 120.80 | 101.02 | 1 |
| N-CA-C | 111.00 | 78.43 | 1 |
| N-CA-CB | 110.50 | 130.25 | 1 |
| CA-C-N | 116.20 | 92.96 | 1 |
| C-CA-CB | 110.50 | 127.92 | 1 |
| N-CA-N-CA-CA-C-N | 116.20 | 93.00 | 1 |
| N-CA-C | 111.00 | 78.53 | 1 |
| N-CA-CA-C-C-CA-CB | 110.10 | 132.13 | 1 |
| N-CA-C | 111.00 | 143.45 | 1 |
| N-CA-C | 111.00 | 143.44 | 1 |
| C-CA-CA-C-N-CA-C | 111.00 | 78.57 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|----------------------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 110.10 | 132.10 | 1 |
| C-CA-CB | 110.50 | 127.86 | 1 |
| N-CA-N-CA-N-CA-C-CA-CB | 110.10 | 132.07 | 1 |
| C-CA-CB | 110.10 | 132.07 | 1 |
| C-N-C-CA-N-CA-C | 111.00 | 78.66 | 1 |
| C-N-C-CA-CB | 110.10 | 132.04 | 1 |
| C-CA-CB | 110.10 | 132.04 | 1 |
| N-CA-N-CA-CA-C-N-CA-CA-C-C-CA-CB | 110.10 | 88.20 | 1 |
| C-CA-CB | 110.10 | 131.99 | 1 |
| CA-C-C-CA-C-CA-CA-C-N-CA-C-CA-CB | 110.10 | 131.96 | 1 |
| N-CA-C-CA-CB | 110.10 | 88.25 | 1 |
| CA-C-C-CA-CB | 110.10 | 88.26 | 1 |
| C-CA-CB | 110.10 | 131.92 | 1 |
| C-CA-CB | 110.10 | 88.29 | 1 |
| C-CA-CB | 110.10 | 131.91 | 1 |
| C-CA-CB | 110.10 | 131.90 | 1 |
| C-CA-CB | 110.10 | 88.32 | 1 |
| CA-C-C-CA-CB | 110.10 | 131.86 | 1 |
| CA-C-O | 120.80 | 101.35 | 2 |
| C-CA-CA-C-C-CA-CB | 110.10 | 88.39 | 1 |
| C-CA-CB | 110.10 | 88.40 | 1 |
| N-CA-CA-C-O | 120.80 | 140.21 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|----------------------------|--------------------|-----------------|--------------------|
| C-CA-C-CA-CA-C-N-CA-CA-C-O | 120.80 | 101.40 | 1 |
| CA-C-O | 120.80 | 101.40 | 1 |
| C-CA-CB | 110.10 | 88.43 | 1 |
| CA-C-C-CA-N-CA-C-CA-N-CA-C | 111.00 | 142.86 | 1 |
| C-N-CA | 121.70 | 142.18 | 1 |
| C-CA-N-CA-C | 111.00 | 142.85 | 1 |
| N-CA-C | 111.00 | 79.15 | 1 |
| CA-C-O | 120.80 | 140.13 | 1 |
| C-N-CA | 121.70 | 142.17 | 1 |
| C-CA-CB | 110.10 | 88.50 | 1 |
| N-CA-N-CA-N-CA-C | 111.00 | 79.18 | 1 |
| C-CA-CB | 110.10 | 88.51 | 1 |
| C-CA-CB | 110.10 | 88.52 | 2 |
| CA-C-N | 116.20 | 138.91 | 1 |
| CA-C-N | 116.20 | 138.88 | 1 |
| CA-C-N-CA-CA-C-O | 120.80 | 101.55 | 1 |
| N-CA-N-CA-CB | 111.50 | 130.74 | 1 |
| N-CA-CB | 111.50 | 130.74 | 1 |
| CA-C-O | 120.80 | 101.58 | 1 |
| C-N-CA | 121.70 | 101.36 | 1 |
| N-CA-C-N-CA | 121.70 | 101.36 | 1 |
| C-CA-CA-C-N-CA-N-CA-C-N-CA | 121.70 | 101.38 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------------|--------------------|-----------------|--------------------|
| C-CA-CA-C-O | 120.80 | 101.62 | 1 |
| CA-C-O | 120.80 | 101.62 | 1 |
| C-N-N-CA-C-N-CA | 121.70 | 101.40 | 1 |
| N-CA-C | 111.00 | 142.56 | 1 |
| C-N-N-CA-N-CA-C-CA-N-CA-C | 111.00 | 142.52 | 1 |
| N-CA-N-CA-N-CA-C-CA-CB | 111.60 | 89.11 | 1 |
| C-CA-CB | 110.10 | 131.46 | 1 |
| C-N-N-CA-N-CA-C-CA-CB | 110.10 | 131.43 | 1 |
| C-N-CA | 121.70 | 141.91 | 1 |
| C-CA-CB | 111.60 | 89.16 | 1 |
| C-CA-C-CA-C-N-N-CA-CB | 110.50 | 91.44 | 1 |
| C-CA-CB | 110.10 | 131.40 | 1 |
| C-CA-C-CA-C-CA-CB | 110.10 | 88.80 | 1 |
| C-CA-C-CA-CB | 110.10 | 131.40 | 1 |
| C-CA-CB | 111.60 | 89.18 | 1 |
| CA-C-N | 116.20 | 138.60 | 2 |
| C-CA-N-CA-CB | 110.50 | 91.46 | 1 |
| CA-C-C-CA-C-CA-C-CA-C-CA-CB | 110.10 | 88.83 | 1 |
| C-CA-C-CA-CB | 110.10 | 88.85 | 1 |
| C-N-CA | 121.70 | 141.83 | 1 |
| N-CA-CB | 110.50 | 129.51 | 1 |
| CA-C-CA-N-CD | 112.00 | 96.35 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--|--------------------|-----------------|--------------------|
| CA-C-N-CA-CB | 110.50 | 129.50 | 1 |
| C-CA-CB | 110.10 | 88.87 | 1 |
| C-N-CA | 121.70 | 141.80 | 2 |
| C-CA-CB | 111.60 | 89.28 | 1 |
| C-CA-CA-C-C-CA-C-N-CA-C-CA-C-CA-C-N-CA-N-CA-CB | 110.50 | 129.45 | 1 |
| CA-C-O | 120.80 | 101.85 | 1 |
| N-CA-CA-C-CA-C-CA-C-O | 120.80 | 101.87 | 1 |
| N-CA-CB | 110.50 | 129.43 | 1 |
| N-CA-CB | 103.00 | 90.75 | 1 |
| CA-C-C-CA-CB | 110.10 | 131.24 | 1 |
| CA-C-N | 116.20 | 93.94 | 1 |
| CA-C-O | 120.80 | 101.88 | 1 |
| N-CA-C-N-C-CA-CA-C-C-CA-CB | 110.10 | 131.22 | 1 |
| CA-C-O | 120.80 | 101.90 | 1 |
| CA-N-CD | 112.00 | 96.44 | 1 |
| N-CA-CB | 103.00 | 90.77 | 1 |
| CA-C-N-CA-C-N-CA | 121.70 | 141.70 | 1 |
| CA-C-CA-C-O | 120.80 | 101.92 | 1 |
| N-CA-N-CA-CA-C-O | 120.80 | 101.93 | 1 |
| N-CA-C-CA-CB | 110.10 | 131.19 | 1 |
| C-CA-CB | 110.10 | 131.18 | 1 |
| C-CA-C-N-C-CA-CB | 110.10 | 131.18 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---------------------------------|--------------------|-----------------|--------------------|
| C-N-N-CA-N-CA-C-N-CA | 121.70 | 141.66 | 1 |
| CA-C-N | 116.20 | 94.03 | 1 |
| N-CA-C-CA-CA-C-N-CA-N-CA-C-N-CA | 121.70 | 141.63 | 1 |
| C-CA-CB | 110.10 | 131.14 | 1 |
| CA-C-O | 120.80 | 101.98 | 1 |
| C-CA-CA-C-O | 120.80 | 101.99 | 1 |
| C-CA-CA-C-O | 120.80 | 139.61 | 1 |
| N-CA-CB | 110.50 | 129.31 | 1 |
| C-CA-N-CA-C-CA-C-CA-CA-C-O | 120.80 | 139.58 | 1 |
| N-CA-C-N-C-N-CA | 121.70 | 141.58 | 1 |
| N-CA-N-CA-C-CA-N-CA-C-CA-CB | 110.10 | 89.12 | 1 |
| C-CA-C-CA-N-CA-N-CA-CB | 110.50 | 129.26 | 1 |
| C-CA-CB | 110.10 | 89.13 | 1 |
| CA-C-O | 120.80 | 139.56 | 2 |
| C-N-CA-C-O | 120.80 | 102.05 | 1 |
| C-N-C-CA-CB | 110.10 | 89.16 | 1 |
| N-CA-CB | 111.50 | 130.23 | 1 |
| C-CA-C-CA-CB | 110.10 | 89.17 | 1 |
| C-CA-CB | 110.10 | 89.18 | 1 |
| CA-C-O | 120.80 | 102.08 | 1 |
| C-CA-C-N-C-CA-CB | 110.10 | 89.18 | 1 |
| C-CA-CB | 110.10 | 89.19 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--------------------------------|--------------------|-----------------|--------------------|
| N-CA-C | 111.00 | 141.80 | 2 |
| C-N-CA | 121.70 | 141.50 | 1 |
| C-CA-CB | 110.10 | 89.20 | 1 |
| C-CA-C-CA-CB | 110.10 | 89.21 | 1 |
| C-CA-N-CA-CB | 111.50 | 130.18 | 1 |
| C-CA-C-CA-CB | 109.10 | 133.27 | 1 |
| N-CA-C | 111.00 | 141.76 | 1 |
| C-N-N-CA-C-N-N-CA-C-CA-C-CA-CB | 110.10 | 89.24 | 1 |
| N-CA-C | 111.00 | 141.75 | 1 |
| C-CA-CB | 110.10 | 89.24 | 1 |
| C-CA-C-CA-CB | 110.10 | 89.26 | 1 |
| C-CA-C-CA-C-CA-CB | 109.10 | 133.20 | 1 |
| C-N-C-CA-CA-CB-CG | 113.80 | 102.85 | 1 |
| C-N-C-CA-N-CA-CB | 103.00 | 115.03 | 1 |
| C-CA-CB | 110.10 | 130.88 | 1 |
| N-CD-N-CA-C | 111.00 | 80.39 | 1 |
| C-CA-NE-CZ-C-N-CA | 121.70 | 141.37 | 1 |
| N-CA-C | 111.00 | 80.41 | 1 |
| N-CD-C-CA-CB | 109.10 | 133.12 | 1 |
| C-CA-CB | 110.10 | 89.36 | 1 |
| C-CA-CB | 109.10 | 133.11 | 1 |
| N-CA-C | 111.00 | 141.56 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------------|--------------------|-----------------|--------------------|
| N-CA-N-CA-CB | 110.50 | 129.05 | 1 |
| C-CA-C-N-CA | 121.70 | 102.07 | 1 |
| N-CA-CB | 103.00 | 114.99 | 1 |
| N-CA-N-CA-CB | 110.50 | 129.03 | 1 |
| C-N-CA | 121.70 | 102.08 | 1 |
| C-N-C-CA-CB | 110.10 | 89.40 | 1 |
| C-CA-CB | 110.10 | 130.80 | 1 |
| CA-CB-CG | 113.80 | 102.91 | 1 |
| N-CA-CB | 111.50 | 92.99 | 1 |
| C-CA-CB | 110.10 | 130.79 | 1 |
| C-N-C-CA-CB | 110.10 | 130.78 | 1 |
| N-CA-CB | 111.50 | 93.00 | 1 |
| N-CA-C | 111.00 | 141.47 | 1 |
| N-CA-CA-C-C-CA-C-CA-CB | 110.10 | 130.77 | 1 |
| C-CA-N-CA-CB | 111.50 | 93.02 | 1 |
| N-CA-C-CA-C-CA-C-CA-CB | 109.10 | 85.20 | 1 |
| NE-CZ-N-CA-C-CA-CB | 110.10 | 89.48 | 1 |
| N-CA-C | 111.00 | 80.62 | 2 |
| C-CA-CB | 110.10 | 130.71 | 2 |
| C-N-C-N-N-CA-C-CA-CB | 109.10 | 85.26 | 1 |
| C-CA-CB | 110.10 | 130.69 | 1 |
| C-CA-CB | 110.10 | 89.52 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--|--------------------|-----------------|--------------------|
| CA-C-N-CA-C-CA-C-CA-N-CA-C-CA-N-CA-N-CA-CB | 111.50 | 93.11 | 1 |
| N-CA-CB | 110.50 | 128.87 | 1 |
| N-CA-CB | 110.50 | 128.86 | 1 |
| C-CA-C-CA-C-CA-CB | 109.10 | 85.35 | 1 |
| C-CA-CB | 109.10 | 85.38 | 1 |
| CA-C-N | 116.20 | 137.76 | 1 |
| CA-C-O | 120.80 | 139.12 | 2 |
| C-CA-C-CA-CB | 109.10 | 85.39 | 1 |
| CA-C-N | 116.20 | 137.74 | 1 |
| C-CA-C-CA-C-N-N-CA-N-CA-CB | 111.50 | 129.80 | 1 |
| N-CA-CB | 111.50 | 129.80 | 1 |
| C-CA-CB | 111.40 | 90.96 | 1 |
| C-N-CA | 121.70 | 141.07 | 1 |
| C-CA-N-CA-CB | 110.50 | 128.78 | 1 |
| N-CA-CB | 110.50 | 128.78 | 1 |
| C-N-N-CA-C-N-C-CA-C-CA-C-CA-CB | 111.40 | 90.99 | 1 |
| C-CA-CB | 111.40 | 90.99 | 2 |
| N-CA-CB | 111.50 | 129.76 | 2 |
| N-CA-CB | 110.50 | 128.75 | 1 |
| C-N-C-N-C-CA-CB | 109.10 | 85.49 | 1 |
| N-CA-C-CA-CB | 110.10 | 130.48 | 1 |
| N-CA-CB | 111.50 | 129.73 | 3 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|----------------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 109.10 | 85.50 | 1 |
| CA-C-N-CA-N-CA-CB | 111.50 | 129.72 | 1 |
| C-CA-CB | 110.10 | 130.46 | 1 |
| N-CA-CB | 111.50 | 129.71 | 2 |
| C-N-C-N-CD | 125.00 | 168.91 | 1 |
| C-N-CA | 121.70 | 140.98 | 1 |
| N-CA-CB | 110.50 | 128.71 | 1 |
| N-CA-C-N-CA | 121.70 | 140.98 | 1 |
| N-CA-CB | 111.50 | 129.70 | 1 |
| C-N-C-CA-CB | 110.10 | 89.76 | 1 |
| C-CA-N-CA-CB | 111.50 | 129.70 | 1 |
| C-N-C-CA-N-CA-C-CA-C-CA-CB | 109.10 | 85.56 | 1 |
| C-CA-C-CA-CB | 109.10 | 85.56 | 1 |
| C-CA-CB | 110.10 | 89.77 | 1 |
| N-CA-CB | 110.50 | 128.68 | 2 |
| C-CA-N-CA-CB | 111.50 | 129.68 | 1 |
| CA-C-C-N-CD | 125.00 | 168.85 | 1 |
| N-CA-CB | 111.50 | 129.68 | 2 |
| C-CA-C-CA-CB | 110.10 | 130.42 | 1 |
| C-N-CA | 121.70 | 140.94 | 1 |
| C-CA-CB | 109.10 | 85.59 | 1 |
| C-CA-C-CA-N-CA-CB | 111.50 | 129.66 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--|--------------------|-----------------|--------------------|
| N-CA-N-CA-CB | 110.50 | 128.66 | 1 |
| C-CA-CB | 110.10 | 130.38 | 2 |
| C-CA-C-N-CA | 121.70 | 140.91 | 1 |
| C-N-CA | 121.70 | 140.91 | 1 |
| C-N-C-CA-C-CA-CB | 110.10 | 130.36 | 1 |
| C-N-C-CA-C-N-CA | 121.70 | 140.89 | 1 |
| C-N-CA | 121.70 | 140.88 | 1 |
| C-CA-C-N-CA | 121.70 | 140.88 | 1 |
| C-CA-CB | 110.10 | 130.33 | 3 |
| C-N-CA | 121.70 | 140.87 | 1 |
| C-CA-C-CA-C-CA-CA-N-C-CA-N-CA-C-CA-N-CA-CB | 110.50 | 128.58 | 1 |
| O-C-C-CA-C-N-CA | 121.70 | 140.83 | 1 |
| N-CA-C-CA-C-CA-N-CA-C-CA-C-CA-CB | 110.10 | 130.25 | 1 |
| N-CA-C-CA-N-CA-C-CA-CB | 110.10 | 89.96 | 1 |
| C-N-CA | 121.70 | 140.77 | 1 |
| C-CA-C-CA-C-CA-CB | 110.10 | 89.98 | 1 |
| C-CA-CB | 110.10 | 89.98 | 1 |
| N-CA-C-CA-C-CA-CB | 110.10 | 130.21 | 1 |
| N-CA-C-CA-C-CA-C-N-CA | 121.70 | 102.65 | 1 |
| O-C-N-CA-CB | 103.00 | 114.64 | 1 |
| C-N-CA | 121.70 | 102.66 | 1 |
| C-N-CA | 121.70 | 102.67 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 110.10 | 90.01 | 1 |
| C-CA-C-N-N-CA-C-N-CA | 121.70 | 102.69 | 1 |
| CA-C-N | 116.20 | 137.32 | 1 |
| C-CA-CB | 110.10 | 90.03 | 1 |
| C-N-CA-C-C-CA-N-CA-N-CA-CA-N-CA-C-N | 116.20 | 137.29 | 1 |
| C-CA-CB | 110.10 | 130.14 | 1 |
| CA-C-N-CA-N-CA-C | 111.00 | 81.48 | 1 |
| C-CA-N-CA-C | 111.00 | 81.49 | 1 |
| N-CA-N-CA-C | 111.00 | 81.52 | 1 |
| C-CA-C-CA-CB | 110.10 | 130.10 | 1 |
| N-CA-C | 111.00 | 140.46 | 1 |
| C-CA-CB | 110.10 | 90.11 | 1 |
| C-CA-CA-C-N-CA-C | 111.00 | 81.56 | 1 |
| CA-C-C-CA-C-CA-CB | 110.10 | 130.08 | 1 |
| N-CA-C | 111.00 | 81.56 | 1 |
| N-CA-C | 111.00 | 81.57 | 1 |
| CA-C-C-CA-C-CA-N-CA-C | 111.00 | 81.59 | 1 |
| N-CA-C | 111.00 | 81.60 | 1 |
| C-CA-N-CA-C | 111.00 | 140.40 | 1 |
| C-CA-C-CA-N-CA-C-CA-C-N-CA | 121.70 | 102.81 | 1 |
| N-CA-N-CA-CA-C-N-CA-N-CA-CB | 103.00 | 114.54 | 1 |
| C-CA-CA-C-CA-C-N | 116.20 | 137.17 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--|--------------------|-----------------|--------------------|
| C-CA-CB | 110.10 | 130.02 | 2 |
| C-N-CA | 121.70 | 102.83 | 1 |
| N-CA-CA-C-N | 116.20 | 137.16 | 1 |
| C-CA-C-CA-C-CA-CB | 110.10 | 130.00 | 1 |
| C-CA-C-CA-C-CA-CB | 110.10 | 129.98 | 1 |
| CA-C-C-CA-CA-C-C-CA-C-CA-N-CA-N-CA-N-CA-N-CA-C-CA-N-CA-CA-C-CA-C-O | 120.80 | 103.06 | 1 |
| N-CA-C-CA-CB | 110.10 | 129.92 | 1 |
| N-CA-C-CA-CB | 110.10 | 90.30 | 1 |
| C-CA-CB | 110.10 | 129.90 | 1 |
| N-CA-N-CA-CB | 110.40 | 126.02 | 1 |
| C-CA-N-CA-C-CA-CB | 110.10 | 129.88 | 1 |
| N-CA-C | 111.00 | 81.87 | 1 |
| C-N-C-CA-CA-C-O | 120.80 | 103.12 | 1 |
| C-CA-CB | 110.10 | 129.86 | 1 |
| C-CA-CB | 110.10 | 129.85 | 2 |
| C-CA-C-CA-CB | 110.10 | 129.85 | 1 |
| C-CA-C-N-C-CA-N-CA-C | 111.00 | 140.07 | 1 |
| N-CA-C | 111.00 | 81.94 | 1 |
| C-CA-CB | 110.10 | 129.81 | 2 |
| C-CA-CB | 110.10 | 90.39 | 1 |
| CA-C-O | 120.80 | 138.44 | 1 |
| CA-C-O | 120.80 | 138.43 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------------|--------------------|-----------------|--------------------|
| CA-C-CA-C-C-CA-CB | 110.10 | 129.79 | 1 |
| CA-C-O | 120.80 | 138.42 | 1 |
| N-CA-CB | 110.50 | 92.88 | 1 |
| N-CA-C | 111.00 | 140.01 | 1 |
| CA-C-O | 120.80 | 138.41 | 1 |
| N-CA-CB | 110.50 | 92.89 | 1 |
| C-CA-CB | 110.10 | 129.78 | 1 |
| C-CA-C-CA-N-CA-CA-C-O | 120.80 | 103.21 | 1 |
| N-CA-N-CA-CA-C-N-CA-CB | 110.40 | 125.92 | 1 |
| C-N-CA | 121.70 | 140.32 | 1 |
| C-N-C-CA-C-CA-CB | 110.10 | 129.74 | 1 |
| C-N-C-CA-CB | 110.10 | 129.74 | 1 |
| C-CA-CB | 110.10 | 129.73 | 3 |
| C-CA-C-CA-CB | 110.10 | 129.73 | 1 |
| C-CA-CB | 110.10 | 129.72 | 1 |
| CA-C-C-CA-C-CA-C-CA-CB | 110.10 | 129.70 | 1 |
| C-N-C-N-CA | 121.70 | 140.26 | 1 |
| C-CA-CB | 110.10 | 129.68 | 1 |
| C-CA-CB | 110.10 | 129.67 | 1 |
| C-CA-C-CA-CB | 110.10 | 129.66 | 1 |
| C-CA-CB | 110.10 | 129.66 | 1 |
| C-CA-C-CA-C-CA-CB | 110.10 | 129.65 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 110.10 | 90.55 | 1 |
| C-CA-C-CA-CB | 110.10 | 129.64 | 1 |
| C-CA-CB | 110.10 | 90.56 | 1 |
| CA-C-O | 120.80 | 103.32 | 1 |
| C-CA-C-CA-CB | 110.10 | 129.63 | 1 |
| N-CA-CA-C-O | 120.80 | 138.28 | 1 |
| C-CA-CB | 110.10 | 129.62 | 1 |
| N-CA-C-CA-CB | 110.10 | 129.61 | 1 |
| C-CA-C-CA-CB | 110.10 | 129.61 | 1 |
| C-CA-CB | 110.10 | 129.61 | 1 |
| C-CA-CB | 110.50 | 125.90 | 1 |
| CA-C-C-CA-CB | 110.10 | 129.59 | 1 |
| C-CA-N-CA-C-CA-CB | 111.40 | 130.88 | 1 |
| C-CA-CB | 110.10 | 129.58 | 1 |
| C-CA-CB | 110.10 | 90.63 | 1 |
| CA-C-O | 120.80 | 138.22 | 1 |
| C-N-C-CA-CB | 110.10 | 129.57 | 1 |
| C-CA-CB | 110.10 | 129.56 | 1 |
| N-CA-CB | 110.40 | 125.77 | 1 |
| C-CA-CB | 110.50 | 125.86 | 1 |
| C-CA-CB | 110.10 | 129.54 | 1 |
| C-CA-C-CA-CB | 110.10 | 90.66 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|----------------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 110.50 | 125.85 | 1 |
| N-CA-CB | 111.50 | 94.12 | 1 |
| CA-C-C-CA-CB | 110.10 | 90.68 | 1 |
| C-CA-CB | 111.40 | 130.81 | 1 |
| N-CA-CB | 110.40 | 125.72 | 1 |
| C-CA-CB | 110.10 | 129.49 | 1 |
| C-N-CA-C-O | 120.80 | 103.45 | 1 |
| C-CA-C-CA-CB | 110.10 | 90.72 | 1 |
| N-CA-N-CA-C | 111.00 | 139.55 | 1 |
| C-N-CA-C-O | 120.80 | 103.47 | 1 |
| C-CA-N-CA-C-CA-CB | 110.10 | 90.73 | 1 |
| C-CA-C-CA-CB | 110.50 | 125.78 | 1 |
| N-CA-N-CA-CA-C-O | 120.80 | 103.49 | 1 |
| CA-C-O | 120.80 | 103.49 | 1 |
| N-CA-CB | 111.50 | 94.19 | 1 |
| C-CA-CA-C-N-CA-C-N-C-CA-CB | 111.60 | 91.25 | 1 |
| C-N-CA | 121.70 | 140.02 | 1 |
| N-CA-N-CA-C-CA-CB | 110.10 | 90.78 | 1 |
| CA-C-C-CA-CB | 110.10 | 90.79 | 1 |
| C-CA-C-CA-CB | 111.60 | 91.28 | 1 |
| C-CA-C-CA-C-CA-CB | 110.10 | 90.80 | 1 |
| C-CA-N-CA-C | 111.00 | 82.59 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---------------------------------|--------------------|-----------------|--------------------|
| C-CA-C-CA-CB | 110.10 | 90.82 | 1 |
| C-N-CA-C-N-CA-C | 111.00 | 139.41 | 1 |
| N-CA-C-CA-C-N-C-CA-CA-C-C-CA-CB | 110.10 | 90.84 | 1 |
| C-CA-CB | 110.10 | 129.35 | 2 |
| N-CA-C-CA-CB | 110.10 | 129.34 | 1 |
| C-CA-CB | 110.10 | 129.34 | 1 |
| C-CA-CB | 110.10 | 90.86 | 1 |
| C-CA-CB | 110.10 | 90.87 | 1 |
| N-CA-N-CA-N-CA-C-CA-CB | 110.10 | 129.33 | 1 |
| N-CA-C | 111.00 | 82.67 | 2 |
| N-CA-CB | 110.50 | 127.70 | 1 |
| C-CA-CB | 110.10 | 129.32 | 1 |
| C-CA-N-CA-N-CA-C-CA-CB | 110.10 | 90.90 | 1 |
| C-N-C-CA-C-CA-C-CA-CB | 110.10 | 129.30 | 1 |
| C-CA-CB | 110.10 | 90.90 | 1 |
| C-CA-C-CA-C-N-CA | 121.70 | 139.87 | 1 |
| CA-N-CD | 112.00 | 97.87 | 1 |
| CA-C-N | 116.20 | 96.01 | 1 |
| C-CA-CA-C-O | 120.80 | 137.96 | 1 |
| C-CA-CB | 110.10 | 90.93 | 2 |
| C-CA-CB | 110.10 | 129.27 | 1 |
| N-CA-CA-N-CD | 112.00 | 97.88 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------|--------------------|-----------------|--------------------|
| CA-C-N | 116.20 | 96.03 | 1 |
| C-CA-CB | 110.10 | 129.26 | 1 |
| N-CA-N-CA-C | 111.00 | 139.24 | 1 |
| C-N-N-CA-C | 111.00 | 82.77 | 1 |
| N-CA-C-CA-CB | 110.50 | 125.62 | 1 |
| N-CA-CB | 110.50 | 93.37 | 2 |
| CA-C-O | 120.80 | 137.93 | 1 |
| C-N-CD | 125.00 | 83.68 | 1 |
| C-CA-C-CA-CB | 110.50 | 125.61 | 1 |
| C-CA-CB | 110.10 | 129.24 | 1 |
| C-N-N-CA-C | 111.00 | 82.80 | 1 |
| C-CA-CB | 110.10 | 129.23 | 1 |
| C-N-C-CA-CB | 110.50 | 125.60 | 1 |
| C-CA-CB | 110.10 | 129.22 | 2 |
| N-CA-C | 111.00 | 82.82 | 1 |
| N-CA-C | 111.00 | 139.17 | 1 |
| N-CA-C-CA-C-CA-CB | 110.10 | 90.99 | 1 |
| C-CA-CA-C-C-N-CD | 125.00 | 83.76 | 1 |
| N-CA-N-CA-C | 111.00 | 82.84 | 1 |
| C-N-N-CA-CB | 110.50 | 127.59 | 1 |
| N-CA-CB | 103.00 | 114.06 | 1 |
| C-N-N-CD-C-CA-CB | 110.10 | 129.19 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------|--------------------|-----------------|--------------------|
| C-CA-N-CA-N-CA-CB | 103.00 | 114.05 | 1 |
| N-CA-C | 111.00 | 139.12 | 1 |
| C-CA-CB | 110.10 | 129.18 | 1 |
| N-CA-N-CA-N-CA-C | 111.00 | 82.88 | 1 |
| C-CA-CB | 110.10 | 91.02 | 1 |
| N-CA-N-CA-CB | 103.00 | 114.04 | 1 |
| CA-N-CD | 112.00 | 97.95 | 1 |
| C-CA-CB | 110.50 | 125.55 | 1 |
| C-CA-CA-N-CD | 112.00 | 97.96 | 1 |
| N-CA-C-CA-CB | 110.10 | 129.15 | 1 |
| C-CA-CB | 110.50 | 125.54 | 1 |
| C-CA-CB | 110.10 | 91.05 | 1 |
| C-CA-CB | 110.10 | 129.15 | 1 |
| CA-C-C-CA-N-CA-C | 111.00 | 139.05 | 1 |
| C-CA-CB | 110.10 | 129.13 | 1 |
| C-CA-CB | 110.10 | 91.07 | 1 |
| C-N-N-CA-CB | 110.50 | 93.48 | 1 |
| C-N-C-CA-CB | 110.50 | 125.52 | 1 |
| CA-C-N-CD-C-N-CA | 121.70 | 103.68 | 1 |
| N-CA-CB | 103.00 | 114.01 | 1 |
| C-CA-CA-C-O | 119.00 | 88.98 | 1 |
| N-CA-N-CA-C | 111.00 | 139.01 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--|--------------------|-----------------|--------------------|
| C-N-C-N-CA-C-CA-C-O | 119.00 | 89.01 | 1 |
| C-N-CA | 121.70 | 139.69 | 1 |
| N-CA-C | 111.00 | 138.98 | 1 |
| C-N-CA | 121.70 | 103.72 | 1 |
| CA-C-C-N-CA | 121.70 | 139.66 | 1 |
| N-CA-C-N-C-N-N-CA-CB | 110.50 | 93.55 | 1 |
| C-N-CA | 121.70 | 139.65 | 1 |
| N-CA-CB | 110.50 | 93.55 | 2 |
| N-CA-C-N-C-CA-N-CA-N-CA-C-CA-CA-C-C-N-CA | 121.70 | 139.60 | 1 |
| CA-C-N-CA-CB | 103.00 | 113.93 | 1 |
| CA-C-C-CA-CA-C-N | 116.20 | 136.07 | 1 |
| CA-C-N | 116.20 | 136.07 | 1 |
| C-CA-CA-CB-CA-C-C-CA-CB | 109.10 | 130.95 | 1 |
| CA-C-N | 116.20 | 136.05 | 1 |
| C-CA-CA-C-C-CA-N-CA-CB | 110.50 | 127.37 | 1 |
| C-CA-N-CA-CB | 110.50 | 127.37 | 1 |
| N-CA-CA-C-N-CA-CB | 110.50 | 93.64 | 1 |
| C-CA-CB | 111.40 | 92.56 | 1 |
| CA-C-N-CA-CB | 110.50 | 127.35 | 1 |
| N-CA-CB | 110.50 | 127.35 | 1 |
| CA-C-O | 120.80 | 137.65 | 1 |
| CA-C-N-CA-C | 111.00 | 83.25 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------------------------|--------------------|-----------------|--------------------|
| CA-C-N-CA-C | 111.00 | 83.26 | 1 |
| N-CA-CB | 110.50 | 93.66 | 1 |
| CA-C-O | 120.80 | 137.64 | 1 |
| CA-C-CA-CB-CA-C-N | 116.20 | 96.40 | 1 |
| C-CA-CB | 109.10 | 130.88 | 1 |
| C-CA-CA-C-C-CA-CA-C-N-CA-CB | 110.50 | 127.31 | 1 |
| C-CA-C-CA-CA-C-N | 116.20 | 135.97 | 1 |
| N-CA-C | 111.00 | 83.32 | 1 |
| N-CA-CB | 110.50 | 127.30 | 1 |
| N-CA-CB | 103.00 | 113.87 | 1 |
| CA-C-C-N-CA-C-O | 120.80 | 137.59 | 1 |
| N-CA-C-N-C-CA-CB | 111.40 | 92.64 | 1 |
| C-CA-C-N-C-CA-N-CA-CA-C-O | 120.80 | 137.57 | 1 |
| C-N-N-CA-C | 111.00 | 138.61 | 1 |
| C-CA-CB | 110.50 | 125.29 | 1 |
| N-CA-C | 111.00 | 138.60 | 1 |
| N-CA-C | 111.00 | 83.41 | 1 |
| C-CA-C-CA-C-N-CA-C-C-N-CA-C-CA-C-N | 116.20 | 96.51 | 1 |
| N-CA-CB | 110.50 | 127.23 | 2 |
| C-CA-C-CA-N-CA-CB | 110.50 | 127.22 | 1 |
| N-CA-CB | 111.50 | 128.22 | 1 |
| N-CA-N-CA-C-N-N-CA-CB | 111.50 | 128.20 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---------------------------------|--------------------|-----------------|--------------------|
| C-N-C-CA-C-CA-CB | 110.50 | 125.22 | 1 |
| C-CA-CB | 110.50 | 125.22 | 1 |
| C-N-N-CA-C-CA-CB | 110.50 | 125.22 | 1 |
| N-CA-C-CA-C-CA-CB | 110.50 | 125.20 | 1 |
| C-CA-CB | 110.50 | 125.19 | 1 |
| N-CA-CB | 110.50 | 127.15 | 1 |
| C-N-CA | 121.70 | 104.07 | 1 |
| N-CA-N-CA-CB | 110.50 | 127.15 | 1 |
| N-CA-N-CA-CB | 110.50 | 93.87 | 1 |
| N-CA-N-CA-CB | 110.50 | 127.13 | 1 |
| C-N-C-CA-C-CA-C-CA-C-CA-N-CA-CB | 110.50 | 93.89 | 1 |
| C-N-CA | 121.70 | 104.11 | 1 |
| N-CA-C | 111.00 | 83.64 | 1 |
| C-CA-C-CA-C-N-CD | 125.00 | 165.06 | 1 |
| N-CA-C | 111.00 | 83.65 | 1 |
| C-N-CD | 125.00 | 165.02 | 1 |
| N-CA-C-CA-CB | 110.50 | 125.14 | 1 |
| C-CA-C-N-CD | 125.00 | 165.01 | 1 |
| C-CA-N-CA-C | 111.00 | 83.69 | 1 |
| N-CA-C-CA-CB | 110.10 | 128.63 | 1 |
| C-CA-CB | 110.50 | 125.12 | 1 |
| N-CA-C | 111.00 | 138.29 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|----------------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 111.40 | 129.91 | 1 |
| C-CA-C-CA-C-CA-C-CA-CA-C-N | 116.20 | 135.68 | 1 |
| CA-C-N | 116.20 | 135.68 | 1 |
| C-N-CD | 125.00 | 164.93 | 1 |
| C-CA-CB | 110.10 | 128.60 | 1 |
| C-CA-CB | 110.50 | 125.10 | 1 |
| C-CA-CB | 110.10 | 128.59 | 1 |
| C-CA-CB | 110.10 | 128.58 | 2 |
| C-CA-CB | 111.40 | 129.88 | 1 |
| C-CA-CB | 110.50 | 125.09 | 1 |
| N-CA-C | 111.00 | 138.21 | 2 |
| C-CA-CB | 110.10 | 128.57 | 1 |
| C-CA-CB | 110.10 | 91.64 | 1 |
| C-CA-CA-C-O | 120.80 | 137.32 | 1 |
| C-CA-CB | 110.10 | 128.56 | 1 |
| N-CA-C | 111.00 | 83.81 | 1 |
| N-CA-C-CA-CB | 110.10 | 128.55 | 1 |
| C-CA-CB | 110.10 | 91.66 | 1 |
| CA-C-N | 116.20 | 96.81 | 2 |
| CA-C-O | 120.80 | 104.32 | 1 |
| N-CA-C | 111.00 | 138.15 | 1 |
| C-CA-CB | 110.10 | 91.68 | 2 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---------------------------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 110.10 | 128.51 | 1 |
| C-CA-C-CA-N-CA-N-CA-C-CA-CA-C-N | 116.20 | 96.83 | 1 |
| C-CA-N-CA-C-CA-CA-C-CA-C-O | 120.80 | 104.35 | 1 |
| N-CA-C-CA-C-CA-CA-C-C-CA-CB | 110.10 | 91.72 | 1 |
| N-CA-N-CA-N-CA-C-CA-CB | 110.10 | 128.47 | 1 |
| C-CA-CB | 110.10 | 128.47 | 1 |
| C-CA-C-CA-CB | 110.10 | 91.73 | 1 |
| N-CA-N-CA-CA-C-O | 120.80 | 137.23 | 1 |
| CA-C-N | 116.20 | 96.87 | 1 |
| C-CA-CB | 110.10 | 128.46 | 1 |
| C-CA-CB | 110.10 | 91.74 | 1 |
| C-CA-C-CA-C-CA-CB | 110.10 | 91.74 | 1 |
| CA-C-C-CA-CB | 110.10 | 128.45 | 1 |
| C-CA-N-CA-CA-C-N | 116.20 | 96.89 | 1 |
| N-CA-CA-C-C-N-C-CA-N-CA-CA-C-CA-C-N | 116.20 | 96.90 | 1 |
| C-CA-CB | 110.10 | 128.43 | 2 |
| CA-C-N | 116.20 | 96.91 | 2 |
| CA-C-N | 116.20 | 135.49 | 1 |
| N-CA-CA-C-N | 116.20 | 96.92 | 1 |
| C-CA-N-CA-CA-C-N | 116.20 | 96.93 | 1 |
| C-CA-CB | 110.10 | 128.40 | 1 |
| C-CA-C-CA-N-CA-N-CA-N-CA-N-CA-C-CA-CB | 110.10 | 128.37 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------------|--------------------|-----------------|--------------------|
| N-CA-CA-C-O | 120.80 | 104.45 | 1 |
| C-CA-CB | 111.60 | 130.83 | 1 |
| CA-C-CA-C-N | 116.20 | 96.97 | 1 |
| CA-C-C-N-N-CA-CB | 110.50 | 126.84 | 1 |
| C-CA-CA-C-C-CA-CA-C-C-CA-CB | 110.10 | 128.35 | 1 |
| C-CA-N-CA-C-CA-CA-C-C-CA-CB | 110.10 | 128.34 | 1 |
| C-CA-CB | 110.10 | 128.34 | 1 |
| CA-C-N | 116.20 | 135.40 | 1 |
| CA-C-C-CA-C-CA-CA-C-C-CA-CB | 110.10 | 91.87 | 1 |
| N-CA-CB | 110.50 | 126.81 | 2 |
| CA-C-N | 116.20 | 97.01 | 1 |
| CA-C-O | 120.80 | 104.50 | 1 |
| N-CA-C | 111.00 | 84.15 | 1 |
| C-CA-CB | 110.10 | 91.89 | 2 |
| N-CA-C | 111.00 | 84.16 | 1 |
| C-N-CA | 121.70 | 104.45 | 1 |
| CA-C-C-N-CA | 121.70 | 104.45 | 1 |
| CA-C-N | 116.20 | 97.03 | 1 |
| C-CA-CB | 110.10 | 128.31 | 1 |
| N-CA-CB | 110.50 | 94.21 | 1 |
| N-CA-CB | 110.50 | 94.22 | 1 |
| CA-C-O | 120.80 | 137.07 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--------------|--------------------|-----------------|--------------------|
| C-CA-CB | 110.10 | 91.92 | 1 |
| N-CA-CB | 110.50 | 94.24 | 1 |
| C-N-CA | 121.70 | 138.92 | 1 |
| CA-C-C-CA-CB | 110.10 | 128.26 | 1 |
| N-CA-CB | 110.50 | 94.25 | 1 |
| C-N-CA | 121.70 | 138.90 | 1 |
| N-CA-C | 111.00 | 84.24 | 1 |
| N-CA-CB | 110.50 | 126.75 | 1 |
| C-CA-CB | 110.10 | 128.25 | 1 |
| C-N-CA | 121.70 | 104.50 | 1 |
| CA-C-O | 120.80 | 137.04 | 1 |
| C-CA-CB | 110.10 | 91.96 | 1 |
| CA-C-N | 116.20 | 97.11 | 1 |
| N-CA-CB | 110.50 | 94.28 | 1 |
| C-N-CA | 121.70 | 104.52 | 1 |
| C-CA-C-N-CA | 121.70 | 104.53 | 1 |
| C-CA-CB | 110.10 | 91.98 | 1 |
| N-CA-C-N-CA | 121.70 | 104.54 | 1 |
| C-CA-CB | 111.60 | 92.54 | 1 |
| C-CA-N-CA-CB | 110.40 | 124.69 | 1 |
| C-CA-CB | 110.10 | 92.00 | 1 |
| C-CA-CB | 111.60 | 130.65 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 111.60 | 92.56 | 1 |
| N-CA-C-CA-CB | 111.60 | 130.64 | 1 |
| C-N-CA | 121.70 | 138.83 | 2 |
| C-CA-N-CA-C | 111.00 | 137.65 | 1 |
| C-N-C-CA-CB | 111.60 | 130.63 | 1 |
| N-CA-C | 111.00 | 137.64 | 1 |
| N-CA-C-N-CA | 121.70 | 138.82 | 1 |
| N-CA-C-CA-C-CA-CB | 110.10 | 92.03 | 1 |
| N-CA-C | 111.00 | 137.62 | 2 |
| C-CA-CB | 110.10 | 92.04 | 1 |
| CA-C-O | 120.80 | 104.65 | 1 |
| C-CA-CB | 110.10 | 92.06 | 1 |
| CA-C-O | 120.80 | 104.66 | 1 |
| C-N-CA | 121.70 | 138.79 | 1 |
| N-CA-C | 111.00 | 137.58 | 1 |
| C-N-CA | 121.70 | 104.61 | 1 |
| CA-CB-N-CA-C-N-CA | 121.70 | 138.78 | 1 |
| C-CA-N-CA-C | 111.00 | 84.44 | 1 |
| N-CA-C | 111.00 | 137.56 | 1 |
| N-CA-CB | 110.40 | 124.62 | 1 |
| C-CA-CB | 110.10 | 128.11 | 1 |
| C-N-CA | 121.70 | 138.76 | 3 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|----------------------|--------------------|-----------------|--------------------|
| N-CA-CB | 110.50 | 94.39 | 1 |
| C-N-CA | 121.70 | 138.75 | 1 |
| C-N-C-N-CA | 121.70 | 138.74 | 1 |
| C-N-CA | 121.70 | 138.74 | 1 |
| OD1-CG-ND2 | 122.60 | 132.07 | 1 |
| C-N-CA | 121.70 | 138.73 | 1 |
| C-CA-CB | 110.10 | 128.08 | 1 |
| N-CA-C | 111.00 | 84.51 | 1 |
| N-CA-C-CA-C-CA-CB | 110.10 | 128.06 | 1 |
| N-CA-N-CA-CA-C-O | 120.80 | 104.75 | 1 |
| C-CA-N-CA-C | 111.00 | 84.56 | 1 |
| C-N-CA | 121.70 | 138.70 | 1 |
| C-N-CA | 121.70 | 104.71 | 1 |
| C-N-C-N-CA | 121.70 | 138.69 | 1 |
| C-N-CA | 121.70 | 138.69 | 1 |
| C-N-CD | 125.00 | 163.69 | 1 |
| C-N-CA | 121.70 | 138.68 | 1 |
| N-CA-C-CA-OD1-CG-ND2 | 122.60 | 132.02 | 1 |
| C-CA-C-CA-CB | 110.10 | 127.99 | 1 |
| N-CA-CB | 110.50 | 126.50 | 1 |
| C-N-CD | 125.00 | 163.59 | 1 |
| C-N-CA | 121.70 | 138.64 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 110.10 | 127.98 | 1 |
| CA-CB-N-CA-CB | 110.50 | 126.49 | 1 |
| C-N-CA | 121.70 | 138.62 | 2 |
| CA-C-O | 120.80 | 104.82 | 1 |
| C-CA-C-CA-CB | 110.10 | 127.95 | 1 |
| C-CA-CB | 110.10 | 127.95 | 1 |
| CA-C-C-CA-CB | 110.10 | 127.94 | 1 |
| C-CA-CB | 110.10 | 92.27 | 1 |
| C-N-CA | 121.70 | 138.59 | 1 |
| CA-C-O | 120.80 | 104.85 | 1 |
| CA-C-NH1-CZ-NH2 | 119.30 | 131.50 | 1 |
| C-CA-CA-C-O | 120.80 | 104.85 | 1 |
| N-CA-CB | 111.50 | 95.56 | 1 |
| C-CA-C-N-CA-C-CA-C-N | 116.20 | 134.95 | 1 |
| N-CA-CA-C-C-CA-N-CA-CB | 111.50 | 95.57 | 1 |
| N-CA-CB | 111.50 | 95.57 | 1 |
| CA-N-N-CA-C | 111.00 | 84.77 | 1 |
| C-CA-CB | 110.10 | 127.90 | 1 |
| C-N-CA | 121.70 | 138.56 | 1 |
| N-CA-C-CA-CB | 110.10 | 92.31 | 1 |
| CA-CB-C-CA-CA-C-O | 120.80 | 104.88 | 1 |
| C-CA-C-CA-N-CA-CB | 111.50 | 95.59 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 110.10 | 127.88 | 1 |
| N-CA-C | 111.00 | 137.19 | 1 |
| CA-C-N-CA-N-CA-C | 111.00 | 84.81 | 1 |
| C-CA-CB | 110.10 | 92.33 | 1 |
| CA-C-N | 116.20 | 97.50 | 1 |
| C-CA-C-CA-C-CA-CB | 110.10 | 127.87 | 1 |
| C-N-CA | 121.70 | 138.53 | 1 |
| N-CA-C | 111.00 | 137.18 | 1 |
| C-CA-CB | 110.10 | 127.86 | 1 |
| C-N-CA | 121.70 | 138.52 | 2 |
| C-CA-CA-C-N | 116.20 | 97.51 | 1 |
| C-CA-C-CA-CB | 110.10 | 127.85 | 1 |
| C-CA-CB | 110.10 | 127.85 | 2 |
| C-N-CA | 121.70 | 138.51 | 1 |
| C-CA-CB | 110.10 | 127.84 | 1 |
| CA-C-C-CA-CB | 109.10 | 88.56 | 1 |
| CA-C-N-CA-N-CA-CB | 110.50 | 126.36 | 1 |
| C-CA-C-CA-N-CA-CB | 110.50 | 94.64 | 1 |
| CA-C-O | 120.80 | 104.94 | 1 |
| CA-C-C-N-CA | 121.70 | 138.49 | 1 |
| C-CA-C-CA-C-CA-C-CA-CB | 109.10 | 88.59 | 1 |
| CA-CB-CG | 112.60 | 121.92 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------------|--------------------|-----------------|--------------------|
| CA-C-N | 116.20 | 97.56 | 1 |
| C-CA-CB | 110.10 | 127.81 | 1 |
| C-CA-N-CA-CB | 110.50 | 126.35 | 1 |
| C-CA-CB | 110.10 | 92.39 | 1 |
| N-CA-N-CA-C-CA-CB | 110.10 | 92.39 | 1 |
| C-CA-C-CA-CB | 109.10 | 129.60 | 1 |
| CA-C-O | 120.80 | 104.96 | 1 |
| C-CA-CB | 110.10 | 92.40 | 1 |
| CA-N-CA-CB-CA-C-O | 120.80 | 104.97 | 1 |
| N-CA-CB | 111.50 | 95.67 | 1 |
| C-CA-NH1-CZ-NH2 | 119.30 | 131.40 | 1 |
| C-CA-C-CA-CB | 109.10 | 88.62 | 1 |
| C-CA-CB | 110.50 | 96.54 | 1 |
| C-CA-CB | 110.10 | 92.41 | 1 |
| C-CA-C-CA-C-CA-C-CA-CB | 110.10 | 127.78 | 1 |
| C-CA-CA-C-O | 120.80 | 104.98 | 1 |
| N-CA-CB | 111.50 | 95.68 | 1 |
| CA-C-O | 120.80 | 104.98 | 1 |
| C-N-CD | 125.00 | 163.14 | 1 |
| CA-CB-CG | 112.60 | 121.90 | 1 |
| C-N-N-CA-C-N-CA | 121.70 | 138.44 | 1 |
| C-N-C-CA-C-CA-N-CA-CB | 110.50 | 126.30 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--------------------|--------------------|-----------------|--------------------|
| C-N-CD | 125.00 | 163.10 | 1 |
| CA-C-N | 116.20 | 134.78 | 1 |
| C-CA-CA-C-O | 120.80 | 105.01 | 1 |
| N-CA-CB | 111.50 | 95.71 | 1 |
| C-CA-CB | 110.10 | 127.74 | 2 |
| CA-C-O | 120.80 | 105.01 | 1 |
| C-CA-CB | 109.10 | 129.53 | 1 |
| C-CA-CB | 111.60 | 130.17 | 1 |
| C-CA-CB | 109.10 | 88.68 | 1 |
| C-CA-CB | 110.10 | 127.73 | 1 |
| C-N-N-CA-CB | 110.50 | 126.27 | 1 |
| CA-CB-C-CA-CB | 110.10 | 127.72 | 1 |
| C-CA-CA-CB-C-CA-CB | 110.50 | 96.59 | 1 |
| N-CA-CB | 110.50 | 126.26 | 2 |
| C-CA-CB | 111.60 | 130.14 | 1 |
| CA-C-N | 116.20 | 97.66 | 1 |
| CA-C-N-CA-CB | 110.50 | 94.75 | 1 |
| C-CA-CB | 110.50 | 96.60 | 1 |
| C-CA-C-CA-CB | 110.10 | 127.70 | 1 |
| C-N-N-CA-CB | 111.50 | 95.75 | 1 |
| C-CA-CB | 110.10 | 92.50 | 1 |
| CA-C-O | 120.80 | 105.06 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------|--------------------|-----------------|--------------------|
| C-CA-CB | 110.50 | 124.39 | 1 |
| N-CA-CB | 110.50 | 94.76 | 1 |
| CA-C-N-CA-CB | 111.50 | 95.76 | 1 |
| N-CA-CB | 110.50 | 94.77 | 1 |
| C-CA-CB | 110.10 | 127.68 | 1 |
| C-N-CA-C-CA-C-O | 120.80 | 105.07 | 1 |
| C-N-CA | 121.70 | 138.35 | 2 |
| C-CA-CB | 110.10 | 92.53 | 2 |
| C-N-C-CA-CB | 109.10 | 129.44 | 1 |
| C-CA-CB | 110.50 | 124.37 | 1 |
| N-CA-CB | 111.50 | 95.78 | 1 |
| C-CA-N-CA-CB | 110.50 | 94.79 | 1 |
| CA-C-N | 116.20 | 134.68 | 1 |
| C-CA-C-CA-CB | 110.10 | 92.55 | 1 |
| N-CA-CB | 110.50 | 94.80 | 1 |
| C-CA-C-CA-CB | 110.50 | 96.65 | 1 |
| C-CA-CB | 110.10 | 127.64 | 1 |
| C-N-CA | 121.70 | 138.31 | 2 |
| CA-C-CA-C-O | 120.80 | 136.48 | 1 |
| C-CA-CB | 109.10 | 129.40 | 1 |
| C-CA-CB | 110.50 | 124.34 | 1 |
| C-CA-CB | 110.10 | 92.58 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------|--------------------|-----------------|--------------------|
| N-CA-CB | 110.50 | 94.82 | 1 |
| CA-C-C-CA-CB | 110.10 | 127.61 | 1 |
| C-CA-N-CA-C-CA-C-N-CA | 121.70 | 138.28 | 1 |
| CA-C-O | 120.80 | 136.46 | 1 |
| C-CA-CB | 110.50 | 124.31 | 1 |
| CA-C-N | 116.20 | 134.62 | 1 |
| CA-C-C-CA-CB | 110.10 | 92.61 | 1 |
| N-CA-CB | 110.50 | 94.85 | 1 |
| C-CA-CB | 110.10 | 127.58 | 1 |
| N-CA-N-CA-C | 113.30 | 139.98 | 1 |
| C-CA-N-CA-C | 113.30 | 139.96 | 1 |
| C-CA-N-CA-C | 113.30 | 139.95 | 1 |
| CA-N-CD | 112.00 | 99.14 | 1 |
| C-CA-C-CA-CB | 110.10 | 127.55 | 1 |
| N-CA-C | 113.30 | 139.93 | 1 |
| C-CA-C-CA-CB | 110.10 | 127.54 | 1 |
| C-CA-CB | 111.60 | 93.25 | 1 |
| CA-N-CD | 112.00 | 99.15 | 1 |
| CA-C-N | 116.20 | 134.55 | 1 |
| C-CA-N-CA-C-CA-CB | 111.60 | 93.25 | 1 |
| C-CA-CB | 110.10 | 127.52 | 1 |
| C-CA-CB | 110.10 | 92.68 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------------|--------------------|-----------------|--------------------|
| C-CA-C-CA-CB | 110.10 | 127.51 | 1 |
| C-N-N-CA-CB | 110.50 | 94.93 | 1 |
| C-CA-N-CA-C-CA-CB | 110.10 | 127.48 | 1 |
| CA-C-N | 116.20 | 134.49 | 1 |
| C-CA-CB | 110.10 | 92.73 | 2 |
| N-CA-CB | 110.40 | 124.12 | 1 |
| N-CA-C | 111.00 | 136.60 | 1 |
| C-CA-N-CA-CB | 110.50 | 94.96 | 1 |
| C-CA-CB | 110.10 | 92.74 | 1 |
| C-CA-C-CA-CB | 110.10 | 127.46 | 1 |
| C-CA-C-N-N-CA-C | 111.00 | 136.57 | 1 |
| C-CA-CB | 110.10 | 127.45 | 1 |
| C-CA-C-N-C-CA-CB | 110.10 | 127.45 | 1 |
| CA-C-N | 116.20 | 134.46 | 1 |
| C-CA-N-CA-C-CA-CB | 110.10 | 127.44 | 1 |
| C-CA-CB | 110.10 | 92.76 | 1 |
| C-N-C-CA-CB | 110.10 | 127.44 | 1 |
| N-CA-CA-C-N | 116.20 | 134.43 | 1 |
| CA-C-N | 116.20 | 134.43 | 1 |
| C-CA-C-CA-N-CA-C-CA-CB | 110.10 | 127.40 | 1 |
| N-CA-CB | 103.00 | 113.01 | 1 |
| N-CA-C | 111.00 | 136.49 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------------|--------------------|-----------------|--------------------|
| N-CA-C | 113.30 | 139.70 | 1 |
| C-CA-CB | 110.10 | 92.81 | 1 |
| C-N-CA-C-O | 120.80 | 105.33 | 1 |
| N-CA-C | 111.00 | 85.52 | 1 |
| C-CA-N-CA-C | 113.30 | 139.69 | 1 |
| CA-N-CD | 112.00 | 99.26 | 1 |
| CA-C-N-CA-C-CA-CB | 110.10 | 127.38 | 1 |
| N-CA-C | 111.00 | 85.54 | 1 |
| C-CA-C-CA-N-CA-C-CA-CB | 110.10 | 92.83 | 1 |
| N-CA-CB | 110.40 | 124.03 | 1 |
| C-N-C-N-N-CA-N-CA-C | 111.00 | 85.56 | 1 |
| C-CA-CB | 110.10 | 127.36 | 2 |
| N-CA-N-CA-N-CA-C | 113.30 | 139.63 | 1 |
| C-CA-CB | 110.10 | 127.34 | 1 |
| C-N-C-CA-CB | 110.10 | 127.34 | 1 |
| C-CA-N-CA-CB | 103.00 | 112.98 | 1 |
| N-CA-C | 111.00 | 136.39 | 1 |
| N-CA-C | 113.30 | 139.59 | 1 |
| CA-N-CD | 112.00 | 99.31 | 1 |
| N-CA-CB | 110.50 | 125.91 | 1 |
| C-N-CA-C-C-CA-CB | 110.10 | 127.30 | 1 |
| C-N-N-CA-CB | 111.50 | 126.89 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------|--------------------|-----------------|--------------------|
| N-CA-CB | 111.50 | 126.88 | 1 |
| C-N-N-CA-C | 111.00 | 85.67 | 1 |
| C-N-CA | 121.70 | 105.42 | 1 |
| C-CA-N-CA-CB | 111.50 | 96.13 | 1 |
| CA-C-N-CA-N-CA-C-N-CA | 121.70 | 137.97 | 1 |
| CA-C-N-CA-C | 111.00 | 136.30 | 1 |
| CA-C-N | 116.20 | 134.27 | 1 |
| CA-C-O | 120.80 | 105.44 | 1 |
| C-CA-CB | 110.10 | 127.26 | 1 |
| C-N-CA | 121.70 | 137.95 | 1 |
| CA-CB-CG | 113.80 | 104.77 | 1 |
| N-CA-N-CA-N-CA-CB | 110.50 | 95.16 | 1 |
| C-CA-CB | 110.10 | 127.25 | 1 |
| N-CA-C-CA-N-CA-CB | 103.00 | 112.92 | 1 |
| N-CA-C | 111.00 | 85.75 | 1 |
| C-N-CA | 121.70 | 105.47 | 1 |
| N-CA-CB | 111.50 | 96.17 | 1 |
| C-CA-CB | 110.10 | 92.97 | 1 |
| C-CA-N-CA-C | 111.00 | 136.23 | 1 |
| C-CA-CB | 110.10 | 92.98 | 1 |
| N-CA-CB | 111.50 | 126.81 | 1 |
| C-CA-CB | 110.50 | 124.01 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|----------------------|--------------------|-----------------|--------------------|
| C-CA-C-CA-CB | 110.10 | 127.20 | 1 |
| CA-CB-CG | 113.80 | 104.80 | 1 |
| CA-C-C-N-N-CA-C | 111.00 | 136.19 | 1 |
| N-CA-CB | 110.50 | 95.21 | 1 |
| C-CA-N-CA-C | 111.00 | 85.82 | 1 |
| C-CA-CA-C-O | 120.80 | 105.52 | 1 |
| C-N-C-N-CA | 121.70 | 137.88 | 1 |
| N-CA-CB | 110.50 | 125.78 | 1 |
| C-N-N-CA-CB | 111.50 | 96.23 | 1 |
| N-CA-CB | 111.50 | 126.76 | 1 |
| N-CA-C | 111.00 | 136.14 | 1 |
| N-CA-C-CA-N-CA-CB | 103.00 | 112.87 | 1 |
| C-CA-CB | 109.10 | 128.84 | 1 |
| C-CA-CB | 110.10 | 127.15 | 1 |
| N-CA-CB | 110.50 | 95.25 | 1 |
| CA-C-C-CA-N-CA-CB | 111.50 | 96.26 | 1 |
| CA-C-C-N-CA | 121.70 | 137.84 | 1 |
| C-CA-C-N-CA | 121.70 | 105.58 | 1 |
| C-N-CA | 121.70 | 105.59 | 1 |
| C-CA-C-N-N-CA-CB | 110.50 | 95.29 | 1 |
| C-N-C-CA-CA-C-CA-C-O | 120.80 | 105.61 | 1 |
| N-CA-CB | 110.50 | 95.31 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 110.10 | 93.12 | 1 |
| N-CA-C-CA-CB | 110.50 | 123.90 | 1 |
| N-CA-C-CA-CB | 109.10 | 128.74 | 1 |
| CA-C-C-CA-CB | 110.10 | 93.14 | 1 |
| N-CA-CB | 110.50 | 95.33 | 2 |
| C-CA-C-CA-C-N-CA | 121.70 | 105.64 | 1 |
| C-CA-CB | 110.10 | 127.05 | 1 |
| C-N-C-N-CA | 121.70 | 137.75 | 1 |
| CA-C-C-CA-CB | 110.10 | 127.00 | 1 |
| C-N-CA | 121.70 | 137.71 | 1 |
| C-N-CA | 121.70 | 105.69 | 1 |
| C-CA-CB | 111.60 | 93.82 | 1 |
| C-N-CA | 121.70 | 137.70 | 1 |
| C-CA-C-CA-CB | 110.10 | 126.99 | 1 |
| C-CA-CB | 111.60 | 93.83 | 1 |
| C-CA-CB | 110.10 | 126.98 | 1 |
| C-CA-N-CA-C-CA-CB | 110.10 | 126.97 | 1 |
| C-CA-CB | 110.10 | 126.97 | 1 |
| C-CA-C-CA-CB | 110.10 | 126.96 | 1 |
| N-CA-CB | 111.50 | 126.58 | 1 |
| CA-C-N-CA-C-N-CA | 121.70 | 137.67 | 1 |
| N-CA-N-CA-CB | 110.50 | 95.42 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---------------------------------------|--------------------|-----------------|--------------------|
| CA-C-C-CA-CB | 110.50 | 123.80 | 1 |
| C-CA-CB | 110.10 | 126.93 | 1 |
| C-CA-CB | 110.10 | 93.27 | 1 |
| C-CA-CB | 110.10 | 126.92 | 2 |
| CA-C-CA-CB-C-CA-CB | 110.10 | 126.91 | 1 |
| CA-C-C-CA-CB | 110.10 | 126.90 | 1 |
| C-CA-CB | 110.10 | 126.90 | 1 |
| C-CA-C-CA-CB | 110.10 | 93.30 | 1 |
| C-N-C-CA-CB | 110.10 | 126.89 | 1 |
| N-CA-C-CA-C-CA-C-CA-N-CA-N-CA-C-CA-CB | 111.40 | 128.15 | 1 |
| C-CA-CB | 110.10 | 126.85 | 2 |
| C-CA-C-CA-CB | 110.10 | 93.35 | 1 |
| C-CA-CA-CB-C-CA-CB | 110.10 | 126.83 | 1 |
| C-CA-CB | 111.40 | 128.13 | 1 |
| C-CA-C-CA-CB | 110.10 | 126.82 | 1 |
| C-CA-C-N-CA | 121.70 | 137.54 | 1 |
| C-CA-CB | 110.10 | 126.82 | 1 |
| CA-C-C-CA-CA-C-CA-C-C-CA-CA-CB-CG | 113.80 | 105.01 | 1 |
| C-CA-CB | 110.10 | 126.80 | 1 |
| C-CA-CB | 110.10 | 93.41 | 1 |
| C-CA-CB | 110.10 | 126.79 | 2 |
| C-N-CA | 121.70 | 137.51 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------|--------------------|-----------------|--------------------|
| CA-C-N | 116.20 | 98.64 | 1 |
| C-CA-CB | 111.40 | 128.08 | 1 |
| C-N-CA | 121.70 | 105.91 | 1 |
| N-CA-CB | 111.50 | 96.59 | 1 |
| C-CA-CB | 111.40 | 128.06 | 1 |
| CA-C-O | 120.80 | 139.21 | 1 |
| C-N-CA | 121.70 | 137.48 | 1 |
| N-CA-C-CA-CB | 110.50 | 123.64 | 1 |
| CA-C-N | 116.20 | 98.67 | 1 |
| CA-C-N-CA-CB | 111.50 | 96.61 | 1 |
| C-N-CA | 121.70 | 137.47 | 1 |
| C-N-CA | 121.70 | 105.94 | 1 |
| N-CA-CB | 111.50 | 126.39 | 1 |
| N-CA-C | 111.00 | 135.52 | 1 |
| C-CA-CA-C-C-CA-CB | 110.10 | 93.47 | 1 |
| CA-C-CA-C-CA-C-N | 116.20 | 133.70 | 1 |
| CA-C-N | 116.20 | 133.70 | 1 |
| C-CA-C-CA-CB | 110.10 | 126.72 | 1 |
| C-CA-CB | 110.10 | 126.72 | 1 |
| C-N-CA | 121.70 | 137.44 | 1 |
| C-CA-CB | 109.10 | 128.34 | 1 |
| CA-C-C-N-CA | 121.70 | 137.43 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|----------------------------|--------------------|-----------------|--------------------|
| CA-C-N-CA-CA-C-N-CA-C-N-CA | 121.70 | 105.98 | 1 |
| CA-CB-CG | 113.80 | 105.07 | 1 |
| C-N-CA-C-O | 120.80 | 139.14 | 1 |
| C-CA-C-CA-CB | 109.10 | 128.31 | 1 |
| C-CA-CB | 110.10 | 126.69 | 1 |
| C-N-CA | 121.70 | 105.99 | 1 |
| N-CA-C-CA-CB | 110.10 | 126.68 | 1 |
| C-CA-CB | 110.10 | 126.67 | 2 |
| C-CA-CB | 111.40 | 94.83 | 1 |
| N-CA-N-CA-N-CA-C | 111.00 | 135.40 | 1 |
| N-CA-CA-C-C-CA-CB | 110.10 | 126.66 | 1 |
| C-CA-C-CA-CB | 110.10 | 126.65 | 1 |
| C-CA-CB | 110.10 | 126.65 | 1 |
| C-CA-CB | 110.10 | 93.56 | 1 |
| CA-C-CA-C-C-CA-CB | 111.40 | 94.87 | 1 |
| CA-C-C-CA-CB | 110.10 | 126.62 | 1 |
| C-CA-CB | 109.10 | 128.23 | 1 |
| C-CA-CB | 110.10 | 126.62 | 1 |
| N-CA-CB | 103.00 | 93.44 | 1 |
| C-CA-CB | 109.10 | 128.22 | 1 |
| N-CA-C-CA-CB | 110.50 | 123.53 | 1 |
| C-CA-CA-C-C-CA-CB | 110.10 | 126.61 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|----------------------------------|--------------------|-----------------|--------------------|
| CA-C-O | 120.80 | 135.57 | 1 |
| CA-C-C-CA-CB | 110.10 | 126.60 | 1 |
| C-CA-CB | 111.40 | 94.90 | 1 |
| CA-C-C-CA-N-CA-CB | 103.00 | 93.45 | 1 |
| C-CA-CB | 110.10 | 126.58 | 2 |
| N-CA-C-CA-C-CA-C-CA-C-CA-CB | 111.40 | 94.92 | 1 |
| N-CA-C | 111.00 | 135.28 | 1 |
| C-CA-CB | 110.10 | 126.57 | 2 |
| C-N-CA-C-O | 120.80 | 135.54 | 1 |
| C-CA-CA-C-C-CA-CA-C-C-CA-CB | 110.10 | 126.57 | 1 |
| C-N-N-CA-C-N-CA | 121.70 | 106.11 | 1 |
| C-CA-CB | 110.10 | 126.56 | 1 |
| CA-C-O | 120.80 | 135.53 | 1 |
| C-CA-N-CA-C-CA-N-CA-C-CA-C-CA-CB | 110.10 | 93.65 | 1 |
| C-CA-CB | 110.10 | 93.65 | 1 |
| C-CA-CB | 110.10 | 126.55 | 1 |
| C-CA-CA-C-O | 120.80 | 135.51 | 1 |
| C-CA-N-CA-C | 111.00 | 86.77 | 1 |
| N-CA-C | 111.00 | 86.78 | 1 |
| CA-C-C-CA-N-CA-C | 111.00 | 135.21 | 1 |
| C-CA-CB | 110.10 | 126.52 | 1 |
| N-CA-CB | 110.40 | 123.37 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--------------------|--------------------|-----------------|--------------------|
| N-CA-C-N-CA | 121.70 | 106.14 | 1 |
| NH1-CZ-N-CA-CA-C-O | 120.80 | 135.48 | 1 |
| N-CA-C | 111.00 | 86.82 | 2 |
| C-CA-CB | 110.10 | 126.50 | 1 |
| C-CA-C-CA-CB | 110.50 | 123.45 | 1 |
| N-CA-CB | 110.40 | 123.35 | 1 |
| C-CA-CB | 110.50 | 123.45 | 1 |
| C-N-N-CA-CB | 110.50 | 125.17 | 1 |
| C-CA-CB | 110.50 | 123.44 | 1 |
| C-CA-N-CA-CB | 111.50 | 96.84 | 1 |
| CA-C-O | 120.80 | 135.46 | 1 |
| N-CA-C-CA-CB | 110.10 | 126.48 | 1 |
| CA-C-O | 120.80 | 135.45 | 1 |
| C-CA-CA-C-O | 120.80 | 135.45 | 1 |
| NH1-CZ-CA-C-N | 116.20 | 98.98 | 1 |
| C-CA-CB | 110.10 | 126.46 | 1 |
| C-CA-CB | 110.10 | 126.45 | 1 |
| CA-C-O | 120.80 | 102.73 | 1 |
| N-CA-CA-C-CA-C-N | 116.20 | 99.00 | 1 |
| C-CA-CA-C-O | 120.80 | 102.75 | 1 |
| CA-C-O | 120.80 | 135.41 | 1 |
| C-CA-CB | 110.10 | 126.43 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------|--------------------|-----------------|--------------------|
| N-CA-C | 111.00 | 86.94 | 1 |
| CA-C-N | 116.20 | 133.39 | 1 |
| CA-C-C-CA-CB | 110.10 | 126.42 | 1 |
| N-CA-C-CA-CB | 110.10 | 126.42 | 1 |
| N-CA-CB | 110.50 | 125.10 | 1 |
| CA-C-O | 120.80 | 135.40 | 1 |
| C-CA-C-CA-C-N-C-CA-CB | 110.10 | 126.41 | 1 |
| N-CA-N-CA-CB | 111.50 | 96.92 | 1 |
| C-CA-C-CA-CB | 110.10 | 126.39 | 1 |
| N-CA-C | 111.00 | 86.99 | 2 |
| CA-C-CA-C-C-CA-CB | 110.10 | 126.37 | 1 |
| CA-C-N | 116.20 | 133.32 | 1 |
| C-CA-CA-C-C-CA-CB | 110.10 | 126.35 | 1 |
| N-CA-C | 111.00 | 87.05 | 1 |
| CA-C-C-CA-N-CA-C | 111.00 | 87.07 | 1 |
| C-N-CA | 121.70 | 137.08 | 1 |
| C-CA-C-CA-CB | 110.10 | 126.34 | 1 |
| CA-C-CA-C-O | 120.80 | 135.33 | 1 |
| CA-C-N | 116.20 | 133.28 | 1 |
| C-N-CA | 121.70 | 137.07 | 1 |
| C-CA-CB | 110.10 | 126.32 | 1 |
| N-CA-CB | 110.50 | 125.01 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------|--------------------|-----------------|--------------------|
| CA-C-N | 116.20 | 133.27 | 1 |
| C-CA-CB | 110.10 | 93.89 | 1 |
| C-CA-CB | 110.10 | 126.31 | 1 |
| N-CA-N-CA-C | 111.00 | 87.11 | 1 |
| C-N-CA | 121.70 | 137.05 | 1 |
| CA-C-CA-C-N | 116.20 | 133.25 | 1 |
| C-CA-CB | 110.10 | 93.90 | 1 |
| C-CA-CA-C-O | 120.80 | 135.29 | 1 |
| N-CA-CB | 110.50 | 124.99 | 1 |
| N-CA-C | 111.00 | 87.14 | 1 |
| C-CA-C-CA-CB | 110.10 | 93.91 | 1 |
| C-CA-CB | 110.10 | 93.91 | 1 |
| CA-C-CA-C-O | 120.80 | 135.28 | 1 |
| C-CA-N-CA-C | 111.00 | 87.16 | 1 |
| C-N-CA | 121.70 | 137.02 | 1 |
| CA-C-N | 116.20 | 133.22 | 1 |
| C-CA-CB | 110.10 | 93.93 | 1 |
| CA-C-O | 120.80 | 106.33 | 1 |
| C-CA-C-CA-CB | 110.10 | 93.94 | 1 |
| C-CA-N-CA-CB | 110.50 | 124.95 | 1 |
| CA-C-C-N-N-CA-C | 111.00 | 87.20 | 1 |
| N-CA-C-CA-C-CA-CA-C-O | 120.80 | 135.24 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 110.10 | 93.96 | 1 |
| C-CA-CB | 111.60 | 94.61 | 1 |
| CA-C-N | 116.20 | 133.19 | 1 |
| C-CA-C-CA-CB | 110.10 | 126.23 | 1 |
| N-CA-C-CA-N-CA-C-CA-CB | 110.10 | 93.98 | 1 |
| C-CA-CB | 110.10 | 93.98 | 1 |
| CA-C-C-CA-C-CA-CB | 110.10 | 93.99 | 1 |
| C-CA-CA-C-N | 116.20 | 133.16 | 1 |
| CA-C-CA-C-O | 120.80 | 106.39 | 1 |
| O-C-N | 123.00 | 136.56 | 1 |
| N-CA-CB | 110.50 | 96.10 | 1 |
| C-CA-CB | 110.50 | 123.21 | 1 |
| C-CA-CB | 110.10 | 94.01 | 1 |
| C-CA-C-CA-CB | 111.60 | 94.67 | 1 |
| C-CA-CB | 110.10 | 94.02 | 1 |
| C-CA-CB | 110.10 | 126.18 | 1 |
| CA-C-C-CA-CB | 110.50 | 123.19 | 1 |
| C-CA-CB | 110.10 | 126.17 | 1 |
| O-C-N | 123.00 | 136.53 | 1 |
| C-CA-CB | 110.50 | 123.18 | 1 |
| CA-C-C-CA-C-CA-CA-CB-CG | 113.90 | 98.68 | 1 |
| N-CA-C | 111.00 | 87.34 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--|--------------------|-----------------|--------------------|
| N-CA-C-CA-CB | 110.50 | 97.82 | 1 |
| CA-N-C-CA-CB | 111.60 | 94.71 | 1 |
| O-C-N | 123.00 | 136.52 | 1 |
| C-CA-CB | 110.50 | 123.17 | 1 |
| N-CA-CA-C-O | 120.80 | 106.44 | 1 |
| C-CA-C-CA-O-C-N | 123.00 | 136.51 | 1 |
| N-CA-C-CA-CB | 110.10 | 126.14 | 1 |
| N-CA-CB | 110.50 | 96.15 | 1 |
| N-CA-C-CA-C-CA-C-CA-N-CA-C-CA-C-CA-C-CA-CB | 110.10 | 126.12 | 1 |
| C-CA-C-CA-C-CA-C-CA-CB | 110.10 | 126.11 | 1 |
| CA-CB-CG | 113.90 | 98.73 | 1 |
| C-CA-CB | 111.60 | 94.75 | 1 |
| N-CA-C-CA-C-CA-CB | 110.50 | 97.86 | 1 |
| CA-C-O | 120.80 | 106.48 | 1 |
| C-CA-N-CA-CB | 110.50 | 124.82 | 1 |
| C-CA-CB | 110.10 | 126.11 | 1 |
| C-N-CD | 125.00 | 159.52 | 1 |
| N-CA-CA-N-N-CA-C-CA-N-CA-C-CA-CA-C-O | 120.80 | 106.50 | 1 |
| CA-C-CA-C-C-CA-CB | 110.10 | 126.07 | 1 |
| CA-C-O | 120.80 | 106.51 | 2 |
| C-CA-CA-C-O | 120.80 | 106.52 | 1 |
| C-CA-CB | 110.10 | 94.14 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------------|--------------------|-----------------|--------------------|
| C-CA-N-CA-CB | 111.50 | 125.77 | 1 |
| C-CA-C-CA-CB | 110.10 | 126.05 | 1 |
| C-N-CA | 121.70 | 136.81 | 1 |
| C-CA-C-CA-CB | 110.10 | 94.15 | 1 |
| C-CA-CB | 110.10 | 126.04 | 5 |
| N-CA-CB | 110.50 | 124.76 | 1 |
| CA-C-C-N-CD | 125.00 | 159.39 | 1 |
| CA-C-C-CA-CB | 110.10 | 126.03 | 1 |
| N-CA-C-CA-CA-N-CA-C-N | 116.20 | 132.96 | 1 |
| N-CA-C-CA-CB | 110.10 | 126.02 | 1 |
| C-CA-N-CA-N-CA-CB | 110.50 | 124.74 | 1 |
| CA-CB-CG | 112.60 | 104.22 | 1 |
| C-N-CA | 121.70 | 136.78 | 1 |
| C-CA-CB | 110.10 | 94.19 | 2 |
| N-CA-CA-C-N-CA-CA-C-N | 116.20 | 132.94 | 1 |
| C-CA-CB | 110.10 | 126.00 | 1 |
| N-CA-CB | 110.40 | 97.85 | 1 |
| C-CA-CB | 110.10 | 94.21 | 2 |
| C-CA-CB | 110.10 | 125.99 | 1 |
| C-CA-CB | 110.10 | 125.98 | 1 |
| N-CA-N-CA-C-CA-N-CA-CB | 111.50 | 125.70 | 1 |
| C-CA-C-CA-CB | 110.10 | 94.24 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------------------|--------------------|-----------------|--------------------|
| CA-C-N | 116.20 | 132.89 | 1 |
| C-CA-N-CA-CB | 110.40 | 97.89 | 1 |
| CA-C-C-CA-CA-C-C-CA-CA-CB-N-CA-CB | 110.50 | 96.32 | 1 |
| N-CA-C | 111.00 | 87.66 | 1 |
| CA-C-C-CA-CB | 110.10 | 94.26 | 1 |
| N-CA-CB | 111.50 | 97.33 | 1 |
| N-CA-C | 111.00 | 87.67 | 1 |
| C-CA-CA-CB-CG | 112.60 | 120.93 | 1 |
| C-CA-N-CA-CB | 110.50 | 96.34 | 1 |
| N-CA-CB | 111.50 | 125.66 | 1 |
| C-CA-CB | 109.10 | 90.77 | 1 |
| N-CA-CB | 110.50 | 96.34 | 1 |
| C-CA-C-CA-C-CA-N-CA-C | 111.00 | 87.69 | 1 |
| C-CA-CB | 110.10 | 94.28 | 2 |
| N-CA-CA-C-N | 116.20 | 132.84 | 1 |
| N-CA-C | 111.00 | 87.70 | 1 |
| C-CA-CB | 110.10 | 94.29 | 1 |
| CA-C-O | 120.80 | 106.65 | 1 |
| N-CA-CB | 110.50 | 96.35 | 1 |
| CA-C-N | 116.20 | 132.84 | 1 |
| N-CA-C-CA-C-CA-C-CA-CB | 109.10 | 90.80 | 1 |
| C-CA-CB | 110.10 | 125.91 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------|--------------------|-----------------|--------------------|
| N-CA-CA-C-N-CA-C | 111.00 | 87.72 | 1 |
| CA-CB-CG | 112.60 | 120.91 | 1 |
| CA-C-N | 116.20 | 132.82 | 1 |
| C-CA-CB | 110.50 | 122.97 | 1 |
| C-CA-CB | 110.10 | 125.89 | 1 |
| N-CA-CB | 111.50 | 125.63 | 1 |
| N-CA-C | 111.00 | 87.74 | 1 |
| C-CA-C-CA-CB | 110.10 | 125.88 | 1 |
| CA-CB-C-CA-CB | 110.10 | 94.32 | 1 |
| C-CA-CB | 110.10 | 125.87 | 2 |
| N-CA-CB | 111.50 | 97.39 | 1 |
| CA-N-C-CA-CB | 110.10 | 125.87 | 1 |
| C-CA-CB | 110.50 | 122.95 | 1 |
| N-CA-CB | 110.50 | 96.39 | 1 |
| CA-CB-CG | 113.80 | 105.50 | 1 |
| C-CA-N-CA-C | 111.00 | 87.77 | 1 |
| N-CA-C | 111.00 | 87.78 | 1 |
| C-CA-CB | 110.10 | 94.35 | 2 |
| CA-CB-CG | 112.60 | 120.89 | 1 |
| C-CA-N-CA-C | 111.00 | 87.79 | 1 |
| CA-C-C-CA-CB | 111.60 | 128.17 | 1 |
| C-CA-CB | 110.10 | 94.36 | 2 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--------------------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 110.10 | 125.84 | 1 |
| C-CA-C-CA-C-CA-CB | 110.10 | 94.37 | 1 |
| C-CA-C-CA-CB | 110.10 | 94.38 | 1 |
| C-CA-C-CA-CB | 110.10 | 125.82 | 1 |
| C-CA-CB | 110.10 | 94.38 | 2 |
| C-CA-CB | 110.10 | 125.81 | 1 |
| CA-CB-CG | 112.60 | 104.33 | 1 |
| C-CA-N-CA-N-CA-N-CA-C | 111.00 | 87.85 | 1 |
| C-CA-C-CA-CB | 110.10 | 125.81 | 1 |
| C-CA-CB | 110.10 | 94.39 | 1 |
| C-CA-CB | 110.50 | 122.90 | 1 |
| C-CA-CB | 110.10 | 125.80 | 1 |
| CA-CB-CG | 112.60 | 120.86 | 1 |
| C-N-CA | 121.70 | 106.83 | 1 |
| C-CA-CB | 110.10 | 94.41 | 1 |
| C-CA-CB | 111.60 | 128.11 | 1 |
| N-CA-C | 111.00 | 87.89 | 1 |
| C-CA-C-N-C-N-C-CA-CB | 110.10 | 94.42 | 1 |
| C-CA-CB | 110.10 | 125.77 | 1 |
| CA-C-N | 116.20 | 132.70 | 1 |
| C-CA-N-CA-CB | 110.50 | 96.48 | 1 |
| N-CA-C-CA-C-CA-N-CA-C-N-C-N-CA | 121.70 | 136.54 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---------------------|--------------------|-----------------|--------------------|
| C-CA-C-N-CA | 121.70 | 136.54 | 1 |
| C-CA-CB | 110.10 | 125.76 | 1 |
| C-CA-CB | 110.50 | 122.86 | 1 |
| C-N-C-CA-C-N-CA | 121.70 | 106.88 | 1 |
| C-N-CA | 121.70 | 106.88 | 1 |
| C-CA-CB | 110.50 | 122.85 | 2 |
| C-N-N-CA-C | 111.00 | 87.94 | 1 |
| CA-C-O | 120.80 | 134.80 | 1 |
| N-CA-C-CA-CB | 110.50 | 98.15 | 1 |
| CA-C-O | 120.80 | 106.80 | 1 |
| CA-CB-C-CA-CA-CB-CG | 113.80 | 105.57 | 1 |
| C-CA-N-CA-C-CA-CB | 110.10 | 94.46 | 1 |
| N-CA-CB | 110.50 | 96.51 | 1 |
| C-CA-CB | 110.50 | 122.84 | 1 |
| C-CA-CB | 109.10 | 91.01 | 1 |
| N-CA-C | 111.00 | 87.97 | 1 |
| C-N-CA | 121.70 | 106.90 | 1 |
| CA-C-N | 116.20 | 99.76 | 1 |
| CA-C-N | 116.20 | 132.64 | 1 |
| C-CA-CB | 110.10 | 125.72 | 2 |
| C-CA-CB | 111.40 | 127.02 | 1 |
| CA-C-C-CA-CB | 110.10 | 125.71 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|----------------------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 111.40 | 127.01 | 1 |
| C-N-N-CA-C-CA-CB | 110.10 | 94.49 | 1 |
| CA-C-CA-C-O | 120.80 | 134.77 | 1 |
| C-CA-CB | 110.50 | 98.18 | 1 |
| N-CA-CB | 110.40 | 122.71 | 1 |
| C-N-CA-CB-N-CA-N-CA-C-CA-C-CA-CB | 110.10 | 94.51 | 1 |
| N-CA-CB | 110.50 | 96.55 | 1 |
| C-N-CA | 121.70 | 136.47 | 1 |
| C-N-CA-C-O | 120.80 | 134.75 | 1 |
| CA-C-N-CA-C | 111.00 | 88.03 | 1 |
| N-CA-C-CA-CB | 110.10 | 125.68 | 2 |
| C-N-C-CA-CB | 110.10 | 125.68 | 1 |
| N-CA-C | 111.00 | 88.05 | 1 |
| N-CA-N-CA-C-CA-CB | 110.10 | 125.67 | 1 |
| CA-C-CA-C-O | 120.80 | 134.73 | 1 |
| CA-C-CA-C-N | 116.20 | 132.58 | 1 |
| CA-C-O | 120.80 | 106.88 | 1 |
| C-N-CA-C-O | 120.80 | 106.88 | 1 |
| C-N-CA | 121.70 | 136.44 | 1 |
| CA-C-N | 116.20 | 99.83 | 1 |
| C-CA-CB | 110.50 | 98.22 | 1 |
| N-CA-N-CA-CA-C-O | 120.80 | 106.89 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------------|--------------------|-----------------|--------------------|
| CA-C-C-N-CA | 121.70 | 136.42 | 1 |
| CA-C-O | 120.80 | 106.90 | 1 |
| N-CA-CB | 110.40 | 122.67 | 1 |
| CA-C-N | 116.20 | 99.85 | 1 |
| C-CA-CB | 110.10 | 125.62 | 2 |
| CA-C-C-CA-CB | 110.10 | 94.58 | 1 |
| N-CA-C | 111.00 | 88.13 | 1 |
| CA-C-O | 120.80 | 134.68 | 2 |
| C-CA-CB | 110.10 | 125.61 | 1 |
| C-N-CA | 121.70 | 136.39 | 1 |
| CA-C-N | 116.20 | 99.88 | 1 |
| C-CA-CB | 110.50 | 122.74 | 1 |
| C-CA-CA-C-O | 120.80 | 106.93 | 1 |
| C-CA-N-CA-C | 111.00 | 88.16 | 1 |
| CA-C-O | 120.80 | 106.93 | 1 |
| CA-C-N-CA-CA-C-C-CA-CB | 109.10 | 91.16 | 1 |
| C-CA-CB | 110.50 | 122.72 | 1 |
| CA-C-O | 120.80 | 106.95 | 1 |
| N-CA-C | 111.00 | 88.19 | 1 |
| C-N-CA-C-O | 120.80 | 106.96 | 1 |
| CA-C-O | 120.80 | 106.96 | 1 |
| CA-C-C-CA-CB | 110.10 | 125.57 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---|--------------------|-----------------|--------------------|
| N-CA-N-CA-CA-CB-N-CA-N-CA-CA-C-CA-C-C-CA-CB | 110.50 | 98.30 | 1 |
| CA-C-CA-C-C-CA-CB | 110.10 | 94.64 | 1 |
| CA-C-N | 116.20 | 132.47 | 1 |
| C-N-CA | 121.70 | 136.34 | 1 |
| C-CA-CB | 110.50 | 122.70 | 1 |
| C-CA-C-N-CA | 121.70 | 136.33 | 1 |
| C-CA-CB | 110.10 | 125.54 | 1 |
| CA-C-O | 120.80 | 106.98 | 1 |
| C-CA-C-CA-C-N-CA | 121.70 | 136.33 | 1 |
| CA-C-N-CA-C | 111.00 | 88.26 | 1 |
| CA-C-C-CA-CB | 110.10 | 94.67 | 1 |
| C-CA-CA-C-C-N-CA | 121.70 | 136.30 | 1 |
| CA-C-O | 120.80 | 107.01 | 1 |
| C-CA-N-CA-C-CA-CB | 110.50 | 98.34 | 1 |
| C-CA-CB | 110.10 | 125.50 | 2 |
| N-CA-CB | 110.50 | 124.27 | 1 |
| CA-C-CA-CB-N-CA-CB | 111.50 | 125.26 | 1 |
| C-CA-CB | 110.10 | 125.48 | 4 |
| C-CA-CB | 110.50 | 122.64 | 1 |
| C-CA-CB | 110.10 | 94.72 | 2 |
| N-CA-C | 111.00 | 133.66 | 1 |
| CA-CB-CG | 113.80 | 121.89 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------|--------------------|-----------------|--------------------|
| N-CA-CB | 111.50 | 125.26 | 1 |
| CA-C-O | 120.80 | 134.55 | 2 |
| C-CA-CB | 110.10 | 125.47 | 1 |
| C-CA-CB | 110.10 | 94.73 | 1 |
| N-CA-C | 111.00 | 133.64 | 1 |
| CA-C-O | 120.80 | 107.06 | 1 |
| N-CA-C | 111.00 | 88.37 | 1 |
| N-CA-C | 111.00 | 133.62 | 1 |
| C-N-CA | 121.70 | 107.16 | 1 |
| C-CA-CB | 110.10 | 125.45 | 1 |
| CA-C-O | 120.80 | 107.07 | 1 |
| CA-C-O | 120.80 | 134.53 | 1 |
| N-CA-C | 111.00 | 133.61 | 1 |
| N-CA-C-CA-CB | 109.10 | 91.33 | 1 |
| C-CA-CB | 111.40 | 96.06 | 2 |
| N-CA-C | 111.00 | 88.39 | 1 |
| N-CA-C-CA-N-CA-C | 111.00 | 88.40 | 1 |
| C-CA-CA-C-C-CA-CB | 110.10 | 125.44 | 1 |
| N-CA-CB | 110.50 | 124.22 | 1 |
| C-CA-CB | 110.10 | 125.43 | 1 |
| C-CA-CB | 111.40 | 96.07 | 1 |
| C-CA-CB | 109.10 | 91.36 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 110.50 | 98.41 | 1 |
| CA-C-C-CA-C-CA-CB | 110.10 | 94.78 | 1 |
| C-CA-CB | 110.10 | 125.42 | 1 |
| C-CA-N-CA-C-CA-CB | 110.10 | 125.41 | 1 |
| C-N-C-CA-CB | 109.10 | 91.37 | 1 |
| CA-C-N | 116.20 | 132.31 | 1 |
| C-CA-CB | 110.10 | 94.79 | 1 |
| C-CA-CB | 110.10 | 125.40 | 2 |
| N-CA-CB | 110.40 | 122.48 | 2 |
| C-N-CA | 121.70 | 107.20 | 1 |
| N-CA-C | 111.00 | 88.45 | 1 |
| C-CA-C-CA-CB | 110.10 | 125.40 | 1 |
| C-CA-CB | 110.10 | 94.80 | 1 |
| C-CA-N-CA-C-CA-CB | 110.50 | 122.57 | 1 |
| N-CA-C | 111.00 | 88.47 | 1 |
| C-N-CA | 121.70 | 136.18 | 1 |
| C-CA-CB | 109.10 | 91.40 | 1 |
| C-CA-C-CA-C-CA-CB | 110.10 | 94.82 | 1 |
| CA-C-O | 120.80 | 134.47 | 1 |
| CA-C-N-CA-C | 111.00 | 133.50 | 1 |
| CA-N-CD | 112.00 | 123.25 | 1 |
| C-CA-C-CA-CB | 111.40 | 96.13 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------|--------------------|-----------------|--------------------|
| N-CA-C | 111.00 | 133.50 | 1 |
| CA-C-CA-CB-CG | 113.80 | 105.77 | 1 |
| C-CA-C-CA-C-CA-CB | 110.10 | 125.36 | 1 |
| N-CA-C | 111.00 | 133.48 | 1 |
| C-CA-CB | 110.10 | 125.36 | 1 |
| N-CA-C-CA-CB | 110.10 | 94.85 | 1 |
| C-CA-CB | 111.40 | 96.15 | 1 |
| CA-N-CD | 112.00 | 123.24 | 1 |
| C-CA-CB | 110.10 | 125.35 | 1 |
| CA-C-O | 120.80 | 107.16 | 1 |
| C-CA-C-CA-CB | 110.10 | 125.34 | 1 |
| C-CA-CB | 110.10 | 94.86 | 1 |
| C-CA-N-CA-C-CA-CB | 110.10 | 125.34 | 1 |
| N-CA-CA-C-C-N-CA | 121.70 | 136.13 | 1 |
| C-CA-CB | 110.10 | 125.33 | 1 |
| C-CA-CB | 111.40 | 96.17 | 1 |
| N-CA-C | 111.00 | 133.44 | 1 |
| N-CA-C | 111.00 | 88.56 | 1 |
| C-CA-CB | 110.50 | 122.52 | 1 |
| C-N-CA | 121.70 | 136.12 | 1 |
| C-CA-CB | 110.10 | 94.88 | 2 |
| N-CA-C-CA-CB | 110.10 | 125.32 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------------------|--------------------|-----------------|--------------------|
| C-N-CA | 121.70 | 136.11 | 1 |
| C-CA-C-CA-CB | 110.10 | 125.31 | 1 |
| C-CA-CB | 110.10 | 125.31 | 2 |
| C-N-CA | 121.70 | 107.29 | 1 |
| C-CA-CA-C-N-CA-CA-CB-CG | 113.80 | 121.80 | 1 |
| C-CA-CB | 110.10 | 125.30 | 1 |
| C-CA-C-N-CA | 121.70 | 107.30 | 1 |
| N-CA-C-CA-CB | 110.10 | 125.30 | 1 |
| N-CA-C | 111.00 | 88.60 | 1 |
| N-CA-C | 111.00 | 133.40 | 1 |
| C-CA-CB | 110.10 | 94.90 | 1 |
| N-CA-N-CA-CA-CB-C-CA-CB | 110.10 | 125.30 | 1 |
| C-CA-N-CA-CA-C-C-CA-CB | 110.10 | 125.29 | 1 |
| C-CA-CB | 110.10 | 125.29 | 1 |
| CA-C-O | 120.80 | 134.39 | 1 |
| CA-CB-C-CA-CA-CB-C-CA-N-CA-C | 111.00 | 88.64 | 1 |
| C-CA-N-CA-C | 111.00 | 133.36 | 1 |
| N-CA-C-CA-CB | 110.10 | 94.93 | 1 |
| N-CA-C-CA-CB | 110.10 | 125.27 | 1 |
| C-CA-CB | 110.10 | 125.27 | 2 |
| N-CA-C | 111.00 | 133.35 | 1 |
| C-CA-CB | 110.10 | 94.93 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------|--------------------|-----------------|--------------------|
| C-N-N-CA-C | 111.00 | 88.66 | 1 |
| N-CA-N-CA-C | 111.00 | 88.66 | 1 |
| N-CA-C | 111.00 | 133.33 | 1 |
| C-CA-CB | 110.10 | 94.95 | 1 |
| C-CA-CB | 110.10 | 125.25 | 1 |
| C-CA-CA-C-O | 120.80 | 134.35 | 1 |
| C-CA-CB | 110.50 | 122.46 | 1 |
| C-CA-CB | 110.10 | 125.24 | 1 |
| C-CA-CB | 110.10 | 94.97 | 1 |
| CA-C-O | 120.80 | 134.34 | 2 |
| N-CA-C | 113.30 | 90.22 | 1 |
| C-CA-CA-C-N | 116.20 | 100.29 | 1 |
| N-CA-C | 111.00 | 88.72 | 1 |
| C-CA-C-CA-CB | 110.10 | 125.21 | 1 |
| CA-CB-C-N-CA | 121.70 | 107.39 | 1 |
| CA-C-N | 116.20 | 132.10 | 1 |
| C-CA-CB | 110.10 | 125.21 | 1 |
| N-CA-CA-C-O | 120.80 | 107.28 | 1 |
| C-N-CA-C-O | 120.80 | 134.31 | 1 |
| C-N-CA | 121.70 | 107.39 | 1 |
| N-CA-CA-C-N | 116.20 | 100.31 | 1 |
| C-CA-C-CA-C-CA-CB | 110.10 | 125.19 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---|--------------------|-----------------|--------------------|
| C-N-C-CA-CB | 110.10 | 95.01 | 1 |
| CA-CB-CG | 113.80 | 105.86 | 1 |
| C-CA-CB | 111.40 | 96.31 | 1 |
| C-N-CA | 121.70 | 107.41 | 1 |
| C-CA-C-CA-CB | 110.10 | 125.18 | 1 |
| CA-C-O | 120.80 | 134.29 | 1 |
| N-CA-C-CA-CB | 110.10 | 125.18 | 1 |
| C-N-C-CA-N-CA-N-CA-C-N-N-CA-C-CA-C-N-CA | 121.70 | 135.97 | 1 |
| C-CA-CA-C-O | 120.80 | 134.28 | 1 |
| C-CA-C-CA-CB | 110.10 | 125.16 | 1 |
| C-CA-C-N-CA | 121.70 | 135.97 | 1 |
| C-CA-CB | 111.40 | 96.34 | 1 |
| N-CA-C-CA-C-CA-CB | 110.10 | 125.16 | 1 |
| CA-C-O | 120.80 | 134.27 | 1 |
| CA-C-N | 116.20 | 100.35 | 1 |
| N-CA-CA-C-N | 116.20 | 100.35 | 1 |
| C-CA-CB | 110.10 | 125.15 | 2 |
| N-CA-C | 113.30 | 90.33 | 1 |
| C-N-CA | 121.70 | 107.45 | 1 |
| CA-C-O | 120.80 | 107.34 | 2 |
| N-CA-CB | 110.50 | 123.96 | 1 |
| C-CA-CB | 110.10 | 125.14 | 2 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|----------------------------|--------------------|-----------------|--------------------|
| C-N-C-CA-CB | 110.10 | 125.13 | 1 |
| C-CA-N-CA-C | 111.00 | 133.15 | 1 |
| CA-C-N | 116.20 | 100.38 | 1 |
| CA-C-O | 120.80 | 107.36 | 1 |
| N-CA-CB | 110.50 | 123.94 | 1 |
| N-CA-C-CA-CB | 110.10 | 125.12 | 1 |
| C-N-CA-C-N-CA-C | 111.00 | 133.12 | 1 |
| CA-C-N | 116.20 | 132.00 | 1 |
| N-CA-CB | 111.50 | 124.93 | 1 |
| C-N-CA | 121.70 | 135.92 | 1 |
| C-N-C-CA-CB | 110.10 | 125.10 | 1 |
| N-CA-C | 111.00 | 88.89 | 1 |
| CA-C-N | 116.20 | 131.99 | 1 |
| N-CA-C | 111.00 | 133.10 | 1 |
| C-CA-CB | 110.10 | 125.10 | 2 |
| CA-C-N | 116.20 | 131.98 | 1 |
| N-CA-C | 111.00 | 88.91 | 1 |
| N-CA-N-CA-C | 111.00 | 133.09 | 1 |
| CA-C-O | 120.80 | 134.21 | 1 |
| CA-C-N | 116.20 | 131.97 | 1 |
| N-CA-C | 111.00 | 133.08 | 1 |
| N-CA-C-N-N-CA-N-CA-N-CA-CB | 110.50 | 97.10 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------|--------------------|-----------------|--------------------|
| N-CA-C-CA-CB | 110.10 | 125.07 | 1 |
| CA-C-N | 116.20 | 100.44 | 1 |
| C-CA-N-CA-N-CA-C | 111.00 | 88.94 | 1 |
| N-CA-C | 111.00 | 133.06 | 1 |
| CA-CB-CG | 113.80 | 105.92 | 1 |
| C-CA-CB | 110.10 | 125.07 | 1 |
| N-CA-C | 111.00 | 88.95 | 1 |
| C-CA-N-CA-C | 111.00 | 88.95 | 1 |
| C-N-CA | 121.70 | 135.87 | 1 |
| N-CA-C-N-CA | 121.70 | 107.53 | 1 |
| C-N-CA | 121.70 | 107.54 | 1 |
| C-CA-C-CA-CB | 110.10 | 125.05 | 1 |
| CA-C-N | 116.20 | 100.47 | 1 |
| C-N-CA | 121.70 | 135.86 | 2 |
| N-CA-CB | 110.50 | 123.87 | 1 |
| N-CA-C | 111.00 | 88.98 | 1 |
| CA-C-O | 120.80 | 107.43 | 1 |
| C-N-N-CA-CB | 110.50 | 97.13 | 1 |
| CA-CB-CG | 113.80 | 105.93 | 1 |
| N-CA-CB | 111.50 | 124.87 | 1 |
| N-CA-CB | 110.50 | 97.13 | 1 |
| CA-C-O | 120.80 | 107.44 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---------------------------------------|--------------------|-----------------|--------------------|
| N-CA-C-N-N-CA-N-CA-C | 111.00 | 89.00 | 1 |
| N-CA-CB | 111.50 | 124.86 | 1 |
| CA-CB-CG | 113.80 | 105.94 | 1 |
| N-CA-C | 111.00 | 89.00 | 1 |
| C-CA-N-CA-CB | 110.50 | 123.85 | 1 |
| C-CA-CA-C-N | 116.20 | 100.49 | 1 |
| C-CA-C-N-CA | 121.70 | 107.57 | 1 |
| CA-C-N-CA-N-CA-CB | 111.50 | 124.84 | 1 |
| CA-C-O | 120.80 | 134.14 | 1 |
| CA-C-C-N-CA-C-C-CA-CB | 110.10 | 125.00 | 1 |
| C-CA-CB | 110.10 | 125.00 | 1 |
| N-CA-CB | 110.50 | 97.17 | 1 |
| C-CA-C-CA-CB | 110.10 | 95.20 | 1 |
| N-CA-N-CA-C-CA-CB | 110.10 | 124.99 | 1 |
| N-CA-C-N-CA | 121.70 | 107.60 | 1 |
| N-CA-CB | 110.50 | 123.82 | 2 |
| C-CA-C-CA-N-CA-C-CA-CB | 110.10 | 95.22 | 1 |
| C-N-C-CA-CB | 110.10 | 124.97 | 1 |
| N-CA-CB | 111.50 | 124.81 | 1 |
| CA-C-C-CA-N-CA-N-CA-C-CA-CA-CB-C-N-CA | 121.70 | 135.77 | 1 |
| C-N-CA | 121.70 | 107.63 | 1 |
| C-CA-C-CA-CB | 111.60 | 95.97 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|----------------------------|--------------------|-----------------|--------------------|
| C-CA-N-CA-CB | 110.50 | 123.78 | 1 |
| N-CA-C-CA-C-CA-CB | 110.10 | 95.26 | 1 |
| C-CA-N-CA-N-CA-CB | 110.50 | 123.77 | 1 |
| C-N-N-CA-N-CA-C-CA-CB | 111.60 | 95.99 | 1 |
| N-CA-C | 111.00 | 132.85 | 1 |
| N-CA-CA-C-O | 120.80 | 107.53 | 1 |
| N-CA-CB | 110.50 | 123.76 | 1 |
| N-CA-C-CA-CB | 111.60 | 127.20 | 1 |
| N-CA-C-CA-C-CA-C-CA-CA-C-O | 120.80 | 107.54 | 1 |
| N-CA-N-CA-C | 111.00 | 132.83 | 1 |
| C-CA-C-CA-CB | 110.10 | 124.91 | 1 |
| C-CA-CB | 110.10 | 124.90 | 1 |
| N-CA-C | 111.00 | 132.80 | 1 |
| N-CA-C-CA-C-CA-N-CA-CB | 110.50 | 123.74 | 1 |
| C-N-N-CA-C-N-N-CA-C-CA-CB | 111.60 | 127.17 | 1 |
| CA-CB-CA-C-CA-CB-CG | 113.80 | 106.02 | 1 |
| N-CA-CB | 111.50 | 124.73 | 1 |
| C-CA-C-CA-CB | 110.10 | 124.88 | 1 |
| C-CA-CB | 111.40 | 126.18 | 1 |
| N-CA-C | 111.00 | 132.77 | 1 |
| C-CA-CB | 110.10 | 95.33 | 1 |
| C-CA-CB | 110.10 | 124.87 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------|--------------------|-----------------|--------------------|
| C-N-C-CA-C-CA-CA-C-N | 116.20 | 100.66 | 1 |
| CA-C-N | 116.20 | 100.66 | 1 |
| C-N-C-CA-CB | 110.10 | 124.85 | 1 |
| C-CA-CA-C-N | 116.20 | 100.68 | 1 |
| C-CA-N-CA-CA-C-CA-C-N | 116.20 | 100.69 | 1 |
| C-CA-CA-C-N | 116.20 | 100.69 | 1 |
| C-CA-N-CA-CB | 110.50 | 123.68 | 1 |
| C-CA-CB | 111.40 | 126.13 | 1 |
| C-CA-CB | 110.10 | 124.83 | 1 |
| C-CA-C-CA-CA-C-O | 120.80 | 107.63 | 1 |
| CA-C-N | 116.20 | 100.71 | 1 |
| C-CA-C-CA-C-CA-CA-C-N | 116.20 | 100.71 | 1 |
| CA-C-C-N-C-CA-CB | 110.10 | 124.81 | 1 |
| N-CA-C-CA-CB | 110.10 | 124.80 | 1 |
| C-N-CA | 121.70 | 135.63 | 1 |
| C-CA-CB | 110.10 | 95.40 | 1 |
| N-CA-N-CA-CB | 110.50 | 123.65 | 1 |
| C-CA-CB | 110.10 | 95.41 | 1 |
| C-CA-CB | 110.10 | 124.79 | 1 |
| C-N-C-CA-CB | 110.10 | 95.41 | 1 |
| C-N-CA | 121.70 | 107.79 | 1 |
| C-CA-CA-C-N | 116.90 | 105.31 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------------|--------------------|-----------------|--------------------|
| C-N-N-CA-CB | 110.50 | 123.63 | 1 |
| CA-C-N-CA-CB | 111.50 | 124.63 | 1 |
| N-CA-C-CA-C-CA-CB | 110.10 | 95.43 | 1 |
| C-CA-CB | 110.10 | 95.43 | 1 |
| C-CA-N-CA-CB | 110.50 | 123.62 | 1 |
| C-CA-CB | 110.10 | 124.76 | 1 |
| N-CA-C | 111.00 | 132.60 | 2 |
| N-CA-CB | 110.50 | 97.38 | 1 |
| C-CA-N-CA-N-CA-CB | 110.50 | 97.38 | 1 |
| C-CA-C-CA-CB | 111.60 | 96.18 | 1 |
| C-CA-C-CA-CB | 109.10 | 126.06 | 1 |
| CA-C-O | 120.80 | 107.70 | 1 |
| C-CA-C-CA-C-N-CA-C-N | 116.90 | 105.35 | 1 |
| N-CA-CB | 111.50 | 124.59 | 2 |
| C-CA-CB | 110.10 | 124.73 | 1 |
| N-CA-CB | 110.50 | 97.42 | 1 |
| C-N-CA | 121.70 | 107.85 | 1 |
| N-CA-N-CA-CA-C-N | 116.20 | 100.81 | 1 |
| N-CA-C | 112.10 | 92.86 | 1 |
| C-CA-N-CA-CB | 111.50 | 124.58 | 1 |
| N-CA-N-CA-C-CA-N-CA-CB | 111.50 | 98.42 | 1 |
| N-CA-CB | 111.50 | 124.58 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------------|--------------------|-----------------|--------------------|
| C-CA-C-CA-CB | 110.10 | 95.49 | 1 |
| N-CA-CB | 111.50 | 124.57 | 1 |
| N-CA-N-CA-C | 112.10 | 92.88 | 1 |
| C-CA-C-CA-CB | 110.10 | 124.70 | 1 |
| C-CA-N-CA-CB | 111.50 | 98.44 | 1 |
| C-CA-CB | 109.10 | 126.00 | 1 |
| N-CA-CA-C-O | 120.80 | 133.85 | 1 |
| C-CA-CB | 109.10 | 125.99 | 1 |
| C-CA-CB | 110.10 | 124.68 | 1 |
| C-CA-C-CA-CB | 111.60 | 96.25 | 1 |
| C-CA-C-CA-CB | 110.10 | 95.52 | 1 |
| N-CA-CB | 111.50 | 124.54 | 1 |
| CA-C-O | 120.80 | 133.84 | 1 |
| C-CA-CB | 110.10 | 95.53 | 1 |
| CA-C-C-CA-CA-C-N-CA-CB | 111.50 | 98.48 | 1 |
| C-CA-CB | 110.10 | 95.55 | 1 |
| N-CA-CB | 111.50 | 124.52 | 1 |
| C-N-N-CA-CB | 110.50 | 97.48 | 1 |
| C-CA-N-CA-C | 111.00 | 132.43 | 1 |
| C-CA-CB | 111.60 | 126.90 | 1 |
| N-CA-C-CA-C-CA-CA-C-N | 116.90 | 105.43 | 1 |
| C-CA-CB | 110.10 | 95.57 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|----------------------------|--------------------|-----------------|--------------------|
| CA-C-N | 116.90 | 105.43 | 1 |
| C-CA-CB | 110.10 | 124.63 | 1 |
| N-CA-C | 111.00 | 132.41 | 1 |
| C-CA-CB | 110.10 | 124.62 | 2 |
| C-N-CA | 121.70 | 135.46 | 1 |
| N-CA-C-CA-C-CA-C-N-C-CA-CB | 110.10 | 124.61 | 1 |
| C-N-CA-C-C-CA-N-CA-C | 111.00 | 132.37 | 1 |
| C-CA-CB | 110.10 | 95.60 | 2 |
| N-CA-C | 111.00 | 132.37 | 1 |
| C-CA-CB | 110.10 | 124.60 | 1 |
| C-CA-CB | 110.10 | 124.59 | 3 |
| N-CA-C | 111.00 | 132.36 | 1 |
| N-CA-C-CA-CB | 110.10 | 124.59 | 1 |
| C-CA-CB | 111.60 | 126.86 | 1 |
| C-CA-C-CA-CB | 109.10 | 125.88 | 1 |
| C-CA-CB | 111.60 | 126.85 | 1 |
| CA-C-CA-C-N | 116.20 | 100.95 | 1 |
| N-CD-CG | 103.20 | 91.77 | 2 |
| N-CA-CB | 110.50 | 123.45 | 1 |
| C-N-CA-C-O | 120.80 | 133.75 | 1 |
| C-CA-CB | 110.10 | 95.63 | 1 |
| CA-C-N-CA-C | 111.00 | 132.33 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--|--------------------|-----------------|--------------------|
| CA-C-N-CA-C | 111.00 | 89.68 | 1 |
| C-CA-CB | 110.10 | 124.57 | 1 |
| N-CA-CB | 111.50 | 98.56 | 1 |
| N-CA-N-CA-C | 111.00 | 89.69 | 1 |
| CA-C-C-CA-CB | 110.10 | 124.56 | 1 |
| N-CA-CB | 110.50 | 123.44 | 1 |
| N-CA-CB | 110.50 | 97.56 | 1 |
| C-CA-CB | 111.60 | 126.82 | 1 |
| N-CA-C | 111.00 | 89.70 | 1 |
| C-CA-N-CA-N-CA-CB | 110.50 | 123.43 | 1 |
| C-CA-CB | 110.10 | 95.65 | 1 |
| C-N-CA | 121.70 | 108.01 | 1 |
| N-CA-CB | 110.50 | 97.57 | 2 |
| N-CD-CG | 103.20 | 91.79 | 1 |
| N-CA-CA-C-O | 120.80 | 107.87 | 1 |
| C-CA-C-CA-C-CA-C-CA-CA-C-CA-C-C-CA-C-CA-N-CA-C-CA-CB | 110.10 | 124.53 | 1 |
| C-N-CA | 121.70 | 108.03 | 1 |
| CA-C-C-N-C-N-CA | 121.70 | 135.36 | 1 |
| CA-C-CA-C-O | 120.80 | 133.70 | 1 |
| C-CA-CB | 110.10 | 124.52 | 1 |
| N-CA-C | 111.00 | 89.75 | 1 |
| C-N-CA | 121.70 | 108.04 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------|--------------------|-----------------|--------------------|
| N-CA-CB | 110.50 | 97.60 | 1 |
| C-CA-CB | 110.10 | 95.69 | 2 |
| CA-C-O | 120.80 | 107.91 | 1 |
| CA-C-N | 116.20 | 101.03 | 1 |
| C-CA-N-CA-CB | 110.50 | 123.39 | 1 |
| C-CA-CB | 110.10 | 124.50 | 2 |
| CA-C-C-N-CA | 121.70 | 135.34 | 1 |
| N-CA-C-CA-CB | 110.10 | 95.71 | 1 |
| C-CA-C-N-CA | 121.70 | 108.07 | 1 |
| C-N-CA | 121.70 | 108.07 | 1 |
| C-CA-CA-C-C-CA-CB | 110.10 | 95.72 | 1 |
| CA-C-C-N-C-CA-CB | 110.10 | 95.72 | 1 |
| CA-C-C-CA-CB | 110.10 | 95.73 | 1 |
| C-N-CA | 121.70 | 135.32 | 1 |
| C-CA-C-N-CA-C-N-CA-CB | 111.50 | 124.36 | 1 |
| O-C-C-N-CA | 121.70 | 108.08 | 1 |
| N-CA-CB | 110.50 | 123.36 | 1 |
| CA-C-CA-N-CD | 112.00 | 101.41 | 1 |
| N-CD-CG | 103.20 | 91.86 | 1 |
| C-N-CA-C-O | 120.80 | 107.95 | 1 |
| N-CA-CB | 110.40 | 121.74 | 1 |
| C-CA-CB | 110.10 | 95.74 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 110.50 | 121.84 | 1 |
| C-N-CA | 121.70 | 108.10 | 2 |
| N-CA-CB | 110.50 | 123.35 | 1 |
| CA-C-O | 120.80 | 133.65 | 1 |
| CA-C-CA-C-O | 120.80 | 107.96 | 1 |
| C-CA-CB | 111.60 | 126.71 | 1 |
| N-CA-CB | 111.50 | 98.66 | 1 |
| C-CA-CB | 110.10 | 124.45 | 1 |
| CA-C-N | 116.20 | 101.10 | 1 |
| N-CA-CB | 110.50 | 123.34 | 1 |
| C-N-N-CA-CB | 111.50 | 124.34 | 1 |
| C-N-CA | 121.70 | 135.29 | 1 |
| CA-C-O | 120.80 | 107.96 | 1 |
| C-CA-CB | 110.10 | 124.44 | 1 |
| C-N-CA | 121.70 | 135.28 | 1 |
| N-CA-CA-N-CD | 112.00 | 101.44 | 1 |
| N-CA-C | 111.00 | 132.12 | 1 |
| CA-C-N-CA-C-CA-CB | 111.60 | 96.51 | 1 |
| C-CA-CA-C-N-CA-CB | 110.50 | 123.31 | 1 |
| C-N-CA | 121.70 | 108.13 | 1 |
| C-CA-C-CA-CB | 110.10 | 124.42 | 1 |
| C-CA-N-CA-C-CA-CB | 110.10 | 124.42 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|----------------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 110.10 | 95.78 | 1 |
| C-N-CA | 121.70 | 108.14 | 1 |
| C-CA-CB | 111.60 | 96.53 | 1 |
| N-CA-CB | 103.00 | 111.29 | 1 |
| N-CA-CB | 111.50 | 98.69 | 1 |
| N-CA-CB | 110.40 | 121.70 | 1 |
| C-CA-C-CA-CA-C-C-CA-CA-C-O | 120.80 | 108.00 | 1 |
| CA-C-O | 120.80 | 108.00 | 1 |
| CA-C-C-N-C-CA-CB | 110.10 | 95.80 | 1 |
| C-CA-CB | 110.50 | 121.79 | 1 |
| C-CA-CB | 111.60 | 96.55 | 1 |
| N-CA-C | 111.00 | 132.06 | 1 |
| N-CA-CA-N-CD | 112.00 | 101.47 | 1 |
| N-CA-C-CA-CB | 111.60 | 96.56 | 1 |
| C-N-CA | 121.70 | 135.24 | 1 |
| N-CA-CB | 110.50 | 123.29 | 1 |
| C-N-CA | 121.70 | 108.16 | 1 |
| N-CA-CA-N-C-CA-CB | 109.10 | 125.64 | 1 |
| N-CA-C | 112.10 | 130.90 | 1 |
| C-N-CA | 121.70 | 108.17 | 1 |
| C-CA-C-CA-CB | 110.10 | 95.82 | 1 |
| C-CA-CB | 110.50 | 121.78 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------|--------------------|-----------------|--------------------|
| CA-C-C-N-CA | 121.70 | 135.23 | 1 |
| N-CA-CB | 110.50 | 123.27 | 1 |
| C-CA-CB | 110.10 | 95.83 | 1 |
| C-CA-CB | 110.10 | 124.37 | 3 |
| CA-C-O | 120.80 | 108.03 | 1 |
| CA-C-N | 116.20 | 101.18 | 1 |
| CA-N-CD | 112.00 | 101.49 | 1 |
| N-CA-C | 113.30 | 91.52 | 1 |
| C-CA-CA-C-C-CA-CB | 110.10 | 95.84 | 1 |
| C-CA-C-CA-CB | 110.10 | 124.36 | 1 |
| N-CA-N-CA-N-CA-CB | 110.50 | 97.75 | 1 |
| C-CA-CB | 109.10 | 125.60 | 1 |
| C-CA-CB | 110.10 | 124.35 | 1 |
| CA-N-CD | 112.00 | 101.50 | 1 |
| N-CA-N-CA-N-CA-N-CA-C | 113.30 | 91.56 | 1 |
| C-N-C-CA-CB | 110.10 | 124.34 | 1 |
| C-CA-CB | 111.60 | 126.59 | 1 |
| N-CA-CB | 110.50 | 97.76 | 2 |
| C-CA-N-CA-CB | 110.50 | 97.76 | 1 |
| N-CA-CB | 103.00 | 111.24 | 1 |
| C-N-CA | 121.70 | 108.22 | 2 |
| C-CA-CB | 110.50 | 121.74 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------|--------------------|-----------------|--------------------|
| N-CA-CB | 111.50 | 124.23 | 1 |
| C-CA-CB | 109.10 | 125.58 | 1 |
| N-CA-C | 113.30 | 91.59 | 2 |
| C-CA-CB | 109.10 | 92.63 | 1 |
| C-CA-CB | 110.10 | 95.87 | 1 |
| N-CA-CA-C-O | 120.80 | 133.53 | 1 |
| N-CA-N-CA-CA-N-CD | 112.00 | 101.52 | 1 |
| N-CA-C | 113.30 | 91.60 | 1 |
| C-CA-CB | 111.60 | 96.64 | 1 |
| CA-C-N | 116.20 | 131.16 | 1 |
| N-CA-C | 113.30 | 91.61 | 1 |
| O-C-N-CA-N-CA-C | 112.10 | 130.79 | 1 |
| CA-CB-C-CA-CB | 110.10 | 124.31 | 1 |
| C-N-CA | 121.70 | 108.24 | 1 |
| C-CA-CB | 109.10 | 125.55 | 1 |
| C-CA-CB | 111.60 | 126.55 | 1 |
| CA-N-CD | 112.00 | 101.53 | 1 |
| N-CA-CB | 110.50 | 97.79 | 1 |
| N-CA-C-CA-CB | 110.10 | 124.30 | 1 |
| C-N-CA | 121.70 | 108.25 | 1 |
| C-CA-CB | 110.10 | 124.29 | 2 |
| C-CA-C-CA-CA-C-O | 120.80 | 133.49 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 109.10 | 92.67 | 1 |
| C-CA-CB | 109.10 | 125.52 | 2 |
| N-CA-C | 112.10 | 93.45 | 1 |
| C-N-CA | 121.70 | 108.27 | 1 |
| N-CA-CA-N-C-CA-CB | 110.10 | 95.93 | 1 |
| N-CA-CA-N-C-N-CA | 121.70 | 108.28 | 1 |
| C-CA-CB | 110.10 | 95.93 | 1 |
| C-CA-CA-C-N | 116.20 | 131.11 | 1 |
| N-CA-CB | 110.50 | 97.83 | 1 |
| CA-CB-CG | 113.80 | 106.34 | 1 |
| C-N-CA | 121.70 | 135.12 | 1 |
| C-CA-CB | 110.10 | 124.26 | 3 |
| C-CA-CB | 110.10 | 95.94 | 1 |
| C-N-C-N-CA | 121.70 | 135.11 | 1 |
| C-N-CA | 121.70 | 108.29 | 1 |
| CA-C-N | 116.20 | 101.30 | 1 |
| C-CA-C-CA-CB | 110.10 | 95.95 | 1 |
| N-CA-CB | 111.50 | 124.16 | 1 |
| CA-C-O | 120.80 | 133.46 | 1 |
| N-CA-CA-N-CD | 112.00 | 101.57 | 1 |
| N-CA-CB | 110.50 | 123.16 | 1 |
| C-CA-CB | 110.10 | 95.95 | 2 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 110.10 | 124.25 | 1 |
| C-N-CD | 125.00 | 94.49 | 1 |
| C-CA-CB | 110.10 | 124.24 | 1 |
| CA-C-N | 116.20 | 101.32 | 1 |
| N-CA-C | 112.10 | 93.50 | 1 |
| N-CA-C-N-CA | 121.70 | 135.09 | 1 |
| C-N-CA | 121.70 | 108.31 | 1 |
| N-CA-C | 111.00 | 90.17 | 1 |
| C-CA-CB | 110.10 | 124.23 | 2 |
| N-CA-C | 111.00 | 131.81 | 1 |
| C-N-CA | 121.70 | 108.32 | 1 |
| C-CA-CB | 110.10 | 124.22 | 1 |
| C-CA-C-CA-CB | 110.10 | 124.22 | 1 |
| N-CA-C | 111.00 | 90.19 | 1 |
| C-CA-CB | 110.10 | 95.98 | 2 |
| C-CA-C-CA-CB | 110.10 | 124.21 | 1 |
| C-CA-CB | 110.10 | 95.99 | 2 |
| CA-CB-C-N-N-CA-N-CA-C | 111.00 | 131.79 | 1 |
| C-CA-CA-C-O | 120.80 | 108.18 | 1 |
| CA-CB-C-CA-N-CA-CB | 110.50 | 97.88 | 1 |
| C-CA-CB | 110.10 | 96.00 | 1 |
| C-N-CA | 121.70 | 108.34 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------------|--------------------|-----------------|--------------------|
| CA-C-O | 120.80 | 133.42 | 1 |
| N-CA-CB | 110.50 | 97.88 | 1 |
| C-N-CD | 125.00 | 94.58 | 1 |
| N-CA-CB | 110.50 | 123.11 | 1 |
| CA-C-O | 120.80 | 108.19 | 1 |
| N-CA-C-CA-C-CA-CB | 110.10 | 124.20 | 1 |
| C-N-N-CA-C | 111.00 | 90.23 | 1 |
| C-CA-CB | 111.40 | 125.49 | 1 |
| N-CA-N-CA-C | 111.00 | 131.77 | 1 |
| C-CA-CB | 111.60 | 96.77 | 1 |
| C-CA-C-CA-C-CA-CB | 111.60 | 126.43 | 1 |
| C-CA-CA-CB-C-CA-N-CA-C | 111.00 | 90.24 | 1 |
| CA-CB-C-N-C-CA-CB | 110.10 | 96.02 | 1 |
| CA-C-O | 120.80 | 108.20 | 1 |
| C-CA-N-CA-CB | 110.50 | 97.90 | 1 |
| C-N-CA | 121.70 | 108.37 | 2 |
| C-CA-CB | 110.10 | 124.17 | 1 |
| C-CA-N-CA-CB | 110.50 | 97.91 | 1 |
| C-N-CA-CB-CG | 112.60 | 105.20 | 1 |
| C-CA-CB | 110.10 | 124.16 | 1 |
| CA-C-N-CA-CB | 110.50 | 123.08 | 1 |
| CA-C-O | 120.80 | 133.38 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|----------------------------------|--------------------|-----------------|--------------------|
| C-CA-CA-C-O | 120.80 | 108.23 | 1 |
| CA-N-C-CA-CB | 111.40 | 125.45 | 1 |
| CA-CB-C-CA-CB | 110.10 | 124.15 | 1 |
| NE-CZ-NH2 | 119.20 | 112.55 | 1 |
| C-CA-C-CA-CB | 110.10 | 124.14 | 1 |
| C-N-C-N-CA-N-CD | 112.00 | 101.65 | 1 |
| C-CA-N-CA-C | 111.00 | 131.69 | 2 |
| C-CA-CB | 110.10 | 96.06 | 1 |
| C-CA-CB | 110.10 | 124.13 | 1 |
| N-CA-CA-C-O | 120.80 | 108.25 | 1 |
| CA-CB-CG | 112.60 | 105.22 | 1 |
| CA-C-O | 120.80 | 108.25 | 2 |
| C-N-CA | 121.70 | 108.41 | 1 |
| C-CA-CB | 110.10 | 124.12 | 1 |
| CA-C-C-N-CA | 121.70 | 134.98 | 1 |
| C-CA-C-CA-C-CA-C-CA-CB | 110.10 | 124.12 | 1 |
| C-CA-C-CA-C-CA-C-CA-C-CA-N-CA-CB | 110.50 | 123.04 | 1 |
| N-CA-CB | 110.50 | 97.96 | 1 |
| N-CA-CB | 110.50 | 123.03 | 1 |
| C-N-CA | 121.70 | 108.43 | 1 |
| CA-C-O | 120.80 | 108.27 | 1 |
| N-CA-C-N-CA | 121.70 | 108.43 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------|--------------------|-----------------|--------------------|
| C-N-C-CA-CB | 110.10 | 124.09 | 1 |
| C-N-CA | 121.70 | 108.45 | 3 |
| C-CA-C-N-N-CA-CB | 103.00 | 111.10 | 1 |
| N-CA-CB | 110.50 | 123.01 | 2 |
| N-CA-N-CA-CB | 103.00 | 111.09 | 1 |
| C-N-CA | 121.70 | 108.46 | 1 |
| C-CA-N-CA-C | 111.00 | 131.58 | 1 |
| C-CA-C-CA-CA-C-N | 116.20 | 130.90 | 1 |
| N-CA-CB | 103.00 | 111.08 | 1 |
| C-CA-CB | 110.10 | 124.06 | 1 |
| C-CA-CA-N-CD | 112.00 | 101.71 | 1 |
| CA-C-C-CA-CB | 110.10 | 124.06 | 1 |
| C-CA-CD-NE-CZ | 124.40 | 134.68 | 1 |
| C-CA-CA-C-N | 116.20 | 130.88 | 1 |
| C-CA-CB | 110.10 | 124.04 | 1 |
| CA-C-N-CA-CB | 103.00 | 111.07 | 1 |
| C-CA-C-CA-C-CA-CB | 110.10 | 96.16 | 1 |
| C-N-CA | 121.70 | 108.49 | 1 |
| N-CA-N-CA-CB | 110.50 | 98.03 | 1 |
| C-CA-CB | 110.10 | 124.03 | 1 |
| C-CA-C-CA-CB | 110.50 | 121.50 | 1 |
| C-CA-N-CA-CB | 110.50 | 98.04 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---------------------------|--------------------|-----------------|--------------------|
| CD-NE-CZ | 124.40 | 134.66 | 1 |
| N-CA-C-N-N-CA-C-CA-CA-C-N | 116.20 | 130.85 | 1 |
| C-CA-C-CA-CB | 110.10 | 96.18 | 1 |
| C-CA-C-CA-N-CA-C-N-CA-C-O | 120.80 | 108.36 | 1 |
| CA-C-C-CA-N-CA-CB | 110.50 | 122.94 | 1 |
| C-N-CA | 121.70 | 108.53 | 1 |
| C-CA-CD-NE-CZ | 124.40 | 134.64 | 1 |
| CA-C-C-CA-CB | 110.10 | 96.21 | 1 |
| C-N-C-CA-CB | 110.10 | 123.99 | 1 |
| C-CA-CB | 110.10 | 123.99 | 1 |
| N-CA-C-CA-C-CA-CB | 110.10 | 96.22 | 1 |
| C-CA-CB | 110.10 | 96.23 | 1 |
| N-CA-N-CA-CB | 110.50 | 98.09 | 1 |
| CA-CB-CG | 113.80 | 106.50 | 1 |
| CA-C-N | 116.20 | 130.80 | 1 |
| CA-C-C-CA-CB | 110.10 | 123.97 | 1 |
| C-CA-C-N-CA | 121.70 | 134.83 | 1 |
| CA-C-O | 120.80 | 108.40 | 1 |
| C-N-C-N-N-CA-CB | 110.50 | 98.10 | 1 |
| CD-NE-CZ | 124.40 | 134.61 | 1 |
| N-CA-N-CA-CB | 111.50 | 99.11 | 1 |
| C-CA-CA-C-N | 116.20 | 101.62 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 110.10 | 96.25 | 1 |
| C-N-CA-C-N-CA-CB | 111.50 | 99.12 | 1 |
| C-N-N-CA-C | 112.10 | 93.89 | 1 |
| N-CA-N-CA-CB | 111.50 | 99.12 | 1 |
| CA-C-N | 116.20 | 130.76 | 1 |
| CA-C-CA-C-C-CA-CB | 110.10 | 96.27 | 1 |
| C-N-CA | 121.70 | 134.80 | 1 |
| C-CA-C-CA-C-N-CA | 121.70 | 134.80 | 1 |
| C-CA-C-CA-CB | 110.10 | 123.92 | 1 |
| N-CA-C | 112.10 | 93.92 | 1 |
| CA-C-N | 116.20 | 101.65 | 1 |
| C-CA-CA-C-N | 116.20 | 101.66 | 2 |
| C-N-CA-C-N | 116.20 | 101.66 | 1 |
| C-CA-CB | 110.50 | 121.40 | 1 |
| N-CA-C | 111.00 | 131.35 | 1 |
| C-N-CA | 121.70 | 134.78 | 1 |
| N-CA-CA-C-C-N-CA | 121.70 | 108.63 | 1 |
| CA-C-N-CA-C | 111.00 | 131.33 | 1 |
| C-CA-N-CA-N-CA-CB | 111.50 | 123.83 | 1 |
| N-CA-CB | 110.50 | 98.17 | 1 |
| CA-C-C-CA-N-CA-CB | 110.50 | 98.17 | 1 |
| N-CA-C-N-CA | 121.70 | 108.65 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------------|--------------------|-----------------|--------------------|
| C-N-N-CA-CB | 111.50 | 99.18 | 1 |
| CA-C-O | 120.80 | 108.48 | 1 |
| C-CA-CB | 110.10 | 96.33 | 1 |
| C-CA-N-CA-N-CA-N-CA-CB | 110.50 | 98.18 | 1 |
| N-CA-CA-C-N-CA-C-CA-CB | 110.10 | 123.86 | 1 |
| N-CA-N-CA-CB | 111.50 | 99.19 | 1 |
| N-CA-CA-C-O | 120.80 | 108.49 | 1 |
| N-CA-CB | 111.50 | 99.19 | 1 |
| C-N-CA | 121.70 | 134.73 | 1 |
| N-CA-N-CA-CA-C-N | 116.20 | 101.73 | 1 |
| N-CA-CB | 111.50 | 99.20 | 1 |
| N-CA-N-CA-C-CA-CA-C-O | 120.80 | 108.50 | 1 |
| CA-C-C-CA-CB | 110.10 | 123.84 | 1 |
| CA-C-O | 120.80 | 108.50 | 1 |
| C-CA-CB | 111.40 | 125.14 | 1 |
| C-CA-C-CA-CB | 110.10 | 96.36 | 1 |
| N-CA-CB | 111.50 | 99.21 | 1 |
| N-CA-C-N-CA | 121.70 | 108.68 | 1 |
| C-N-CA | 121.70 | 134.72 | 1 |
| N-CA-CB | 110.50 | 122.79 | 2 |
| CA-CB-CG | 113.80 | 106.57 | 1 |
| N-CA-C-CA-CB | 111.40 | 125.14 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|----------------------------|--------------------|-----------------|--------------------|
| CA-C-N | 116.20 | 130.66 | 1 |
| C-CA-CB | 110.10 | 123.84 | 1 |
| C-CA-CB | 111.40 | 97.67 | 1 |
| C-CA-CB | 109.10 | 125.00 | 2 |
| C-N-CA | 121.70 | 108.69 | 1 |
| N-CA-N-CA-C-CA-C-CA-CA-C-N | 116.20 | 101.75 | 1 |
| C-CA-CB | 111.40 | 97.68 | 1 |
| CA-CB-CG | 113.80 | 106.58 | 1 |
| N-CA-N-CA-CB | 110.50 | 98.22 | 1 |
| N-CA-C-CA-CB | 110.10 | 96.38 | 1 |
| NE-CZ-NH2 | 119.20 | 112.70 | 1 |
| C-CA-CB | 109.10 | 124.98 | 2 |
| CA-C-N-CA-C | 111.00 | 131.22 | 1 |
| N-CA-CB | 110.50 | 122.77 | 1 |
| CD-NE-CZ | 124.40 | 134.50 | 1 |
| N-CA-CB | 110.50 | 98.23 | 1 |
| CA-C-N | 116.20 | 101.77 | 2 |
| N-CA-N-CA-CB | 111.50 | 123.77 | 1 |
| N-CA-CB | 110.50 | 98.24 | 1 |
| C-N-CA-C-N-CA-CB | 110.50 | 98.24 | 1 |
| C-CA-C-CA-CB | 111.40 | 97.70 | 1 |
| C-CA-CB | 109.10 | 93.24 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------------|--------------------|-----------------|--------------------|
| N-CA-C-CA-CB | 110.10 | 123.80 | 1 |
| N-CA-C-CA-N-CA-C-CA-CB | 109.10 | 124.96 | 1 |
| C-CA-CB | 110.10 | 123.79 | 2 |
| CA-C-N | 116.20 | 130.61 | 1 |
| N-CA-CB | 111.50 | 99.25 | 1 |
| CD-NE-CZ | 124.40 | 134.49 | 1 |
| N-CA-C | 111.00 | 131.17 | 1 |
| C-N-CA | 121.70 | 108.74 | 1 |
| N-CA-CA-C-N | 116.20 | 101.80 | 1 |
| N-CA-CB | 110.50 | 122.74 | 1 |
| N-CA-N-CA-CA-C-O | 120.80 | 133.03 | 1 |
| N-CA-N-CA-CB | 110.50 | 98.27 | 1 |
| C-CA-C-CA-C-CA-N-CA-CB | 111.50 | 123.73 | 1 |
| CA-C-O | 120.80 | 135.90 | 1 |
| C-CA-CB | 109.10 | 124.92 | 1 |
| C-CA-CB | 110.10 | 123.76 | 2 |
| C-CA-C-CA-CB | 110.10 | 96.44 | 1 |
| N-CA-CB | 111.50 | 123.72 | 1 |
| N-CA-CB | 111.50 | 99.29 | 3 |
| C-CA-CB | 109.10 | 93.29 | 1 |
| C-N-CA | 121.70 | 108.77 | 1 |
| C-CA-CB | 111.40 | 97.75 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------------|--------------------|-----------------|--------------------|
| CA-C-O | 120.80 | 108.59 | 1 |
| CA-C-N | 116.20 | 101.84 | 1 |
| C-CA-CB | 110.10 | 123.74 | 1 |
| CA-C-CA-C-O | 120.80 | 108.60 | 1 |
| C-CA-C-CA-CB | 110.10 | 123.73 | 1 |
| C-CA-CB | 110.10 | 123.73 | 2 |
| C-CA-CB | 110.10 | 96.47 | 2 |
| N-CA-N-CA-C-CA-N-CA-CB | 111.50 | 123.69 | 1 |
| N-CA-CB | 111.50 | 123.69 | 1 |
| C-CA-N-CA-N-CA-CA-C-N | 116.20 | 130.53 | 1 |
| CA-CB-OG1 | 109.60 | 98.86 | 1 |
| C-CA-CB | 110.10 | 123.71 | 1 |
| C-CA-CA-C-O | 120.80 | 132.97 | 1 |
| N-CA-CB | 111.50 | 99.33 | 1 |
| C-CA-CB | 109.10 | 124.85 | 1 |
| C-CA-CB | 110.10 | 123.69 | 1 |
| CA-C-O | 120.80 | 135.81 | 2 |
| C-CA-CA-C-O | 120.80 | 135.81 | 1 |
| N-CA-CB | 110.50 | 98.35 | 1 |
| C-CA-CB | 109.10 | 124.82 | 1 |
| C-CA-CB | 110.10 | 123.67 | 1 |
| C-CA-CB | 110.50 | 121.21 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---------------------|--------------------|-----------------|--------------------|
| N-CA-N-CA-CB | 110.50 | 98.36 | 1 |
| N-CA-CB | 110.50 | 122.64 | 1 |
| N-CA-CB | 111.50 | 99.36 | 1 |
| C-CA-CA-CB-OG1 | 109.60 | 98.89 | 1 |
| CA-C-N | 116.20 | 101.92 | 1 |
| CA-C-O | 120.80 | 105.81 | 1 |
| CA-C-O | 120.80 | 108.67 | 1 |
| C-CA-CA-C-O | 120.80 | 132.93 | 1 |
| CA-C-N | 116.20 | 101.93 | 1 |
| N-CA-N-CA-C | 111.00 | 91.02 | 1 |
| N-CA-CB | 110.50 | 98.37 | 1 |
| C-CA-CB | 110.10 | 96.55 | 1 |
| N-CA-CB | 111.50 | 99.37 | 1 |
| N-CA-CB | 110.50 | 122.62 | 1 |
| N-CA-C-CA-N-CA-CB | 111.50 | 99.38 | 1 |
| C-CA-CA-C-O | 120.80 | 132.92 | 1 |
| C-CA-CB | 110.10 | 123.64 | 1 |
| CA-C-O | 120.80 | 108.69 | 1 |
| C-CA-N-CA-CB | 111.50 | 123.61 | 1 |
| CA-C-N | 116.20 | 101.95 | 1 |
| CA-C-CA-C-NE-CZ-NH2 | 119.20 | 112.79 | 1 |
| N-CA-CB | 111.50 | 99.40 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--|--------------------|-----------------|--------------------|
| C-CA-CB | 110.50 | 99.82 | 1 |
| CA-C-N-CA-CB | 111.50 | 123.60 | 1 |
| CA-C-O | 120.80 | 132.90 | 1 |
| C-CA-CB | 110.10 | 123.62 | 1 |
| C-CA-CB | 110.50 | 99.83 | 1 |
| N-CA-CB | 111.50 | 99.41 | 1 |
| CA-CB-C-CA-CB | 110.10 | 123.62 | 1 |
| N-CA-CB | 110.50 | 122.59 | 2 |
| N-CA-C | 111.00 | 91.09 | 1 |
| C-CA-N-CA-CB | 110.50 | 98.41 | 1 |
| C-CA-CB | 110.50 | 99.84 | 1 |
| C-CA-C-CA-CB | 110.10 | 123.61 | 1 |
| N-CA-CB | 110.50 | 122.58 | 2 |
| CA-CB-C-CA-CB | 110.10 | 96.60 | 1 |
| N-CA-C-CA-C-CA-N-CA-C-CA-CA-CB-C-CA-CB | 110.10 | 123.59 | 1 |
| N-CA-CB | 110.50 | 98.43 | 1 |
| C-CA-CB | 110.10 | 123.59 | 2 |
| CA-C-CA-C-C-CA-CB | 110.10 | 96.62 | 1 |
| N-CA-C-CA-CB | 110.10 | 123.58 | 1 |
| N-CA-C-CA-CB | 110.50 | 121.14 | 1 |
| C-CA-CB | 110.10 | 96.62 | 1 |
| N-CA-CB | 110.50 | 98.44 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|----------------------------|--------------------|-----------------|--------------------|
| CA-C-O | 120.80 | 132.86 | 2 |
| CA-C-O | 120.80 | 105.91 | 1 |
| N-CA-CB | 110.50 | 122.55 | 1 |
| N-CA-CB | 111.50 | 123.55 | 2 |
| C-N-CA | 121.70 | 134.46 | 1 |
| C-N-CA | 121.70 | 134.45 | 2 |
| C-N-CA | 122.60 | 158.03 | 1 |
| N-CA-CB | 110.50 | 122.54 | 1 |
| N-CA-N-CA-C-CA-N-CA-C-N-CA | 122.60 | 158.00 | 1 |
| N-CA-CB | 110.50 | 122.53 | 1 |
| N-CA-CA-C-O | 120.80 | 132.83 | 1 |
| N-CA-N-CA-CB | 111.50 | 123.52 | 1 |
| C-CA-CB | 110.10 | 123.54 | 1 |
| C-N-C-CA-CB | 110.10 | 96.67 | 1 |
| C-CA-CB | 110.10 | 123.53 | 4 |
| N-CA-CB | 110.50 | 122.52 | 1 |
| C-N-CA | 121.70 | 134.42 | 3 |
| CA-CB-C-CA-N-CA-N-CA-CB | 110.50 | 98.49 | 1 |
| C-N-C-CA-CB | 110.10 | 96.68 | 1 |
| CA-CB-CA-CB-CG | 113.80 | 106.74 | 1 |
| N-CA-CB | 110.50 | 98.49 | 2 |
| CA-CB-C-CA-CB | 110.50 | 99.91 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 110.10 | 96.69 | 1 |
| C-CA-CB | 110.10 | 123.51 | 1 |
| CA-N-CA-C-O | 120.80 | 108.82 | 1 |
| N-CA-CB | 110.50 | 122.47 | 1 |
| C-CA-N-CA-C-CA-CB | 109.10 | 93.61 | 1 |
| N-CA-C-CA-CB | 110.10 | 96.72 | 1 |
| C-CA-CB | 110.10 | 96.72 | 1 |
| C-CA-C-CA-N-CA-N-CA-CB | 110.50 | 98.54 | 1 |
| N-CA-CB | 110.50 | 122.46 | 1 |
| C-CA-CB | 109.10 | 93.62 | 1 |
| C-CA-CB | 110.10 | 123.47 | 1 |
| CA-CB-C-CA-CB | 110.10 | 123.45 | 1 |
| C-CA-CB | 110.10 | 123.45 | 1 |
| CA-C-O | 120.80 | 108.85 | 1 |
| C-CA-N-CA-C-CA-CB | 110.10 | 123.45 | 1 |
| N-CA-CB | 110.50 | 98.56 | 1 |
| CA-CB-N-CA-CB | 110.50 | 98.56 | 1 |
| CA-CB-CA-C-CA-CB-CG | 113.80 | 106.78 | 1 |
| C-CA-CB | 110.10 | 123.44 | 1 |
| CA-CB-C-CA-CB | 110.10 | 123.44 | 1 |
| C-CA-N-CA-C-N-CD | 125.00 | 153.78 | 1 |
| N-CA-CB | 111.50 | 123.43 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------------|--------------------|-----------------|--------------------|
| C-N-CA | 121.70 | 109.07 | 1 |
| CA-C-O | 120.80 | 108.87 | 2 |
| N-CA-C-CA-N-CA-N-CA-CB | 111.50 | 99.57 | 1 |
| C-CA-CB | 110.10 | 123.43 | 1 |
| C-N-CA | 121.70 | 134.33 | 1 |
| CA-C-C-N-CD | 125.00 | 153.76 | 1 |
| CA-C-O | 120.80 | 108.88 | 2 |
| N-CA-N-CA-N-CA-CB | 110.50 | 98.58 | 1 |
| CA-N-CA-C-CA-C-O | 120.80 | 108.89 | 1 |
| C-CA-CB | 110.10 | 96.79 | 1 |
| C-CA-CB | 110.10 | 123.41 | 1 |
| C-N-CA | 121.70 | 109.09 | 1 |
| C-N-CA | 121.70 | 134.31 | 1 |
| N-CA-C-N-CA | 121.70 | 134.30 | 1 |
| N-CA-NE-CZ-NH2 | 119.20 | 112.90 | 1 |
| CA-C-CA-C-O | 120.80 | 108.91 | 1 |
| CA-C-N-CA-CB | 110.50 | 98.61 | 1 |
| N-CA-C-CA-CB | 111.60 | 125.58 | 2 |
| CA-C-N-CA-CB | 111.50 | 99.62 | 1 |
| N-CA-CB | 103.00 | 110.69 | 1 |
| C-N-CA-C-N | 116.20 | 102.22 | 1 |
| N-CA-C | 111.00 | 130.56 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------------|--------------------|-----------------|--------------------|
| N-CA-N-CA-CB | 111.50 | 99.62 | 1 |
| C-CA-N-CA-CA-CB-C-CA-CB | 111.60 | 97.64 | 1 |
| C-CA-C-CA-N-CA-C-CA-CB | 110.10 | 96.84 | 1 |
| CA-C-CA-CB-C-N-CA | 121.70 | 109.14 | 1 |
| CA-C-O | 121.00 | 100.07 | 1 |
| C-N-N-CA-C | 111.00 | 130.53 | 1 |
| N-CA-CA-CB-CG | 113.80 | 106.82 | 1 |
| C-CA-CB | 110.10 | 123.35 | 1 |
| CA-C-O | 121.00 | 100.08 | 1 |
| N-CA-N-CA-C-CA-CB | 111.60 | 125.54 | 1 |
| CA-C-N | 116.20 | 102.26 | 1 |
| CA-C-O | 120.80 | 108.96 | 1 |
| N-CA-N-CA-CB | 110.50 | 98.66 | 1 |
| N-CA-CA-C-O | 121.00 | 100.11 | 1 |
| C-CA-CB | 111.60 | 125.53 | 1 |
| CA-C-O | 121.00 | 100.11 | 1 |
| C-CA-C-CA-C-CA-CB | 110.10 | 96.88 | 1 |
| C-N-CA | 121.70 | 109.17 | 1 |
| CA-CB-CA-CB-C-CA-CB | 110.10 | 123.31 | 1 |
| C-CA-CA-C-O | 120.80 | 108.98 | 1 |
| C-CA-CB | 110.10 | 123.31 | 1 |
| C-CA-N-CA-CB | 103.00 | 110.65 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 110.10 | 123.30 | 1 |
| N-CA-C-CA-C-CA-N-CA-N-CA-CA-CB-CG | 113.80 | 106.85 | 1 |
| C-N-CA | 121.70 | 134.20 | 1 |
| CA-CB-N-CA-C | 111.00 | 130.45 | 1 |
| C-CA-C-CA-C-CA-C-CA-CB | 110.10 | 96.90 | 1 |
| CA-CB-CG | 113.80 | 106.86 | 1 |
| C-CA-CB | 110.10 | 123.29 | 1 |
| CA-C-C-N-C-N-CA | 122.60 | 157.31 | 1 |
| C-CA-C-CA-N-CA-CB | 111.50 | 99.70 | 1 |
| C-CA-CA-C-O | 120.80 | 109.01 | 1 |
| C-N-CA | 121.70 | 134.19 | 1 |
| C-CA-C-N-CA | 122.60 | 157.28 | 1 |
| C-CA-CB | 110.10 | 96.92 | 1 |
| N-CA-C-CA-CB | 111.40 | 98.22 | 1 |
| N-CA-C | 111.00 | 130.42 | 1 |
| C-N-CA | 121.70 | 109.22 | 2 |
| C-CA-CB | 110.10 | 123.27 | 1 |
| C-CA-CB | 111.60 | 97.74 | 1 |
| C-CA-CA-CB-CG | 113.80 | 106.87 | 1 |
| N-CA-CB | 110.50 | 122.27 | 2 |
| N-CD-N-CA-CA-C-O | 120.80 | 109.03 | 1 |
| CA-CB-C-CA-C-N-CA | 121.70 | 134.15 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 110.10 | 123.25 | 1 |
| N-CA-C-CA-CA-C-N | 116.20 | 102.37 | 1 |
| CA-C-O | 120.80 | 109.04 | 1 |
| N-CA-C-CA-CB | 111.40 | 98.26 | 1 |
| C-CA-CB | 110.10 | 96.97 | 1 |
| CA-CB-CG | 113.80 | 106.89 | 1 |
| CA-C-N | 116.20 | 102.38 | 1 |
| C-CA-CB | 110.10 | 123.23 | 2 |
| N-CA-CB | 103.00 | 110.60 | 1 |
| C-CA-CB | 111.40 | 98.27 | 1 |
| C-CA-C-CA-CB | 110.10 | 96.97 | 1 |
| N-CA-C | 111.00 | 130.35 | 1 |
| N-CA-C-CA-CB | 110.10 | 123.22 | 1 |
| N-CA-CA-C-C-CA-CB | 110.10 | 123.22 | 1 |
| C-N-N-CA-CB | 110.50 | 122.23 | 1 |
| N-CA-CB | 110.50 | 122.23 | 1 |
| CA-C-C-CA-CB | 110.10 | 96.99 | 1 |
| N-CD-N-CA-CB | 103.00 | 110.59 | 1 |
| C-CA-C-N-CA | 121.70 | 134.11 | 1 |
| C-CA-CB | 111.40 | 98.31 | 1 |
| C-CA-CB | 110.10 | 97.01 | 2 |
| C-CA-C-CA-C-CA-CB | 110.10 | 123.19 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------------------------|--------------------|-----------------|--------------------|
| C-N-CA | 122.60 | 88.16 | 1 |
| N-CA-CB | 110.50 | 122.21 | 2 |
| CA-C-C-N-C-N-C-CA-N-CA-C-CA-C-CA-CB | 110.10 | 123.17 | 1 |
| C-N-CA | 121.70 | 109.32 | 1 |
| N-CA-CB | 103.00 | 110.57 | 1 |
| N-CA-C | 111.00 | 91.74 | 1 |
| CA-C-N-CA-CB | 110.50 | 122.19 | 1 |
| CA-C-O | 120.80 | 109.11 | 1 |
| C-N-C-CA-CA-C-N-CA-C-CA-N-CA-CB | 103.00 | 110.56 | 1 |
| C-CA-CB | 111.60 | 97.86 | 1 |
| N-CA-CB | 103.00 | 110.55 | 1 |
| C-CA-CB | 111.40 | 98.35 | 1 |
| C-N-CA | 121.70 | 134.06 | 1 |
| C-CA-CA-C-N-CA-C | 111.00 | 91.78 | 1 |
| N-CA-C | 111.00 | 91.78 | 1 |
| C-CA-N-CA-CA-C-N | 116.20 | 129.92 | 1 |
| C-N-CA | 122.60 | 88.30 | 1 |
| C-N-N-CA-C | 111.00 | 91.80 | 1 |
| C-CA-C-CA-C-CA-CB | 111.60 | 97.89 | 1 |
| N-CA-C | 111.00 | 91.81 | 2 |
| CA-C-N-CA-C | 111.00 | 91.81 | 1 |
| C-CA-C-N-CA | 121.70 | 134.04 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|----------------------------|--------------------|-----------------|--------------------|
| N-CA-CB | 110.50 | 122.15 | 1 |
| C-N-N-CA-C | 111.00 | 130.19 | 1 |
| C-CA-N-CA-CB | 103.00 | 110.54 | 1 |
| CA-C-C-CA-CB | 111.40 | 98.38 | 1 |
| C-CA-CB | 110.10 | 123.11 | 2 |
| C-CA-CA-C-C-N-N-CA-C | 111.00 | 91.83 | 1 |
| N-CA-CB | 110.50 | 122.14 | 1 |
| N-CA-C-CA-CB | 110.10 | 123.10 | 1 |
| C-N-CA-C-C-CA-C-N-CA-CB-CG | 113.80 | 106.96 | 1 |
| C-CA-C-CA-C-CA-CB | 111.60 | 97.92 | 1 |
| C-CA-C-CA-C-CA-CB | 110.10 | 123.09 | 1 |
| C-CA-CB | 110.10 | 123.09 | 1 |
| C-N-CA | 121.70 | 109.39 | 1 |
| CA-C-N | 116.20 | 129.87 | 1 |
| C-CA-CB | 110.50 | 100.25 | 1 |
| N-CA-CB | 110.50 | 98.89 | 1 |
| C-CA-CB | 110.10 | 123.08 | 1 |
| N-CA-CB | 103.00 | 110.51 | 1 |
| CA-C-N-CA-C-CA-C-CA-CB | 110.10 | 123.07 | 1 |
| CA-C-C-CA-CB | 111.60 | 97.96 | 1 |
| N-CA-CB | 110.50 | 122.09 | 1 |
| C-CA-C-CA-CB | 110.10 | 123.05 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--------------------------------------|--------------------|-----------------|--------------------|
| N-CA-C-CA-C-CA-CB | 110.10 | 97.15 | 1 |
| C-CA-CB | 110.10 | 97.15 | 1 |
| CA-C-C-CA-CB | 110.50 | 100.28 | 1 |
| N-CA-C-N-N-CA-N-CA-C-CA-N-CA-C-CA-CB | 110.10 | 123.04 | 1 |
| N-CA-CB | 110.40 | 100.19 | 1 |
| C-CA-C-CA-CB | 110.10 | 123.04 | 1 |
| N-CA-CB | 111.50 | 123.07 | 1 |
| C-CA-C-CA-C-CA-CB | 110.10 | 123.03 | 1 |
| N-CA-CB | 110.50 | 122.07 | 1 |
| C-CA-CB | 110.10 | 97.17 | 1 |
| C-CA-C-N-C-CA-CB | 110.10 | 123.02 | 1 |
| C-CA-CA-C-O | 120.80 | 109.24 | 1 |
| C-N-CA | 121.70 | 133.94 | 1 |
| CA-C-N-CA-C-CA-CB | 110.10 | 123.02 | 1 |
| N-CA-CB | 110.50 | 98.94 | 1 |
| C-N-CA | 121.70 | 109.46 | 1 |
| N-CA-C-CA-C-N-CA | 121.70 | 109.47 | 1 |
| N-CA-CB | 103.00 | 110.47 | 2 |
| C-CA-N-CA-C-CA-C-CA-CB | 109.10 | 124.04 | 1 |
| N-CA-C-N-CA-C-N-CA-N-CA-CB | 111.50 | 123.03 | 1 |
| N-CA-C | 111.00 | 92.00 | 1 |
| C-CA-CB | 109.10 | 124.02 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---------------------------------|--------------------|-----------------|--------------------|
| N-CA-C-CA-CB | 109.10 | 124.02 | 1 |
| C-CA-N-CA-CB | 110.40 | 100.23 | 1 |
| C-CA-CB | 110.10 | 97.21 | 1 |
| N-CA-C | 111.00 | 92.02 | 1 |
| CA-CB-CG | 112.60 | 119.38 | 1 |
| N-CA-C-CA-CB | 110.10 | 97.23 | 1 |
| N-CA-CB | 110.50 | 98.98 | 1 |
| N-CA-CB | 110.50 | 122.02 | 1 |
| C-CA-CB | 110.10 | 122.97 | 1 |
| CA-C-O | 120.80 | 109.28 | 1 |
| C-CA-N-CA-C | 111.00 | 92.04 | 1 |
| C-CA-N-CA-C-N-N-CA-C | 113.30 | 132.94 | 1 |
| CA-C-N-CA-C | 111.00 | 92.04 | 1 |
| C-CA-C-CA-N-CA-N-CA-CB | 110.50 | 122.01 | 1 |
| CA-C-C-CA-CB | 110.10 | 122.96 | 1 |
| C-CA-CB | 109.10 | 123.99 | 1 |
| C-CA-CB | 110.50 | 120.65 | 1 |
| N-CA-CB | 110.50 | 122.00 | 1 |
| C-CA-C-CA-N-CA-C | 113.30 | 132.92 | 1 |
| C-CA-C-CA-C-CA-N-CA-C-N-N-CA-CB | 110.50 | 121.99 | 1 |
| N-CA-CB | 110.50 | 99.01 | 1 |
| C-CA-CB | 110.10 | 122.94 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------------|--------------------|-----------------|--------------------|
| C-CA-C-CA-CB | 110.10 | 122.94 | 1 |
| N-CA-N-CA-C | 111.00 | 92.09 | 1 |
| C-CA-CB | 110.10 | 122.93 | 2 |
| N-CA-C | 111.00 | 92.09 | 1 |
| C-CA-N-CA-CB | 110.40 | 100.27 | 1 |
| CA-C-C-N-C-CA-N-CA-CB | 110.50 | 121.98 | 1 |
| C-CA-C-CA-CB | 110.10 | 97.27 | 1 |
| N-CA-C-CA-C-CA-CB | 111.40 | 124.22 | 1 |
| N-CA-CB | 110.50 | 121.97 | 1 |
| N-CA-N-CA-C | 111.00 | 92.11 | 1 |
| CD-NE-CZ | 124.40 | 133.84 | 1 |
| C-N-C-CA-CB | 110.10 | 97.29 | 1 |
| C-CA-CB | 110.10 | 97.29 | 1 |
| C-CA-CB | 110.10 | 122.91 | 1 |
| C-CA-CA-C-CA-C-N-CA-CB | 103.00 | 110.41 | 1 |
| CA-C-C-CA-CB | 110.10 | 122.91 | 1 |
| CA-C-CA-CB-CG | 113.80 | 107.06 | 1 |
| CD-NE-C-CA-N-CA-C | 111.00 | 92.14 | 1 |
| CA-C-C-CA-CA-C-O | 120.80 | 132.25 | 1 |
| N-CA-C | 111.00 | 92.15 | 1 |
| C-CA-CB | 110.10 | 122.89 | 1 |
| C-CA-C-CA-CB | 109.10 | 94.29 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--------------------------------|--------------------|-----------------|--------------------|
| C-CA-N-CA-C | 111.00 | 92.15 | 1 |
| N-CA-CB | 110.40 | 100.31 | 1 |
| N-CA-C | 111.00 | 92.16 | 1 |
| C-CA-C-CA-N-CA-CB | 110.50 | 121.94 | 1 |
| CA-C-O | 120.80 | 132.23 | 1 |
| C-CA-CB | 110.50 | 120.59 | 1 |
| C-CA-CB | 110.10 | 97.32 | 1 |
| N-CA-CA-C-N | 116.90 | 126.99 | 1 |
| C-N-CA | 121.70 | 133.80 | 1 |
| N-CA-N-CA-CA-C-CA-C-O | 120.80 | 132.23 | 1 |
| N-CA-N-CA-CB | 110.50 | 121.92 | 1 |
| N-CA-C | 111.00 | 92.19 | 1 |
| CA-C-O | 120.80 | 132.22 | 1 |
| C-CA-CB | 110.10 | 97.33 | 1 |
| C-N-N-CA-N-CA-CB | 110.50 | 121.92 | 1 |
| C-N-CA | 121.70 | 133.79 | 1 |
| CA-C-CA-C-O | 120.80 | 132.22 | 1 |
| N-CA-CA-CB-CG | 113.80 | 107.08 | 1 |
| C-CA-CA-C-C-CA-CB | 110.10 | 97.34 | 1 |
| C-CA-CB | 110.10 | 97.34 | 1 |
| CA-C-C-CA-CA-C-N | 116.20 | 129.63 | 1 |
| C-N-CA-C-CA-C-N-CA-C-N-N-CA-CB | 110.50 | 121.90 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------------|--------------------|-----------------|--------------------|
| CA-C-O | 120.80 | 132.20 | 1 |
| C-CA-C-N-CA | 121.70 | 109.63 | 1 |
| C-N-N-CA-CB | 110.50 | 121.90 | 1 |
| N-CA-C-N-C-CA-CB | 110.10 | 97.36 | 1 |
| C-CA-CB | 110.10 | 97.36 | 1 |
| C-CA-CB | 110.10 | 97.37 | 2 |
| N-CA-CA-C-N-CA-CB | 110.50 | 99.11 | 1 |
| N-CA-C-CA-CB | 110.50 | 120.55 | 1 |
| C-CA-C-CA-C-CA-CB | 109.10 | 94.36 | 1 |
| N-CA-C-CA-CB | 111.40 | 124.13 | 2 |
| N-CA-CB | 110.50 | 121.89 | 1 |
| C-CA-CB | 110.10 | 122.83 | 1 |
| C-CA-N-CA-CB | 110.50 | 99.11 | 1 |
| C-CA-CB | 110.10 | 97.38 | 1 |
| N-CA-C-CA-CB | 109.10 | 94.37 | 1 |
| CA-C-N | 116.90 | 126.94 | 1 |
| C-N-CA | 121.70 | 109.65 | 1 |
| N-CA-CB | 110.50 | 99.12 | 1 |
| CA-CB-CG | 112.60 | 119.29 | 1 |
| CA-C-C-CA-N-CA-C-CA-CB | 110.10 | 122.81 | 1 |
| CA-C-O | 120.80 | 132.17 | 1 |
| CA-C-N | 116.20 | 129.58 | 3 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---|--------------------|-----------------|--------------------|
| C-CA-CB | 110.10 | 97.39 | 1 |
| N-CA-N-CA-C-CA-CB | 110.10 | 97.39 | 1 |
| CA-C-N-CA-N-CA-CB | 110.50 | 99.13 | 1 |
| C-N-C-CA-CB | 110.10 | 97.40 | 1 |
| CA-C-N-CA-C-N-CA-C-N-CA-CA-C-CA-C-C-CA-CB | 111.40 | 124.09 | 1 |
| CA-C-O | 120.80 | 132.16 | 1 |
| C-CA-CB | 111.40 | 124.09 | 1 |
| N-CA-CB | 110.50 | 121.85 | 1 |
| N-CA-C-N-N-CA-C | 111.00 | 92.31 | 1 |
| N-CA-C-CA-CD-NE-C-CA-CA-C-CA-C-O | 120.80 | 132.14 | 1 |
| CA-C-C-CA-C-CA-CA-C-N-CA-CA-C-N | 116.20 | 129.54 | 1 |
| C-CA-C-CA-CB | 110.10 | 97.43 | 1 |
| CA-C-N | 116.20 | 129.53 | 1 |
| C-CA-CB | 110.50 | 120.50 | 2 |
| C-CA-CB | 110.10 | 122.76 | 1 |
| C-CA-CB | 109.10 | 94.44 | 1 |
| CA-C-O | 120.80 | 132.13 | 1 |
| C-CA-CB | 111.40 | 124.06 | 1 |
| C-N-C-CA-CD-NE-CZ | 124.40 | 133.73 | 1 |
| CA-CB-CA-CB-CG | 113.80 | 107.14 | 1 |
| C-N-C-CA-CB | 110.10 | 122.75 | 1 |
| N-CA-C-N-CA-C-C-CA-CB | 110.10 | 122.75 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|----------------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 110.10 | 97.45 | 1 |
| C-N-N-CA-CA-C-N | 116.20 | 129.51 | 1 |
| C-CA-C-CA-CB | 110.50 | 120.48 | 1 |
| CA-C-N-CA-C-CA-CB | 110.10 | 97.46 | 1 |
| N-CA-CB | 103.00 | 110.32 | 1 |
| N-CA-CA-C-O | 119.00 | 138.94 | 1 |
| CA-C-C-CA-N-CA-C-CA-CB | 111.40 | 124.03 | 1 |
| N-CA-C | 111.00 | 129.61 | 1 |
| C-CA-C-CA-CB | 111.40 | 124.03 | 1 |
| N-CA-C-CA-N-CA-C-N-C-CA-CB | 110.10 | 122.72 | 1 |
| C-N-CA-CB-C-CA-CB | 110.10 | 122.72 | 1 |
| C-CA-CB | 110.10 | 97.48 | 1 |
| CA-C-O | 119.00 | 138.92 | 1 |
| C-CA-CB | 110.10 | 122.71 | 1 |
| N-CA-N-CA-CA-C-CA-C-O | 119.00 | 138.91 | 1 |
| C-CA-CB | 110.50 | 120.46 | 1 |
| N-CA-C-CA-CB | 110.50 | 120.45 | 1 |
| N-CA-CB | 110.50 | 121.78 | 2 |
| N-CA-C | 111.00 | 129.57 | 1 |
| C-CA-CB | 110.10 | 97.50 | 1 |
| N-CA-C-CA-C-CA-CB | 110.10 | 122.70 | 1 |
| CA-C-O | 119.00 | 138.90 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------------|--------------------|-----------------|--------------------|
| C-N-CA | 121.70 | 133.64 | 1 |
| N-CA-C | 111.00 | 92.43 | 1 |
| N-CA-N-CA-CA-C-N | 116.20 | 129.46 | 1 |
| C-CA-CB | 110.10 | 122.69 | 1 |
| N-CA-N-CA-C | 111.00 | 92.45 | 1 |
| N-CA-CB | 110.50 | 121.76 | 2 |
| N-CA-CB | 110.50 | 99.24 | 1 |
| C-CA-CB | 110.50 | 120.43 | 1 |
| CA-C-C-CA-CB | 110.10 | 122.68 | 1 |
| C-CA-CB | 110.10 | 122.68 | 3 |
| C-N-N-CA-C | 111.00 | 92.46 | 1 |
| C-N-C-N-CA | 121.70 | 133.61 | 1 |
| N-CA-CB | 110.50 | 121.75 | 1 |
| CA-C-N | 116.20 | 129.44 | 1 |
| C-CA-CB | 110.10 | 122.67 | 1 |
| N-CA-CB | 110.50 | 99.25 | 1 |
| N-CA-N-CA-C-CA-C-CA-CB | 110.10 | 122.67 | 1 |
| C-CA-CB | 110.50 | 120.42 | 1 |
| N-CA-C | 111.00 | 92.48 | 1 |
| C-N-CA-C-N | 116.20 | 129.42 | 1 |
| CA-C-N | 116.20 | 129.42 | 1 |
| C-CA-CB | 110.10 | 122.65 | 2 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 110.50 | 120.41 | 1 |
| C-CA-C-CA-CA-CB-CG | 113.80 | 107.20 | 1 |
| N-CA-CB | 110.50 | 121.73 | 1 |
| C-CA-CB | 110.50 | 120.40 | 1 |
| N-CA-CB | 110.50 | 121.72 | 1 |
| C-CA-CB | 110.10 | 122.64 | 2 |
| N-CA-C | 111.00 | 92.52 | 1 |
| C-N-C-N-N-CA-CB | 110.50 | 121.72 | 1 |
| N-CA-N-CA-CB | 110.50 | 99.28 | 1 |
| CA-C-N | 116.20 | 103.00 | 1 |
| N-CA-CB | 110.50 | 121.71 | 1 |
| CA-CB-CG | 112.60 | 119.20 | 1 |
| C-N-C-CA-CB | 110.50 | 120.39 | 1 |
| C-CA-CB | 110.50 | 120.39 | 1 |
| C-N-C-CA-CB | 110.10 | 122.62 | 1 |
| N-CA-C | 111.00 | 129.45 | 1 |
| C-CA-CA-C-C-CA-C-CA-C-CA-CB | 110.10 | 122.62 | 1 |
| N-CA-CB | 110.50 | 121.69 | 1 |
| N-CA-C-N-NE-CZ-NH1 | 121.50 | 128.08 | 1 |
| N-CA-CA-C-C-CA-CB | 111.40 | 98.90 | 1 |
| C-CA-CB | 110.10 | 97.60 | 1 |
| N-CA-CB | 110.50 | 99.32 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------------------|--------------------|-----------------|--------------------|
| CA-C-O | 120.80 | 131.98 | 1 |
| C-CA-CB | 110.10 | 122.60 | 1 |
| C-CA-CB | 110.50 | 120.37 | 1 |
| N-CA-C-CA-CB | 110.10 | 97.60 | 1 |
| CA-C-N | 116.20 | 129.35 | 1 |
| CA-CB-CG | 113.80 | 107.22 | 1 |
| CA-C-N | 116.20 | 103.05 | 2 |
| C-CA-CA-CB-CG | 112.60 | 119.17 | 1 |
| C-CA-CB | 110.50 | 120.36 | 1 |
| N-CA-N-CA-CB | 110.50 | 99.33 | 1 |
| C-CA-C-CA-CB | 110.10 | 122.58 | 1 |
| C-CA-C-N-CA | 121.70 | 133.52 | 1 |
| C-CA-CB | 110.10 | 122.58 | 1 |
| N-CA-CA-C-CA-C-C-CA-CA-CB-CG | 112.60 | 106.04 | 1 |
| N-CA-C | 111.00 | 129.37 | 1 |
| C-CA-C-CA-N-CA-CB | 110.50 | 99.35 | 1 |
| N-CA-C-CA-CB | 111.40 | 98.94 | 1 |
| C-CA-N-CA-CB | 110.50 | 121.64 | 1 |
| C-CA-CA-C-O | 120.80 | 131.94 | 1 |
| C-CA-CA-C-N | 116.20 | 103.10 | 1 |
| N-CA-C | 111.00 | 129.34 | 1 |
| N-CA-C-CA-CB | 110.10 | 122.54 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------------|--------------------|-----------------|--------------------|
| N-CA-CB | 110.40 | 100.58 | 1 |
| N-CA-C-CA-C-CA-CB | 110.10 | 97.67 | 1 |
| N-CA-CB | 103.00 | 110.20 | 1 |
| C-N-N-CA-C | 111.00 | 129.32 | 1 |
| N-CA-C-CA-C-CA-CB | 110.10 | 122.53 | 1 |
| C-CA-CB | 110.50 | 120.31 | 1 |
| C-CA-CB | 110.10 | 122.53 | 1 |
| CA-CB-CG | 112.60 | 106.06 | 1 |
| N-CA-CB | 103.00 | 110.19 | 1 |
| N-CA-C | 111.00 | 129.31 | 1 |
| N-CA-N-CA-CB | 110.50 | 99.39 | 1 |
| C-CA-C-CA-C-CA-C-CA-CB | 110.50 | 120.30 | 1 |
| CA-C-N-CA-CB | 110.50 | 121.60 | 1 |
| N-CA-CB | 110.50 | 99.40 | 1 |
| C-CA-C-CA-CB | 110.10 | 97.70 | 1 |
| N-CA-C | 111.00 | 129.28 | 1 |
| C-N-CA | 121.70 | 109.95 | 1 |
| C-CA-C-CA-N-CA-CA-C-N | 116.20 | 103.15 | 1 |
| CA-C-C-CA-CB | 110.50 | 120.28 | 1 |
| C-CA-N-CA-CB | 110.40 | 100.62 | 1 |
| N-CA-CA-C-C-N-CA-C-N | 116.20 | 103.16 | 1 |
| C-CA-C-N-CA | 121.70 | 109.97 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------------|--------------------|-----------------|--------------------|
| C-N-N-CA-NE-CZ-NH1 | 121.50 | 128.02 | 1 |
| CA-C-N-CA-C | 111.00 | 129.25 | 1 |
| CA-C-C-N-C-CA-CB | 110.10 | 97.72 | 1 |
| CA-C-N | 116.20 | 103.17 | 1 |
| C-CA-CA-C-CA-C-N | 116.20 | 103.18 | 1 |
| N-CA-C | 111.00 | 129.23 | 1 |
| C-CA-C-CA-C-CA-CB | 110.10 | 97.74 | 1 |
| CB-CG1-CD1 | 113.80 | 100.14 | 1 |
| C-N-N-CA-C | 111.00 | 129.21 | 1 |
| C-CA-C-N-CA-C-N | 116.20 | 103.20 | 1 |
| CA-C-CA-CB-CG | 113.80 | 107.30 | 1 |
| C-N-N-CA-N-CA-C | 111.00 | 129.19 | 1 |
| C-N-CA | 121.70 | 133.39 | 1 |
| CA-C-N | 116.20 | 103.21 | 1 |
| CA-C-CB-CG1-CD1 | 113.80 | 100.16 | 1 |
| N-CA-N-CA-CB | 110.50 | 99.46 | 1 |
| N-CA-CA-C-CA-C-C-CA-C-CA-CB | 110.10 | 97.77 | 1 |
| C-N-N-CA-C | 111.00 | 129.16 | 1 |
| N-CA-C-N-CA | 121.70 | 133.38 | 1 |
| C-CA-N-CA-C | 111.00 | 92.84 | 1 |
| N-CA-N-CA-C | 111.00 | 129.16 | 1 |
| N-CA-CB | 110.40 | 100.67 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------|--------------------|-----------------|--------------------|
| N-CA-C-CA-CB | 110.50 | 100.77 | 1 |
| C-CA-CB | 109.10 | 123.37 | 1 |
| C-CA-N-CA-C | 111.00 | 92.85 | 1 |
| CA-CB-CG | 113.80 | 107.32 | 1 |
| N-CA-CB | 110.50 | 99.48 | 1 |
| CA-C-N | 116.20 | 103.24 | 1 |
| C-CA-CB | 111.60 | 98.64 | 1 |
| CA-C-C-CA-CB | 110.10 | 122.41 | 1 |
| C-CA-CB | 110.10 | 97.79 | 1 |
| C-N-CA | 121.70 | 133.36 | 1 |
| C-N-C-CA-CA-C-O | 120.80 | 109.79 | 1 |
| C-CA-CB | 110.10 | 97.80 | 1 |
| C-CA-CB | 110.10 | 122.40 | 1 |
| C-N-CB-CG1-CA-C-O | 120.80 | 109.80 | 1 |
| C-N-C-CA-CB | 110.10 | 122.39 | 2 |
| N-CA-C-CA-CB | 110.10 | 97.81 | 1 |
| N-CA-CB | 110.50 | 99.51 | 1 |
| C-CA-CB | 109.10 | 123.33 | 1 |
| N-CA-CB | 103.00 | 110.11 | 1 |
| C-CA-CB | 110.10 | 122.38 | 1 |
| C-CA-CA-C-O | 120.80 | 109.81 | 1 |
| CA-C-C-N-CA | 121.70 | 110.06 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------------|--------------------|-----------------|--------------------|
| CA-C-O | 120.80 | 109.81 | 1 |
| C-CA-C-CA-CB | 110.50 | 120.19 | 1 |
| N-CA-CB | 110.50 | 121.48 | 1 |
| N-CA-C-N-C-N-CA | 121.70 | 110.07 | 1 |
| C-CA-C-CA-CB | 111.60 | 98.68 | 1 |
| C-CA-CB | 110.10 | 122.37 | 2 |
| C-N-CA | 121.70 | 133.32 | 1 |
| C-CA-CB | 110.10 | 97.83 | 1 |
| CA-C-N | 116.20 | 103.29 | 1 |
| N-CA-C-CA-CA-C-CA-CB-CG | 113.80 | 107.35 | 1 |
| C-N-CA | 121.70 | 110.09 | 2 |
| N-CA-C-N-CA | 121.70 | 110.09 | 1 |
| N-CA-CB | 103.00 | 110.10 | 1 |
| N-CA-C-CA-N-CA-CB | 103.00 | 110.09 | 1 |
| C-CA-CB | 109.10 | 123.29 | 1 |
| N-CA-C-CA-CB | 110.10 | 97.85 | 1 |
| N-CA-C | 111.00 | 92.95 | 1 |
| C-CA-CB | 110.10 | 122.35 | 2 |
| C-CA-CB | 110.50 | 100.83 | 2 |
| N-CA-C-CA-CB | 110.10 | 122.35 | 1 |
| N-CA-CB | 111.50 | 122.46 | 1 |
| C-N-CA-C-N | 116.20 | 103.31 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 109.10 | 94.93 | 1 |
| CA-C-N | 116.20 | 103.32 | 1 |
| C-N-CA | 121.70 | 110.11 | 1 |
| CB-CG1-C-CA-C-CA-C-N-C-CA-CB | 110.10 | 122.33 | 1 |
| C-CA-CB | 109.10 | 123.26 | 1 |
| C-CA-CB | 110.10 | 97.87 | 2 |
| CA-C-O | 120.80 | 109.86 | 1 |
| C-CA-CB | 110.50 | 100.85 | 1 |
| CA-C-O | 120.80 | 131.74 | 1 |
| C-CA-N-CA-C-N-CA | 121.70 | 133.27 | 1 |
| CA-C-CA-CB-CG | 113.80 | 107.37 | 1 |
| N-CA-CB | 110.50 | 121.43 | 1 |
| C-CA-CB | 110.50 | 120.14 | 1 |
| CA-C-N | 116.20 | 103.35 | 1 |
| N-CA-CB | 110.50 | 121.42 | 1 |
| C-N-CA | 121.70 | 110.14 | 1 |
| N-CA-CA-C-O | 120.80 | 131.72 | 1 |
| C-CA-CA-C-O | 119.00 | 99.73 | 1 |
| CA-C-N | 116.20 | 103.36 | 2 |
| C-CA-CB | 110.50 | 100.87 | 1 |
| N-CA-C-CA-CB | 110.50 | 100.87 | 1 |
| C-CA-C-CA-C-N-CA | 121.70 | 110.14 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------------|--------------------|-----------------|--------------------|
| C-N-CA | 121.70 | 110.15 | 1 |
| C-CA-CB | 110.50 | 120.13 | 1 |
| N-CA-CB | 111.50 | 122.41 | 1 |
| C-N-CA | 121.70 | 133.25 | 1 |
| C-CA-CB | 110.10 | 97.91 | 1 |
| CA-C-O | 119.00 | 99.75 | 1 |
| N-CA-C-CA-CB | 109.10 | 94.99 | 1 |
| C-CA-CA-C-O | 120.80 | 109.89 | 1 |
| CA-C-C-N-CA | 121.70 | 133.24 | 1 |
| CA-C-O | 120.80 | 131.70 | 1 |
| C-CA-CB | 110.10 | 97.92 | 1 |
| C-CA-N-CA-C | 111.00 | 93.05 | 1 |
| CA-C-C-CA-CB | 110.10 | 97.92 | 1 |
| C-CA-CB | 110.10 | 122.28 | 2 |
| C-CA-CB | 110.10 | 97.93 | 1 |
| N-CA-CB | 110.50 | 121.39 | 1 |
| CA-C-CA-N-CD | 112.00 | 103.03 | 1 |
| CA-CB-CG | 113.80 | 107.40 | 1 |
| N-CA-C | 111.00 | 93.07 | 1 |
| N-CA-CB | 110.50 | 99.62 | 1 |
| N-CA-C-CA-CA-C-C-CA-CB | 110.10 | 97.95 | 1 |
| C-N-CA | 121.70 | 110.19 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------|--------------------|-----------------|--------------------|
| C-CA-CA-CB-CG | 113.80 | 107.41 | 1 |
| C-CA-CB | 110.10 | 97.95 | 1 |
| CA-C-O | 120.80 | 131.67 | 1 |
| N-CA-C | 111.00 | 93.11 | 1 |
| C-CA-C-CA-CA-C-N | 116.20 | 103.42 | 1 |
| CA-CB-CG | 113.80 | 107.41 | 1 |
| C-CA-N-CA-C | 111.00 | 128.88 | 1 |
| C-CA-CB | 110.10 | 122.23 | 1 |
| CA-CB-C-N-CA | 121.70 | 110.21 | 1 |
| N-CA-C-CA-CB | 110.10 | 122.23 | 1 |
| N-CA-CB | 110.50 | 99.65 | 2 |
| CA-C-O | 119.00 | 99.85 | 1 |
| C-CA-CB | 110.10 | 97.97 | 1 |
| C-CA-CB | 110.10 | 97.98 | 1 |
| C-CA-C-CA-CA-C-N-CA-C | 111.00 | 128.86 | 1 |
| C-N-CA | 121.70 | 133.18 | 1 |
| C-CA-N-CA-CB | 110.50 | 121.34 | 1 |
| N-CA-CB | 110.40 | 100.84 | 1 |
| C-CA-N-CA-CB | 110.50 | 99.66 | 1 |
| C-CA-C-N-CA | 121.70 | 110.23 | 1 |
| N-CA-C | 111.00 | 128.84 | 1 |
| C-N-C-CA-C-CA-CB | 110.10 | 98.00 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 110.50 | 100.95 | 1 |
| CA-C-O | 119.00 | 99.90 | 1 |
| C-CA-N-CA-C-CA-CB | 110.10 | 122.19 | 1 |
| C-CA-CB | 110.10 | 98.01 | 1 |
| C-CA-C-CA-CA-C-N | 116.20 | 103.48 | 1 |
| C-CA-C-CA-C-CA-N-CA-C-CA-CB | 110.10 | 98.02 | 1 |
| N-CA-CB | 111.50 | 122.31 | 1 |
| CA-CB-C-N-C-N-CA | 121.70 | 110.26 | 1 |
| C-N-CA | 121.70 | 133.14 | 1 |
| N-CA-CB | 110.50 | 121.30 | 1 |
| N-CA-C | 111.00 | 128.78 | 1 |
| N-CA-C-CA-CB | 111.40 | 99.33 | 1 |
| C-CA-CB | 110.10 | 98.04 | 2 |
| C-CA-C-CA-N-CA-CA-C-CA-C-O | 120.80 | 131.59 | 1 |
| C-CA-N-CA-C | 111.00 | 128.77 | 1 |
| CA-C-N-CA-CB | 111.50 | 122.29 | 1 |
| C-CA-N-CA-C-CA-CB | 110.10 | 98.05 | 1 |
| C-N-CA | 121.70 | 133.12 | 1 |
| C-CA-CB | 110.10 | 122.15 | 1 |
| C-N-CA | 121.70 | 110.29 | 1 |
| C-CA-CB | 110.50 | 100.99 | 1 |
| C-CA-CB | 111.40 | 99.36 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|----------------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 110.10 | 122.14 | 1 |
| N-CA-CB | 110.50 | 121.27 | 1 |
| C-CA-C-CA-CA-C-C-CA-N-CA-C | 111.00 | 128.73 | 1 |
| C-CA-C-CA-CA-N-CD | 112.00 | 103.14 | 1 |
| N-CA-N-CA-N-CA-CB | 110.50 | 121.26 | 1 |
| C-N-CA | 121.70 | 110.31 | 1 |
| N-CA-CB | 110.50 | 121.26 | 2 |
| CA-CB-CG | 112.60 | 118.93 | 1 |
| C-CA-CB | 110.10 | 122.12 | 3 |
| N-CA-CB | 110.50 | 99.74 | 1 |
| C-CA-CB | 110.10 | 98.08 | 2 |
| N-CA-CB | 110.50 | 121.25 | 1 |
| N-CA-C-CA-CB | 110.10 | 122.11 | 1 |
| CA-N-CD | 112.00 | 103.15 | 1 |
| C-CA-CB | 110.10 | 98.09 | 1 |
| C-CA-C-CA-C-CA-CB | 110.10 | 98.09 | 1 |
| CA-C-N-CA-CA-C-C-N-CA | 121.70 | 110.33 | 1 |
| C-CA-CB | 110.10 | 122.10 | 3 |
| N-CA-CB | 110.50 | 121.24 | 1 |
| C-CA-CA-C-C-CA-CB | 110.10 | 122.10 | 1 |
| N-CA-C | 111.00 | 128.68 | 1 |
| C-N-CA | 121.70 | 133.06 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------------|--------------------|-----------------|--------------------|
| C-CA-C-N-CA | 121.70 | 133.06 | 1 |
| N-CA-CB | 110.50 | 121.23 | 1 |
| N-CA-CA-CB-CG | 113.80 | 107.49 | 1 |
| N-CA-C-CA-CB | 110.10 | 98.12 | 1 |
| C-CA-C-N-CA | 121.70 | 133.05 | 1 |
| N-CA-C | 111.00 | 93.35 | 1 |
| C-CA-CA-C-N-CA-N-CA-C-CA-CB | 110.10 | 98.13 | 1 |
| C-CA-N-CA-C | 111.00 | 128.64 | 1 |
| N-CA-CB | 110.50 | 121.21 | 1 |
| CA-CB-N-CA-CB | 110.50 | 121.21 | 1 |
| N-CA-N-CA-N-CA-C-CA-CB | 110.10 | 98.13 | 1 |
| C-CA-CB | 110.10 | 122.07 | 1 |
| C-N-CD | 125.00 | 99.18 | 1 |
| N-CA-CA-C-C-CA-C-CA-CB | 110.10 | 122.06 | 1 |
| C-CA-CB | 110.10 | 98.14 | 1 |
| C-CA-C-CA-CB | 110.10 | 122.06 | 1 |
| N-CA-C | 111.00 | 93.38 | 1 |
| N-CA-CA-C-O | 120.80 | 110.11 | 1 |
| C-CA-CB | 110.10 | 122.05 | 1 |
| C-CA-CB | 110.50 | 101.07 | 1 |
| C-CA-C-N-CD | 125.00 | 99.22 | 1 |
| N-CA-CB | 110.50 | 121.19 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------------|--------------------|-----------------|--------------------|
| N-CA-C-N-CA | 121.70 | 133.02 | 1 |
| CA-C-N | 116.20 | 128.77 | 2 |
| C-CA-CB | 110.10 | 98.16 | 2 |
| C-CA-CB | 109.10 | 95.27 | 1 |
| C-CA-CB | 110.10 | 122.04 | 3 |
| N-CA-CB | 103.00 | 96.09 | 1 |
| C-CA-CA-C-N | 116.20 | 103.63 | 1 |
| C-N-CA | 121.70 | 110.39 | 1 |
| C-N-CA | 121.70 | 133.01 | 2 |
| CA-C-O | 120.80 | 131.48 | 2 |
| N-CA-C | 111.00 | 93.41 | 1 |
| C-CA-N-CA-C-CA-CB | 110.10 | 122.03 | 1 |
| CA-CB-CG | 113.80 | 107.52 | 1 |
| N-CA-CA-C-C-CA-C-CA-CB | 110.10 | 122.03 | 1 |
| C-CA-CB | 110.10 | 98.17 | 1 |
| C-N-CA | 121.70 | 110.40 | 1 |
| C-CA-CB | 110.10 | 122.02 | 1 |
| CA-N-CD | 112.00 | 103.22 | 1 |
| N-CA-C | 111.00 | 93.43 | 1 |
| C-CA-CA-C-N-CA-N-CA-CB | 110.50 | 99.84 | 1 |
| C-CA-C-CA-CB | 110.50 | 101.09 | 1 |
| C-N-CA | 121.70 | 132.99 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------------------------|--------------------|-----------------|--------------------|
| CA-C-CA-C-N-CA-C | 111.00 | 93.45 | 1 |
| CA-C-CA-C-O | 120.80 | 131.45 | 1 |
| C-CA-C-N-C-N-CA | 121.70 | 132.98 | 1 |
| C-CA-C-N-CA | 121.70 | 132.98 | 1 |
| N-CA-CB | 110.50 | 121.15 | 1 |
| C-CA-CB | 110.10 | 98.20 | 1 |
| N-CA-N-CA-C | 111.00 | 93.47 | 1 |
| C-CA-CA-CB-C-CA-C-CA-CA-CB-C-CA-CB | 109.10 | 95.33 | 1 |
| CA-C-N | 116.20 | 103.69 | 2 |
| C-N-C-CA-CB | 110.10 | 121.98 | 1 |
| N-CA-CB | 110.50 | 99.87 | 1 |
| N-CA-CB | 103.00 | 96.12 | 1 |
| C-CA-N-CA-CB | 110.50 | 121.13 | 1 |
| CA-CB-CG | 113.80 | 107.55 | 3 |
| N-CA-CB | 110.50 | 121.13 | 1 |
| C-CA-CB | 110.10 | 121.98 | 1 |
| CA-CB-CA-CB-C-CA-CB | 110.10 | 121.98 | 1 |
| C-CA-CA-CB-CG | 113.80 | 107.55 | 1 |
| C-CA-CB | 110.10 | 121.97 | 3 |
| N-CA-CB | 110.50 | 99.88 | 1 |
| C-CA-CB | 110.10 | 98.23 | 1 |
| N-CA-C | 111.00 | 128.49 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------------|--------------------|-----------------|--------------------|
| C-N-CA | 121.70 | 132.94 | 1 |
| CA-CB-C-N-CA-CB-N-CA-CB | 110.50 | 99.89 | 1 |
| CA-CB-N-CA-CB | 110.50 | 121.11 | 1 |
| N-CA-CA-CB-C-N-CA | 121.70 | 132.94 | 1 |
| N-CA-CB | 110.50 | 99.89 | 1 |
| N-CA-C | 111.00 | 128.47 | 1 |
| C-N-CA-CB-CG | 113.80 | 107.56 | 1 |
| N-CA-CA-C-O | 120.80 | 110.19 | 1 |
| C-N-CA | 121.70 | 110.47 | 1 |
| CA-CB-CA-CB-CG | 113.80 | 107.56 | 1 |
| CA-CB-CG | 113.80 | 107.56 | 2 |
| N-CA-C | 111.00 | 93.53 | 1 |
| C-N-CA | 121.70 | 132.93 | 1 |
| N-CA-C | 111.00 | 128.46 | 1 |
| N-CA-C | 111.00 | 93.54 | 1 |
| N-CA-N-CA-CA-C-O | 120.80 | 110.21 | 1 |
| N-CA-N-CA-C | 111.00 | 128.45 | 1 |
| CA-CB-CG | 113.80 | 107.57 | 3 |
| N-CA-C-N-CA | 121.70 | 110.49 | 2 |
| N-CA-C | 111.00 | 128.44 | 1 |
| N-CA-CB | 111.50 | 122.09 | 1 |
| N-CA-CB | 110.50 | 121.09 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------|--------------------|-----------------|--------------------|
| C-N-CA | 121.70 | 132.91 | 1 |
| C-CA-CB | 110.10 | 121.93 | 1 |
| CA-C-C-CA-CB | 110.10 | 98.27 | 1 |
| C-CA-CA-C-O | 120.80 | 110.22 | 1 |
| CA-C-N-CA-C | 111.00 | 128.42 | 1 |
| CA-C-N-CA-C | 111.00 | 93.58 | 1 |
| N-CA-CB | 110.50 | 99.92 | 1 |
| CA-CB-CG | 114.10 | 101.66 | 1 |
| N-CA-CB | 111.50 | 122.07 | 1 |
| CA-CB-CG | 113.80 | 107.58 | 1 |
| N-CA-C-CA-N-CA-CB | 110.50 | 99.93 | 1 |
| N-CA-CA-CB-CG | 114.10 | 101.67 | 1 |
| C-CA-CB | 110.10 | 98.29 | 1 |
| N-CA-CB | 110.50 | 99.94 | 1 |
| CA-C-N | 116.20 | 128.63 | 1 |
| N-CA-C | 111.00 | 93.60 | 1 |
| CA-C-CA-CB-CG | 112.60 | 106.39 | 1 |
| C-N-CA | 121.70 | 110.52 | 1 |
| CA-CB-C-N-C-CA-CB | 110.10 | 121.90 | 1 |
| N-CA-CB | 111.50 | 122.06 | 1 |
| CA-C-C-N-CA | 121.70 | 110.52 | 1 |
| C-N-CA | 121.70 | 132.88 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--------------------|--------------------|-----------------|--------------------|
| CA-CB-N-CA-CB | 110.50 | 121.05 | 1 |
| C-CA-N-CA-CB | 110.50 | 99.95 | 1 |
| C-CA-N-CA-N-CA-CB | 111.50 | 100.96 | 1 |
| CA-CB-CG | 113.80 | 107.60 | 1 |
| C-CA-CA-C-N-CA-CB | 110.50 | 99.96 | 1 |
| N-CA-CB | 110.50 | 121.03 | 1 |
| O-C-N | 123.00 | 132.91 | 1 |
| C-CA-CB | 110.50 | 119.79 | 1 |
| N-CA-C-CA-C-CA-CB | 111.60 | 123.98 | 1 |
| CA-C-C-CA-CB | 110.10 | 98.34 | 1 |
| C-CA-CB | 110.10 | 98.34 | 1 |
| N-CA-C-CA-CA-CB-CG | 112.60 | 118.79 | 1 |
| CA-CB-CG | 113.80 | 107.61 | 1 |
| N-CA-CA-CB-CA-C-N | 116.20 | 128.57 | 1 |
| C-N-CA | 121.70 | 110.57 | 1 |
| OD1-CG-CA-CB-CG | 113.80 | 107.62 | 1 |
| C-N-CA | 121.70 | 132.83 | 1 |
| C-CA-CB | 111.60 | 123.96 | 1 |
| C-CA-N-CA-CB | 110.50 | 99.99 | 1 |
| CA-C-C-CA-N-CA-CB | 110.50 | 100.00 | 1 |
| C-CA-CA-CB-N-CA-CB | 110.50 | 121.00 | 1 |
| C-CA-CB | 111.60 | 123.95 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---------------------------------|--------------------|-----------------|--------------------|
| N-CA-CA-C-O | 120.80 | 131.30 | 1 |
| C-CA-CB | 111.40 | 123.12 | 1 |
| N-CA-C | 111.00 | 93.73 | 1 |
| C-CA-CB | 111.60 | 123.94 | 1 |
| C-CA-N-CA-C | 111.00 | 93.73 | 1 |
| N-CA-CA-C-O | 120.80 | 110.32 | 1 |
| CA-N-C-CA-CA-C-N-CA-C-N-C-CA-CB | 110.50 | 119.74 | 1 |
| N-CA-CB | 110.50 | 120.97 | 1 |
| C-CA-CA-N-N-CA-C-CA-C-CA-CB | 110.10 | 121.79 | 1 |
| CA-C-N | 116.20 | 103.89 | 1 |
| CA-CB-CG | 112.60 | 106.45 | 1 |
| N-CA-CB | 110.50 | 120.96 | 1 |
| C-N-CA | 121.70 | 110.63 | 1 |
| N-CA-N-CA-C | 111.00 | 93.78 | 1 |
| C-CA-CA-C-CA-C-N | 116.20 | 128.50 | 1 |
| C-N-N-CA-N-CA-C-CA-CB | 110.10 | 121.78 | 1 |
| C-N-CA | 121.70 | 132.77 | 1 |
| CA-C-N | 116.20 | 103.91 | 1 |
| N-CA-CB | 110.50 | 120.95 | 1 |
| N-CA-CB | 110.40 | 101.18 | 1 |
| N-CA-C-CA-CB | 110.10 | 121.78 | 1 |
| O-C-N | 123.00 | 132.83 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------------|--------------------|-----------------|--------------------|
| N-CA-OD1-CG-ND2 | 122.60 | 116.46 | 1 |
| N-CA-C-CA-N-CA-C-CA-CB | 111.40 | 99.73 | 1 |
| N-CA-CB | 110.50 | 100.06 | 1 |
| CA-CB-CG | 112.60 | 106.46 | 1 |
| N-CA-N-CA-CB | 111.50 | 121.93 | 1 |
| CA-C-O | 120.80 | 131.23 | 1 |
| CA-C-N | 116.20 | 103.93 | 1 |
| C-CA-C-CA-C-CA-CB | 111.40 | 99.75 | 1 |
| N-CA-CB | 111.50 | 121.92 | 1 |
| CA-CB-CG | 113.80 | 107.67 | 1 |
| C-CA-N-CA-CA-C-N | 116.20 | 103.94 | 1 |
| CA-C-CA-C-O | 120.80 | 131.22 | 1 |
| N-CA-CA-C-N-CA-C-CA-CB | 111.40 | 123.04 | 1 |
| N-CA-CB | 111.50 | 121.91 | 1 |
| CA-C-N-CA-C-N-CA | 121.70 | 110.68 | 1 |
| N-CA-CA-C-N-CA-CA-C-N | 116.20 | 128.44 | 1 |
| N-CA-C-CA-CB | 110.10 | 121.73 | 1 |
| C-CA-CB | 110.10 | 121.73 | 1 |
| CA-C-N | 116.20 | 103.96 | 1 |
| C-CA-CA-C-N | 116.20 | 128.44 | 1 |
| C-CA-C-N-CA | 121.70 | 110.68 | 1 |
| C-CA-N-CA-CA-C-O | 120.80 | 110.40 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---------------------------------------|--------------------|-----------------|--------------------|
| CA-C-CA-C-N | 116.20 | 128.43 | 1 |
| CA-C-OD1-CG-ND2 | 122.60 | 116.48 | 1 |
| C-CA-C-CA-CB | 110.10 | 121.72 | 1 |
| N-CA-C-N-CA | 121.70 | 132.70 | 1 |
| C-CA-N-CA-CB | 110.50 | 100.11 | 1 |
| CA-CB-CG | 113.80 | 107.69 | 1 |
| C-CA-N-CA-C-N-N-CA-CA-C-N-CA-CA-CB-CG | 112.60 | 106.49 | 1 |
| N-CA-C | 111.00 | 93.91 | 2 |
| N-CA-CA-C-O | 120.80 | 131.18 | 1 |
| CA-C-N | 116.20 | 128.41 | 1 |
| C-CA-CD-NE-CZ | 124.40 | 132.94 | 1 |
| N-CA-N-CA-C | 112.10 | 96.84 | 1 |
| CA-C-N-CA-CB | 110.50 | 100.13 | 1 |
| CA-C-C-N-CA | 121.70 | 110.72 | 1 |
| N-CA-N-CA-CA-C-N | 116.20 | 104.01 | 1 |
| CA-C-N-CA-CA-C-N | 116.20 | 128.39 | 1 |
| N-CA-C | 111.00 | 128.06 | 1 |
| CA-C-C-CA-N-CA-C | 111.00 | 93.94 | 1 |
| CA-C-N | 116.20 | 128.38 | 2 |
| C-CA-CB | 110.50 | 101.36 | 1 |
| N-CA-CB | 110.40 | 101.26 | 1 |
| C-CA-CB | 110.10 | 121.67 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--|--------------------|-----------------|--------------------|
| N-CA-C | 111.00 | 128.05 | 1 |
| C-CA-CB | 110.10 | 98.53 | 1 |
| N-CA-CB | 110.50 | 120.85 | 1 |
| N-CA-C | 112.10 | 96.88 | 1 |
| N-CA-C-CA-CB | 110.10 | 98.54 | 1 |
| CA-CB-C-CA-N-CA-CB | 110.50 | 100.16 | 1 |
| C-CA-CA-C-CA-C-N-CA-C | 111.00 | 128.03 | 1 |
| CA-C-O | 120.80 | 131.14 | 1 |
| CA-C-C-CA-CB | 110.10 | 121.66 | 1 |
| C-CA-N-CA-C-CA-CB | 110.10 | 98.55 | 1 |
| C-N-CA | 121.70 | 110.75 | 1 |
| C-CA-N-CA-N-CA-C-N-CA | 121.70 | 110.76 | 1 |
| C-CA-CA-C-O | 120.80 | 110.47 | 1 |
| CA-C-C-CA-CB | 109.10 | 95.73 | 1 |
| CA-CB-CG | 113.80 | 107.73 | 1 |
| N-CA-CB | 110.50 | 100.17 | 1 |
| N-CA-C | 111.00 | 93.99 | 1 |
| N-CA-C-N-C-N-C-CA-CB | 110.10 | 121.64 | 1 |
| C-CA-CB | 110.10 | 121.63 | 1 |
| C-CA-C-CA-CA-C-OD1-CG-N-CA-N-CA-N-CA-C | 111.00 | 94.01 | 1 |
| C-CA-CB | 110.10 | 98.57 | 1 |
| N-CA-C | 111.00 | 94.02 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 110.10 | 98.58 | 2 |
| C-CA-CB | 110.10 | 121.62 | 1 |
| N-CA-CA-C-N | 116.20 | 128.33 | 1 |
| N-CA-C-CA-CA-C-O | 120.80 | 131.10 | 1 |
| N-CA-C-CA-CB | 110.10 | 121.61 | 1 |
| CA-C-O | 120.80 | 110.50 | 1 |
| N-CA-C | 111.00 | 94.04 | 1 |
| C-CA-CB | 110.10 | 121.61 | 1 |
| CA-C-N | 116.20 | 128.31 | 1 |
| C-N-C-CA-CB | 110.10 | 121.61 | 1 |
| N-CA-N-CA-C | 111.00 | 127.95 | 1 |
| C-CA-CB | 110.10 | 98.60 | 1 |
| N-CA-CB | 110.50 | 100.21 | 1 |
| C-N-CA | 121.70 | 132.60 | 1 |
| N-CA-CA-C-C-CA-CA-CB-C-N-CA | 121.70 | 132.59 | 1 |
| C-CA-CB | 110.10 | 98.61 | 1 |
| C-CA-C-CA-CB | 110.10 | 98.61 | 1 |
| CA-C-N | 116.20 | 104.10 | 1 |
| C-CA-CB | 110.10 | 121.59 | 1 |
| N-CA-CB | 110.50 | 100.22 | 1 |
| C-CA-C-CA-C-CA-CB | 110.10 | 121.58 | 1 |
| N-CA-C | 111.00 | 94.08 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------------|--------------------|-----------------|--------------------|
| CA-C-N-CA-C | 111.00 | 94.08 | 1 |
| CA-C-CA-CB-N-CA-CA-C-N | 116.20 | 128.28 | 1 |
| C-CA-N-CA-CA-C-N | 116.20 | 128.27 | 1 |
| C-CA-CB | 110.10 | 98.63 | 1 |
| C-CA-C-CA-CD-NE-CZ | 124.40 | 132.85 | 1 |
| C-CA-CB | 109.10 | 95.83 | 1 |
| C-CA-CB | 110.10 | 121.56 | 2 |
| C-CA-CB | 110.10 | 98.64 | 1 |
| N-CA-C-CA-CA-C-N | 116.20 | 128.26 | 1 |
| CA-C-CA-C-N-CA-CB | 110.50 | 100.26 | 1 |
| C-CA-C-CA-CB | 110.50 | 101.46 | 1 |
| C-CA-C-CA-OD1-CG-ND2 | 122.60 | 116.58 | 1 |
| N-CA-C-CA-CB | 110.50 | 101.47 | 1 |
| C-CA-CA-CB-CG | 113.80 | 107.78 | 1 |
| OD1-CG-ND2 | 122.60 | 116.59 | 1 |
| C-CA-CB | 110.10 | 121.53 | 2 |
| CA-CB-CG | 112.60 | 106.59 | 1 |
| C-CA-CB | 111.60 | 99.58 | 1 |
| C-CA-N-CA-C-CA-CB | 110.10 | 98.68 | 1 |
| C-CA-CB | 110.50 | 101.49 | 1 |
| C-CA-C-CA-C-CA-C-CA-C-CA-CB | 110.10 | 121.51 | 1 |
| N-CA-CA-C-C-CA-CB | 111.40 | 122.81 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---------------------------------|--------------------|-----------------|--------------------|
| CA-C-C-N-CA-C-C-CA-CB | 110.10 | 121.50 | 1 |
| C-CA-CB | 110.10 | 121.50 | 2 |
| CA-C-N | 116.20 | 128.20 | 1 |
| N-CA-CB | 110.50 | 100.30 | 1 |
| C-CA-CA-C-N-CA-C-CA-CB | 110.10 | 121.49 | 1 |
| C-CA-CB | 111.40 | 122.79 | 1 |
| CA-C-C-CA-C-CA-CA-C-CA-C-C-N-CA | 121.70 | 132.49 | 1 |
| CA-C-O | 120.80 | 110.61 | 1 |
| C-CA-CB | 110.10 | 121.48 | 1 |
| CA-C-C-CA-CB | 110.10 | 121.48 | 1 |
| C-CA-C-CA-CB | 110.10 | 121.48 | 1 |
| CA-C-C-CA-CB | 110.10 | 98.73 | 1 |
| CA-C-C-N-CA | 121.70 | 132.47 | 1 |
| C-N-CA | 121.70 | 132.47 | 1 |
| N-CA-CB | 110.50 | 120.67 | 1 |
| N-CA-C-CA-CB | 110.10 | 98.73 | 1 |
| C-CA-C-CA-CB | 110.10 | 121.47 | 1 |
| C-CA-CB | 110.10 | 121.47 | 1 |
| C-N-CA | 121.70 | 110.93 | 1 |
| N-CA-C | 112.10 | 127.05 | 1 |
| C-N-CA | 121.70 | 132.46 | 1 |
| CA-C-C-N-CA | 121.70 | 132.46 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 110.50 | 119.47 | 1 |
| N-CA-N-CA-CA-C-N | 116.20 | 104.25 | 1 |
| C-N-CA | 121.70 | 132.45 | 1 |
| N-CA-CB | 110.50 | 120.65 | 1 |
| C-CA-CA-C-C-CA-CB | 110.10 | 121.45 | 1 |
| C-CA-C-CA-CA-C-C-N-CA | 121.70 | 132.45 | 1 |
| N-CA-C-CA-N-CA-C | 111.00 | 94.29 | 1 |
| N-CA-C-CA-CB | 111.60 | 99.67 | 1 |
| CA-C-N | 116.20 | 104.27 | 1 |
| C-CA-CB | 110.50 | 101.56 | 1 |
| C-CA-CA-CB-N-CA-C | 111.00 | 94.31 | 1 |
| C-CA-C-CA-CB | 110.10 | 121.42 | 1 |
| N-CA-CB | 110.50 | 100.37 | 1 |
| N-CA-CB | 110.50 | 120.63 | 1 |
| C-CA-CB | 110.10 | 121.42 | 1 |
| N-CA-C | 111.00 | 94.33 | 1 |
| CA-C-N-CA-C-N-CA | 121.70 | 110.99 | 1 |
| N-CA-C-CA-CA-C-O | 120.80 | 110.69 | 1 |
| N-CA-CA-C-N-CA-C | 111.00 | 94.35 | 1 |
| CA-C-O | 120.80 | 130.91 | 1 |
| CA-C-CA-C-O | 120.80 | 110.69 | 1 |
| C-CA-CB | 110.10 | 121.39 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---|--------------------|-----------------|--------------------|
| N-CA-CA-CB-CG | 112.60 | 106.66 | 1 |
| C-N-CA | 121.70 | 111.00 | 1 |
| CA-C-C-N-CA | 121.70 | 132.39 | 1 |
| N-CA-N-CA-C | 111.00 | 94.37 | 1 |
| CA-C-O | 120.80 | 110.71 | 1 |
| CA-CB-CA-CB-CG | 113.80 | 107.86 | 1 |
| N-CA-CB | 111.50 | 121.59 | 2 |
| C-CA-CB | 110.50 | 119.40 | 1 |
| C-CA-CB | 110.10 | 121.38 | 1 |
| N-CA-C | 111.00 | 127.62 | 1 |
| N-CA-CB | 110.50 | 120.59 | 1 |
| N-CA-CB | 111.50 | 101.41 | 1 |
| N-CA-CA-CB-CG | 112.60 | 106.67 | 1 |
| N-CA-CB | 110.50 | 100.42 | 1 |
| N-CA-C | 112.10 | 126.92 | 1 |
| C-CA-N-CA-C | 111.00 | 127.60 | 1 |
| N-CA-CB | 110.50 | 120.58 | 1 |
| C-N-CA | 121.70 | 132.37 | 1 |
| CA-C-N | 116.20 | 104.34 | 1 |
| N-CA-CA-CB-CA-C-C-CA-C-CA-N-CA-N-CA-N-CA-CB | 111.50 | 121.57 | 1 |
| C-CA-N-CA-CA-C-CA-C-N | 116.20 | 104.36 | 1 |
| N-CA-CB | 110.50 | 120.56 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------------------------|--------------------|-----------------|--------------------|
| CA-CB-CG | 113.80 | 107.88 | 1 |
| C-N-CA-C-N | 116.20 | 104.36 | 1 |
| N-CA-CB | 110.50 | 100.44 | 2 |
| C-CA-CA-C-O | 120.80 | 130.86 | 1 |
| C-CA-CA-C-N-CA-C-N-CA-CB-CG | 112.60 | 106.69 | 1 |
| N-CA-C-CA-C-N-CA | 121.70 | 132.34 | 1 |
| N-CA-CB | 110.50 | 100.45 | 2 |
| N-CA-CB | 110.50 | 100.46 | 1 |
| CA-C-N-CA-C-CA-C-CA-CA-C-C-N-C-N-CA | 121.70 | 132.33 | 1 |
| CA-CB-N-CA-CA-C-N | 116.20 | 104.39 | 1 |
| CA-C-C-N-CA | 121.70 | 132.33 | 1 |
| N-CA-CB | 111.50 | 121.54 | 2 |
| N-CA-N-CA-N-CA-N-CA-CB | 111.50 | 121.53 | 1 |
| N-CA-C-CA-CA-C-N | 116.90 | 108.05 | 1 |
| C-N-CA | 121.70 | 132.32 | 1 |
| N-CA-C | 111.00 | 94.48 | 2 |
| N-CA-CB | 111.50 | 121.53 | 1 |
| CA-C-C-N-N-CA-N-CA-CB | 110.50 | 120.53 | 1 |
| N-CA-N-CA-CB | 110.50 | 120.53 | 1 |
| C-CA-N-CA-CB | 110.50 | 120.52 | 1 |
| N-CA-CB | 110.50 | 120.52 | 1 |
| C-N-CA-C-O | 120.80 | 130.82 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------------------|--------------------|-----------------|--------------------|
| CA-C-O | 120.80 | 130.82 | 1 |
| C-CA-C-CA-CB | 110.10 | 98.91 | 1 |
| N-CA-C-N-C-N-CA-C-CA-C-CA-C-O | 120.80 | 130.81 | 1 |
| N-CA-CB | 111.50 | 121.51 | 1 |
| CA-C-N | 116.20 | 104.42 | 1 |
| C-N-CA | 121.70 | 132.30 | 2 |
| CA-C-O | 120.80 | 130.81 | 1 |
| CA-CB-CG | 112.60 | 106.71 | 1 |
| C-N-N-CA-C | 111.00 | 94.52 | 1 |
| N-CA-C | 111.00 | 94.52 | 1 |
| N-CA-CB | 110.50 | 120.50 | 1 |
| C-CA-CB | 110.10 | 98.92 | 1 |
| CA-CB-CG | 113.80 | 119.68 | 1 |
| C-N-CA | 121.70 | 111.11 | 1 |
| CA-CB-CG | 112.60 | 106.72 | 1 |
| CA-C-O | 120.80 | 130.80 | 1 |
| CA-C-N | 116.20 | 127.96 | 1 |
| N-CA-C-CA-CB | 110.10 | 98.93 | 1 |
| C-CA-N-CA-CB | 110.50 | 120.49 | 1 |
| N-CA-C-CA-N-CA-CB | 110.50 | 120.49 | 1 |
| N-CA-CB | 110.50 | 100.51 | 1 |
| C-CA-CA-C-C-CA-N-CA-C | 111.00 | 94.56 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|----------------------------|--------------------|-----------------|--------------------|
| CA-C-N | 116.20 | 127.94 | 1 |
| C-CA-C-CA-CB | 110.10 | 98.94 | 1 |
| N-CA-C-CA-CB | 110.10 | 98.95 | 1 |
| N-CA-CA-CB-CG | 113.80 | 107.93 | 1 |
| C-N-CA | 121.70 | 132.26 | 2 |
| CA-C-N | 116.20 | 104.46 | 1 |
| N-CA-N-CA-CB | 110.50 | 120.47 | 1 |
| CA-C-N-CA-CB | 110.50 | 120.47 | 1 |
| C-N-C-CA-C-CA-C-CA-C-CA-CB | 110.10 | 98.96 | 1 |
| C-CA-C-CA-CB | 110.10 | 98.96 | 1 |
| CA-C-O | 120.80 | 130.77 | 1 |
| CA-C-CA-C-N | 116.20 | 104.47 | 1 |
| C-CA-C-CA-CB | 110.50 | 101.71 | 1 |
| N-CA-CA-CB-CG | 113.80 | 119.66 | 1 |
| N-CA-C-CA-CB | 111.60 | 99.88 | 1 |
| N-CA-C | 111.00 | 127.41 | 1 |
| C-N-CA | 121.70 | 132.25 | 1 |
| C-CA-C-N-CA | 121.70 | 132.25 | 1 |
| N-CA-CA-C-C-CA-C-N-CA | 121.70 | 132.24 | 1 |
| C-CA-C-CA-CB | 110.10 | 98.97 | 1 |
| CA-C-C-N-CA-CB-CG | 113.80 | 107.94 | 1 |
| CA-C-CA-CB-CG | 113.80 | 107.95 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|----------------------------|--------------------|-----------------|--------------------|
| CA-C-C-N-CA | 121.70 | 132.23 | 1 |
| N-CA-CA-C-C-CA-CB | 110.10 | 98.98 | 1 |
| C-N-N-CA-CA-C-C-CA-CB | 111.60 | 99.90 | 1 |
| N-CA-CB | 110.50 | 120.44 | 1 |
| CA-C-N | 116.90 | 108.13 | 2 |
| CA-C-C-CA-CB | 110.10 | 98.99 | 1 |
| C-N-C-N-CA | 121.70 | 132.22 | 1 |
| CA-C-O | 120.80 | 130.74 | 2 |
| N-CA-CB | 110.50 | 100.56 | 2 |
| CA-C-O | 120.80 | 110.86 | 1 |
| CA-C-N-CA-C | 111.00 | 94.64 | 1 |
| N-CA-C | 111.00 | 127.36 | 1 |
| N-CA-CB | 110.50 | 120.43 | 1 |
| C-N-N-CA-N-CA-CB | 110.50 | 120.43 | 1 |
| N-CA-CB | 110.50 | 100.57 | 1 |
| C-CA-C-N-C-CA-CB | 110.10 | 99.00 | 1 |
| C-CA-C-CA-N-CA-CB | 111.50 | 121.43 | 1 |
| N-CA-C-N-CA | 121.70 | 132.21 | 1 |
| C-CA-C-CA-CB | 110.10 | 99.01 | 1 |
| CA-C-N | 116.90 | 108.15 | 1 |
| CA-C-C-N-CA | 121.70 | 132.20 | 1 |
| C-CA-N-CA-C-CA-N-CA-N-CA-C | 111.00 | 94.67 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------|--------------------|-----------------|--------------------|
| C-CA-C-CA-CB | 110.10 | 99.02 | 1 |
| C-CA-CB | 109.10 | 121.93 | 1 |
| C-N-CA | 121.70 | 132.20 | 1 |
| CA-C-C-N-CA | 121.70 | 132.19 | 1 |
| N-CA-N-CA-CB | 110.50 | 120.40 | 1 |
| C-N-CA | 121.70 | 132.19 | 1 |
| N-CA-C-CA-CB | 110.10 | 99.03 | 1 |
| N-CA-C | 111.00 | 94.69 | 1 |
| C-N-CA | 121.70 | 111.22 | 1 |
| CA-C-CA-C-C-N-N-CA-CB | 111.50 | 121.40 | 1 |
| N-CA-C-CA-CA-C-O | 120.80 | 130.70 | 1 |
| C-CA-CB | 109.10 | 121.91 | 1 |
| C-CA-C-CA-CB | 110.10 | 121.16 | 1 |
| C-CA-C-CA-CA-CB-CG | 112.60 | 106.78 | 1 |
| CA-C-O | 120.80 | 110.91 | 1 |
| CA-CB-CG | 112.60 | 106.78 | 1 |
| CA-CB-N-CA-CB | 111.50 | 121.39 | 1 |
| C-N-N-CA-CB | 110.50 | 120.39 | 1 |
| N-CA-CB | 110.50 | 120.39 | 1 |
| CA-C-N | 116.20 | 127.83 | 1 |
| C-CA-C-CA-CB | 109.10 | 121.89 | 1 |
| C-CA-CB | 110.50 | 119.22 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|----------------------------|--------------------|-----------------|--------------------|
| CA-N-CD | 112.00 | 103.86 | 1 |
| C-CA-C-CA-CB | 110.10 | 99.06 | 1 |
| CA-C-C-N-N-CA-CB | 110.50 | 120.38 | 1 |
| C-CA-CA-C-O | 120.80 | 110.92 | 1 |
| C-CA-CB | 110.10 | 121.14 | 1 |
| C-N-CA | 121.70 | 111.25 | 2 |
| C-CA-CB | 110.10 | 121.13 | 2 |
| CA-C-N | 116.20 | 104.59 | 1 |
| CA-CB-CG | 113.80 | 107.99 | 2 |
| N-CA-CB | 111.50 | 121.37 | 1 |
| C-CA-CA-C-C-CA-C-CA-CB | 110.10 | 99.07 | 1 |
| CA-CB-C-N-C-CA-C-CA-C-N-CA | 121.70 | 132.14 | 1 |
| C-CA-CB | 110.10 | 99.08 | 1 |
| C-N-CA | 121.70 | 132.14 | 1 |
| CA-CB-CG | 113.80 | 119.60 | 1 |
| C-CA-OD1-CG-ND2 | 122.60 | 116.80 | 1 |
| N-CA-C-CA-CB | 111.60 | 100.00 | 1 |
| N-CA-C | 111.00 | 94.77 | 1 |
| C-CA-CB | 110.10 | 121.12 | 1 |
| C-CA-CB | 109.10 | 121.86 | 1 |
| N-CA-C-CA-N-CA-CA-C-O | 120.80 | 110.95 | 1 |
| C-CA-CB | 110.10 | 99.09 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|----------------------|--------------------|-----------------|--------------------|
| CA-C-O | 120.80 | 110.95 | 1 |
| C-CA-N-CA-CA-C-O | 120.80 | 110.95 | 1 |
| CA-C-N | 116.20 | 104.61 | 1 |
| N-CA-N-CA-C-CA-CB | 109.10 | 96.36 | 1 |
| C-CA-CB | 110.10 | 99.10 | 1 |
| CA-C-N | 116.20 | 104.62 | 1 |
| C-N-CA | 121.70 | 111.28 | 2 |
| C-CA-C-CA-CB | 110.10 | 121.10 | 1 |
| C-N-C-N-N-CA-C-CA-CB | 109.10 | 96.37 | 1 |
| C-N-C-CA-CB | 110.10 | 99.10 | 1 |
| N-CA-CB | 111.50 | 101.66 | 1 |
| C-CA-CA-C-N | 116.20 | 127.78 | 1 |
| C-N-CA | 121.70 | 132.12 | 1 |
| C-CA-C-CA-C-CA-CB | 110.10 | 99.11 | 1 |
| C-CA-CA-CB-CG | 113.80 | 108.02 | 1 |
| CA-CB-CG | 112.60 | 106.82 | 2 |
| CA-C-O | 120.80 | 110.97 | 1 |
| CA-CB-CG | 113.80 | 119.58 | 1 |
| CA-C-N-CA-C | 111.00 | 94.81 | 1 |
| C-CA-CB | 110.50 | 119.17 | 1 |
| N-CA-C | 111.00 | 94.82 | 2 |
| N-CA-N-CA-C | 111.00 | 94.82 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|----------------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 111.60 | 123.16 | 1 |
| CA-C-O | 120.80 | 130.62 | 1 |
| C-CA-C-CA-CB | 110.10 | 121.08 | 1 |
| N-CA-N-CA-CA-C-C-CA-CB | 109.10 | 121.81 | 1 |
| C-CA-CB | 109.10 | 96.39 | 1 |
| N-CA-C-CA-CB | 110.10 | 99.13 | 2 |
| CA-C-O | 120.80 | 110.98 | 1 |
| C-CA-CB | 110.10 | 99.13 | 2 |
| C-CA-CB | 111.40 | 122.37 | 1 |
| C-N-N-CA-C | 111.00 | 94.84 | 1 |
| C-CA-N-CA-C-CA-N-CA-N-CA-C | 111.00 | 94.84 | 1 |
| C-CA-CA-C-N | 116.20 | 104.66 | 1 |
| CA-CB-CG | 112.60 | 106.83 | 1 |
| CA-C-O | 120.80 | 130.61 | 1 |
| N-CA-CB | 110.50 | 120.31 | 1 |
| CA-C-N | 116.20 | 127.73 | 1 |
| N-CA-C | 111.00 | 94.85 | 1 |
| CA-C-C-CA-CB | 111.60 | 100.07 | 1 |
| CA-C-O | 120.80 | 111.00 | 1 |
| C-CA-OD1-CG-CA-C-O | 120.80 | 130.60 | 1 |
| C-CA-C-CA-CB | 111.60 | 123.12 | 1 |
| C-CA-CB | 111.60 | 100.08 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---------------------------|--------------------|-----------------|--------------------|
| C-CA-C-CA-CB | 110.10 | 99.16 | 1 |
| CA-C-C-CA-CB | 110.10 | 99.16 | 1 |
| C-N-C-N-CA | 121.70 | 111.34 | 1 |
| C-N-CA-C-O | 120.80 | 130.59 | 1 |
| C-CA-CB | 109.10 | 96.43 | 1 |
| C-N-CA | 121.70 | 132.06 | 1 |
| N-CA-C-N-CA-C-N | 116.20 | 127.71 | 1 |
| CA-C-O | 120.80 | 111.02 | 2 |
| C-N-CA-C-O | 120.80 | 130.58 | 1 |
| CA-C-O | 120.80 | 130.58 | 1 |
| N-CA-C | 111.00 | 94.89 | 1 |
| N-CA-C-CA-CB | 110.10 | 121.03 | 1 |
| CA-C-C-CA-CB | 111.60 | 100.10 | 1 |
| C-N-C-N-N-CA-N-CA-N-CA-CB | 110.50 | 120.27 | 1 |
| C-CA-C-CA-CB | 110.10 | 99.18 | 1 |
| C-N-N-CA-C-CA-CB | 110.10 | 99.18 | 1 |
| C-CA-CB | 110.10 | 99.18 | 1 |
| C-CA-CB | 111.40 | 122.32 | 1 |
| CA-C-O | 120.80 | 130.57 | 1 |
| N-CA-C | 111.00 | 94.91 | 2 |
| CA-C-N | 116.20 | 104.71 | 1 |
| C-CA-CB | 110.10 | 121.02 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--------------------------------|--------------------|-----------------|--------------------|
| C-CA-N-CA-CA-CB-N-CA-CB | 111.50 | 121.26 | 1 |
| CA-CB-CA-CB-CG | 112.60 | 106.86 | 1 |
| N-CA-CB | 110.50 | 120.26 | 2 |
| C-CA-CB | 109.10 | 121.73 | 1 |
| C-CA-CB | 110.10 | 99.19 | 1 |
| CA-N-CD | 112.00 | 103.96 | 1 |
| N-CA-CA-CB-C-N-CA | 121.70 | 132.03 | 1 |
| C-CA-CB | 110.10 | 99.20 | 3 |
| C-CA-CB | 110.10 | 121.00 | 2 |
| CA-CB-CG | 113.80 | 119.54 | 1 |
| CA-C-N | 116.20 | 104.72 | 1 |
| N-CA-CB | 110.50 | 120.25 | 1 |
| C-CA-CA-C-C-CA-CB | 111.60 | 100.13 | 1 |
| C-N-N-CA-CB | 111.50 | 101.75 | 1 |
| N-CA-N-CA-OD1-CG-ND2 | 122.60 | 116.87 | 1 |
| N-CA-CA-C-O | 120.80 | 111.05 | 1 |
| OD1-CG-C-N-CA | 121.70 | 111.38 | 1 |
| C-CA-CB | 110.10 | 120.99 | 1 |
| CA-C-O | 120.80 | 111.06 | 1 |
| N-CA-C-CA-CB | 110.10 | 99.21 | 1 |
| N-CA-C | 111.00 | 94.96 | 1 |
| C-CA-OD1-CG-CA-C-CA-CB-N-CA-CB | 110.50 | 120.24 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 110.10 | 99.22 | 5 |
| C-N-CA | 121.70 | 132.01 | 1 |
| CA-CB-CG | 113.80 | 108.07 | 1 |
| C-CA-N-CA-C | 111.00 | 127.03 | 1 |
| N-CA-CD-NE-CZ | 124.40 | 116.38 | 1 |
| C-CA-C-CA-CB | 110.50 | 119.09 | 1 |
| CA-CB-CG | 112.60 | 106.87 | 1 |
| C-CA-CB | 110.10 | 120.98 | 1 |
| C-N-CA | 121.70 | 132.00 | 4 |
| CA-CB-CG | 112.60 | 106.88 | 2 |
| N-CA-CA-CB-CG | 113.80 | 119.52 | 1 |
| CA-CB-C-CA-CB | 110.10 | 120.97 | 1 |
| CA-CB-N-CA-C | 111.00 | 94.98 | 1 |
| C-CA-C-CA-CB | 111.60 | 100.16 | 1 |
| N-CA-CB | 110.50 | 120.22 | 1 |
| N-CA-C | 111.00 | 127.01 | 1 |
| CA-C-O | 120.80 | 130.52 | 1 |
| C-CA-CA-C-C-N-CA-CB-CG | 112.60 | 106.88 | 1 |
| C-CA-CB | 110.10 | 99.24 | 1 |
| C-CA-C-CA-CB | 110.10 | 99.24 | 1 |
| C-N-CA-CB-CA-CB-CG | 112.60 | 106.88 | 1 |
| N-CA-CB | 111.50 | 121.21 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------------------|--------------------|-----------------|--------------------|
| C-N-C-N-CA-C-CA-C-CA-CB-CG | 112.60 | 106.89 | 1 |
| N-CA-C-CA-CB | 110.10 | 120.95 | 1 |
| C-CA-CA-CB-CG | 112.60 | 106.89 | 1 |
| CA-CB-CA-C-O | 120.80 | 130.51 | 1 |
| C-N-C-CA-C-N-CA | 121.70 | 131.98 | 1 |
| CA-CB-N-CA-C-CA-N-CA-C | 111.00 | 126.98 | 1 |
| CA-CB-C-CA-C-CA-OD1-CG-N-CA-C | 111.00 | 126.97 | 1 |
| C-N-C-CA-CB | 110.10 | 99.27 | 1 |
| CA-C-C-CA-C-N-CA | 121.70 | 131.96 | 1 |
| C-CA-CB | 110.10 | 120.93 | 1 |
| CA-CB-CG | 112.60 | 118.30 | 1 |
| CA-C-CA-C-C-CA-CB | 110.10 | 120.93 | 1 |
| OD1-CG-C-CA-CB | 110.10 | 99.27 | 1 |
| N-CA-CB | 110.50 | 120.18 | 1 |
| C-N-CA | 121.70 | 131.95 | 2 |
| N-CA-C | 111.00 | 95.05 | 1 |
| N-CA-CA-C-O | 120.80 | 130.48 | 1 |
| CA-C-O | 120.80 | 130.48 | 1 |
| C-CA-CB | 110.10 | 99.28 | 1 |
| N-CA-C | 111.00 | 95.06 | 1 |
| N-CA-N-CA-C | 111.00 | 95.06 | 1 |
| C-CA-C-N-CA-CB-CA-C-O | 120.80 | 130.47 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--------------------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 110.10 | 99.29 | 1 |
| C-CA-C-N-CA | 121.70 | 131.94 | 1 |
| CA-C-CA-CB-CG | 112.60 | 106.91 | 1 |
| C-CA-N-CA-C | 111.00 | 95.08 | 1 |
| CA-CB-CG | 113.80 | 108.11 | 1 |
| C-CA-C-N-CA | 121.70 | 131.93 | 1 |
| N-CA-CB | 110.50 | 120.16 | 1 |
| C-CA-CA-C-O | 120.80 | 130.46 | 1 |
| CA-C-CA-CB-C-CA-C-CA-C-N-CA | 121.70 | 131.93 | 1 |
| C-CA-C-N-C-N-CA | 121.70 | 111.48 | 1 |
| C-CA-C-CA-CB | 110.10 | 120.89 | 1 |
| C-CA-CA-C-O | 120.80 | 111.15 | 1 |
| C-CA-C-N-CA | 121.70 | 131.92 | 1 |
| CA-C-C-CA-C-CA-CB | 110.10 | 120.89 | 1 |
| CA-C-N-CA-CB | 110.50 | 120.15 | 1 |
| CA-CB-CG | 112.60 | 106.92 | 1 |
| C-CA-C-N-C-CA-C-CA-N-CA-C-N-CA | 121.70 | 131.91 | 1 |
| N-CA-C | 111.00 | 95.11 | 1 |
| CA-C-N-CA-C-CA-C-N-CA | 121.70 | 111.49 | 1 |
| N-CA-C | 111.00 | 126.88 | 1 |
| N-CA-C | 111.00 | 95.12 | 2 |
| C-CA-C-N-CA-C-O | 120.80 | 111.16 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---------------------------------------|--------------------|-----------------|--------------------|
| CA-CB-CG | 113.80 | 108.13 | 1 |
| CA-C-O | 120.80 | 111.17 | 1 |
| N-CA-C-N-CA | 121.70 | 131.90 | 1 |
| N-CA-CB | 110.50 | 120.13 | 1 |
| N-CA-C-N-N-CA-CB | 110.50 | 120.13 | 1 |
| CA-CB-CG | 112.60 | 106.93 | 1 |
| CA-C-O | 120.80 | 130.43 | 1 |
| C-N-C-N-C-CA-N-CA-C | 111.00 | 126.86 | 1 |
| CA-CB-CG | 112.60 | 106.94 | 1 |
| N-CA-C | 111.00 | 95.14 | 2 |
| CA-C-C-CA-N-CA-C-CA-CB | 110.50 | 118.99 | 1 |
| CA-C-N-CA-CA-CB-C-CA-C-CA-CA-C-N-CA-C | 111.00 | 95.15 | 1 |
| OD1-CG-N-CA-CB | 110.50 | 120.12 | 1 |
| CA-C-N-CA-CB | 110.50 | 120.12 | 1 |
| C-CA-C-N-C-CA-C-CA-CB | 110.10 | 99.35 | 1 |
| N-CA-CB | 110.50 | 120.12 | 1 |
| N-CA-C | 111.00 | 126.84 | 1 |
| CA-C-CA-C-N | 116.20 | 127.51 | 1 |
| CA-C-C-N-CA | 121.70 | 131.88 | 1 |
| CA-CB-C-CA-CB | 110.10 | 120.84 | 1 |
| C-CA-CB | 110.10 | 99.36 | 1 |
| C-N-CA | 121.70 | 131.88 | 2 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------------|--------------------|-----------------|--------------------|
| C-CA-N-CA-C-CA-N-CA-C-N-CA | 121.70 | 131.87 | 1 |
| C-CA-CB | 110.10 | 120.83 | 1 |
| CA-C-C-CA-CA-C-C-CA-N-CA-CB | 110.50 | 120.10 | 1 |
| CA-C-O | 120.80 | 111.20 | 1 |
| N-CA-C-CA-CB | 111.40 | 100.68 | 1 |
| N-CA-CB | 110.50 | 120.09 | 1 |
| C-N-CA-C-C-N-CA | 121.70 | 111.54 | 1 |
| C-N-CA-CB-CG | 112.60 | 106.96 | 1 |
| C-N-CA-CB-CG | 113.80 | 108.16 | 1 |
| CA-C-O | 120.80 | 130.39 | 1 |
| CA-C-CA-C-C-CA-C-CA-CB | 110.10 | 120.81 | 1 |
| N-CA-CB | 110.50 | 120.08 | 1 |
| N-CA-C | 111.00 | 95.22 | 1 |
| C-CA-CB | 110.10 | 99.39 | 1 |
| CA-C-N | 116.20 | 127.47 | 1 |
| C-CA-CA-C-N | 116.20 | 127.47 | 1 |
| CD-NE-CZ | 124.40 | 116.51 | 1 |
| C-N-CA | 121.70 | 131.84 | 1 |
| CA-CB-N-CA-C | 111.00 | 126.77 | 1 |
| NE-CZ-NH1 | 121.50 | 115.87 | 1 |
| N-CA-CB | 110.50 | 120.07 | 1 |
| CA-CB-CG | 112.60 | 106.97 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------|--------------------|-----------------|--------------------|
| N-CA-CB | 111.50 | 101.93 | 1 |
| C-CA-C-CA-CB | 110.10 | 120.79 | 1 |
| N-CA-C | 111.00 | 126.75 | 1 |
| C-CA-N-CA-CB | 110.50 | 120.06 | 1 |
| C-CA-C-CA-CB | 110.10 | 99.42 | 1 |
| N-CA-CB | 111.50 | 101.94 | 1 |
| C-CA-N-CA-C | 111.00 | 126.74 | 1 |
| N-CA-CB | 110.50 | 120.06 | 1 |
| C-CA-C-CA-CB | 110.10 | 120.78 | 1 |
| C-CA-CA-C-O | 120.80 | 111.25 | 1 |
| CA-C-O | 120.80 | 111.25 | 2 |
| N-CA-CB | 110.50 | 120.05 | 1 |
| C-CA-CB | 109.10 | 121.46 | 1 |
| CA-C-N-CA-C-N-CA | 121.70 | 131.81 | 1 |
| C-CA-CB | 111.40 | 100.73 | 1 |
| CA-C-O | 120.80 | 130.35 | 1 |
| C-CA-CB | 110.10 | 99.43 | 2 |
| N-CA-C-CA-CB | 109.10 | 121.46 | 1 |
| N-CA-N-CA-C | 111.00 | 126.72 | 1 |
| C-CA-N-CA-CB | 110.50 | 100.96 | 1 |
| CA-C-O | 120.80 | 111.26 | 1 |
| CA-C-N-CA-C-CA-CB | 111.60 | 100.38 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--------------------------|--------------------|-----------------|--------------------|
| C-CA-N-CA-C-N-CA | 121.70 | 111.60 | 1 |
| C-CA-C-CA-CA-C-O | 120.80 | 111.27 | 1 |
| C-N-N-CA-CB | 111.50 | 101.97 | 1 |
| C-CA-C-CA-C-N-CA | 121.70 | 131.79 | 1 |
| C-N-CA | 121.70 | 131.79 | 1 |
| CA-CB-CG | 112.60 | 106.99 | 1 |
| N-CA-C | 111.00 | 126.70 | 1 |
| CA-C-OD1-CG-C-CA-N-CA-CB | 110.50 | 120.03 | 1 |
| N-CA-CA-C-O | 120.80 | 111.27 | 1 |
| C-CA-N-CA-CB | 110.50 | 120.02 | 1 |
| C-CA-CB | 110.10 | 99.46 | 1 |
| CA-C-C-CA-CB | 110.10 | 120.74 | 1 |
| CA-CB-CG | 113.80 | 108.20 | 1 |
| N-CA-CB | 110.50 | 120.02 | 1 |
| CA-N-CD | 112.00 | 104.16 | 1 |
| C-CA-C-CA-CB | 110.10 | 99.46 | 1 |
| C-CA-C-CA-C-N-CA | 121.70 | 111.62 | 1 |
| C-N-CA | 121.70 | 111.62 | 1 |
| C-CA-CB | 110.10 | 120.74 | 1 |
| CA-CB-CG | 112.60 | 107.00 | 2 |
| C-CA-N-CA-C-CA-C-CA-CB | 109.10 | 121.41 | 1 |
| C-CA-CB | 110.10 | 120.73 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 111.60 | 100.41 | 1 |
| N-CA-C-CA-CB | 110.10 | 120.73 | 1 |
| OD1-CG-C-CA-CB | 110.50 | 118.89 | 1 |
| CA-C-O | 120.80 | 130.31 | 1 |
| C-CA-CA-C-O | 120.80 | 111.29 | 1 |
| CA-C-N-CA-N-CA-C-CA-CB | 109.10 | 121.40 | 1 |
| N-CA-CA-C-N | 116.20 | 127.38 | 1 |
| CA-C-CB-CG1-C-CA-CA-C-O | 120.80 | 111.30 | 1 |
| C-CA-CB | 110.10 | 120.72 | 1 |
| C-CA-CA-C-O | 120.80 | 111.30 | 1 |
| N-CA-C-N-CA | 121.70 | 111.65 | 1 |
| CA-C-C-CA-CA-C-O | 120.80 | 130.29 | 1 |
| C-CA-C-CA-CB | 110.10 | 120.70 | 1 |
| CA-C-N-CA-C-CA-CB | 110.10 | 120.70 | 1 |
| C-N-CA | 121.70 | 111.66 | 1 |
| CA-C-N | 116.20 | 127.36 | 1 |
| C-CA-CB | 111.60 | 122.75 | 1 |
| C-CA-CB | 110.50 | 118.87 | 1 |
| CB-CG1-CA-N-CD | 112.00 | 104.19 | 1 |
| C-CA-CB | 110.10 | 120.70 | 1 |
| N-CA-N-CA-CA-C-O | 120.80 | 130.28 | 1 |
| N-CA-C | 113.30 | 97.13 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------------|--------------------|-----------------|--------------------|
| C-CA-N-CA-CB | 111.50 | 102.02 | 1 |
| N-CA-CB | 111.50 | 102.02 | 1 |
| N-CA-C-CA-CA-CB-N-CA-C | 111.00 | 95.39 | 1 |
| N-CA-CB | 110.50 | 119.97 | 2 |
| NE-CZ-NH1 | 121.50 | 115.93 | 1 |
| C-CA-C-CA-CB | 110.10 | 120.69 | 1 |
| C-CA-CB | 110.10 | 99.51 | 2 |
| CA-CB-CG | 112.60 | 118.17 | 1 |
| C-N-CA | 121.70 | 131.73 | 1 |
| C-CA-CB | 110.10 | 99.52 | 1 |
| CA-C-N-CA-CB | 110.50 | 119.97 | 1 |
| CA-CB-CG | 113.80 | 108.23 | 1 |
| N-CA-C-CA-CB | 110.10 | 99.52 | 1 |
| N-CA-C | 111.00 | 95.41 | 1 |
| N-CA-CB | 110.50 | 101.04 | 1 |
| C-N-CA | 121.70 | 111.68 | 1 |
| C-CA-CB | 110.10 | 120.67 | 3 |
| N-CA-C | 112.10 | 98.19 | 1 |
| C-CA-N-CA-C-CA-CB | 110.10 | 99.53 | 1 |
| N-CA-C | 113.30 | 97.17 | 1 |
| C-CA-C-N-CA | 121.70 | 131.71 | 2 |
| N-CA-C | 111.00 | 126.57 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------------------------|--------------------|-----------------|--------------------|
| CA-C-N | 116.20 | 127.32 | 1 |
| C-CA-CB | 110.10 | 120.66 | 1 |
| N-CA-C | 111.00 | 95.44 | 1 |
| CA-C-N-CA-C | 111.00 | 95.44 | 1 |
| N-CA-C-CA-C-CA-CB | 110.10 | 120.65 | 1 |
| C-CA-CB | 110.10 | 120.65 | 1 |
| C-N-C-N-CA | 121.70 | 131.69 | 1 |
| N-CA-CB | 110.50 | 101.06 | 1 |
| CA-C-O | 120.80 | 111.36 | 2 |
| N-CA-CB | 110.50 | 119.94 | 1 |
| CA-C-N-CA-C | 111.00 | 95.46 | 1 |
| C-CA-CA-CB-CG | 113.80 | 108.25 | 1 |
| C-CA-CB | 110.10 | 120.64 | 2 |
| C-CA-CB | 110.10 | 99.56 | 1 |
| C-CA-C-CA-CB | 110.10 | 120.64 | 1 |
| C-N-C-N-CA | 121.70 | 111.72 | 1 |
| N-CA-CB | 111.50 | 102.07 | 1 |
| C-N-CA | 121.70 | 131.68 | 1 |
| N-CA-C | 112.10 | 98.24 | 1 |
| N-CA-C-CA-C-N-C-N-C-CA-N-CA-C-CA-CB | 110.10 | 120.63 | 1 |
| C-N-N-CA-N-CA-CB | 111.50 | 102.08 | 1 |
| N-CA-C-CA-CB | 110.10 | 120.62 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--------------------|--------------------|-----------------|--------------------|
| CA-CB-CG | 112.60 | 107.06 | 1 |
| C-CA-CB | 110.10 | 120.62 | 1 |
| N-CA-CA-C-N | 116.20 | 127.27 | 2 |
| CA-C-O | 120.80 | 111.39 | 1 |
| N-CA-C-CA-CB | 110.10 | 120.61 | 1 |
| C-CA-CB | 110.10 | 120.61 | 2 |
| CA-C-N | 116.20 | 127.26 | 1 |
| CA-C-C-CA-CB | 110.10 | 120.61 | 1 |
| CA-C-N-CA-CB | 111.50 | 120.90 | 1 |
| C-N-CA-C-O | 120.80 | 111.40 | 1 |
| C-N-CA | 121.70 | 131.65 | 1 |
| N-CA-C | 111.00 | 95.52 | 2 |
| N-CA-CB | 110.50 | 101.10 | 1 |
| N-CA-CB | 110.50 | 119.90 | 1 |
| C-CA-CA-C-N | 116.20 | 127.25 | 1 |
| C-CA-CB | 110.10 | 99.60 | 1 |
| C-N-CA | 121.70 | 131.64 | 1 |
| C-CA-CA-CB-C-CA-CB | 110.10 | 120.59 | 1 |
| N-CA-C-CA-CA-C-N | 116.20 | 127.24 | 1 |
| CA-CB-CA-C-O | 120.80 | 111.41 | 1 |
| N-CA-C-CA-CB | 110.10 | 120.59 | 1 |
| C-CA-CB | 111.60 | 122.64 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------|--------------------|-----------------|--------------------|
| C-CA-C-CA-CB | 110.10 | 120.58 | 1 |
| CA-C-C-CA-CB | 110.10 | 120.58 | 1 |
| C-CA-CB | 110.10 | 99.62 | 2 |
| CA-CB-CG | 112.60 | 107.08 | 1 |
| CA-C-O | 120.80 | 130.18 | 1 |
| N-CA-C-CA-CB | 110.10 | 120.58 | 1 |
| C-N-CA | 121.70 | 111.78 | 1 |
| CA-C-O | 120.80 | 111.43 | 1 |
| C-CA-C-N-N-CA-CB | 110.50 | 119.87 | 1 |
| C-N-C-CA-CB | 111.60 | 122.62 | 1 |
| C-N-C-N-N-CA-CA-C-N | 116.20 | 127.22 | 1 |
| CA-C-N-CA-CA-CB-CG | 113.80 | 108.29 | 1 |
| C-CA-CB | 110.10 | 120.57 | 1 |
| C-CA-N-CA-CA-C-O | 120.80 | 130.16 | 1 |
| CA-C-O | 120.80 | 111.44 | 1 |
| C-CA-C-CA-C-CA-C-N-CA | 121.70 | 131.61 | 1 |
| C-CA-C-CA-C-CA-CB | 110.10 | 99.64 | 1 |
| N-CA-CB | 111.50 | 102.14 | 1 |
| CA-C-N | 116.20 | 105.19 | 1 |
| C-CA-CB | 110.10 | 120.56 | 1 |
| CA-CB-CG | 112.60 | 107.10 | 2 |
| C-CA-CB | 110.10 | 99.64 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------------|--------------------|-----------------|--------------------|
| CA-CB-C-CA-CB | 111.60 | 100.60 | 1 |
| N-CA-CB | 110.50 | 101.15 | 1 |
| N-CA-N-CA-CB | 110.50 | 101.15 | 1 |
| C-CA-CB | 110.10 | 120.55 | 1 |
| C-CA-C-CA-C-CA-CB | 110.10 | 120.55 | 1 |
| N-CA-CA-C-N | 116.20 | 105.20 | 1 |
| C-CA-N-CA-C | 111.00 | 126.39 | 1 |
| N-CA-C | 111.00 | 126.39 | 1 |
| N-CA-C | 111.00 | 95.61 | 1 |
| C-CA-CB | 110.10 | 99.66 | 1 |
| N-CA-CB | 110.50 | 101.16 | 1 |
| C-CA-CB | 110.10 | 120.54 | 1 |
| CA-C-N | 116.20 | 127.19 | 1 |
| CA-CB-CG | 112.60 | 107.11 | 2 |
| N-CA-N-CA-C-CA-CB | 110.10 | 99.66 | 1 |
| C-N-C-CA-N-CA-C | 111.00 | 126.38 | 1 |
| C-N-CA | 121.70 | 131.58 | 1 |
| C-CA-CB | 110.10 | 99.67 | 1 |
| C-CA-CA-N-CA-C-N | 116.20 | 127.18 | 1 |
| CA-CB-CG2 | 110.50 | 101.17 | 1 |
| C-CA-CB | 110.10 | 120.53 | 1 |
| C-CA-C-CA-N-CA-C-CA-CB | 110.10 | 99.67 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---------------------------|--------------------|-----------------|--------------------|
| CA-C-O | 120.80 | 111.47 | 1 |
| CA-CB-CG | 113.80 | 108.31 | 1 |
| N-CA-C | 111.00 | 95.63 | 1 |
| N-CA-C | 111.00 | 95.64 | 2 |
| C-CA-CB | 110.10 | 120.52 | 1 |
| C-CA-CB | 111.60 | 122.57 | 1 |
| N-CA-C-N-CA | 121.70 | 131.57 | 1 |
| CA-C-O | 120.80 | 130.13 | 1 |
| C-CA-C-CA-C-CA-C-N-C-N-CA | 121.70 | 111.83 | 1 |
| N-CA-C | 111.00 | 126.35 | 1 |
| C-CA-C-N-N-CA-C | 111.00 | 95.65 | 1 |
| N-CA-C-CA-CB | 110.10 | 99.69 | 1 |
| CA-C-N | 116.20 | 105.24 | 1 |
| N-CA-C | 111.00 | 95.65 | 1 |
| C-CA-CB | 110.10 | 99.69 | 1 |
| N-CA-CA-CB-CG | 112.60 | 107.12 | 1 |
| N-CA-C | 111.00 | 95.66 | 2 |
| N-CA-CB | 111.50 | 120.81 | 1 |
| C-CA-N-CA-CB | 111.50 | 120.81 | 1 |
| C-CA-CB | 110.10 | 120.51 | 1 |
| C-CA-C-CA-CB | 110.10 | 99.70 | 1 |
| CA-CB-CG | 112.60 | 107.12 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|----------------------------|--------------------|-----------------|--------------------|
| CA-CB-CG2 | 110.50 | 101.19 | 1 |
| CA-C-O | 120.80 | 111.49 | 1 |
| C-CA-C-N-N-CA-C | 111.00 | 126.33 | 1 |
| C-CA-CB | 110.10 | 120.50 | 1 |
| C-N-C-CA-CB | 110.10 | 99.70 | 1 |
| N-CA-C-CA-C-N-CA | 121.70 | 131.55 | 1 |
| C-N-CA | 121.70 | 131.55 | 1 |
| C-N-CA | 121.70 | 111.85 | 2 |
| CA-C-N | 116.20 | 127.14 | 1 |
| C-N-CA-C-O | 120.80 | 111.50 | 1 |
| C-CA-CB | 110.10 | 120.49 | 2 |
| N-CA-CB | 110.50 | 119.80 | 1 |
| CA-C-C-CA-C-CA-N-CA-CA-C-N | 116.20 | 105.27 | 1 |
| C-CA-CB | 110.10 | 120.48 | 1 |
| N-CA-C | 111.00 | 95.70 | 1 |
| C-CA-CB | 110.10 | 99.72 | 1 |
| N-CA-CA-C-O | 120.80 | 111.51 | 1 |
| N-CA-C-N-N-CA-C-N-CA | 121.70 | 111.87 | 1 |
| C-N-C-CA-CB | 110.10 | 120.47 | 1 |
| N-CA-C-CA-CB | 110.10 | 120.47 | 1 |
| C-CA-C-N-CA | 121.70 | 111.88 | 1 |
| CA-CB-CG | 112.60 | 107.14 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|----------------------------------|--------------------|-----------------|--------------------|
| C-N-CA | 121.70 | 111.88 | 1 |
| N-CA-CB | 110.50 | 101.23 | 1 |
| C-CA-CA-CB-CG | 112.60 | 107.15 | 1 |
| N-CA-CB | 111.50 | 120.77 | 1 |
| N-CA-C-N-CA | 121.70 | 111.89 | 1 |
| CA-CB-CG | 113.80 | 108.35 | 1 |
| C-CA-CB | 110.10 | 120.46 | 1 |
| CA-CB-CA-N-C-CA-C-CA-CA-C-O | 120.80 | 111.53 | 1 |
| C-CA-CB | 110.10 | 120.45 | 1 |
| CA-C-O | 120.80 | 111.54 | 1 |
| CA-CB-C-CA-N-CA-C-N-CA | 121.70 | 131.50 | 1 |
| C-N-CA-CB-C-CA-CB | 110.10 | 99.76 | 1 |
| C-N-CA | 121.70 | 131.50 | 1 |
| CA-C-N | 116.20 | 127.08 | 1 |
| CA-CB-N-CA-C-CA-CA-CB-CG | 113.80 | 108.36 | 1 |
| C-N-CA-C-CA-C-O | 120.80 | 111.55 | 1 |
| C-CA-N-CA-C-N-CA | 121.70 | 111.91 | 1 |
| CA-C-C-N-C-CA-C-CA-CA-C-N | 116.20 | 127.07 | 1 |
| N-CA-C-CA-C-CA-CB | 111.60 | 100.73 | 1 |
| CA-C-N | 116.20 | 105.33 | 1 |
| CA-C-N-CA-C-CA-N-CA-C-CA-N-CA-CB | 111.50 | 102.27 | 1 |
| CA-N-C-CA-CB | 110.10 | 99.78 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------|--------------------|-----------------|--------------------|
| C-CA-N-CA-C-CA-CB | 110.10 | 120.42 | 1 |
| C-CA-C-CA-CB | 110.10 | 120.41 | 1 |
| N-CA-N-CA-CB | 110.50 | 101.27 | 1 |
| C-N-CA-C-N | 116.20 | 127.06 | 1 |
| C-N-CA | 121.70 | 111.93 | 1 |
| C-CA-CA-C-N | 116.20 | 127.05 | 1 |
| N-CA-C-CA-CB | 109.10 | 97.17 | 1 |
| C-N-CA | 121.70 | 111.94 | 1 |
| C-N-C-N-CA | 121.70 | 131.46 | 1 |
| CA-C-N | 116.20 | 127.05 | 1 |
| C-N-C-CA-CB | 111.60 | 122.44 | 1 |
| C-CA-CB | 109.10 | 97.18 | 1 |
| CA-C-N | 116.20 | 105.36 | 2 |
| CA-CB-C-CA-CB | 110.10 | 99.80 | 1 |
| C-CA-CB | 110.10 | 99.80 | 2 |
| N-CA-CA-CB-CG | 112.60 | 107.18 | 1 |
| C-CA-CB | 110.10 | 99.81 | 2 |
| C-CA-N-CA-CB | 111.50 | 120.71 | 1 |
| CA-C-N | 116.20 | 127.03 | 1 |
| CA-N-CD | 112.00 | 104.42 | 1 |
| N-CA-CA-CB-CA-C-N | 116.20 | 127.03 | 1 |
| CA-CB-CG | 112.60 | 107.19 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------|--------------------|-----------------|--------------------|
| C-N-CA | 121.70 | 111.95 | 1 |
| N-CA-C-N-C-CA-CB | 110.10 | 99.81 | 1 |
| N-CA-N-CA-C-CA-CB | 110.10 | 99.82 | 1 |
| CA-C-N | 116.20 | 127.02 | 1 |
| N-CA-C | 111.00 | 95.85 | 1 |
| N-CA-C-CA-CB | 110.10 | 99.82 | 1 |
| C-CA-C-CA-C-CA-CA-C-O | 120.80 | 130.00 | 1 |
| C-CA-CA-CB-N-CA-C | 111.00 | 126.14 | 1 |
| C-CA-CB | 110.50 | 102.39 | 1 |
| N-CA-C-CA-CB | 110.10 | 99.83 | 1 |
| N-CA-CB | 110.50 | 119.69 | 1 |
| C-CA-CB | 109.10 | 121.00 | 1 |
| N-CA-N-CA-N-CA-C-N-CA | 121.70 | 111.97 | 1 |
| N-CA-CA-C-N | 116.20 | 127.01 | 1 |
| C-CA-CB | 110.10 | 120.37 | 1 |
| C-CA-CB | 110.10 | 99.83 | 1 |
| CA-C-N | 116.20 | 127.01 | 1 |
| C-N-CA-C-O | 120.80 | 129.99 | 1 |
| C-CA-C-CA-CB | 110.10 | 99.84 | 1 |
| N-CA-CB | 110.50 | 119.68 | 1 |
| C-CA-CB | 110.50 | 102.40 | 1 |
| C-N-CA | 121.70 | 131.42 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 110.10 | 99.84 | 2 |
| N-CA-CA-CB-CG | 113.80 | 108.40 | 1 |
| CA-C-O | 120.80 | 111.62 | 1 |
| CA-C-N | 116.20 | 127.00 | 1 |
| N-CA-CB | 110.50 | 101.32 | 1 |
| CA-C-O | 120.80 | 129.98 | 1 |
| CA-N-CD | 112.00 | 104.44 | 1 |
| N-CA-CA-CB-CG | 112.60 | 107.20 | 1 |
| N-CA-C-N-N-CA-C-N-CA | 121.70 | 111.98 | 1 |
| CA-C-C-CA-N-CA-N-CA-CB | 111.50 | 102.33 | 1 |
| C-N-CA | 121.70 | 131.41 | 2 |
| N-CA-N-CA-C | 111.00 | 126.11 | 1 |
| C-CA-CB | 110.10 | 120.35 | 1 |
| N-CA-CB | 110.50 | 119.67 | 2 |
| C-CA-CB | 110.10 | 99.85 | 2 |
| C-CA-CB | 111.60 | 122.39 | 1 |
| N-CA-C-CA-CB | 110.10 | 120.35 | 1 |
| C-CA-C-N-CA | 121.70 | 111.99 | 1 |
| N-CA-N-CA-C | 111.00 | 126.10 | 1 |
| N-CA-CB | 110.50 | 101.33 | 1 |
| N-CA-N-CA-C-CA-CB | 110.10 | 120.35 | 1 |
| CA-C-O | 120.80 | 129.97 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------|--------------------|-----------------|--------------------|
| N-CA-C-CA-N-CA-C-N-CA | 121.70 | 112.00 | 1 |
| C-CA-CA-C-N | 116.20 | 105.42 | 1 |
| CA-CB-C-CA-CB | 111.60 | 122.38 | 1 |
| CA-C-N | 116.20 | 126.98 | 1 |
| C-CA-CB | 110.10 | 99.86 | 1 |
| N-CA-N-CA-CB | 110.50 | 101.34 | 1 |
| CA-C-C-CA-CB | 110.10 | 120.34 | 1 |
| N-CA-CB | 110.50 | 119.66 | 1 |
| C-CA-CB | 110.10 | 120.33 | 2 |
| C-CA-C-CA-CB | 110.10 | 120.33 | 1 |
| N-CA-C | 111.00 | 126.08 | 1 |
| C-CA-C-N-CA | 121.70 | 112.01 | 1 |
| N-CA-C | 111.00 | 126.07 | 1 |
| C-CA-CB | 110.10 | 120.32 | 1 |
| CA-C-O | 120.80 | 111.65 | 1 |
| N-CA-C-CA-C-CA-CB | 109.10 | 120.93 | 1 |
| C-N-CA | 121.70 | 131.38 | 1 |
| CA-CB-C-CA-CB | 110.10 | 99.88 | 1 |
| CA-C-O | 120.80 | 111.66 | 2 |
| C-N-CA | 121.70 | 112.02 | 1 |
| C-CA-CB | 110.10 | 99.89 | 1 |
| C-N-CA | 121.70 | 131.37 | 3 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------------|--------------------|-----------------|--------------------|
| N-CA-CB | 110.50 | 119.64 | 1 |
| C-CA-N-CA-CA-CB-CG | 112.60 | 107.23 | 1 |
| CA-C-O | 120.80 | 111.67 | 1 |
| C-CA-CB | 110.10 | 120.31 | 1 |
| N-CA-C-CA-CB | 110.10 | 120.30 | 1 |
| C-CA-CB | 110.10 | 99.90 | 1 |
| C-N-CA-CB-CA-C-N | 116.20 | 126.94 | 1 |
| CA-CB-CA-CB-C-CA-CB | 110.50 | 102.45 | 1 |
| CA-C-N-CA-N-CA-C-CA-CB | 110.10 | 99.90 | 1 |
| N-CA-N-CA-C | 111.00 | 95.97 | 1 |
| N-CA-CB | 110.50 | 119.62 | 1 |
| N-CA-CA-CB-CG | 112.60 | 107.23 | 1 |
| CA-N-CD | 112.00 | 104.49 | 1 |
| C-CA-CB | 110.50 | 102.45 | 1 |
| C-N-CA | 121.70 | 131.36 | 1 |
| N-CA-CB | 110.50 | 101.38 | 1 |
| C-CA-CB | 110.10 | 99.91 | 1 |
| CA-C-N-CA-CB | 110.50 | 119.61 | 1 |
| CA-CB-CG | 113.80 | 108.44 | 1 |
| C-N-CA | 121.70 | 112.05 | 1 |
| C-CA-C-CA-CB | 110.10 | 120.28 | 1 |
| N-CA-N-CA-CB | 110.50 | 119.61 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------|--------------------|-----------------|--------------------|
| CA-CB-C-N-CA | 121.70 | 131.34 | 1 |
| C-CA-CB | 109.10 | 120.89 | 1 |
| C-N-CA | 121.70 | 131.34 | 1 |
| C-N-CA | 121.70 | 112.06 | 1 |
| N-CA-N-CA-N-CA-CB | 110.50 | 119.60 | 1 |
| C-N-N-CA-CB | 110.50 | 119.60 | 1 |
| N-CA-CB | 110.50 | 101.40 | 2 |
| C-CA-CB | 110.10 | 120.27 | 1 |
| C-N-CA | 121.70 | 112.07 | 1 |
| N-CA-CB | 111.50 | 120.60 | 1 |
| CA-C-N-CA-CB | 110.50 | 101.41 | 1 |
| CA-C-O | 120.80 | 111.71 | 1 |
| C-N-CA | 121.70 | 131.33 | 1 |
| CA-C-C-N-C-CA-CB | 109.10 | 120.86 | 1 |
| N-CA-CB | 110.50 | 101.41 | 2 |
| CA-CB-C-CA-CB | 110.10 | 120.26 | 1 |
| CA-C-CA-C-CA-C-N | 116.20 | 105.51 | 1 |
| CA-N-N-CA-CA-C-O | 120.80 | 111.72 | 1 |
| C-CA-CB | 111.60 | 122.28 | 1 |
| CA-C-O | 120.80 | 111.72 | 1 |
| N-CA-C | 111.00 | 125.96 | 1 |
| CA-N-CD | 112.00 | 104.52 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------------------|--------------------|-----------------|--------------------|
| N-CA-C-CA-CA-CB-CG | 113.80 | 108.46 | 1 |
| C-CA-CB | 110.10 | 120.25 | 2 |
| C-CA-N-CA-CB | 110.50 | 101.42 | 1 |
| CA-C-C-N-CA | 121.70 | 112.09 | 1 |
| N-CA-C-CA-CA-C-N | 116.90 | 124.91 | 1 |
| C-CA-CB | 110.10 | 99.96 | 1 |
| C-N-N-CA-CB | 110.50 | 101.43 | 1 |
| N-CA-N-CA-C | 111.00 | 125.95 | 1 |
| CA-CB-CG | 113.80 | 108.46 | 1 |
| N-CA-C | 111.00 | 96.06 | 1 |
| CA-C-N | 116.20 | 105.53 | 1 |
| C-N-C-CA-CA-CB-C-CA-CA-CB-CG | 113.80 | 108.47 | 1 |
| C-N-CA | 121.70 | 131.30 | 2 |
| N-CA-CB | 110.50 | 119.57 | 1 |
| C-CA-N-CA-CB | 111.50 | 102.43 | 1 |
| CA-C-C-CA-CA-C-O | 120.80 | 111.73 | 1 |
| N-CA-C | 111.00 | 125.93 | 1 |
| CA-C-C-CA-CB | 110.10 | 120.23 | 1 |
| N-CA-CB | 110.50 | 101.44 | 1 |
| CA-CB-C-CA-CB | 110.10 | 99.97 | 1 |
| N-CA-CB | 110.50 | 119.56 | 1 |
| C-N-CD | 125.00 | 103.15 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------|--------------------|-----------------|--------------------|
| C-N-C-N-CD | 125.00 | 103.16 | 1 |
| C-N-CA | 121.70 | 131.29 | 1 |
| C-CA-C-CA-N-CA-C | 111.00 | 96.09 | 1 |
| CA-C-N | 116.20 | 105.55 | 1 |
| C-CA-N-CA-CB | 110.50 | 101.45 | 1 |
| C-N-C-CA-N-CA-C | 111.00 | 96.09 | 1 |
| N-CA-N-CA-CB | 110.50 | 119.55 | 1 |
| C-CA-CB | 109.10 | 97.39 | 1 |
| N-CD-CG | 103.20 | 95.21 | 1 |
| CA-C-CA-C-N-CA-CB | 110.50 | 119.55 | 1 |
| C-N-CD | 125.00 | 103.18 | 1 |
| C-CA-CB | 111.60 | 122.24 | 1 |
| CA-C-O | 120.80 | 111.75 | 1 |
| N-CA-C-N-CA | 121.70 | 131.28 | 1 |
| CA-C-C-CA-N-CA-CB | 110.40 | 102.42 | 1 |
| N-CA-CB | 110.50 | 119.54 | 2 |
| CA-CB-CG | 113.80 | 108.48 | 1 |
| CA-C-O | 120.80 | 111.76 | 2 |
| C-N-CD | 125.00 | 103.19 | 1 |
| C-CA-CB | 110.10 | 120.21 | 1 |
| C-CA-CB | 110.10 | 100.00 | 1 |
| CA-C-N | 116.90 | 124.88 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|----------------------------|--------------------|-----------------|--------------------|
| CA-C-N-CD-CG | 103.20 | 95.23 | 1 |
| CA-C-C-CA-CB | 110.10 | 100.00 | 1 |
| N-CA-CB | 111.50 | 102.47 | 1 |
| N-CA-C-CA-CA-C-C-N-C-CA-CB | 110.10 | 100.01 | 1 |
| N-CA-CB | 110.50 | 119.53 | 1 |
| C-CA-C-CA-CB | 110.10 | 120.19 | 1 |
| N-CD-CG | 103.20 | 95.24 | 1 |
| CA-CB-CG | 113.80 | 108.49 | 1 |
| C-N-CA | 121.70 | 131.26 | 1 |
| N-CA-N-CA-N-CA-CB | 110.50 | 119.52 | 1 |
| C-CA-CB | 110.10 | 100.02 | 1 |
| C-CA-C-CA-CB | 111.60 | 122.21 | 1 |
| C-CA-C-N-C-CA-CB | 111.40 | 101.32 | 1 |
| C-N-CA-C-C-N-CA | 121.70 | 112.16 | 1 |
| CA-CB-CG | 113.80 | 108.50 | 1 |
| C-CA-CB | 110.10 | 120.17 | 2 |
| C-N-CA | 121.70 | 112.16 | 2 |
| C-CA-CA-CB-CG | 112.60 | 107.30 | 1 |
| C-N-C-N-CA | 121.70 | 112.16 | 1 |
| C-CA-N-CA-N-CA-C | 111.00 | 96.16 | 1 |
| C-N-CA | 121.70 | 131.24 | 1 |
| N-CA-C-CA-C-N-C-N-C-N-CA | 121.70 | 131.23 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|----------------------------|--------------------|-----------------|--------------------|
| N-CA-C | 111.00 | 125.83 | 1 |
| CA-C-C-N-C-CA-C-CA-N-CA-C | 111.00 | 96.18 | 1 |
| C-CA-CA-CB-C-N-C-CA-C-N-CA | 121.70 | 112.17 | 1 |
| N-CA-CA-CB-CG | 113.80 | 108.51 | 1 |
| C-CA-CB | 111.40 | 101.35 | 1 |
| CA-C-N | 116.20 | 126.78 | 1 |
| N-CA-CA-C-CA-C-N | 116.20 | 105.62 | 1 |
| C-N-C-N-CA | 121.70 | 131.22 | 1 |
| N-CA-C | 111.00 | 125.81 | 1 |
| CA-C-C-N-CA-C-N-CA-CB | 110.50 | 119.49 | 1 |
| N-CA-CB | 110.50 | 101.51 | 1 |
| C-N-CA | 121.70 | 131.21 | 2 |
| C-N-CA-CB-CG | 113.80 | 108.52 | 1 |
| N-CA-CB | 103.00 | 108.81 | 1 |
| C-CA-CB | 110.10 | 100.06 | 1 |
| CA-C-C-CA-N-CD-CG | 103.20 | 95.28 | 1 |
| N-CA-CB | 110.50 | 119.48 | 2 |
| CA-C-N | 116.20 | 105.64 | 1 |
| N-CA-CB | 110.50 | 101.52 | 1 |
| CA-CB-CG | 112.60 | 107.32 | 1 |
| N-CA-CA-CB-C-N-CA | 121.70 | 131.20 | 1 |
| C-CA-CB | 110.10 | 100.07 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------|--------------------|-----------------|--------------------|
| N-CA-N-CA-CB | 110.40 | 102.48 | 1 |
| N-CA-CB | 103.00 | 108.80 | 1 |
| C-CA-CB | 110.10 | 120.12 | 2 |
| CA-C-C-N-CA | 121.70 | 131.19 | 1 |
| C-N-CA | 121.70 | 112.21 | 1 |
| C-N-CA | 121.70 | 131.19 | 1 |
| C-CA-C-CA-CB | 110.10 | 120.12 | 1 |
| N-CA-CB | 110.50 | 119.46 | 1 |
| C-CA-C-CA-CA-C-N | 116.20 | 105.66 | 1 |
| C-CA-CB | 111.40 | 121.41 | 1 |
| C-N-C-CA-CB | 111.40 | 101.39 | 1 |
| C-CA-CB | 111.60 | 101.06 | 1 |
| N-CA-C | 111.00 | 125.75 | 1 |
| C-CA-CB | 110.10 | 120.11 | 1 |
| C-N-CA | 121.70 | 112.22 | 1 |
| C-CA-N-CA-CB | 103.00 | 108.79 | 1 |
| C-CA-CB | 111.40 | 101.40 | 1 |
| C-CA-C-N-CA-C-N | 116.20 | 126.72 | 1 |
| N-CA-C | 111.00 | 125.73 | 1 |
| CA-C-C-N-CA | 121.70 | 112.23 | 1 |
| C-CA-C-N-CA | 121.70 | 112.23 | 1 |
| N-CD-CG | 103.20 | 95.31 | 2 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------|--------------------|-----------------|--------------------|
| CA-C-O | 120.80 | 111.86 | 1 |
| C-N-CA | 121.70 | 131.17 | 2 |
| C-N-CA | 121.70 | 112.23 | 1 |
| C-CA-CB | 109.10 | 97.53 | 2 |
| C-CA-CB | 110.10 | 100.11 | 1 |
| C-CA-CB | 110.10 | 120.09 | 1 |
| N-CA-CB | 110.50 | 119.44 | 1 |
| C-CA-C-N-C-CA-CB | 109.10 | 97.53 | 1 |
| C-CA-C-N-C-CA-CB | 111.40 | 121.39 | 1 |
| C-CA-C-CA-CB | 110.10 | 100.12 | 1 |
| C-CA-CB | 110.10 | 100.12 | 2 |
| N-CA-C | 111.00 | 96.29 | 1 |
| C-N-CA | 121.70 | 112.24 | 1 |
| N-CA-CA-CB-CG | 112.60 | 107.35 | 1 |
| C-N-C-CA-C-CA-CB | 110.10 | 120.08 | 1 |
| C-CA-CB | 110.10 | 120.07 | 2 |
| C-N-CA | 121.70 | 131.15 | 1 |
| C-CA-C-N-CA-C-N | 116.20 | 126.70 | 1 |
| C-CA-C-CA-CB | 110.10 | 120.07 | 2 |
| C-CA-CB | 111.60 | 101.11 | 2 |
| C-CA-CB | 110.10 | 120.06 | 1 |
| C-CA-C-N-CA | 121.70 | 112.26 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------|--------------------|-----------------|--------------------|
| C-CA-C-CA-CB | 110.10 | 120.06 | 1 |
| CA-C-C-CA-C-N-CA | 121.70 | 131.14 | 1 |
| CA-C-O | 120.80 | 111.89 | 1 |
| N-CA-CB | 110.50 | 119.41 | 1 |
| C-CA-CB | 110.10 | 100.15 | 1 |
| C-N-C-N-CA | 121.70 | 112.27 | 1 |
| C-CA-CA-C-O | 120.80 | 111.90 | 1 |
| N-CA-CB | 110.50 | 119.40 | 1 |
| C-N-N-CA-CB | 103.00 | 108.76 | 1 |
| CA-C-CA-C-O | 120.80 | 111.90 | 1 |
| C-N-CA-CB-CG | 112.60 | 107.37 | 1 |
| C-CA-CB | 110.10 | 120.04 | 1 |
| NE-CZ-NH1 | 121.50 | 116.27 | 1 |
| N-CA-C | 111.00 | 96.35 | 1 |
| N-CA-C-CA-CB | 110.10 | 120.04 | 1 |
| CA-C-C-CA-CB | 110.10 | 120.04 | 1 |
| C-CA-CB | 111.60 | 101.14 | 1 |
| N-CA-C-CA-CB | 110.10 | 120.03 | 1 |
| C-N-CA | 121.70 | 131.11 | 1 |
| CA-CB-CG | 112.60 | 107.37 | 2 |
| C-N-CA | 121.70 | 112.29 | 2 |
| CA-C-N | 116.20 | 105.74 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------|--------------------|-----------------|--------------------|
| N-CA-C | 111.00 | 96.36 | 1 |
| C-CA-C-CA-C-N-CA | 121.70 | 131.11 | 1 |
| C-CA-CB | 110.10 | 100.17 | 2 |
| C-CA-C-CA-CB | 110.10 | 100.17 | 1 |
| N-CA-C | 111.00 | 96.37 | 1 |
| CA-C-O | 120.80 | 111.92 | 1 |
| C-N-CA | 121.70 | 112.30 | 2 |
| C-CA-CA-C-C-CA-CB | 110.10 | 100.18 | 1 |
| C-CA-N-CA-C-CA-CB | 110.10 | 100.18 | 1 |
| C-N-CA | 121.70 | 131.10 | 1 |
| C-CA-CB | 110.10 | 120.02 | 1 |
| C-CA-CB | 110.10 | 100.18 | 1 |
| N-CA-C-CA-CB | 110.10 | 120.02 | 1 |
| C-CA-CB | 111.40 | 121.32 | 1 |
| C-N-CA | 121.70 | 112.31 | 1 |
| N-CA-N-CA-C | 111.00 | 125.61 | 1 |
| C-N-CA-C-N-CA-C-CA-CB | 110.10 | 120.01 | 1 |
| CA-C-C-N-C-N-CA | 121.70 | 131.09 | 1 |
| CA-C-N | 116.20 | 105.77 | 1 |
| C-CA-C-CA-C-CA-N-CA-C | 111.00 | 96.40 | 1 |
| N-CA-C | 111.00 | 96.41 | 1 |
| C-N-CA | 121.70 | 112.32 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------|--------------------|-----------------|--------------------|
| C-CA-CB | 110.10 | 120.00 | 1 |
| CA-CB-CG | 112.60 | 107.39 | 1 |
| N-CA-CB | 111.50 | 102.64 | 1 |
| CA-C-C-N-C-N-CA | 121.70 | 131.08 | 1 |
| CA-CB-C-N-CA | 121.70 | 131.08 | 1 |
| C-CA-C-CA-CB | 110.50 | 118.31 | 1 |
| CA-C-O | 120.80 | 111.95 | 1 |
| C-CA-CB | 110.10 | 119.99 | 1 |
| N-CA-C-N-CA | 121.70 | 131.07 | 1 |
| C-N-CA | 121.70 | 131.07 | 2 |
| C-N-N-CA-CB | 110.50 | 101.65 | 1 |
| C-CA-CB | 111.60 | 101.19 | 1 |
| C-N-C-CA-CB | 110.50 | 118.31 | 1 |
| C-CA-CB | 109.10 | 120.55 | 1 |
| C-CA-CB | 110.10 | 119.98 | 1 |
| CA-C-O | 120.80 | 129.64 | 1 |
| N-CA-C | 111.00 | 125.57 | 1 |
| N-CA-C | 111.00 | 96.43 | 1 |
| N-CA-C | 111.00 | 96.44 | 1 |
| N-CA-C | 111.00 | 125.56 | 1 |
| C-N-CA | 121.70 | 112.34 | 2 |
| N-CA-N-CA-CB | 110.50 | 101.66 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|----------------------|--------------------|-----------------|--------------------|
| C-N-CA | 121.70 | 131.06 | 3 |
| N-CA-C-CA-C-N-C-N-CA | 121.70 | 112.34 | 1 |
| C-CA-CB | 111.60 | 101.21 | 1 |
| C-N-CA-C-N | 116.20 | 105.81 | 1 |
| CA-C-O | 120.80 | 111.97 | 1 |
| C-CA-C-N-CA | 121.70 | 112.35 | 1 |
| CA-CB-CG | 112.60 | 107.40 | 1 |
| C-N-C-CA-CB | 110.10 | 119.97 | 1 |
| C-CA-CB | 110.10 | 119.97 | 1 |
| C-CA-C-N-C-N-CA | 121.70 | 131.05 | 1 |
| C-CA-CB | 110.10 | 100.23 | 1 |
| C-N-CA | 121.70 | 112.35 | 1 |
| CA-C-N | 116.20 | 105.81 | 1 |
| N-CA-C | 111.00 | 125.54 | 1 |
| CA-C-N-CA-CB | 110.50 | 101.67 | 1 |
| C-CA-C-CA-CA-C-O | 120.80 | 129.62 | 1 |
| CA-C-O | 120.80 | 129.62 | 1 |
| N-CA-CB | 110.50 | 101.68 | 2 |
| CA-C-N | 116.20 | 126.58 | 1 |
| CA-C-C-CA-C-CA-CB | 110.10 | 119.96 | 1 |
| CA-C-C-N-CA | 121.70 | 112.36 | 1 |
| C-CA-CB | 111.40 | 121.26 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------------|--------------------|-----------------|--------------------|
| NE-CZ-CA-C-C-CA-CA-C-O | 120.80 | 111.98 | 1 |
| CA-C-N | 116.90 | 109.12 | 1 |
| CA-C-N | 116.20 | 105.83 | 1 |
| C-CA-CB | 110.10 | 119.95 | 1 |
| C-CA-CB | 110.10 | 100.25 | 1 |
| C-CA-CB | 109.10 | 120.50 | 1 |
| C-N-CA | 121.70 | 112.37 | 2 |
| N-CA-CB | 110.50 | 101.69 | 1 |
| C-N-CA | 121.70 | 131.03 | 1 |
| CA-C-CA-C-N | 116.20 | 126.56 | 1 |
| C-CA-CA-C-C-N-CA | 121.70 | 112.37 | 1 |
| C-CA-CB | 110.10 | 119.94 | 4 |
| C-N-C-CA-CB | 110.10 | 119.94 | 1 |
| C-N-CA | 121.70 | 131.02 | 1 |
| C-CA-N-CA-CB | 110.50 | 119.30 | 1 |
| CA-C-N | 116.20 | 126.55 | 1 |
| C-CA-CB | 110.10 | 100.26 | 1 |
| C-CA-CB | 110.10 | 119.93 | 1 |
| C-N-C-CA-CB | 110.10 | 100.27 | 1 |
| C-N-N-CA-CB | 110.50 | 101.71 | 1 |
| N-CA-C | 111.00 | 125.49 | 1 |
| C-CA-N-CA-CB | 103.00 | 108.69 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|----------------------------------|--------------------|-----------------|--------------------|
| C-CA-CA-C-N | 116.90 | 109.14 | 1 |
| C-CA-CA-N-CD | 112.00 | 104.76 | 1 |
| C-CA-C-CA-C-N-CA | 121.70 | 112.40 | 1 |
| CA-C-C-N-C-CA-CB | 110.10 | 100.28 | 1 |
| C-N-CA | 121.70 | 112.40 | 1 |
| N-CA-CB | 110.50 | 101.72 | 1 |
| CA-C-O | 120.80 | 112.02 | 1 |
| C-CA-CA-C-C-N-CA | 121.70 | 131.00 | 1 |
| C-CA-C-N-C-N-CA | 121.70 | 130.99 | 1 |
| CA-C-N-CA-C-CA-C-CA-C-CA-N-CA-CB | 110.50 | 101.73 | 1 |
| C-CA-N-CA-C | 111.00 | 96.55 | 1 |
| CA-C-N | 116.20 | 105.88 | 1 |
| CA-C-C-CA-CB | 110.10 | 119.90 | 1 |
| CA-C-O | 120.80 | 112.03 | 1 |
| CA-CB-CG | 112.60 | 107.44 | 1 |
| CA-C-C-CA-CA-CB-C-CA-CB | 110.10 | 119.89 | 1 |
| NE-CZ-CA-N-CA-CB-CG | 112.60 | 107.45 | 1 |
| C-N-CA | 121.70 | 130.97 | 1 |
| C-N-N-CA-CB | 110.50 | 119.26 | 1 |
| CA-CB-N-CA-CB | 111.50 | 120.26 | 1 |
| C-CA-N-CA-CA-CB-CG | 112.60 | 107.45 | 1 |
| NE-CZ-NH1 | 121.50 | 126.65 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------------|--------------------|-----------------|--------------------|
| CA-CB-CG | 113.80 | 108.65 | 1 |
| C-N-C-N-N-CA-C | 111.00 | 125.41 | 1 |
| N-CA-C-CA-CB | 110.10 | 119.88 | 1 |
| C-N-CA | 121.70 | 112.44 | 2 |
| CA-CB-CG | 112.60 | 107.46 | 1 |
| C-N-CA | 121.70 | 130.96 | 2 |
| N-CA-CB | 110.50 | 101.76 | 1 |
| C-N-CA-CB-CA-CB-CG | 112.60 | 107.46 | 1 |
| CA-C-O | 120.80 | 129.54 | 1 |
| C-CA-CB | 110.10 | 100.33 | 1 |
| C-CA-CA-C-C-CA-N-CA-CB | 110.50 | 119.24 | 1 |
| C-N-CA-C-C-CA-CB | 110.10 | 100.34 | 1 |
| N-CA-CA-C-O | 120.80 | 112.07 | 1 |
| CA-C-C-CA-CB | 110.10 | 119.86 | 1 |
| CA-C-O | 120.80 | 112.07 | 1 |
| N-CA-CB | 110.40 | 102.70 | 1 |
| N-CA-CB | 111.50 | 120.23 | 1 |
| N-CA-CB | 110.50 | 101.77 | 1 |
| C-CA-CA-C-N-CA-CB | 111.50 | 120.23 | 1 |
| C-CA-C-CA-CB | 110.10 | 119.85 | 1 |
| C-N-CA | 121.70 | 112.46 | 1 |
| N-CA-CB | 103.00 | 97.35 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------------|--------------------|-----------------|--------------------|
| N-CA-CB | 110.50 | 119.23 | 1 |
| CA-C-N | 116.90 | 109.20 | 1 |
| N-CA-N-CA-C | 111.00 | 96.63 | 1 |
| N-CA-CB | 110.50 | 101.78 | 1 |
| N-CA-CB | 111.50 | 120.22 | 1 |
| N-CA-N-CA-CB | 111.50 | 102.78 | 1 |
| C-N-CA | 121.70 | 130.93 | 2 |
| C-CA-CA-C-CA-C-N | 116.20 | 105.94 | 1 |
| CA-C-C-CA-N-CA-CB | 103.00 | 97.36 | 1 |
| CA-CB-CG | 112.60 | 107.47 | 1 |
| CA-C-CA-C-N-CA-CB | 110.40 | 102.71 | 1 |
| N-CA-CB | 110.50 | 101.79 | 2 |
| C-CA-CB | 110.10 | 119.84 | 1 |
| N-CA-CB | 111.50 | 102.79 | 1 |
| CA-C-N-CA-CB | 110.50 | 119.21 | 1 |
| CA-C-CA-C-N-CA-CB | 103.00 | 108.63 | 1 |
| C-CA-CA-C-O | 120.80 | 112.09 | 1 |
| C-N-C-CA-C-CA-CA-C-CA-CB-CG | 112.60 | 107.48 | 1 |
| C-N-CA | 121.70 | 112.49 | 1 |
| C-CA-N-CA-C | 111.00 | 96.67 | 1 |
| N-CA-CB | 111.50 | 102.80 | 1 |
| C-CA-CB | 110.10 | 100.38 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---|--------------------|-----------------|--------------------|
| C-CA-CB | 110.10 | 119.82 | 1 |
| N-CA-C | 111.00 | 96.67 | 1 |
| C-CA-C-CA-CA-N-CD | 112.00 | 104.84 | 1 |
| CA-C-CA-C-C-CA-CB | 110.10 | 119.82 | 1 |
| N-CA-CB | 110.50 | 119.19 | 1 |
| N-CA-CB-CG-C-CA-CB | 110.10 | 119.82 | 1 |
| CA-C-O | 120.80 | 112.11 | 1 |
| N-CA-CA-C-C-CA-C-N-CA-C-N | 116.20 | 126.42 | 1 |
| C-CA-CA-C-O | 120.80 | 129.49 | 1 |
| C-CA-CB | 110.10 | 119.81 | 2 |
| N-CA-CB | 111.50 | 102.81 | 1 |
| N-CA-C | 111.00 | 96.69 | 1 |
| C-N-CA | 121.70 | 130.89 | 2 |
| CA-C-O | 120.80 | 129.48 | 1 |
| C-N-CA | 121.70 | 112.51 | 1 |
| C-CA-CB | 110.10 | 119.80 | 2 |
| CA-C-CA-C-CA-CB-CG | 113.80 | 108.69 | 1 |
| N-CA-CB | 103.00 | 108.61 | 1 |
| N-CA-CB | 111.50 | 102.82 | 1 |
| CA-C-N-CA-CA-C-CA-C-CA-CB-N-CA-N-CA-C-CA-CB | 110.10 | 119.79 | 1 |
| CA-C-O | 120.80 | 129.47 | 2 |
| N-CA-CB | 110.50 | 101.83 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---|--------------------|-----------------|--------------------|
| CA-C-O | 120.80 | 112.13 | 1 |
| CA-C-N | 116.20 | 126.40 | 1 |
| C-N-C-CA-CB | 110.10 | 100.42 | 1 |
| C-CA-CA-C-N-CA-CB | 103.00 | 108.61 | 1 |
| CA-C-O | 120.80 | 112.14 | 1 |
| C-CA-C-N-CA | 121.70 | 112.53 | 1 |
| CA-N-CA-C-C-CA-N-CA-CB | 110.50 | 119.16 | 1 |
| N-CA-N-CA-CA-CB-CA-C-N | 116.20 | 106.01 | 1 |
| C-CA-CB | 110.10 | 119.78 | 1 |
| C-CA-CA-C-C-N-C-CA-C-N-C-N-C-CA-C-CA-CB | 110.10 | 100.43 | 1 |
| CA-CB-CG | 113.80 | 108.71 | 1 |
| CA-C-N | 116.90 | 109.27 | 1 |
| C-CA-CB | 110.10 | 119.77 | 1 |
| C-N-CA | 121.70 | 130.86 | 1 |
| NE-CZ-NH1 | 121.50 | 126.59 | 1 |
| N-CA-CB | 111.50 | 102.85 | 1 |
| CA-CB-NE-CZ-NH1 | 121.50 | 116.41 | 1 |
| N-CA-N-CA-CB | 110.50 | 119.15 | 1 |
| C-CA-CB | 110.10 | 119.76 | 2 |
| CA-C-N | 116.20 | 126.37 | 1 |
| N-CA-CB | 103.00 | 97.41 | 1 |
| CA-CB-CA-C-C-CA-C-CA-CB | 111.60 | 101.43 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------------|--------------------|-----------------|--------------------|
| C-N-CA | 121.70 | 112.55 | 1 |
| C-N-CA | 121.70 | 130.85 | 2 |
| N-CA-CB | 110.50 | 119.14 | 2 |
| CA-C-N-CA-CB | 110.50 | 101.86 | 1 |
| C-CA-N-CA-CB | 111.50 | 102.86 | 1 |
| C-CA-CB | 110.10 | 119.75 | 1 |
| C-CA-C-CA-C-CA-CA-C-O | 120.80 | 129.44 | 1 |
| CA-C-N | 116.20 | 106.04 | 1 |
| N-CA-CA-C-N-CA-C-CA-CB | 111.60 | 101.45 | 1 |
| C-CA-CB | 110.10 | 100.46 | 1 |
| CA-C-N | 116.90 | 109.29 | 1 |
| N-CA-N-CA-CB | 110.50 | 101.87 | 1 |
| C-CA-N-CA-CA-C-O | 120.80 | 129.43 | 1 |
| CB-CG-C-CA-C-N-C-CA-C-CA-CB | 110.10 | 119.74 | 1 |
| NE-CZ-C-CA-CB | 110.10 | 100.46 | 1 |
| C-CA-CB | 110.10 | 119.74 | 1 |
| C-CA-CB | 111.60 | 101.45 | 1 |
| CA-C-OE1-CD-OE2 | 122.90 | 135.08 | 1 |
| N-CA-CA-CB-CG | 113.80 | 108.73 | 1 |
| CA-C-O | 120.80 | 129.42 | 1 |
| CA-C-C-N-CA | 121.70 | 112.57 | 1 |
| CA-C-CA-C-N | 116.20 | 106.06 | 2 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---------------------------------------|--------------------|-----------------|--------------------|
| C-CA-CA-C-N | 116.20 | 126.34 | 1 |
| NE-CZ-CA-C-O | 120.80 | 129.42 | 1 |
| C-CA-CA-C-N-CA-CB | 111.50 | 102.88 | 1 |
| C-N-C-CA-CB | 110.10 | 100.47 | 1 |
| CA-C-N-CA-CB | 110.50 | 101.89 | 1 |
| N-CA-C | 111.00 | 125.19 | 1 |
| CA-C-C-CA-N-CA-CB | 110.50 | 119.11 | 1 |
| C-N-CA | 121.70 | 112.58 | 1 |
| C-CA-CB | 110.10 | 119.73 | 1 |
| CA-C-N-CA-CA-C-O | 120.80 | 129.41 | 1 |
| N-CA-C | 111.00 | 96.82 | 1 |
| C-CA-CB | 110.10 | 119.72 | 1 |
| N-CA-CB | 111.50 | 102.89 | 1 |
| N-CA-C-CA-CB | 110.10 | 119.72 | 1 |
| CA-C-N | 116.20 | 106.07 | 1 |
| N-CA-CB | 103.00 | 97.43 | 1 |
| CA-C-N-CA-C-N-CA-C-CA-C-N-CA-CA-CB-CG | 113.80 | 108.74 | 1 |
| N-CA-C | 111.00 | 125.17 | 1 |
| C-CA-C-CA-N-CA-N-CA-C-CA-C-CA-CB | 110.10 | 100.48 | 1 |
| CA-C-CA-N-CA-C-O | 120.80 | 129.40 | 1 |
| C-CA-CB | 110.10 | 119.71 | 1 |
| CA-C-N | 116.20 | 126.32 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|----------------------|--------------------|-----------------|--------------------|
| C-N-CA | 121.70 | 130.81 | 1 |
| N-CA-C-N-CA | 121.70 | 130.80 | 2 |
| CA-C-C-N-CA | 121.70 | 112.60 | 1 |
| C-N-CA | 121.70 | 130.80 | 2 |
| N-CA-CB | 110.50 | 101.90 | 2 |
| N-CA-N-CA-CB | 110.50 | 101.90 | 1 |
| N-CA-CB | 111.50 | 102.91 | 1 |
| CA-C-O | 120.80 | 112.21 | 4 |
| N-CA-N-CA-C-CA-CB | 109.10 | 120.22 | 1 |
| N-CA-CA-C-CA-C-O | 120.80 | 129.39 | 1 |
| CA-C-N | 116.90 | 109.32 | 3 |
| C-CA-CB | 110.10 | 119.70 | 1 |
| N-CA-C-CA-CB | 110.10 | 119.70 | 1 |
| C-CA-C-CA-C-N-CA | 121.70 | 130.79 | 1 |
| C-CA-CB | 110.10 | 100.50 | 1 |
| N-CA-C | 111.00 | 96.86 | 1 |
| C-CA-CB | 109.10 | 120.21 | 1 |
| C-CA-CB | 111.40 | 101.81 | 1 |
| CA-C-C-CA-CB | 110.10 | 119.69 | 1 |
| C-N-CA-C-N | 116.90 | 109.33 | 1 |
| N-CA-N-CA-CB | 111.50 | 120.08 | 1 |
| C-N-N-CA-CA-C-CA-C-O | 120.80 | 129.38 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------------|--------------------|-----------------|--------------------|
| C-CA-C-CA-C-CA-CA-CB-CG | 112.60 | 107.55 | 1 |
| N-CA-CB | 110.50 | 119.08 | 1 |
| CA-C-N | 116.20 | 126.29 | 1 |
| C-N-C-CA-CB | 110.10 | 119.68 | 1 |
| CA-C-O | 120.80 | 129.37 | 1 |
| N-CA-CB | 110.50 | 101.93 | 2 |
| CA-C-CA-C-N-CA-C-CA-C-CA-CB | 110.10 | 119.68 | 1 |
| C-CA-CA-C-N | 116.20 | 106.12 | 1 |
| CA-C-N | 116.20 | 126.28 | 1 |
| N-CA-C-N-OE1-CD-NE2 | 122.60 | 127.64 | 1 |
| OE1-CD-NE2 | 122.60 | 127.64 | 1 |
| C-N-CA | 121.70 | 130.77 | 1 |
| C-CA-CB | 110.10 | 119.67 | 2 |
| C-CA-N-CA-C-CA-C-CA-CA-C-O | 120.80 | 129.36 | 1 |
| N-CA-CB | 110.50 | 119.06 | 1 |
| C-N-C-N-CA | 121.70 | 130.76 | 1 |
| C-CA-CB | 110.10 | 100.53 | 1 |
| N-CA-CB | 111.50 | 120.06 | 1 |
| C-CA-CB | 110.10 | 100.54 | 2 |
| C-CA-CB | 110.10 | 119.66 | 3 |
| N-CA-CB | 111.50 | 102.95 | 1 |
| C-N-C-N-CA | 121.70 | 112.64 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------|--------------------|-----------------|--------------------|
| N-CA-CA-C-N | 116.20 | 126.26 | 1 |
| C-CA-CB | 110.50 | 102.95 | 1 |
| CA-CB-CG | 112.60 | 107.57 | 1 |
| CA-C-N | 116.20 | 126.26 | 1 |
| N-CA-C-CA-CB | 110.10 | 100.54 | 1 |
| N-CA-C | 111.00 | 96.92 | 1 |
| N-CA-OE1-CD-OE2 | 122.90 | 134.97 | 1 |
| CA-C-O | 120.80 | 112.25 | 1 |
| C-N-C-CA-CB | 110.10 | 100.55 | 1 |
| C-CA-CB | 111.60 | 101.54 | 1 |
| N-CA-CB | 110.50 | 101.95 | 1 |
| CA-C-O | 120.80 | 129.35 | 3 |
| C-CA-CB | 110.10 | 119.65 | 1 |
| C-CA-CB | 111.60 | 101.55 | 2 |
| CA-C-O | 120.80 | 129.34 | 2 |
| C-CA-N-CA-CA-C-O | 120.80 | 112.26 | 1 |
| N-CA-CB-CG-N-CA-C | 111.00 | 125.07 | 1 |
| C-CA-CB | 110.50 | 102.96 | 1 |
| N-CA-C | 111.00 | 125.07 | 1 |
| N-CA-CB | 111.50 | 102.96 | 1 |
| N-CA-N-CA-CB | 110.50 | 119.04 | 1 |
| C-CA-CB | 109.10 | 120.15 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--------------------|--------------------|-----------------|--------------------|
| C-CA-CA-C-CA-CB-CG | 112.60 | 107.58 | 1 |
| C-N-CA | 121.70 | 112.66 | 1 |
| N-CA-C-N-N-CA-C | 111.00 | 125.06 | 1 |
| N-CA-CA-CB-CG | 112.60 | 107.58 | 1 |
| CA-C-N | 116.20 | 126.24 | 1 |
| C-CA-CB | 110.10 | 100.56 | 1 |
| N-CA-CB | 110.50 | 101.97 | 2 |
| C-N-CA | 121.70 | 130.73 | 2 |
| N-CA-N-CA-CB | 110.50 | 101.97 | 1 |
| C-N-CA | 121.70 | 112.67 | 1 |
| C-CA-CB | 110.10 | 100.57 | 1 |
| N-CA-N-CA-CA-C-N | 116.90 | 109.38 | 1 |
| N-CA-CA-C-C-CA-CB | 109.10 | 98.07 | 1 |
| CA-C-N | 116.20 | 106.17 | 1 |
| C-N-CA-C-N | 116.20 | 106.17 | 1 |
| N-CA-CB | 110.50 | 101.98 | 1 |
| C-CA-CB | 111.60 | 101.58 | 1 |
| C-CA-CA-CB-CG | 112.60 | 107.59 | 1 |
| CA-C-N | 116.20 | 126.22 | 1 |
| CA-C-O | 120.80 | 129.32 | 1 |
| C-CA-CB | 110.10 | 119.62 | 2 |
| N-CA-CB | 110.50 | 119.02 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------------|--------------------|-----------------|--------------------|
| C-N-CA | 121.70 | 112.68 | 1 |
| C-CA-N-CA-N-CA-C-CA-CB | 111.60 | 101.58 | 1 |
| C-N-N-CA-CA-CB-CG | 112.60 | 107.59 | 1 |
| CB-CG-C-N-OE1-CD-OE2 | 122.90 | 134.92 | 1 |
| C-CA-C-CA-CA-C-N-CA-C-CA-CB | 109.10 | 120.12 | 1 |
| N-CA-CB-CG-OE1-CD-OE2 | 122.90 | 134.92 | 1 |
| C-CA-CB | 111.40 | 101.89 | 1 |
| C-CA-CB | 110.10 | 119.61 | 2 |
| C-N-C-N-CD | 125.00 | 104.48 | 1 |
| CA-CB-CG | 113.80 | 108.80 | 1 |
| C-N-N-CA-CB | 110.50 | 119.01 | 1 |
| CA-C-N | 116.20 | 106.19 | 1 |
| N-CA-C-CA-CA-N-CD | 112.00 | 105.00 | 1 |
| N-CA-C-CA-CB | 110.10 | 119.60 | 1 |
| C-CA-C-N-C-CA-CB | 110.10 | 119.60 | 1 |
| CA-C-CA-C-O | 120.80 | 129.30 | 1 |
| CA-C-O | 120.80 | 129.30 | 1 |
| N-CA-N-CA-C-N-CD | 125.00 | 104.52 | 1 |
| N-CA-CB | 110.50 | 102.01 | 1 |
| C-CA-CB | 110.10 | 119.59 | 2 |
| CB-CG-CA-C-C-CA-CA-N-CD | 112.00 | 105.01 | 1 |
| C-CA-CB | 110.50 | 103.01 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------|--------------------|-----------------|--------------------|
| CA-CB-C-N-CA | 121.70 | 112.71 | 1 |
| CA-C-O | 120.80 | 129.29 | 1 |
| C-CA-N-CA-CB | 111.50 | 119.99 | 1 |
| N-CA-CA-CB-CG | 113.80 | 108.81 | 1 |
| C-N-CD | 125.00 | 104.54 | 1 |
| C-CA-CA-C-CA-C-CA-C-N | 116.20 | 106.22 | 1 |
| N-CA-C-CA-CB | 110.10 | 119.58 | 1 |
| C-CA-CB | 110.10 | 100.62 | 1 |
| C-N-CA | 121.70 | 112.72 | 1 |
| CA-C-O | 120.80 | 129.28 | 1 |
| CA-C-CA-C-C-CA-CB | 110.10 | 119.57 | 1 |
| N-CA-CA-C-N | 116.20 | 126.17 | 1 |
| CA-CB-C-CA-CB | 110.10 | 100.63 | 1 |
| C-CA-CB | 110.10 | 119.57 | 1 |
| C-N-CA | 121.70 | 130.67 | 2 |
| C-N-CA | 121.70 | 112.73 | 1 |
| CA-C-O | 120.80 | 129.27 | 1 |
| CA-C-N | 116.20 | 106.23 | 1 |
| N-CA-C-N-N-CA-C | 111.00 | 124.95 | 1 |
| CA-C-C-CA-CB | 110.50 | 103.03 | 1 |
| N-CA-CB | 111.50 | 103.03 | 1 |
| C-CA-CB | 111.60 | 101.64 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------------------------|--------------------|-----------------|--------------------|
| CA-CB-CG | 112.60 | 107.62 | 1 |
| CA-C-N-CA-C-CA-N-CA-CB | 110.50 | 118.97 | 1 |
| C-N-N-CA-C-CA-CB | 111.60 | 101.64 | 1 |
| C-N-CA-C-CA-C-C-CA-CA-C-C-CA-CA-C-O | 120.80 | 129.26 | 1 |
| C-N-CD | 125.00 | 104.60 | 1 |
| N-CA-CB | 111.50 | 103.04 | 1 |
| N-CA-C | 111.00 | 97.07 | 1 |
| N-CA-CB | 111.50 | 119.95 | 1 |
| CA-C-N | 116.20 | 126.14 | 1 |
| C-CA-CB | 110.10 | 119.54 | 2 |
| C-N-CA | 121.70 | 112.75 | 1 |
| N-CA-C | 113.30 | 127.71 | 1 |
| C-CA-C-N-CA | 121.70 | 130.64 | 1 |
| N-CA-CB | 111.50 | 103.05 | 1 |
| CA-CB-CG2 | 110.50 | 118.94 | 1 |
| CB-CG-C-N-CA | 121.70 | 130.64 | 1 |
| CA-C-C-CA-CA-N-CD | 112.00 | 118.95 | 1 |
| N-CA-C | 111.00 | 97.10 | 1 |
| CA-CB-CG | 113.80 | 108.83 | 1 |
| N-CA-C-CA-CB | 109.10 | 120.02 | 1 |
| N-CA-C-CA-N-CA-CB | 111.50 | 119.94 | 1 |
| C-CA-CA-C-C-CA-C-N-CA | 121.70 | 130.63 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 110.10 | 119.53 | 3 |
| N-CA-C-N-CA | 121.70 | 112.77 | 2 |
| CA-C-N-CA-C-N-CA | 121.70 | 112.77 | 1 |
| N-CA-CB | 111.50 | 119.93 | 1 |
| C-CA-CA-CB-CG | 112.60 | 107.64 | 1 |
| CA-C-N | 116.20 | 106.28 | 1 |
| CA-C-O | 120.80 | 112.37 | 1 |
| CA-N-C-CA-CB | 110.10 | 119.52 | 1 |
| C-CA-CB | 109.10 | 98.19 | 1 |
| CA-CB-CG | 112.60 | 107.64 | 1 |
| N-CA-CB | 110.50 | 118.93 | 1 |
| C-CA-C-CA-CB | 111.60 | 121.51 | 1 |
| N-CA-CB | 110.50 | 102.07 | 1 |
| N-CA-CA-C-C-CA-CB | 110.10 | 119.51 | 1 |
| C-CA-CB | 110.10 | 119.51 | 2 |
| C-CA-N-CA-CB | 110.50 | 118.92 | 1 |
| C-N-CA-C-O | 120.80 | 129.22 | 1 |
| C-CA-N-CA-C | 113.30 | 127.66 | 1 |
| CA-C-O | 120.80 | 129.22 | 1 |
| C-CA-C-CA-CB | 109.10 | 98.21 | 1 |
| CA-C-O | 120.80 | 129.21 | 2 |
| C-N-N-CA-CB | 110.50 | 118.91 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--------------------------------|--------------------|-----------------|--------------------|
| N-CA-CA-C-N | 116.20 | 106.30 | 1 |
| C-CA-N-CA-C | 111.00 | 124.85 | 1 |
| N-CA-C-CA-CB | 110.10 | 119.50 | 1 |
| N-CA-C-N-CA | 121.70 | 112.80 | 1 |
| N-CA-N-CA-C | 111.00 | 124.84 | 1 |
| C-CA-CB | 110.10 | 119.49 | 2 |
| C-CA-CA-C-N | 116.20 | 106.31 | 1 |
| N-CA-C | 111.00 | 97.16 | 1 |
| N-CA-CB | 111.50 | 103.10 | 1 |
| N-CA-C | 111.00 | 124.84 | 1 |
| CA-C-N | 116.20 | 106.32 | 1 |
| CA-C-CA-C-N-CA-C-CA-C-CA-CB | 110.10 | 119.49 | 1 |
| N-CA-CB | 103.00 | 108.43 | 1 |
| C-CA-N-CA-C | 111.00 | 124.83 | 1 |
| CA-CB-N-CA-C | 111.00 | 97.17 | 1 |
| C-CA-CB | 110.10 | 119.48 | 2 |
| N-CA-C | 111.00 | 97.17 | 2 |
| CB-CG-C-CA-N-CA-CB | 110.40 | 103.00 | 1 |
| C-CA-N-CA-C | 111.00 | 124.82 | 1 |
| C-CA-CB | 109.10 | 119.96 | 1 |
| C-N-CA-C-N-CA-CA-C-CA-C-N-CA-C | 111.00 | 97.18 | 1 |
| C-N-CA-C-N | 116.20 | 106.33 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 111.60 | 121.47 | 1 |
| CA-CB-CG2 | 110.50 | 118.88 | 1 |
| CA-C-N | 116.20 | 106.34 | 1 |
| C-CA-CB | 110.10 | 119.47 | 1 |
| N-CA-C-CA-C-N-CA | 121.70 | 130.57 | 1 |
| CA-CB-CG | 113.80 | 118.73 | 1 |
| CA-C-O | 120.80 | 129.18 | 1 |
| C-N-C-N-CA-CB-CG | 112.60 | 107.67 | 1 |
| C-CA-C-CA-C-CA-CB | 110.10 | 119.46 | 1 |
| C-CA-C-CA-C-CA-N-CA-CB | 111.50 | 103.12 | 1 |
| N-CA-N-CA-C | 111.00 | 97.21 | 1 |
| CA-C-O | 120.80 | 112.43 | 1 |
| N-CA-CB | 110.50 | 102.13 | 1 |
| CA-C-N | 116.20 | 106.35 | 1 |
| C-CA-CB | 110.10 | 119.46 | 1 |
| C-CA-CA-C-N | 116.20 | 106.35 | 1 |
| C-CA-CB | 109.10 | 98.27 | 1 |
| C-CA-CB | 110.10 | 119.45 | 1 |
| CA-C-N | 116.20 | 126.04 | 2 |
| CA-CB-CG | 113.80 | 118.72 | 1 |
| C-CA-CA-CB-C-CA-N-CA-C | 111.00 | 124.78 | 1 |
| CA-C-N | 116.20 | 106.36 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--|--------------------|-----------------|--------------------|
| C-N-CA | 121.70 | 112.84 | 1 |
| C-CA-C-CA-CA-C-O | 120.80 | 129.16 | 1 |
| C-CA-N-CA-C | 111.00 | 97.23 | 1 |
| C-N-C-CA-CB | 110.10 | 119.44 | 1 |
| N-CA-C | 111.00 | 97.23 | 1 |
| CA-C-N | 116.20 | 106.37 | 1 |
| C-CA-CB | 110.10 | 119.44 | 1 |
| C-N-C-N-N-CA-C | 111.00 | 97.23 | 1 |
| N-CA-C | 111.00 | 124.76 | 1 |
| C-N-CA | 121.70 | 112.85 | 1 |
| N-CA-N-CA-C | 111.00 | 97.24 | 1 |
| C-CA-CA-CB-N-CA-C | 111.00 | 97.24 | 1 |
| CA-CB-CG | 112.60 | 107.69 | 1 |
| C-CA-C-CA-CB | 110.10 | 100.77 | 1 |
| CA-C-O | 120.80 | 112.45 | 1 |
| C-CA-CB | 109.10 | 119.90 | 1 |
| CA-C-N | 116.20 | 126.02 | 1 |
| C-N-CA | 121.70 | 112.86 | 1 |
| N-CA-CB | 110.50 | 102.16 | 1 |
| C-N-CA | 121.70 | 112.87 | 1 |
| C-CA-N-CA-C-CA-CA-CB-CA-C-N-CA-C-CA-CB | 109.10 | 119.89 | 1 |
| CA-C-O | 120.80 | 129.14 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------------|--------------------|-----------------|--------------------|
| CA-C-N | 116.20 | 106.39 | 1 |
| CA-CB-CG | 113.80 | 108.89 | 1 |
| CA-C-N | 116.20 | 126.01 | 1 |
| C-CA-C-CA-CA-C-CA-CB-CG | 112.60 | 107.70 | 1 |
| CA-C-O | 120.80 | 112.46 | 1 |
| N-CA-C | 111.00 | 97.27 | 1 |
| C-N-C-N-N-CA-C | 111.00 | 97.27 | 1 |
| C-CA-CB | 110.10 | 100.79 | 1 |
| C-CA-C-CA-C-N-N-CA-C | 111.00 | 124.72 | 1 |
| C-N-CA | 121.70 | 130.52 | 2 |
| CA-C-O | 120.80 | 129.13 | 1 |
| N-CA-CA-N-CD | 112.00 | 118.86 | 1 |
| C-CA-CB | 110.10 | 119.41 | 3 |
| CA-CB-CG | 113.80 | 118.70 | 1 |
| CA-C-N | 116.20 | 126.00 | 1 |
| C-N-CA-C-N-CA-C-CA-CB | 111.60 | 101.81 | 1 |
| CA-C-C-CA-CA-CB-CG2 | 110.50 | 118.82 | 1 |
| C-N-CA | 121.70 | 112.89 | 1 |
| C-CA-CB | 110.10 | 100.80 | 1 |
| C-CA-CB | 110.10 | 119.40 | 1 |
| C-CA-CA-CB-CG2 | 110.50 | 118.82 | 1 |
| N-CA-CA-CB-CG | 112.60 | 107.71 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------------|--------------------|-----------------|--------------------|
| C-N-CA | 121.70 | 130.50 | 1 |
| CA-C-N | 116.20 | 106.42 | 1 |
| CA-C-CA-C-N-CA-C-CA-CB | 110.10 | 119.39 | 1 |
| C-CA-CB | 111.60 | 101.82 | 1 |
| N-CA-C | 111.00 | 124.69 | 1 |
| C-CA-N-CA-C-CA-CB | 110.10 | 100.81 | 1 |
| C-CA-CB | 110.10 | 119.39 | 1 |
| C-N-CA | 121.70 | 112.90 | 1 |
| C-CA-CA-C-O | 120.80 | 129.11 | 1 |
| N-CA-C | 111.00 | 124.68 | 1 |
| N-CA-C-CA-CB | 110.10 | 119.38 | 1 |
| CA-CB-CG | 112.60 | 107.71 | 1 |
| C-N-CA | 121.70 | 112.91 | 1 |
| CA-C-O | 120.80 | 129.10 | 1 |
| CA-CB-CG2 | 110.50 | 118.80 | 2 |
| N-CA-C-CA-C-CA-CB | 110.10 | 100.82 | 1 |
| CA-CB-CG | 113.80 | 118.68 | 1 |
| CA-C-C-CA-CB | 110.10 | 119.37 | 1 |
| C-CA-CB | 110.10 | 119.37 | 2 |
| C-N-C-CA-CB | 110.10 | 119.37 | 1 |
| C-CA-CA-C-C-CA-N-CA-C | 111.00 | 97.34 | 1 |
| C-N-CA | 121.70 | 130.48 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 109.10 | 98.37 | 1 |
| N-CA-C-CA-CB | 109.10 | 119.83 | 1 |
| C-CA-N-CA-C-CA-CB | 110.10 | 100.83 | 1 |
| N-CA-C-N-CA | 121.70 | 130.48 | 1 |
| CA-CB-CG2 | 110.50 | 118.79 | 1 |
| CA-C-CA-C-O | 120.80 | 112.51 | 1 |
| CA-C-O | 120.80 | 129.09 | 1 |
| CA-C-O | 120.80 | 112.51 | 2 |
| N-CA-C | 111.00 | 124.65 | 1 |
| C-N-N-CA-CB | 110.50 | 102.21 | 1 |
| CA-CB-CG | 113.80 | 108.93 | 1 |
| C-CA-CB | 110.10 | 100.84 | 1 |
| C-N-CA | 121.70 | 112.93 | 1 |
| CA-CB-CA-C-CA-C-O | 120.80 | 129.08 | 1 |
| C-N-CA | 121.70 | 130.47 | 1 |
| CA-C-O | 120.80 | 112.52 | 1 |
| C-CA-CB | 110.10 | 100.85 | 3 |
| N-CA-C-CA-C-CA-CB | 110.10 | 119.35 | 1 |
| N-CA-C-N-CA | 121.70 | 130.46 | 1 |
| N-CA-C | 111.00 | 124.62 | 1 |
| C-CA-CB | 109.10 | 119.80 | 1 |
| C-CA-CB | 110.10 | 119.34 | 2 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------------------|--------------------|-----------------|--------------------|
| C-N-N-CA-C | 111.00 | 124.62 | 1 |
| N-CA-CB | 110.40 | 103.10 | 1 |
| CA-C-O | 120.80 | 112.53 | 2 |
| CA-CB-CG | 113.80 | 118.66 | 2 |
| C-CA-CA-C-N | 116.20 | 125.92 | 1 |
| C-N-CA | 121.70 | 112.95 | 1 |
| CA-CB-CG2 | 110.50 | 118.76 | 1 |
| N-CA-C-CA-CB | 110.10 | 119.34 | 1 |
| CA-CB-CG | 113.80 | 108.94 | 1 |
| CA-C-CA-N-CD | 112.00 | 118.80 | 1 |
| N-CA-C-CA-CB | 110.10 | 119.33 | 1 |
| CA-C-C-N-CA | 121.70 | 130.45 | 1 |
| N-CA-CA-N-CD | 112.00 | 118.80 | 1 |
| C-CA-CB | 109.10 | 119.78 | 1 |
| C-CA-C-CA-CB | 110.10 | 119.33 | 1 |
| N-CA-C | 111.00 | 124.60 | 2 |
| C-N-CD | 125.00 | 105.09 | 1 |
| N-CA-CA-C-C-CA-C-CA-CA-CB-CG2 | 110.50 | 118.75 | 1 |
| N-CA-C-N-CD | 125.00 | 105.10 | 1 |
| N-CA-CB | 110.50 | 102.25 | 1 |
| N-CA-CA-C-N-CA-N-CA-C | 111.00 | 124.58 | 1 |
| N-CA-C-N-CA | 121.70 | 130.43 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------------|--------------------|-----------------|--------------------|
| CA-C-O | 120.80 | 129.05 | 1 |
| N-CA-N-CA-C-N-CA | 121.70 | 112.97 | 1 |
| C-CA-CA-CB-CG2 | 110.50 | 118.74 | 1 |
| N-CA-C | 111.00 | 124.58 | 1 |
| C-N-N-CA-C-CA-CB | 110.10 | 100.89 | 1 |
| C-N-CA | 121.70 | 112.97 | 1 |
| C-CA-CA-C-N-CA-CB | 111.50 | 103.26 | 1 |
| C-N-CA | 121.70 | 112.98 | 1 |
| CA-C-O | 120.80 | 112.56 | 1 |
| C-N-N-CA-N-CA-N-CA-CA-CB-CG | 113.80 | 118.64 | 1 |
| C-CA-CB | 109.10 | 119.76 | 1 |
| N-CA-CA-C-O | 120.80 | 112.57 | 1 |
| C-CA-CB | 110.10 | 119.30 | 2 |
| C-CA-CB | 109.10 | 98.45 | 1 |
| C-N-C-N-CA | 121.70 | 130.41 | 1 |
| C-N-CA | 121.70 | 112.99 | 1 |
| N-CA-CB | 103.00 | 108.32 | 1 |
| C-CA-CA-N-N-CA-C | 111.00 | 97.45 | 1 |
| CA-CB-CG | 112.60 | 107.76 | 1 |
| CA-CB-CG | 113.80 | 108.96 | 1 |
| N-CA-CA-C-O | 120.80 | 112.58 | 1 |
| C-CA-CA-C-CA-C-O | 120.80 | 112.58 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 109.10 | 119.73 | 1 |
| CA-C-O | 120.80 | 112.58 | 1 |
| C-N-CA | 121.70 | 130.40 | 2 |
| CA-C-O | 120.80 | 129.01 | 1 |
| CA-N-CA-C-N | 116.20 | 125.86 | 1 |
| N-CA-C-N-CA | 121.70 | 113.01 | 1 |
| CA-C-CG-CD-C-CA-CB | 110.50 | 103.26 | 1 |
| CA-C-N | 116.90 | 124.14 | 1 |
| C-N-CA | 121.70 | 113.01 | 1 |
| N-CA-CB | 111.50 | 103.29 | 1 |
| CA-C-O | 120.80 | 130.94 | 1 |
| CA-C-C-N-CA | 121.70 | 130.39 | 1 |
| C-CA-C-CA-CB | 110.10 | 119.27 | 1 |
| C-N-CA-C-O | 120.80 | 112.60 | 1 |
| C-N-CA-C-N-CA-C | 111.00 | 97.49 | 1 |
| C-CA-CB | 110.10 | 100.93 | 1 |
| N-CD-CG | 103.20 | 95.96 | 1 |
| C-N-CA | 121.70 | 130.38 | 2 |
| N-CA-CA-C-O | 120.80 | 129.00 | 1 |
| C-N-CA | 121.70 | 113.02 | 2 |
| CA-C-O | 120.80 | 112.60 | 1 |
| C-CA-CB | 110.10 | 119.26 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------------|--------------------|-----------------|--------------------|
| C-CA-CG-CD-CA-C-N | 116.20 | 125.84 | 1 |
| N-CA-C-N-C-CA-CB | 110.10 | 100.94 | 1 |
| N-CD-CG | 103.20 | 95.97 | 2 |
| CA-CB-N-CA-C | 111.00 | 124.50 | 1 |
| CA-CB-CA-CB-CG | 113.80 | 118.62 | 1 |
| CA-CB-CG | 112.60 | 107.78 | 2 |
| C-N-C-CA-CB | 109.10 | 119.70 | 1 |
| C-CA-CB | 110.10 | 100.94 | 1 |
| C-CA-CB | 110.10 | 119.25 | 2 |
| C-N-CA | 121.70 | 130.37 | 1 |
| C-CA-CB | 110.10 | 100.95 | 1 |
| C-CA-CB | 109.10 | 119.69 | 1 |
| CA-C-N-CA-CA-CB-C-N-CA | 121.70 | 130.36 | 1 |
| C-N-CA | 121.70 | 130.36 | 1 |
| C-N-CA-N-CA-C-O | 120.80 | 128.98 | 1 |
| C-CA-CA-C-CA-CB-CG | 112.60 | 107.79 | 1 |
| CA-C-CA-C-O | 120.80 | 112.62 | 1 |
| C-CA-CB | 109.10 | 119.68 | 1 |
| CA-CB-CG | 112.60 | 107.79 | 1 |
| N-CA-C-N-CA | 121.70 | 130.36 | 1 |
| C-CA-CB | 110.10 | 100.96 | 2 |
| CA-C-O | 120.80 | 130.90 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------|--------------------|-----------------|--------------------|
| C-N-N-CD-CG | 103.20 | 95.99 | 1 |
| CA-C-C-CA-CB | 110.10 | 100.96 | 1 |
| CA-C-O | 120.80 | 112.63 | 1 |
| CA-C-N | 116.20 | 125.81 | 2 |
| C-N-CA | 121.70 | 130.35 | 1 |
| C-CA-N-CA-CB | 110.50 | 118.67 | 1 |
| CA-CB-C-N-CA | 121.70 | 130.35 | 1 |
| CA-C-O | 120.80 | 112.64 | 2 |
| C-CA-CA-N-CA-C-N | 116.20 | 106.60 | 1 |
| CA-C-N | 116.20 | 106.60 | 1 |
| C-N-C-N-CA | 121.70 | 130.34 | 1 |
| C-CA-N-CA-CB | 103.00 | 97.72 | 1 |
| C-N-CA | 121.70 | 113.06 | 2 |
| CA-C-C-CA-CB | 110.10 | 100.98 | 1 |
| CA-C-C-N-CA | 121.70 | 113.06 | 1 |
| CA-CB-CG | 113.90 | 105.26 | 1 |
| C-CA-CB | 110.10 | 119.22 | 1 |
| N-CA-CB | 110.50 | 118.66 | 1 |
| CA-C-O | 120.80 | 112.65 | 1 |
| C-N-C-CA-CA-CB-CG | 112.60 | 107.80 | 1 |
| C-CA-CA-CB-CA-C-O | 120.80 | 128.95 | 1 |
| C-CA-CB | 110.10 | 100.99 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|----------------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 110.10 | 119.21 | 1 |
| C-CA-CA-C-O | 120.80 | 128.95 | 1 |
| N-CA-C-N-CA | 121.70 | 130.33 | 1 |
| CA-C-O | 120.80 | 130.87 | 1 |
| C-CA-N-CA-CA-C-C-CA-CA-C-N | 116.20 | 125.78 | 1 |
| CA-C-CA-CB-CA-C-N | 116.20 | 125.78 | 1 |
| N-CA-CA-C-N | 116.20 | 125.78 | 1 |
| C-CA-C-CA-CB | 110.10 | 119.20 | 1 |
| CA-C-O | 120.80 | 112.66 | 1 |
| N-CA-CB | 111.50 | 119.64 | 1 |
| CA-CB-CG | 112.60 | 117.39 | 1 |
| N-CA-C | 111.00 | 124.41 | 1 |
| C-N-CA | 121.70 | 113.08 | 1 |
| CA-C-CA-C-O | 120.80 | 112.66 | 1 |
| C-N-N-CA-C | 111.00 | 124.41 | 1 |
| C-CA-C-CA-CB | 110.10 | 101.00 | 1 |
| C-CA-CB | 110.10 | 119.19 | 1 |
| CA-CB-CA-CB-CG | 113.80 | 109.01 | 1 |
| N-CA-CB | 111.50 | 119.63 | 2 |
| C-CA-CB | 110.10 | 101.01 | 1 |
| N-CA-CA-C-N-CA-CB | 110.50 | 118.63 | 1 |
| CA-C-O | 120.80 | 128.93 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--------------------------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 110.10 | 119.18 | 1 |
| CA-C-N | 116.20 | 125.76 | 2 |
| CA-C-C-CA-CB | 110.10 | 119.18 | 1 |
| C-CA-CA-CB-CG | 113.80 | 118.58 | 1 |
| CA-C-N | 116.20 | 106.65 | 1 |
| CA-C-C-CA-CB | 110.10 | 119.17 | 1 |
| N-CA-CB | 111.50 | 119.62 | 2 |
| N-CA-CB | 111.50 | 103.38 | 1 |
| C-N-C-CA-CB | 110.10 | 101.03 | 1 |
| C-N-CA | 121.70 | 113.11 | 1 |
| N-CA-C | 111.00 | 124.37 | 1 |
| C-CA-C-CA-C-CA-N-CA-CA-C-C-CA-C-N-CA | 121.70 | 130.29 | 1 |
| CA-N-CD | 112.00 | 105.32 | 1 |
| N-CA-C | 111.00 | 124.35 | 1 |
| C-CA-CA-CB-CG | 112.60 | 107.83 | 1 |
| C-N-CA | 121.70 | 130.28 | 1 |
| CA-CB-CG | 113.80 | 118.57 | 1 |
| C-CA-N-CA-N-CA-C | 111.00 | 124.35 | 1 |
| CA-C-O | 120.80 | 112.70 | 1 |
| CA-CB-C-CA-CB | 110.50 | 103.35 | 1 |
| C-CA-CB | 110.10 | 119.16 | 1 |
| CA-CB-CG | 112.60 | 107.83 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------------------------|--------------------|-----------------|--------------------|
| N-CA-CB | 103.00 | 97.76 | 1 |
| N-CA-CB | 111.50 | 103.40 | 1 |
| C-N-N-CA-C-N-C-N-CA | 121.70 | 113.12 | 1 |
| CA-CB-C-CA-N-CA-CB | 111.50 | 103.40 | 1 |
| C-CA-CB | 110.50 | 103.35 | 1 |
| CA-CB-C-CA-CA-C-N | 116.20 | 106.67 | 1 |
| N-CA-C | 111.00 | 97.66 | 1 |
| CA-CB-CG | 112.60 | 107.84 | 1 |
| C-N-CA | 121.70 | 113.13 | 1 |
| CA-C-CA-C-O | 120.80 | 112.71 | 1 |
| C-CA-CB | 110.10 | 119.15 | 1 |
| C-CA-N-CA-CB | 111.50 | 103.41 | 1 |
| N-CA-CB | 111.50 | 103.41 | 2 |
| C-CA-CB | 110.10 | 101.06 | 2 |
| CA-CB-CG | 113.80 | 109.04 | 1 |
| C-CA-CA-C-O | 120.80 | 128.89 | 1 |
| C-CA-N-CA-N-CA-CB | 110.50 | 118.59 | 1 |
| C-CA-N-CA-CA-C-C-CA-C-CA-C-N-N-CA-C | 111.00 | 97.68 | 1 |
| CA-CB-N-CA-CB | 110.50 | 118.58 | 1 |
| CA-C-O | 120.80 | 128.88 | 1 |
| C-CA-CB | 110.50 | 103.37 | 1 |
| C-N-CA | 121.70 | 113.14 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--------------------------|--------------------|-----------------|--------------------|
| N-CA-CA-CB-C-N-CA | 121.70 | 130.26 | 1 |
| C-N-CA | 121.70 | 130.26 | 1 |
| CA-C-N | 116.20 | 106.69 | 1 |
| C-N-C-CA-N-CA-CB | 110.50 | 102.42 | 1 |
| C-CA-C-CA-CB | 110.10 | 119.13 | 1 |
| CA-C-CA-C-O | 120.80 | 128.88 | 1 |
| C-CA-C-CA-CA-C-CA-CB-CG | 112.60 | 107.85 | 1 |
| N-CA-C-CA-C-CA-CA-CB-CG1 | 110.40 | 118.47 | 1 |
| C-N-CA | 121.70 | 130.25 | 1 |
| N-CA-C-CA-CB | 110.10 | 101.08 | 1 |
| C-N-CA | 121.70 | 113.15 | 1 |
| C-N-C-CA-CB | 110.10 | 101.08 | 1 |
| C-N-CA-C-C-CA-CB | 110.10 | 119.12 | 1 |
| CA-C-C-N-C-N-CA | 121.70 | 113.16 | 1 |
| C-CA-CA-C-C-CA-CB | 110.10 | 119.11 | 1 |
| CA-C-O | 120.80 | 112.74 | 1 |
| C-N-CA-CB-C-CA-CA-C-O | 120.80 | 128.86 | 1 |
| C-N-C-N-C-N-CA | 121.70 | 113.17 | 1 |
| N-CA-CA-C-CA-C-C-CA-CB | 110.10 | 119.11 | 1 |
| CA-CB-CG | 112.60 | 107.86 | 1 |
| CA-N-CD | 112.00 | 105.36 | 2 |
| C-N-CA | 121.70 | 113.17 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|----------------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 110.10 | 101.09 | 1 |
| N-CA-C-N-C-CA-CB | 110.10 | 119.10 | 1 |
| N-CA-C | 111.00 | 97.73 | 1 |
| CA-C-CA-CB-CA-C-C-N-CA-C-O | 120.80 | 128.85 | 1 |
| CA-N-CD | 112.00 | 105.37 | 1 |
| N-CA-C-CA-CB | 110.10 | 101.10 | 1 |
| CA-CB-CG | 113.80 | 109.06 | 1 |
| N-CA-C | 111.00 | 97.74 | 1 |
| C-CA-CB | 110.10 | 101.10 | 1 |
| C-CA-C-N-CA | 121.70 | 113.18 | 1 |
| CA-C-C-CA-CB | 110.10 | 101.11 | 1 |
| N-CA-CB | 111.50 | 103.45 | 1 |
| CA-C-O | 120.80 | 128.85 | 1 |
| C-N-C-N-C-CA-N-CA-C-N-CA | 121.70 | 113.18 | 1 |
| CA-C-O | 120.80 | 112.76 | 1 |
| C-CA-CB | 110.10 | 119.09 | 1 |
| CA-CB-CG1 | 110.40 | 118.44 | 1 |
| C-CA-C-CA-CB | 110.10 | 119.09 | 1 |
| CA-C-CA-C-N-CA-C-CA-CB | 110.10 | 119.08 | 1 |
| C-CA-C-N-CA | 121.70 | 130.20 | 1 |
| CA-C-N | 116.20 | 106.75 | 1 |
| C-CA-CB | 110.10 | 101.12 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--------------------|--------------------|-----------------|--------------------|
| C-CA-CA-CB-CG | 112.60 | 107.88 | 2 |
| C-CA-CB | 110.10 | 101.13 | 2 |
| N-CA-CB | 110.50 | 118.53 | 1 |
| N-CA-CB | 103.00 | 97.81 | 1 |
| C-N-C-N-CA | 121.70 | 130.20 | 1 |
| OE1-CD-CA-C-O | 120.80 | 112.78 | 1 |
| C-CA-CB | 110.10 | 119.06 | 2 |
| C-CA-C-CA-CB | 110.10 | 119.06 | 1 |
| N-CA-C | 111.00 | 124.20 | 1 |
| CA-CB-CG | 112.60 | 107.88 | 1 |
| C-N-CA | 121.70 | 113.21 | 1 |
| CA-CB-CG | 113.90 | 105.41 | 1 |
| CA-C-N | 116.20 | 106.77 | 1 |
| C-N-CB-CG-CD2 | 131.20 | 125.07 | 1 |
| C-CA-CB | 109.10 | 119.47 | 1 |
| CA-C-C-N-N-CA-CB | 111.50 | 119.51 | 1 |
| N-CA-C-CA-CB | 110.10 | 119.05 | 1 |
| C-N-N-CA-C | 111.00 | 124.19 | 1 |
| CA-C-N | 116.20 | 106.78 | 1 |
| N-CA-C | 111.00 | 124.19 | 1 |
| N-CA-CB-CG-C-CA-CB | 111.40 | 102.45 | 1 |
| N-CA-CA-CB-CG | 112.60 | 107.89 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------|--------------------|-----------------|--------------------|
| CA-C-O | 120.80 | 112.79 | 1 |
| C-CA-N-CA-C-CA-CA-C-O | 120.80 | 112.80 | 1 |
| N-CA-CB | 110.50 | 102.50 | 2 |
| N-CA-C-CA-CB | 110.10 | 119.04 | 1 |
| C-N-C-N-CA | 121.70 | 113.23 | 1 |
| CA-CB-CG | 112.60 | 117.31 | 1 |
| CA-C-N-CA-C | 111.00 | 124.17 | 1 |
| CA-CB-C-CA-CB | 110.10 | 101.16 | 1 |
| C-CA-CB | 110.10 | 119.04 | 1 |
| CA-C-O | 120.80 | 128.80 | 1 |
| CA-C-N-CA-CA-C-O | 120.80 | 128.79 | 1 |
| C-CA-CA-C-C-N-CA | 121.70 | 113.24 | 1 |
| CA-C-O | 120.80 | 128.79 | 2 |
| C-N-CA | 121.70 | 113.24 | 1 |
| CA-C-O | 120.80 | 112.81 | 2 |
| CB-CG-CD | 112.60 | 104.61 | 1 |
| CA-C-N | 116.20 | 106.80 | 1 |
| N-CA-CA-CB-CG | 113.80 | 109.10 | 1 |
| CA-CB-CG | 112.60 | 107.90 | 1 |
| N-CA-CB | 111.50 | 119.49 | 1 |
| C-CA-CB | 110.10 | 119.03 | 2 |
| CA-C-CA-CB-C-N-CA | 121.70 | 130.16 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---------------------------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 111.40 | 102.48 | 1 |
| N-CA-CA-C-N | 116.20 | 106.81 | 1 |
| C-CA-CB | 109.10 | 119.43 | 1 |
| CA-C-O | 120.80 | 112.82 | 2 |
| CA-C-N | 116.90 | 123.94 | 1 |
| C-N-CA | 121.70 | 113.25 | 1 |
| C-CA-CA-C-N | 116.20 | 125.59 | 1 |
| C-CA-N-CA-C | 111.00 | 124.14 | 1 |
| CA-C-CB-CG-CA-C-C-N-C-N-CA | 121.70 | 130.15 | 1 |
| N-CA-CB | 110.50 | 102.52 | 1 |
| N-CA-C-CA-N-CA-CA-C-N-CA-CB | 110.50 | 102.53 | 1 |
| CA-C-C-CA-CB | 109.10 | 119.42 | 1 |
| N-CA-CB | 111.50 | 119.47 | 1 |
| C-CA-CB | 111.40 | 102.49 | 1 |
| N-CA-C-CA-CB | 111.40 | 120.31 | 1 |
| CA-C-O | 120.80 | 128.77 | 2 |
| CA-N-CD | 112.00 | 105.44 | 1 |
| C-CA-N-CA-CA-C-N-CA-CA-C-CA-C-N-CA-CB | 111.50 | 119.47 | 1 |
| CA-CB-CG1 | 110.40 | 118.37 | 2 |
| N-CA-C-N-CA | 121.70 | 113.27 | 1 |
| CA-C-O | 120.80 | 128.76 | 1 |
| CB-CG-CD2 | 131.20 | 125.11 | 2 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------------|--------------------|-----------------|--------------------|
| N-CA-CB | 111.50 | 119.46 | 3 |
| CA-CB-CA-CB-OG1 | 109.60 | 102.57 | 1 |
| N-CA-C | 111.00 | 124.12 | 1 |
| C-CA-N-CA-CB | 110.50 | 118.46 | 1 |
| C-CA-CB | 110.10 | 119.00 | 1 |
| C-CA-CA-C-CA-C-N | 116.20 | 106.83 | 1 |
| CA-CB-CA-CB-C-N-CA-C-C-N-CA | 121.70 | 113.27 | 1 |
| N-CA-CB | 111.50 | 103.54 | 1 |
| N-CA-N-CA-CB | 110.50 | 118.46 | 1 |
| N-CA-C | 111.00 | 124.11 | 1 |
| CA-CB-CG | 113.80 | 109.12 | 1 |
| C-CA-C-N-C-N-CA | 122.60 | 99.21 | 1 |
| N-CA-CB | 111.50 | 119.45 | 1 |
| C-N-C-CA-CB | 110.10 | 118.99 | 1 |
| N-CA-C | 111.00 | 124.10 | 1 |
| CA-C-C-N-CA | 121.70 | 113.28 | 1 |
| C-N-CA | 121.70 | 113.28 | 1 |
| N-CA-CB | 110.50 | 118.45 | 1 |
| C-CA-CB | 109.10 | 119.39 | 2 |
| C-N-C-CA-C-CA-N-CA-CB | 110.50 | 102.55 | 1 |
| CA-N-CD | 112.00 | 105.45 | 1 |
| CA-C-O | 120.80 | 112.85 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|----------------------------|--------------------|-----------------|--------------------|
| CA-CB-OG1 | 109.60 | 102.59 | 1 |
| CA-C-N | 116.20 | 125.55 | 1 |
| CA-C-N-CA-CB | 110.50 | 118.45 | 1 |
| N-CA-CB-CG-CD2 | 131.20 | 125.12 | 1 |
| CA-C-O | 120.80 | 128.75 | 1 |
| C-N-C-N-N-CA-C | 111.00 | 124.09 | 1 |
| N-CA-CA-C-N | 116.20 | 125.55 | 1 |
| C-N-CA | 121.70 | 130.11 | 1 |
| O-C-N | 123.00 | 115.52 | 1 |
| C-N-C-CA-CB | 111.40 | 102.52 | 1 |
| C-N-N-CA-CB | 103.00 | 97.86 | 1 |
| C-CA-CA-C-O | 120.80 | 128.74 | 1 |
| C-CA-CB | 110.10 | 118.98 | 1 |
| C-N-CA | 121.70 | 113.29 | 2 |
| CA-C-N | 116.20 | 125.54 | 1 |
| N-CA-CB | 103.00 | 97.86 | 1 |
| CA-C-O-C-N | 123.00 | 115.53 | 1 |
| OE1-CD-C-CA-CB | 110.10 | 101.23 | 1 |
| N-CA-N-CA-C-CA-C-CA-CB | 110.50 | 117.50 | 1 |
| N-CA-C-CA-CB | 110.10 | 101.23 | 2 |
| C-CA-C-N-CA-CB-CG | 113.80 | 109.13 | 1 |
| C-N-CA-CB-C-N-N-CA-C-CA-CB | 110.10 | 101.23 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---------------------------------------|--------------------|-----------------|--------------------|
| CB-CG-CD | 112.60 | 104.66 | 1 |
| C-N-C-CA-CA-C-O | 120.80 | 112.87 | 1 |
| C-N-N-CA-CB | 110.50 | 102.57 | 1 |
| C-N-CA | 121.70 | 113.30 | 1 |
| C-N-C-CA-CB | 110.10 | 101.24 | 1 |
| CA-N-CD | 112.00 | 105.47 | 1 |
| CA-C-C-CA-CB | 110.10 | 101.24 | 1 |
| N-CA-CB | 110.50 | 102.57 | 2 |
| C-CA-CA-C-N-CA-CB | 110.50 | 102.57 | 1 |
| CA-C-O | 120.80 | 112.87 | 2 |
| C-N-CA | 121.70 | 113.31 | 2 |
| CA-N-C-CA-C-CA-CB | 110.50 | 117.49 | 1 |
| C-CA-CB | 110.10 | 118.96 | 1 |
| CA-C-C-CA-CA-C-O | 120.80 | 128.72 | 1 |
| C-CA-CB | 110.10 | 118.95 | 2 |
| N-CA-CA-C-O | 120.80 | 128.72 | 1 |
| C-CA-CB | 110.10 | 101.25 | 1 |
| CA-C-CA-C-CA-CB-CG | 112.60 | 107.94 | 1 |
| C-N-CA | 122.60 | 99.31 | 1 |
| N-CA-CB | 110.50 | 102.58 | 1 |
| CA-C-N-CA-N-CA-CA-C-N-CA-N-CA-C-CA-CB | 110.10 | 118.94 | 1 |
| C-CA-CB | 109.10 | 119.34 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 110.10 | 118.94 | 2 |
| N-CA-CA-CB-OG1 | 109.60 | 102.62 | 1 |
| C-CA-N-CA-C-CA-CB | 111.40 | 120.24 | 1 |
| N-CA-C-N-C-N-CA | 122.60 | 99.34 | 1 |
| C-N-CB-CG-CD2 | 131.20 | 125.15 | 1 |
| C-N-CA | 121.70 | 130.07 | 1 |
| C-CA-CB | 110.50 | 117.48 | 1 |
| N-CA-C | 113.30 | 99.81 | 1 |
| CA-C-N | 116.20 | 125.50 | 1 |
| N-CA-CB | 110.50 | 102.59 | 1 |
| CB-CG-CD2 | 131.20 | 125.16 | 2 |
| C-CA-CB | 109.10 | 98.87 | 1 |
| CA-C-O | 120.80 | 128.70 | 1 |
| CA-C-N | 116.20 | 106.90 | 1 |
| C-CA-CB | 110.10 | 118.93 | 1 |
| CA-CB-CG | 112.60 | 107.95 | 1 |
| C-CA-C-N-C-CA-C-CA-CB | 110.10 | 118.93 | 1 |
| C-CA-CA-CB-OG1 | 109.60 | 102.63 | 1 |
| C-N-CA | 121.70 | 113.34 | 1 |
| CA-C-O | 120.80 | 112.90 | 2 |
| C-CA-N-CA-CB | 111.50 | 119.40 | 1 |
| C-N-C-CA-CB | 110.10 | 118.93 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---------------------|--------------------|-----------------|--------------------|
| C-N-CA | 122.60 | 99.38 | 1 |
| C-CA-CB | 110.10 | 101.28 | 3 |
| CA-C-N | 116.20 | 106.91 | 1 |
| CA-CB-CA-CB-OG1 | 109.60 | 102.64 | 1 |
| C-N-N-CA-C-N-C-N-CA | 121.70 | 113.34 | 1 |
| N-CA-C-CA-CB | 110.10 | 118.92 | 1 |
| N-CA-N-CA-CA-C-O | 120.80 | 112.91 | 1 |
| CA-CB-CG | 112.60 | 107.96 | 2 |
| CB-CG-N-CA-CB | 110.50 | 118.39 | 1 |
| C-CA-CB | 109.10 | 98.89 | 1 |
| N-CA-CB | 110.50 | 102.61 | 1 |
| C-CA-N-CA-CB | 111.50 | 119.39 | 1 |
| C-CA-CA-CB-CG | 112.60 | 107.96 | 1 |
| CA-C-N | 116.90 | 109.94 | 1 |
| CA-N-C-CA-CB | 109.10 | 119.31 | 1 |
| CA-CB-OG1 | 109.60 | 102.64 | 1 |
| CA-C-O | 120.80 | 112.92 | 2 |
| C-N-CA | 121.70 | 113.35 | 1 |
| N-CA-C | 113.30 | 99.85 | 1 |
| N-CA-N-CA-C-N-CA | 121.70 | 113.35 | 1 |
| C-CA-CA-C-O | 120.80 | 112.92 | 1 |
| C-CA-CB | 110.10 | 118.91 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------------------|--------------------|-----------------|--------------------|
| CA-N-CD | 112.00 | 105.51 | 1 |
| C-CA-CB | 110.10 | 101.29 | 1 |
| CB-CG-CD2 | 131.20 | 125.17 | 1 |
| C-N-C-CA-CB | 110.10 | 101.29 | 1 |
| N-CA-CB | 110.50 | 118.38 | 1 |
| CA-C-N | 116.20 | 125.47 | 1 |
| C-N-CA | 121.70 | 130.04 | 1 |
| N-CA-CB | 110.50 | 102.62 | 1 |
| CA-C-N-CA-CA-C-CA-CB-C-CA-CB | 109.10 | 98.91 | 1 |
| C-CA-CB | 110.10 | 101.30 | 3 |
| N-CA-C | 111.00 | 98.03 | 1 |
| C-CA-CB | 109.10 | 119.29 | 1 |
| N-CA-CB | 111.50 | 119.37 | 1 |
| C-CA-CB | 110.10 | 118.90 | 2 |
| N-CA-CB | 103.00 | 97.91 | 1 |
| N-CA-C | 111.00 | 123.97 | 1 |
| C-N-CB-CG-C-CA-CB | 110.10 | 101.30 | 1 |
| C-CA-C-CA-CB | 110.10 | 101.30 | 1 |
| CA-C-N | 116.20 | 106.94 | 1 |
| C-N-CA | 121.70 | 113.37 | 4 |
| CA-C-N-CA-CB | 110.50 | 118.37 | 1 |
| C-CA-CB | 110.10 | 101.31 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---------------------------|--------------------|-----------------|--------------------|
| N-CA-C | 111.00 | 123.95 | 1 |
| C-CA-C-N-C-CA-CB | 110.10 | 101.31 | 1 |
| CA-CB-OG1 | 109.60 | 102.66 | 1 |
| N-CA-CB-CG-CD2-NE2-CA-C-O | 120.80 | 128.66 | 1 |
| CA-C-O | 120.80 | 128.66 | 1 |
| C-CA-CB | 110.10 | 118.89 | 1 |
| N-CA-CB | 110.50 | 102.64 | 1 |
| C-CA-C-CA-CB | 110.10 | 101.31 | 1 |
| CA-CB-CG | 112.60 | 107.98 | 3 |
| N-CA-C-CA-CA-CB-CG | 112.60 | 107.98 | 1 |
| C-N-CA | 121.70 | 113.38 | 2 |
| N-CA-CA-C-O | 120.80 | 112.94 | 1 |
| C-CA-CB | 110.10 | 118.88 | 3 |
| N-CA-C | 111.00 | 123.94 | 2 |
| C-CA-CB | 109.10 | 98.93 | 1 |
| CA-CB-OG1 | 109.60 | 102.67 | 1 |
| N-CA-CB | 110.50 | 118.36 | 1 |
| CB-CG-CD2 | 131.20 | 125.19 | 1 |
| C-CA-CB | 110.10 | 101.32 | 2 |
| CA-CB-C-CA-CB | 110.10 | 101.32 | 1 |
| N-CA-CA-CB-CG | 112.60 | 117.22 | 1 |
| N-CA-C | 113.30 | 99.90 | 2 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---------------------------|--------------------|-----------------|--------------------|
| N-CA-CA-C-O | 120.80 | 128.65 | 1 |
| C-CA-CA-C-O | 120.80 | 128.65 | 1 |
| C-N-C-N-CA | 121.70 | 113.39 | 1 |
| N-CA-C | 112.10 | 100.56 | 1 |
| N-CA-C-CA-N-CA-N-CA-CB | 111.50 | 119.35 | 1 |
| CA-CB-N-CA-C | 113.30 | 99.91 | 1 |
| CA-C-CB-CG-CA-C-CB-CG-CD2 | 131.20 | 125.20 | 1 |
| C-N-CA | 121.70 | 113.39 | 2 |
| C-CA-CB | 110.10 | 118.87 | 1 |
| CA-CB-CG | 113.80 | 109.18 | 1 |
| C-CA-CB | 110.10 | 101.33 | 1 |
| C-N-C-N-N-CA-C | 111.00 | 123.91 | 1 |
| C-CA-C-CA-CB | 110.10 | 101.34 | 1 |
| C-N-CA | 121.70 | 130.00 | 1 |
| N-CA-C | 111.00 | 98.09 | 1 |
| N-CA-N-CA-C-CA-CB | 110.10 | 101.34 | 1 |
| N-CA-CB | 111.50 | 119.34 | 1 |
| C-N-CA | 121.70 | 113.40 | 1 |
| N-CA-C | 112.10 | 100.58 | 1 |
| C-N-N-CA-CB | 103.00 | 97.93 | 1 |
| N-CA-CA-C-N | 116.20 | 125.42 | 1 |
| N-CA-C | 113.30 | 99.94 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------------|--------------------|-----------------|--------------------|
| N-CA-C | 111.00 | 98.10 | 1 |
| C-N-C-N-N-CA-N-CA-C | 111.00 | 123.90 | 1 |
| CA-C-O | 120.80 | 128.63 | 1 |
| C-CA-N-CA-C | 111.00 | 123.90 | 1 |
| N-CA-CB | 103.00 | 97.94 | 1 |
| C-N-CA | 121.70 | 113.41 | 1 |
| C-CA-CB | 110.10 | 101.35 | 1 |
| C-CA-C-CA-CB | 110.10 | 101.36 | 1 |
| N-CA-CB | 110.50 | 102.68 | 1 |
| CA-N-CD | 112.00 | 118.44 | 2 |
| N-CA-CB | 111.50 | 119.32 | 1 |
| N-CA-N-CA-C | 113.30 | 99.96 | 1 |
| CA-C-O | 120.80 | 112.98 | 1 |
| C-N-CA-CB-N-CA-CB | 110.50 | 102.68 | 1 |
| CA-C-C-CA-N-CA-N-CA-C-CA-CB | 110.50 | 117.39 | 1 |
| C-N-N-CA-CA-C-N | 116.20 | 107.01 | 1 |
| CB-CG-CA-C-N | 116.20 | 107.01 | 1 |
| CG-CD-NE | 112.00 | 101.89 | 1 |
| C-N-C-CA-CB | 110.10 | 118.83 | 1 |
| C-CA-CA-C-N | 116.20 | 107.01 | 1 |
| CA-C-O | 120.80 | 128.61 | 1 |
| C-N-C-CA-C-CA-N-CA-C | 111.00 | 123.86 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--------------------------|--------------------|-----------------|--------------------|
| N-CA-C | 111.00 | 98.14 | 1 |
| C-N-CA | 121.70 | 129.97 | 1 |
| N-CA-CB | 103.00 | 97.95 | 1 |
| C-N-N-CA-C | 111.00 | 123.86 | 1 |
| CA-CB-CG | 113.80 | 109.21 | 1 |
| C-CA-CB | 110.10 | 118.82 | 2 |
| CA-CB-CG | 112.60 | 108.01 | 1 |
| CA-C-O | 120.80 | 113.00 | 1 |
| CA-C-O | 120.80 | 128.60 | 1 |
| CA-C-N | 116.20 | 125.38 | 1 |
| C-CA-C-N-CA-C-C-N-CA-C-O | 120.80 | 113.00 | 1 |
| C-N-CA | 121.70 | 113.44 | 1 |
| C-N-CA-C-N | 116.20 | 107.03 | 1 |
| N-CA-CA-C-O | 120.80 | 113.00 | 1 |
| C-CA-CB | 110.10 | 101.39 | 2 |
| CA-CB-CA-CB-C-N-CA | 121.70 | 113.44 | 1 |
| C-CA-CB | 111.60 | 102.43 | 1 |
| N-CA-CB | 111.50 | 119.29 | 2 |
| CA-C-O | 120.80 | 128.59 | 3 |
| C-N-CA | 121.70 | 113.45 | 2 |
| C-CA-CA-C-N | 116.20 | 107.03 | 1 |
| N-CA-C-CA-CB | 110.10 | 118.81 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---------------|--------------------|-----------------|--------------------|
| N-CA-CB | 110.50 | 102.71 | 1 |
| CA-C-C-CA-CB | 111.60 | 102.44 | 1 |
| CA-C-C-N-CA | 121.70 | 113.45 | 1 |
| C-N-C-N-CA | 121.70 | 113.46 | 1 |
| C-CA-CB | 110.10 | 118.80 | 2 |
| N-CA-C | 113.30 | 100.02 | 1 |
| N-CA-CB | 103.00 | 97.96 | 1 |
| CA-C-N-CA-CB | 103.00 | 108.04 | 1 |
| N-CA-CB | 111.50 | 119.28 | 1 |
| CB-CG-CA-C-O | 120.80 | 128.58 | 1 |
| CA-C-N | 116.20 | 107.04 | 1 |
| C-CA-CB | 111.60 | 102.44 | 1 |
| C-N-CA | 121.70 | 129.94 | 1 |
| CA-C-O | 120.80 | 128.58 | 1 |
| C-CA-CA-CB-CG | 112.60 | 108.02 | 1 |
| N-CA-C | 111.00 | 123.81 | 1 |
| CA-CB-CG | 112.60 | 108.03 | 1 |
| N-CA-CB | 111.50 | 103.72 | 1 |
| CA-C-O | 120.80 | 113.02 | 1 |
| N-CA-CB | 110.50 | 102.73 | 1 |
| CD2-NE2-CE1 | 109.00 | 104.43 | 1 |
| CA-C-O | 120.80 | 128.57 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------|--------------------|-----------------|--------------------|
| CA-C-N | 116.20 | 107.05 | 1 |
| N-CD-CG | 103.20 | 96.34 | 1 |
| C-N-C-CA-CB | 110.10 | 101.41 | 1 |
| CA-C-N | 116.20 | 107.06 | 1 |
| N-CA-CB | 103.00 | 108.03 | 1 |
| C-N-CA | 121.70 | 113.47 | 2 |
| C-CA-CB | 110.10 | 118.78 | 1 |
| CA-C-N | 116.20 | 125.34 | 1 |
| C-CA-C-N-C-CA-C-CA-CB | 110.10 | 101.42 | 1 |
| N-CA-CB | 111.50 | 103.73 | 1 |
| N-CA-C-CA-C-CA-CB | 110.10 | 118.78 | 1 |
| C-N-CA | 121.70 | 113.48 | 1 |
| N-CA-C | 111.00 | 123.79 | 1 |
| N-CA-N-CA-CB | 111.50 | 103.74 | 1 |
| CA-C-O | 120.80 | 128.56 | 2 |
| CA-CB-C-CA-CA-C-N | 116.90 | 110.05 | 1 |
| CA-CB-CG | 113.80 | 109.24 | 2 |
| N-CA-CB | 110.50 | 118.26 | 1 |
| N-CA-CB | 111.50 | 103.74 | 1 |
| N-CA-C | 111.00 | 98.22 | 1 |
| N-CA-C | 111.00 | 123.78 | 1 |
| N-CA-CB | 110.50 | 102.74 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------|--------------------|-----------------|--------------------|
| C-CA-C-CA-N-CA-C | 111.00 | 123.77 | 1 |
| CA-C-N | 116.20 | 125.32 | 1 |
| C-CA-CB | 110.10 | 118.77 | 1 |
| C-CA-CB | 110.10 | 101.43 | 1 |
| CA-CB-CG | 112.60 | 117.16 | 1 |
| N-CA-CB | 111.50 | 103.75 | 2 |
| N-CA-CB | 110.50 | 102.75 | 1 |
| N-CA-C | 111.00 | 123.77 | 1 |
| C-CA-CB | 110.10 | 118.76 | 3 |
| C-N-CA | 121.70 | 113.49 | 1 |
| CA-C-O | 120.80 | 128.55 | 2 |
| C-CA-CA-CB-CG | 112.60 | 108.04 | 2 |
| CA-CB-C-CA-C-N-CA | 121.70 | 113.50 | 1 |
| CG-CD-NE | 112.00 | 101.97 | 1 |
| C-N-C-N-CA-CB-CG | 112.60 | 108.04 | 1 |
| C-N-CA | 121.70 | 113.50 | 1 |
| C-CA-CB | 111.60 | 102.49 | 1 |
| CB-CG-CD2 | 131.20 | 125.28 | 1 |
| C-N-CA-C-O | 120.80 | 113.05 | 1 |
| C-N-CA | 121.70 | 129.90 | 1 |
| C-CA-C-CA-C-N-CA | 121.70 | 113.50 | 1 |
| N-CA-C-CA-CA-C-O | 120.80 | 128.54 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------------|--------------------|-----------------|--------------------|
| CA-C-O | 120.80 | 128.54 | 2 |
| C-CA-C-CA-CA-CB-N-CA-CB | 110.50 | 102.76 | 1 |
| CA-CB-CG | 112.60 | 108.05 | 3 |
| C-N-CA | 121.70 | 113.51 | 3 |
| C-CA-CB | 110.10 | 101.45 | 1 |
| CA-C-C-CA-C-CA-N-CA-CB | 111.50 | 119.23 | 1 |
| CB-CG-CD | 112.60 | 104.87 | 1 |
| C-CA-CA-CB-CG | 112.60 | 108.05 | 1 |
| CD2-NE2-CE1 | 109.00 | 104.45 | 1 |
| CA-C-CA-C-N | 116.20 | 125.30 | 1 |
| N-CA-CB | 110.50 | 102.77 | 2 |
| N-CA-C | 111.00 | 98.27 | 1 |
| C-CA-C-N-N-CA-CB | 110.50 | 118.23 | 1 |
| C-N-N-CA-N-CA-CB | 110.50 | 118.23 | 1 |
| C-N-CA | 121.70 | 113.52 | 2 |
| CA-C-N | 116.20 | 107.11 | 1 |
| C-CA-C-CA-CA-C-N | 116.20 | 125.29 | 1 |
| CA-C-N | 116.20 | 125.29 | 1 |
| CA-C-O | 120.80 | 128.52 | 1 |
| C-CA-C-N-N-CA-C | 111.00 | 123.72 | 1 |
| C-CA-CB | 110.10 | 118.73 | 1 |
| CD2-NE2-N-CA-CB | 110.50 | 102.78 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--------------------|--------------------|-----------------|--------------------|
| C-CA-N-CA-CB | 110.50 | 102.78 | 1 |
| CA-C-N | 116.20 | 107.12 | 1 |
| C-CA-C-CA-CA-C-O | 120.80 | 128.52 | 1 |
| N-CD-CG | 103.20 | 96.39 | 1 |
| C-CA-C-CA-C-CA-CB | 110.10 | 101.48 | 1 |
| CD2-NE2-CE1 | 109.00 | 104.46 | 1 |
| C-N-CA | 121.70 | 129.87 | 2 |
| C-CA-CB | 110.10 | 101.48 | 2 |
| C-N-CA | 121.70 | 113.53 | 1 |
| C-CA-CB | 110.10 | 118.72 | 1 |
| C-CA-CB | 111.60 | 102.53 | 1 |
| C-CA-C-CA-CB | 110.10 | 118.72 | 1 |
| C-N-N-CA-CB | 111.50 | 119.21 | 1 |
| C-N-CA-C-O | 120.80 | 128.51 | 1 |
| N-CA-CB | 110.50 | 102.79 | 1 |
| C-CA-CG-CD2-CA-C-N | 116.20 | 125.26 | 1 |
| C-CA-C-CA-CB | 110.10 | 101.49 | 1 |
| N-CA-C-N-CA-C-O | 120.80 | 128.50 | 1 |
| C-N-CA | 121.70 | 129.86 | 1 |
| C-CA-CB | 110.10 | 118.71 | 1 |
| CA-CB-CG | 112.60 | 108.07 | 1 |
| N-CA-C | 111.00 | 123.68 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------------------|--------------------|-----------------|--------------------|
| N-CD-CG | 103.20 | 96.41 | 1 |
| CA-N-CD | 112.00 | 105.66 | 2 |
| N-CA-CB | 111.50 | 119.20 | 1 |
| N-CA-C-N-CA | 121.70 | 113.55 | 1 |
| CA-C-O | 120.80 | 128.50 | 1 |
| C-CA-CB | 110.10 | 118.70 | 1 |
| C-N-CA | 121.70 | 113.55 | 1 |
| C-CA-N-CA-C | 111.00 | 123.68 | 1 |
| C-CA-C-N-CA | 121.70 | 113.55 | 1 |
| N-CA-CA-C-N | 116.20 | 107.15 | 1 |
| N-CA-C | 111.00 | 123.67 | 1 |
| N-CA-C-CA-CB | 111.60 | 102.55 | 1 |
| CA-C-CD2-NE2-C-CA-C-CA-CA-C-O | 120.80 | 128.49 | 1 |
| CG-CD2-N-CA-CB | 110.50 | 102.81 | 1 |
| CB-CG-CD | 112.60 | 104.91 | 1 |
| C-CA-CA-CB-CG | 113.80 | 109.28 | 1 |
| CA-CB-CG | 113.80 | 109.28 | 1 |
| C-CA-CB | 110.10 | 101.51 | 2 |
| C-CA-N-CA-CA-C-N | 116.20 | 107.16 | 1 |
| CA-C-CD2-NE2-CE1 | 109.00 | 104.48 | 1 |
| N-CA-N-CA-CB | 110.50 | 102.82 | 1 |
| CG-CD2-C-N-CA | 121.70 | 113.56 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---|--------------------|-----------------|--------------------|
| CA-C-O | 120.80 | 128.48 | 1 |
| C-N-CA-C-N | 116.20 | 125.24 | 1 |
| CA-CB-CG | 112.60 | 108.08 | 2 |
| OG1-CB-CG2 | 109.30 | 118.34 | 1 |
| C-CA-CB | 110.10 | 118.69 | 1 |
| N-CA-N-CA-CA-C-N | 116.20 | 107.16 | 1 |
| C-N-CA-C-C-N-CA | 121.70 | 113.57 | 1 |
| C-CA-C-CA-CA-C-C-N-CA | 121.70 | 113.57 | 1 |
| OG1-CB-CG2 | 109.30 | 118.33 | 2 |
| C-N-CA | 121.70 | 113.57 | 1 |
| C-N-C-CA-CB | 110.10 | 101.52 | 1 |
| CA-CB-C-N-C-CA-C-N-C-N-C-N-C-CA-N-CA-CA-C-N | 116.20 | 125.22 | 1 |
| N-CA-N-CA-C | 111.00 | 123.63 | 1 |
| CA-C-CA-C-N | 116.20 | 125.22 | 1 |
| CA-CB-C-N-CA | 121.70 | 113.58 | 1 |
| CA-C-C-N-CA | 121.70 | 129.82 | 1 |
| C-CA-CB | 110.10 | 101.53 | 1 |
| CA-CB-CG | 113.90 | 105.78 | 2 |
| N-CA-CB | 110.50 | 102.83 | 1 |
| C-CA-CB | 110.10 | 118.67 | 2 |
| CA-C-O | 120.80 | 128.47 | 1 |
| N-CA-CB | 110.50 | 118.17 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--------------------------------------|--------------------|-----------------|--------------------|
| N-CA-CB | 110.40 | 117.16 | 1 |
| CA-C-O | 120.80 | 128.46 | 1 |
| CA-C-N | 116.20 | 107.18 | 1 |
| N-CA-CA-CB-CG | 112.60 | 108.09 | 1 |
| C-N-CA-N-CA-N-CD | 112.00 | 105.69 | 1 |
| N-CA-C-CA-N-CA-CB | 103.00 | 107.96 | 1 |
| CA-CB-CG | 112.60 | 108.09 | 1 |
| N-CA-CB | 111.50 | 103.84 | 1 |
| N-CA-C | 111.00 | 123.62 | 1 |
| C-CA-CB | 110.10 | 101.54 | 2 |
| N-CA-CB | 110.50 | 118.16 | 1 |
| CA-C-C-CA-C-N-CA-C-C-CA-C-CA-C-CA-CB | 110.10 | 118.66 | 1 |
| C-CA-CB | 110.10 | 118.66 | 1 |
| C-CA-CB-CG-CD | 112.60 | 120.26 | 1 |
| N-CA-CB | 111.50 | 119.16 | 1 |
| CA-CB-CA-CB-CG | 112.60 | 108.10 | 1 |
| CD2-NE2-CE1 | 109.00 | 104.50 | 1 |
| CA-CB-C-N-CA-C-C-N-CA | 121.70 | 113.60 | 1 |
| C-CA-CB | 110.10 | 101.55 | 2 |
| C-N-C-CA-CA-C-O | 120.80 | 111.35 | 1 |
| C-N-C-CA-CA-C-N | 116.20 | 125.20 | 1 |
| C-CA-C-CA-CD2-NE2-CE1 | 109.00 | 104.50 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 110.10 | 118.65 | 1 |
| CA-C-N | 116.20 | 125.19 | 1 |
| CA-CB-CG | 112.60 | 108.10 | 1 |
| C-N-CA | 121.70 | 129.79 | 1 |
| C-N-CD2-NE2-CE1 | 109.00 | 104.51 | 1 |
| C-N-C-N-CA-C-O | 120.80 | 128.44 | 1 |
| N-CA-C | 111.00 | 98.42 | 2 |
| N-CA-N-CA-N-CA-CB | 111.50 | 119.14 | 1 |
| C-CA-CA-C-O | 120.80 | 111.36 | 1 |
| N-CA-C-N-CA | 121.70 | 129.79 | 1 |
| CD2-NE2-CE1 | 109.00 | 104.51 | 3 |
| CA-C-O | 120.80 | 128.44 | 1 |
| CA-C-CA-CB-CG | 112.60 | 108.11 | 1 |
| CG-CD2-CA-N-CD | 112.00 | 105.71 | 1 |
| N-CA-CB | 110.40 | 117.14 | 1 |
| NE-CZ-NH2 | 119.20 | 123.24 | 1 |
| CA-C-O | 120.80 | 128.43 | 1 |
| N-CA-CB | 110.40 | 103.66 | 1 |
| C-CA-N-CD-CG | 103.20 | 96.46 | 1 |
| N-CA-CA-C-N | 116.20 | 125.18 | 1 |
| C-N-C-CA-CB | 109.10 | 118.98 | 1 |
| C-N-C-CA-CB | 110.10 | 118.63 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------------|--------------------|-----------------|--------------------|
| CA-N-CD | 112.00 | 105.72 | 1 |
| C-CA-CB | 110.10 | 101.57 | 1 |
| C-CA-C-CA-CB | 110.10 | 118.63 | 1 |
| N-CA-CB | 110.50 | 102.87 | 1 |
| CA-CB-CA-CB-OG | 111.10 | 102.13 | 1 |
| CA-C-N | 116.20 | 107.23 | 1 |
| CA-C-N | 116.20 | 125.17 | 2 |
| N-CA-CD2-NE2-CB-CG-CD2 | 131.20 | 125.37 | 1 |
| CD2-NE2-CE1 | 109.00 | 104.52 | 2 |
| C-CA-CA-CB-N-CA-CB | 110.50 | 102.88 | 1 |
| C-CA-CB | 110.10 | 101.58 | 3 |
| C-CA-CB | 110.10 | 118.62 | 2 |
| CA-CB-OG | 111.10 | 102.14 | 1 |
| C-CA-N-CA-CA-C-CD2-NE2-CE1 | 109.00 | 104.52 | 1 |
| N-CA-C | 111.00 | 98.45 | 1 |
| CA-C-N | 116.20 | 125.16 | 1 |
| N-CA-CA-C-CA-C-C-N-CA-CB-CG | 113.80 | 109.32 | 1 |
| C-N-C-CA-C-CA-C-N-CA | 121.70 | 113.64 | 1 |
| C-CA-CB | 110.10 | 118.61 | 1 |
| N-CA-CB | 110.50 | 102.89 | 1 |
| C-CA-CD2-NE2-CE1 | 109.00 | 104.52 | 1 |
| OG1-CB-CG2 | 109.30 | 118.26 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------------------------|--------------------|-----------------|--------------------|
| C-CA-C-CA-CA-C-CA-C-O | 120.80 | 128.41 | 1 |
| N-CA-CB | 111.50 | 103.89 | 1 |
| CA-C-O | 120.80 | 111.40 | 1 |
| CA-C-CA-CB-CG | 112.60 | 108.12 | 1 |
| CA-C-O | 120.80 | 128.41 | 1 |
| CA-CB-CG | 112.60 | 108.12 | 1 |
| C-N-CA | 121.70 | 129.76 | 2 |
| C-CA-N-CA-N-CA-CB | 110.40 | 103.69 | 1 |
| C-CA-CB | 110.10 | 118.60 | 1 |
| C-N-CA | 121.70 | 129.75 | 2 |
| C-CA-CB | 110.10 | 101.60 | 1 |
| CA-C-O | 120.80 | 113.20 | 2 |
| CA-CB-CG | 112.60 | 108.13 | 1 |
| CA-CB-C-N-N-CA-C-CA-CB | 110.10 | 101.60 | 1 |
| CD2-NE2-C-CA-CB | 111.40 | 102.90 | 1 |
| CA-C-N | 116.20 | 125.14 | 2 |
| C-CA-CD2-NE2-N-CA-N-CA-C-N-N-CA-CB | 110.50 | 102.90 | 1 |
| CD2-NE2-CE1 | 109.00 | 104.53 | 2 |
| C-CA-CB | 110.10 | 101.61 | 1 |
| OE1-CD-OE2 | 122.90 | 112.17 | 1 |
| N-CA-C | 111.00 | 98.49 | 1 |
| C-CA-C-CA-CB | 110.10 | 101.61 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------------------|--------------------|-----------------|--------------------|
| C-N-C-N-N-CA-C-CA-CB | 109.10 | 118.93 | 1 |
| N-CA-C-N-CA-C-O | 120.80 | 128.40 | 1 |
| C-CA-N-CA-CA-C-CA-CB-C-CA-C-CA-CB | 111.40 | 102.91 | 1 |
| C-CA-N-CA-CA-C-C-N-CA | 121.70 | 113.66 | 1 |
| N-CA-CB | 111.50 | 103.91 | 1 |
| C-CA-CB | 110.10 | 118.58 | 1 |
| CA-C-N-CA-CB | 111.50 | 119.09 | 1 |
| C-CA-C-CA-CB | 110.10 | 101.62 | 2 |
| CA-C-O | 120.80 | 128.39 | 1 |
| C-CA-N-CA-CB | 111.50 | 103.91 | 1 |
| N-CA-C | 111.00 | 98.51 | 1 |
| CA-C-C-N-CA | 121.70 | 129.73 | 1 |
| C-N-CD2-NE2-CE1 | 109.00 | 104.54 | 1 |
| CB-CG-CD | 112.60 | 120.18 | 1 |
| CA-C-N-CA-C | 111.00 | 98.51 | 1 |
| N-CA-CB | 110.50 | 118.08 | 2 |
| C-CA-C-N-N-CA-CA-C-C-CA-CB | 111.40 | 119.87 | 1 |
| N-CA-CB | 110.50 | 102.92 | 1 |
| C-CA-CB | 110.10 | 118.57 | 2 |
| CD1-CG-CD2 | 110.80 | 100.99 | 1 |
| C-N-N-CA-C-CA-CB | 110.10 | 118.57 | 1 |
| C-N-CA | 121.70 | 113.68 | 2 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---------------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 110.10 | 101.63 | 1 |
| N-CA-C-CA-CB | 110.10 | 101.63 | 1 |
| CA-CB-CG | 104.50 | 96.03 | 1 |
| C-CA-CB | 110.10 | 118.56 | 3 |
| N-CA-CB | 110.50 | 118.07 | 1 |
| C-N-CA | 121.70 | 129.72 | 1 |
| CA-C-CA-C-N | 116.20 | 125.11 | 1 |
| C-CA-CA-C-N | 116.20 | 107.29 | 1 |
| C-N-C-N-C-CA-C-CA-C-CA-CB | 110.10 | 101.64 | 1 |
| C-CA-C-CA-N-CA-C-CA-CB | 110.10 | 118.56 | 1 |
| CA-C-O | 120.80 | 128.37 | 1 |
| CA-CB-OG | 111.10 | 102.19 | 1 |
| CA-C-N-CA-CB | 110.50 | 118.07 | 1 |
| CA-N-CD | 112.00 | 105.77 | 1 |
| N-CA-CA-CB-CG | 112.60 | 108.15 | 1 |
| CD1-CG-CD2 | 110.80 | 101.01 | 1 |
| CA-C-O | 120.80 | 113.23 | 2 |
| C-CA-CB | 110.10 | 101.64 | 1 |
| C-CA-N-CA-CB | 110.40 | 103.73 | 1 |
| N-CA-CB | 110.50 | 118.06 | 2 |
| C-N-CA | 121.70 | 113.69 | 1 |
| CD2-NE2-CE1 | 109.00 | 104.55 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|----------------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 110.10 | 118.55 | 1 |
| CA-CB-CG | 113.80 | 109.35 | 1 |
| CA-C-N-CA-CB | 103.00 | 107.89 | 1 |
| C-CA-CB | 110.10 | 101.65 | 2 |
| CA-C-CA-CB-CG | 112.60 | 108.15 | 2 |
| CA-C-CA-C-C-CA-C-CA-CB | 110.10 | 101.65 | 1 |
| C-N-CA | 121.70 | 129.70 | 3 |
| C-N-CA-C-CA-N-C-CA-C-CA-CB | 110.10 | 118.55 | 1 |
| CD2-NE2-CE1 | 109.00 | 104.56 | 2 |
| C-CA-CB | 110.10 | 101.66 | 2 |
| CA-CB-CG | 112.60 | 108.16 | 2 |
| N-CA-CB | 110.50 | 102.94 | 1 |
| CA-C-N | 116.20 | 125.09 | 1 |
| N-CA-C-N-N-CA-CB | 110.50 | 102.95 | 1 |
| CA-C-C-CA-CB | 109.10 | 118.87 | 1 |
| CA-C-O | 120.80 | 128.35 | 1 |
| C-CA-N-CA-C-CA-CB | 110.10 | 118.54 | 1 |
| CA-C-CA-C-C-CA-CA-C-O | 120.80 | 128.35 | 1 |
| C-CA-C-CA-CB | 110.10 | 101.66 | 1 |
| CA-CB-OG | 111.10 | 102.22 | 1 |
| N-CA-N-CA-CA-C-CA-C-O | 120.80 | 128.35 | 1 |
| C-N-CA | 121.70 | 129.69 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------|--------------------|-----------------|--------------------|
| C-CA-CA-C-CD2-NE2-CE1 | 109.00 | 104.56 | 1 |
| CA-C-O | 120.80 | 128.34 | 2 |
| N-CA-C | 111.00 | 98.58 | 1 |
| C-CA-CB | 110.10 | 118.53 | 1 |
| CA-CB-N-CA-CB | 110.50 | 118.04 | 1 |
| N-CA-CB | 110.50 | 118.04 | 1 |
| C-CA-CB | 110.10 | 101.67 | 1 |
| C-N-CA | 121.70 | 113.72 | 1 |
| C-N-CA | 121.70 | 129.68 | 2 |
| N-CA-C-N-CA | 121.70 | 129.68 | 1 |
| N-CA-C | 111.00 | 123.41 | 1 |
| CA-C-N | 116.20 | 125.07 | 1 |
| C-CA-CB | 110.10 | 118.52 | 1 |
| N-CA-C-CA-N-CA-CB | 103.00 | 107.87 | 1 |
| C-CA-CB | 110.10 | 101.68 | 1 |
| N-CA-C | 111.00 | 98.60 | 2 |
| CA-C-C-CA-CB | 110.10 | 101.68 | 1 |
| N-CA-C-CA-CB | 110.10 | 101.68 | 1 |
| N-CA-CB | 110.50 | 102.97 | 1 |
| CA-CB-CG | 104.50 | 96.09 | 1 |
| C-CA-CB | 109.10 | 118.84 | 1 |
| C-CA-CA-CB-CG | 112.60 | 108.17 | 2 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---------------------------|--------------------|-----------------|--------------------|
| N-CA-C | 111.00 | 123.40 | 1 |
| N-CA-CA-C-N | 116.20 | 107.34 | 1 |
| CA-C-O | 120.80 | 111.50 | 1 |
| C-CA-CB | 110.10 | 101.69 | 1 |
| CA-CB-CG | 112.60 | 108.17 | 1 |
| CA-C-O | 120.80 | 113.27 | 1 |
| C-CA-CB | 110.10 | 118.51 | 1 |
| CA-C-N | 116.20 | 125.05 | 1 |
| C-N-CA | 121.70 | 129.66 | 1 |
| CA-C-O | 120.80 | 128.32 | 1 |
| N-CA-CB | 110.50 | 102.98 | 1 |
| C-N-CD2-NE2-CE1 | 109.00 | 104.58 | 1 |
| C-CA-N-CA-C-N-N-CA-C | 111.00 | 98.62 | 1 |
| C-CA-CA-C-N | 116.20 | 125.04 | 2 |
| C-CA-N-CA-C-N-CD2-NE2-CE1 | 109.00 | 104.58 | 1 |
| N-CA-CB | 103.00 | 98.14 | 1 |
| CA-C-O | 120.80 | 113.28 | 1 |
| C-N-CA | 121.70 | 113.74 | 1 |
| C-CA-CA-C-O | 120.80 | 128.31 | 1 |
| C-CA-CB | 110.10 | 118.50 | 1 |
| C-N-CA | 121.70 | 129.65 | 1 |
| CA-C-N | 116.20 | 125.04 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---------------------------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 110.10 | 101.71 | 2 |
| CA-N-CD | 112.00 | 105.81 | 1 |
| CD2-NE2-CE1 | 109.00 | 104.58 | 2 |
| CA-C-C-N-CA | 121.70 | 129.65 | 1 |
| C-N-C-CA-C-CA-CB | 110.10 | 118.49 | 1 |
| CA-C-CA-CB-CG | 112.60 | 117.02 | 1 |
| N-CA-C | 111.00 | 98.64 | 3 |
| C-CA-CB | 110.10 | 118.49 | 1 |
| C-N-CA-CB-CG | 113.80 | 109.39 | 1 |
| C-N-CA-C-N | 116.20 | 125.03 | 1 |
| C-N-CA | 121.70 | 129.64 | 1 |
| C-N-CA | 121.70 | 113.76 | 3 |
| N-CA-C-N-C-CA-CA-C-C-N-CA | 121.70 | 129.64 | 1 |
| CA-C-O | 120.80 | 113.30 | 1 |
| C-CA-CB | 110.10 | 101.72 | 2 |
| CA-CB-CA-C-C-CA-N-CA-CA-C-CA-C-C-N-CA | 121.70 | 113.76 | 1 |
| C-N-CA-C-CA-C-C-CA-CB | 110.10 | 101.72 | 1 |
| C-N-CD2-NE2-CE1 | 109.00 | 104.59 | 1 |
| C-N-N-CA-C-N-CA | 121.70 | 113.76 | 1 |
| N-CA-C | 111.00 | 98.65 | 1 |
| CA-C-O | 120.80 | 128.30 | 1 |
| CA-CB-CG | 113.80 | 109.39 | 2 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---------------------------------|--------------------|-----------------|--------------------|
| N-CA-C-CA-N-CA-CB | 110.50 | 103.01 | 1 |
| CA-C-C-N-CA-C-N-CA-CA-C-C-CA-CB | 110.10 | 118.47 | 1 |
| CD2-NE2-CE1 | 109.00 | 104.59 | 1 |
| N-CA-CB | 110.50 | 117.99 | 1 |
| OD1-CG-ND2 | 122.60 | 118.19 | 1 |
| C-N-CA | 121.70 | 113.77 | 1 |
| N-CA-N-CA-CB | 110.50 | 103.01 | 1 |
| C-CA-C-CA-N-CA-C-N-C-N-CA | 121.70 | 113.77 | 1 |
| N-CA-C-CA-CB | 110.10 | 118.46 | 2 |
| N-CA-CB | 110.40 | 103.80 | 1 |
| N-CA-C-N-N-CA-CB | 110.50 | 103.02 | 1 |
| C-CA-CB | 110.10 | 118.46 | 1 |
| C-N-C-N-CA | 121.70 | 113.78 | 1 |
| C-N-C-CA-C-N-CA-CB-CG | 113.80 | 109.40 | 1 |
| N-CA-CB | 110.50 | 117.98 | 1 |
| CA-CB-N-CA-C-CA-CB | 111.40 | 103.04 | 1 |
| N-CA-N-CA-C | 111.00 | 98.69 | 1 |
| C-CA-C-N-N-CA-C-CA-CD2-NE2-CE1 | 109.00 | 104.60 | 1 |
| N-CA-CB | 110.50 | 117.97 | 1 |
| CA-CB-CG | 113.80 | 109.41 | 1 |
| CA-C-O | 120.80 | 128.27 | 1 |
| CA-C-N | 116.20 | 124.99 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------------|--------------------|-----------------|--------------------|
| CA-C-C-CA-CB | 110.10 | 118.45 | 1 |
| C-CA-CA-C-N | 116.20 | 124.99 | 1 |
| C-CA-CB | 110.10 | 101.75 | 2 |
| NE-CZ-NH2 | 119.20 | 123.15 | 1 |
| C-N-CA | 121.70 | 129.61 | 1 |
| N-CA-C-CA-C-CA-CB | 110.10 | 101.76 | 1 |
| C-CA-CB | 110.10 | 118.44 | 1 |
| C-CA-N-CA-N-CA-N-CA-C-CA-CB | 110.10 | 118.44 | 1 |
| C-N-C-N-CA-CB-C-CA-CB | 110.10 | 118.44 | 1 |
| C-N-CA | 121.70 | 113.80 | 2 |
| CA-C-CA-C-N | 116.20 | 124.98 | 1 |
| N-CA-CD2-NE2-CE1 | 109.00 | 104.61 | 1 |
| N-CA-C-CA-CB | 110.10 | 101.76 | 1 |
| CA-C-O | 120.80 | 128.26 | 1 |
| N-CA-C-N-CA | 121.70 | 113.80 | 1 |
| CA-N-CD | 112.00 | 105.86 | 1 |
| C-N-N-CA-C-N-N-CA-CB | 110.50 | 103.04 | 1 |
| C-CA-CB | 110.10 | 118.43 | 1 |
| C-N-CA-C-N-CA-C-N-C-CA-CB | 110.10 | 118.43 | 1 |
| N-CA-C-N-CA | 121.70 | 113.81 | 1 |
| C-N-C-CA-CB | 110.10 | 101.77 | 1 |
| CA-C-C-CA-CB | 110.10 | 101.77 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 110.50 | 117.07 | 1 |
| N-CA-C-CA-C-N-CA | 121.70 | 129.59 | 1 |
| C-CA-CB | 111.60 | 120.36 | 1 |
| N-CA-CB | 111.50 | 104.05 | 1 |
| C-N-CA | 121.70 | 113.82 | 2 |
| C-CA-CD2-NE2-CE1 | 109.00 | 104.62 | 1 |
| C-CA-C-CA-N-CA-CG-CD2-N-CA-CB | 110.50 | 103.06 | 1 |
| C-N-CA | 121.70 | 129.58 | 2 |
| C-CA-CA-CB-CA-C-N-CA-CB | 111.50 | 104.06 | 1 |
| N-CA-CB | 103.00 | 98.18 | 1 |
| C-CA-C-CA-CB | 111.40 | 103.08 | 1 |
| C-N-CA-C-O | 120.80 | 113.36 | 1 |
| CD2-NE2-CE1 | 109.00 | 104.62 | 1 |
| N-CA-CB | 110.50 | 117.94 | 1 |
| CA-C-C-CA-CB | 111.40 | 119.72 | 1 |
| CA-CB-C-CA-CB | 110.10 | 118.41 | 1 |
| C-CA-CA-CB-N-CA-CB | 110.50 | 117.94 | 1 |
| N-CA-CA-CB-CG | 112.60 | 116.98 | 1 |
| N-CA-C | 111.00 | 98.75 | 1 |
| CD2-NE2-C-N-CA | 121.70 | 113.83 | 1 |
| CA-C-CA-C-CA-CB-C-CA-CB | 110.10 | 118.41 | 1 |
| C-CA-CB | 110.10 | 101.79 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------------------------|--------------------|-----------------|--------------------|
| CA-C-C-CA-CB | 110.10 | 101.79 | 1 |
| N-CA-C-CA-CB | 110.10 | 118.41 | 1 |
| C-N-CA | 121.70 | 113.83 | 1 |
| N-CA-CA-C-N-CA-C-N-CA | 121.70 | 129.57 | 1 |
| C-CA-C-N-CA | 121.70 | 113.84 | 1 |
| C-CA-C-CA-CB | 109.10 | 99.49 | 1 |
| N-CA-N-CA-CB | 111.50 | 118.93 | 1 |
| C-CA-CB | 110.10 | 118.40 | 1 |
| CA-CB-CG | 113.80 | 109.43 | 1 |
| N-CA-CB | 110.50 | 117.93 | 1 |
| N-CA-N-CA-CB | 110.50 | 117.93 | 1 |
| CA-C-O | 120.80 | 113.38 | 1 |
| C-CA-CB | 110.10 | 101.80 | 1 |
| CA-C-CA-CB-CG | 112.60 | 108.23 | 1 |
| C-N-CA-C-N | 116.20 | 107.47 | 1 |
| CA-C-N-CA-CB | 110.50 | 103.08 | 1 |
| C-N-CA-C-CA-C-N-CA-CB | 111.50 | 118.92 | 1 |
| C-N-C-N-CA | 121.70 | 113.84 | 1 |
| N-CA-C-N-CA | 121.70 | 113.85 | 1 |
| N-CA-CB | 103.00 | 107.80 | 1 |
| CA-C-C-N-C-N-CA | 121.70 | 113.85 | 1 |
| N-CA-N-CA-CD2-NE2-N-CA-CA-C-C-CA-CB | 110.10 | 118.39 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 110.10 | 118.39 | 2 |
| N-CA-CB | 111.50 | 104.09 | 1 |
| C-CA-CB | 110.50 | 117.04 | 1 |
| CA-CB-C-CA-CB | 110.10 | 101.81 | 1 |
| C-N-CA | 121.70 | 113.85 | 2 |
| CA-C-O | 120.80 | 113.39 | 1 |
| C-CA-N-CA-N-CA-CB | 103.00 | 98.20 | 1 |
| CA-C-N | 116.20 | 124.92 | 1 |
| C-N-CA | 121.70 | 129.55 | 1 |
| C-CA-CB | 110.10 | 101.82 | 2 |
| N-CA-CB | 111.50 | 118.91 | 2 |
| CA-C-C-N-CA | 121.70 | 113.85 | 1 |
| N-CA-CA-C-O | 120.80 | 128.21 | 1 |
| C-CA-CB | 110.10 | 118.38 | 1 |
| C-N-CA | 121.70 | 113.86 | 4 |
| CA-C-CD2-NE2-CE1 | 109.00 | 104.64 | 1 |
| C-CA-OD1-CG-ND2 | 122.60 | 118.24 | 1 |
| CA-C-N-CA-CB | 110.40 | 103.87 | 1 |
| N-CA-CB | 110.50 | 117.91 | 1 |
| N-CA-CB | 110.40 | 103.87 | 1 |
| CA-CB-CG | 112.60 | 108.24 | 1 |
| N-CA-CA-N-CD | 112.00 | 105.90 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------|--------------------|-----------------|--------------------|
| C-N-N-CA-C | 111.00 | 98.80 | 1 |
| N-CA-CB | 111.50 | 104.10 | 2 |
| C-CA-CB | 110.10 | 101.83 | 1 |
| CD2-NE2-CE1 | 109.00 | 104.65 | 1 |
| C-CA-C-CA-C-CA-CB | 110.10 | 101.83 | 1 |
| N-CA-N-CA-CB | 103.00 | 107.79 | 1 |
| CA-CB-CG | 112.60 | 108.25 | 2 |
| C-N-C-N-CA | 121.70 | 113.86 | 2 |
| N-CA-CB | 110.50 | 103.10 | 1 |
| CA-C-O | 120.80 | 128.20 | 3 |
| N-CA-CB | 110.50 | 117.90 | 1 |
| CA-C-N | 116.90 | 123.43 | 1 |
| N-CA-CB | 103.00 | 107.79 | 1 |
| N-CA-C-CA-C-N-CA | 121.70 | 113.87 | 1 |
| C-N-CA | 121.70 | 113.87 | 2 |
| N-CA-C | 111.00 | 98.82 | 1 |
| N-CA-CA-C-CA-C-O | 120.80 | 128.19 | 1 |
| N-CA-C-CA-N-CA-CB | 110.50 | 103.11 | 1 |
| C-CA-CA-C-C-CA-CB | 110.10 | 101.84 | 1 |
| C-CA-C-CA-C-CA-CB | 111.40 | 103.14 | 1 |
| C-CA-CA-C-C-CA-CB | 111.60 | 120.29 | 1 |
| C-CA-CB | 109.10 | 118.66 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------|--------------------|-----------------|--------------------|
| N-CA-CD2-NE2-CE1 | 109.00 | 104.65 | 1 |
| N-CA-CA-N-CD | 112.00 | 105.91 | 1 |
| CA-C-N | 116.20 | 124.89 | 1 |
| N-CA-N-CA-CB | 110.50 | 103.11 | 1 |
| OE1-CD-OE2 | 122.90 | 112.47 | 1 |
| C-N-CA | 121.70 | 113.88 | 3 |
| N-CA-CB | 110.50 | 117.88 | 1 |
| N-CA-C-CA-CB | 110.10 | 101.85 | 1 |
| NE-CZ-C-N-CA | 121.70 | 113.88 | 1 |
| C-CA-CB | 110.10 | 118.35 | 1 |
| N-CA-CA-CB-CG | 113.60 | 121.85 | 1 |
| C-N-CA | 121.70 | 129.51 | 1 |
| CA-CB-CD2-NE2-CE1 | 109.00 | 104.66 | 1 |
| N-CA-C-CA-CB | 110.10 | 101.86 | 1 |
| CD2-NE2-C-N-CA | 121.70 | 129.51 | 1 |
| C-CA-CA-CB-CG | 112.60 | 108.26 | 1 |
| CA-CB-CG | 112.60 | 108.26 | 1 |
| N-CA-N-CA-CB | 111.50 | 104.13 | 1 |
| CA-C-C-CA-CB | 110.10 | 118.34 | 1 |
| C-CA-CB | 110.10 | 101.86 | 1 |
| CA-N-CD | 112.00 | 105.93 | 2 |
| CA-C-O | 120.80 | 113.43 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|----------------------------------|--------------------|-----------------|--------------------|
| C-N-C-N-CA | 121.70 | 113.89 | 1 |
| C-N-CA | 121.70 | 129.50 | 1 |
| N-CA-CB | 111.50 | 104.13 | 1 |
| N-CA-C-CA-CB | 110.50 | 117.00 | 1 |
| C-CA-CB | 109.10 | 99.56 | 1 |
| C-N-CA | 121.70 | 113.90 | 1 |
| C-CA-C-CA-CB | 110.10 | 101.86 | 1 |
| C-CA-C-N-CA | 121.70 | 113.90 | 1 |
| CA-C-N-CA-CB | 111.50 | 104.13 | 1 |
| C-CA-N-CA-C-CA-NE-CZ-C-CA-CA-C-O | 120.80 | 113.43 | 1 |
| N-CA-CB | 110.50 | 117.87 | 1 |
| CA-C-CA-CB-CD2-NE2-CA-C-CA-CB-CG | 113.60 | 121.83 | 1 |
| CA-C-CA-C-CA-N-CD | 112.00 | 105.94 | 1 |
| N-CA-CA-C-C-CA-C-N-C-CA-CB | 110.10 | 101.87 | 1 |
| C-CA-C-CA-CB | 110.10 | 101.87 | 1 |
| C-CA-CB | 110.10 | 118.32 | 3 |
| C-N-CA-C-O | 120.80 | 128.16 | 1 |
| C-CA-CB | 109.10 | 118.62 | 1 |
| C-CA-CA-CB-CG | 113.90 | 106.11 | 1 |
| CA-C-N-CA-C-N-CA | 121.70 | 129.49 | 1 |
| N-CA-C-CA-CB | 110.10 | 101.88 | 1 |
| C-CA-C-N-CA | 121.70 | 129.49 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---------------------------|--------------------|-----------------|--------------------|
| N-CA-C-CA-N-CA-CB | 110.50 | 117.85 | 1 |
| N-CA-CA-C-C-CA-C-CA-CB | 111.40 | 103.18 | 1 |
| C-N-CA | 121.70 | 129.48 | 1 |
| CA-C-C-CA-CA-CB-CG | 113.90 | 106.12 | 1 |
| C-CA-CB | 110.50 | 116.99 | 1 |
| C-CA-CA-C-C-CA-CB | 110.10 | 118.31 | 1 |
| N-CA-CB | 103.00 | 98.24 | 1 |
| CA-C-C-N-C-N-C-CA-C-CA-CB | 111.40 | 103.19 | 1 |
| C-CA-CB | 110.10 | 101.89 | 1 |
| C-CA-CB | 111.40 | 103.19 | 1 |
| C-CA-CB | 110.10 | 118.31 | 1 |
| CA-C-N | 116.90 | 110.42 | 1 |
| CA-C-N | 116.20 | 124.84 | 1 |
| N-CA-CB | 110.50 | 117.85 | 1 |
| CA-N-CD | 112.00 | 105.95 | 1 |
| CA-CB-CG | 112.60 | 108.28 | 2 |
| CA-C-N | 116.90 | 123.38 | 1 |
| C-CA-N-CA-C-CA-CB | 110.10 | 118.31 | 1 |
| C-CA-C-N-N-CA-CB | 110.50 | 117.84 | 1 |
| C-CA-C-CA-C-CA-CB | 110.10 | 118.30 | 1 |
| C-N-CD2-NE2-CE1 | 109.00 | 104.68 | 1 |
| CA-C-N | 116.20 | 124.83 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------------------------|--------------------|-----------------|--------------------|
| C-N-N-CA-N-CA-CD2-NE2-CE1 | 109.00 | 104.69 | 1 |
| C-CA-CB | 110.10 | 101.90 | 1 |
| N-CA-CA-C-O | 120.80 | 113.47 | 1 |
| C-N-CA-C-O | 120.80 | 128.13 | 1 |
| CA-C-C-CA-CB | 110.10 | 118.30 | 1 |
| C-CA-CA-C-C-CA-CA-C-O | 120.80 | 128.13 | 1 |
| CA-CB-CG | 112.60 | 108.29 | 3 |
| CA-C-N-CA-CB | 110.50 | 103.17 | 1 |
| CA-C-N | 116.90 | 123.37 | 1 |
| CA-C-O | 120.80 | 128.13 | 1 |
| C-CA-C-CA-N-CA-CB | 103.00 | 107.74 | 1 |
| CA-C-O | 120.80 | 113.47 | 1 |
| CA-C-N | 116.20 | 124.82 | 1 |
| C-N-CA | 121.70 | 129.46 | 2 |
| N-CA-C | 111.00 | 123.07 | 1 |
| CD2-NE2-CE1 | 109.00 | 104.69 | 1 |
| N-CA-CB | 110.50 | 103.17 | 1 |
| N-CA-CB | 103.00 | 107.74 | 1 |
| C-CA-C-CA-CB | 110.10 | 101.91 | 1 |
| CA-C-C-N-CA-C-N | 116.90 | 110.44 | 1 |
| N-CA-CA-C-N | 116.20 | 124.82 | 1 |
| N-CA-N-CA-C-N-CA-C-C-CA-C-N-C-CA-CB | 110.10 | 118.28 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------------------------|--------------------|-----------------|--------------------|
| C-CA-C-CA-C-N-C-N-CA-CB-CG2 | 110.40 | 117.72 | 1 |
| N-CD-CG | 103.20 | 109.66 | 1 |
| C-CA-CB | 110.10 | 118.28 | 1 |
| CA-C-CA-C-N | 116.90 | 123.36 | 1 |
| CA-C-C-CA-C-N-CA-CB-C-N-CA-C-C-N-CA | 121.70 | 113.95 | 1 |
| C-CA-C-CA-CB | 110.10 | 101.92 | 2 |
| C-N-N-CA-CB | 111.50 | 104.18 | 1 |
| N-CA-CB | 110.50 | 117.81 | 3 |
| CA-C-C-N-C-N-C-CA-CA-N-CD | 112.00 | 105.98 | 1 |
| N-CA-C | 111.00 | 98.96 | 1 |
| C-CA-CA-C-O | 120.80 | 113.49 | 1 |
| C-N-CA-CB-CG | 113.80 | 109.50 | 1 |
| C-CA-CB | 110.10 | 118.27 | 1 |
| C-N-CA-N-CD | 112.00 | 105.98 | 1 |
| C-N-CA | 121.70 | 129.44 | 1 |
| N-CA-C-CA-CB | 110.10 | 101.93 | 1 |
| C-CA-N-CA-CB | 110.50 | 103.19 | 1 |
| N-CA-C-CA-CA-C-C-N-CA-C-O | 120.80 | 128.11 | 1 |
| CA-C-N | 116.20 | 107.60 | 1 |
| N-CA-N-CA-CG-CD2-N-CA-CA-C-CA-N-CD | 112.00 | 105.98 | 1 |
| CA-C-C-CA-CB | 110.10 | 101.94 | 1 |
| CA-C-O | 120.80 | 128.10 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---------------------------|--------------------|-----------------|--------------------|
| C-CA-N-CA-C-N-CA-C-CA-C-N | 116.20 | 124.79 | 1 |
| C-N-C-N-CA | 121.70 | 113.97 | 1 |
| N-CA-CB | 110.50 | 103.20 | 2 |
| C-CA-CB | 110.10 | 101.94 | 2 |
| C-N-CA | 121.70 | 113.97 | 1 |
| CA-C-N | 116.20 | 124.79 | 1 |
| CA-C-N-CA-CB | 110.50 | 103.20 | 1 |
| C-N-CA | 121.70 | 129.43 | 1 |
| C-N-C-N-C-N-N-CD-CG | 103.20 | 96.76 | 1 |
| N-CA-N-CA-CB | 110.40 | 103.96 | 1 |
| N-CA-C | 111.00 | 98.98 | 1 |
| CA-C-N-CA-CB | 110.40 | 103.96 | 1 |
| CA-CB-CG2 | 110.40 | 117.70 | 1 |
| N-CA-CB | 110.50 | 103.21 | 1 |
| N-CA-CB | 111.50 | 118.79 | 1 |
| C-N-CA-CB-CG | 112.60 | 108.31 | 1 |
| N-CA-CB | 110.40 | 103.96 | 1 |
| C-N-C-CA-N-CD-CA-C-N | 116.20 | 124.78 | 1 |
| CA-C-C-CA-N-CA-C-CA-CB | 110.10 | 118.25 | 1 |
| C-CA-CB | 110.10 | 118.25 | 1 |
| CA-C-O | 120.80 | 128.09 | 1 |
| CA-CB-N-CD-CG | 103.20 | 109.63 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--|--------------------|-----------------|--------------------|
| CA-C-N-CA-N-CA-C-CA-CB | 110.10 | 101.96 | 1 |
| CA-C-N | 116.20 | 124.77 | 1 |
| C-CA-C-CA-CA-C-O | 120.80 | 128.08 | 1 |
| CA-C-N | 116.20 | 107.63 | 2 |
| NE-CZ-C-N-C-N-CA | 121.70 | 129.41 | 1 |
| CA-CB-C-CA-C-CA-CB | 110.10 | 118.24 | 1 |
| CA-CB-CG | 113.80 | 109.52 | 1 |
| C-N-CA | 121.70 | 129.41 | 1 |
| C-N-CA-CB-C-N-CA | 121.70 | 129.41 | 1 |
| CA-C-O | 120.80 | 113.52 | 1 |
| CA-C-O | 120.80 | 128.08 | 1 |
| CA-C-N-CA-CA-C-C-CA-C-N-C-N-C-N-CA-CB-CG | 112.60 | 108.32 | 1 |
| C-CA-C-CA-N-CA-CB | 110.50 | 103.23 | 1 |
| C-N-CA | 121.70 | 129.40 | 1 |
| CA-C-O | 120.80 | 113.53 | 2 |
| N-CA-C | 111.00 | 122.98 | 1 |
| CA-C-C-CA-CB | 110.10 | 118.23 | 1 |
| CA-C-O | 120.80 | 128.07 | 1 |
| CA-C-C-N-C-N-CA | 121.70 | 114.00 | 1 |
| N-CA-CB | 110.50 | 117.77 | 1 |
| CG-CD2-CA-CB-C-N-C-CA-CA-C-O | 120.80 | 128.07 | 1 |
| C-N-CA-C-N-CA-CB | 111.50 | 104.23 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--------------------------------------|--------------------|-----------------|--------------------|
| CA-CB-CG | 113.80 | 109.53 | 2 |
| N-CA-C | 111.00 | 122.97 | 1 |
| CA-C-C-CA-CA-C-N | 116.20 | 107.65 | 1 |
| CA-C-O | 120.80 | 128.06 | 1 |
| C-CA-CB | 111.40 | 103.28 | 1 |
| CB-CG-C-N-CA-C-CA-C-O | 120.80 | 113.54 | 1 |
| CA-C-O | 120.80 | 113.54 | 3 |
| C-CA-C-CA-CB | 110.10 | 101.98 | 1 |
| C-CA-CB | 110.10 | 101.99 | 2 |
| C-N-C-N-CA | 121.70 | 129.39 | 1 |
| C-CA-CB | 110.10 | 118.21 | 1 |
| CB-CG-CD | 112.60 | 105.34 | 1 |
| N-CA-CA-CB-C-N-CA | 121.70 | 114.02 | 1 |
| N-CA-C | 111.00 | 99.05 | 1 |
| CB-CG-C-N-N-CA-CB | 111.50 | 118.75 | 1 |
| N-CA-C | 111.00 | 122.94 | 1 |
| CA-C-N | 116.20 | 107.67 | 2 |
| C-N-C-N-CA-CB-CG | 112.60 | 108.34 | 1 |
| C-N-CA | 121.70 | 129.38 | 1 |
| C-CA-CA-CB-CA-CB-CA-CB-CB-CG-N-CA-CB | 110.50 | 117.75 | 1 |
| N-CA-CA-C-O | 120.80 | 113.55 | 1 |
| CA-CB-N-CD-N-CA-C | 111.00 | 99.06 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------|--------------------|-----------------|--------------------|
| CA-C-O | 120.80 | 113.55 | 1 |
| N-CA-C | 113.30 | 125.66 | 1 |
| CA-C-CA-C-N | 116.20 | 107.68 | 1 |
| C-CA-CB | 110.10 | 118.20 | 1 |
| N-CA-CB | 111.50 | 118.74 | 1 |
| CA-C-O | 120.80 | 113.56 | 2 |
| C-CA-CB | 110.10 | 102.01 | 2 |
| C-CA-CB | 110.10 | 118.19 | 1 |
| C-N-CA | 121.70 | 129.37 | 1 |
| N-CA-C | 111.00 | 122.93 | 1 |
| C-CA-CA-C-N | 116.20 | 124.72 | 1 |
| C-N-CA-CB-CG | 112.60 | 108.34 | 1 |
| C-CA-CB | 109.10 | 99.73 | 1 |
| C-N-C-N-C-N-C-N-CA | 121.70 | 129.36 | 1 |
| C-N-CA-C-N | 116.20 | 124.71 | 1 |
| N-CA-C-N-C-CA-C-CA-CB | 110.10 | 118.19 | 1 |
| C-CA-CB | 111.40 | 103.31 | 1 |
| CA-C-N-CA-CB | 110.50 | 117.73 | 1 |
| CA-N-CD | 112.00 | 106.04 | 1 |
| N-CA-CB | 110.50 | 103.27 | 1 |
| C-CA-N-CA-C | 111.00 | 122.91 | 1 |
| CA-CB-CG | 113.90 | 106.24 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---------------------|--------------------|-----------------|--------------------|
| CA-N-CD | 112.00 | 106.05 | 1 |
| N-CA-CB | 111.50 | 104.27 | 1 |
| N-CA-CB | 110.50 | 117.73 | 1 |
| CA-C-C-CA-CB | 110.10 | 118.18 | 1 |
| CA-C-CA-C-O | 120.80 | 113.57 | 1 |
| C-N-N-CA-CA-C-O | 120.80 | 113.57 | 1 |
| CA-C-CB-CG-CA-CB-CG | 113.90 | 106.25 | 1 |
| C-CA-CB | 110.10 | 102.02 | 1 |
| CA-C-O | 120.80 | 128.03 | 1 |
| N-CA-CA-C-C-CA-CB | 110.10 | 102.03 | 1 |
| N-CA-C | 111.00 | 99.10 | 1 |
| C-CA-CB | 111.60 | 120.10 | 1 |
| N-CA-CB | 110.50 | 117.72 | 2 |
| CA-C-O | 120.80 | 128.02 | 1 |
| C-N-CA | 121.70 | 114.05 | 1 |
| CA-C-N | 116.20 | 107.70 | 2 |
| CA-CB-CG | 112.60 | 108.35 | 1 |
| C-CA-CB | 110.10 | 118.17 | 2 |
| CA-C-NE-CZ-C-CA-CB | 111.40 | 103.33 | 1 |
| CA-CB-N-CA-C | 111.00 | 122.89 | 1 |
| N-CA-C | 111.00 | 122.89 | 1 |
| CA-C-N | 116.20 | 124.69 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------|--------------------|-----------------|--------------------|
| C-N-N-CA-CB | 111.50 | 104.28 | 1 |
| C-N-N-CA-C | 111.00 | 122.88 | 1 |
| N-CA-CB | 111.50 | 104.28 | 1 |
| C-N-C-N-C-CA-CB | 110.10 | 118.16 | 1 |
| C-N-N-CA-C-CA-CB | 110.10 | 102.04 | 1 |
| C-CA-CB | 111.60 | 120.09 | 1 |
| N-CA-C | 111.00 | 122.88 | 1 |
| CA-C-C-CA-CB | 111.40 | 103.34 | 1 |
| N-CA-CB | 110.50 | 103.29 | 2 |
| C-N-N-CA-C | 111.00 | 99.12 | 1 |
| C-CA-CB | 110.10 | 118.16 | 1 |
| C-CA-CB | 110.10 | 102.04 | 1 |
| C-CA-C-N-C-CA-CB | 109.10 | 99.77 | 1 |
| C-N-CA | 121.70 | 114.06 | 1 |
| CA-C-O | 120.80 | 128.01 | 1 |
| C-N-CA | 121.70 | 114.07 | 2 |
| C-CA-CA-C-N | 116.20 | 107.72 | 1 |
| CA-CB-C-N-CA | 121.70 | 114.07 | 1 |
| C-CA-CA-N-CD | 112.00 | 106.06 | 1 |
| C-N-C-N-CA | 121.70 | 114.07 | 1 |
| C-CA-C-CA-CB | 110.10 | 118.16 | 1 |
| N-CA-C | 113.30 | 125.59 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--|--------------------|-----------------|--------------------|
| CA-C-C-N-CA | 121.70 | 114.07 | 1 |
| C-N-CA-C-N | 116.20 | 107.72 | 1 |
| N-CA-CB | 110.50 | 117.71 | 1 |
| C-N-N-CA-C | 113.30 | 125.59 | 1 |
| CA-CB-CG | 113.90 | 106.27 | 1 |
| CA-C-CA-C-O | 120.80 | 113.60 | 2 |
| CA-C-N | 116.20 | 107.72 | 1 |
| CA-C-CA-CB-CG | 112.60 | 108.36 | 1 |
| C-N-C-N-CA-C-N | 116.20 | 107.73 | 1 |
| C-N-C-N-N-CA-C | 111.00 | 99.14 | 1 |
| N-CA-CB | 111.50 | 118.70 | 1 |
| C-CA-CB | 110.10 | 118.15 | 2 |
| CA-CB-OG | 111.10 | 102.63 | 1 |
| C-N-CA | 121.70 | 114.08 | 1 |
| C-CA-CB | 110.10 | 102.06 | 1 |
| C-CA-CB | 109.10 | 99.79 | 1 |
| N-CA-CB | 111.50 | 104.30 | 1 |
| CA-C-N | 116.20 | 107.73 | 1 |
| CA-C-O | 120.80 | 128.00 | 1 |
| C-N-CA-C-CA-C-CA-CB-CA-C-C-CA-CG-CD2-N-CA-CA-C-O | 120.80 | 113.61 | 1 |
| C-N-CA | 121.70 | 129.32 | 1 |
| C-CA-N-CA-CB | 111.50 | 118.69 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------------------|--------------------|-----------------|--------------------|
| CA-CB-CG | 112.60 | 108.37 | 1 |
| CA-C-N | 116.20 | 107.74 | 1 |
| C-N-N-CA-C | 111.00 | 99.16 | 1 |
| CA-C-N-CD-CG | 103.20 | 96.86 | 1 |
| C-N-C-N-CA | 121.70 | 114.09 | 1 |
| C-N-N-CA-CA-C-O | 120.80 | 113.61 | 1 |
| N-CA-C | 113.30 | 125.56 | 1 |
| CA-C-N | 116.20 | 124.66 | 1 |
| N-CA-C | 111.00 | 122.84 | 1 |
| C-N-CA | 121.70 | 129.31 | 1 |
| N-CA-CB | 110.40 | 104.06 | 2 |
| CA-C-O | 120.80 | 113.61 | 1 |
| C-CA-CB | 110.10 | 118.13 | 1 |
| C-N-CA-C-CA-C-CA-C-N | 116.20 | 107.75 | 1 |
| C-CA-C-N-CA-C-O | 120.80 | 113.62 | 1 |
| C-CA-C-CA-CA-CB-N-CA-C-CA-CB | 110.50 | 104.16 | 1 |
| C-N-CA | 121.70 | 114.10 | 1 |
| CA-CB-CG | 113.90 | 106.30 | 1 |
| CA-C-O | 120.80 | 113.62 | 2 |
| CA-C-N-CA-C-CA-CB | 110.10 | 102.08 | 1 |
| C-CA-CA-C-N | 116.20 | 107.75 | 1 |
| C-CA-CA-C-N | 116.20 | 107.76 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---------------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 111.60 | 120.04 | 1 |
| C-N-N-CA-C | 111.00 | 99.18 | 1 |
| C-CA-C-CA-CB | 110.10 | 102.08 | 1 |
| C-N-CA | 121.70 | 129.30 | 1 |
| CA-CB-CG | 112.60 | 108.38 | 1 |
| C-CA-CB | 110.10 | 102.08 | 3 |
| C-CA-CA-C-O | 120.80 | 127.97 | 1 |
| C-CA-C-CA-CA-CB-CG | 114.10 | 105.66 | 1 |
| C-N-N-CA-CB | 111.50 | 118.67 | 1 |
| C-CA-C-N-N-CA-C-CA-CA-C-N | 116.20 | 107.76 | 1 |
| N-CA-CB | 110.50 | 103.33 | 1 |
| N-CA-CD-NE-CZ | 124.40 | 118.50 | 1 |
| C-CA-CB | 110.10 | 102.09 | 2 |
| C-N-N-CA-C | 111.00 | 122.80 | 1 |
| CA-C-O | 120.80 | 127.97 | 1 |
| CA-C-C-N-CA | 121.70 | 114.11 | 1 |
| C-N-CA | 121.70 | 114.11 | 2 |
| C-CA-C-N-C-N-C-N-CA | 121.70 | 129.29 | 1 |
| C-N-CA | 121.70 | 129.29 | 1 |
| CA-C-N-CA-C-CA-CB | 110.10 | 102.09 | 1 |
| N-CA-C | 111.00 | 99.20 | 1 |
| C-CA-C-N-C-CA-CB | 110.10 | 118.10 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|----------------------|--------------------|-----------------|--------------------|
| CA-C-CA-C-N | 116.20 | 107.77 | 1 |
| CA-C-O | 120.80 | 127.96 | 1 |
| C-CA-CB | 110.10 | 118.10 | 2 |
| C-CA-CB | 110.10 | 102.10 | 2 |
| N-CA-CA-C-C-CA-CB | 110.10 | 102.10 | 1 |
| C-N-N-CA-CB | 111.50 | 104.34 | 1 |
| C-N-N-CA-CA-C-C-N-CA | 121.70 | 129.28 | 1 |
| C-N-CA-CB-C-N-CA | 121.70 | 114.12 | 1 |
| CA-CB-C-N-CA-N-CD | 112.00 | 106.11 | 1 |
| CA-C-CA-N-CD | 112.00 | 106.11 | 1 |
| C-CA-C-CA-N-CA-C | 111.00 | 99.22 | 1 |
| CA-C-O | 120.80 | 113.65 | 1 |
| CD-NE-CZ | 124.40 | 118.51 | 1 |
| C-N-CA-C-N | 116.20 | 107.79 | 1 |
| C-CA-CB | 110.10 | 102.11 | 1 |
| CA-C-O | 120.80 | 127.95 | 1 |
| C-N-C-N-CA | 121.70 | 114.13 | 1 |
| N-CA-CA-C-CA-C-O | 120.80 | 113.65 | 1 |
| CA-C-N | 116.20 | 107.79 | 1 |
| C-CA-CB | 110.10 | 118.09 | 1 |
| CA-CB-CG | 113.80 | 109.60 | 1 |
| C-CA-C-N-CA-N-C-N-CA | 121.70 | 114.13 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--------------------------------|--------------------|-----------------|--------------------|
| C-CA-C-N-N-CA-CB | 110.50 | 103.35 | 1 |
| C-CA-C-CA-C-CA-CB | 110.10 | 102.12 | 1 |
| N-CA-C | 111.00 | 99.24 | 2 |
| C-CA-CB | 110.10 | 102.12 | 2 |
| C-CA-C-N-N-CA-C | 111.00 | 99.24 | 1 |
| C-N-CA | 121.70 | 114.14 | 1 |
| C-CA-CB | 110.10 | 118.08 | 1 |
| CA-C-C-CA-CA-C-O | 120.80 | 127.94 | 1 |
| CA-C-O | 120.80 | 113.66 | 1 |
| C-N-C-CA-CB | 110.10 | 102.13 | 1 |
| CA-C-N | 116.20 | 107.81 | 1 |
| CA-C-CA-CB-CG | 112.60 | 108.40 | 1 |
| N-CA-CB | 111.50 | 104.37 | 1 |
| C-CA-CB | 110.10 | 102.13 | 2 |
| N-CA-CA-CB-C-CA-CA-C-N | 116.20 | 107.81 | 1 |
| CA-C-C-N-N-CA-CA-C-C-N-C-CA-CB | 110.10 | 102.13 | 1 |
| N-CA-CA-C-N | 116.20 | 107.81 | 1 |
| C-CA-C-CA-CB | 110.10 | 118.07 | 1 |
| CA-C-O | 120.80 | 127.93 | 1 |
| CA-C-C-CA-C-CA-CB | 110.50 | 104.21 | 1 |
| CA-C-N | 116.20 | 107.82 | 1 |
| C-N-C-N-CA | 121.70 | 114.16 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------|--------------------|-----------------|--------------------|
| CA-C-O | 120.80 | 127.92 | 1 |
| N-CA-CB | 110.50 | 103.38 | 2 |
| N-CA-CA-C-C-CA-CB | 110.10 | 102.14 | 1 |
| C-CA-CB | 110.10 | 102.14 | 4 |
| CA-C-O | 120.80 | 113.68 | 1 |
| CA-C-C-N-CA | 121.70 | 129.24 | 1 |
| CB-CG-CD | 112.60 | 105.48 | 1 |
| CA-CB-CG | 114.10 | 105.72 | 1 |
| CA-C-C-CA-CB | 110.10 | 102.14 | 1 |
| C-CA-C-CA-CB | 110.10 | 102.14 | 1 |
| C-N-CA | 121.70 | 114.16 | 1 |
| C-N-C-CA-CB | 110.10 | 118.06 | 1 |
| CA-N-CA-CB-OG | 111.10 | 102.73 | 1 |
| C-CA-C-N-CA | 121.70 | 129.24 | 1 |
| C-CA-CB | 110.10 | 118.05 | 2 |
| N-CA-C | 111.00 | 99.28 | 1 |
| N-CA-C-CA-CB | 111.40 | 103.45 | 1 |
| C-CA-CB | 109.10 | 99.89 | 1 |
| N-CA-N-CA-C | 111.00 | 99.28 | 1 |
| C-N-CA | 121.70 | 114.17 | 1 |
| CA-CB-CG | 112.60 | 108.42 | 2 |
| C-CA-C-CA-CB | 110.10 | 118.05 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------------------|--------------------|-----------------|--------------------|
| C-N-C-N-CA-CB-CA-C-O | 120.80 | 113.69 | 1 |
| N-CA-C | 111.00 | 99.29 | 1 |
| N-CA-CB | 110.50 | 117.61 | 1 |
| C-CA-CB | 110.10 | 102.15 | 1 |
| C-N-CA | 121.70 | 129.23 | 1 |
| N-CA-CB-CG-CD | 112.60 | 105.49 | 1 |
| C-CA-CA-C-O | 120.80 | 127.91 | 1 |
| CA-C-O | 120.80 | 127.91 | 1 |
| C-CA-CB | 110.10 | 102.16 | 1 |
| N-CA-N-CA-CB | 110.50 | 103.39 | 1 |
| OE1-CD-NE2 | 122.60 | 118.42 | 1 |
| C-CA-CB | 109.10 | 118.30 | 1 |
| C-N-CA | 121.70 | 114.18 | 1 |
| CA-CB-C-CA-CB | 111.60 | 119.96 | 1 |
| CA-CB-OG1 | 109.60 | 103.33 | 1 |
| C-N-N-CA-C-N-C-N-CA-C-N-CA-N-CA-C | 112.10 | 122.54 | 1 |
| C-N-N-CA-C | 111.00 | 99.31 | 1 |
| N-CA-C | 111.00 | 99.31 | 1 |
| N-CA-CB | 110.50 | 103.40 | 1 |
| N-CA-CB | 111.50 | 104.40 | 1 |
| C-CA-CB | 110.10 | 118.04 | 2 |
| CA-C-O | 120.80 | 113.70 | 2 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|----------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 110.50 | 104.24 | 1 |
| C-CA-CB | 111.40 | 119.33 | 1 |
| CA-C-N | 116.20 | 107.85 | 1 |
| N-CA-CB | 110.40 | 104.14 | 1 |
| C-CA-CB | 110.10 | 102.17 | 6 |
| CA-C-N-CA-C | 111.00 | 99.31 | 1 |
| C-N-CA | 121.70 | 129.21 | 1 |
| C-CA-CB | 110.10 | 118.03 | 2 |
| CA-C-CA-CB-CG | 114.10 | 105.75 | 1 |
| C-N-C-N-N-CA-C | 111.00 | 99.31 | 1 |
| C-CA-CB | 110.50 | 116.76 | 1 |
| N-CA-C | 111.00 | 99.32 | 2 |
| CA-C-CA-C-O | 120.80 | 113.71 | 1 |
| C-N-C-CA-C-CA-N-CA-C | 112.10 | 101.67 | 1 |
| N-CA-C | 111.00 | 122.68 | 1 |
| CA-C-N | 116.20 | 107.86 | 2 |
| N-CA-CA-C-O | 120.80 | 113.71 | 1 |
| C-CA-CB | 110.10 | 118.02 | 3 |
| C-N-CA | 121.70 | 114.19 | 1 |
| N-CA-C-CA-CB | 110.10 | 118.02 | 1 |
| CA-C-O | 120.80 | 127.89 | 1 |
| C-N-CA-C-CA-C-O | 120.80 | 127.89 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------------|--------------------|-----------------|--------------------|
| N-CA-CB | 110.50 | 103.41 | 1 |
| N-CA-C | 111.00 | 122.67 | 1 |
| CA-C-N | 116.20 | 124.53 | 1 |
| CA-CB-OG1 | 109.60 | 103.35 | 1 |
| N-CA-C | 111.00 | 99.33 | 1 |
| C-CA-CB | 110.50 | 116.75 | 1 |
| N-CA-CB | 110.50 | 117.58 | 1 |
| CA-N-CD | 112.00 | 106.17 | 1 |
| N-CA-N-CA-CB | 110.50 | 117.58 | 1 |
| C-N-CA | 121.70 | 114.20 | 1 |
| CA-C-N | 116.20 | 107.87 | 1 |
| C-N-N-CA-C | 111.00 | 99.34 | 1 |
| N-CA-C | 113.30 | 101.22 | 1 |
| C-CA-C-CA-CB | 110.50 | 116.75 | 1 |
| CA-C-O | 120.80 | 113.72 | 1 |
| C-N-CA-N-CD | 112.00 | 106.17 | 1 |
| C-N-C-CA-C-CA-CA-CB-CG | 114.10 | 105.78 | 1 |
| N-CA-C | 111.00 | 122.65 | 1 |
| N-CA-C | 111.00 | 99.35 | 1 |
| CA-N-N-CA-CB | 110.50 | 103.43 | 1 |
| C-N-N-CA-C | 111.00 | 99.35 | 1 |
| C-CA-CB | 110.10 | 118.01 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------------------|--------------------|-----------------|--------------------|
| CA-C-C-CA-CB | 110.10 | 102.19 | 1 |
| C-N-CA | 121.70 | 129.19 | 1 |
| C-CA-C-CA-N-CA-C-CA-CA-N-CA-CB-CG | 114.10 | 105.78 | 1 |
| N-CA-CA-C-N | 116.20 | 124.52 | 1 |
| C-N-CA | 121.70 | 114.21 | 1 |
| C-CA-CB | 110.10 | 118.00 | 1 |
| CA-C-N-CA-C | 111.00 | 99.36 | 1 |
| CA-CB-CG | 113.80 | 109.64 | 1 |
| C-CA-CA-CB-CG | 114.10 | 105.78 | 1 |
| CA-C-O | 120.80 | 127.87 | 2 |
| CA-C-N | 116.20 | 124.52 | 1 |
| C-CA-CB | 111.40 | 119.30 | 1 |
| C-N-C-N-CA | 121.70 | 129.18 | 1 |
| N-CA-CB | 110.50 | 117.56 | 1 |
| CA-C-N | 116.20 | 107.89 | 3 |
| C-CA-CB | 110.10 | 102.20 | 1 |
| N-CA-C-N-N-CA-C | 111.00 | 122.63 | 1 |
| CA-C-N-CA-C | 112.10 | 122.49 | 1 |
| N-CA-C | 112.10 | 122.49 | 1 |
| CA-C-O | 120.80 | 113.74 | 1 |
| C-CA-CB | 110.10 | 102.21 | 1 |
| CA-CB-CA-C-O | 120.80 | 113.74 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------------------|--------------------|-----------------|--------------------|
| C-N-CA | 121.70 | 129.18 | 1 |
| N-CA-N-CA-CB | 110.50 | 103.44 | 1 |
| N-CA-C | 111.00 | 99.37 | 1 |
| CA-C-C-CA-CB | 110.10 | 102.21 | 1 |
| CA-C-CA-C-C-CA-CB | 110.10 | 102.21 | 1 |
| N-CA-C | 112.10 | 101.72 | 1 |
| N-CA-N-CA-CB | 110.50 | 103.45 | 1 |
| CA-CB-CG | 113.80 | 117.95 | 1 |
| C-CA-CB | 111.40 | 103.52 | 1 |
| N-CA-CB | 110.50 | 117.55 | 2 |
| C-CA-CB | 110.10 | 102.22 | 3 |
| CB-CG-CD | 112.60 | 105.55 | 2 |
| N-CA-CB | 110.50 | 103.45 | 1 |
| C-CA-C-CA-CB | 111.40 | 103.52 | 1 |
| N-CA-N-CA-C | 111.00 | 99.39 | 1 |
| C-CA-CA-CB-OG1 | 109.60 | 103.38 | 1 |
| C-N-CA-C-C-CA-CA-CB-CA-CB-OG1 | 109.60 | 103.38 | 1 |
| CA-C-O | 120.80 | 113.75 | 1 |
| C-N-CA | 122.60 | 143.33 | 2 |
| N-CA-CB | 111.50 | 118.55 | 1 |
| C-CA-CB | 110.10 | 117.98 | 1 |
| CA-C-N | 116.20 | 107.91 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------|--------------------|-----------------|--------------------|
| C-N-CA | 121.70 | 114.24 | 2 |
| N-CA-C-CA-N-CA-C | 111.00 | 99.40 | 1 |
| N-CA-C | 112.10 | 101.74 | 1 |
| N-CA-C | 113.30 | 101.28 | 1 |
| C-CA-C-N-CA-C-O | 120.80 | 113.76 | 1 |
| N-CA-C | 111.00 | 99.40 | 2 |
| N-CA-CB | 110.50 | 103.46 | 1 |
| C-CA-CB | 110.10 | 117.97 | 1 |
| C-CA-CB | 110.10 | 102.23 | 1 |
| CA-C-O | 120.80 | 127.84 | 1 |
| CA-CB-CG | 112.60 | 108.46 | 1 |
| CA-CB-CA-N-N-CA-C | 111.00 | 99.41 | 1 |
| CA-C-CB-CG-CD | 112.60 | 105.56 | 1 |
| N-CA-C | 111.00 | 99.41 | 1 |
| C-CA-CB | 110.10 | 102.24 | 1 |
| CA-CB-OG1 | 109.60 | 103.39 | 1 |
| C-N-CA | 121.70 | 129.15 | 1 |
| C-N-OE1-CD-NE2 | 122.60 | 118.46 | 1 |
| N-CA-C | 111.00 | 99.42 | 1 |
| C-N-N-CA-C | 111.00 | 99.42 | 1 |
| CA-C-C-CA-CB | 111.40 | 119.26 | 1 |
| CA-CB-CG | 114.10 | 105.83 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------------|--------------------|-----------------|--------------------|
| CA-CB-CG | 113.80 | 117.93 | 2 |
| CA-C-C-CA-CB | 110.10 | 102.25 | 1 |
| CA-C-C-CA-CB | 110.10 | 117.95 | 1 |
| C-CA-CB | 110.10 | 117.95 | 3 |
| N-CA-C | 111.00 | 99.43 | 1 |
| N-CA-C | 111.00 | 122.57 | 1 |
| CA-C-O | 120.80 | 113.77 | 1 |
| CA-CB-C-CA-CB | 110.10 | 117.95 | 1 |
| CA-C-O | 120.80 | 113.78 | 1 |
| C-CA-CB | 111.40 | 119.25 | 1 |
| C-N-CA | 121.70 | 114.26 | 1 |
| CA-C-C-N-CA | 121.70 | 114.26 | 1 |
| CA-C-N | 116.20 | 107.94 | 2 |
| OE1-CD-NE2 | 122.60 | 118.47 | 1 |
| C-N-N-CA-N-CA-CA-CB-C-CA-CB | 110.10 | 117.95 | 1 |
| C-CA-CB | 110.10 | 102.25 | 1 |
| CA-CB-CG | 114.10 | 105.84 | 1 |
| C-CA-CB | 109.10 | 118.18 | 1 |
| C-N-CA | 121.70 | 129.13 | 1 |
| N-CA-C | 111.00 | 122.56 | 1 |
| CA-C-C-CA-CB | 110.10 | 102.26 | 1 |
| C-CA-C-N-CA | 121.70 | 129.13 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-------------------|--------------------|-----------------|--------------------|
| C-N-CA-C-CA-C-O | 120.80 | 127.82 | 1 |
| C-CA-CB | 111.40 | 103.56 | 1 |
| CA-CB-C-CA-CB | 110.10 | 102.26 | 1 |
| C-N-CA-CB-C-CA-CB | 110.10 | 102.26 | 1 |
| CA-CB-CG | 112.60 | 108.47 | 1 |
| CA-C-O | 120.80 | 113.79 | 2 |
| C-CA-CB | 110.10 | 117.94 | 1 |
| N-CA-C-N-CA | 121.70 | 129.13 | 1 |
| C-CA-CA-CB-CG | 114.10 | 105.85 | 1 |
| C-CA-CA-CB-CG | 112.60 | 116.73 | 1 |
| N-CA-CB | 103.00 | 107.54 | 1 |
| CA-C-O | 120.80 | 127.81 | 1 |
| C-N-CA | 121.70 | 129.12 | 1 |
| C-N-N-CA-C | 111.00 | 99.45 | 1 |
| N-CA-C | 112.10 | 122.41 | 1 |
| N-CA-C | 111.00 | 99.46 | 1 |
| C-CA-CB | 111.40 | 119.23 | 1 |
| CA-CB-C-CA-CB | 110.50 | 104.32 | 1 |
| C-CA-CB | 110.10 | 102.27 | 2 |
| N-CA-CB | 110.50 | 117.51 | 1 |
| N-CA-C-CA-CB | 110.10 | 102.27 | 1 |
| C-N-CA-CB-CG | 112.60 | 116.72 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------|--------------------|-----------------|--------------------|
| CA-C-O | 120.80 | 127.80 | 1 |
| CB-CG-CD | 112.60 | 105.60 | 1 |
| C-CA-CB | 110.10 | 117.93 | 2 |
| CA-C-N-CA-CB | 110.50 | 103.50 | 1 |
| N-CA-N-CA-CB | 111.50 | 118.50 | 1 |
| CA-C-C-N-CA-C-N | 116.20 | 124.43 | 1 |
| C-CA-CB | 110.10 | 117.92 | 1 |
| CA-C-N | 116.20 | 107.97 | 1 |
| C-CA-C-CA-CB | 111.40 | 103.58 | 1 |
| CA-C-C-CA-CB | 110.10 | 117.92 | 2 |
| CA-CB-CG | 112.60 | 108.48 | 2 |
| N-CA-N-CA-C | 112.10 | 101.81 | 1 |
| CA-C-N | 116.20 | 124.43 | 1 |
| N-CA-CB | 110.50 | 103.51 | 2 |
| C-CA-CB | 110.10 | 102.29 | 4 |
| C-N-C-N-CA | 121.70 | 114.30 | 1 |
| C-CA-C-N-CA | 121.70 | 129.10 | 1 |
| C-CA-N-CA-CB | 110.50 | 103.51 | 1 |
| N-CA-N-CA-CB | 110.50 | 103.51 | 1 |
| C-CA-CB | 111.40 | 103.59 | 1 |
| C-CA-CB | 111.60 | 103.38 | 1 |
| CA-CB-OG1 | 109.60 | 103.43 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---------------------------------|--------------------|-----------------|--------------------|
| CA-CB-CG | 114.10 | 105.88 | 1 |
| C-CA-CB | 111.40 | 119.21 | 1 |
| CA-C-N-CA-CB | 110.50 | 103.51 | 1 |
| C-CA-CB | 110.10 | 117.91 | 3 |
| CA-CB-CG | 112.60 | 108.49 | 2 |
| CB-CG-CD | 112.60 | 105.61 | 1 |
| CA-C-N | 116.20 | 124.42 | 1 |
| C-N-CA-C-O | 120.80 | 127.79 | 1 |
| N-CA-CB | 111.50 | 104.51 | 1 |
| C-N-CA | 121.70 | 129.10 | 1 |
| C-N-CA | 121.70 | 114.30 | 1 |
| C-N-N-CA-C-CA-CB | 110.10 | 117.90 | 1 |
| C-N-N-CA-C-N-CA-CB-CG | 112.60 | 116.71 | 1 |
| OD1-CG-ND2 | 122.60 | 118.49 | 1 |
| N-CA-C-N-N-CA-C-CA-C-CA-C-CA-CB | 110.10 | 117.90 | 1 |
| C-CA-CB | 111.60 | 103.39 | 1 |
| CA-C-N | 116.20 | 107.99 | 1 |
| C-N-CA | 121.70 | 114.32 | 3 |
| CA-C-CA-C-N-CA-C-CA-CB | 111.40 | 103.61 | 1 |
| N-CA-C-N-CA | 121.70 | 129.08 | 1 |
| N-CA-CB | 110.50 | 103.53 | 1 |
| N-CA-C | 111.00 | 99.52 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---------------|--------------------|-----------------|--------------------|
| C-N-C-CA-CB | 110.10 | 117.89 | 1 |
| C-CA-CB | 111.40 | 103.61 | 1 |
| CA-CB-CG | 112.60 | 108.50 | 1 |
| CA-C-N-CA-C | 111.00 | 99.52 | 1 |
| CA-C-O | 120.80 | 113.83 | 1 |
| C-CA-CB | 110.10 | 102.31 | 1 |
| CA-C-CA-C-O | 120.80 | 113.83 | 1 |
| N-CA-C | 111.00 | 122.47 | 1 |
| CA-CB-N-CA-C | 111.00 | 99.53 | 2 |
| C-CA-CB | 110.10 | 117.88 | 1 |
| C-N-CA | 121.70 | 129.07 | 2 |
| CA-C-C-CA-CB | 110.10 | 102.32 | 1 |
| C-N-N-CA-CB | 110.50 | 103.54 | 1 |
| CA-C-C-CA-CB | 110.10 | 117.88 | 1 |
| CB-CG-CD | 112.60 | 119.56 | 1 |
| N-CA-C | 111.00 | 99.54 | 1 |
| CA-C-O | 120.80 | 113.84 | 1 |
| CB-CG-C-CA-CB | 110.10 | 102.32 | 1 |
| CA-CB-CG | 113.90 | 106.53 | 1 |
| C-N-CA | 121.70 | 114.33 | 1 |
| CA-C-N-CA-C | 111.00 | 99.54 | 1 |
| CA-C-N | 116.90 | 123.04 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------|--------------------|-----------------|--------------------|
| N-CA-C-CA-CB | 110.10 | 102.32 | 1 |
| C-CA-C-N-CA-C-C-CA-CB | 110.10 | 102.33 | 1 |
| C-CA-N-CA-C | 111.00 | 99.54 | 1 |
| CA-C-N | 116.20 | 108.02 | 2 |
| CA-CB-CG | 114.10 | 122.28 | 1 |
| C-CA-CB | 110.10 | 102.33 | 1 |
| C-CA-C-N-CA | 121.70 | 114.34 | 1 |
| N-CA-C | 111.00 | 122.45 | 1 |
| C-N-CA-C-N | 116.20 | 108.02 | 1 |
| C-N-C-CA-CB | 110.10 | 117.87 | 1 |
| CA-C-O | 120.80 | 127.75 | 1 |
| C-CA-CB | 110.10 | 117.87 | 1 |
| C-CA-CB | 110.50 | 116.63 | 1 |
| CA-C-CA-N-CA-C-N | 116.20 | 108.02 | 1 |
| C-N-CA | 121.70 | 114.34 | 1 |
| C-CA-C-N-CA | 121.70 | 129.06 | 1 |
| N-CA-C-CA-C-N-CA | 121.70 | 114.34 | 1 |
| CA-C-C-CA-CB | 110.10 | 117.86 | 1 |
| N-CA-C | 111.00 | 122.44 | 1 |
| N-CA-CB | 110.50 | 103.55 | 1 |
| CA-C-N | 116.20 | 108.03 | 1 |
| N-CA-CA-C-N | 116.90 | 123.03 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 109.10 | 100.11 | 1 |
| N-CA-C | 111.00 | 99.56 | 1 |
| CA-C-C-N-C-N-CA | 121.70 | 114.35 | 1 |
| C-N-CA | 121.70 | 129.05 | 1 |
| C-N-CA | 121.70 | 114.35 | 2 |
| N-CA-CB | 110.50 | 103.56 | 1 |
| CA-C-N | 116.20 | 124.37 | 1 |
| CA-CB-CG | 112.60 | 108.52 | 2 |
| CA-CB-CG | 114.10 | 122.26 | 1 |
| C-CA-CA-C-C-CA-CB | 111.40 | 103.64 | 1 |
| CA-C-N-CA-N-CA-N-CA-CB | 110.50 | 117.44 | 1 |
| C-N-CA | 121.70 | 114.36 | 2 |
| C-CA-C-N-C-CA-N-CA-C | 111.00 | 122.42 | 1 |
| CA-C-O | 120.80 | 127.74 | 1 |
| C-CA-CB | 111.40 | 103.65 | 1 |
| N-CA-CB | 110.50 | 117.43 | 1 |
| C-N-CA | 121.70 | 129.04 | 1 |
| C-N-CA-C-N | 116.20 | 108.04 | 1 |
| C-N-C-N-CA | 121.70 | 114.36 | 1 |
| C-CA-CB | 110.10 | 117.85 | 1 |
| CA-C-C-N-CA-CB-CG | 112.60 | 116.68 | 1 |
| CA-C-C-CA-CB | 110.10 | 117.84 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|----------------------------|--------------------|-----------------|--------------------|
| C-CA-CB | 110.10 | 117.84 | 3 |
| CA-C-O | 120.80 | 113.87 | 1 |
| N-CA-N-CA-CB | 110.50 | 103.57 | 1 |
| C-CA-CB | 110.10 | 102.36 | 3 |
| C-CA-CA-C-N-CA-C | 111.00 | 122.41 | 1 |
| N-CA-C | 111.00 | 99.59 | 2 |
| C-N-CA | 121.70 | 114.37 | 2 |
| N-CA-C-CA-CB | 110.10 | 117.84 | 1 |
| C-N-OD1-CG-ND2 | 122.60 | 118.53 | 1 |
| C-CA-OE1-CD-NE2 | 122.60 | 118.53 | 1 |
| C-N-C-CA-CA-C-N-CA-C-CA-CB | 111.60 | 103.46 | 1 |
| CA-C-CA-CB-CG | 112.60 | 108.53 | 1 |
| C-CA-C-CA-CB | 111.60 | 103.46 | 1 |
| C-CA-CB | 110.10 | 117.83 | 1 |
| CA-C-O | 120.80 | 113.88 | 1 |
| C-N-N-CA-C | 111.00 | 122.39 | 1 |
| C-CA-N-CA-CB | 110.50 | 103.58 | 1 |
| CA-C-N | 116.20 | 124.34 | 1 |
| C-CA-C-CA-CB | 109.10 | 100.15 | 1 |
| N-CA-C | 111.00 | 99.61 | 1 |
| N-CA-N-CA-CB | 111.50 | 118.41 | 1 |
| N-CA-CB | 110.50 | 117.41 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|-----------------------|--------------------|-----------------|--------------------|
| C-N-CA | 121.70 | 129.02 | 1 |
| N-CA-CA-C-N | 116.90 | 123.00 | 1 |
| CA-C-O | 120.80 | 127.71 | 1 |
| N-CA-CB | 110.50 | 103.59 | 1 |
| N-CA-C-N-CA-CB-CG | 113.90 | 106.59 | 1 |
| CA-C-N | 116.20 | 124.33 | 1 |
| CA-CB-CG | 112.60 | 108.54 | 1 |
| CA-C-CA-CB-N-CA-C | 111.00 | 99.63 | 1 |
| CB-CG-CD | 112.60 | 119.51 | 1 |
| C-CA-C-CA-C-N-N-CA-CB | 103.00 | 107.47 | 1 |
| C-N-CB-CG-C-CA-CB | 110.10 | 117.82 | 1 |
| C-N-CA | 121.70 | 129.01 | 2 |
| N-CA-CB | 111.50 | 104.60 | 2 |
| CB-CG-CD | 112.60 | 119.50 | 1 |
| C-CA-CB | 110.10 | 102.38 | 2 |
| C-CA-CA-C-N | 116.20 | 108.08 | 1 |
| C-CA-CB | 110.10 | 117.81 | 2 |
| N-CA-C-CA-CB | 111.40 | 119.11 | 1 |
| C-N-C-N-CA | 121.70 | 114.39 | 1 |
| C-N-CA | 121.70 | 114.39 | 2 |
| CA-C-O | 120.80 | 127.70 | 1 |
| N-CA-C | 111.00 | 122.36 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--------------------------------------|--------------------|-----------------|--------------------|
| CB-CG-C-CA-CB | 110.10 | 117.81 | 1 |
| C-N-C-CA-N-CA-C | 111.00 | 122.36 | 1 |
| C-N-CA | 121.70 | 114.40 | 1 |
| C-N-CA-CB-CA-C-CA-C-N-CA-CA-C-C-N-CA | 121.70 | 114.40 | 1 |
| C-CA-N-CA-CB | 111.50 | 118.39 | 1 |
| C-CA-CB | 110.10 | 102.40 | 3 |
| C-CA-CB | 110.50 | 116.58 | 1 |
| C-N-CA-CB-C-N-CA | 121.70 | 114.41 | 1 |
| CA-C-CA-C-CA-CB-C-CA-CB | 110.10 | 117.80 | 1 |
| C-N-CA | 121.70 | 114.41 | 3 |
| CA-CB-OD1-CG-ND2 | 122.60 | 118.55 | 1 |
| C-CA-CB | 110.10 | 117.80 | 1 |
| OE1-CD-C-N-CA | 121.70 | 128.99 | 1 |
| N-CA-ND1-CE1-NE2 | 108.40 | 112.45 | 1 |
| C-N-N-CA-N-CA-C | 111.00 | 99.66 | 1 |
| CA-C-O | 120.80 | 113.91 | 1 |
| N-CA-C | 111.00 | 122.34 | 2 |
| CA-N-CD | 112.00 | 106.33 | 1 |
| CA-C-C-N-CA | 121.70 | 114.41 | 1 |
| C-CA-CB | 110.10 | 102.41 | 2 |
| CA-C-CA-C-C-CA-CB | 110.10 | 102.41 | 1 |
| CA-C-O | 120.80 | 113.92 | 2 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---------------------------------------|--------------------|-----------------|--------------------|
| C-N-OE1-CD-CA-C-O | 120.80 | 127.68 | 1 |
| N-CA-C-CA-C-N-C-N-C-N-ND1-CE1-N-CA-CB | 110.50 | 117.38 | 1 |
| CA-C-O | 120.80 | 127.68 | 1 |
| CA-C-C-CA-CB | 110.10 | 117.79 | 1 |
| CA-C-C-CA-CB | 110.10 | 102.41 | 1 |
| C-N-CA-C-C-CA-CB | 111.40 | 103.71 | 1 |
| C-CA-N-CA-C | 111.00 | 122.33 | 1 |
| C-CA-CB | 110.10 | 117.79 | 1 |
| CA-C-N | 116.90 | 122.97 | 2 |
| C-CA-CB | 110.10 | 117.78 | 1 |
| C-N-CA-C-N-CA-CB | 110.50 | 117.37 | 1 |
| CA-C-O | 120.80 | 127.67 | 1 |
| N-CA-C | 111.00 | 122.32 | 1 |
| CA-C-CA-N-CD | 112.00 | 106.34 | 1 |
| CA-C-ND1-CE1-NE2 | 108.40 | 112.44 | 1 |
| C-CA-OE1-CD-NE2 | 122.60 | 126.64 | 1 |
| C-N-N-CA-CB-CG-CD | 112.60 | 119.47 | 1 |
| C-N-CA | 121.70 | 114.42 | 1 |
| CA-C-C-CA-CA-CB-CG | 113.80 | 117.84 | 1 |
| C-CA-C-CA-CA-C-N-CA-CA-CB-CG | 113.80 | 117.84 | 1 |
| C-CA-CA-C-ND1-CE1-NE2 | 108.40 | 112.44 | 1 |
| N-CA-C | 111.00 | 122.31 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|---|--------------------|-----------------|--------------------|
| N-CA-CB | 110.50 | 117.37 | 1 |
| CA-C-C-N-CB-CG-N-CA-N-CA-N-CA-C-N-C-CA-CB | 110.10 | 102.43 | 1 |
| C-N-N-CA-N-CA-N-CA-C-N-CA | 121.70 | 114.44 | 1 |
| CA-CB-CG | 112.60 | 108.57 | 1 |
| C-N-N-CA-C-N-C-N-ND1-CE1-C-CA-CB | 109.10 | 117.97 | 1 |
| CA-C-N-CA-C-CA-CB | 110.10 | 102.44 | 1 |
| N-CA-C-CA-C-CA-CB | 111.40 | 103.74 | 1 |
| C-N-CA | 121.70 | 128.95 | 3 |
| C-N-CA | 121.70 | 114.45 | 2 |
| N-CA-C-CA-CB | 109.10 | 117.96 | 1 |
| CA-C-CA-CB-C-N-CA | 121.70 | 128.95 | 1 |
| CA-C-C-N-CA | 121.70 | 128.95 | 1 |
| C-CA-CB | 110.50 | 116.54 | 1 |
| C-CA-CA-CB-CG | 113.80 | 117.83 | 1 |
| CA-C-N-CA-C-N-CA | 121.70 | 128.95 | 1 |
| CA-C-CA-C-CA-C-O | 120.80 | 127.64 | 1 |
| C-CA-C-CA-OE1-CD-NE2 | 122.60 | 126.62 | 1 |
| C-CA-N-CA-C | 111.00 | 122.27 | 1 |
| C-N-C-N-CA-C-CA-C-N | 116.20 | 124.25 | 1 |
| CA-C-O | 120.80 | 113.96 | 1 |
| N-CA-N-CA-C | 111.00 | 122.27 | 1 |
| OE1-CD-C-CA-CB | 111.40 | 119.04 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------------|--------------------|-----------------|--------------------|
| C-CA-N-CA-C | 112.10 | 102.04 | 1 |
| C-CA-CB | 110.10 | 102.46 | 1 |
| CA-C-N-CA-C | 111.00 | 99.74 | 1 |
| CA-C-CA-C-CA-C-C-CA-CB | 110.10 | 102.46 | 1 |
| CA-C-N | 116.20 | 108.16 | 1 |
| N-CA-C | 111.00 | 99.74 | 1 |
| OD1-CG-N-CA-CB | 110.40 | 104.37 | 1 |
| C-CA-N-CA-CB | 110.50 | 117.33 | 1 |
| N-CA-C | 111.00 | 122.25 | 1 |
| C-N-CA | 121.70 | 128.93 | 3 |
| CA-C-O | 120.80 | 113.97 | 3 |
| OD1-CG-C-N-CA | 121.70 | 128.93 | 1 |
| C-CA-CB | 110.10 | 102.47 | 1 |
| C-N-CA | 121.70 | 114.47 | 1 |
| C-N-C-N-C-N-CA | 121.70 | 128.93 | 1 |
| C-N-CA-CB-CG | 112.60 | 108.58 | 1 |
| N-CA-CB | 111.50 | 104.67 | 1 |
| C-N-C-CA-CB | 110.10 | 117.73 | 1 |
| CA-C-O | 120.80 | 127.62 | 2 |
| N-CA-CA-CB-CG | 112.60 | 108.59 | 1 |
| N-CA-C | 111.00 | 122.24 | 1 |
| C-N-CA | 121.70 | 128.92 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|--------------------|--------------------|-----------------|--------------------|
| CA-C-O | 120.80 | 113.98 | 2 |
| C-CA-C-N-CA | 121.70 | 128.92 | 1 |
| CA-C-C-N-CA | 121.70 | 128.92 | 1 |
| C-N-CA | 121.70 | 114.48 | 1 |
| N-CA-C | 111.00 | 122.23 | 2 |
| CA-C-O | 120.80 | 113.99 | 3 |
| CA-C-O | 120.80 | 127.61 | 3 |
| CA-CB-CG | 112.60 | 108.59 | 2 |
| N-CA-CB | 110.50 | 117.31 | 1 |
| C-CA-CB | 110.10 | 117.71 | 2 |
| CA-C-CA-C-CA-CB-CG | 113.80 | 117.81 | 1 |
| CA-C-CA-C-O | 120.80 | 127.61 | 1 |
| C-CA-CB | 111.40 | 119.01 | 1 |
| N-CA-C-CA-CB | 110.10 | 102.49 | 1 |
| N-CA-C | 111.00 | 122.22 | 1 |
| C-N-CA | 121.70 | 114.49 | 4 |
| C-N-CA | 121.70 | 128.91 | 1 |
| N-CA-CB | 110.50 | 103.69 | 1 |
| ND1-CE1-NE2 | 108.40 | 112.40 | 1 |
| C-CA-N-CA-CB | 111.50 | 104.69 | 1 |
| C-N-C-N-CA | 121.70 | 128.91 | 1 |
| C-N-N-CA-C | 111.00 | 99.79 | 1 |

| Angle type | Observed angle (°) | Ideal angle (°) | Number of outliers |
|------------------------------------|--------------------|-----------------|--------------------|
| N-CA-C-N-C-CA-CB | 110.50 | 116.50 | 1 |
| C-CA-CB | 110.10 | 117.70 | 1 |
| C-CA-CB | 111.40 | 119.00 | 1 |
| C-CA-CA-C-O | 120.80 | 114.00 | 1 |
| C-N-CA | 121.70 | 114.50 | 1 |
| C-CA-C-N-C-N-C-N-CA-C-CA-C-C-CA-CB | 110.10 | 102.50 | 1 |

Too-close contacts

The following all-atom clashscore is based on a MolProbity analysis. All-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The table below contains clashscores for all the models in this entry.

| Model ID | Clash score | Number of clashes |
|----------|-------------|-------------------|
| 1 | 786.40 | 144202 |

All 144202 close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Torsion angles: Protein backbone

In the following table, Ramachandran outliers are listed. The Analysed column shows the number of residues for which the backbone conformation was analysed.

| Model ID | Analyzed | Favored | Allowed | Outliers |
|----------|----------|---------|---------|----------|
| 1 | 22620 | 20027 | 1620 | 973 |

Detailed list of outliers are tabulated below.

Torsion angles: Protein sidechains

In the following table, sidechain outliers are listed. The Analysed column shows the number of residues for which the sidechain conformation was analysed.

| Model ID | Analyzed | Favored | Allowed | Outliers |
|----------|----------|---------|---------|----------|
| 1 | 20472 | 17622 | 1544 | 1306 |

Detailed list of outliers are tabulated below.

| Model ID | Chain | Residue ID | Residue type |
|----------|-------|------------|--------------|
|----------|-------|------------|--------------|

| Model ID | Chain | Residue ID | Residue type |
|----------|-------|------------|--------------|
| 1 | K1 | 58 | 0.0ILE |
| 1 | K1 | 106 | 0.0ILE |
| 1 | K1 | 165 | 0.0ASN |
| 1 | K1 | 182 | 0.0LYS |
| 1 | K1 | 225 | 0.0LYS |
| 1 | K1 | 239 | 0.0LEU |
| 1 | K1 | 281 | 0.0GLU |
| 1 | K1 | 363 | 0.0LYS |
| 1 | K1 | 411 | 0.0ILE |
| 1 | K1 | 416 | 0.0LYS |
| 1 | K1 | 430 | 0.0ILE |
| 1 | K1 | 472 | 0.0ILE |
| 1 | K1 | 529 | 0.0ILE |
| 1 | K1 | 531 | 0.0LYS |
| 1 | K1 | 565 | 0.0ILE |
| 1 | K1 | 581 | 0.0ASP |
| 1 | K1 | 589 | 0.0LYS |
| 1 | K1 | 632 | 0.0ILE |
| 1 | K1 | 633 | 0.0LEU |
| 1 | K1 | 678 | 0.0ILE |
| 1 | K1 | 682 | 0.0GLU |
| 1 | K1 | 687 | 0.0LEU |
| 1 | K1 | 714 | 0.0GLU |

| Model ID | Chain | Residue ID | Residue type |
|----------|-------|------------|--------------|
| 1 | K1 | 793 | 0.0LEU |
| 1 | K1 | 802 | 0.0VAL |
| 1 | K1 | 814 | 0.0ASN |
| 1 | K1 | 849 | 0.0LYS |
| 1 | K1 | 856 | 0.0ILE |
| 1 | K1 | 858 | 0.0GLU |
| 1 | K1 | 865 | 0.0GLU |
| 1 | K1 | 939 | 0.0LYS |
| 1 | L1 | 7 | 0.0THR |
| 1 | L1 | 11 | 0.0ASP |
| 1 | L1 | 20 | 0.0GLN |
| 1 | L1 | 45 | 0.0ASP |
| 1 | L1 | 58 | 0.0GLU |
| 1 | L1 | 64 | 0.0LEU |
| 1 | L1 | 73 | 0.0ASN |
| 1 | L1 | 75 | 0.0ASP |
| 1 | L1 | 105 | 0.0GLN |
| 1 | L1 | 115 | 0.0GLU |
| 1 | L1 | 128 | 0.0THR |
| 1 | L1 | 153 | 0.0THR |
| 1 | L1 | 212 | 0.0THR |
| 1 | L1 | 224 | 0.0ILE |
| 1 | L1 | 255 | 0.0SER |

| Model ID | Chain | Residue ID | Residue type |
|----------|-------|------------|--------------|
| 1 | L1 | 261 | 0.0GLN |
| 1 | L1 | 271 | 0.0SER |
| 1 | L1 | 285 | 0.0ILE |
| 1 | L1 | 330 | 0.0ILE |
| 1 | L1 | 344 | 0.0SER |
| 1 | L1 | 352 | 0.0MET |
| 1 | L1 | 359 | 0.0LYS |
| 1 | L1 | 380 | 0.0SER |
| 1 | L1 | 399 | 0.0LEU |
| 1 | L1 | 408 | 0.0ILE |
| 1 | L1 | 426 | 0.0ILE |
| 1 | L1 | 527 | 0.0ILE |
| 1 | M1 | 94 | 0.0LEU |
| 1 | M1 | 152 | 0.0ILE |
| 1 | M1 | 168 | 0.0SER |
| 1 | M1 | 179 | 0.0LEU |
| 1 | M1 | 188 | 0.0SER |
| 1 | M1 | 196 | 0.0LEU |
| 1 | M1 | 201 | 0.0LEU |
| 1 | M1 | 206 | 0.0THR |
| 1 | M1 | 209 | 0.0CYS |
| 1 | M1 | 211 | 0.0ILE |
| 1 | M1 | 215 | 0.0ILE |

| Model ID | Chain | Residue ID | Residue type |
|----------|-------|------------|--------------|
| 1 | M1 | 228 | 0.0GLU |
| 1 | M1 | 230 | 0.0LEU |
| 1 | M1 | 231 | 0.0PHE |
| 1 | M1 | 260 | 0.0LEU |
| 1 | M1 | 262 | 0.0SER |
| 1 | M1 | 266 | 0.0SER |
| 1 | M1 | 268 | 0.0LEU |
| 1 | M1 | 272 | 0.0SER |
| 1 | M1 | 279 | 0.0ILE |
| 1 | M1 | 300 | 0.0ARG |
| 1 | M1 | 303 | 0.0THR |
| 1 | M1 | 316 | 0.0GLN |
| 1 | M1 | 324 | 0.0ARG |
| 1 | M1 | 325 | 0.0VAL |
| 1 | M1 | 327 | 0.0SER |
| 1 | M1 | 329 | 0.0GLU |
| 1 | M1 | 368 | 0.0ILE |
| 1 | M1 | 376 | 0.0ILE |
| 1 | M1 | 382 | 0.0SER |
| 1 | M1 | 384 | 0.0ASN |
| 1 | M1 | 390 | 0.0ARG |
| 1 | M1 | 391 | 0.0LEU |
| 1 | M1 | 399 | 0.0PHE |

| Model ID | Chain | Residue ID | Residue type |
|----------|-------|------------|--------------|
| 1 | M1 | 407 | 0.0ARG |
| 1 | N1 | 15 | 0.0LYS |
| 1 | N1 | 36 | 0.0HIS |
| 1 | N1 | 39 | 0.0ILE |
| 1 | N1 | 40 | 0.0ASP |
| 1 | N1 | 132 | 0.0ILE |
| 1 | N1 | 206 | 0.0VAL |
| 1 | N1 | 208 | 0.0GLN |
| 1 | N1 | 210 | 0.0ARG |
| 1 | N1 | 256 | 0.0ASP |
| 1 | O1 | 61 | 0.0ILE |
| 1 | O1 | 80 | 0.0THR |
| 1 | O1 | 125 | 0.0LEU |
| 1 | O1 | 154 | 0.0MET |
| 1 | O1 | 168 | 0.0ASP |
| 1 | O1 | 183 | 0.0LEU |
| 1 | O1 | 226 | 0.0ARG |
| 1 | O1 | 313 | 0.0ASN |
| 1 | O1 | 314 | 0.0LEU |
| 1 | O1 | 295 | 0.0THR |
| 1 | P1 | 90 | 0.0ASN |
| 1 | P1 | 92 | 0.0THR |
| 1 | P1 | 184 | 0.0VAL |

| Model ID | Chain | Residue ID | Residue type |
|----------|-------|------------|--------------|
| 1 | P1 | 214 | 0.0ASP |
| 1 | P1 | 225 | 0.0VAL |
| 1 | P1 | 269 | 0.0ILE |
| 1 | P1 | 329 | 0.0VAL |
| 1 | P1 | 332 | 0.0THR |
| 1 | P1 | 384 | 0.0ASP |
| 1 | P1 | 419 | 0.0LEU |
| 1 | P1 | 427 | 0.0THR |
| 1 | P1 | 456 | 0.0ILE |
| 1 | P1 | 470 | 0.0TYR |
| 1 | R1 | 103 | 0.0SER |
| 1 | R1 | 138 | 0.0VAL |
| 1 | R1 | 148 | 0.0GLN |
| 1 | R1 | 151 | 0.0VAL |
| 1 | R1 | 159 | 0.0LEU |
| 1 | R1 | 164 | 0.0LYS |
| 1 | R1 | 185 | 0.0THR |
| 1 | R1 | 235 | 0.0MET |
| 1 | R1 | 246 | 0.0PHE |
| 1 | R1 | 256 | 0.0LEU |
| 1 | R1 | 281 | 0.0VAL |
| 1 | R1 | 285 | 0.0THR |
| 1 | R1 | 299 | 0.0ILE |

| Model ID | Chain | Residue ID | Residue type |
|----------|-------|------------|--------------|
| 1 | R1 | 312 | 0.0GLU |
| 1 | R1 | 341 | 0.0ASP |
| 1 | R1 | 375 | 0.0VAL |
| 1 | R1 | 379 | 0.0PHE |
| 1 | R1 | 561 | 0.0GLN |
| 1 | R1 | 576 | 0.0ILE |
| 1 | R1 | 609 | 0.0VAL |
| 1 | R1 | 615 | 0.0THR |
| 1 | R1 | 634 | 0.0LEU |
| 1 | R1 | 661 | 0.0VAL |
| 1 | R1 | 674 | 0.0ASP |
| 1 | K2 | 58 | 0.0ILE |
| 1 | K2 | 106 | 0.0ILE |
| 1 | K2 | 165 | 0.0ASN |
| 1 | K2 | 182 | 0.0LYS |
| 1 | K2 | 225 | 0.0LYS |
| 1 | K2 | 239 | 0.0LEU |
| 1 | K2 | 281 | 0.0GLU |
| 1 | K2 | 363 | 0.0LYS |
| 1 | K2 | 411 | 0.0ILE |
| 1 | K2 | 416 | 0.0LYS |
| 1 | K2 | 430 | 0.0ILE |
| 1 | K2 | 472 | 0.0ILE |

| Model ID | Chain | Residue ID | Residue type |
|----------|-------|------------|--------------|
| 1 | K2 | 529 | 0.0ILE |
| 1 | K2 | 531 | 0.0LYS |
| 1 | K2 | 565 | 0.0ILE |
| 1 | K2 | 581 | 0.0ASP |
| 1 | K2 | 589 | 0.0LYS |
| 1 | K2 | 632 | 0.0ILE |
| 1 | K2 | 633 | 0.0LEU |
| 1 | K2 | 678 | 0.0ILE |
| 1 | K2 | 682 | 0.0GLU |
| 1 | K2 | 687 | 0.0LEU |
| 1 | K2 | 714 | 0.0GLU |
| 1 | K2 | 793 | 0.0LEU |
| 1 | K2 | 802 | 0.0VAL |
| 1 | K2 | 814 | 0.0ASN |
| 1 | K2 | 849 | 0.0LYS |
| 1 | K2 | 856 | 0.0ILE |
| 1 | K2 | 858 | 0.0GLU |
| 1 | K2 | 865 | 0.0GLU |
| 1 | K2 | 939 | 0.0LYS |
| 1 | L2 | 7 | 0.0THR |
| 1 | L2 | 11 | 0.0ASP |
| 1 | L2 | 20 | 0.0GLN |
| 1 | L2 | 45 | 0.0ASP |

| Model ID | Chain | Residue ID | Residue type |
|----------|-------|------------|--------------|
| 1 | L2 | 58 | 0.0GLU |
| 1 | L2 | 64 | 0.0LEU |
| 1 | L2 | 73 | 0.0ASN |
| 1 | L2 | 75 | 0.0ASP |
| 1 | L2 | 105 | 0.0GLN |
| 1 | L2 | 115 | 0.0GLU |
| 1 | L2 | 128 | 0.0THR |
| 1 | L2 | 153 | 0.0THR |
| 1 | L2 | 212 | 0.0THR |
| 1 | L2 | 224 | 0.0ILE |
| 1 | L2 | 255 | 0.0SER |
| 1 | L2 | 261 | 0.0GLN |
| 1 | L2 | 271 | 0.0SER |
| 1 | L2 | 285 | 0.0ILE |
| 1 | L2 | 330 | 0.0ILE |
| 1 | L2 | 344 | 0.0SER |
| 1 | L2 | 352 | 0.0MET |
| 1 | L2 | 380 | 0.0SER |
| 1 | L2 | 399 | 0.0LEU |
| 1 | L2 | 408 | 0.0ILE |
| 1 | L2 | 426 | 0.0ILE |
| 1 | L2 | 527 | 0.0ILE |
| 1 | M2 | 94 | 0.0LEU |

| Model ID | Chain | Residue ID | Residue type |
|----------|-------|------------|--------------|
| 1 | M2 | 152 | 0.0ILE |
| 1 | M2 | 168 | 0.0SER |
| 1 | M2 | 179 | 0.0LEU |
| 1 | M2 | 188 | 0.0SER |
| 1 | M2 | 196 | 0.0LEU |
| 1 | M2 | 201 | 0.0LEU |
| 1 | M2 | 206 | 0.0THR |
| 1 | M2 | 209 | 0.0CYS |
| 1 | M2 | 211 | 0.0ILE |
| 1 | M2 | 215 | 0.0ILE |
| 1 | M2 | 228 | 0.0GLU |
| 1 | M2 | 230 | 0.0LEU |
| 1 | M2 | 231 | 0.0PHE |
| 1 | M2 | 260 | 0.0LEU |
| 1 | M2 | 262 | 0.0SER |
| 1 | M2 | 266 | 0.0SER |
| 1 | M2 | 268 | 0.0LEU |
| 1 | M2 | 272 | 0.0SER |
| 1 | M2 | 279 | 0.0ILE |
| 1 | M2 | 300 | 0.0ARG |
| 1 | M2 | 303 | 0.0THR |
| 1 | M2 | 316 | 0.0GLN |
| 1 | M2 | 324 | 0.0ARG |

| Model ID | Chain | Residue ID | Residue type |
|----------|-------|------------|--------------|
| 1 | M2 | 325 | 0.0VAL |
| 1 | M2 | 327 | 0.0SER |
| 1 | M2 | 329 | 0.0GLU |
| 1 | M2 | 368 | 0.0ILE |
| 1 | M2 | 376 | 0.0ILE |
| 1 | M2 | 382 | 0.0SER |
| 1 | M2 | 384 | 0.0ASN |
| 1 | M2 | 390 | 0.0ARG |
| 1 | M2 | 391 | 0.0LEU |
| 1 | M2 | 399 | 0.0PHE |
| 1 | M2 | 407 | 0.0ARG |
| 1 | N2 | 15 | 0.0LYS |
| 1 | N2 | 36 | 0.0HIS |
| 1 | N2 | 39 | 0.0ILE |
| 1 | N2 | 40 | 0.0ASP |
| 1 | N2 | 132 | 0.0ILE |
| 1 | N2 | 206 | 0.0VAL |
| 1 | N2 | 208 | 0.0GLN |
| 1 | N2 | 210 | 0.0ARG |
| 1 | N2 | 256 | 0.0ASP |
| 1 | O2 | 61 | 0.0ILE |
| 1 | O2 | 80 | 0.0THR |
| 1 | O2 | 125 | 0.0LEU |

| Model ID | Chain | Residue ID | Residue type |
|----------|-------|------------|--------------|
| 1 | O2 | 154 | 0.0MET |
| 1 | O2 | 168 | 0.0ASP |
| 1 | O2 | 183 | 0.0LEU |
| 1 | O2 | 226 | 0.0ARG |
| 1 | O2 | 313 | 0.0ASN |
| 1 | O2 | 314 | 0.0LEU |
| 1 | O2 | 295 | 0.0THR |
| 1 | P2 | 90 | 0.0ASN |
| 1 | P2 | 92 | 0.0THR |
| 1 | P2 | 184 | 0.0VAL |
| 1 | P2 | 214 | 0.0ASP |
| 1 | P2 | 225 | 0.0VAL |
| 1 | P2 | 269 | 0.0ILE |
| 1 | P2 | 329 | 0.0VAL |
| 1 | P2 | 332 | 0.0THR |
| 1 | P2 | 384 | 0.0ASP |
| 1 | P2 | 419 | 0.0LEU |
| 1 | P2 | 427 | 0.0THR |
| 1 | P2 | 456 | 0.0ILE |
| 1 | P2 | 470 | 0.0TYR |
| 1 | R2 | 103 | 0.0SER |
| 1 | R2 | 138 | 0.0VAL |
| 1 | R2 | 148 | 0.0GLN |

| Model ID | Chain | Residue ID | Residue type |
|----------|-------|------------|--------------|
| 1 | R2 | 151 | 0.0VAL |
| 1 | R2 | 159 | 0.0LEU |
| 1 | R2 | 164 | 0.0LYS |
| 1 | R2 | 185 | 0.0THR |
| 1 | R2 | 235 | 0.0MET |
| 1 | R2 | 246 | 0.0PHE |
| 1 | R2 | 256 | 0.0LEU |
| 1 | R2 | 281 | 0.0VAL |
| 1 | R2 | 285 | 0.0THR |
| 1 | R2 | 299 | 0.0ILE |
| 1 | R2 | 312 | 0.0GLU |
| 1 | R2 | 341 | 0.0ASP |
| 1 | R2 | 375 | 0.0VAL |
| 1 | R2 | 379 | 0.0PHE |
| 1 | R2 | 399 | 0.0SER |
| 1 | R2 | 561 | 0.0GLN |
| 1 | R2 | 576 | 0.0ILE |
| 1 | R2 | 609 | 0.0VAL |
| 1 | R2 | 615 | 0.0THR |
| 1 | R2 | 634 | 0.0LEU |
| 1 | R2 | 661 | 0.0VAL |
| 1 | R2 | 674 | 0.0ASP |
| 1 | A1 | 28 | 0.0ASN |

| Model ID | Chain | Residue ID | Residue type |
|----------|-------|------------|--------------|
| 1 | A1 | 37 | 0.0LEU |
| 1 | A1 | 38 | 0.0ASN |
| 1 | A1 | 39 | 0.0ASN |
| 1 | A1 | 227 | 0.0THR |
| 1 | A1 | 237 | 0.0HIS |
| 1 | A1 | 242 | 0.0LYS |
| 1 | A1 | 288 | 0.0GLU |
| 1 | A1 | 303 | 0.0LEU |
| 1 | A1 | 313 | 0.0THR |
| 1 | A1 | 625 | 0.0GLU |
| 1 | A1 | 439 | 0.0SER |
| 1 | A1 | 443 | 0.0GLN |
| 1 | A1 | 683 | 0.0THR |
| 1 | A1 | 468 | 0.0PHE |
| 1 | A1 | 746 | 0.0PRO |
| 1 | A1 | 747 | 0.0PHE |
| 1 | A1 | 754 | 0.0ARG |
| 1 | A1 | 765 | 0.0ASP |
| 1 | A1 | 561 | 0.0GLN |
| 1 | A1 | 600 | 0.0ASN |
| 1 | A1 | 601 | 0.0ILE |
| 1 | B1 | 25 | 0.0ARG |
| 1 | B1 | 58 | 0.0THR |

| Model ID | Chain | Residue ID | Residue type |
|----------|-------|------------|--------------|
| 1 | B1 | 71 | 0.0PRO |
| 1 | B1 | 75 | 0.0GLN |
| 1 | B1 | 77 | 0.0PHE |
| 1 | B1 | 103 | 0.0PHE |
| 1 | B1 | 110 | 0.0ILE |
| 1 | B1 | 136 | 0.0SER |
| 1 | B1 | 156 | 0.0LEU |
| 1 | B1 | 165 | 0.0VAL |
| 1 | B1 | 182 | 0.0VAL |
| 1 | B1 | 186 | 0.0THR |
| 1 | B1 | 211 | 0.0GLN |
| 1 | B1 | 214 | 0.0TYR |
| 1 | B1 | 267 | 0.0SER |
| 1 | B1 | 269 | 0.0ASP |
| 1 | B1 | 270 | 0.0VAL |
| 1 | B1 | 290 | 0.0VAL |
| 1 | B1 | 292 | 0.0THR |
| 1 | B1 | 303 | 0.0PRO |
| 1 | B1 | 320 | 0.0PRO |
| 1 | B1 | 336 | 0.0LYS |
| 1 | B1 | 337 | 0.0LEU |
| 1 | B1 | 344 | 0.0LEU |
| 1 | B1 | 345 | 0.0PRO |

| Model ID | Chain | Residue ID | Residue type |
|----------|-------|------------|--------------|
| 1 | B1 | 348 | 0.0ILE |
| 1 | B1 | 357 | 0.0ASP |
| 1 | B1 | 358 | 0.0THR |
| 1 | B1 | 359 | 0.0GLU |
| 1 | B1 | 374 | 0.0THR |
| 1 | B1 | 377 | 0.0SER |
| 1 | B1 | 378 | 0.0LEU |
| 1 | B1 | 380 | 0.0ASP |
| 1 | B1 | 389 | 0.0PRO |
| 1 | B1 | 396 | 0.0SER |
| 1 | B1 | 402 | 0.0PRO |
| 1 | B1 | 403 | 0.0PRO |
| 1 | B1 | 404 | 0.0ASN |
| 1 | B1 | 405 | 0.0CYS |
| 1 | B1 | 418 | 0.0LEU |
| 1 | B1 | 441 | 0.0LEU |
| 1 | B1 | 442 | 0.0LEU |
| 1 | B1 | 447 | 0.0ASP |
| 1 | B1 | 469 | 0.0ILE |
| 1 | B1 | 497 | 0.0ARG |
| 1 | B1 | 515 | 0.0PRO |
| 1 | B1 | 516 | 0.0ASN |
| 1 | B1 | 527 | 0.0LYS |

| Model ID | Chain | Residue ID | Residue type |
|----------|-------|------------|--------------|
| 1 | B1 | 574 | 0.0LEU |
| 1 | B1 | 576 | 0.0ASN |
| 1 | B1 | 590 | 0.0LYS |
| 1 | B1 | 650 | 0.0THR |
| 1 | B1 | 653 | 0.0ASP |
| 1 | B1 | 654 | 0.0SER |
| 1 | B1 | 656 | 0.0ASP |
| 1 | B1 | 661 | 0.0THR |
| 1 | B1 | 675 | 0.0LYS |
| 1 | B1 | 676 | 0.0ILE |
| 1 | B1 | 680 | 0.0LYS |
| 1 | B1 | 691 | 0.0ASN |
| 1 | B1 | 707 | 0.0ASN |
| 1 | B1 | 715 | 0.0LEU |
| 1 | B1 | 730 | 0.0TYR |
| 1 | B1 | 731 | 0.0THR |
| 1 | B1 | 772 | 0.0LEU |
| 1 | B1 | 776 | 0.0LEU |
| 1 | B1 | 782 | 0.0PRO |
| 1 | B1 | 802 | 0.0SER |
| 1 | B1 | 815 | 0.0GLN |
| 1 | B1 | 829 | 0.0ASP |
| 1 | B1 | 847 | 0.0SER |

| Model ID | Chain | Residue ID | Residue type |
|----------|-------|------------|--------------|
| 1 | B1 | 849 | 0.0PRO |
| 1 | B1 | 858 | 0.0GLU |
| 1 | B1 | 875 | 0.0LYS |
| 1 | B1 | 889 | 0.0ASP |
| 1 | B1 | 896 | 0.0LYS |
| 1 | B1 | 898 | 0.0GLU |
| 1 | B1 | 903 | 0.0ASP |
| 1 | B1 | 913 | 0.0LYS |
| 1 | B1 | 919 | 0.0VAL |
| 1 | B1 | 929 | 0.0SER |
| 1 | B1 | 934 | 0.0SER |
| 1 | B1 | 940 | 0.0LEU |
| 1 | B1 | 941 | 0.0ASN |
| 1 | B1 | 943 | 0.0THR |
| 1 | B1 | 948 | 0.0LEU |
| 1 | B1 | 949 | 0.0ASN |
| 1 | B1 | 957 | 0.0TYR |
| 1 | B1 | 960 | 0.0PRO |
| 1 | B1 | 971 | 0.0SER |
| 1 | B1 | 1018 | 0.0THR |
| 1 | B1 | 1023 | 0.0ASP |
| 1 | B1 | 1029 | 0.0VAL |
| 1 | B1 | 1061 | 0.0ILE |

| Model ID | Chain | Residue ID | Residue type |
|----------|-------|------------|--------------|
| 1 | B1 | 1066 | 0.0ASN |
| 1 | B1 | 1077 | 0.0LEU |
| 1 | B1 | 1081 | 0.0PHE |
| 1 | B1 | 1096 | 0.0VAL |
| 1 | B1 | 1097 | 0.0ILE |
| 1 | B1 | 1119 | 0.0GLU |
| 1 | B1 | 1400 | 0.0PRO |
| 1 | B1 | 1170 | 0.0ILE |
| 1 | B1 | 1172 | 0.0ASP |
| 1 | B1 | 1173 | 0.0GLU |
| 1 | B1 | 1182 | 0.0THR |
| 1 | B1 | 1192 | 0.0PRO |
| 1 | B1 | 1224 | 0.0PHE |
| 1 | B1 | 1226 | 0.0PRO |
| 1 | B1 | 1507 | 0.0LEU |
| 1 | B1 | 1508 | 0.0SER |
| 1 | B1 | 1264 | 0.0LYS |
| 1 | B1 | 1530 | 0.0LYS |
| 1 | B1 | 1278 | 0.0LEU |
| 1 | B1 | 1303 | 0.0TYR |
| 1 | B1 | 1305 | 0.0HIS |
| 1 | B1 | 1306 | 0.0ASP |
| 1 | B1 | 1342 | 0.0LEU |

| Model ID | Chain | Residue ID | Residue type |
|----------|-------|------------|--------------|
| 1 | B1 | 1652 | 0.0PHE |
| 1 | D1 | 101 | 0.0SER |
| 1 | D1 | 142 | 0.0ASP |
| 1 | D1 | 175 | 0.0ASN |
| 1 | D1 | 177 | 0.0ILE |
| 1 | D1 | 194 | 0.0VAL |
| 1 | D1 | 203 | 0.0LYS |
| 1 | D1 | 210 | 0.0ASN |
| 1 | D1 | 222 | 0.0GLN |
| 1 | D1 | 246 | 0.0LEU |
| 1 | D1 | 269 | 0.0SER |
| 1 | D1 | 278 | 0.0LYS |
| 1 | D1 | 343 | 0.0ILE |
| 1 | D1 | 349 | 0.0SER |
| 1 | D1 | 354 | 0.0PRO |
| 1 | D1 | 367 | 0.0HIS |
| 1 | D1 | 413 | 0.0THR |
| 1 | D1 | 431 | 0.0LYS |
| 1 | D1 | 504 | 0.0VAL |
| 1 | D1 | 511 | 0.0VAL |
| 1 | D1 | 539 | 0.0ILE |
| 1 | D1 | 541 | 0.0ILE |
| 1 | D1 | 550 | 0.0LEU |

| Model ID | Chain | Residue ID | Residue type |
|----------|-------|------------|--------------|
| 1 | D1 | 569 | 0.0SER |
| 1 | D1 | 570 | 0.0THR |
| 1 | D1 | 602 | 0.0ASP |
| 1 | D1 | 614 | 0.0MET |
| 1 | D1 | 615 | 0.0TYR |
| 1 | D1 | 626 | 0.0LEU |
| 1 | D1 | 668 | 0.0LYS |
| 1 | D1 | 673 | 0.0ILE |
| 1 | D1 | 719 | 0.0PRO |
| 1 | D1 | 774 | 0.0ASP |
| 1 | D1 | 813 | 0.0SER |
| 1 | D1 | 820 | 0.0LEU |
| 1 | D1 | 829 | 0.0GLU |
| 1 | D1 | 830 | 0.0ILE |
| 1 | D1 | 845 | 0.0LEU |
| 1 | D1 | 854 | 0.0LEU |
| 1 | D1 | 863 | 0.0LEU |
| 1 | D1 | 866 | 0.0ARG |
| 1 | D1 | 991 | 0.0THR |
| 1 | D1 | 998 | 0.0THR |
| 1 | D1 | 1005 | 0.0VAL |
| 1 | D1 | 1299 | 0.0LYS |
| 1 | D1 | 1300 | 0.0SER |

| Model ID | Chain | Residue ID | Residue type |
|----------|-------|------------|--------------|
| 1 | D1 | 1301 | 0.0SER |
| 1 | D1 | 1041 | 0.0HIS |
| 1 | D1 | 1081 | 0.0ARG |
| 1 | D1 | 1083 | 0.0SER |
| 1 | D1 | 1099 | 0.0THR |
| 1 | D1 | 1113 | 0.0LEU |
| 1 | D1 | 1114 | 0.0LYS |
| 1 | H1 | 304 | 0.0THR |
| 1 | H1 | 319 | 0.0THR |
| 1 | H1 | 324 | 0.0TYR |
| 1 | H1 | 327 | 0.0PRO |
| 1 | H1 | 330 | 0.0VAL |
| 1 | H1 | 347 | 0.0THR |
| 1 | H1 | 422 | 0.0LEU |
| 1 | H1 | 423 | 0.0LYS |
| 1 | H1 | 505 | 0.0ARG |
| 1 | I1 | 270 | 0.0PRO |
| 1 | I1 | 271 | 0.0PRO |
| 1 | I1 | 276 | 0.0GLU |
| 1 | I1 | 317 | 0.0LYS |
| 1 | I1 | 349 | 0.0THR |
| 1 | I1 | 353 | 0.0LEU |
| 1 | I1 | 359 | 0.0THR |

| Model ID | Chain | Residue ID | Residue type |
|----------|-------|------------|--------------|
| 1 | I1 | 369 | 0.0LEU |
| 1 | I1 | 370 | 0.0ASP |
| 1 | I1 | 375 | 0.0LYS |
| 1 | I1 | 433 | 0.0LYS |
| 1 | I1 | 436 | 0.0LEU |
| 1 | I1 | 445 | 0.0GLU |
| 1 | I1 | 446 | 0.0GLU |
| 1 | J1 | 637 | 0.0LEU |
| 1 | J1 | 743 | 0.0GLN |
| 1 | J1 | 788 | 0.0ASP |
| 1 | J1 | 789 | 0.0GLU |
| 1 | A2 | 28 | 0.0ASN |
| 1 | A2 | 37 | 0.0LEU |
| 1 | A2 | 227 | 0.0THR |
| 1 | A2 | 237 | 0.0HIS |
| 1 | A2 | 288 | 0.0GLU |
| 1 | A2 | 303 | 0.0LEU |
| 1 | A2 | 313 | 0.0THR |
| 1 | A2 | 625 | 0.0GLU |
| 1 | A2 | 439 | 0.0SER |
| 1 | A2 | 443 | 0.0GLN |
| 1 | A2 | 683 | 0.0THR |
| 1 | A2 | 468 | 0.0PHE |

| Model ID | Chain | Residue ID | Residue type |
|----------|-------|------------|--------------|
| 1 | A2 | 746 | 0.0PRO |
| 1 | A2 | 747 | 0.0PHE |
| 1 | A2 | 754 | 0.0ARG |
| 1 | A2 | 765 | 0.0ASP |
| 1 | A2 | 561 | 0.0GLN |
| 1 | C1 | 2 | 0.0LYS |
| 1 | C1 | 41 | 0.0LYS |
| 1 | C1 | 60 | 0.0ASP |
| 1 | C1 | 66 | 0.0VAL |
| 1 | C1 | 82 | 0.0ASN |
| 1 | C1 | 97 | 0.0THR |
| 1 | C1 | 110 | 0.0ARG |
| 1 | C1 | 117 | 0.0VAL |
| 1 | C1 | 128 | 0.0THR |
| 1 | C1 | 131 | 0.0TYR |
| 1 | C1 | 132 | 0.0GLN |
| 1 | C1 | 136 | 0.0LYS |
| 1 | C1 | 153 | 0.0THR |
| 1 | C1 | 183 | 0.0ARG |
| 1 | C1 | 208 | 0.0LYS |
| 1 | C1 | 209 | 0.0ASN |
| 1 | C1 | 256 | 0.0HIS |
| 1 | C1 | 260 | 0.0MET |

| Model ID | Chain | Residue ID | Residue type |
|----------|-------|------------|--------------|
| 1 | C1 | 293 | 0.0PRO |
| 1 | C1 | 306 | 0.0VAL |
| 1 | C1 | 307 | 0.0ASP |
| 1 | C1 | 330 | 0.0SER |
| 1 | C1 | 333 | 0.0GLU |
| 1 | C1 | 334 | 0.0GLN |
| 1 | C1 | 360 | 0.0LEU |
| 1 | C1 | 362 | 0.0ASP |
| 1 | C1 | 420 | 0.0LEU |
| 1 | C1 | 441 | 0.0TYR |
| 1 | C1 | 442 | 0.0SER |
| 1 | C1 | 464 | 0.0ASN |
| 1 | C1 | 495 | 0.0GLU |
| 1 | C1 | 522 | 0.0GLU |
| 1 | C1 | 562 | 0.0THR |
| 1 | C1 | 633 | 0.0HIS |
| 1 | C1 | 658 | 0.0ARG |
| 1 | C1 | 664 | 0.0ARG |
| 1 | C1 | 666 | 0.0VAL |
| 1 | C1 | 670 | 0.0PRO |
| 1 | C1 | 704 | 0.0TYR |
| 1 | C1 | 718 | 0.0ASN |
| 1 | C1 | 725 | 0.0GLU |

| Model ID | Chain | Residue ID | Residue type |
|----------|-------|------------|--------------|
| 1 | C1 | 745 | 0.0PHE |
| 1 | C1 | 748 | 0.0VAL |
| 1 | C1 | 752 | 0.0VAL |
| 1 | C1 | 753 | 0.0ASP |
| 1 | C1 | 770 | 0.0ASN |
| 1 | C1 | 778 | 0.0THR |
| 1 | C1 | 783 | 0.0LEU |
| 1 | C1 | 818 | 0.0PRO |
| 1 | C1 | 827 | 0.0VAL |
| 1 | C1 | 842 | 0.0LEU |
| 1 | C1 | 864 | 0.0GLU |
| 1 | C1 | 881 | 0.0THR |
| 1 | C1 | 892 | 0.0LEU |
| 1 | C1 | 917 | 0.0GLN |
| 1 | C1 | 920 | 0.0ASN |
| 1 | C1 | 924 | 0.0LEU |
| 1 | C1 | 947 | 0.0GLU |
| 1 | C1 | 962 | 0.0PRO |
| 1 | C1 | 971 | 0.0GLU |
| 1 | C1 | 974 | 0.0LEU |
| 1 | C1 | 982 | 0.0THR |
| 1 | C1 | 1011 | 0.0THR |
| 1 | C1 | 1016 | 0.0PRO |

| Model ID | Chain | Residue ID | Residue type |
|----------|-------|------------|--------------|
| 1 | C1 | 1017 | 0.0ASN |
| 1 | C1 | 1063 | 0.0TYR |
| 1 | C1 | 1070 | 0.0TYR |
| 1 | C1 | 1072 | 0.0VAL |
| 1 | C1 | 1074 | 0.0LEU |
| 1 | C1 | 1078 | 0.0LEU |
| 1 | C1 | 1087 | 0.0CYS |
| 1 | C1 | 1091 | 0.0GLU |
| 1 | C1 | 1093 | 0.0LEU |
| 1 | C1 | 1100 | 0.0PRO |
| 1 | C1 | 1102 | 0.0ASN |
| 1 | C1 | 1106 | 0.0VAL |
| 1 | C1 | 1110 | 0.0TYR |
| 1 | C1 | 1126 | 0.0ARG |
| 1 | C1 | 1183 | 0.0THR |
| 1 | C1 | 1226 | 0.0ARG |
| 1 | C1 | 1254 | 0.0SER |
| 1 | C1 | 1274 | 0.0SER |
| 1 | C1 | 1290 | 0.0LYS |
| 1 | C1 | 1325 | 0.0LYS |
| 1 | C1 | 1356 | 0.0THR |
| 1 | C1 | 1377 | 0.0THR |
| 1 | C1 | 1396 | 0.0LEU |

| Model ID | Chain | Residue ID | Residue type |
|----------|-------|------------|--------------|
| 1 | C1 | 1404 | 0.0ASP |
| 1 | C1 | 1405 | 0.0LEU |
| 1 | C1 | 1414 | 0.0PHE |
| 1 | C1 | 1415 | 0.0GLU |
| 1 | C1 | 1433 | 0.0SER |
| 1 | C1 | 1436 | 0.0VAL |
| 1 | C1 | 1459 | 0.0LYS |
| 1 | C1 | 1461 | 0.0ASN |
| 1 | H2 | 304 | 0.0THR |
| 1 | H2 | 319 | 0.0THR |
| 1 | H2 | 324 | 0.0TYR |
| 1 | H2 | 327 | 0.0PRO |
| 1 | H2 | 330 | 0.0VAL |
| 1 | H2 | 347 | 0.0THR |
| 1 | H2 | 422 | 0.0LEU |
| 1 | H2 | 423 | 0.0LYS |
| 1 | H2 | 505 | 0.0ARG |
| 1 | I2 | 270 | 0.0PRO |
| 1 | I2 | 276 | 0.0GLU |
| 1 | I2 | 317 | 0.0LYS |
| 1 | I2 | 349 | 0.0THR |
| 1 | I2 | 353 | 0.0LEU |
| 1 | I2 | 359 | 0.0THR |

| Model ID | Chain | Residue ID | Residue type |
|----------|-------|------------|--------------|
| 1 | I2 | 369 | 0.0LEU |
| 1 | I2 | 370 | 0.0ASP |
| 1 | I2 | 375 | 0.0LYS |
| 1 | I2 | 433 | 0.0LYS |
| 1 | I2 | 436 | 0.0LEU |
| 1 | I2 | 445 | 0.0GLU |
| 1 | I2 | 446 | 0.0GLU |
| 1 | J2 | 637 | 0.0LEU |
| 1 | J2 | 743 | 0.0GLN |
| 1 | J2 | 788 | 0.0ASP |
| 1 | J2 | 789 | 0.0GLU |
| 1 | d1 | 121 | 0.0ARG |
| 1 | d1 | 140 | 0.0THR |
| 1 | d1 | 146 | 0.0PHE |
| 1 | d1 | 177 | 0.0VAL |
| 1 | d1 | 190 | 0.0GLN |
| 1 | d1 | 194 | 0.0LEU |
| 1 | d1 | 196 | 0.0ILE |
| 1 | d1 | 204 | 0.0VAL |
| 1 | d1 | 207 | 0.0THR |
| 1 | d1 | 211 | 0.0LEU |
| 1 | d1 | 222 | 0.0GLN |
| 1 | d1 | 245 | 0.0SER |

| Model ID | Chain | Residue ID | Residue type |
|----------|-------|------------|--------------|
| 1 | d1 | 246 | 0.0LEU |
| 1 | d1 | 277 | 0.0LEU |
| 1 | d1 | 278 | 0.0LYS |
| 1 | d1 | 354 | 0.0PRO |
| 1 | d1 | 362 | 0.0ILE |
| 1 | d1 | 364 | 0.0HIS |
| 1 | d1 | 404 | 0.0LEU |
| 1 | d1 | 424 | 0.0SER |
| 1 | d1 | 508 | 0.0ILE |
| 1 | d1 | 534 | 0.0MET |
| 1 | d1 | 535 | 0.0LYS |
| 1 | d1 | 536 | 0.0VAL |
| 1 | d1 | 596 | 0.0LEU |
| 1 | d1 | 612 | 0.0VAL |
| 1 | d1 | 614 | 0.0LEU |
| 1 | d1 | 623 | 0.0LEU |
| 1 | d1 | 649 | 0.0ARG |
| 1 | d1 | 664 | 0.0LEU |
| 1 | d1 | 699 | 0.0ILE |
| 1 | d1 | 704 | 0.0GLU |
| 1 | d1 | 716 | 0.0PRO |
| 1 | d1 | 771 | 0.0ASP |
| 1 | d1 | 773 | 0.0ARG |

| Model ID | Chain | Residue ID | Residue type |
|----------|-------|------------|--------------|
| 1 | d1 | 1186 | 0.0LEU |
| 1 | d1 | 1195 | 0.0LYS |
| 1 | d1 | 848 | 0.0LEU |
| 1 | d1 | 857 | 0.0LEU |
| 1 | d1 | 860 | 0.0ARG |
| 1 | d1 | 1243 | 0.0CYS |
| 1 | d1 | 1258 | 0.0LEU |
| 1 | d1 | 928 | 0.0VAL |
| 1 | d1 | 1078 | 0.0ARG |
| 1 | d1 | 1092 | 0.0TYR |
| 1 | d1 | 1108 | 0.0ASN |
| 1 | d1 | 1109 | 0.0ASN |
| 1 | A3 | 28 | 0.0ASN |
| 1 | A3 | 37 | 0.0LEU |
| 1 | A3 | 227 | 0.0THR |
| 1 | A3 | 237 | 0.0HIS |
| 1 | A3 | 288 | 0.0GLU |
| 1 | A3 | 303 | 0.0LEU |
| 1 | A3 | 313 | 0.0THR |
| 1 | A3 | 625 | 0.0GLU |
| 1 | A3 | 439 | 0.0SER |
| 1 | A3 | 443 | 0.0GLN |
| 1 | A3 | 683 | 0.0THR |

| Model ID | Chain | Residue ID | Residue type |
|----------|-------|------------|--------------|
| 1 | A3 | 468 | 0.0PHE |
| 1 | A3 | 746 | 0.0PRO |
| 1 | A3 | 747 | 0.0PHE |
| 1 | A3 | 754 | 0.0ARG |
| 1 | A3 | 765 | 0.0ASP |
| 1 | A3 | 561 | 0.0GLN |
| 1 | C2 | 2 | 0.0LYS |
| 1 | C2 | 41 | 0.0LYS |
| 1 | C2 | 60 | 0.0ASP |
| 1 | C2 | 66 | 0.0VAL |
| 1 | C2 | 82 | 0.0ASN |
| 1 | C2 | 97 | 0.0THR |
| 1 | C2 | 110 | 0.0ARG |
| 1 | C2 | 117 | 0.0VAL |
| 1 | C2 | 128 | 0.0THR |
| 1 | C2 | 131 | 0.0TYR |
| 1 | C2 | 132 | 0.0GLN |
| 1 | C2 | 136 | 0.0LYS |
| 1 | C2 | 153 | 0.0THR |
| 1 | C2 | 183 | 0.0ARG |
| 1 | C2 | 208 | 0.0LYS |
| 1 | C2 | 209 | 0.0ASN |
| 1 | C2 | 256 | 0.0HIS |

| Model ID | Chain | Residue ID | Residue type |
|----------|-------|------------|--------------|
| 1 | C2 | 260 | 0.0MET |
| 1 | C2 | 293 | 0.0PRO |
| 1 | C2 | 306 | 0.0VAL |
| 1 | C2 | 307 | 0.0ASP |
| 1 | C2 | 330 | 0.0SER |
| 1 | C2 | 333 | 0.0GLU |
| 1 | C2 | 334 | 0.0GLN |
| 1 | C2 | 360 | 0.0LEU |
| 1 | C2 | 362 | 0.0ASP |
| 1 | C2 | 420 | 0.0LEU |
| 1 | C2 | 441 | 0.0TYR |
| 1 | C2 | 442 | 0.0SER |
| 1 | C2 | 464 | 0.0ASN |
| 1 | C2 | 495 | 0.0GLU |
| 1 | C2 | 522 | 0.0GLU |
| 1 | C2 | 562 | 0.0THR |
| 1 | C2 | 633 | 0.0HIS |
| 1 | C2 | 658 | 0.0ARG |
| 1 | C2 | 664 | 0.0ARG |
| 1 | C2 | 666 | 0.0VAL |
| 1 | C2 | 670 | 0.0PRO |
| 1 | C2 | 704 | 0.0TYR |
| 1 | C2 | 718 | 0.0ASN |

| Model ID | Chain | Residue ID | Residue type |
|----------|-------|------------|--------------|
| 1 | C2 | 725 | 0.0GLU |
| 1 | C2 | 745 | 0.0PHE |
| 1 | C2 | 748 | 0.0VAL |
| 1 | C2 | 752 | 0.0VAL |
| 1 | C2 | 753 | 0.0ASP |
| 1 | C2 | 770 | 0.0ASN |
| 1 | C2 | 778 | 0.0THR |
| 1 | C2 | 783 | 0.0LEU |
| 1 | C2 | 818 | 0.0PRO |
| 1 | C2 | 827 | 0.0VAL |
| 1 | C2 | 842 | 0.0LEU |
| 1 | C2 | 864 | 0.0GLU |
| 1 | C2 | 881 | 0.0THR |
| 1 | C2 | 892 | 0.0LEU |
| 1 | C2 | 917 | 0.0GLN |
| 1 | C2 | 920 | 0.0ASN |
| 1 | C2 | 924 | 0.0LEU |
| 1 | C2 | 947 | 0.0GLU |
| 1 | C2 | 962 | 0.0PRO |
| 1 | C2 | 971 | 0.0GLU |
| 1 | C2 | 974 | 0.0LEU |
| 1 | C2 | 982 | 0.0THR |
| 1 | C2 | 1011 | 0.0THR |

| Model ID | Chain | Residue ID | Residue type |
|----------|-------|------------|--------------|
| 1 | C2 | 1016 | 0.0PRO |
| 1 | C2 | 1017 | 0.0ASN |
| 1 | C2 | 1063 | 0.0TYR |
| 1 | C2 | 1070 | 0.0TYR |
| 1 | C2 | 1072 | 0.0VAL |
| 1 | C2 | 1074 | 0.0LEU |
| 1 | C2 | 1078 | 0.0LEU |
| 1 | C2 | 1087 | 0.0CYS |
| 1 | C2 | 1091 | 0.0GLU |
| 1 | C2 | 1093 | 0.0LEU |
| 1 | C2 | 1100 | 0.0PRO |
| 1 | C2 | 1102 | 0.0ASN |
| 1 | C2 | 1106 | 0.0VAL |
| 1 | C2 | 1110 | 0.0TYR |
| 1 | C2 | 1126 | 0.0ARG |
| 1 | C2 | 1180 | 0.0GLU |
| 1 | C2 | 1183 | 0.0THR |
| 1 | C2 | 1226 | 0.0ARG |
| 1 | C2 | 1254 | 0.0SER |
| 1 | C2 | 1274 | 0.0SER |
| 1 | C2 | 1290 | 0.0LYS |
| 1 | C2 | 1325 | 0.0LYS |
| 1 | C2 | 1356 | 0.0THR |

| Model ID | Chain | Residue ID | Residue type |
|----------|-------|------------|--------------|
| 1 | C2 | 1377 | 0.0THR |
| 1 | C2 | 1396 | 0.0LEU |
| 1 | C2 | 1404 | 0.0ASP |
| 1 | C2 | 1405 | 0.0LEU |
| 1 | C2 | 1414 | 0.0PHE |
| 1 | C2 | 1415 | 0.0GLU |
| 1 | C2 | 1433 | 0.0SER |
| 1 | C2 | 1436 | 0.0VAL |
| 1 | C2 | 1459 | 0.0LYS |
| 1 | C2 | 1461 | 0.0ASN |
| 1 | H3 | 304 | 0.0THR |
| 1 | H3 | 319 | 0.0THR |
| 1 | H3 | 324 | 0.0TYR |
| 1 | H3 | 327 | 0.0PRO |
| 1 | H3 | 330 | 0.0VAL |
| 1 | H3 | 347 | 0.0THR |
| 1 | H3 | 422 | 0.0LEU |
| 1 | H3 | 423 | 0.0LYS |
| 1 | H3 | 505 | 0.0ARG |
| 1 | I3 | 270 | 0.0PRO |
| 1 | I3 | 276 | 0.0GLU |
| 1 | I3 | 317 | 0.0LYS |
| 1 | I3 | 349 | 0.0THR |

| Model ID | Chain | Residue ID | Residue type |
|----------|-------|------------|--------------|
| 1 | I3 | 353 | 0.0LEU |
| 1 | I3 | 359 | 0.0THR |
| 1 | I3 | 369 | 0.0LEU |
| 1 | I3 | 370 | 0.0ASP |
| 1 | I3 | 375 | 0.0LYS |
| 1 | I3 | 433 | 0.0LYS |
| 1 | I3 | 436 | 0.0LEU |
| 1 | I3 | 445 | 0.0GLU |
| 1 | I3 | 446 | 0.0GLU |
| 1 | J3 | 637 | 0.0LEU |
| 1 | J3 | 743 | 0.0GLN |
| 1 | J3 | 788 | 0.0ASP |
| 1 | J3 | 789 | 0.0GLU |
| 1 | d2 | 121 | 0.0ARG |
| 1 | d2 | 140 | 0.0THR |
| 1 | d2 | 146 | 0.0PHE |
| 1 | d2 | 177 | 0.0VAL |
| 1 | d2 | 190 | 0.0GLN |
| 1 | d2 | 194 | 0.0LEU |
| 1 | d2 | 196 | 0.0ILE |
| 1 | d2 | 204 | 0.0VAL |
| 1 | d2 | 207 | 0.0THR |
| 1 | d2 | 211 | 0.0LEU |

| Model ID | Chain | Residue ID | Residue type |
|----------|-------|------------|--------------|
| 1 | d2 | 222 | 0.0GLN |
| 1 | d2 | 245 | 0.0SER |
| 1 | d2 | 246 | 0.0LEU |
| 1 | d2 | 277 | 0.0LEU |
| 1 | d2 | 278 | 0.0LYS |
| 1 | d2 | 354 | 0.0PRO |
| 1 | d2 | 362 | 0.0ILE |
| 1 | d2 | 364 | 0.0HIS |
| 1 | d2 | 404 | 0.0LEU |
| 1 | d2 | 424 | 0.0SER |
| 1 | d2 | 508 | 0.0ILE |
| 1 | d2 | 534 | 0.0MET |
| 1 | d2 | 535 | 0.0LYS |
| 1 | d2 | 536 | 0.0VAL |
| 1 | d2 | 596 | 0.0LEU |
| 1 | d2 | 612 | 0.0VAL |
| 1 | d2 | 614 | 0.0LEU |
| 1 | d2 | 623 | 0.0LEU |
| 1 | d2 | 649 | 0.0ARG |
| 1 | d2 | 664 | 0.0LEU |
| 1 | d2 | 699 | 0.0ILE |
| 1 | d2 | 704 | 0.0GLU |
| 1 | d2 | 716 | 0.0PRO |

| Model ID | Chain | Residue ID | Residue type |
|----------|-------|------------|--------------|
| 1 | d2 | 771 | 0.0ASP |
| 1 | d2 | 773 | 0.0ARG |
| 1 | d2 | 1186 | 0.0LEU |
| 1 | d2 | 1195 | 0.0LYS |
| 1 | d2 | 848 | 0.0LEU |
| 1 | d2 | 857 | 0.0LEU |
| 1 | d2 | 860 | 0.0ARG |
| 1 | d2 | 1243 | 0.0CYS |
| 1 | d2 | 1258 | 0.0LEU |
| 1 | d2 | 928 | 0.0VAL |
| 1 | d2 | 1078 | 0.0ARG |
| 1 | d2 | 1092 | 0.0TYR |
| 1 | d2 | 1108 | 0.0ASN |
| 1 | d2 | 1109 | 0.0ASN |
| 1 | A4 | 28 | 0.0ASN |
| 1 | A4 | 37 | 0.0LEU |
| 1 | A4 | 38 | 0.0ASN |
| 1 | A4 | 39 | 0.0ASN |
| 1 | A4 | 227 | 0.0THR |
| 1 | A4 | 237 | 0.0HIS |
| 1 | A4 | 242 | 0.0LYS |
| 1 | A4 | 288 | 0.0GLU |
| 1 | A4 | 303 | 0.0LEU |

| Model ID | Chain | Residue ID | Residue type |
|----------|-------|------------|--------------|
| 1 | A4 | 313 | 0.0THR |
| 1 | A4 | 625 | 0.0GLU |
| 1 | A4 | 439 | 0.0SER |
| 1 | A4 | 443 | 0.0GLN |
| 1 | A4 | 683 | 0.0THR |
| 1 | A4 | 468 | 0.0PHE |
| 1 | A4 | 746 | 0.0PRO |
| 1 | A4 | 747 | 0.0PHE |
| 1 | A4 | 754 | 0.0ARG |
| 1 | A4 | 765 | 0.0ASP |
| 1 | A4 | 561 | 0.0GLN |
| 1 | A4 | 600 | 0.0ASN |
| 1 | A4 | 601 | 0.0ILE |
| 1 | B2 | 25 | 0.0ARG |
| 1 | B2 | 58 | 0.0THR |
| 1 | B2 | 71 | 0.0PRO |
| 1 | B2 | 75 | 0.0GLN |
| 1 | B2 | 77 | 0.0PHE |
| 1 | B2 | 103 | 0.0PHE |
| 1 | B2 | 110 | 0.0ILE |
| 1 | B2 | 136 | 0.0SER |
| 1 | B2 | 156 | 0.0LEU |
| 1 | B2 | 165 | 0.0VAL |

| Model ID | Chain | Residue ID | Residue type |
|----------|-------|------------|--------------|
| 1 | B2 | 182 | 0.0VAL |
| 1 | B2 | 186 | 0.0THR |
| 1 | B2 | 211 | 0.0GLN |
| 1 | B2 | 267 | 0.0SER |
| 1 | B2 | 269 | 0.0ASP |
| 1 | B2 | 270 | 0.0VAL |
| 1 | B2 | 290 | 0.0VAL |
| 1 | B2 | 292 | 0.0THR |
| 1 | B2 | 303 | 0.0PRO |
| 1 | B2 | 320 | 0.0PRO |
| 1 | B2 | 336 | 0.0LYS |
| 1 | B2 | 337 | 0.0LEU |
| 1 | B2 | 344 | 0.0LEU |
| 1 | B2 | 345 | 0.0PRO |
| 1 | B2 | 348 | 0.0ILE |
| 1 | B2 | 357 | 0.0ASP |
| 1 | B2 | 358 | 0.0THR |
| 1 | B2 | 359 | 0.0GLU |
| 1 | B2 | 374 | 0.0THR |
| 1 | B2 | 377 | 0.0SER |
| 1 | B2 | 378 | 0.0LEU |
| 1 | B2 | 380 | 0.0ASP |
| 1 | B2 | 389 | 0.0PRO |

| Model ID | Chain | Residue ID | Residue type |
|----------|-------|------------|--------------|
| 1 | B2 | 396 | 0.0SER |
| 1 | B2 | 402 | 0.0PRO |
| 1 | B2 | 403 | 0.0PRO |
| 1 | B2 | 404 | 0.0ASN |
| 1 | B2 | 405 | 0.0CYS |
| 1 | B2 | 418 | 0.0LEU |
| 1 | B2 | 441 | 0.0LEU |
| 1 | B2 | 442 | 0.0LEU |
| 1 | B2 | 447 | 0.0ASP |
| 1 | B2 | 469 | 0.0ILE |
| 1 | B2 | 497 | 0.0ARG |
| 1 | B2 | 515 | 0.0PRO |
| 1 | B2 | 516 | 0.0ASN |
| 1 | B2 | 527 | 0.0LYS |
| 1 | B2 | 574 | 0.0LEU |
| 1 | B2 | 576 | 0.0ASN |
| 1 | B2 | 590 | 0.0LYS |
| 1 | B2 | 650 | 0.0THR |
| 1 | B2 | 653 | 0.0ASP |
| 1 | B2 | 654 | 0.0SER |
| 1 | B2 | 656 | 0.0ASP |
| 1 | B2 | 661 | 0.0THR |
| 1 | B2 | 675 | 0.0LYS |

| Model ID | Chain | Residue ID | Residue type |
|----------|-------|------------|--------------|
| 1 | B2 | 676 | 0.0ILE |
| 1 | B2 | 680 | 0.0LYS |
| 1 | B2 | 691 | 0.0ASN |
| 1 | B2 | 707 | 0.0ASN |
| 1 | B2 | 715 | 0.0LEU |
| 1 | B2 | 730 | 0.0TYR |
| 1 | B2 | 731 | 0.0THR |
| 1 | B2 | 772 | 0.0LEU |
| 1 | B2 | 776 | 0.0LEU |
| 1 | B2 | 782 | 0.0PRO |
| 1 | B2 | 802 | 0.0SER |
| 1 | B2 | 815 | 0.0GLN |
| 1 | B2 | 829 | 0.0ASP |
| 1 | B2 | 847 | 0.0SER |
| 1 | B2 | 849 | 0.0PRO |
| 1 | B2 | 858 | 0.0GLU |
| 1 | B2 | 875 | 0.0LYS |
| 1 | B2 | 889 | 0.0ASP |
| 1 | B2 | 896 | 0.0LYS |
| 1 | B2 | 898 | 0.0GLU |
| 1 | B2 | 903 | 0.0ASP |
| 1 | B2 | 913 | 0.0LYS |
| 1 | B2 | 919 | 0.0VAL |

| Model ID | Chain | Residue ID | Residue type |
|----------|-------|------------|--------------|
| 1 | B2 | 929 | 0.0SER |
| 1 | B2 | 934 | 0.0SER |
| 1 | B2 | 940 | 0.0LEU |
| 1 | B2 | 941 | 0.0ASN |
| 1 | B2 | 943 | 0.0THR |
| 1 | B2 | 948 | 0.0LEU |
| 1 | B2 | 949 | 0.0ASN |
| 1 | B2 | 957 | 0.0TYR |
| 1 | B2 | 960 | 0.0PRO |
| 1 | B2 | 971 | 0.0SER |
| 1 | B2 | 1018 | 0.0THR |
| 1 | B2 | 1023 | 0.0ASP |
| 1 | B2 | 1029 | 0.0VAL |
| 1 | B2 | 1061 | 0.0ILE |
| 1 | B2 | 1066 | 0.0ASN |
| 1 | B2 | 1077 | 0.0LEU |
| 1 | B2 | 1081 | 0.0PHE |
| 1 | B2 | 1096 | 0.0VAL |
| 1 | B2 | 1097 | 0.0ILE |
| 1 | B2 | 1119 | 0.0GLU |
| 1 | B2 | 1400 | 0.0PRO |
| 1 | B2 | 1170 | 0.0ILE |
| 1 | B2 | 1172 | 0.0ASP |

| Model ID | Chain | Residue ID | Residue type |
|----------|-------|------------|--------------|
| 1 | B2 | 1173 | 0.0GLU |
| 1 | B2 | 1182 | 0.0THR |
| 1 | B2 | 1192 | 0.0PRO |
| 1 | B2 | 1224 | 0.0PHE |
| 1 | B2 | 1226 | 0.0PRO |
| 1 | B2 | 1507 | 0.0LEU |
| 1 | B2 | 1508 | 0.0SER |
| 1 | B2 | 1264 | 0.0LYS |
| 1 | B2 | 1530 | 0.0LYS |
| 1 | B2 | 1278 | 0.0LEU |
| 1 | B2 | 1303 | 0.0TYR |
| 1 | B2 | 1305 | 0.0HIS |
| 1 | B2 | 1306 | 0.0ASP |
| 1 | B2 | 1342 | 0.0LEU |
| 1 | B2 | 1652 | 0.0PHE |
| 1 | D2 | 101 | 0.0SER |
| 1 | D2 | 142 | 0.0ASP |
| 1 | D2 | 175 | 0.0ASN |
| 1 | D2 | 177 | 0.0ILE |
| 1 | D2 | 194 | 0.0VAL |
| 1 | D2 | 203 | 0.0LYS |
| 1 | D2 | 210 | 0.0ASN |
| 1 | D2 | 222 | 0.0GLN |

| Model ID | Chain | Residue ID | Residue type |
|----------|-------|------------|--------------|
| 1 | D2 | 246 | 0.0LEU |
| 1 | D2 | 269 | 0.0SER |
| 1 | D2 | 278 | 0.0LYS |
| 1 | D2 | 343 | 0.0ILE |
| 1 | D2 | 349 | 0.0SER |
| 1 | D2 | 354 | 0.0PRO |
| 1 | D2 | 367 | 0.0HIS |
| 1 | D2 | 413 | 0.0THR |
| 1 | D2 | 431 | 0.0LYS |
| 1 | D2 | 504 | 0.0VAL |
| 1 | D2 | 511 | 0.0VAL |
| 1 | D2 | 539 | 0.0ILE |
| 1 | D2 | 541 | 0.0ILE |
| 1 | D2 | 550 | 0.0LEU |
| 1 | D2 | 569 | 0.0SER |
| 1 | D2 | 570 | 0.0THR |
| 1 | D2 | 602 | 0.0ASP |
| 1 | D2 | 614 | 0.0MET |
| 1 | D2 | 615 | 0.0TYR |
| 1 | D2 | 626 | 0.0LEU |
| 1 | D2 | 668 | 0.0LYS |
| 1 | D2 | 673 | 0.0ILE |
| 1 | D2 | 719 | 0.0PRO |

| Model ID | Chain | Residue ID | Residue type |
|----------|-------|------------|--------------|
| 1 | D2 | 774 | 0.0ASP |
| 1 | D2 | 813 | 0.0SER |
| 1 | D2 | 820 | 0.0LEU |
| 1 | D2 | 829 | 0.0GLU |
| 1 | D2 | 830 | 0.0ILE |
| 1 | D2 | 845 | 0.0LEU |
| 1 | D2 | 854 | 0.0LEU |
| 1 | D2 | 863 | 0.0LEU |
| 1 | D2 | 866 | 0.0ARG |
| 1 | D2 | 991 | 0.0THR |
| 1 | D2 | 998 | 0.0THR |
| 1 | D2 | 1005 | 0.0VAL |
| 1 | D2 | 1299 | 0.0LYS |
| 1 | D2 | 1300 | 0.0SER |
| 1 | D2 | 1301 | 0.0SER |
| 1 | D2 | 1041 | 0.0HIS |
| 1 | D2 | 1081 | 0.0ARG |
| 1 | D2 | 1083 | 0.0SER |
| 1 | D2 | 1099 | 0.0THR |
| 1 | D2 | 1113 | 0.0LEU |
| 1 | D2 | 1114 | 0.0LYS |
| 1 | H4 | 304 | 0.0THR |
| 1 | H4 | 319 | 0.0THR |

| Model ID | Chain | Residue ID | Residue type |
|----------|-------|------------|--------------|
| 1 | H4 | 324 | 0.0TYR |
| 1 | H4 | 327 | 0.0PRO |
| 1 | H4 | 330 | 0.0VAL |
| 1 | H4 | 347 | 0.0THR |
| 1 | H4 | 422 | 0.0LEU |
| 1 | H4 | 423 | 0.0LYS |
| 1 | H4 | 505 | 0.0ARG |
| 1 | I4 | 270 | 0.0PRO |
| 1 | I4 | 271 | 0.0PRO |
| 1 | I4 | 276 | 0.0GLU |
| 1 | I4 | 317 | 0.0LYS |
| 1 | I4 | 349 | 0.0THR |
| 1 | I4 | 353 | 0.0LEU |
| 1 | I4 | 359 | 0.0THR |
| 1 | I4 | 369 | 0.0LEU |
| 1 | I4 | 370 | 0.0ASP |
| 1 | I4 | 375 | 0.0LYS |
| 1 | I4 | 433 | 0.0LYS |
| 1 | I4 | 436 | 0.0LEU |
| 1 | I4 | 445 | 0.0GLU |
| 1 | I4 | 446 | 0.0GLU |
| 1 | J4 | 637 | 0.0LEU |
| 1 | J4 | 743 | 0.0GLN |

| Model ID | Chain | Residue ID | Residue type |
|----------|-------|------------|--------------|
| 1 | J4 | 788 | 0.0ASP |
| 1 | J4 | 789 | 0.0GLU |

Fit of model to data used for modeling ?

3DEM volume

Validation for this section is under development.

Fit of model to data used for validation ?

Validation for this section is under development.

Acknowledgements

Development of integrative model validation metrics, implementation of a model validation pipeline, and creation of a validation report for integrative structures, are funded by NSF ABI awards (DBI-1756248, DBI-2112966, DBI-2112967, DBI-2112968, and DBI-1756250). The [PDB-Dev team](#) and members of [Sali lab](#) contributed model validation metrics and software packages.

Implementation of validation methods for SAS data and SAS-based models are funded by [RCSB PDB](#) (grant number DBI-1832184). Dr. Stephen Burley, Dr. John Westbrook, and Dr. Jasmine Young from [RCSB PDB](#), Dr. Jill Trehwella, Dr. Dina Schneidman, and members of the [SASBDB](#) repository are acknowledged for their advice and support in implementing SAS validation methods.

Members of the [wwPDB Integrative/Hybrid Methods Task Force](#) provided recommendations and community support for the project.