



Full wwPDB X-ray Structure Validation Report ⓘ

Oct 24, 2023 – 01:18 AM EDT

PDB ID : 3AG3
Title : Bovine Heart Cytochrome c Oxidase in the Nitric Oxide-bound Fully Reduced State at 100 K
Authors : Muramoto, K.; Ohta, K.; Shinzawa-Itoh, K.; Kanda, K.; Taniguchi, M.; Nabekura, H.; Yamashita, E.; Tsukihara, T.; Yoshikawa, S.
Deposited on : 2010-03-19
Resolution : 1.80 Å(reported)

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

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

MolProbity : 4.02b-467
Mogul : 1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix) : 1.13
EDS : 2.36
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac : 5.8.0158
CCP4 : 7.0.044 (Gargrove)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.36

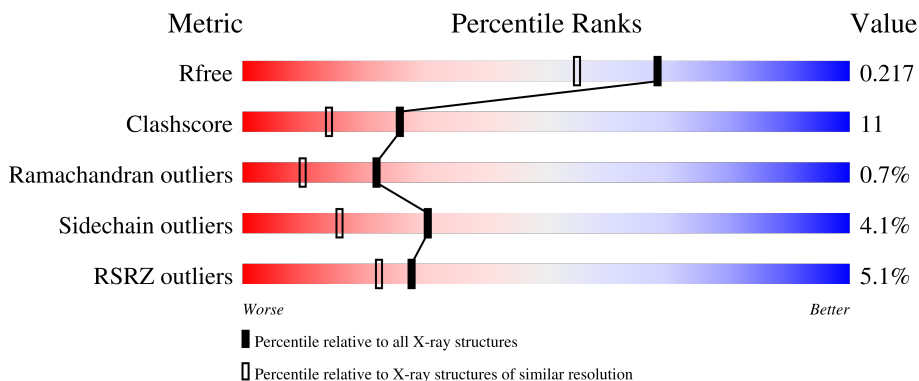
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 1.80 Å.

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



| Metric | Whole archive (#Entries) | Similar resolution (#Entries, resolution range(Å)) |
|-----------------------|-----------------------------|---|
| R_{free} | 130704 | 5950 (1.80-1.80) |
| Clashscore | 141614 | 6793 (1.80-1.80) |
| Ramachandran outliers | 138981 | 6697 (1.80-1.80) |
| Sidechain outliers | 138945 | 6696 (1.80-1.80) |
| RSRZ outliers | 127900 | 5850 (1.80-1.80) |

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

| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|-------------------|
| 1 | A | 514 | 76% 20% .. |
| 1 | N | 514 | 76% 20% .. |
| 2 | B | 227 | 70% 24% 5% . |
| 2 | O | 227 | 3% 73% 22% .. |

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| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|------------------|
| 3 | C | 261 | 78% 20% .. |
| 3 | P | 261 | 79% 18% .. |
| 4 | D | 147 | 81% 14% .. |
| 4 | Q | 147 | 76% 19% .. |
| 5 | E | 109 | 82% 13% .. |
| 5 | R | 109 | 86% 9% .. |
| 6 | F | 98 | 74% 21% .. |
| 6 | S | 98 | 79% 13% 6% . |
| 7 | G | 85 | 69% 15% 11% .. |
| 7 | T | 85 | 68% 19% 8% .. |
| 8 | H | 85 | 72% 16% 5% 7% |
| 8 | U | 85 | 76% 11% 6% 7% |
| 9 | I | 73 | 77% 21% . |
| 9 | V | 73 | 75% 15% 8% . |
| 10 | J | 59 | 83% 10% 5% . |
| 10 | W | 59 | 85% 12% .. |
| 11 | K | 56 | 73% 11% .. 12% |
| 11 | X | 56 | 77% 9% . 12% |
| 12 | L | 47 | 70% 21% 6% . |
| 12 | Y | 47 | 66% 26% .. . |
| 13 | M | 46 | 59% 20% 15% 7% |
| 13 | Z | 46 | 72% 17% . 7% |

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

| Mol | Type | Chain | Res | Chirality | Geometry | Clashes | Electron density |
|-----|------|-------|------|-----------|----------|---------|------------------|
| 2 | FME | B | 1 | - | X | - | - |
| 22 | PSC | B | 229 | - | - | X | - |
| 23 | CHD | C | 271 | X | - | - | - |
| 23 | CHD | J | 60 | X | - | - | X |
| 23 | CHD | P | 1271 | X | - | - | - |
| 23 | CHD | W | 1059 | X | - | - | - |
| 24 | UNX | C | 262 | - | - | - | X |
| 24 | UNX | P | 262 | - | - | - | X |
| 25 | PEK | G | 1263 | - | - | X | X |
| 25 | PEK | T | 263 | - | - | X | - |
| 26 | CDL | C | 270 | - | - | X | - |
| 26 | CDL | G | 269 | - | - | X | - |
| 26 | CDL | P | 1270 | - | - | X | - |
| 26 | CDL | T | 1269 | - | - | X | - |
| 28 | DMU | G | 272 | X | - | - | - |
| 28 | DMU | M | 526 | X | - | - | - |
| 28 | DMU | P | 1272 | X | - | - | - |
| 28 | DMU | Z | 1526 | X | - | - | - |
| 9 | SAC | I | 1 | - | X | - | - |
| 9 | SAC | V | 1 | - | - | - | X |

2 Entry composition [i](#)

There are 29 unique types of molecules in this entry. The entry contains 32545 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called Cytochrome c oxidase subunit 1.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|----|---------|---------|-------|
| | | | Total | C | N | O | S | | | |
| 1 | A | 514 | Total | C | N | O | S | 0 | 5 | 0 |
| | | | 4060 | 2712 | 628 | 684 | 36 | | | |
| 1 | N | 514 | Total | C | N | O | S | 0 | 5 | 0 |
| | | | 4060 | 2712 | 628 | 684 | 36 | | | |

- Molecule 2 is a protein called Cytochrome c oxidase subunit 2.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|----|---------|---------|-------|
| | | | Total | C | N | O | S | | | |
| 2 | B | 227 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 1824 | 1185 | 281 | 340 | 18 | | | |
| 2 | O | 227 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 1824 | 1185 | 281 | 340 | 18 | | | |

- Molecule 3 is a protein called Cytochrome c oxidase subunit 3.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|----|---------|---------|-------|
| | | | Total | C | N | O | S | | | |
| 3 | C | 259 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 2110 | 1412 | 336 | 350 | 12 | | | |
| 3 | P | 259 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 2110 | 1412 | 336 | 350 | 12 | | | |

- Molecule 4 is a protein called Cytochrome c oxidase subunit 4 isoform 1.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| | | | Total | C | N | O | S | | | |
| 4 | D | 144 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 1195 | 777 | 196 | 218 | 4 | | | |
| 4 | Q | 144 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 1195 | 777 | 196 | 218 | 4 | | | |

- Molecule 5 is a protein called Cytochrome c oxidase subunit 5A.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 5 | E | 105 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 852 | 544 | 144 | 162 | 2 | | | |
| 5 | R | 105 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 852 | 544 | 144 | 162 | 2 | | | |

- Molecule 6 is a protein called Cytochrome c oxidase subunit 5B.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 6 | F | 98 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 748 | 464 | 134 | 145 | 5 | | | |
| 6 | S | 98 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 748 | 464 | 134 | 145 | 5 | | | |

- Molecule 7 is a protein called Cytochrome c oxidase subunit 6A2.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace | |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|---|
| 7 | G | 84 | Total | C | N | O | P | S | 0 | 0 | 0 |
| | | | 675 | 431 | 129 | 113 | 1 | 1 | | | |
| 7 | T | 84 | Total | C | N | O | P | S | 0 | 0 | 0 |
| | | | 675 | 431 | 129 | 113 | 1 | 1 | | | |

- Molecule 8 is a protein called Cytochrome c oxidase subunit 6B1.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 8 | H | 79 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 662 | 417 | 121 | 119 | 5 | | | |
| 8 | U | 79 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 662 | 417 | 121 | 119 | 5 | | | |

- Molecule 9 is a protein called Cytochrome c oxidase subunit 6C.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 9 | I | 73 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 601 | 390 | 107 | 100 | 4 | | | |
| 9 | V | 73 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 601 | 390 | 107 | 100 | 4 | | | |

- Molecule 10 is a protein called Cytochrome c oxidase polypeptide 7A1.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|---------|-------|
| 10 | J | 58 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 460 | 297 | 78 | 82 | 3 | | | |

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| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|---------|-------|
| 10 | W | 58 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 460 | 297 | 78 | 82 | 3 | | | |

- Molecule 11 is a protein called Cytochrome c oxidase subunit 7B.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|---------|-------|
| 11 | K | 49 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 384 | 250 | 65 | 67 | 2 | | | |
| 11 | X | 49 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 384 | 250 | 65 | 67 | 2 | | | |

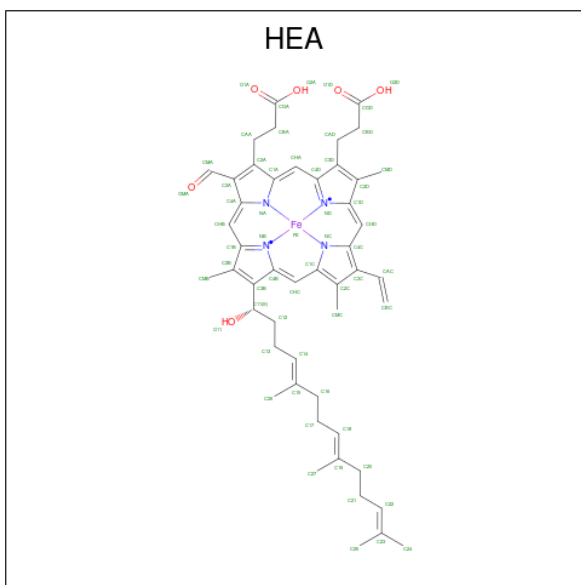
- Molecule 12 is a protein called Cytochrome c oxidase subunit 7C.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|---------|-------|
| 12 | L | 46 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 380 | 254 | 64 | 60 | 2 | | | |
| 12 | Y | 46 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 380 | 254 | 64 | 60 | 2 | | | |

- Molecule 13 is a protein called Cytochrome c oxidase subunit 8B.

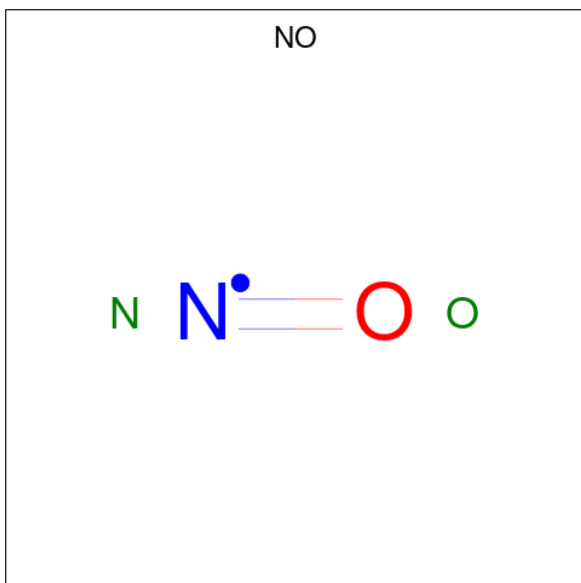
| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---------|---------|-------|
| 13 | M | 43 | Total | C | N | O | 0 | 0 | 0 |
| | | | 335 | 223 | 53 | 59 | | | |
| 13 | Z | 43 | Total | C | N | O | 0 | 0 | 0 |
| | | | 335 | 223 | 53 | 59 | | | |

- Molecule 14 is HEME-A (three-letter code: HEA) (formula: C₄₉H₅₆FeN₄O₆).



| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | | |
|-----|-------|----------|-------|----|----|---|---------|---------|---|---|
| | | | Total | C | Fe | N | | | O | |
| 14 | A | 1 | Total | 60 | 49 | 1 | 4 | 6 | 0 | 0 |
| 14 | A | 1 | Total | 60 | 49 | 1 | 4 | 6 | 0 | 0 |
| 14 | N | 1 | Total | 60 | 49 | 1 | 4 | 6 | 0 | 0 |
| 14 | N | 1 | Total | 60 | 49 | 1 | 4 | 6 | 0 | 0 |

- Molecule 15 is NITRIC OXIDE (three-letter code: NO) (formula: NO).



| Mol | Chain | Residues | Atoms | | | ZeroOcc | AltConf |
|-----|-------|----------|-------|---|---|---------|---------|
| 15 | A | 1 | Total | N | O | 0 | 0 |
| | | | 2 | 1 | 1 | | |
| 15 | N | 1 | Total | N | O | 0 | 0 |
| | | | 2 | 1 | 1 | | |

- Molecule 16 is COPPER (II) ION (three-letter code: CU) (formula: Cu).

| Mol | Chain | Residues | Atoms | | ZeroOcc | AltConf |
|-----|-------|----------|-------|----|---------|---------|
| 16 | A | 1 | Total | Cu | 0 | 0 |
| | | | 1 | 1 | | |
| 16 | N | 1 | Total | Cu | 0 | 0 |
| | | | 1 | 1 | | |

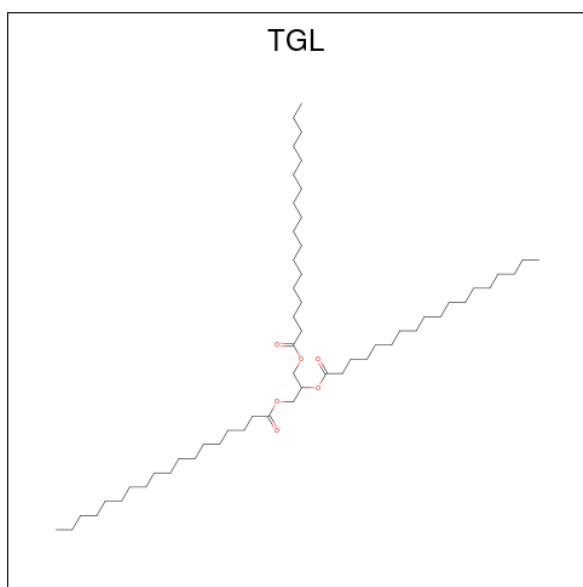
- Molecule 17 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

| Mol | Chain | Residues | Atoms | | ZeroOcc | AltConf |
|-----|-------|----------|-------|----|---------|---------|
| 17 | A | 1 | Total | Mg | 0 | 0 |
| | | | 1 | 1 | | |
| 17 | N | 1 | Total | Mg | 0 | 0 |
| | | | 1 | 1 | | |

- Molecule 18 is SODIUM ION (three-letter code: NA) (formula: Na).

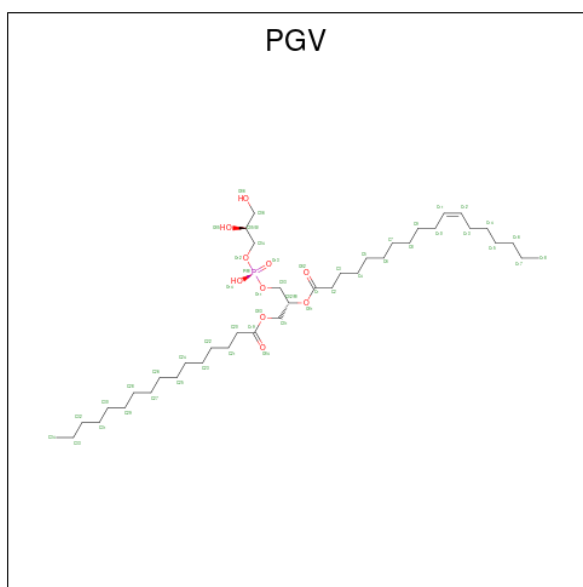
| Mol | Chain | Residues | Atoms | | ZeroOcc | AltConf |
|-----|-------|----------|-------|----|---------|---------|
| 18 | A | 1 | Total | Na | 0 | 0 |
| | | | 1 | 1 | | |
| 18 | N | 1 | Total | Na | 0 | 0 |
| | | | 1 | 1 | | |

- Molecule 19 is TRISTEAROYLGLYCEROL (three-letter code: TGL) (formula: C₅₇H₁₁₀O₆).



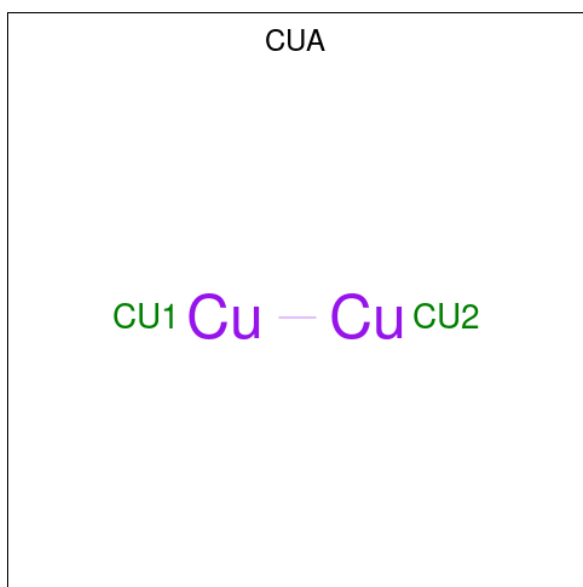
| Mol | Chain | Residues | Atoms | | | ZeroOcc | AltConf |
|-----|-------|----------|-------|----|---|---------|---------|
| 19 | A | 1 | Total | C | O | 0 | 0 |
| | | | 63 | 57 | 6 | | |
| 19 | D | 1 | Total | C | O | 0 | 0 |
| | | | 63 | 57 | 6 | | |
| 19 | L | 1 | Total | C | O | 0 | 0 |
| | | | 63 | 57 | 6 | | |
| 19 | N | 1 | Total | C | O | 0 | 0 |
| | | | 63 | 57 | 6 | | |
| 19 | O | 1 | Total | C | O | 0 | 0 |
| | | | 63 | 57 | 6 | | |
| 19 | Q | 1 | Total | C | O | 0 | 0 |
| | | | 63 | 57 | 6 | | |

- Molecule 20 is (1R)-2-{{{[(2S)-2,3-DIHYDROXYPROPYL]OXY}(HYDROXY)PHOSPHORYL]OXY}-1-[(PALMITOYLOXY)METHYL]ETHYL (11E)-OCTADEC-11-ENOATE (three-letter code: PGV) (formula: C₄₀H₇₇O₁₀P).



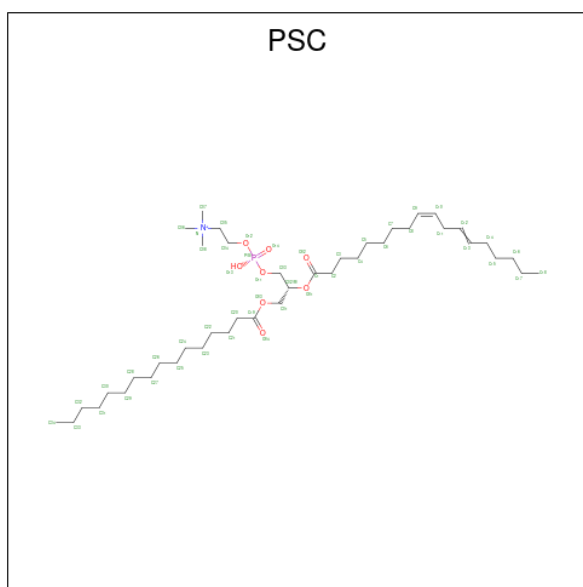
| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf |
|-----|-------|----------|-------|----|----|---|---------|---------|
| | | | Total | C | O | P | | |
| 20 | A | 1 | 51 | 40 | 10 | 1 | 0 | 0 |
| 20 | C | 1 | 51 | 40 | 10 | 1 | 0 | 0 |
| 20 | C | 1 | 51 | 40 | 10 | 1 | 0 | 0 |
| 20 | M | 1 | 51 | 40 | 10 | 1 | 0 | 0 |
| 20 | N | 1 | 51 | 40 | 10 | 1 | 0 | 0 |
| 20 | N | 1 | 51 | 40 | 10 | 1 | 0 | 0 |
| 20 | P | 1 | 51 | 40 | 10 | 1 | 0 | 0 |
| 20 | P | 1 | 51 | 40 | 10 | 1 | 0 | 0 |

- Molecule 21 is DINUCLEAR COPPER ION (three-letter code: CUA) (formula: Cu₂).



| Mol | Chain | Residues | Atoms | ZeroOcc | AltConf |
|-----|-------|----------|-----------------|---------|---------|
| 21 | B | 1 | Total Cu 2 2 | 0 | 0 |
| 21 | O | 1 | Total Cu 2 2 | 0 | 0 |

- Molecule 22 is (7R,17E,20E)-4-HYDROXY-N,N,N-TRIMETHYL-9-OXO-7-[(PALMITOYLOXY)METHYL]-3,5,8-TRIOXA-4-PHOSPHAHEXACOSA-17,20-DIEN-1-AMINIUM 4-OXIDE (three-letter code: PSC) (formula: C₄₂H₈₁NO₈P).



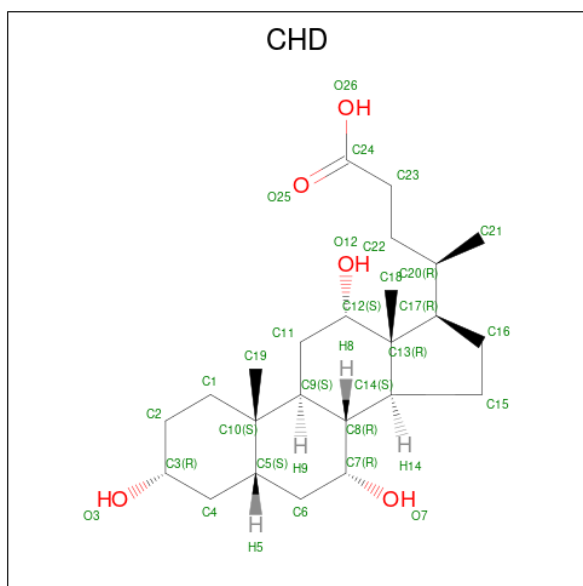
| Mol | Chain | Residues | Atoms | ZeroOcc | AltConf |
|-----|-------|----------|------------------------------|---------|---------|
| 22 | B | 1 | Total C N O P 52 42 1 8 1 | 0 | 0 |

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| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | |
|-----|-------|----------|-------|----|---|---|---------|---------|---|
| | | | Total | C | N | O | | | P |
| 22 | R | 1 | 52 | 42 | 1 | 8 | 1 | 0 | 0 |

- Molecule 23 is CHOLIC ACID (three-letter code: CHD) (formula: $C_{24}H_{40}O_5$).

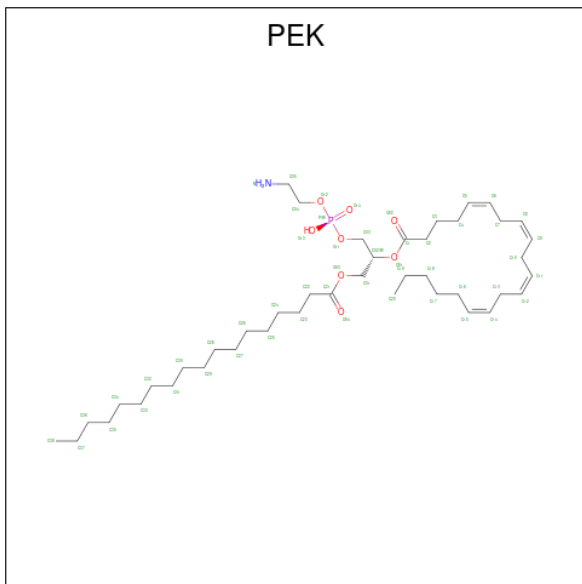


| Mol | Chain | Residues | Atoms | | | ZeroOcc | AltConf |
|-----|-------|----------|-------|----|---|---------|---------|
| | | | Total | C | O | | |
| 23 | B | 1 | 29 | 24 | 5 | 0 | 0 |
| 23 | C | 1 | 29 | 24 | 5 | 0 | 0 |
| 23 | C | 1 | 29 | 24 | 5 | 0 | 0 |
| 23 | J | 1 | 29 | 24 | 5 | 0 | 0 |
| 23 | O | 1 | 29 | 24 | 5 | 0 | 0 |
| 23 | P | 1 | 29 | 24 | 5 | 0 | 0 |
| 23 | P | 1 | 29 | 24 | 5 | 0 | 0 |
| 23 | W | 1 | 29 | 24 | 5 | 0 | 0 |

- Molecule 24 is UNKNOWN ATOM OR ION (three-letter code: UNX) (formula: X).

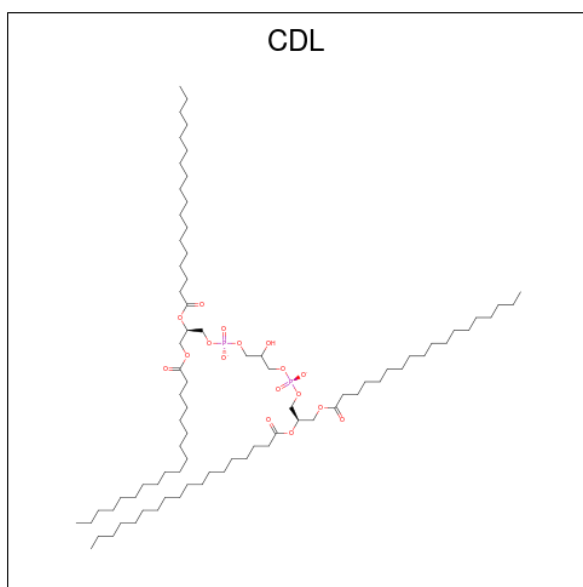
| Mol | Chain | Residues | Atoms | ZeroOcc | AltConf |
|-----|-------|----------|----------------|---------|---------|
| 24 | C | 1 | Total X 1 1 | 0 | 0 |
| 24 | P | 1 | Total X 1 1 | 0 | 0 |

- Molecule 25 is (1S)-2-[[[(2-AMINOETHOXY)(HYDROXY)PHOSPHORYL]OXY}-1-[(STEAROYL)OXY]METHYL]ETHYL (5E,8E,11E,14E)-ICOSA-5,8,11,14-TETRAENOATE (three-letter code: PEK) (formula: C₄₃H₇₈NO₈P).



| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | |
|-----|-------|----------|-------|----|---|---|---------|---------|---|
| 25 | C | 1 | Total | C | N | O | P | 0 | 0 |
| | | | 53 | 43 | 1 | 8 | 1 | | |
| 25 | G | 1 | Total | C | N | O | P | 0 | 0 |
| | | | 53 | 43 | 1 | 8 | 1 | | |
| 25 | G | 1 | Total | C | N | O | P | 0 | 0 |
| | | | 53 | 43 | 1 | 8 | 1 | | |
| 25 | P | 1 | Total | C | N | O | P | 0 | 0 |
| | | | 53 | 43 | 1 | 8 | 1 | | |
| 25 | P | 1 | Total | C | N | O | P | 0 | 0 |
| | | | 53 | 43 | 1 | 8 | 1 | | |
| 25 | T | 1 | Total | C | N | O | P | 0 | 0 |
| | | | 53 | 43 | 1 | 8 | 1 | | |

- Molecule 26 is CARDIOLIPIN (three-letter code: CDL) (formula: C₈₁H₁₅₆O₁₇P₂).

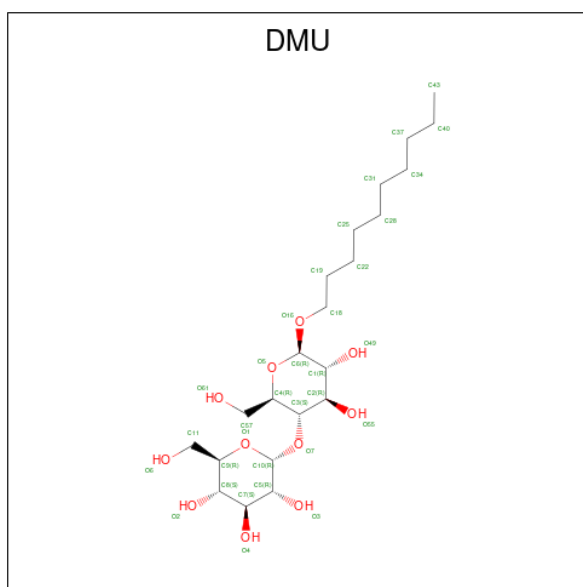


| Mol | Chain | Residues | Atoms | | | ZeroOcc | AltConf | |
|-----|-------|----------|-------|----|----|---------|---------|---|
| | | | Total | C | O | | | P |
| 26 | C | 1 | 100 | 81 | 17 | 2 | 0 | 0 |
| 26 | G | 1 | 100 | 81 | 17 | 2 | 0 | 0 |
| 26 | P | 1 | 100 | 81 | 17 | 2 | 0 | 0 |
| 26 | T | 1 | 100 | 81 | 17 | 2 | 0 | 0 |

- Molecule 27 is ZINC ION (three-letter code: ZN) (formula: Zn).

| Mol | Chain | Residues | Atoms | | ZeroOcc | AltConf |
|-----|-------|----------|-------|----|---------|---------|
| | | | Total | Zn | | |
| 27 | F | 1 | 1 | 1 | 0 | 0 |
| 27 | S | 1 | 1 | 1 | 0 | 0 |

- Molecule 28 is DECYL-BETA-D-MALTOPYRANOSIDE (three-letter code: DMU) (formula: C₂₂H₄₂O₁₁).



| Mol | Chain | Residues | Atoms | ZeroOcc | AltConf |
|-----|-------|----------|-----------------------|---------|---------|
| 28 | G | 1 | Total C O 33 22 11 | 0 | 0 |
| 28 | M | 1 | Total C O 33 22 11 | 0 | 0 |
| 28 | P | 1 | Total C O 33 22 11 | 0 | 0 |
| 28 | Z | 1 | Total C O 33 22 11 | 0 | 0 |

- Molecule 29 is water.

| Mol | Chain | Residues | Atoms | ZeroOcc | AltConf |
|-----|-------|----------|--------------------|---------|---------|
| 29 | A | 218 | Total O 218 218 | 0 | 0 |
| 29 | B | 143 | Total O 143 143 | 0 | 0 |
| 29 | C | 116 | Total O 116 116 | 0 | 0 |
| 29 | D | 80 | Total O 80 80 | 0 | 0 |
| 29 | E | 49 | Total O 49 49 | 0 | 0 |
| 29 | F | 61 | Total O 61 61 | 0 | 0 |
| 29 | G | 45 | Total O 45 45 | 0 | 0 |
| 29 | H | 51 | Total O 51 51 | 0 | 0 |

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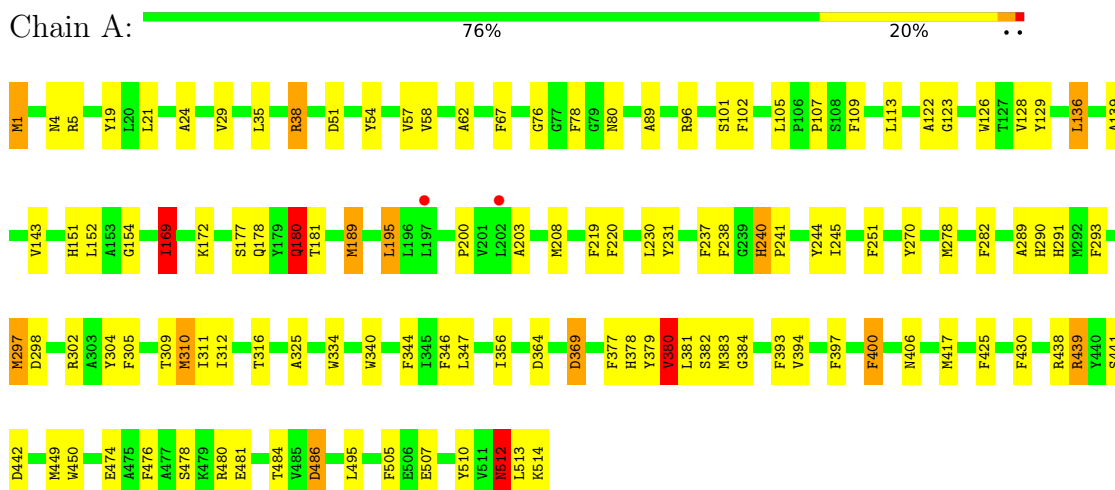
Continued from previous page...

| Mol | Chain | Residues | Atoms | ZeroOcc | AltConf |
|-----|-------|----------|--------------------|---------|---------|
| 29 | I | 37 | Total O 37 37 | 0 | 0 |
| 29 | J | 24 | Total O 24 24 | 0 | 0 |
| 29 | K | 29 | Total O 29 29 | 0 | 0 |
| 29 | L | 23 | Total O 23 23 | 0 | 0 |
| 29 | M | 31 | Total O 31 31 | 0 | 0 |
| 29 | N | 222 | Total O 222 222 | 0 | 0 |
| 29 | O | 137 | Total O 137 137 | 0 | 0 |
| 29 | P | 102 | Total O 102 102 | 0 | 0 |
| 29 | Q | 65 | Total O 65 65 | 0 | 0 |
| 29 | R | 47 | Total O 47 47 | 0 | 0 |
| 29 | S | 64 | Total O 64 64 | 0 | 0 |
| 29 | T | 47 | Total O 47 47 | 0 | 0 |
| 29 | U | 49 | Total O 49 49 | 0 | 0 |
| 29 | V | 27 | Total O 27 27 | 0 | 0 |
| 29 | W | 19 | Total O 19 19 | 0 | 0 |
| 29 | X | 22 | Total O 22 22 | 0 | 0 |
| 29 | Y | 21 | Total O 21 21 | 0 | 0 |
| 29 | Z | 14 | Total O 14 14 | 0 | 0 |

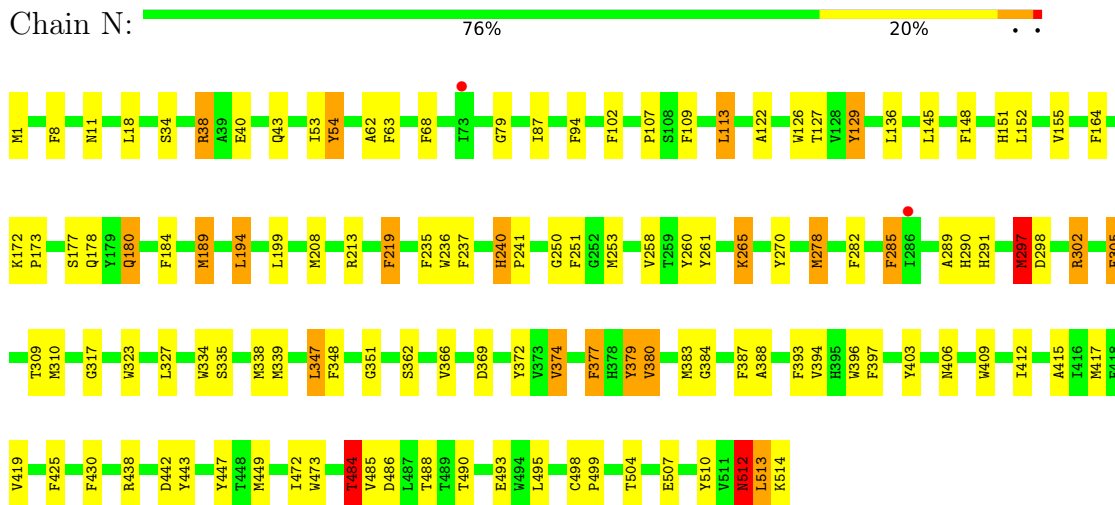
3 Residue-property plots

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

• Molecule 1: Cytochrome c oxidase subunit 1

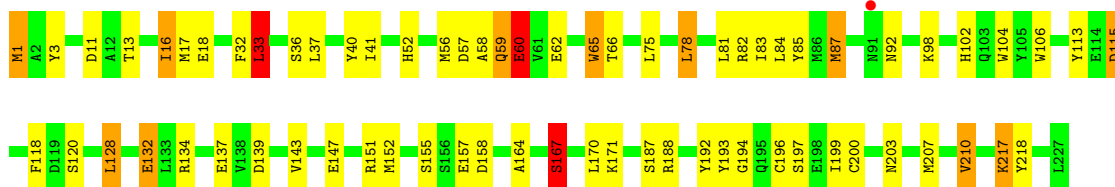


• Molecule 1: Cytochrome c oxidase subunit 1

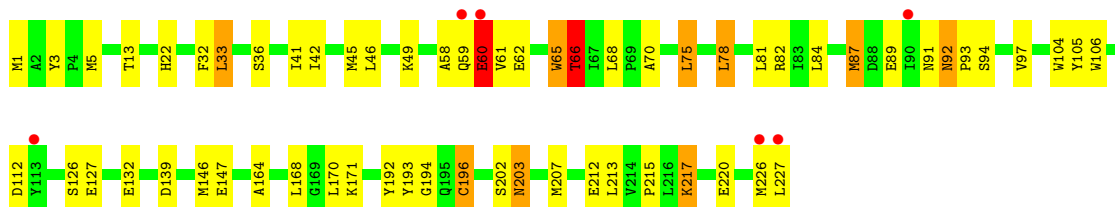


• Molecule 2: Cytochrome c oxidase subunit 2

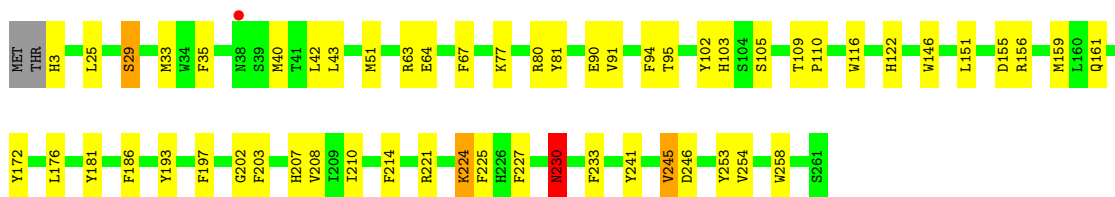
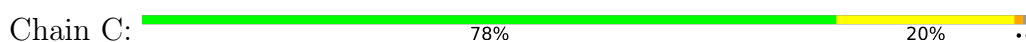




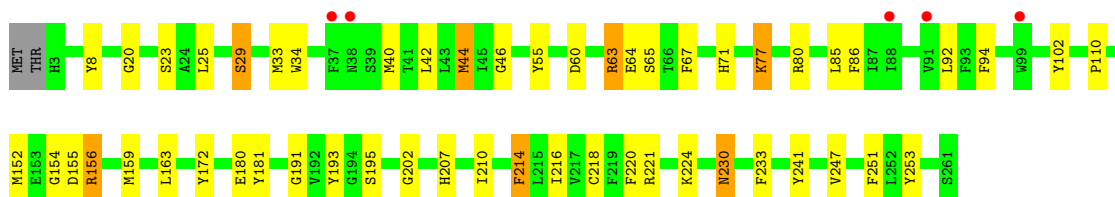
- Molecule 2: Cytochrome c oxidase subunit 2



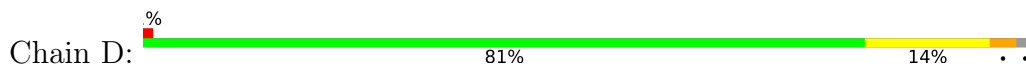
- Molecule 3: Cytochrome c oxidase subunit 3



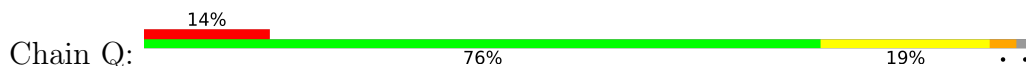
- Molecule 3: Cytochrome c oxidase subunit 3

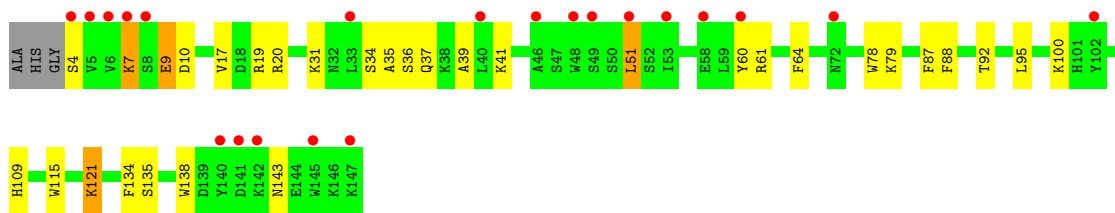


- Molecule 4: Cytochrome c oxidase subunit 4 isoform 1

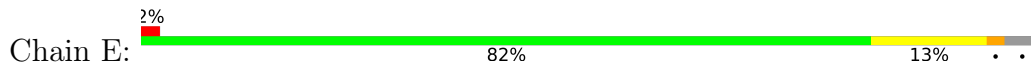


- Molecule 4: Cytochrome c oxidase subunit 4 isoform 1

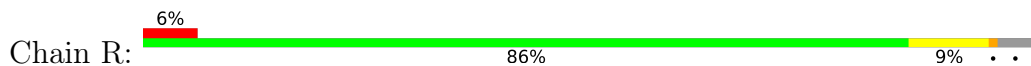




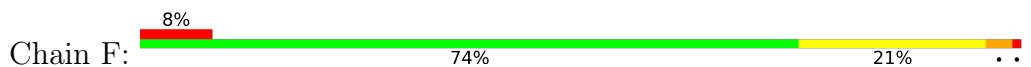
- Molecule 5: Cytochrome c oxidase subunit 5A



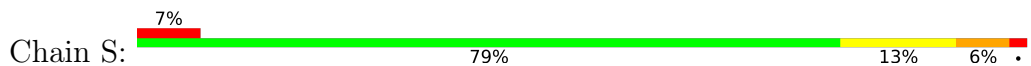
- Molecule 5: Cytochrome c oxidase subunit 5A



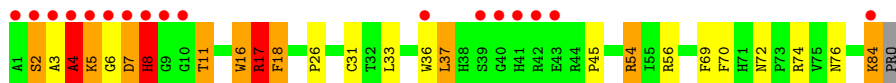
- Molecule 6: Cytochrome c oxidase subunit 5B



- Molecule 6: Cytochrome c oxidase subunit 5B



- Molecule 7: Cytochrome c oxidase subunit 6A2

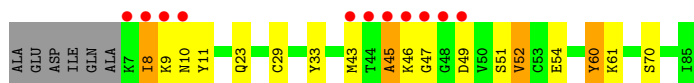


- Molecule 7: Cytochrome c oxidase subunit 6A2

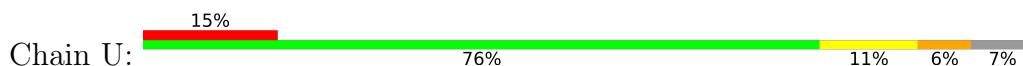




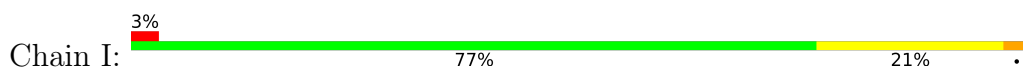
- Molecule 8: Cytochrome c oxidase subunit 6B1



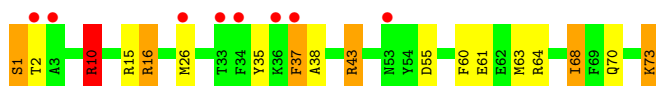
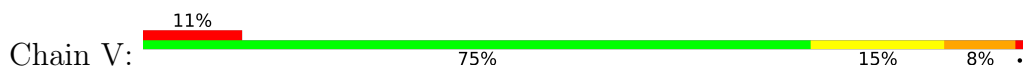
- Molecule 8: Cytochrome c oxidase subunit 6B1



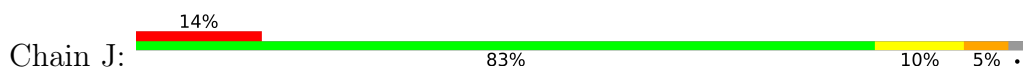
- Molecule 9: Cytochrome c oxidase subunit 6C



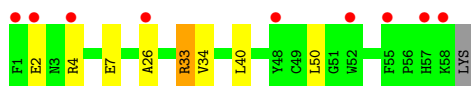
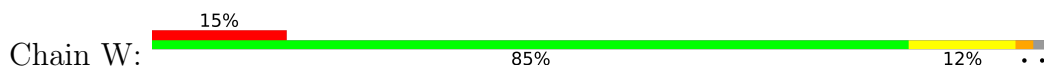
- Molecule 9: Cytochrome c oxidase subunit 6C



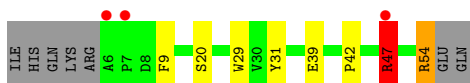
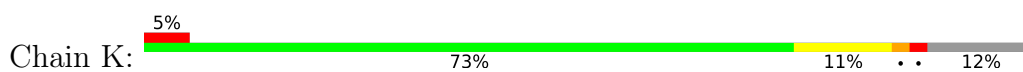
- Molecule 10: Cytochrome c oxidase polypeptide 7A1



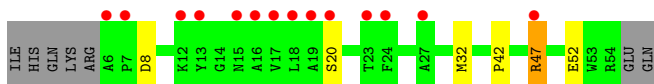
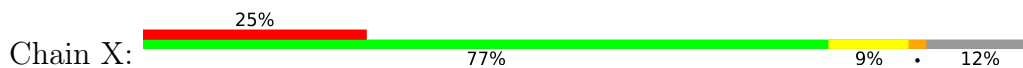
- Molecule 10: Cytochrome c oxidase polypeptide 7A1



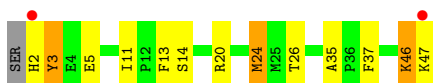
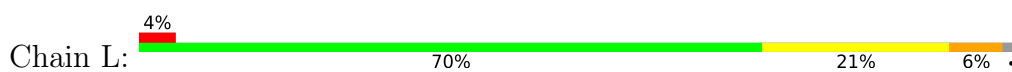
- Molecule 11: Cytochrome c oxidase subunit 7B



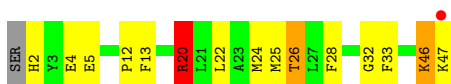
- Molecule 11: Cytochrome c oxidase subunit 7B



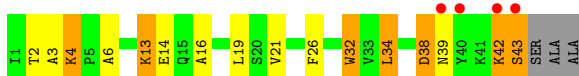
- Molecule 12: Cytochrome c oxidase subunit 7C



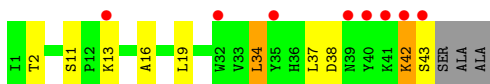
- Molecule 12: Cytochrome c oxidase subunit 7C



- Molecule 13: Cytochrome c oxidase subunit 8B



- Molecule 13: Cytochrome c oxidase subunit 8B



4 Data and refinement statistics

| Property | Value | Source |
|---|---|------------------|
| Space group | P 21 21 21 | Depositor |
| Cell constants a, b, c, α , β , γ | 182.29Å 208.36Å 177.92Å 90.00° 90.00° 90.00° | Depositor |
| Resolution (Å) | 40.00 – 1.80 83.50 – 1.80 | Depositor EDS |
| % Data completeness (in resolution range) | (Not available) (40.00-1.80) 99.6 (83.50-1.80) | Depositor EDS |
| R_{merge} | (Not available) | Depositor |
| R_{sym} | (Not available) | Depositor |
| $\langle I/\sigma(I) \rangle$ ¹ | 1.29 (at 1.80Å) | Xtrriage |
| Refinement program | REFMAC 5.3 | Depositor |
| R, R_{free} | 0.175 , 0.203 0.191 , 0.217 | Depositor DCC |
| R_{free} test set | 30652 reflections (4.96%) | wwPDB-VP |
| Wilson B-factor (Å ²) | 28.1 | Xtrriage |
| Anisotropy | 0.505 | Xtrriage |
| Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²) | 0.38 , 63.6 | EDS |
| L-test for twinning ² | $\langle L \rangle = 0.49$, $\langle L^2 \rangle = 0.32$ | Xtrriage |
| Estimated twinning fraction | 0.007 for l,-k,h | Xtrriage |
| F_o, F_c correlation | 0.96 | EDS |
| Total number of atoms | 32545 | wwPDB-VP |
| Average B, all atoms (Å ²) | 37.0 | wwPDB-VP |

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.24% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

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

5 Model quality i

5.1 Standard geometry i

Bond lengths and bond angles in the following residue types are not validated in this section: FME, CHD, ZN, DMU, TPO, PGV, PSC, CU, TGL, CDL, SAC, NO, NA, MG, UNX, CUA, PEK, HEA

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

| Mol | Chain | Bond lengths | | Bond angles | |
|-----|-------|--------------|------------------|-------------|------------------|
| | | RMSZ | # Z >5 | RMSZ | # Z >5 |
| 1 | A | 1.80 | 66/4189 (1.6%) | 1.47 | 43/5722 (0.8%) |
| 1 | N | 1.81 | 63/4189 (1.5%) | 1.38 | 35/5722 (0.6%) |
| 2 | B | 1.84 | 41/1860 (2.2%) | 1.48 | 19/2534 (0.7%) |
| 2 | O | 1.61 | 21/1860 (1.1%) | 1.31 | 14/2534 (0.6%) |
| 3 | C | 1.66 | 26/2197 (1.2%) | 1.33 | 18/3005 (0.6%) |
| 3 | P | 1.68 | 21/2197 (1.0%) | 1.33 | 18/3005 (0.6%) |
| 4 | D | 1.65 | 12/1229 (1.0%) | 1.46 | 16/1658 (1.0%) |
| 4 | Q | 1.53 | 10/1229 (0.8%) | 1.30 | 10/1658 (0.6%) |
| 5 | E | 1.56 | 4/871 (0.5%) | 1.35 | 8/1182 (0.7%) |
| 5 | R | 1.39 | 3/871 (0.3%) | 1.13 | 2/1182 (0.2%) |
| 6 | F | 1.66 | 8/765 (1.0%) | 1.32 | 5/1038 (0.5%) |
| 6 | S | 1.62 | 4/765 (0.5%) | 1.42 | 4/1038 (0.4%) |
| 7 | G | 1.69 | 10/690 (1.4%) | 1.68 | 8/937 (0.9%) |
| 7 | T | 1.59 | 4/690 (0.6%) | 1.64 | 8/937 (0.9%) |
| 8 | H | 1.59 | 5/682 (0.7%) | 1.21 | 2/921 (0.2%) |
| 8 | U | 1.33 | 2/682 (0.3%) | 1.11 | 0/921 |
| 9 | I | 1.56 | 4/605 (0.7%) | 1.20 | 4/802 (0.5%) |
| 9 | V | 1.44 | 0/605 | 1.25 | 6/802 (0.7%) |
| 10 | J | 1.40 | 1/471 (0.2%) | 1.19 | 4/636 (0.6%) |
| 10 | W | 1.55 | 5/471 (1.1%) | 1.20 | 2/636 (0.3%) |
| 11 | K | 1.63 | 5/398 (1.3%) | 1.26 | 3/546 (0.5%) |
| 11 | X | 1.27 | 1/398 (0.3%) | 1.05 | 1/546 (0.2%) |
| 12 | L | 1.68 | 6/393 (1.5%) | 1.27 | 2/526 (0.4%) |
| 12 | Y | 1.75 | 9/393 (2.3%) | 1.24 | 0/526 |
| 13 | M | 1.64 | 5/345 (1.4%) | 1.32 | 4/470 (0.9%) |
| 13 | Z | 1.40 | 2/345 (0.6%) | 1.16 | 3/470 (0.6%) |
| All | All | 1.67 | 338/29390 (1.2%) | 1.36 | 239/39954 (0.6%) |

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected

by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

| Mol | Chain | #Chirality outliers | #Planarity outliers |
|-----|-------|---------------------|---------------------|
| 1 | A | 0 | 1 |
| 2 | B | 1 | 0 |
| 6 | F | 0 | 1 |
| 6 | S | 0 | 1 |
| All | All | 1 | 3 |

All (338) bond length outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|--------|------|---------|--------|-------------|----------|
| 2 | B | 167 | SER | CB-OG | -12.15 | 1.26 | 1.42 |
| 7 | T | 36 | TRP | CB-CG | 11.41 | 1.70 | 1.50 |
| 7 | G | 36 | TRP | CB-CG | 11.12 | 1.70 | 1.50 |
| 6 | S | 54 | ASN | CB-CG | -10.52 | 1.26 | 1.51 |
| 4 | Q | 121 | LYS | CE-NZ | 10.12 | 1.74 | 1.49 |
| 3 | P | 29 | SER | CB-OG | -9.97 | 1.29 | 1.42 |
| 1 | N | 189 | MET | CB-CG | 9.80 | 1.82 | 1.51 |
| 2 | B | 132 | GLU | CD-OE2 | 9.61 | 1.36 | 1.25 |
| 11 | K | 29 | TRP | CE3-CZ3 | 9.40 | 1.54 | 1.38 |
| 3 | C | 29 | SER | CA-CB | 9.34 | 1.67 | 1.52 |
| 1 | N | 380[A] | VAL | CB-CG1 | -9.06 | 1.33 | 1.52 |
| 1 | N | 380[B] | VAL | CB-CG1 | -9.06 | 1.33 | 1.52 |
| 1 | A | 189 | MET | CG-SD | -8.97 | 1.57 | 1.81 |
| 9 | I | 61 | GLU | CG-CD | -8.96 | 1.38 | 1.51 |
| 2 | B | 192 | TYR | CE2-CZ | 8.87 | 1.50 | 1.38 |
| 1 | A | 512 | ASN | CB-CG | -8.76 | 1.30 | 1.51 |
| 2 | B | 65 | TRP | CB-CG | -8.75 | 1.34 | 1.50 |
| 4 | D | 104 | TYR | CD1-CE1 | 8.57 | 1.52 | 1.39 |
| 5 | E | 55 | CYS | CB-SG | 8.49 | 1.96 | 1.82 |
| 4 | D | 100 | LYS | CE-NZ | 8.49 | 1.70 | 1.49 |
| 2 | B | 59 | GLN | CG-CD | 8.46 | 1.70 | 1.51 |
| 3 | C | 181 | TYR | CD1-CE1 | 8.45 | 1.52 | 1.39 |
| 1 | A | 302 | ARG | CZ-NH1 | 8.34 | 1.43 | 1.33 |
| 7 | T | 17 | ARG | CD-NE | -8.27 | 1.32 | 1.46 |
| 2 | B | 87 | MET | CG-SD | 8.21 | 2.02 | 1.81 |
| 7 | G | 17 | ARG | CD-NE | -8.12 | 1.32 | 1.46 |
| 2 | O | 132 | GLU | CD-OE2 | 8.05 | 1.34 | 1.25 |
| 7 | G | 16 | TRP | CE3-CZ3 | 7.98 | 1.52 | 1.38 |
| 1 | A | 297 | MET | CG-SD | 7.93 | 2.01 | 1.81 |
| 2 | B | 157 | GLU | CB-CG | 7.92 | 1.67 | 1.52 |
| 3 | P | 46 | GLY | N-CA | 7.91 | 1.57 | 1.46 |
| 1 | A | 346 | PHE | CD1-CE1 | 7.83 | 1.54 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|-------|-------------|----------|
| 1 | A | 126 | TRP | CZ3-CH2 | 7.76 | 1.52 | 1.40 |
| 3 | P | 20 | GLY | N-CA | 7.75 | 1.57 | 1.46 |
| 1 | N | 148 | PHE | CE1-CZ | 7.74 | 1.52 | 1.37 |
| 1 | N | 473 | TRP | CE3-CZ3 | 7.71 | 1.51 | 1.38 |
| 3 | P | 230 | ASN | CB-CG | -7.65 | 1.33 | 1.51 |
| 3 | C | 29 | SER | CB-OG | -7.61 | 1.32 | 1.42 |
| 2 | O | 106 | TRP | CE3-CZ3 | 7.58 | 1.51 | 1.38 |
| 3 | C | 181 | TYR | CD2-CE2 | 7.58 | 1.50 | 1.39 |
| 9 | I | 54 | TYR | CD2-CE2 | 7.57 | 1.50 | 1.39 |
| 1 | N | 484 | THR | CB-CG2 | 7.54 | 1.77 | 1.52 |
| 1 | N | 285 | PHE | CD1-CE1 | 7.53 | 1.54 | 1.39 |
| 5 | E | 84 | TYR | CG-CD1 | 7.51 | 1.49 | 1.39 |
| 2 | B | 40 | TYR | CD1-CE1 | 7.50 | 1.50 | 1.39 |
| 1 | A | 394 | VAL | CB-CG2 | -7.48 | 1.37 | 1.52 |
| 6 | F | 56 | ARG | CZ-NH1 | 7.45 | 1.42 | 1.33 |
| 1 | A | 129 | TYR | CD2-CE2 | 7.41 | 1.50 | 1.39 |
| 2 | O | 59 | GLN | CG-CD | 7.41 | 1.68 | 1.51 |
| 1 | N | 512 | ASN | CA-CB | 7.34 | 1.72 | 1.53 |
| 2 | B | 218 | TYR | CD1-CE1 | 7.34 | 1.50 | 1.39 |
| 1 | N | 335 | SER | CB-OG | 7.33 | 1.51 | 1.42 |
| 6 | F | 73 | TRP | CE3-CZ3 | 7.25 | 1.50 | 1.38 |
| 2 | O | 60 | GLU | CB-CG | 7.25 | 1.66 | 1.52 |
| 1 | A | 244 | TYR | CD1-CE1 | 7.22 | 1.50 | 1.39 |
| 2 | B | 18 | GLU | CD-OE1 | 7.21 | 1.33 | 1.25 |
| 2 | O | 60 | GLU | CG-CD | 7.17 | 1.62 | 1.51 |
| 3 | C | 81 | TYR | CD1-CE1 | 7.12 | 1.50 | 1.39 |
| 1 | N | 374 | VAL | CB-CG2 | 7.12 | 1.67 | 1.52 |
| 1 | A | 346 | PHE | CD2-CE2 | 7.09 | 1.53 | 1.39 |
| 1 | N | 394 | VAL | CB-CG2 | -7.05 | 1.38 | 1.52 |
| 1 | N | 403 | TYR | CE1-CZ | -7.04 | 1.29 | 1.38 |
| 13 | M | 4 | LYS | CD-CE | -7.03 | 1.33 | 1.51 |
| 1 | N | 425 | PHE | CD1-CE1 | -7.03 | 1.25 | 1.39 |
| 7 | T | 5 | LYS | CB-CG | 7.03 | 1.71 | 1.52 |
| 3 | P | 181 | TYR | CD1-CE1 | 7.01 | 1.49 | 1.39 |
| 8 | H | 61 | LYS | CE-NZ | 6.98 | 1.66 | 1.49 |
| 1 | N | 447 | TYR | CE1-CZ | 6.94 | 1.47 | 1.38 |
| 2 | B | 115 | ASP | CB-CG | 6.92 | 1.66 | 1.51 |
| 1 | N | 297 | MET | CG-SD | 6.92 | 1.99 | 1.81 |
| 7 | G | 5 | LYS | CB-CG | 6.89 | 1.71 | 1.52 |
| 11 | K | 39 | GLU | CB-CG | 6.88 | 1.65 | 1.52 |
| 4 | Q | 87 | PHE | CG-CD1 | 6.88 | 1.49 | 1.38 |
| 1 | A | 129 | TYR | CE2-CZ | -6.83 | 1.29 | 1.38 |

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Continued from previous page...

| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|-------|-------------|----------|
| 4 | D | 87 | PHE | CD1-CE1 | 6.83 | 1.52 | 1.39 |
| 1 | N | 260 | TYR | CD1-CE1 | 6.79 | 1.49 | 1.39 |
| 3 | P | 218 | CYS | CB-SG | 6.78 | 1.93 | 1.82 |
| 1 | N | 94 | PHE | CE2-CZ | 6.76 | 1.50 | 1.37 |
| 2 | B | 60 | GLU | CG-CD | 6.74 | 1.62 | 1.51 |
| 5 | R | 9 | GLU | CG-CD | 6.73 | 1.62 | 1.51 |
| 1 | A | 122 | ALA | CA-CB | 6.72 | 1.66 | 1.52 |
| 4 | Q | 9 | GLU | CB-CG | 6.64 | 1.64 | 1.52 |
| 1 | N | 236 | TRP | CE3-CZ3 | 6.62 | 1.49 | 1.38 |
| 1 | A | 101 | SER | CB-OG | 6.60 | 1.50 | 1.42 |
| 2 | O | 65 | TRP | CB-CG | -6.60 | 1.38 | 1.50 |
| 6 | S | 71 | TRP | CE3-CZ3 | 6.55 | 1.49 | 1.38 |
| 2 | B | 92 | ASN | CB-CG | 6.53 | 1.66 | 1.51 |
| 2 | O | 196 | CYS | CB-SG | 6.53 | 1.93 | 1.82 |
| 1 | N | 397 | PHE | CE2-CZ | 6.52 | 1.49 | 1.37 |
| 2 | O | 202 | SER | CA-CB | 6.52 | 1.62 | 1.52 |
| 1 | A | 293 | PHE | CB-CG | 6.51 | 1.62 | 1.51 |
| 6 | F | 1 | ALA | CA-CB | 6.51 | 1.66 | 1.52 |
| 1 | A | 154 | GLY | N-CA | 6.50 | 1.55 | 1.46 |
| 10 | J | 7 | GLU | CG-CD | 6.48 | 1.61 | 1.51 |
| 9 | I | 47 | TYR | CD2-CE2 | 6.47 | 1.49 | 1.39 |
| 13 | Z | 16 | ALA | CA-CB | 6.47 | 1.66 | 1.52 |
| 1 | A | 298 | ASP | CG-OD2 | 6.46 | 1.40 | 1.25 |
| 1 | A | 89 | ALA | CA-CB | 6.45 | 1.66 | 1.52 |
| 3 | P | 86 | PHE | CD1-CE1 | 6.44 | 1.52 | 1.39 |
| 12 | Y | 20 | ARG | CG-CD | 6.43 | 1.68 | 1.51 |
| 2 | B | 147 | GLU | CG-CD | 6.42 | 1.61 | 1.51 |
| 1 | A | 231 | TYR | CG-CD1 | 6.39 | 1.47 | 1.39 |
| 1 | A | 38 | ARG | CZ-NH2 | 6.39 | 1.41 | 1.33 |
| 3 | C | 253 | TYR | CG-CD1 | 6.39 | 1.47 | 1.39 |
| 1 | A | 507 | GLU | CG-CD | 6.38 | 1.61 | 1.51 |
| 2 | B | 192 | TYR | CG-CD1 | 6.38 | 1.47 | 1.39 |
| 6 | F | 92 | VAL | CB-CG2 | -6.38 | 1.39 | 1.52 |
| 12 | Y | 13 | PHE | CD2-CE2 | 6.38 | 1.52 | 1.39 |
| 6 | F | 1 | ALA | C-O | 6.38 | 1.35 | 1.23 |
| 5 | R | 75 | ALA | CA-CB | 6.36 | 1.65 | 1.52 |
| 1 | A | 238 | PHE | CD1-CE1 | 6.35 | 1.51 | 1.39 |
| 2 | O | 202 | SER | CB-OG | -6.34 | 1.34 | 1.42 |
| 1 | N | 415 | ALA | CA-CB | 6.33 | 1.65 | 1.52 |
| 2 | B | 85 | TYR | CD1-CE1 | 6.30 | 1.48 | 1.39 |
| 2 | O | 60 | GLU | CD-OE2 | 6.29 | 1.32 | 1.25 |
| 12 | Y | 46 | LYS | CD-CE | -6.26 | 1.35 | 1.51 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|-------|-------------|----------|
| 13 | M | 21 | VAL | CB-CG2 | 6.25 | 1.66 | 1.52 |
| 3 | P | 8 | TYR | CD2-CE2 | 6.24 | 1.48 | 1.39 |
| 1 | N | 155 | VAL | CB-CG2 | 6.24 | 1.66 | 1.52 |
| 1 | N | 348 | PHE | CD1-CE1 | 6.20 | 1.51 | 1.39 |
| 10 | W | 26 | ALA | CA-CB | 6.19 | 1.65 | 1.52 |
| 1 | A | 298 | ASP | CB-CG | 6.17 | 1.64 | 1.51 |
| 1 | N | 302 | ARG | CZ-NH1 | 6.15 | 1.41 | 1.33 |
| 2 | B | 18 | GLU | CD-OE2 | 6.13 | 1.32 | 1.25 |
| 1 | A | 19 | TYR | CE2-CZ | 6.13 | 1.46 | 1.38 |
| 7 | T | 50 | TYR | CD2-CE2 | 6.12 | 1.48 | 1.39 |
| 5 | E | 9 | GLU | CG-CD | 6.12 | 1.61 | 1.51 |
| 3 | P | 172 | TYR | CG-CD1 | 6.10 | 1.47 | 1.39 |
| 1 | A | 379 | TYR | CD1-CE1 | 6.09 | 1.48 | 1.39 |
| 12 | L | 5 | GLU | CD-OE2 | -6.09 | 1.19 | 1.25 |
| 2 | B | 218 | TYR | CD2-CE2 | 6.07 | 1.48 | 1.39 |
| 1 | N | 164 | PHE | CD2-CE2 | 6.07 | 1.51 | 1.39 |
| 3 | P | 193 | TYR | CG-CD2 | 6.07 | 1.47 | 1.39 |
| 1 | N | 79 | GLY | N-CA | 6.05 | 1.55 | 1.46 |
| 3 | P | 77 | LYS | CA-CB | -6.03 | 1.40 | 1.53 |
| 10 | W | 7 | GLU | CD-OE1 | 6.02 | 1.32 | 1.25 |
| 2 | O | 3 | TYR | CD2-CE2 | 6.02 | 1.48 | 1.39 |
| 6 | S | 31 | TYR | CG-CD2 | 6.00 | 1.47 | 1.39 |
| 12 | L | 13 | PHE | CG-CD1 | 5.98 | 1.47 | 1.38 |
| 1 | A | 123 | GLY | C-O | 5.98 | 1.33 | 1.23 |
| 1 | A | 128 | VAL | CB-CG1 | 5.97 | 1.65 | 1.52 |
| 6 | S | 1 | ALA | CA-CB | 5.97 | 1.65 | 1.52 |
| 4 | D | 87 | PHE | CE2-CZ | 5.96 | 1.48 | 1.37 |
| 4 | Q | 17 | VAL | CB-CG1 | -5.95 | 1.40 | 1.52 |
| 3 | C | 172 | TYR | CG-CD1 | 5.95 | 1.46 | 1.39 |
| 3 | P | 251 | PHE | CD1-CE1 | 5.95 | 1.51 | 1.39 |
| 1 | A | 113 | LEU | CB-CG | 5.94 | 1.69 | 1.52 |
| 1 | A | 24 | ALA | CA-CB | 5.93 | 1.64 | 1.52 |
| 2 | O | 192 | TYR | CD2-CE2 | 5.92 | 1.48 | 1.39 |
| 1 | N | 122 | ALA | CA-CB | 5.91 | 1.64 | 1.52 |
| 3 | P | 64 | GLU | CG-CD | 5.90 | 1.60 | 1.51 |
| 4 | D | 138 | TRP | CE3-CZ3 | 5.90 | 1.48 | 1.38 |
| 1 | A | 439 | ARG | CD-NE | 5.90 | 1.56 | 1.46 |
| 2 | O | 193 | TYR | CD1-CE1 | 5.88 | 1.48 | 1.39 |
| 4 | D | 100 | LYS | CD-CE | 5.88 | 1.66 | 1.51 |
| 1 | A | 430 | PHE | CD1-CE1 | 5.87 | 1.50 | 1.39 |
| 1 | A | 244 | TYR | CD2-CE2 | 5.85 | 1.48 | 1.39 |
| 6 | F | 76 | LYS | CD-CE | 5.85 | 1.65 | 1.51 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|--------|------|---------|-------|-------------|----------|
| 1 | N | 372 | TYR | CD2-CE2 | 5.85 | 1.48 | 1.39 |
| 1 | N | 235 | PHE | CD2-CE2 | 5.84 | 1.50 | 1.39 |
| 13 | M | 32 | TRP | CG-CD1 | 5.83 | 1.45 | 1.36 |
| 3 | C | 146 | TRP | CE3-CZ3 | 5.82 | 1.48 | 1.38 |
| 11 | K | 9 | PHE | CE2-CZ | 5.82 | 1.48 | 1.37 |
| 1 | A | 380[A] | VAL | CB-CG1 | -5.80 | 1.40 | 1.52 |
| 1 | A | 380[B] | VAL | CB-CG1 | -5.80 | 1.40 | 1.52 |
| 2 | B | 210 | VAL | CB-CG2 | 5.80 | 1.65 | 1.52 |
| 1 | N | 397 | PHE | CG-CD1 | 5.80 | 1.47 | 1.38 |
| 2 | O | 65 | TRP | CE3-CZ3 | 5.80 | 1.48 | 1.38 |
| 2 | B | 65 | TRP | CD1-NE1 | 5.79 | 1.47 | 1.38 |
| 1 | N | 297 | MET | CB-CG | 5.78 | 1.69 | 1.51 |
| 3 | C | 227 | PHE | CE1-CZ | 5.78 | 1.48 | 1.37 |
| 1 | A | 450 | TRP | CB-CG | 5.78 | 1.60 | 1.50 |
| 2 | B | 120 | SER | CB-OG | 5.77 | 1.49 | 1.42 |
| 1 | A | 305 | PHE | CE2-CZ | 5.77 | 1.48 | 1.37 |
| 1 | A | 340 | TRP | CD2-CE2 | 5.75 | 1.48 | 1.41 |
| 2 | B | 118 | PHE | CG-CD1 | 5.74 | 1.47 | 1.38 |
| 1 | N | 113 | LEU | CG-CD1 | 5.74 | 1.73 | 1.51 |
| 1 | N | 63 | PHE | CE2-CZ | 5.73 | 1.48 | 1.37 |
| 1 | A | 54 | TYR | CD2-CE2 | 5.73 | 1.48 | 1.39 |
| 1 | A | 57 | VAL | CB-CG1 | 5.73 | 1.64 | 1.52 |
| 3 | C | 186 | PHE | CE1-CZ | 5.73 | 1.48 | 1.37 |
| 2 | O | 127 | GLU | CD-OE2 | 5.72 | 1.31 | 1.25 |
| 1 | A | 113 | LEU | CG-CD1 | 5.72 | 1.73 | 1.51 |
| 4 | Q | 88 | PHE | CE1-CZ | 5.72 | 1.48 | 1.37 |
| 12 | L | 37 | PHE | CD1-CE1 | 5.72 | 1.50 | 1.39 |
| 1 | A | 476 | PHE | CE2-CZ | 5.71 | 1.48 | 1.37 |
| 3 | C | 214 | PHE | CE2-CZ | 5.71 | 1.48 | 1.37 |
| 1 | N | 251 | PHE | CE2-CZ | 5.71 | 1.48 | 1.37 |
| 1 | N | 235 | PHE | CD1-CE1 | 5.68 | 1.50 | 1.39 |
| 1 | N | 113 | LEU | CB-CG | 5.68 | 1.69 | 1.52 |
| 2 | B | 3 | TYR | CD2-CE2 | -5.67 | 1.30 | 1.39 |
| 13 | M | 32 | TRP | CB-CG | 5.67 | 1.60 | 1.50 |
| 3 | C | 161 | GLN | CG-CD | 5.67 | 1.64 | 1.51 |
| 8 | H | 33 | TYR | CD1-CE1 | 5.67 | 1.47 | 1.39 |
| 1 | N | 270 | TYR | CD2-CE2 | 5.65 | 1.47 | 1.39 |
| 3 | C | 81 | TYR | CD2-CE2 | 5.65 | 1.47 | 1.39 |
| 11 | K | 31 | TYR | CD2-CE2 | 5.64 | 1.47 | 1.39 |
| 5 | E | 70 | VAL | CB-CG2 | 5.64 | 1.64 | 1.52 |
| 2 | O | 92 | ASN | CB-CG | 5.64 | 1.64 | 1.51 |
| 1 | A | 19 | TYR | CG-CD1 | 5.63 | 1.46 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|-------|-------------|----------|
| 3 | C | 35 | PHE | CE1-CZ | 5.62 | 1.48 | 1.37 |
| 1 | A | 251 | PHE | CG-CD2 | 5.62 | 1.47 | 1.38 |
| 2 | O | 59 | GLN | CB-CG | 5.60 | 1.67 | 1.52 |
| 3 | P | 195 | SER | CB-OG | 5.60 | 1.49 | 1.42 |
| 12 | Y | 5 | GLU | CD-OE2 | -5.60 | 1.19 | 1.25 |
| 3 | P | 233 | PHE | CD1-CE1 | 5.60 | 1.50 | 1.39 |
| 4 | Q | 138 | TRP | CE3-CZ3 | 5.60 | 1.48 | 1.38 |
| 3 | C | 90 | GLU | CD-OE1 | 5.59 | 1.31 | 1.25 |
| 12 | Y | 33 | PHE | CE2-CZ | 5.59 | 1.48 | 1.37 |
| 7 | G | 70 | PHE | CD2-CE2 | 5.58 | 1.50 | 1.39 |
| 2 | B | 60 | GLU | CB-CG | 5.58 | 1.62 | 1.52 |
| 2 | B | 59 | GLN | CB-CG | 5.58 | 1.67 | 1.52 |
| 1 | N | 237 | PHE | CD1-CE1 | 5.56 | 1.50 | 1.39 |
| 1 | N | 261 | TYR | CE2-CZ | 5.56 | 1.45 | 1.38 |
| 2 | O | 212 | GLU | CD-OE1 | 5.56 | 1.31 | 1.25 |
| 5 | R | 84 | TYR | CG-CD1 | 5.55 | 1.46 | 1.39 |
| 1 | A | 143 | VAL | CB-CG1 | 5.55 | 1.64 | 1.52 |
| 1 | A | 480 | ARG | CZ-NH2 | 5.54 | 1.40 | 1.33 |
| 2 | B | 155 | SER | CA-CB | 5.54 | 1.61 | 1.52 |
| 1 | N | 261 | TYR | CG-CD1 | 5.54 | 1.46 | 1.39 |
| 10 | W | 7 | GLU | CB-CG | -5.54 | 1.41 | 1.52 |
| 2 | B | 106 | TRP | CB-CG | 5.54 | 1.60 | 1.50 |
| 3 | C | 33 | MET | CG-SD | 5.53 | 1.95 | 1.81 |
| 1 | N | 219 | PHE | CE1-CZ | 5.51 | 1.47 | 1.37 |
| 1 | A | 379 | TYR | CD2-CE2 | 5.49 | 1.47 | 1.39 |
| 7 | G | 56 | ARG | CZ-NH1 | 5.49 | 1.40 | 1.33 |
| 2 | O | 105 | TYR | CG-CD2 | 5.49 | 1.46 | 1.39 |
| 1 | N | 258 | VAL | CB-CG1 | -5.47 | 1.41 | 1.52 |
| 1 | N | 184 | PHE | CE1-CZ | 5.47 | 1.47 | 1.37 |
| 8 | U | 33 | TYR | CE2-CZ | 5.47 | 1.45 | 1.38 |
| 1 | A | 425 | PHE | CD2-CE2 | 5.46 | 1.50 | 1.39 |
| 1 | N | 419 | VAL | CA-CB | 5.46 | 1.66 | 1.54 |
| 2 | B | 147 | GLU | CD-OE1 | -5.46 | 1.19 | 1.25 |
| 2 | B | 36 | SER | CA-CB | 5.45 | 1.61 | 1.52 |
| 4 | D | 4 | SER | N-CA | 5.45 | 1.57 | 1.46 |
| 7 | G | 70 | PHE | CG-CD2 | 5.45 | 1.47 | 1.38 |
| 1 | N | 510 | TYR | CD2-CE2 | 5.45 | 1.47 | 1.39 |
| 1 | A | 344 | PHE | CD2-CE2 | 5.44 | 1.50 | 1.39 |
| 1 | A | 510 | TYR | CE2-CZ | 5.44 | 1.45 | 1.38 |
| 1 | N | 396 | TRP | CE3-CZ3 | 5.43 | 1.47 | 1.38 |
| 1 | N | 323 | TRP | CZ3-CH2 | 5.43 | 1.48 | 1.40 |
| 3 | P | 33 | MET | CG-SD | 5.43 | 1.95 | 1.81 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|-------|-------------|----------|
| 10 | W | 34 | VAL | CB-CG2 | 5.43 | 1.64 | 1.52 |
| 2 | B | 200 | CYS | CB-SG | 5.42 | 1.91 | 1.82 |
| 1 | A | 474 | GLU | CG-CD | 5.40 | 1.60 | 1.51 |
| 2 | B | 151 | ARG | CB-CG | 5.40 | 1.67 | 1.52 |
| 1 | N | 11 | ASN | C-O | 5.40 | 1.33 | 1.23 |
| 4 | Q | 134 | PHE | CE1-CZ | 5.40 | 1.47 | 1.37 |
| 8 | H | 23 | GLN | CG-CD | 5.39 | 1.63 | 1.51 |
| 3 | C | 91 | VAL | CB-CG1 | 5.39 | 1.64 | 1.52 |
| 1 | N | 236 | TRP | CG-CD1 | 5.38 | 1.44 | 1.36 |
| 1 | A | 505 | PHE | CE2-CZ | 5.36 | 1.47 | 1.37 |
| 1 | A | 67 | PHE | CG-CD2 | 5.36 | 1.46 | 1.38 |
| 1 | A | 438 | ARG | CG-CD | 5.36 | 1.65 | 1.51 |
| 4 | D | 19 | ARG | CZ-NH2 | 5.36 | 1.40 | 1.33 |
| 1 | A | 293 | PHE | CG-CD1 | 5.35 | 1.46 | 1.38 |
| 12 | L | 35 | ALA | CA-CB | 5.35 | 1.63 | 1.52 |
| 1 | N | 126 | TRP | CE3-CZ3 | 5.35 | 1.47 | 1.38 |
| 9 | I | 61 | GLU | CB-CG | -5.35 | 1.42 | 1.52 |
| 1 | N | 447 | TYR | CD2-CE2 | 5.35 | 1.47 | 1.39 |
| 8 | H | 70 | SER | CB-OG | -5.34 | 1.35 | 1.42 |
| 3 | C | 64 | GLU | CG-CD | 5.34 | 1.59 | 1.51 |
| 8 | U | 72 | TRP | CB-CG | 5.34 | 1.59 | 1.50 |
| 2 | B | 143 | VAL | CB-CG2 | 5.33 | 1.64 | 1.52 |
| 12 | Y | 20 | ARG | CB-CG | 5.32 | 1.67 | 1.52 |
| 3 | P | 172 | TYR | CE2-CZ | 5.32 | 1.45 | 1.38 |
| 3 | P | 253 | TYR | CD2-CE2 | 5.32 | 1.47 | 1.39 |
| 1 | N | 388 | ALA | CA-CB | 5.32 | 1.63 | 1.52 |
| 3 | C | 230 | ASN | CB-CG | -5.30 | 1.38 | 1.51 |
| 2 | O | 105 | TYR | CE1-CZ | 5.29 | 1.45 | 1.38 |
| 3 | C | 258 | TRP | CE3-CZ3 | 5.29 | 1.47 | 1.38 |
| 7 | G | 18 | PHE | CE2-CZ | -5.28 | 1.27 | 1.37 |
| 1 | N | 393 | PHE | CG-CD2 | 5.27 | 1.46 | 1.38 |
| 3 | C | 197 | PHE | CE1-CZ | 5.27 | 1.47 | 1.37 |
| 3 | C | 254 | VAL | CB-CG2 | 5.27 | 1.64 | 1.52 |
| 4 | D | 104 | TYR | CG-CD2 | 5.27 | 1.46 | 1.39 |
| 1 | N | 317 | GLY | N-CA | 5.26 | 1.53 | 1.46 |
| 2 | B | 106 | TRP | CD1-NE1 | 5.26 | 1.46 | 1.38 |
| 1 | A | 139 | ALA | CA-CB | 5.26 | 1.63 | 1.52 |
| 3 | P | 220 | PHE | CE2-CZ | 5.26 | 1.47 | 1.37 |
| 2 | B | 197 | SER | CB-OG | 5.26 | 1.49 | 1.42 |
| 8 | H | 54 | GLU | CB-CG | 5.25 | 1.62 | 1.52 |
| 4 | D | 20 | ARG | CD-NE | -5.24 | 1.37 | 1.46 |
| 1 | A | 29 | VAL | CB-CG1 | 5.24 | 1.63 | 1.52 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|-------|-------------|----------|
| 3 | C | 233 | PHE | CD1-CE1 | 5.23 | 1.49 | 1.39 |
| 1 | N | 493 | GLU | CB-CG | 5.23 | 1.62 | 1.52 |
| 13 | M | 3 | ALA | CA-CB | 5.23 | 1.63 | 1.52 |
| 13 | Z | 11 | SER | C-O | 5.22 | 1.33 | 1.23 |
| 2 | B | 192 | TYR | CD1-CE1 | 5.21 | 1.47 | 1.39 |
| 4 | Q | 60 | TYR | CE2-CZ | 5.21 | 1.45 | 1.38 |
| 4 | Q | 64 | PHE | CE1-CZ | 5.21 | 1.47 | 1.37 |
| 2 | B | 32 | PHE | CG-CD1 | 5.21 | 1.46 | 1.38 |
| 1 | A | 270 | TYR | CB-CG | 5.20 | 1.59 | 1.51 |
| 1 | N | 54 | TYR | CD2-CE2 | 5.20 | 1.47 | 1.39 |
| 6 | F | 92 | VAL | CA-CB | 5.18 | 1.65 | 1.54 |
| 1 | N | 219 | PHE | CE2-CZ | 5.18 | 1.47 | 1.37 |
| 1 | A | 78 | PHE | CG-CD1 | 5.18 | 1.46 | 1.38 |
| 4 | Q | 115 | TRP | CG-CD1 | 5.18 | 1.44 | 1.36 |
| 11 | K | 54 | ARG | CZ-NH1 | 5.17 | 1.39 | 1.33 |
| 12 | Y | 32 | GLY | N-CA | 5.16 | 1.53 | 1.46 |
| 4 | D | 87 | PHE | CG-CD1 | 5.16 | 1.46 | 1.38 |
| 3 | C | 80 | ARG | CG-CD | 5.15 | 1.64 | 1.51 |
| 1 | A | 58 | VAL | CB-CG1 | 5.14 | 1.63 | 1.52 |
| 1 | A | 67 | PHE | CE1-CZ | 5.14 | 1.47 | 1.37 |
| 1 | N | 305 | PHE | CG-CD2 | 5.14 | 1.46 | 1.38 |
| 12 | Y | 4 | GLU | CG-CD | 5.14 | 1.59 | 1.51 |
| 2 | B | 152 | MET | CB-CG | -5.14 | 1.34 | 1.51 |
| 11 | X | 52 | GLU | CD-OE1 | 5.13 | 1.31 | 1.25 |
| 6 | F | 55 | LYS | CD-CE | 5.12 | 1.64 | 1.51 |
| 3 | P | 180 | GLU | CD-OE1 | 5.12 | 1.31 | 1.25 |
| 7 | G | 4 | ALA | CA-CB | -5.12 | 1.41 | 1.52 |
| 1 | N | 379 | TYR | CD1-CE1 | 5.11 | 1.47 | 1.39 |
| 2 | B | 17 | MET | CG-SD | 5.11 | 1.94 | 1.81 |
| 1 | A | 154 | GLY | C-O | -5.10 | 1.15 | 1.23 |
| 1 | N | 8 | PHE | CD2-CE2 | 5.10 | 1.49 | 1.39 |
| 2 | O | 97 | VAL | CB-CG1 | 5.09 | 1.63 | 1.52 |
| 2 | B | 98 | LYS | CD-CE | 5.08 | 1.64 | 1.51 |
| 1 | A | 289 | ALA | CA-CB | 5.08 | 1.63 | 1.52 |
| 3 | C | 193 | TYR | CE1-CZ | 5.08 | 1.45 | 1.38 |
| 1 | N | 129 | TYR | CG-CD2 | 5.07 | 1.45 | 1.39 |
| 1 | A | 393 | PHE | CD2-CE2 | 5.07 | 1.49 | 1.39 |
| 1 | N | 377 | PHE | CG-CD1 | 5.07 | 1.46 | 1.38 |
| 3 | P | 214 | PHE | CE1-CZ | 5.06 | 1.47 | 1.37 |
| 7 | G | 18 | PHE | CD2-CE2 | 5.06 | 1.49 | 1.39 |
| 2 | B | 187 | SER | CB-OG | 5.05 | 1.48 | 1.42 |
| 12 | L | 3 | TYR | CE1-CZ | 5.05 | 1.45 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|--------|-------|-------------|----------|
| 12 | L | 46 | LYS | CD-CE | -5.04 | 1.38 | 1.51 |
| 3 | C | 225 | PHE | CE2-CZ | 5.04 | 1.47 | 1.37 |
| 1 | N | 43 | GLN | CG-CD | 5.04 | 1.62 | 1.51 |
| 1 | A | 203 | ALA | N-CA | 5.04 | 1.56 | 1.46 |
| 4 | D | 17 | VAL | CB-CG2 | -5.03 | 1.42 | 1.52 |
| 1 | N | 507 | GLU | CG-CD | 5.03 | 1.59 | 1.51 |
| 12 | Y | 28 | PHE | CE1-CZ | 5.03 | 1.46 | 1.37 |
| 10 | W | 33 | ARG | CG-CD | 5.02 | 1.64 | 1.51 |
| 2 | B | 113 | TYR | N-CA | 5.02 | 1.56 | 1.46 |
| 1 | A | 54 | TYR | CE2-CZ | 5.02 | 1.45 | 1.38 |
| 1 | A | 400 | PHE | CE1-CZ | 5.01 | 1.46 | 1.37 |
| 1 | A | 220 | PHE | CE2-CZ | 5.01 | 1.46 | 1.37 |

All (239) bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-----------|--------|-------------|----------|
| 7 | T | 17 | ARG | NE-CZ-NH1 | 23.02 | 131.81 | 120.30 |
| 7 | G | 17 | ARG | NE-CZ-NH2 | -22.34 | 109.13 | 120.30 |
| 7 | G | 17 | ARG | NE-CZ-NH1 | 22.31 | 131.46 | 120.30 |
| 7 | T | 17 | ARG | NE-CZ-NH2 | -21.59 | 109.50 | 120.30 |
| 4 | D | 20 | ARG | NE-CZ-NH2 | -21.22 | 109.69 | 120.30 |
| 4 | Q | 20 | ARG | NE-CZ-NH2 | -18.22 | 111.19 | 120.30 |
| 4 | D | 20 | ARG | NE-CZ-NH1 | 17.80 | 129.20 | 120.30 |
| 4 | Q | 20 | ARG | NE-CZ-NH1 | 16.10 | 128.35 | 120.30 |
| 1 | N | 278 | MET | CG-SD-CE | -12.57 | 80.08 | 100.20 |
| 1 | A | 136 | LEU | CB-CG-CD2 | -11.98 | 90.63 | 111.00 |
| 5 | E | 90 | ARG | NE-CZ-NH2 | -11.90 | 114.35 | 120.30 |
| 4 | D | 19 | ARG | NE-CZ-NH1 | -11.30 | 114.65 | 120.30 |
| 6 | S | 54 | ASN | CB-CA-C | -11.14 | 88.11 | 110.40 |
| 1 | N | 310 | MET | CG-SD-CE | -10.53 | 83.34 | 100.20 |
| 5 | E | 40 | ASP | CB-CG-OD2 | 10.46 | 127.71 | 118.30 |
| 2 | B | 37 | LEU | CB-CG-CD1 | -10.40 | 93.32 | 111.00 |
| 5 | E | 90 | ARG | NE-CZ-NH1 | 10.37 | 125.48 | 120.30 |
| 1 | A | 189 | MET | CG-SD-CE | -9.98 | 84.23 | 100.20 |
| 1 | A | 297 | MET | CG-SD-CE | -9.48 | 85.03 | 100.20 |
| 1 | N | 298 | ASP | CB-CG-OD2 | 9.34 | 126.70 | 118.30 |
| 11 | K | 47 | ARG | NE-CZ-NH2 | 9.32 | 124.96 | 120.30 |
| 3 | P | 156 | ARG | NE-CZ-NH1 | -9.31 | 115.64 | 120.30 |
| 7 | T | 14 | ARG | NE-CZ-NH2 | -9.19 | 115.71 | 120.30 |
| 7 | G | 33 | LEU | CA-CB-CG | 9.13 | 136.30 | 115.30 |
| 2 | O | 82 | ARG | NE-CZ-NH2 | -9.07 | 115.77 | 120.30 |
| 1 | A | 298 | ASP | CB-CG-OD2 | 8.89 | 126.31 | 118.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|--------|------|------------|-------|-------------|----------|
| 2 | B | 82 | ARG | CG-CD-NE | -8.61 | 93.73 | 111.80 |
| 2 | B | 65 | TRP | CB-CA-C | 8.47 | 127.33 | 110.40 |
| 3 | C | 221 | ARG | NE-CZ-NH1 | -8.17 | 116.22 | 120.30 |
| 3 | P | 221 | ARG | NE-CZ-NH1 | -8.16 | 116.22 | 120.30 |
| 1 | A | 5 | ARG | NE-CZ-NH2 | -8.13 | 116.23 | 120.30 |
| 11 | K | 54 | ARG | NE-CZ-NH2 | -7.88 | 116.36 | 120.30 |
| 2 | B | 87 | MET | CA-CB-CG | 7.87 | 126.67 | 113.30 |
| 3 | P | 80 | ARG | CG-CD-NE | -7.83 | 95.35 | 111.80 |
| 3 | C | 94 | PHE | CB-CG-CD2 | -7.79 | 115.35 | 120.80 |
| 13 | M | 34 | LEU | CB-CG-CD1 | 7.69 | 124.07 | 111.00 |
| 5 | E | 60 | ASP | CB-CG-OD2 | 7.66 | 125.19 | 118.30 |
| 7 | G | 17 | ARG | CB-CG-CD | -7.61 | 91.81 | 111.60 |
| 1 | N | 442 | ASP | CB-CG-OD1 | -7.56 | 111.50 | 118.30 |
| 1 | N | 113 | LEU | CB-CG-CD1 | 7.49 | 123.74 | 111.00 |
| 1 | A | 417 | MET | CG-SD-CE | -7.40 | 88.36 | 100.20 |
| 1 | A | 136 | LEU | CA-CB-CG | 7.37 | 132.24 | 115.30 |
| 1 | A | 510 | TYR | CB-CG-CD2 | -7.32 | 116.61 | 121.00 |
| 9 | I | 68 | ILE | CG1-CB-CG2 | 7.26 | 127.37 | 111.40 |
| 3 | P | 155 | ASP | CB-CG-OD1 | 7.22 | 124.80 | 118.30 |
| 3 | P | 63 | ARG | NE-CZ-NH2 | -7.21 | 116.69 | 120.30 |
| 1 | A | 189 | MET | CA-CB-CG | -7.18 | 101.08 | 113.30 |
| 7 | G | 54 | ARG | NE-CZ-NH2 | -7.18 | 116.71 | 120.30 |
| 1 | N | 145 | LEU | CA-CB-CG | -7.18 | 98.79 | 115.30 |
| 2 | B | 60 | GLU | N-CA-C | -7.13 | 91.74 | 111.00 |
| 4 | Q | 20 | ARG | CD-NE-CZ | 7.12 | 133.57 | 123.60 |
| 11 | X | 32 | MET | CG-SD-CE | 7.07 | 111.51 | 100.20 |
| 7 | T | 17 | ARG | CB-CG-CD | -7.06 | 93.25 | 111.60 |
| 1 | A | 380[A] | VAL | CB-CA-C | -7.01 | 98.07 | 111.40 |
| 1 | A | 380[B] | VAL | CB-CA-C | -7.01 | 98.07 | 111.40 |
| 4 | D | 4 | SER | N-CA-CB | 6.97 | 120.96 | 110.50 |
| 13 | Z | 19 | LEU | CB-CG-CD2 | -6.94 | 99.19 | 111.00 |
| 9 | I | 55 | ASP | CB-CG-OD1 | 6.94 | 124.54 | 118.30 |
| 1 | N | 145 | LEU | CB-CG-CD1 | -6.89 | 99.29 | 111.00 |
| 2 | B | 82 | ARG | NE-CZ-NH2 | -6.86 | 116.87 | 120.30 |
| 4 | D | 19 | ARG | NE-CZ-NH2 | 6.83 | 123.71 | 120.30 |
| 10 | W | 40 | LEU | CB-CG-CD2 | 6.79 | 122.54 | 111.00 |
| 1 | N | 278 | MET | CA-CB-CG | -6.77 | 101.79 | 113.30 |
| 1 | N | 298 | ASP | CB-CG-OD1 | -6.77 | 112.21 | 118.30 |
| 1 | N | 438 | ARG | NE-CZ-NH1 | -6.75 | 116.93 | 120.30 |
| 1 | A | 512 | ASN | CB-CA-C | -6.69 | 97.02 | 110.40 |
| 1 | N | 38 | ARG | NE-CZ-NH1 | 6.68 | 123.64 | 120.30 |
| 2 | O | 36 | SER | CB-CA-C | 6.68 | 122.79 | 110.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 1 | A | 438 | ARG | NE-CZ-NH1 | -6.67 | 116.96 | 120.30 |
| 6 | F | 48 | LEU | CB-CG-CD1 | 6.67 | 122.34 | 111.00 |
| 1 | N | 194 | LEU | CB-CG-CD2 | 6.63 | 122.28 | 111.00 |
| 5 | R | 106 | LEU | CB-CG-CD1 | 6.63 | 122.27 | 111.00 |
| 1 | A | 302 | ARG | NE-CZ-NH2 | -6.59 | 117.00 | 120.30 |
| 1 | N | 512 | ASN | CB-CA-C | -6.57 | 97.25 | 110.40 |
| 2 | B | 66 | THR | OG1-CB-CG2 | 6.57 | 125.11 | 110.00 |
| 3 | C | 176 | LEU | CB-CG-CD1 | -6.53 | 99.89 | 111.00 |
| 3 | P | 152 | MET | CA-CB-CG | -6.53 | 102.20 | 113.30 |
| 2 | O | 75 | LEU | CB-CG-CD1 | 6.53 | 122.10 | 111.00 |
| 3 | C | 29 | SER | CA-CB-OG | -6.53 | 93.58 | 111.20 |
| 3 | C | 233 | PHE | CB-CG-CD2 | -6.50 | 116.25 | 120.80 |
| 2 | O | 66 | THR | OG1-CB-CG2 | 6.48 | 124.91 | 110.00 |
| 4 | D | 36 | SER | N-CA-CB | 6.47 | 120.21 | 110.50 |
| 1 | A | 129 | TYR | CB-CG-CD1 | -6.46 | 117.13 | 121.00 |
| 1 | N | 366 | VAL | CG1-CB-CG2 | -6.45 | 100.58 | 110.90 |
| 4 | D | 21 | ASP | CB-CG-OD2 | 6.43 | 124.09 | 118.30 |
| 1 | A | 442 | ASP | CB-CG-OD1 | -6.43 | 112.51 | 118.30 |
| 4 | D | 20 | ARG | CA-CB-CG | 6.43 | 127.54 | 113.40 |
| 1 | A | 169 | ILE | CG1-CB-CG2 | -6.42 | 97.28 | 111.40 |
| 4 | D | 94 | LEU | CB-CG-CD2 | 6.42 | 121.91 | 111.00 |
| 9 | V | 73 | LYS | CD-CE-NZ | 6.35 | 126.30 | 111.70 |
| 9 | V | 16 | ARG | NE-CZ-NH1 | 6.30 | 123.45 | 120.30 |
| 1 | A | 152 | LEU | CB-CG-CD1 | -6.28 | 100.33 | 111.00 |
| 1 | A | 439 | ARG | NE-CZ-NH1 | -6.27 | 117.17 | 120.30 |
| 1 | N | 486 | ASP | CB-CG-OD1 | 6.19 | 123.87 | 118.30 |
| 1 | N | 253 | MET | CA-CB-CG | -6.16 | 102.82 | 113.30 |
| 3 | C | 102 | TYR | CB-CG-CD2 | -6.15 | 117.31 | 121.00 |
| 1 | A | 310 | MET | CG-SD-CE | -6.14 | 90.38 | 100.20 |
| 2 | B | 36 | SER | CB-CA-C | 6.14 | 121.76 | 110.10 |
| 4 | D | 20 | ARG | CD-NE-CZ | 6.12 | 132.17 | 123.60 |
| 12 | L | 24 | MET | CA-CB-CG | 6.09 | 123.66 | 113.30 |
| 9 | V | 64 | ARG | NE-CZ-NH1 | 6.08 | 123.34 | 120.30 |
| 1 | N | 189 | MET | CA-CB-CG | -6.07 | 102.98 | 113.30 |
| 13 | Z | 34 | LEU | CB-CG-CD1 | 6.05 | 121.29 | 111.00 |
| 1 | N | 152 | LEU | CB-CG-CD2 | 6.05 | 121.28 | 111.00 |
| 2 | O | 65 | TRP | CB-CA-C | 6.05 | 122.49 | 110.40 |
| 4 | Q | 79 | LYS | CD-CE-NZ | -6.04 | 97.80 | 111.70 |
| 10 | W | 40 | LEU | CB-CG-CD1 | -6.01 | 100.77 | 111.00 |
| 5 | E | 90 | ARG | CG-CD-NE | -6.00 | 99.19 | 111.80 |
| 7 | T | 33 | LEU | CB-CG-CD1 | 6.00 | 121.20 | 111.00 |
| 7 | T | 33 | LEU | CA-CB-CG | 5.99 | 129.08 | 115.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 8 | H | 52 | VAL | CB-CA-C | -5.99 | 100.02 | 111.40 |
| 3 | C | 80 | ARG | CG-CD-NE | -5.99 | 99.23 | 111.80 |
| 1 | A | 369 | ASP | CB-CG-OD1 | 5.98 | 123.68 | 118.30 |
| 4 | D | 31 | LYS | CB-CG-CD | -5.98 | 96.06 | 111.60 |
| 3 | C | 40 | MET | CA-CB-CG | -5.98 | 103.14 | 113.30 |
| 1 | N | 113 | LEU | CB-CG-CD2 | 5.97 | 121.16 | 111.00 |
| 1 | N | 213 | ARG | NE-CZ-NH2 | -5.92 | 117.34 | 120.30 |
| 6 | F | 92 | VAL | CG1-CB-CG2 | -5.91 | 101.44 | 110.90 |
| 1 | A | 195 | LEU | CB-CG-CD1 | -5.90 | 100.97 | 111.00 |
| 3 | P | 80 | ARG | NE-CZ-NH1 | -5.88 | 117.36 | 120.30 |
| 1 | A | 219 | PHE | CB-CG-CD2 | -5.88 | 116.69 | 120.80 |
| 6 | F | 81 | ARG | NE-CZ-NH1 | -5.88 | 117.36 | 120.30 |
| 2 | O | 112 | ASP | CB-CG-OD1 | 5.84 | 123.56 | 118.30 |
| 1 | A | 312 | ILE | CA-CB-CG1 | -5.84 | 99.91 | 111.00 |
| 8 | H | 61 | LYS | CD-CE-NZ | 5.83 | 125.12 | 111.70 |
| 9 | V | 10 | ARG | NE-CZ-NH2 | -5.82 | 117.39 | 120.30 |
| 9 | I | 12 | LEU | CB-CG-CD2 | -5.81 | 101.12 | 111.00 |
| 3 | C | 151 | LEU | CB-CG-CD2 | -5.80 | 101.13 | 111.00 |
| 1 | A | 311 | ILE | CA-CB-CG1 | -5.76 | 100.05 | 111.00 |
| 2 | O | 132 | GLU | CG-CD-OE1 | -5.75 | 106.79 | 118.30 |
| 1 | A | 208 | MET | CG-SD-CE | 5.75 | 109.40 | 100.20 |
| 3 | P | 60 | ASP | CB-CG-OD1 | 5.75 | 123.47 | 118.30 |
| 2 | O | 170 | LEU | CB-CG-CD1 | -5.74 | 101.24 | 111.00 |
| 4 | Q | 17 | VAL | CG1-CB-CG2 | -5.70 | 101.78 | 110.90 |
| 3 | P | 163 | LEU | CB-CG-CD2 | -5.69 | 101.33 | 111.00 |
| 1 | A | 230 | LEU | CB-CG-CD2 | -5.68 | 101.34 | 111.00 |
| 5 | R | 60 | ASP | CB-CG-OD2 | 5.68 | 123.41 | 118.30 |
| 7 | G | 8 | HIS | N-CA-C | 5.66 | 126.28 | 111.00 |
| 3 | C | 43 | LEU | CB-CG-CD1 | -5.65 | 101.39 | 111.00 |
| 3 | P | 253 | TYR | CB-CG-CD2 | -5.64 | 117.61 | 121.00 |
| 3 | P | 44 | MET | CG-SD-CE | 5.64 | 109.22 | 100.20 |
| 3 | P | 102 | TYR | CB-CG-CD2 | -5.62 | 117.63 | 121.00 |
| 3 | C | 203 | PHE | CB-CG-CD2 | -5.62 | 116.87 | 120.80 |
| 1 | A | 244 | TYR | CA-CB-CG | -5.62 | 102.73 | 113.40 |
| 4 | Q | 61 | ARG | NE-CZ-NH2 | 5.61 | 123.10 | 120.30 |
| 4 | Q | 92 | THR | CA-CB-CG2 | -5.60 | 104.56 | 112.40 |
| 1 | A | 397 | PHE | CB-CG-CD2 | -5.57 | 116.90 | 120.80 |
| 3 | C | 224 | LYS | CD-CE-NZ | -5.56 | 98.92 | 111.70 |
| 1 | N | 302 | ARG | NE-CZ-NH2 | -5.56 | 117.52 | 120.30 |
| 2 | O | 202 | SER | CB-CA-C | -5.55 | 99.56 | 110.10 |
| 1 | A | 180 | GLN | CA-CB-CG | -5.54 | 101.21 | 113.40 |
| 2 | B | 170 | LEU | CB-CG-CD2 | -5.53 | 101.61 | 111.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 9 | V | 68 | ILE | CG1-CB-CG2 | 5.52 | 123.54 | 111.40 |
| 1 | A | 298 | ASP | CB-CG-OD1 | -5.51 | 113.34 | 118.30 |
| 2 | B | 3 | TYR | CD1-CE1-CZ | -5.51 | 114.84 | 119.80 |
| 1 | N | 485 | VAL | N-CA-CB | -5.51 | 99.39 | 111.50 |
| 1 | A | 231 | TYR | CB-CG-CD2 | -5.49 | 117.71 | 121.00 |
| 1 | N | 513 | LEU | C-N-CA | -5.49 | 107.98 | 121.70 |
| 1 | A | 237 | PHE | CB-CG-CD1 | -5.49 | 116.96 | 120.80 |
| 13 | M | 14 | GLU | OE1-CD-OE2 | -5.49 | 116.72 | 123.30 |
| 3 | C | 155 | ASP | CB-CG-OD1 | 5.48 | 123.23 | 118.30 |
| 1 | N | 240 | HIS | CA-CB-CG | -5.45 | 104.34 | 113.60 |
| 3 | P | 156 | ARG | NH1-CZ-NH2 | 5.45 | 125.39 | 119.40 |
| 4 | D | 123 | MET | CA-CB-CG | -5.44 | 104.04 | 113.30 |
| 1 | A | 495 | LEU | CB-CG-CD2 | -5.44 | 101.75 | 111.00 |
| 2 | B | 157 | GLU | CA-CB-CG | -5.43 | 101.45 | 113.40 |
| 6 | S | 81 | ARG | NE-CZ-NH2 | -5.43 | 117.58 | 120.30 |
| 2 | B | 33 | LEU | CB-CG-CD1 | 5.42 | 120.21 | 111.00 |
| 9 | I | 73 | LYS | CD-CE-NZ | -5.42 | 99.25 | 111.70 |
| 1 | A | 486 | ASP | CB-CA-C | -5.41 | 99.57 | 110.40 |
| 1 | N | 250 | GLY | N-CA-C | -5.41 | 99.57 | 113.10 |
| 1 | N | 270 | TYR | CD1-CE1-CZ | -5.39 | 114.95 | 119.80 |
| 3 | P | 216 | ILE | CG1-CB-CG2 | -5.39 | 99.55 | 111.40 |
| 4 | Q | 51 | LEU | CA-CB-CG | 5.38 | 127.67 | 115.30 |
| 3 | C | 90 | GLU | OE1-CD-OE2 | 5.37 | 129.75 | 123.30 |
| 7 | T | 17 | ARG | CD-NE-CZ | 5.36 | 131.10 | 123.60 |
| 4 | D | 51 | LEU | CB-CG-CD1 | 5.36 | 120.11 | 111.00 |
| 1 | A | 35 | LEU | CB-CG-CD1 | -5.35 | 101.91 | 111.00 |
| 1 | N | 339 | MET | CA-CB-CG | -5.34 | 104.22 | 113.30 |
| 6 | S | 54 | ASN | CB-CG-OD1 | -5.33 | 110.94 | 121.60 |
| 1 | A | 102 | PHE | CG-CD1-CE1 | 5.31 | 126.64 | 120.80 |
| 11 | K | 20 | SER | CB-CA-C | -5.31 | 100.01 | 110.10 |
| 2 | B | 11 | ASP | CB-CG-OD2 | 5.31 | 123.08 | 118.30 |
| 3 | P | 94 | PHE | CB-CG-CD2 | -5.31 | 117.08 | 120.80 |
| 2 | O | 33 | LEU | CB-CG-CD1 | 5.29 | 119.99 | 111.00 |
| 2 | B | 188 | ARG | NE-CZ-NH2 | -5.28 | 117.66 | 120.30 |
| 1 | A | 96 | ARG | NE-CZ-NH1 | -5.28 | 117.66 | 120.30 |
| 12 | L | 5 | GLU | C-N-CA | -5.26 | 111.24 | 122.30 |
| 5 | E | 14 | ARG | NE-CZ-NH1 | 5.26 | 122.93 | 120.30 |
| 1 | A | 240 | HIS | CA-CB-CG | -5.26 | 104.66 | 113.60 |
| 3 | C | 254 | VAL | CA-CB-CG2 | -5.26 | 103.01 | 110.90 |
| 13 | M | 26 | PHE | CB-CA-C | -5.25 | 99.89 | 110.40 |
| 2 | B | 158 | ASP | CB-CG-OD2 | -5.25 | 113.57 | 118.30 |
| 3 | P | 92 | LEU | CB-CG-CD2 | -5.25 | 102.08 | 111.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 2 | O | 147 | GLU | OE1-CD-OE2 | -5.24 | 117.01 | 123.30 |
| 4 | D | 51 | LEU | CA-CB-CG | 5.24 | 127.35 | 115.30 |
| 2 | B | 128 | LEU | CB-CG-CD1 | -5.24 | 102.09 | 111.00 |
| 2 | B | 139 | ASP | CB-CG-OD1 | -5.22 | 113.60 | 118.30 |
| 1 | A | 113 | LEU | CB-CG-CD1 | 5.21 | 119.86 | 111.00 |
| 2 | O | 87 | MET | CG-SD-CE | 5.21 | 108.53 | 100.20 |
| 3 | C | 193 | TYR | CB-CG-CD2 | -5.21 | 117.88 | 121.00 |
| 1 | A | 449 | MET | CA-CB-CG | -5.19 | 104.47 | 113.30 |
| 1 | N | 213 | ARG | NE-CZ-NH1 | 5.19 | 122.89 | 120.30 |
| 1 | A | 316 | THR | CA-CB-CG2 | -5.18 | 105.14 | 112.40 |
| 2 | B | 16 | ILE | CA-CB-CG1 | -5.18 | 101.16 | 111.00 |
| 2 | O | 139 | ASP | CB-CG-OD2 | 5.17 | 122.96 | 118.30 |
| 9 | V | 55 | ASP | CB-CG-OD1 | 5.17 | 122.95 | 118.30 |
| 13 | M | 38 | ASP | CB-CG-OD2 | -5.16 | 113.65 | 118.30 |
| 1 | N | 347 | LEU | CB-CG-CD1 | -5.16 | 102.22 | 111.00 |
| 1 | N | 102 | PHE | CG-CD1-CE1 | 5.15 | 126.47 | 120.80 |
| 6 | F | 22 | LEU | CB-CG-CD2 | 5.15 | 119.75 | 111.00 |
| 1 | N | 164 | PHE | CB-CG-CD2 | -5.15 | 117.20 | 120.80 |
| 13 | Z | 37 | LEU | CB-CG-CD1 | -5.14 | 102.25 | 111.00 |
| 3 | P | 85 | LEU | CB-CG-CD1 | -5.14 | 102.26 | 111.00 |
| 1 | N | 68 | PHE | CB-CG-CD1 | -5.14 | 117.20 | 120.80 |
| 4 | D | 79 | LYS | CD-CE-NZ | -5.13 | 99.89 | 111.70 |
| 1 | N | 327 | LEU | CB-CG-CD1 | -5.12 | 102.30 | 111.00 |
| 1 | N | 251 | PHE | CB-CA-C | -5.12 | 100.17 | 110.40 |
| 10 | J | 28 | ASP | CB-CG-OD1 | 5.10 | 122.89 | 118.30 |
| 4 | D | 17 | VAL | CB-CA-C | -5.10 | 101.71 | 111.40 |
| 4 | Q | 19 | ARG | NE-CZ-NH1 | -5.09 | 117.75 | 120.30 |
| 2 | B | 84 | LEU | CB-CG-CD1 | -5.09 | 102.35 | 111.00 |
| 7 | G | 16 | TRP | CA-CB-CG | -5.09 | 104.03 | 113.70 |
| 3 | C | 245 | VAL | CA-CB-CG2 | -5.09 | 103.27 | 110.90 |
| 6 | S | 6 | VAL | CG1-CB-CG2 | -5.08 | 102.77 | 110.90 |
| 5 | E | 108 | LYS | CB-CA-C | 5.08 | 120.56 | 110.40 |
| 10 | J | 57 | HIS | CB-CA-C | 5.07 | 120.55 | 110.40 |
| 10 | J | 50 | LEU | CB-CG-CD1 | 5.07 | 119.62 | 111.00 |
| 1 | A | 105 | LEU | CB-CG-CD1 | -5.07 | 102.38 | 111.00 |
| 6 | F | 29 | ASP | CB-CG-OD2 | -5.06 | 113.74 | 118.30 |
| 7 | G | 7 | ASP | N-CA-C | 5.05 | 124.64 | 111.00 |
| 4 | Q | 135 | SER | CA-CB-OG | -5.05 | 97.55 | 111.20 |
| 3 | C | 102 | TYR | CZ-CE2-CD2 | -5.05 | 115.25 | 119.80 |
| 2 | O | 66 | THR | CA-CB-CG2 | 5.05 | 119.47 | 112.40 |
| 10 | J | 35 | THR | CA-CB-CG2 | -5.04 | 105.35 | 112.40 |
| 7 | T | 8 | HIS | N-CA-C | 5.02 | 124.55 | 111.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 1 | N | 199 | LEU | CB-CG-CD1 | -5.01 | 102.48 | 111.00 |
| 3 | P | 181 | TYR | CG-CD1-CE1 | -5.01 | 117.29 | 121.30 |
| 5 | E | 14 | ARG | NE-CZ-NH2 | -5.00 | 117.80 | 120.30 |

All (1) chirality outliers are listed below:

| Mol | Chain | Res | Type | Atom |
|-----|-------|-----|------|------|
| 2 | B | 66 | THR | CB |

All (3) planarity outliers are listed below:

| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 1 | A | 304 | TYR | Sidechain |
| 6 | F | 93 | PRO | Peptide |
| 6 | S | 93 | PRO | Peptide |

5.2 Too-close contacts

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

| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 1 | A | 4060 | 0 | 4037 | 59 | 0 |
| 1 | N | 4060 | 0 | 4037 | 67 | 0 |
| 2 | B | 1824 | 0 | 1833 | 29 | 0 |
| 2 | O | 1824 | 0 | 1833 | 34 | 1 |
| 3 | C | 2110 | 0 | 2027 | 30 | 0 |
| 3 | P | 2110 | 0 | 2027 | 31 | 0 |
| 4 | D | 1195 | 0 | 1183 | 12 | 0 |
| 4 | Q | 1195 | 0 | 1183 | 10 | 0 |
| 5 | E | 852 | 0 | 845 | 8 | 0 |
| 5 | R | 852 | 0 | 845 | 8 | 1 |
| 6 | F | 748 | 0 | 728 | 17 | 0 |
| 6 | S | 748 | 0 | 728 | 19 | 1 |
| 7 | G | 675 | 0 | 643 | 43 | 0 |
| 7 | T | 675 | 0 | 643 | 51 | 0 |
| 8 | H | 662 | 0 | 623 | 13 | 0 |
| 8 | U | 662 | 0 | 623 | 11 | 0 |
| 9 | I | 601 | 0 | 613 | 6 | 1 |

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| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 9 | V | 601 | 0 | 613 | 14 | 0 |
| 10 | J | 460 | 0 | 459 | 5 | 0 |
| 10 | W | 460 | 0 | 459 | 6 | 0 |
| 11 | K | 384 | 0 | 366 | 1 | 0 |
| 11 | X | 384 | 0 | 366 | 4 | 0 |
| 12 | L | 380 | 0 | 380 | 10 | 0 |
| 12 | Y | 380 | 0 | 380 | 8 | 0 |
| 13 | M | 335 | 0 | 352 | 10 | 0 |
| 13 | Z | 335 | 0 | 352 | 2 | 0 |
| 14 | A | 120 | 0 | 107 | 9 | 0 |
| 14 | N | 120 | 0 | 108 | 8 | 0 |
| 15 | A | 2 | 0 | 0 | 0 | 0 |
| 15 | N | 2 | 0 | 0 | 0 | 0 |
| 16 | A | 1 | 0 | 0 | 0 | 0 |
| 16 | N | 1 | 0 | 0 | 0 | 0 |
| 17 | A | 1 | 0 | 0 | 0 | 0 |
| 17 | N | 1 | 0 | 0 | 0 | 0 |
| 18 | A | 1 | 0 | 0 | 0 | 0 |
| 18 | N | 1 | 0 | 0 | 0 | 0 |
| 19 | A | 63 | 0 | 110 | 8 | 0 |
| 19 | D | 63 | 0 | 110 | 8 | 0 |
| 19 | L | 63 | 0 | 110 | 15 | 0 |
| 19 | N | 63 | 0 | 110 | 15 | 0 |
| 19 | O | 63 | 0 | 110 | 10 | 0 |
| 19 | Q | 63 | 0 | 110 | 12 | 0 |
| 20 | A | 51 | 0 | 76 | 0 | 0 |
| 20 | C | 102 | 0 | 152 | 8 | 0 |
| 20 | M | 51 | 0 | 76 | 15 | 0 |
| 20 | N | 102 | 0 | 152 | 9 | 0 |
| 20 | P | 102 | 0 | 152 | 6 | 0 |
| 21 | B | 2 | 0 | 0 | 0 | 0 |
| 21 | O | 2 | 0 | 0 | 0 | 0 |
| 22 | B | 52 | 0 | 80 | 26 | 0 |
| 22 | R | 52 | 0 | 80 | 15 | 0 |
| 23 | B | 29 | 0 | 36 | 2 | 0 |
| 23 | C | 58 | 0 | 73 | 4 | 0 |
| 23 | J | 29 | 0 | 36 | 1 | 0 |
| 23 | O | 29 | 0 | 39 | 3 | 0 |
| 23 | P | 58 | 0 | 73 | 6 | 0 |
| 23 | W | 29 | 0 | 36 | 1 | 0 |
| 24 | C | 1 | 0 | 0 | 0 | 0 |
| 24 | P | 1 | 0 | 0 | 0 | 0 |

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| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 25 | C | 53 | 0 | 77 | 8 | 0 |
| 25 | G | 106 | 0 | 154 | 43 | 0 |
| 25 | P | 106 | 0 | 154 | 24 | 0 |
| 25 | T | 53 | 0 | 77 | 21 | 0 |
| 26 | C | 100 | 0 | 156 | 26 | 0 |
| 26 | G | 100 | 0 | 156 | 30 | 0 |
| 26 | P | 100 | 0 | 156 | 25 | 0 |
| 26 | T | 100 | 0 | 156 | 27 | 0 |
| 27 | F | 1 | 0 | 0 | 0 | 0 |
| 27 | S | 1 | 0 | 0 | 0 | 0 |
| 28 | G | 33 | 0 | 37 | 4 | 0 |
| 28 | M | 33 | 0 | 37 | 0 | 0 |
| 28 | P | 33 | 0 | 39 | 6 | 0 |
| 28 | Z | 33 | 0 | 38 | 2 | 0 |
| 29 | A | 218 | 0 | 0 | 5 | 0 |
| 29 | B | 143 | 0 | 0 | 7 | 0 |
| 29 | C | 116 | 0 | 0 | 3 | 0 |
| 29 | D | 80 | 0 | 0 | 3 | 0 |
| 29 | E | 49 | 0 | 0 | 0 | 0 |
| 29 | F | 61 | 0 | 0 | 2 | 0 |
| 29 | G | 45 | 0 | 0 | 2 | 0 |
| 29 | H | 51 | 0 | 0 | 1 | 0 |
| 29 | I | 37 | 0 | 0 | 2 | 0 |
| 29 | J | 24 | 0 | 0 | 0 | 0 |
| 29 | K | 29 | 0 | 0 | 0 | 0 |
| 29 | L | 23 | 0 | 0 | 1 | 0 |
| 29 | M | 31 | 0 | 0 | 2 | 0 |
| 29 | N | 222 | 0 | 0 | 7 | 0 |
| 29 | O | 137 | 0 | 0 | 5 | 0 |
| 29 | P | 102 | 0 | 0 | 0 | 0 |
| 29 | Q | 65 | 0 | 0 | 3 | 0 |
| 29 | R | 47 | 0 | 0 | 0 | 0 |
| 29 | S | 64 | 0 | 0 | 0 | 0 |
| 29 | T | 47 | 0 | 0 | 2 | 0 |
| 29 | U | 49 | 0 | 0 | 2 | 0 |
| 29 | V | 27 | 0 | 0 | 2 | 0 |
| 29 | W | 19 | 0 | 0 | 0 | 0 |
| 29 | X | 22 | 0 | 0 | 2 | 0 |
| 29 | Y | 21 | 0 | 0 | 1 | 0 |
| 29 | Z | 14 | 0 | 0 | 1 | 0 |
| All | All | 32545 | 0 | 31351 | 653 | 2 |

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including

hydrogen atoms). The all-atom clashscore for this structure is 11.

All (653) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 25:P:1265:PEK:H383 | 26:T:1269:CDL:C27 | 1.21 | 1.67 |
| 1:N:484:THR:CB | 1:N:484:THR:CG2 | 1.77 | 1.60 |
| 4:D:100:LYS:CE | 4:D:100:LYS:NZ | 1.70 | 1.55 |
| 1:N:189:MET:CG | 1:N:189:MET:CB | 1.82 | 1.52 |
| 4:Q:121:LYS:NZ | 4:Q:121:LYS:CE | 1.74 | 1.50 |
| 2:B:87:MET:CG | 2:B:87:MET:SD | 2.02 | 1.47 |
| 1:A:297:MET:CG | 1:A:297:MET:SD | 2.01 | 1.47 |
| 25:P:1265:PEK:C38 | 26:T:1269:CDL:C27 | 2.06 | 1.32 |
| 22:B:229:PSC:H343 | 22:B:229:PSC:H142 | 1.23 | 1.18 |
| 1:N:513:LEU:O | 1:N:514:LYS:HB2 | 1.41 | 1.16 |
| 7:T:84:LYS:HD2 | 7:T:84:LYS:H | 1.09 | 1.16 |
| 25:P:1265:PEK:C38 | 26:T:1269:CDL:H273 | 1.69 | 1.15 |
| 1:A:513:LEU:O | 1:A:514:LYS:HB2 | 1.37 | 1.15 |
| 22:B:229:PSC:H343 | 22:B:229:PSC:C14 | 1.78 | 1.14 |
| 22:R:1229:PSC:H142 | 22:R:1229:PSC:C34 | 1.79 | 1.13 |
| 20:M:524:PGV:H22 | 20:M:524:PGV:H011 | 1.12 | 1.11 |
| 12:L:20:ARG:HH22 | 19:L:522:TGL:HC32 | 1.16 | 1.10 |
| 7:T:2:SER:O | 25:T:263:PEK:H331 | 1.52 | 1.08 |
| 7:G:5:LYS:HB2 | 25:G:1263:PEK:H362 | 1.31 | 1.07 |
| 12:L:20:ARG:NH2 | 19:L:522:TGL:HC32 | 1.70 | 1.06 |
| 20:C:267:PGV:H172 | 26:C:270:CDL:H662 | 1.33 | 1.05 |
| 6:F:85:CYS:SG | 6:F:87:THR:HG23 | 1.96 | 1.05 |
| 7:G:84:LYS:HD2 | 7:G:84:LYS:N | 1.69 | 1.04 |
| 22:B:229:PSC:H072 | 9:I:10:ARG:HH21 | 1.20 | 1.04 |
| 7:T:5:LYS:HD2 | 25:T:263:PEK:H371 | 1.41 | 1.02 |
| 19:L:522:TGL:H231 | 19:L:522:TGL:HA92 | 1.42 | 1.01 |
| 25:P:1265:PEK:C38 | 26:T:1269:CDL:H272 | 1.81 | 1.00 |
| 2:O:227:LEU:HD21 | 29:O:4852:HOH:O | 1.60 | 0.99 |
| 7:G:84:LYS:HD2 | 7:G:84:LYS:H | 0.83 | 0.99 |
| 7:T:5:LYS:HB2 | 25:T:263:PEK:H362 | 1.43 | 0.99 |
| 7:G:84:LYS:H | 7:G:84:LYS:CD | 1.76 | 0.98 |
| 19:L:522:TGL:HC62 | 19:L:522:TGL:HC22 | 1.44 | 0.98 |
| 25:P:1264:PEK:H12 | 25:P:1264:PEK:H242 | 1.46 | 0.98 |
| 3:P:67:PHE:HE1 | 26:P:1270:CDL:H1 | 1.29 | 0.97 |
| 25:P:1265:PEK:H383 | 26:T:1269:CDL:H272 | 0.98 | 0.97 |
| 6:F:97:ALA:HB2 | 29:F:4812:HOH:O | 1.61 | 0.97 |
| 7:T:31:CYS:SG | 26:T:1269:CDL:H532 | 2.06 | 0.96 |
| 22:B:229:PSC:H142 | 22:B:229:PSC:C34 | 1.96 | 0.96 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 25:P:1265:PEK:H383 | 26:T:1269:CDL:H273 | 1.26 | 0.94 |
| 13:M:39:ASN:O | 13:M:43:SER:OG | 1.86 | 0.94 |
| 20:M:524:PGV:H011 | 20:M:524:PGV:C2 | 1.97 | 0.94 |
| 7:G:5:LYS:HG3 | 25:G:1263:PEK:H383 | 1.48 | 0.94 |
| 22:R:1229:PSC:H142 | 22:R:1229:PSC:H343 | 1.48 | 0.93 |
| 25:C:264:PEK:H101 | 25:C:264:PEK:H161 | 1.52 | 0.92 |
| 8:H:9:LYS:O | 8:H:10:ASN:HB2 | 1.69 | 0.92 |
| 1:A:513:LEU:O | 1:A:514:LYS:CB | 2.09 | 0.91 |
| 20:M:524:PGV:H22 | 20:M:524:PGV:C01 | 2.01 | 0.91 |
| 6:S:85:CYS:SG | 6:S:87:THR:HG23 | 2.11 | 0.91 |
| 1:A:406:ASN:HD21 | 20:M:524:PGV:H21 | 1.36 | 0.90 |
| 1:A:297:MET:CG | 1:A:297:MET:CE | 2.50 | 0.90 |
| 19:A:521:TGL:H111 | 19:A:521:TGL:H283 | 1.52 | 0.89 |
| 25:P:1265:PEK:H381 | 26:T:1269:CDL:H273 | 1.49 | 0.89 |
| 7:T:5:LYS:CD | 25:T:263:PEK:H371 | 2.03 | 0.88 |
| 25:P:1264:PEK:H71 | 25:P:1264:PEK:H32 | 1.56 | 0.88 |
| 1:N:417:MET:CE | 29:N:3166:HOH:O | 2.22 | 0.88 |
| 7:G:3:ALA:CB | 25:G:1263:PEK:H382 | 2.03 | 0.87 |
| 8:H:9:LYS:HG3 | 8:H:10:ASN:H | 1.38 | 0.87 |
| 25:G:265:PEK:H371 | 26:G:269:CDL:C27 | 2.05 | 0.86 |
| 7:T:5:LYS:HD2 | 25:T:263:PEK:C37 | 2.05 | 0.86 |
| 7:G:2:SER:OG | 25:G:1263:PEK:C29 | 2.23 | 0.86 |
| 20:N:1524:PGV:H22 | 20:N:1524:PGV:H011 | 1.57 | 0.86 |
| 3:P:224:LYS:HE3 | 26:P:1270:CDL:HB31 | 1.58 | 0.86 |
| 3:C:63:ARG:HE | 26:C:270:CDL:HA22 | 1.38 | 0.85 |
| 10:W:2:GLU:HB2 | 10:W:4:ARG:NH1 | 1.90 | 0.85 |
| 13:M:19:LEU:HD23 | 20:M:524:PGV:H311 | 1.57 | 0.84 |
| 3:P:34:TRP:HE1 | 28:P:1272:DMU:H29 | 1.40 | 0.84 |
| 1:N:513:LEU:O | 1:N:514:LYS:CB | 2.14 | 0.84 |
| 7:G:72:ASN:H | 7:G:76:ASN:HD22 | 1.23 | 0.84 |
| 8:H:9:LYS:HG3 | 8:H:10:ASN:N | 1.92 | 0.83 |
| 26:T:1269:CDL:HA21 | 26:T:1269:CDL:H111 | 1.60 | 0.83 |
| 19:L:522:TGL:H231 | 19:L:522:TGL:CA9 | 2.03 | 0.83 |
| 7:G:5:LYS:HD2 | 25:G:1263:PEK:H371 | 1.61 | 0.83 |
| 7:T:84:LYS:H | 7:T:84:LYS:CD | 1.89 | 0.83 |
| 3:P:224:LYS:CD | 26:P:1270:CDL:HB32 | 2.09 | 0.82 |
| 22:R:1229:PSC:H343 | 22:R:1229:PSC:C14 | 2.09 | 0.82 |
| 7:T:84:LYS:HD2 | 7:T:84:LYS:N | 1.93 | 0.82 |
| 29:A:4501:HOH:O | 25:C:264:PEK:H381 | 1.80 | 0.81 |
| 9:V:1:SAC:OAC | 9:V:1:SAC:HB3 | 1.79 | 0.81 |
| 1:A:1:FME:CE | 1:A:4:ASN:HD22 | 1.94 | 0.81 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|---------------------|--------------------------|-------------------|
| 1:N:417:MET:HE1 | 29:N:3166:HOH:O | 1.78 | 0.81 |
| 1:A:297:MET:CE | 1:A:297:MET:CB | 2.59 | 0.81 |
| 26:C:270:CDL:H522 | 26:C:270:CDL:OB9 | 1.80 | 0.81 |
| 22:B:229:PSC:O02 | 22:B:229:PSC:H032 | 1.80 | 0.80 |
| 19:A:521:TGL:H241 | 19:A:521:TGL:H201 | 1.64 | 0.79 |
| 8:U:27:ARG:HG2 | 29:U:4871:HOH:O | 1.79 | 0.79 |
| 20:C:267:PGV:C17 | 26:C:270:CDL:H662 | 2.12 | 0.79 |
| 25:P:1265:PEK:H383 | 26:T:1269:CDL:H271 | 1.58 | 0.79 |
| 26:G:269:CDL:H511 | 26:G:269:CDL:H201 | 1.65 | 0.78 |
| 26:P:1270:CDL:PA1 | 26:P:1270:CDL:HB22 | 2.15 | 0.78 |
| 29:A:4740:HOH:O | 3:C:77:LYS:HE2 | 1.84 | 0.78 |
| 19:N:1522:TGL:H231 | 19:N:1522:TGL:HA92 | 1.65 | 0.78 |
| 25:P:1264:PEK:HN2 | 7:T:76:ASN:HD21 | 1.28 | 0.77 |
| 3:P:29:SER:HB3 | 3:P:42:LEU:HD13 | 1.66 | 0.77 |
| 25:C:264:PEK:HN2 | 7:G:76:ASN:HD21 | 1.32 | 0.77 |
| 7:G:2:SER:OG | 25:G:1263:PEK:H291 | 1.84 | 0.77 |
| 26:P:1270:CDL:H192 | 26:P:1270:CDL:H231 | 1.65 | 0.76 |
| 7:T:5:LYS:HD2 | 25:T:263:PEK:C38 | 2.15 | 0.76 |
| 7:T:72:ASN:H | 7:T:76:ASN:HD22 | 1.34 | 0.76 |
| 1:A:481:GLU:HB2 | 13:M:4:LYS:HE2 | 1.66 | 0.75 |
| 19:O:1521:TGL:H241 | 19:O:1521:TGL:H201 | 1.67 | 0.75 |
| 26:C:270:CDL:H672 | 26:C:270:CDL:H252 | 1.68 | 0.75 |
| 1:A:282:PHE:HA | 7:T:4:ALA:HB3 | 1.67 | 0.75 |
| 19:A:521:TGL:HA92 | 19:A:521:TGL:H252 | 1.70 | 0.74 |
| 26:G:269:CDL:H352 | 2:O:78:LEU:HD12 | 1.70 | 0.74 |
| 22:B:229:PSC:C14 | 22:B:229:PSC:C34 | 2.59 | 0.73 |
| 26:P:1270:CDL:H242 | 26:P:1270:CDL:H661 | 1.70 | 0.73 |
| 25:G:265:PEK:H371 | 26:G:269:CDL:H272 | 1.68 | 0.73 |
| 3:C:67:PHE:HE1 | 26:C:270:CDL:H1 | 1.53 | 0.73 |
| 25:C:264:PEK:H32 | 25:C:264:PEK:H71 | 1.69 | 0.73 |
| 25:G:265:PEK:C38 | 26:G:269:CDL:C27 | 2.66 | 0.73 |
| 1:N:189:MET:CG | 1:N:189:MET:CA | 2.65 | 0.73 |
| 4:D:78:TRP:HB3 | 19:D:523:TGL:HB22 | 1.71 | 0.73 |
| 28:G:272:DMU:O1 | 28:G:272:DMU:H29 | 1.89 | 0.73 |
| 25:G:265:PEK:C37 | 26:G:269:CDL:C27 | 2.67 | 0.73 |
| 1:N:383[B]:MET:O | 1:N:387:PHE:HB2 | 1.89 | 0.73 |
| 25:G:265:PEK:H371 | 26:G:269:CDL:H273 | 1.69 | 0.73 |
| 6:F:1:ALA:H1 | 25:G:265:PEK:H042 | 1.53 | 0.72 |
| 7:G:69:PHE:HZ | 28:G:272:DMU:H1 | 1.54 | 0.72 |
| 26:G:269:CDL:H782 | 26:G:269:CDL:H562 | 1.70 | 0.72 |
| 1:N:351:GLY:HA3 | 1:N:380[A]:VAL:HG13 | 1.70 | 0.72 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 3:P:224:LYS:HE3 | 26:P:1270:CDL:CB3 | 2.19 | 0.72 |
| 4:Q:100:LYS:HE2 | 29:Q:4794:HOH:O | 1.88 | 0.72 |
| 3:C:29:SER:HB3 | 3:C:42:LEU:HD13 | 1.71 | 0.71 |
| 22:R:1229:PSC:C07 | 9:V:10:ARG:HH21 | 2.03 | 0.71 |
| 22:B:229:PSC:H072 | 9:I:10:ARG:NH2 | 2.02 | 0.71 |
| 19:O:1521:TGL:H101 | 19:O:1521:TGL:C28 | 2.20 | 0.71 |
| 22:B:229:PSC:C07 | 9:I:10:ARG:HH21 | 2.00 | 0.71 |
| 25:G:265:PEK:C37 | 26:G:269:CDL:H272 | 2.21 | 0.71 |
| 19:N:1522:TGL:H362 | 29:Y:4638:HOH:O | 1.91 | 0.71 |
| 26:T:1269:CDL:H762 | 26:T:1269:CDL:H561 | 1.73 | 0.71 |
| 22:R:1229:PSC:C34 | 22:R:1229:PSC:C14 | 2.64 | 0.70 |
| 8:U:23:GLN:HG3 | 29:U:4345:HOH:O | 1.91 | 0.70 |
| 7:G:5:LYS:CD | 25:G:1263:PEK:H371 | 2.21 | 0.70 |
| 7:T:5:LYS:HG3 | 25:T:263:PEK:H383 | 1.71 | 0.70 |
| 3:C:246:ASP:HB2 | 29:C:4099:HOH:O | 1.91 | 0.70 |
| 2:B:81:LEU:HD12 | 26:T:1269:CDL:H351 | 1.73 | 0.70 |
| 8:H:45:ALA:O | 8:H:47:GLY:N | 2.24 | 0.70 |
| 6:F:1:ALA:HB3 | 6:S:65:ASP:OD1 | 1.93 | 0.69 |
| 19:L:522:TGL:HC62 | 19:L:522:TGL:CC2 | 2.19 | 0.69 |
| 7:G:4:ALA:HB3 | 1:N:282:PHE:HA | 1.73 | 0.69 |
| 1:N:189:MET:CB | 1:N:189:MET:SD | 2.79 | 0.69 |
| 3:P:34:TRP:NE1 | 28:P:1272:DMU:H29 | 2.09 | 0.68 |
| 7:G:3:ALA:HB1 | 25:G:1263:PEK:H382 | 1.75 | 0.68 |
| 9:I:44:LYS:HE2 | 29:I:4840:HOH:O | 1.94 | 0.68 |
| 22:B:229:PSC:H343 | 22:B:229:PSC:H141 | 1.70 | 0.68 |
| 29:N:4526:HOH:O | 2:O:87:MET:SD | 2.52 | 0.68 |
| 20:N:1524:PGV:H22 | 20:N:1524:PGV:C01 | 2.23 | 0.68 |
| 7:G:11:TPO:CG2 | 7:G:11:TPO:O | 2.42 | 0.67 |
| 1:N:177:SER:H | 1:N:180:GLN:HE21 | 1.43 | 0.67 |
| 25:P:1265:PEK:H042 | 6:S:1:ALA:N | 2.08 | 0.67 |
| 8:U:45:ALA:O | 8:U:47:GLY:N | 2.28 | 0.66 |
| 10:W:2:GLU:CB | 10:W:4:ARG:NH1 | 2.57 | 0.66 |
| 25:C:264:PEK:H161 | 25:C:264:PEK:C10 | 2.25 | 0.66 |
| 1:N:406:ASN:HD21 | 20:N:1524:PGV:H21 | 1.59 | 0.66 |
| 14:A:515:HEA:HBC1 | 14:A:515:HEA:HMC1 | 1.76 | 0.66 |
| 3:P:63:ARG:HE | 26:P:1270:CDL:CA2 | 2.08 | 0.66 |
| 1:A:484:THR:HB | 13:M:2:THR:OG1 | 1.95 | 0.66 |
| 12:L:46:LYS:O | 12:L:47:LYS:HB2 | 1.96 | 0.66 |
| 23:O:229:CHD:H12 | 23:O:229:CHD:H212 | 1.76 | 0.66 |
| 9:V:73:LYS:CA | 9:V:73:LYS:HE3 | 2.25 | 0.66 |
| 6:S:53:THR:HG22 | 6:S:54:ASN:H | 1.61 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 23:P:1271:CHD:H162 | 23:P:1271:CHD:H232 | 1.77 | 0.65 |
| 8:U:9:LYS:O | 8:U:10:ASN:HB2 | 1.95 | 0.65 |
| 9:V:73:LYS:HE3 | 9:V:73:LYS:HA | 1.77 | 0.65 |
| 12:Y:22:LEU:O | 12:Y:26:THR:HB | 1.95 | 0.65 |
| 25:G:265:PEK:H383 | 26:G:269:CDL:C27 | 2.25 | 0.65 |
| 1:A:282:PHE:HA | 7:T:4:ALA:CB | 2.26 | 0.65 |
| 29:A:4197:HOH:O | 22:B:229:PSC:H21 | 1.97 | 0.65 |
| 1:A:484:THR:HG22 | 29:A:4618:HOH:O | 1.96 | 0.65 |
| 20:P:1267:PGV:H172 | 26:P:1270:CDL:H652 | 1.80 | 0.64 |
| 26:T:1269:CDL:OA8 | 26:T:1269:CDL:H331 | 1.97 | 0.64 |
| 3:C:63:ARG:HE | 26:C:270:CDL:CA2 | 2.07 | 0.64 |
| 14:N:515:HEA:HMC1 | 14:N:515:HEA:HBC1 | 1.80 | 0.64 |
| 4:Q:7:LYS:O | 4:Q:10:ASP:HB2 | 1.98 | 0.64 |
| 4:D:78:TRP:CB | 19:D:523:TGL:HB22 | 2.28 | 0.64 |
| 7:T:5:LYS:HB2 | 25:T:263:PEK:C36 | 2.24 | 0.64 |
| 6:S:94:HIS:O | 6:S:95:GLN:HB2 | 1.96 | 0.64 |
| 7:G:3:ALA:HB1 | 25:G:1263:PEK:C38 | 2.28 | 0.64 |
| 3:P:63:ARG:HE | 26:P:1270:CDL:HA22 | 1.62 | 0.64 |
| 2:O:49:LYS:HD2 | 29:Q:3076:HOH:O | 1.98 | 0.63 |
| 8:H:52:VAL:HG12 | 8:U:46:LYS:HB2 | 1.79 | 0.63 |
| 6:S:64:GLU:O | 6:S:65:ASP:HB2 | 1.98 | 0.63 |
| 19:N:1522:TGL:HA92 | 19:N:1522:TGL:C23 | 2.28 | 0.63 |
| 19:O:1521:TGL:H101 | 19:O:1521:TGL:H281 | 1.79 | 0.63 |
| 8:H:9:LYS:HA | 29:H:4747:HOH:O | 1.97 | 0.63 |
| 22:R:1229:PSC:H071 | 9:V:10:ARG:HH21 | 1.64 | 0.63 |
| 11:K:42:PRO:HG2 | 11:K:47:ARG:HE | 1.63 | 0.63 |
| 3:P:224:LYS:CE | 26:P:1270:CDL:HB31 | 2.28 | 0.63 |
| 1:A:297:MET:HB3 | 1:A:297:MET:HE3 | 1.80 | 0.62 |
| 6:F:1:ALA:N | 25:G:265:PEK:H042 | 2.13 | 0.62 |
| 25:P:1265:PEK:H042 | 6:S:1:ALA:H1 | 1.65 | 0.62 |
| 19:Q:1523:TGL:HC21 | 19:Q:1523:TGL:HG12 | 1.82 | 0.62 |
| 2:B:13:THR:OG1 | 2:B:167:SER:HB2 | 2.00 | 0.62 |
| 28:G:272:DMU:H29 | 28:G:272:DMU:C10 | 2.29 | 0.62 |
| 3:P:224:LYS:HD2 | 26:P:1270:CDL:HB32 | 1.80 | 0.62 |
| 8:H:9:LYS:CG | 8:H:10:ASN:H | 2.08 | 0.62 |
| 19:O:1521:TGL:H201 | 19:O:1521:TGL:C24 | 2.30 | 0.62 |
| 7:T:2:SER:OG | 25:T:263:PEK:C29 | 2.48 | 0.62 |
| 7:G:17:ARG:HD2 | 29:O:2446:HOH:O | 1.98 | 0.61 |
| 25:P:1265:PEK:C04 | 6:S:1:ALA:N | 2.62 | 0.61 |
| 19:Q:1523:TGL:HG32 | 19:Q:1523:TGL:OB1 | 2.00 | 0.61 |
| 26:T:1269:CDL:H511 | 26:T:1269:CDL:H201 | 1.82 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|--------------------|--------------------------|-------------------|
| 6:F:1:ALA:N | 25:G:265:PEK:C04 | 2.64 | 0.61 |
| 1:N:514:LYS:HA | 6:S:38:ALA:HB3 | 1.82 | 0.61 |
| 8:U:9:LYS:HG3 | 8:U:10:ASN:H | 1.65 | 0.61 |
| 2:O:42:ILE:HG21 | 19:Q:1523:TGL:H231 | 1.81 | 0.61 |
| 1:A:51:ASP:OD1 | 1:A:441:SER:OG | 2.15 | 0.61 |
| 20:C:267:PGV:H172 | 26:C:270:CDL:C66 | 2.22 | 0.61 |
| 26:C:270:CDL:HB21 | 26:C:270:CDL:PA1 | 2.40 | 0.61 |
| 7:G:3:ALA:CB | 25:G:1263:PEK:C38 | 2.77 | 0.61 |
| 10:W:2:GLU:CB | 10:W:4:ARG:HH11 | 2.14 | 0.61 |
| 6:F:10:GLU:OE2 | 6:F:25:ARG:NH2 | 2.30 | 0.61 |
| 1:A:297:MET:CB | 1:A:297:MET:HE2 | 2.30 | 0.60 |
| 22:B:229:PSC:O02 | 22:B:229:PSC:C03 | 2.50 | 0.60 |
| 3:C:210:ILE:HD13 | 20:C:267:PGV:H301 | 1.82 | 0.60 |
| 7:G:69:PHE:CZ | 28:G:272:DMU:H1 | 2.36 | 0.60 |
| 1:N:177:SER:H | 1:N:180:GLN:NE2 | 1.98 | 0.60 |
| 7:G:2:SER:O | 25:G:1263:PEK:H331 | 2.01 | 0.60 |
| 10:W:2:GLU:HB2 | 10:W:4:ARG:HH12 | 1.66 | 0.60 |
| 2:B:78:LEU:HD12 | 26:T:1269:CDL:H352 | 1.84 | 0.60 |
| 7:G:11:TPO:HG22 | 7:G:16:TRP:HE1 | 1.65 | 0.60 |
| 1:A:297:MET:CB | 1:A:297:MET:HE3 | 2.31 | 0.60 |
| 7:G:5:LYS:HD2 | 25:G:1263:PEK:C37 | 2.31 | 0.60 |
| 7:G:5:LYS:CB | 25:G:1263:PEK:H362 | 2.19 | 0.60 |
| 10:J:52:TRP:O | 10:J:57:HIS:HE1 | 1.85 | 0.60 |
| 4:Q:109:HIS:HD2 | 29:Q:3122:HOH:O | 1.85 | 0.59 |
| 2:B:78:LEU:CD1 | 26:T:1269:CDL:H352 | 2.33 | 0.59 |
| 3:C:63:ARG:NE | 26:C:270:CDL:HA22 | 2.14 | 0.59 |
| 3:C:224:LYS:CD | 26:C:270:CDL:HB32 | 2.33 | 0.59 |
| 20:C:268:PGV:H031 | 29:C:4819:HOH:O | 2.02 | 0.59 |
| 3:P:207:HIS:HD2 | 3:P:241:TYR:OH | 1.85 | 0.59 |
| 7:G:5:LYS:HB3 | 1:N:278:MET:SD | 2.43 | 0.59 |
| 1:N:151:HIS:CD2 | 25:P:1264:PEK:H382 | 2.37 | 0.58 |
| 1:N:449:MET:SD | 2:O:5:MET:HG2 | 2.43 | 0.58 |
| 29:B:3446:HOH:O | 7:T:17:ARG:CD | 2.51 | 0.58 |
| 1:N:189:MET:CB | 1:N:189:MET:CE | 2.80 | 0.58 |
| 7:G:37:LEU:HD11 | 26:G:269:CDL:H361 | 1.84 | 0.58 |
| 2:O:89:GLU:O | 2:O:91:ASN:ND2 | 2.36 | 0.58 |
| 4:Q:95:LEU:HD22 | 28:Z:1526:DMU:H13 | 1.86 | 0.58 |
| 2:O:84:LEU:HA | 2:O:87:MET:HE2 | 1.84 | 0.58 |
| 2:O:226:MET:O | 2:O:227:LEU:C | 2.41 | 0.58 |
| 1:N:107:PRO:HB3 | 3:P:25:LEU:HB2 | 1.86 | 0.58 |
| 3:C:210:ILE:HG12 | 20:C:267:PGV:H132 | 1.86 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|---------------------|--------------------------|-------------------|
| 7:T:11:TPO:HG22 | 7:T:11:TPO:O | 2.04 | 0.58 |
| 19:N:1522:TGL:H231 | 19:N:1522:TGL:CA9 | 2.32 | 0.57 |
| 2:B:104:TRP:CG | 2:B:203:ASN:HB2 | 2.40 | 0.57 |
| 7:T:36:TRP:HB3 | 29:T:4707:HOH:O | 2.03 | 0.57 |
| 26:T:1269:CDL:OB4 | 26:T:1269:CDL:H1 | 2.03 | 0.57 |
| 20:M:524:PGV:C30 | 20:M:524:PGV:H141 | 2.35 | 0.57 |
| 7:T:2:SER:OG | 25:T:263:PEK:H291 | 2.04 | 0.57 |
| 1:A:1:FME:HE1 | 1:A:4:ASN:HD22 | 1.69 | 0.57 |
| 22:B:229:PSC:H071 | 5:E:8:ASP:HA | 1.85 | 0.57 |
| 22:R:1229:PSC:H212 | 22:R:1229:PSC:O01 | 2.05 | 0.57 |
| 7:T:8:HIS:CD2 | 25:T:263:PEK:H232 | 2.39 | 0.57 |
| 12:Y:46:LYS:O | 12:Y:47:LYS:HB2 | 2.02 | 0.57 |
| 1:A:297:MET:CG | 1:A:297:MET:HE3 | 2.35 | 0.57 |
| 19:L:522:TGL:HA92 | 19:L:522:TGL:C23 | 2.20 | 0.57 |
| 12:Y:20:ARG:HH11 | 12:Y:20:ARG:HB3 | 1.68 | 0.57 |
| 7:G:2:SER:OG | 25:G:1263:PEK:H301 | 2.05 | 0.57 |
| 8:U:43:MET:HE3 | 8:U:49:ASP:N | 2.20 | 0.57 |
| 7:T:3:ALA:CB | 25:T:263:PEK:H382 | 2.34 | 0.57 |
| 25:G:1263:PEK:H132 | 3:P:247:VAL:HG12 | 1.86 | 0.57 |
| 2:O:104:TRP:CG | 2:O:203:ASN:HB2 | 2.39 | 0.57 |
| 3:P:34:TRP:CZ2 | 28:P:1272:DMU:O5 | 2.58 | 0.57 |
| 25:P:1265:PEK:C37 | 26:T:1269:CDL:H272 | 2.34 | 0.57 |
| 1:N:351:GLY:CA | 1:N:380[A]:VAL:HG13 | 2.34 | 0.56 |
| 28:P:1272:DMU:H30 | 7:T:62:TRP:HB3 | 1.87 | 0.56 |
| 8:U:49:ASP:O | 8:U:52:VAL:HG22 | 2.06 | 0.56 |
| 29:B:3446:HOH:O | 7:T:17:ARG:HD3 | 2.04 | 0.56 |
| 4:D:34:SER:H | 4:D:37:GLN:NE2 | 2.03 | 0.56 |
| 26:G:269:CDL:H241 | 26:G:269:CDL:H531 | 1.87 | 0.56 |
| 3:P:67:PHE:CE1 | 26:P:1270:CDL:H1 | 2.22 | 0.56 |
| 3:C:95:THR:HG21 | 20:C:268:PGV:H282 | 1.85 | 0.56 |
| 25:P:1265:PEK:H8 | 29:T:4897:HOH:O | 2.05 | 0.56 |
| 19:Q:1523:TGL:H242 | 19:Q:1523:TGL:HA91 | 1.86 | 0.56 |
| 3:P:224:LYS:CE | 26:P:1270:CDL:CB3 | 2.84 | 0.56 |
| 25:P:1265:PEK:H041 | 7:T:17:ARG:HH22 | 1.69 | 0.56 |
| 7:T:5:LYS:CB | 25:T:263:PEK:H362 | 2.26 | 0.56 |
| 1:A:297:MET:CE | 1:A:297:MET:HB3 | 2.32 | 0.56 |
| 6:F:64:GLU:O | 6:F:65:ASP:HB2 | 2.06 | 0.56 |
| 1:N:309:THR:HG22 | 14:N:516:HEA:HMB2 | 1.86 | 0.56 |
| 1:N:334:TRP:CH2 | 2:O:46:LEU:HD13 | 2.41 | 0.55 |
| 26:C:270:CDL:HA4 | 26:C:270:CDL:H122 | 1.87 | 0.55 |
| 26:G:269:CDL:H201 | 26:G:269:CDL:C51 | 2.36 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|---------------------|--------------------------|-------------------|
| 19:N:1522:TGL:HC51 | 19:N:1522:TGL:OC1 | 2.06 | 0.55 |
| 19:Q:1523:TGL:HC21 | 19:Q:1523:TGL:CG1 | 2.37 | 0.55 |
| 4:D:34:SER:H | 4:D:37:GLN:HE21 | 1.55 | 0.55 |
| 7:G:2:SER:O | 25:G:1263:PEK:H322 | 2.07 | 0.55 |
| 7:G:3:ALA:O | 7:G:4:ALA:HB2 | 2.05 | 0.55 |
| 7:G:17:ARG:CD | 29:O:2446:HOH:O | 2.54 | 0.55 |
| 1:A:62:ALA:HB2 | 14:A:515:HEA:HBD1 | 1.88 | 0.55 |
| 26:C:270:CDL:HB21 | 26:C:270:CDL:OA5 | 2.06 | 0.55 |
| 26:G:269:CDL:H352 | 2:O:78:LEU:CD1 | 2.35 | 0.55 |
| 1:N:297:MET:CE | 1:N:302:ARG:HG2 | 2.37 | 0.55 |
| 3:P:224:LYS:CD | 26:P:1270:CDL:CB3 | 2.84 | 0.55 |
| 1:A:177:SER:H | 1:A:180:GLN:HE21 | 1.55 | 0.55 |
| 2:B:132:GLU:HB3 | 2:B:137:GLU:HG3 | 1.88 | 0.55 |
| 26:G:269:CDL:H451 | 2:O:70:ALA:HB1 | 1.89 | 0.55 |
| 1:N:409:TRP:HA | 1:N:412:ILE:HD12 | 1.89 | 0.55 |
| 2:O:32:PHE:CE2 | 19:O:1521:TGL:HA51 | 2.41 | 0.55 |
| 20:P:1267:PGV:C18 | 26:P:1270:CDL:H662 | 2.36 | 0.55 |
| 25:P:1265:PEK:C04 | 6:S:1:ALA:H2 | 2.19 | 0.54 |
| 19:A:521:TGL:H363 | 19:A:521:TGL:H221 | 1.89 | 0.54 |
| 3:C:224:LYS:HE3 | 26:C:270:CDL:HB32 | 1.88 | 0.54 |
| 22:B:229:PSC:H071 | 5:E:8:ASP:OD1 | 2.07 | 0.54 |
| 29:N:3132:HOH:O | 3:P:191:GLY:HA3 | 2.07 | 0.54 |
| 1:A:377:PHE:HA | 1:A:380[B]:VAL:HG22 | 1.90 | 0.54 |
| 13:M:19:LEU:HD23 | 20:M:524:PGV:C31 | 2.32 | 0.54 |
| 1:A:334:TRP:CE3 | 19:D:523:TGL:HA31 | 2.43 | 0.54 |
| 1:A:478:SER:O | 13:M:6:ALA:HB1 | 2.08 | 0.54 |
| 19:A:521:TGL:H283 | 19:A:521:TGL:C11 | 2.32 | 0.54 |
| 7:G:3:ALA:O | 7:G:4:ALA:CB | 2.55 | 0.54 |
| 12:L:11:ILE:CG2 | 19:L:522:TGL:H272 | 2.38 | 0.54 |
| 20:M:524:PGV:H062 | 29:M:2126:HOH:O | 2.07 | 0.54 |
| 26:G:269:CDL:H561 | 26:G:269:CDL:H762 | 1.89 | 0.54 |
| 7:G:11:TPO:O | 7:G:11:TPO:HG22 | 2.08 | 0.53 |
| 19:N:1522:TGL:HG2 | 12:Y:12:PRO:HB2 | 1.90 | 0.53 |
| 1:A:177:SER:H | 1:A:180:GLN:NE2 | 2.06 | 0.53 |
| 26:G:269:CDL:H351 | 2:O:81:LEU:HD12 | 1.89 | 0.53 |
| 22:R:1229:PSC:O01 | 22:R:1229:PSC:C21 | 2.57 | 0.53 |
| 7:G:2:SER:OG | 25:G:1263:PEK:C30 | 2.56 | 0.53 |
| 7:T:83:GLU:HA | 7:T:84:LYS:NZ | 2.23 | 0.53 |
| 1:N:113:LEU:HD12 | 19:N:1522:TGL:H141 | 1.89 | 0.53 |
| 7:T:37:LEU:HD21 | 26:T:1269:CDL:H361 | 1.90 | 0.53 |
| 8:H:43:MET:HE3 | 8:H:49:ASP:N | 2.24 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 2:O:226:MET:O | 2:O:227:LEU:OXT | 2.27 | 0.53 |
| 1:A:21:LEU:HD23 | 19:L:522:TGL:H211 | 1.90 | 0.53 |
| 1:N:62:ALA:HB2 | 14:N:515:HEA:HBD1 | 1.91 | 0.53 |
| 19:Q:1523:TGL:OB1 | 19:Q:1523:TGL:CG3 | 2.57 | 0.53 |
| 2:B:56:MET:HB3 | 22:B:229:PSC:H211 | 1.91 | 0.53 |
| 12:Y:20:ARG:NH2 | 12:Y:24:MET:HG3 | 2.23 | 0.53 |
| 1:N:309:THR:CG2 | 14:N:516:HEA:HMB2 | 2.39 | 0.52 |
| 5:R:108:LYS:O | 5:R:108:LYS:HG2 | 2.09 | 0.52 |
| 20:N:1524:PGV:H011 | 20:N:1524:PGV:H221 | 1.91 | 0.52 |
| 2:O:66:THR:HG21 | 23:O:229:CHD:H3 | 1.91 | 0.52 |
| 26:P:1270:CDL:H661 | 26:P:1270:CDL:C24 | 2.38 | 0.52 |
| 2:B:1:FME:HCN | 2:B:193:TYR:HB2 | 1.92 | 0.52 |
| 1:N:136:LEU:HD12 | 29:N:4821:HOH:O | 2.08 | 0.52 |
| 2:O:13:THR:HB | 2:O:168:LEU:HD23 | 1.91 | 0.52 |
| 5:E:31:LYS:HE2 | 6:F:83:PRO:O | 2.09 | 0.52 |
| 7:T:11:TPO:O | 7:T:11:TPO:CG2 | 2.57 | 0.52 |
| 26:T:1269:CDL:H331 | 26:T:1269:CDL:OA7 | 2.08 | 0.52 |
| 25:G:265:PEK:C37 | 26:G:269:CDL:H273 | 2.37 | 0.52 |
| 25:G:265:PEK:H292 | 29:O:4943:HOH:O | 2.09 | 0.52 |
| 2:O:227:LEU:CD2 | 29:O:4852:HOH:O | 2.34 | 0.52 |
| 23:P:1271:CHD:H232 | 23:P:1271:CHD:C16 | 2.38 | 0.52 |
| 7:T:37:LEU:CD2 | 26:T:1269:CDL:H361 | 2.40 | 0.52 |
| 7:T:38:HIS:CE1 | 26:T:1269:CDL:H122 | 2.45 | 0.52 |
| 2:B:1:FME:CN | 2:B:193:TYR:H | 2.23 | 0.52 |
| 7:G:72:ASN:H | 7:G:76:ASN:ND2 | 1.99 | 0.52 |
| 1:N:53:ILE:HG12 | 29:N:3704:HOH:O | 2.08 | 0.52 |
| 1:N:484:THR:CG2 | 1:N:484:THR:C | 2.79 | 0.52 |
| 3:P:34:TRP:HE1 | 28:P:1272:DMU:C57 | 2.18 | 0.52 |
| 2:B:33:LEU:HD13 | 9:I:31:PHE:CD1 | 2.44 | 0.52 |
| 8:H:45:ALA:C | 8:H:47:GLY:H | 2.13 | 0.51 |
| 13:M:13:LYS:HE3 | 29:M:4807:HOH:O | 2.09 | 0.51 |
| 12:L:14:SER:H | 19:L:522:TGL:HC31 | 1.75 | 0.51 |
| 7:G:5:LYS:HD2 | 25:G:1263:PEK:C38 | 2.40 | 0.51 |
| 26:G:269:CDL:H112 | 26:G:269:CDL:HA21 | 1.93 | 0.51 |
| 2:B:41:ILE:HD13 | 22:B:229:PSC:H342 | 1.93 | 0.51 |
| 20:M:524:PGV:H141 | 20:M:524:PGV:H302 | 1.91 | 0.51 |
| 14:N:516:HEA:HMC1 | 14:N:516:HEA:HBC1 | 1.92 | 0.51 |
| 20:P:1267:PGV:H172 | 26:P:1270:CDL:C65 | 2.40 | 0.51 |
| 7:T:38:HIS:HE2 | 26:T:1269:CDL:H122 | 1.75 | 0.51 |
| 26:G:269:CDL:HA21 | 26:G:269:CDL:C11 | 2.41 | 0.51 |
| 20:N:1524:PGV:C01 | 20:N:1524:PGV:H221 | 2.40 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 20:N:1266:PGV:H183 | 25:P:1264:PEK:H332 | 1.93 | 0.51 |
| 26:C:270:CDL:H651 | 26:C:270:CDL:H772 | 1.92 | 0.51 |
| 19:O:1521:TGL:H241 | 19:O:1521:TGL:C20 | 2.38 | 0.51 |
| 20:M:524:PGV:O01 | 20:M:524:PGV:O13 | 2.29 | 0.51 |
| 10:W:2:GLU:HB3 | 10:W:4:ARG:HH11 | 1.75 | 0.51 |
| 7:T:84:LYS:CD | 7:T:84:LYS:N | 2.64 | 0.50 |
| 3:C:67:PHE:CE1 | 26:C:270:CDL:H1 | 2.39 | 0.50 |
| 23:O:229:CHD:H212 | 23:O:229:CHD:C12 | 2.41 | 0.50 |
| 3:P:40:MET:O | 3:P:44:MET:HG2 | 2.11 | 0.50 |
| 11:X:8:ASP:HB2 | 29:X:4890:HOH:O | 2.11 | 0.50 |
| 1:N:194:LEU:HD22 | 1:N:285:PHE:HE2 | 1.77 | 0.50 |
| 3:P:224:LYS:HD3 | 26:P:1270:CDL:HB32 | 1.91 | 0.50 |
| 5:R:107:ASP:OD2 | 5:R:107:ASP:N | 2.45 | 0.50 |
| 7:T:2:SER:O | 25:T:263:PEK:C33 | 2.43 | 0.50 |
| 26:G:269:CDL:H771 | 29:G:4678:HOH:O | 2.12 | 0.50 |
| 19:N:1522:TGL:HA62 | 12:Y:25:MET:HG2 | 1.94 | 0.50 |
| 2:O:58:ALA:O | 2:O:62:GLU:HG3 | 2.12 | 0.50 |
| 4:Q:78:TRP:HA | 19:Q:1523:TGL:HB22 | 1.94 | 0.50 |
| 3:C:224:LYS:CE | 26:C:270:CDL:HB32 | 2.42 | 0.50 |
| 8:H:43:MET:CE | 8:H:49:ASP:H | 2.23 | 0.50 |
| 12:L:24:MET:SD | 19:L:522:TGL:H161 | 2.51 | 0.50 |
| 25:T:263:PEK:O04 | 25:T:263:PEK:H242 | 2.11 | 0.50 |
| 2:B:58:ALA:O | 2:B:62:GLU:HG3 | 2.12 | 0.50 |
| 22:B:229:PSC:H222 | 22:B:229:PSC:O04 | 2.11 | 0.50 |
| 3:C:208:VAL:HG22 | 3:C:245:VAL:CG1 | 2.42 | 0.50 |
| 5:E:21:LYS:HE2 | 5:E:24:ILE:HA | 1.93 | 0.50 |
| 25:G:265:PEK:H383 | 26:G:269:CDL:H271 | 1.93 | 0.50 |
| 1:N:113:LEU:HD12 | 19:N:1522:TGL:C14 | 2.42 | 0.50 |
| 4:Q:78:TRP:CA | 19:Q:1523:TGL:HB22 | 2.41 | 0.50 |
| 1:A:290:HIS:CD2 | 1:A:291:HIS:CD2 | 3.00 | 0.49 |
| 7:T:38:HIS:NE2 | 26:T:1269:CDL:H122 | 2.27 | 0.49 |
| 1:A:278:MET:SD | 7:T:5:LYS:HB3 | 2.53 | 0.49 |
| 1:A:514:LYS:HA | 6:F:38:ALA:HB3 | 1.93 | 0.49 |
| 12:L:2:HIS:CG | 12:L:3:TYR:H | 2.30 | 0.49 |
| 20:P:1267:PGV:H182 | 26:P:1270:CDL:H662 | 1.94 | 0.49 |
| 7:T:3:ALA:O | 7:T:4:ALA:HB2 | 2.12 | 0.49 |
| 1:A:151:HIS:CD2 | 25:C:264:PEK:H382 | 2.48 | 0.49 |
| 1:N:484:THR:HB | 13:Z:2:THR:OG1 | 2.12 | 0.49 |
| 7:T:7:ASP:OD1 | 7:T:8:HIS:N | 2.45 | 0.49 |
| 1:A:189:MET:O | 1:A:189:MET:HG3 | 2.12 | 0.49 |
| 6:S:55:LYS:HA | 6:S:74:LEU:O | 2.12 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 1:A:195:LEU:HD23 | 1:A:245:ILE:HD13 | 1.95 | 0.49 |
| 20:N:1524:PGV:H152 | 20:N:1524:PGV:H321 | 1.94 | 0.49 |
| 1:A:347:LEU:HD13 | 1:A:383[B]:MET:HB3 | 1.95 | 0.49 |
| 1:N:34:SER:HB2 | 14:N:515:HEA:C2B | 2.43 | 0.49 |
| 1:N:113:LEU:HD12 | 19:N:1522:TGL:C13 | 2.43 | 0.48 |
| 19:N:1522:TGL:CC3 | 12:Y:20:ARG:HH21 | 2.25 | 0.48 |
| 2:B:57:ASP:H | 22:B:229:PSC:H201 | 1.77 | 0.48 |
| 7:G:17:ARG:HH22 | 25:G:265:PEK:H041 | 1.79 | 0.48 |
| 8:U:9:LYS:O | 8:U:10:ASN:CB | 2.61 | 0.48 |
| 1:A:325:ALA:HA | 22:B:229:PSC:H291 | 1.96 | 0.48 |
| 3:C:103:HIS:HA | 20:C:268:PGV:H012 | 1.95 | 0.48 |
| 2:O:84:LEU:HA | 2:O:87:MET:CE | 2.43 | 0.48 |
| 8:U:9:LYS:HG3 | 8:U:10:ASN:N | 2.28 | 0.48 |
| 11:X:8:ASP:HB3 | 29:X:4788:HOH:O | 2.13 | 0.48 |
| 26:G:269:CDL:H782 | 26:G:269:CDL:C56 | 2.40 | 0.48 |
| 19:A:521:TGL:H111 | 19:A:521:TGL:C28 | 2.34 | 0.48 |
| 25:P:1265:PEK:C04 | 6:S:1:ALA:H1 | 2.27 | 0.48 |
| 1:A:1:FME:HE2 | 1:A:4:ASN:HD22 | 1.78 | 0.48 |
| 26:T:1269:CDL:H541 | 26:T:1269:CDL:H231 | 1.95 | 0.48 |
| 1:N:334:TRP:CZ3 | 19:Q:1523:TGL:HA51 | 2.48 | 0.48 |
| 3:P:63:ARG:HE | 26:P:1270:CDL:HA21 | 1.78 | 0.48 |
| 7:T:2:SER:OG | 25:T:263:PEK:H292 | 2.14 | 0.47 |
| 1:A:377:PHE:CD1 | 14:A:516:HEA:HAD1 | 2.49 | 0.47 |
| 3:C:122:HIS:HD2 | 29:C:4553:HOH:O | 1.95 | 0.47 |
| 26:C:270:CDL:HB22 | 10:J:8:LYS:NZ | 2.29 | 0.47 |
| 22:R:1229:PSC:H142 | 22:R:1229:PSC:H341 | 1.82 | 0.47 |
| 3:C:207:HIS:HD2 | 3:C:241:TYR:OH | 1.97 | 0.47 |
| 25:G:265:PEK:C38 | 26:G:269:CDL:H273 | 2.44 | 0.47 |
| 25:G:1263:PEK:H132 | 3:P:247:VAL:CG1 | 2.44 | 0.47 |
| 1:A:334:TRP:CZ3 | 19:D:523:TGL:HA52 | 2.49 | 0.47 |
| 7:G:8:HIS:HE1 | 25:G:1263:PEK:H321 | 1.80 | 0.47 |
| 2:B:1:FME:HCN | 2:B:193:TYR:H | 1.80 | 0.47 |
| 6:F:1:ALA:N | 25:G:265:PEK:H041 | 2.30 | 0.47 |
| 1:N:18:LEU:CD2 | 19:N:1522:TGL:HB21 | 2.44 | 0.47 |
| 1:N:290:HIS:CD2 | 1:N:291:HIS:CD2 | 3.03 | 0.47 |
| 14:N:516:HEA:HMC1 | 14:N:516:HEA:CBC | 2.44 | 0.47 |
| 2:O:196:CYS:HB2 | 2:O:207:MET:HG3 | 1.95 | 0.47 |
| 5:R:41:LEU:CD2 | 22:R:1229:PSC:H041 | 2.45 | 0.47 |
| 1:N:172:LYS:NZ | 1:N:178:GLN:HE22 | 2.13 | 0.47 |
| 7:G:5:LYS:HG3 | 25:G:1263:PEK:C38 | 2.32 | 0.47 |
| 1:N:374:VAL:HA | 1:N:377:PHE:CE1 | 2.50 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|---------------------|--------------------------|-------------------|
| 1:A:297:MET:HE2 | 1:A:297:MET:HB2 | 1.96 | 0.47 |
| 22:B:229:PSC:C28 | 22:B:229:PSC:H322 | 2.45 | 0.47 |
| 3:C:3:HIS:HE1 | 6:F:96:LEU:CD2 | 2.28 | 0.47 |
| 23:C:271:CHD:H232 | 23:C:271:CHD:H162 | 1.97 | 0.47 |
| 6:F:1:ALA:H2 | 25:G:265:PEK:C04 | 2.28 | 0.46 |
| 19:L:522:TGL:H182 | 19:L:522:TGL:OA1 | 2.15 | 0.46 |
| 14:A:516:HEA:HBC1 | 14:A:516:HEA:HMC1 | 1.96 | 0.46 |
| 19:A:521:TGL:HC22 | 29:D:2606:HOH:O | 2.16 | 0.46 |
| 22:B:229:PSC:C07 | 5:E:8:ASP:HA | 2.46 | 0.46 |
| 25:P:1264:PEK:H32 | 25:P:1264:PEK:C7 | 2.35 | 0.46 |
| 29:B:3446:HOH:O | 7:T:17:ARG:HD2 | 2.14 | 0.46 |
| 23:C:271:CHD:H112 | 23:C:271:CHD:H12A | 1.45 | 0.46 |
| 2:O:217:LYS:HE2 | 2:O:220:GLU:OE2 | 2.16 | 0.46 |
| 26:C:270:CDL:CB2 | 10:J:8:LYS:HZ2 | 2.28 | 0.46 |
| 1:N:351:GLY:C | 1:N:380[A]:VAL:HG13 | 2.35 | 0.46 |
| 26:P:1270:CDL:HB22 | 26:P:1270:CDL:OA5 | 2.15 | 0.46 |
| 7:T:38:HIS:ND1 | 7:T:38:HIS:N | 2.63 | 0.46 |
| 26:G:269:CDL:H562 | 26:G:269:CDL:C78 | 2.41 | 0.46 |
| 9:V:15:ARG:HD2 | 29:V:4529:HOH:O | 2.16 | 0.46 |
| 1:A:309:THR:HG22 | 14:A:516:HEA:HMB2 | 1.97 | 0.46 |
| 1:A:334:TRP:CD1 | 19:D:523:TGL:HC41 | 2.51 | 0.46 |
| 12:L:20:ARG:HH22 | 19:L:522:TGL:HC61 | 1.80 | 0.46 |
| 1:N:488:THR:HB | 1:N:495:LEU:HD13 | 1.97 | 0.46 |
| 2:O:215:PRO:HD3 | 9:V:60:PHE:CD2 | 2.50 | 0.46 |
| 3:P:210:ILE:HG12 | 20:P:1267:PGV:H132 | 1.98 | 0.46 |
| 1:A:400:PHE:HB3 | 19:L:522:TGL:H283 | 1.98 | 0.45 |
| 19:Q:1523:TGL:H351 | 9:V:16:ARG:HH21 | 1.81 | 0.45 |
| 2:B:56:MET:HA | 22:B:229:PSC:H202 | 1.97 | 0.45 |
| 1:N:265:LYS:HB2 | 1:N:490:THR:HG21 | 1.99 | 0.45 |
| 23:B:1085:CHD:H112 | 23:B:1085:CHD:H12A | 1.82 | 0.45 |
| 2:O:92:ASN:HA | 2:O:93:PRO:HD2 | 1.77 | 0.45 |
| 11:X:42:PRO:HG2 | 11:X:47:ARG:NE | 2.31 | 0.45 |
| 10:J:4:ARG:HD3 | 10:J:7:GLU:OE2 | 2.17 | 0.45 |
| 23:P:1271:CHD:C16 | 23:P:1271:CHD:C23 | 2.95 | 0.45 |
| 6:S:53:THR:CG2 | 6:S:54:ASN:H | 2.19 | 0.45 |
| 3:C:202:GLY:HA3 | 25:C:264:PEK:H21 | 1.98 | 0.45 |
| 1:N:18:LEU:HD22 | 19:N:1522:TGL:HB21 | 1.98 | 0.45 |
| 25:P:1265:PEK:H041 | 6:S:1:ALA:N | 2.31 | 0.45 |
| 5:R:11:PHE:HB3 | 22:R:1229:PSC:H073 | 1.99 | 0.45 |
| 1:A:364:ASP:OD2 | 14:A:516:HEA:O1A | 2.35 | 0.45 |
| 26:G:269:CDL:H762 | 26:G:269:CDL:C56 | 2.47 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 26:G:269:CDL:H182 | 26:G:269:CDL:H152 | 1.60 | 0.45 |
| 2:O:164:ALA:O | 2:O:194:GLY:HA3 | 2.15 | 0.45 |
| 3:P:207:HIS:CD2 | 3:P:241:TYR:OH | 2.68 | 0.45 |
| 2:O:22:HIS:CE1 | 9:V:43:ARG:HG2 | 2.52 | 0.45 |
| 3:P:202:GLY:HA3 | 25:P:1264:PEK:H21 | 1.99 | 0.45 |
| 1:N:380[B]:VAL:O | 1:N:384[B]:GLY:HA3 | 2.17 | 0.45 |
| 3:P:156:ARG:HE | 23:P:1271:CHD:C24 | 2.29 | 0.44 |
| 1:A:382[B]:SER:OG | 14:A:515:HEA:H121 | 2.18 | 0.44 |
| 29:L:4824:HOH:O | 13:M:32:TRP:HH2 | 1.99 | 0.44 |
| 5:R:80:GLU:H | 5:R:80:GLU:CD | 2.20 | 0.44 |
| 23:B:1085:CHD:H12 | 23:B:1085:CHD:H212 | 1.99 | 0.44 |
| 4:D:109:HIS:HB3 | 29:D:4632:HOH:O | 2.18 | 0.44 |
| 26:G:269:CDL:H561 | 26:G:269:CDL:H592 | 1.29 | 0.44 |
| 8:H:43:MET:HE3 | 8:H:49:ASP:H | 1.80 | 0.44 |
| 19:O:1521:TGL:H282 | 19:O:1521:TGL:H252 | 1.73 | 0.44 |
| 28:Z:1526:DMU:H9 | 28:Z:1526:DMU:H15 | 1.33 | 0.44 |
| 1:A:240:HIS:CD2 | 1:A:240:HIS:C | 2.90 | 0.44 |
| 8:H:9:LYS:HD2 | 8:H:11:TYR:HB2 | 1.97 | 0.44 |
| 26:C:270:CDL:OB7 | 26:C:270:CDL:OA3 | 2.36 | 0.44 |
| 10:J:33:ARG:HG2 | 23:J:60:CHD:C15 | 2.48 | 0.44 |
| 7:T:7:ASP:CG | 7:T:8:HIS:N | 2.71 | 0.44 |
| 3:C:67:PHE:HE1 | 26:C:270:CDL:C1 | 2.27 | 0.44 |
| 1:N:347:LEU:HD13 | 1:N:383[B]:MET:SD | 2.58 | 0.44 |
| 2:B:59:GLN:O | 2:B:60:GLU:HG3 | 2.17 | 0.44 |
| 6:F:55:LYS:HA | 6:F:74:LEU:O | 2.18 | 0.44 |
| 1:N:62:ALA:HB1 | 14:N:515:HEA:HMD3 | 2.00 | 0.44 |
| 1:N:87:ILE:O | 1:N:173:PRO:HD3 | 2.18 | 0.44 |
| 23:P:1271:CHD:H112 | 23:P:1271:CHD:H12A | 1.60 | 0.44 |
| 22:B:229:PSC:C07 | 9:I:10:ARG:NH2 | 2.72 | 0.43 |
| 1:N:362:SER:OG | 2:O:87:MET:HE2 | 2.18 | 0.43 |
| 22:R:1229:PSC:H221 | 22:R:1229:PSC:H251 | 1.67 | 0.43 |
| 11:X:42:PRO:HG2 | 11:X:47:ARG:HE | 1.83 | 0.43 |
| 1:A:195:LEU:CD2 | 1:A:245:ILE:HD13 | 2.47 | 0.43 |
| 4:D:101:HIS:HD2 | 4:D:102:TYR:CZ | 2.36 | 0.43 |
| 7:T:3:ALA:HB1 | 25:T:263:PEK:H382 | 1.99 | 0.43 |
| 4:D:70:GLU:O | 4:D:73:ARG:NH1 | 2.52 | 0.43 |
| 20:M:524:PGV:P | 20:M:524:PGV:H061 | 2.58 | 0.43 |
| 1:N:379:TYR:O | 1:N:383[A]:MET:HB2 | 2.18 | 0.43 |
| 20:M:524:PGV:C2 | 20:M:524:PGV:C01 | 2.75 | 0.43 |
| 1:N:472:ILE:HG21 | 19:N:1522:TGL:HA91 | 2.01 | 0.43 |
| 1:A:172:LYS:NZ | 1:A:178:GLN:HE22 | 2.16 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 1:A:377:PHE:O | 1:A:381[A]:LEU:HB3 | 2.19 | 0.43 |
| 12:L:20:ARG:HH22 | 19:L:522:TGL:CC6 | 2.32 | 0.43 |
| 19:O:1521:TGL:H101 | 19:O:1521:TGL:H283 | 1.98 | 0.43 |
| 6:S:94:HIS:CD2 | 6:S:95:GLN:H | 2.37 | 0.43 |
| 20:M:524:PGV:H302 | 20:M:524:PGV:C14 | 2.48 | 0.43 |
| 28:P:1272:DMU:H1 | 7:T:69:PHE:HZ | 1.84 | 0.43 |
| 19:Q:1523:TGL:HA91 | 19:Q:1523:TGL:C24 | 2.48 | 0.43 |
| 6:F:1:ALA:H1 | 25:G:265:PEK:C04 | 2.21 | 0.43 |
| 2:B:16:ILE:HG13 | 29:B:4955:HOH:O | 2.19 | 0.43 |
| 2:B:196:CYS:HB2 | 2:B:207:MET:HG3 | 2.00 | 0.43 |
| 4:D:78:TRP:CA | 19:D:523:TGL:HB22 | 2.49 | 0.43 |
| 25:G:1263:PEK:H331 | 25:G:1263:PEK:H361 | 1.86 | 0.43 |
| 1:N:53:ILE:HD13 | 1:N:53:ILE:HG21 | 1.74 | 0.43 |
| 2:O:41:ILE:O | 2:O:45:MET:HG2 | 2.19 | 0.43 |
| 5:E:105:GLY:O | 5:E:108:LYS:HE2 | 2.18 | 0.42 |
| 1:N:351:GLY:C | 1:N:380[A]:VAL:CG1 | 2.87 | 0.42 |
| 1:N:513:LEU:HD23 | 1:N:513:LEU:HA | 1.93 | 0.42 |
| 2:O:146:MET:HA | 2:O:213:LEU:HD12 | 2.01 | 0.42 |
| 26:P:1270:CDL:H652 | 26:P:1270:CDL:H622 | 1.33 | 0.42 |
| 22:R:1229:PSC:H072 | 9:V:10:ARG:HH21 | 1.83 | 0.42 |
| 7:G:4:ALA:CB | 1:N:282:PHE:HA | 2.45 | 0.42 |
| 1:N:417:MET:HE2 | 29:N:3166:HOH:O | 2.03 | 0.42 |
| 9:V:35:TYR:C | 9:V:37:PHE:H | 2.21 | 0.42 |
| 1:A:136:LEU:HD12 | 29:A:4591:HOH:O | 2.18 | 0.42 |
| 3:C:224:LYS:HE3 | 26:C:270:CDL:CB3 | 2.49 | 0.42 |
| 26:T:1269:CDL:C56 | 26:T:1269:CDL:H782 | 2.48 | 0.42 |
| 4:D:87:PHE:CZ | 20:M:524:PGV:H152 | 2.54 | 0.42 |
| 22:B:229:PSC:C34 | 22:B:229:PSC:H141 | 2.37 | 0.42 |
| 22:B:229:PSC:H041 | 5:E:41:LEU:HD23 | 2.02 | 0.42 |
| 26:C:270:CDL:H672 | 26:C:270:CDL:C25 | 2.45 | 0.42 |
| 7:G:2:SER:OG | 25:G:1263:PEK:H292 | 2.15 | 0.42 |
| 20:N:1524:PGV:H062 | 29:Z:4423:HOH:O | 2.19 | 0.42 |
| 19:A:521:TGL:H201 | 19:A:521:TGL:C24 | 2.43 | 0.42 |
| 26:C:270:CDL:H642 | 26:C:270:CDL:H192 | 2.00 | 0.42 |
| 6:S:95:GLN:NE2 | 6:S:95:GLN:HA | 2.32 | 0.42 |
| 2:B:164:ALA:O | 2:B:194:GLY:HA3 | 2.20 | 0.42 |
| 3:C:230:ASN:HB2 | 29:F:2400:HOH:O | 2.19 | 0.42 |
| 4:D:109:HIS:HD2 | 29:D:2122:HOH:O | 2.03 | 0.42 |
| 23:P:1525:CHD:H112 | 23:P:1525:CHD:H12A | 1.86 | 0.42 |
| 7:T:35:SER:C | 7:T:37:LEU:H | 2.23 | 0.42 |
| 10:W:33:ARG:HG2 | 23:W:1059:CHD:C15 | 2.50 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 1:A:512:ASN:HD22 | 1:A:512:ASN:HA | 1.51 | 0.42 |
| 3:C:51:MET:HB3 | 26:C:270:CDL:H381 | 2.02 | 0.42 |
| 3:C:156:ARG:HE | 23:C:271:CHD:C24 | 2.33 | 0.42 |
| 26:T:1269:CDL:H542 | 26:T:1269:CDL:H241 | 2.01 | 0.42 |
| 8:U:60:TYR:CD1 | 8:U:60:TYR:C | 2.92 | 0.42 |
| 1:A:380[B]:VAL:O | 1:A:384[B]:GLY:HA3 | 2.20 | 0.42 |
| 2:B:87:MET:HE2 | 29:B:4235:HOH:O | 2.19 | 0.42 |
| 1:N:208:MET:HG2 | 1:N:219:PHE:CE1 | 2.54 | 0.42 |
| 1:N:240:HIS:C | 1:N:240:HIS:CD2 | 2.93 | 0.42 |
| 1:N:334:TRP:HH2 | 2:O:46:LEU:HD13 | 1.84 | 0.42 |
| 1:N:430:PHE:HE1 | 19:O:1521:TGL:HB21 | 1.85 | 0.42 |
| 4:D:127:LYS:HD2 | 29:I:2618:HOH:O | 2.20 | 0.42 |
| 20:N:1524:PGV:H321 | 20:N:1524:PGV:C15 | 2.49 | 0.42 |
| 2:O:32:PHE:HE2 | 19:O:1521:TGL:HA51 | 1.84 | 0.42 |
| 5:R:23:ASP:OD2 | 5:R:23:ASP:N | 2.49 | 0.42 |
| 2:B:102:HIS:O | 2:B:104:TRP:HA | 2.20 | 0.41 |
| 23:C:271:CHD:H212 | 23:C:271:CHD:H12 | 2.01 | 0.41 |
| 26:G:269:CDL:H542 | 26:G:269:CDL:C24 | 2.50 | 0.41 |
| 4:Q:36:SER:O | 4:Q:39:ALA:HB3 | 2.20 | 0.41 |
| 7:T:5:LYS:CD | 25:T:263:PEK:C38 | 2.94 | 0.41 |
| 1:A:282:PHE:CA | 7:T:4:ALA:HB3 | 2.44 | 0.41 |
| 29:B:2562:HOH:O | 19:D:523:TGL:HC72 | 2.19 | 0.41 |
| 3:C:109:THR:HB | 3:C:110:PRO:HD2 | 2.02 | 0.41 |
| 6:S:62:CYS:HB3 | 6:S:85:CYS:HB3 | 2.03 | 0.41 |
| 3:C:3:HIS:CE1 | 6:F:96:LEU:CD2 | 3.04 | 0.41 |
| 3:C:207:HIS:CD2 | 3:C:241:TYR:OH | 2.73 | 0.41 |
| 19:D:523:TGL:H231 | 19:D:523:TGL:H201 | 1.34 | 0.41 |
| 26:C:270:CDL:H252 | 26:C:270:CDL:C67 | 2.45 | 0.41 |
| 13:M:42:LYS:HA | 13:M:42:LYS:HD2 | 1.60 | 0.41 |
| 4:Q:34:SER:H | 4:Q:37:GLN:NE2 | 2.18 | 0.41 |
| 1:A:378:HIS:HA | 1:A:382[A]:SER:OG | 2.20 | 0.41 |
| 2:B:128:LEU:HD11 | 2:B:134:ARG:HA | 2.02 | 0.41 |
| 7:G:5:LYS:CG | 25:G:1263:PEK:H383 | 2.35 | 0.41 |
| 7:G:31:CYS:SG | 26:G:269:CDL:H532 | 2.61 | 0.41 |
| 8:H:60:TYR:CD1 | 8:H:60:TYR:C | 2.93 | 0.41 |
| 13:M:16:ALA:HA | 20:M:524:PGV:H312 | 2.03 | 0.41 |
| 1:N:40:GLU:HG2 | 1:N:54:TYR:CD2 | 2.55 | 0.41 |
| 9:V:15:ARG:HB2 | 29:V:4529:HOH:O | 2.19 | 0.41 |
| 2:B:217:LYS:CE | 29:B:4805:HOH:O | 2.68 | 0.41 |
| 14:A:516:HEA:HMC1 | 14:A:516:HEA:CBC | 2.51 | 0.41 |
| 12:L:47:LYS:HB2 | 12:L:47:LYS:HE2 | 1.86 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|--------------------|--------------------|--------------------------|-------------------|
| 1:N:127:THR:HB | 1:N:129:TYR:CE2 | 2.55 | 0.41 |
| 4:Q:41:LYS:HB3 | 4:Q:41:LYS:HE3 | 1.82 | 0.41 |
| 1:A:169:ILE:N | 1:A:169:ILE:HD13 | 2.34 | 0.41 |
| 1:A:439:ARG:HD3 | 2:B:199:ILE:HB | 2.03 | 0.41 |
| 1:A:513:LEU:HD23 | 1:A:513:LEU:HA | 1.77 | 0.41 |
| 2:B:56:MET:HA | 22:B:229:PSC:C20 | 2.51 | 0.41 |
| 3:C:105:SER:HA | 3:C:116:TRP:CE3 | 2.56 | 0.41 |
| 7:G:45:PRO:HD2 | 29:G:2099:HOH:O | 2.21 | 0.41 |
| 1:N:297:MET:HE2 | 1:N:302:ARG:HG2 | 2.02 | 0.41 |
| 1:N:498:CYS:HA | 1:N:499:PRO:HA | 1.72 | 0.41 |
| 26:P:1270:CDL:PA1 | 26:P:1270:CDL:CB2 | 2.97 | 0.41 |
| 19:Q:1523:TGL:HB92 | 19:Q:1523:TGL:H122 | 1.79 | 0.41 |
| 6:S:37:LYS:HD2 | 6:S:37:LYS:HA | 1.91 | 0.41 |
| 1:A:107:PRO:HB3 | 3:C:25:LEU:HB2 | 2.03 | 0.41 |
| 2:B:52:HIS:HE1 | 22:B:229:PSC:H212 | 1.85 | 0.41 |
| 5:E:48:ILE:HD13 | 5:E:48:ILE:HA | 1.91 | 0.41 |
| 1:N:512:ASN:HD22 | 1:N:512:ASN:HA | 1.63 | 0.41 |
| 3:P:55:TYR:CE1 | 26:P:1270:CDL:H161 | 2.56 | 0.41 |
| 20:P:1268:PGV:H51 | 20:P:1268:PGV:H21 | 1.82 | 0.41 |
| 7:T:5:LYS:HD2 | 25:T:263:PEK:H381 | 2.00 | 0.41 |
| 13:Z:42:LYS:HD2 | 13:Z:42:LYS:HA | 1.96 | 0.41 |
| 25:C:264:PEK:H32 | 25:C:264:PEK:C7 | 2.40 | 0.40 |
| 6:F:1:ALA:H2 | 25:G:265:PEK:H041 | 1.85 | 0.40 |
| 5:R:11:PHE:CB | 22:R:1229:PSC:H073 | 2.50 | 0.40 |
| 9:V:63:MET:HB3 | 9:V:68:ILE:HG12 | 2.03 | 0.40 |
| 2:B:193:TYR:CD1 | 2:B:210:VAL:HG22 | 2.57 | 0.40 |
| 19:N:1522:TGL:HC32 | 12:Y:20:ARG:HH21 | 1.86 | 0.40 |
| 2:O:227:LEU:HD23 | 2:O:227:LEU:HA | 1.34 | 0.40 |
| 1:A:310:MET:CE | 1:A:356:ILE:HG23 | 2.51 | 0.40 |
| 3:P:154:GLY:HA2 | 6:S:6:VAL:HB | 2.04 | 0.40 |
| 1:A:172:LYS:HD2 | 1:A:181:THR:HG22 | 2.03 | 0.40 |
| 14:A:515:HEA:HAC | 14:A:515:HEA:HHD | 1.93 | 0.40 |
| 1:N:289:ALA:HB3 | 1:N:305:PHE:CD2 | 2.56 | 0.40 |
| 2:O:62:GLU:O | 2:O:66:THR:HB | 2.21 | 0.40 |
| 5:R:41:LEU:HD23 | 22:R:1229:PSC:H041 | 2.02 | 0.40 |
| 7:T:3:ALA:HB3 | 25:T:263:PEK:H361 | 2.02 | 0.40 |
| 1:A:76:GLY:O | 1:A:80:ASN:HB2 | 2.22 | 0.40 |
| 2:B:83:ILE:O | 2:B:87:MET:HG3 | 2.22 | 0.40 |
| 3:P:65:SER:HB3 | 3:P:71:HIS:CE1 | 2.57 | 0.40 |
| 7:T:3:ALA:HB3 | 25:T:263:PEK:H382 | 2.03 | 0.40 |
| 9:V:37:PHE:CD1 | 9:V:38:ALA:N | 2.90 | 0.40 |

All (2) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---------------|-----------------------|--------------------------|-------------------|
| 9:I:2:THR:OG1 | 5:R:80:GLU:OE1[3_647] | 1.64 | 0.56 |
| 2:O:126:SER:O | 6:S:94:HIS:CB[2_684] | 2.11 | 0.09 |

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles | |
|-----|-------|----------------|------------|---------|----------|-------------|-----|
| 1 | A | 517/514 (101%) | 504 (98%) | 13 (2%) | 0 | 100 | 100 |
| 1 | N | 517/514 (101%) | 501 (97%) | 16 (3%) | 0 | 100 | 100 |
| 2 | B | 225/227 (99%) | 220 (98%) | 4 (2%) | 1 (0%) | 34 | 21 |
| 2 | O | 225/227 (99%) | 216 (96%) | 8 (4%) | 1 (0%) | 34 | 21 |
| 3 | C | 257/261 (98%) | 253 (98%) | 4 (2%) | 0 | 100 | 100 |
| 3 | P | 257/261 (98%) | 253 (98%) | 4 (2%) | 0 | 100 | 100 |
| 4 | D | 142/147 (97%) | 139 (98%) | 3 (2%) | 0 | 100 | 100 |
| 4 | Q | 142/147 (97%) | 135 (95%) | 6 (4%) | 1 (1%) | 22 | 10 |
| 5 | E | 103/109 (94%) | 103 (100%) | 0 | 0 | 100 | 100 |
| 5 | R | 103/109 (94%) | 102 (99%) | 1 (1%) | 0 | 100 | 100 |
| 6 | F | 96/98 (98%) | 89 (93%) | 4 (4%) | 3 (3%) | 4 | 0 |
| 6 | S | 96/98 (98%) | 89 (93%) | 4 (4%) | 3 (3%) | 4 | 0 |
| 7 | G | 81/85 (95%) | 67 (83%) | 9 (11%) | 5 (6%) | 1 | 0 |
| 7 | T | 81/85 (95%) | 69 (85%) | 8 (10%) | 4 (5%) | 2 | 0 |
| 8 | H | 77/85 (91%) | 68 (88%) | 5 (6%) | 4 (5%) | 2 | 0 |
| 8 | U | 77/85 (91%) | 69 (90%) | 4 (5%) | 4 (5%) | 2 | 0 |
| 9 | I | 71/73 (97%) | 69 (97%) | 2 (3%) | 0 | 100 | 100 |
| 9 | V | 71/73 (97%) | 68 (96%) | 3 (4%) | 0 | 100 | 100 |

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| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles | |
|-----|-------|-----------------|------------|----------|----------|-------------|-----|
| 10 | J | 56/59 (95%) | 56 (100%) | 0 | 0 | 100 | 100 |
| 10 | W | 56/59 (95%) | 56 (100%) | 0 | 0 | 100 | 100 |
| 11 | K | 47/56 (84%) | 45 (96%) | 2 (4%) | 0 | 100 | 100 |
| 11 | X | 47/56 (84%) | 45 (96%) | 2 (4%) | 0 | 100 | 100 |
| 12 | L | 44/47 (94%) | 42 (96%) | 2 (4%) | 0 | 100 | 100 |
| 12 | Y | 44/47 (94%) | 43 (98%) | 1 (2%) | 0 | 100 | 100 |
| 13 | M | 41/46 (89%) | 40 (98%) | 1 (2%) | 0 | 100 | 100 |
| 13 | Z | 41/46 (89%) | 39 (95%) | 2 (5%) | 0 | 100 | 100 |
| All | All | 3514/3614 (97%) | 3380 (96%) | 108 (3%) | 26 (1%) | 22 | 10 |

All (26) Ramachandran outliers are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 6 | F | 94 | HIS |
| 6 | F | 95 | GLN |
| 7 | G | 4 | ALA |
| 7 | G | 7 | ASP |
| 7 | G | 8 | HIS |
| 8 | H | 45 | ALA |
| 8 | H | 46 | LYS |
| 6 | S | 95 | GLN |
| 7 | T | 4 | ALA |
| 7 | T | 7 | ASP |
| 7 | T | 8 | HIS |
| 8 | U | 45 | ALA |
| 8 | U | 46 | LYS |
| 2 | B | 60 | GLU |
| 8 | H | 8 | ILE |
| 2 | O | 60 | GLU |
| 6 | S | 94 | HIS |
| 8 | U | 8 | ILE |
| 8 | U | 10 | ASN |
| 6 | F | 96 | LEU |
| 7 | G | 6 | GLY |
| 8 | H | 51 | SER |
| 4 | Q | 35 | ALA |
| 7 | G | 37 | LEU |
| 6 | S | 96 | LEU |
| 7 | T | 6 | GLY |

5.3.2 Protein sidechains [i](#)

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

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

| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles | |
|-----|-------|----------------|-----------|----------|-------------|----|
| 1 | A | 430/426 (101%) | 419 (97%) | 11 (3%) | 46 | 32 |
| 1 | N | 430/426 (101%) | 418 (97%) | 12 (3%) | 43 | 30 |
| 2 | B | 210/210 (100%) | 201 (96%) | 9 (4%) | 29 | 14 |
| 2 | O | 210/210 (100%) | 198 (94%) | 12 (6%) | 20 | 8 |
| 3 | C | 224/226 (99%) | 222 (99%) | 2 (1%) | 78 | 75 |
| 3 | P | 224/226 (99%) | 218 (97%) | 6 (3%) | 44 | 31 |
| 4 | D | 128/129 (99%) | 125 (98%) | 3 (2%) | 50 | 37 |
| 4 | Q | 128/129 (99%) | 122 (95%) | 6 (5%) | 26 | 12 |
| 5 | E | 92/95 (97%) | 91 (99%) | 1 (1%) | 73 | 68 |
| 5 | R | 92/95 (97%) | 91 (99%) | 1 (1%) | 73 | 68 |
| 6 | F | 81/81 (100%) | 78 (96%) | 3 (4%) | 34 | 19 |
| 6 | S | 81/81 (100%) | 75 (93%) | 6 (7%) | 13 | 4 |
| 7 | G | 67/68 (98%) | 60 (90%) | 7 (10%) | 7 | 1 |
| 7 | T | 67/68 (98%) | 59 (88%) | 8 (12%) | 5 | 1 |
| 8 | H | 71/75 (95%) | 68 (96%) | 3 (4%) | 30 | 15 |
| 8 | U | 71/75 (95%) | 69 (97%) | 2 (3%) | 43 | 30 |
| 9 | I | 57/57 (100%) | 50 (88%) | 7 (12%) | 4 | 1 |
| 9 | V | 57/57 (100%) | 50 (88%) | 7 (12%) | 4 | 1 |
| 10 | J | 49/50 (98%) | 48 (98%) | 1 (2%) | 55 | 44 |
| 10 | W | 49/50 (98%) | 48 (98%) | 1 (2%) | 55 | 44 |
| 11 | K | 39/46 (85%) | 37 (95%) | 2 (5%) | 24 | 10 |
| 11 | X | 39/46 (85%) | 37 (95%) | 2 (5%) | 24 | 10 |
| 12 | L | 39/40 (98%) | 38 (97%) | 1 (3%) | 46 | 32 |
| 12 | Y | 39/40 (98%) | 36 (92%) | 3 (8%) | 13 | 4 |
| 13 | M | 37/38 (97%) | 32 (86%) | 5 (14%) | 4 | 1 |
| 13 | Z | 37/38 (97%) | 32 (86%) | 5 (14%) | 4 | 1 |

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| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles |
|-----|-------|-----------------|------------|----------|-------------|
| All | All | 3048/3082 (99%) | 2922 (96%) | 126 (4%) | 30 16 |

All (126) residues with a non-rotameric sidechain are listed below:

| Mol | Chain | Res | Type |
|-----|-------|--------|------|
| 1 | A | 38 | ARG |
| 1 | A | 109 | PHE |
| 1 | A | 169 | ILE |
| 1 | A | 180 | GLN |
| 1 | A | 200 | PRO |
| 1 | A | 241 | PRO |
| 1 | A | 369 | ASP |
| 1 | A | 380[A] | VAL |
| 1 | A | 380[B] | VAL |
| 1 | A | 486 | ASP |
| 1 | A | 512 | ASN |
| 2 | B | 33 | LEU |
| 2 | B | 60 | GLU |
| 2 | B | 65 | TRP |
| 2 | B | 75 | LEU |
| 2 | B | 78 | LEU |
| 2 | B | 115 | ASP |
| 2 | B | 167 | SER |
| 2 | B | 171 | LYS |
| 2 | B | 217 | LYS |
| 3 | C | 159 | MET |
| 3 | C | 230 | ASN |
| 4 | D | 4 | SER |
| 4 | D | 51 | LEU |
| 4 | D | 58 | GLU |
| 5 | E | 90 | ARG |
| 6 | F | 48 | LEU |
| 6 | F | 50 | PRO |
| 6 | F | 96 | LEU |
| 7 | G | 2 | SER |
| 7 | G | 17 | ARG |
| 7 | G | 18 | PHE |
| 7 | G | 26 | PRO |
| 7 | G | 54 | ARG |
| 7 | G | 74 | ARG |
| 7 | G | 84 | LYS |
| 8 | H | 8 | ILE |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 8 | H | 29 | CYS |
| 8 | H | 60 | TYR |
| 9 | I | 8 | GLN |
| 9 | I | 15 | ARG |
| 9 | I | 29 | LEU |
| 9 | I | 37 | PHE |
| 9 | I | 43 | ARG |
| 9 | I | 61 | GLU |
| 9 | I | 68 | ILE |
| 10 | J | 50 | LEU |
| 11 | K | 47 | ARG |
| 11 | K | 54 | ARG |
| 12 | L | 26 | THR |
| 13 | M | 13 | LYS |
| 13 | M | 34 | LEU |
| 13 | M | 38 | ASP |
| 13 | M | 42 | LYS |
| 13 | M | 43 | SER |
| 1 | N | 38 | ARG |
| 1 | N | 109 | PHE |
| 1 | N | 180 | GLN |
| 1 | N | 241 | PRO |
| 1 | N | 265 | LYS |
| 1 | N | 297 | MET |
| 1 | N | 338 | MET |
| 1 | N | 369 | ASP |
| 1 | N | 443 | TYR |
| 1 | N | 484 | THR |
| 1 | N | 504 | THR |
| 1 | N | 512 | ASN |
| 2 | O | 33 | LEU |
| 2 | O | 60 | GLU |
| 2 | O | 61 | VAL |
| 2 | O | 65 | TRP |
| 2 | O | 66 | THR |
| 2 | O | 68 | LEU |
| 2 | O | 75 | LEU |
| 2 | O | 78 | LEU |
| 2 | O | 94 | SER |
| 2 | O | 171 | LYS |
| 2 | O | 203 | ASN |
| 2 | O | 217 | LYS |

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| Mol | Chain | Res | Type |
|------------|--------------|------------|-------------|
| 3 | P | 23 | SER |
| 3 | P | 77 | LYS |
| 3 | P | 110 | PRO |
| 3 | P | 159 | MET |
| 3 | P | 214 | PHE |
| 3 | P | 230 | ASN |
| 4 | Q | 4 | SER |
| 4 | Q | 7 | LYS |
| 4 | Q | 9 | GLU |
| 4 | Q | 31 | LYS |
| 4 | Q | 51 | LEU |
| 4 | Q | 143 | ASN |
| 5 | R | 108 | LYS |
| 6 | S | 37 | LYS |
| 6 | S | 48 | LEU |
| 6 | S | 53 | THR |
| 6 | S | 94 | HIS |
| 6 | S | 95 | GLN |
| 6 | S | 96 | LEU |
| 7 | T | 2 | SER |
| 7 | T | 17 | ARG |
| 7 | T | 18 | PHE |
| 7 | T | 36 | TRP |
| 7 | T | 38 | HIS |
| 7 | T | 54 | ARG |
| 7 | T | 74 | ARG |
| 7 | T | 84 | LYS |
| 8 | U | 9 | LYS |
| 8 | U | 60 | TYR |
| 9 | V | 2 | THR |
| 9 | V | 10 | ARG |
| 9 | V | 26 | MET |
| 9 | V | 37 | PHE |
| 9 | V | 43 | ARG |
| 9 | V | 61 | GLU |
| 9 | V | 70 | GLN |
| 10 | W | 50 | LEU |
| 11 | X | 20 | SER |
| 11 | X | 47 | ARG |
| 12 | Y | 2 | HIS |
| 12 | Y | 20 | ARG |
| 12 | Y | 26 | THR |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 13 | Z | 13 | LYS |
| 13 | Z | 34 | LEU |
| 13 | Z | 38 | ASP |
| 13 | Z | 42 | LYS |
| 13 | Z | 43 | SER |

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (42) such sidechains are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | A | 4 | ASN |
| 1 | A | 178 | GLN |
| 1 | A | 180 | GLN |
| 1 | A | 512 | ASN |
| 2 | B | 10 | GLN |
| 2 | B | 52 | HIS |
| 2 | B | 181 | GLN |
| 2 | B | 195 | GLN |
| 3 | C | 3 | HIS |
| 3 | C | 68 | GLN |
| 3 | C | 161 | GLN |
| 3 | C | 207 | HIS |
| 4 | D | 37 | GLN |
| 4 | D | 101 | HIS |
| 4 | D | 109 | HIS |
| 5 | E | 94 | ASN |
| 7 | G | 8 | HIS |
| 7 | G | 76 | ASN |
| 9 | I | 8 | GLN |
| 10 | J | 29 | ASN |
| 10 | J | 57 | HIS |
| 1 | N | 99 | ASN |
| 1 | N | 178 | GLN |
| 1 | N | 180 | GLN |
| 1 | N | 512 | ASN |
| 2 | O | 10 | GLN |
| 2 | O | 52 | HIS |
| 2 | O | 91 | ASN |
| 2 | O | 181 | GLN |
| 2 | O | 195 | GLN |
| 2 | O | 203 | ASN |
| 3 | P | 68 | GLN |
| 3 | P | 76 | GLN |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 3 | P | 207 | HIS |
| 4 | Q | 37 | GLN |
| 4 | Q | 109 | HIS |
| 5 | R | 94 | ASN |
| 6 | S | 94 | HIS |
| 7 | T | 76 | ASN |
| 8 | U | 23 | GLN |
| 10 | W | 29 | ASN |
| 10 | W | 57 | HIS |

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

8 non-standard protein/DNA/RNA residues are modelled in this entry.

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

| Mol | Type | Chain | Res | Link | Bond lengths | | | Bond angles | | |
|-----|------|-------|-----|------|--------------|------|----------|-------------|------|----------|
| | | | | | Counts | RMSZ | # Z > 2 | Counts | RMSZ | # Z > 2 |
| 1 | FME | N | 1 | 1 | 8,9,10 | 1.28 | 1 (12%) | 7,9,11 | 7.92 | 4 (57%) |
| 9 | SAC | I | 1 | 9 | 7,8,9 | 2.90 | 3 (42%) | 8,9,11 | 2.04 | 4 (50%) |
| 2 | FME | O | 1 | 2 | 8,9,10 | 2.15 | 3 (37%) | 7,9,11 | 6.54 | 3 (42%) |
| 2 | FME | B | 1 | 2 | 8,9,10 | 4.07 | 6 (75%) | 7,9,11 | 7.87 | 4 (57%) |
| 7 | TPO | T | 11 | 7 | 8,10,11 | 3.14 | 5 (62%) | 10,14,16 | 2.01 | 5 (50%) |
| 9 | SAC | V | 1 | 9 | 7,8,9 | 3.20 | 2 (28%) | 8,9,11 | 3.10 | 3 (37%) |
| 1 | FME | A | 1 | 1 | 8,9,10 | 2.39 | 2 (25%) | 7,9,11 | 9.01 | 5 (71%) |
| 7 | TPO | G | 11 | 7 | 8,10,11 | 2.92 | 5 (62%) | 10,14,16 | 1.63 | 3 (30%) |

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns.

'-' means no outliers of that kind were identified.

| Mol | Type | Chain | Res | Link | Chirals | Torsions | Rings |
|-----|------|-------|-----|------|---------|-----------|-------|
| 1 | FME | N | 1 | 1 | - | 5/7/9/11 | - |
| 9 | SAC | I | 1 | 9 | - | 4/7/8/10 | - |
| 2 | FME | O | 1 | 2 | - | 1/7/9/11 | - |
| 2 | FME | B | 1 | 2 | - | 1/7/9/11 | - |
| 7 | TPO | T | 11 | 7 | - | 3/9/11/13 | - |
| 9 | SAC | V | 1 | 9 | - | 4/7/8/10 | - |
| 1 | FME | A | 1 | 1 | - | 3/7/9/11 | - |
| 7 | TPO | G | 11 | 7 | - | 4/9/11/13 | - |

All (27) bond length outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|-------|-------------|----------|
| 7 | T | 11 | TPO | P-OG1 | 6.73 | 1.72 | 1.59 |
| 2 | B | 1 | FME | CN-N | 6.67 | 1.55 | 1.33 |
| 2 | B | 1 | FME | O1-CN | -6.31 | 1.03 | 1.22 |
| 9 | V | 1 | SAC | CA-N | 6.25 | 1.55 | 1.46 |
| 1 | A | 1 | FME | CA-N | 5.65 | 1.54 | 1.46 |
| 7 | G | 11 | TPO | P-OG1 | 5.56 | 1.69 | 1.59 |
| 9 | I | 1 | SAC | OAC-C1A | 5.14 | 1.34 | 1.23 |
| 9 | V | 1 | SAC | OAC-C1A | 5.10 | 1.34 | 1.23 |
| 2 | B | 1 | FME | CA-N | 4.76 | 1.53 | 1.46 |
| 2 | O | 1 | FME | O1-CN | -4.75 | 1.08 | 1.22 |
| 9 | I | 1 | SAC | CA-N | 4.42 | 1.52 | 1.46 |
| 7 | G | 11 | TPO | P-O1P | 4.27 | 1.64 | 1.50 |
| 7 | T | 11 | TPO | P-O1P | 3.64 | 1.62 | 1.50 |
| 1 | A | 1 | FME | O1-CN | -3.23 | 1.13 | 1.22 |
| 2 | B | 1 | FME | CG-SD | -3.18 | 1.64 | 1.81 |
| 2 | B | 1 | FME | CB-CA | 3.04 | 1.58 | 1.53 |
| 9 | I | 1 | SAC | CB-CA | 2.64 | 1.58 | 1.53 |
| 7 | T | 11 | TPO | P-O3P | 2.52 | 1.64 | 1.54 |
| 1 | N | 1 | FME | CA-N | 2.47 | 1.49 | 1.46 |
| 2 | O | 1 | FME | CG-SD | -2.40 | 1.68 | 1.81 |
| 7 | G | 11 | TPO | P-O2P | 2.40 | 1.64 | 1.54 |
| 2 | O | 1 | FME | CB-CG | 2.37 | 1.60 | 1.51 |
| 7 | G | 11 | TPO | CG2-CB | 2.23 | 1.56 | 1.51 |
| 2 | B | 1 | FME | CB-CG | 2.15 | 1.59 | 1.51 |
| 7 | G | 11 | TPO | P-O3P | 2.06 | 1.62 | 1.54 |
| 7 | T | 11 | TPO | O-C | 2.04 | 1.28 | 1.19 |
| 7 | T | 11 | TPO | P-O2P | 2.03 | 1.62 | 1.54 |

All (31) bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-----------|--------|-------------|----------|
| 1 | A | 1 | FME | CA-N-CN | -22.50 | 88.22 | 122.82 |
| 1 | N | 1 | FME | CA-N-CN | -19.41 | 92.96 | 122.82 |
| 2 | O | 1 | FME | CA-N-CN | -16.83 | 96.94 | 122.82 |
| 2 | B | 1 | FME | CA-N-CN | -13.91 | 101.44 | 122.82 |
| 2 | B | 1 | FME | O1-CN-N | -12.82 | 91.52 | 125.27 |
| 9 | V | 1 | SAC | C-CA-N | 7.61 | 123.47 | 109.73 |
| 2 | B | 1 | FME | C-CA-N | 7.61 | 123.47 | 109.73 |
| 1 | N | 1 | FME | O1-CN-N | 6.53 | 142.48 | 125.27 |
| 1 | A | 1 | FME | CE-SD-CG | 5.38 | 118.87 | 100.40 |
| 1 | A | 1 | FME | O1-CN-N | 4.65 | 137.52 | 125.27 |
| 9 | I | 1 | SAC | C-CA-N | 3.88 | 116.73 | 109.73 |
| 2 | B | 1 | FME | CG-CB-CA | -3.55 | 103.10 | 112.95 |
| 7 | T | 11 | TPO | O3P-P-OG1 | 3.35 | 120.99 | 105.99 |
| 1 | N | 1 | FME | CE-SD-CG | 3.17 | 111.27 | 100.40 |
| 7 | G | 11 | TPO | O2P-P-OG1 | 2.90 | 119.01 | 105.99 |
| 7 | T | 11 | TPO | P-OG1-CB | 2.84 | 131.78 | 123.21 |
| 9 | V | 1 | SAC | CA-N-C1A | 2.80 | 128.32 | 123.15 |
| 7 | G | 11 | TPO | O-C-CA | -2.64 | 117.85 | 124.78 |
| 2 | O | 1 | FME | CG-CB-CA | -2.60 | 105.72 | 112.95 |
| 7 | G | 11 | TPO | CG2-CB-CA | 2.56 | 118.22 | 113.16 |
| 7 | T | 11 | TPO | O-C-CA | -2.55 | 118.11 | 124.78 |
| 7 | T | 11 | TPO | OG1-P-O1P | -2.52 | 99.65 | 109.39 |
| 9 | I | 1 | SAC | C2A-C1A-N | -2.39 | 112.05 | 116.10 |
| 1 | A | 1 | FME | C-CA-N | 2.38 | 114.02 | 109.73 |
| 9 | I | 1 | SAC | CA-N-C1A | 2.31 | 127.41 | 123.15 |
| 1 | N | 1 | FME | C-CA-N | 2.30 | 113.88 | 109.73 |
| 9 | V | 1 | SAC | O-C-CA | -2.28 | 118.79 | 124.78 |
| 7 | T | 11 | TPO | O2P-P-OG1 | 2.11 | 115.42 | 105.99 |
| 9 | I | 1 | SAC | CB-CA-N | 2.10 | 115.27 | 110.55 |
| 2 | O | 1 | FME | O-C-CA | -2.10 | 119.27 | 124.78 |
| 1 | A | 1 | FME | CG-CB-CA | -2.02 | 107.33 | 112.95 |

There are no chirality outliers.

All (25) torsion outliers are listed below:

| Mol | Chain | Res | Type | Atoms |
|-----|-------|-----|------|-------------|
| 1 | A | 1 | FME | O1-CN-N-CA |
| 1 | A | 1 | FME | N-CA-CB-CG |
| 2 | B | 1 | FME | O1-CN-N-CA |
| 7 | G | 11 | TPO | N-CA-CB-CG2 |
| 7 | G | 11 | TPO | N-CA-CB-OG1 |

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| Mol | Chain | Res | Type | Atoms |
|-----|-------|-----|------|--------------|
| 7 | G | 11 | TPO | C-CA-CB-CG2 |
| 9 | I | 1 | SAC | N-CA-CB-OG |
| 9 | I | 1 | SAC | C-CA-CB-OG |
| 1 | N | 1 | FME | O1-CN-N-CA |
| 1 | N | 1 | FME | N-CA-CB-CG |
| 1 | N | 1 | FME | C-CA-CB-CG |
| 2 | O | 1 | FME | O1-CN-N-CA |
| 7 | T | 11 | TPO | N-CA-CB-CG2 |
| 7 | T | 11 | TPO | N-CA-CB-OG1 |
| 7 | T | 11 | TPO | C-CA-CB-CG2 |
| 9 | V | 1 | SAC | CB-CA-N-C1A |
| 9 | V | 1 | SAC | O-C-CA-CB |
| 9 | V | 1 | SAC | C-CA-CB-OG |
| 1 | N | 1 | FME | CA-CB-CG-SD |
| 9 | V | 1 | SAC | N-CA-CB-OG |
| 1 | N | 1 | FME | CB-CG-SD-CE |
| 9 | I | 1 | SAC | C-CA-N-C1A |
| 9 | I | 1 | SAC | CB-CA-N-C1A |
| 1 | A | 1 | FME | C-CA-CB-CG |
| 7 | G | 11 | TPO | CB-OG1-P-O2P |

There are no ring outliers.

5 monomers are involved in 12 short contacts:

| Mol | Chain | Res | Type | Clashes | Symm-Clashes |
|-----|-------|-----|------|---------|--------------|
| 2 | B | 1 | FME | 3 | 0 |
| 7 | T | 11 | TPO | 2 | 0 |
| 9 | V | 1 | SAC | 1 | 0 |
| 1 | A | 1 | FME | 3 | 0 |
| 7 | G | 11 | TPO | 3 | 0 |

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 56 ligands modelled in this entry, 8 are monoatomic and 2 are unknown - leaving 46 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul

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

| Mol | Type | Chain | Res | Link | Bond lengths | | | Bond angles | | |
|-----|------|-------|------|-------|--------------|------|-------------|-------------|------|-------------|
| | | | | | Counts | RMSZ | # $ Z > 2$ | Counts | RMSZ | # $ Z > 2$ |
| 15 | NO | N | 520 | 14,16 | 0,1,1 | - | - | - | | |
| 20 | PGV | P | 1268 | - | 50,50,50 | 1.48 | 3 (6%) | 53,56,56 | 1.72 | 9 (16%) |
| 22 | PSC | B | 229 | - | 51,51,51 | 1.26 | 3 (5%) | 57,59,59 | 1.25 | 7 (12%) |
| 21 | CUA | B | 228 | 2 | 0,1,1 | - | - | - | | |
| 26 | CDL | T | 1269 | - | 99,99,99 | 1.39 | 12 (12%) | 105,111,111 | 1.69 | 21 (20%) |
| 23 | CHD | J | 60 | - | 32,32,32 | 1.16 | 2 (6%) | 51,51,51 | 5.11 | 33 (64%) |
| 20 | PGV | N | 1266 | - | 50,50,50 | 1.22 | 5 (10%) | 53,56,56 | 1.55 | 9 (16%) |
| 25 | PEK | C | 264 | - | 52,52,52 | 1.13 | 4 (7%) | 55,57,57 | 2.38 | 12 (21%) |
| 23 | CHD | C | 525 | - | 32,32,32 | 1.75 | 8 (25%) | 51,51,51 | 5.07 | 35 (68%) |
| 28 | DMU | M | 526 | - | 34,34,34 | 1.24 | 4 (11%) | 45,45,45 | 3.55 | 27 (60%) |
| 15 | NO | A | 520 | 14,16 | 0,1,1 | - | - | - | | |
| 23 | CHD | W | 1059 | - | 32,32,32 | 1.00 | 1 (3%) | 51,51,51 | 5.14 | 36 (70%) |
| 19 | TGL | L | 522 | - | 62,62,62 | 1.70 | 7 (11%) | 65,65,65 | 2.16 | 16 (24%) |
| 22 | PSC | R | 1229 | - | 51,51,51 | 1.41 | 3 (5%) | 57,59,59 | 1.29 | 6 (10%) |
| 20 | PGV | C | 267 | - | 50,50,50 | 0.89 | 1 (2%) | 53,56,56 | 1.40 | 12 (22%) |
| 28 | DMU | Z | 1526 | - | 34,34,34 | 1.16 | 4 (11%) | 45,45,45 | 3.39 | 24 (53%) |
| 26 | CDL | C | 270 | - | 99,99,99 | 1.50 | 15 (15%) | 105,111,111 | 1.81 | 19 (18%) |
| 20 | PGV | M | 524 | - | 50,50,50 | 1.21 | 2 (4%) | 53,56,56 | 1.51 | 9 (16%) |
| 25 | PEK | T | 263 | - | 52,52,52 | 1.27 | 4 (7%) | 55,57,57 | 1.40 | 6 (10%) |
| 20 | PGV | P | 1267 | - | 50,50,50 | 1.02 | 2 (4%) | 53,56,56 | 1.64 | 11 (20%) |
| 28 | DMU | G | 272 | - | 34,34,34 | 1.46 | 6 (17%) | 45,45,45 | 3.54 | 23 (51%) |
| 28 | DMU | P | 1272 | - | 34,34,34 | 1.69 | 6 (17%) | 45,45,45 | 3.45 | 26 (57%) |
| 21 | CUA | O | 228 | 2 | 0,1,1 | - | - | - | | |
| 25 | PEK | G | 1263 | - | 52,52,52 | 1.45 | 4 (7%) | 55,57,57 | 1.48 | 7 (12%) |
| 19 | TGL | Q | 1523 | - | 62,62,62 | 1.53 | 7 (11%) | 65,65,65 | 1.47 | 9 (13%) |
| 19 | TGL | D | 523 | - | 62,62,62 | 1.59 | 7 (11%) | 65,65,65 | 1.74 | 15 (23%) |
| 26 | CDL | G | 269 | - | 99,99,99 | 1.48 | 13 (13%) | 105,111,111 | 1.59 | 21 (20%) |
| 19 | TGL | O | 1521 | - | 62,62,62 | 1.42 | 6 (9%) | 65,65,65 | 1.74 | 12 (18%) |
| 14 | HEA | A | 516 | 1,15 | 57,67,67 | 1.47 | 8 (14%) | 61,103,103 | 2.62 | 24 (39%) |
| 14 | HEA | N | 516 | 1,15 | 57,67,67 | 1.60 | 10 (17%) | 61,103,103 | 2.02 | 24 (39%) |

| Mol | Type | Chain | Res | Link | Bond lengths | | | Bond angles | | |
|-----|------|-------|------|------|--------------|------|----------|-------------|------|----------|
| | | | | | Counts | RMSZ | # Z > 2 | Counts | RMSZ | # Z > 2 |
| 23 | CHD | C | 271 | - | 32,32,32 | 1.09 | 2 (6%) | 51,51,51 | 5.06 | 32 (62%) |
| 25 | PEK | G | 265 | - | 52,52,52 | 1.49 | 4 (7%) | 55,57,57 | 1.63 | 8 (14%) |
| 23 | CHD | P | 1271 | - | 32,32,32 | 0.98 | 1 (3%) | 51,51,51 | 5.20 | 35 (68%) |
| 14 | HEA | N | 515 | 1 | 57,67,67 | 1.58 | 10 (17%) | 61,103,103 | 2.21 | 24 (39%) |
| 23 | CHD | O | 229 | - | 32,32,32 | 1.96 | 11 (34%) | 51,51,51 | 5.50 | 32 (62%) |
| 25 | PEK | P | 1265 | - | 52,52,52 | 1.47 | 6 (11%) | 55,57,57 | 1.52 | 8 (14%) |
| 26 | CDL | P | 1270 | - | 99,99,99 | 1.50 | 15 (15%) | 105,111,111 | 1.87 | 23 (21%) |
| 19 | TGL | A | 521 | - | 62,62,62 | 1.36 | 6 (9%) | 65,65,65 | 1.78 | 13 (20%) |
| 20 | PGV | A | 522 | - | 50,50,50 | 1.18 | 4 (8%) | 53,56,56 | 1.51 | 9 (16%) |
| 25 | PEK | P | 1264 | - | 52,52,52 | 0.95 | 2 (3%) | 55,57,57 | 2.53 | 12 (21%) |
| 23 | CHD | P | 1525 | - | 32,32,32 | 1.97 | 13 (40%) | 51,51,51 | 5.45 | 36 (70%) |
| 20 | PGV | C | 268 | - | 50,50,50 | 1.36 | 4 (8%) | 53,56,56 | 1.67 | 6 (11%) |
| 14 | HEA | A | 515 | 1 | 57,67,67 | 1.54 | 12 (21%) | 61,103,103 | 2.26 | 22 (36%) |
| 20 | PGV | N | 1524 | - | 50,50,50 | 1.31 | 3 (6%) | 53,56,56 | 1.38 | 8 (15%) |
| 19 | TGL | N | 1522 | - | 62,62,62 | 1.67 | 10 (16%) | 65,65,65 | 1.95 | 17 (26%) |
| 23 | CHD | B | 1085 | - | 32,32,32 | 2.15 | 10 (31%) | 51,51,51 | 5.30 | 35 (68%) |

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '2' means no outliers of that kind were identified.

| Mol | Type | Chain | Res | Link | Chirals | Torsions | Rings |
|-----|------|-------|------|------|-----------|----------------|---------|
| 20 | PGV | P | 1268 | - | - | 27/55/55/55 | - |
| 22 | PSC | B | 229 | - | - | 39/55/55/55 | - |
| 26 | CDL | T | 1269 | - | - | 60/110/110/110 | - |
| 23 | CHD | J | 60 | - | 2/2/12/12 | 6/9/74/74 | 0/4/4/4 |
| 20 | PGV | N | 1266 | - | - | 17/55/55/55 | - |
| 25 | PEK | C | 264 | - | - | 21/56/56/56 | - |
| 23 | CHD | C | 525 | - | - | 1/9/74/74 | 0/4/4/4 |
| 28 | DMU | M | 526 | - | 4/4/10/10 | 7/19/59/59 | 0/2/2/2 |
| 23 | CHD | W | 1059 | - | 1/1/12/12 | 6/9/74/74 | 0/4/4/4 |
| 19 | TGL | L | 522 | - | - | 36/65/65/65 | - |
| 22 | PSC | R | 1229 | - | - | 31/55/55/55 | - |
| 20 | PGV | C | 267 | - | - | 11/55/55/55 | - |
| 28 | DMU | Z | 1526 | - | 5/5/10/10 | 10/19/59/59 | 0/2/2/2 |

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| Mol | Type | Chain | Res | Link | Chirals | Torsions | Rings |
|-----|------|-------|------|------|-----------|----------------|---------|
| 26 | CDL | C | 270 | - | - | 69/110/110/110 | - |
| 20 | PGV | M | 524 | - | - | 33/55/55/55 | - |
| 25 | PEK | T | 263 | - | - | 33/56/56/56 | - |
| 20 | PGV | P | 1267 | - | - | 13/55/55/55 | - |
| 28 | DMU | G | 272 | - | 6/6/10/10 | 11/19/59/59 | 0/2/2/2 |
| 28 | DMU | P | 1272 | - | 6/6/10/10 | 13/19/59/59 | 0/2/2/2 |
| 25 | PEK | G | 1263 | - | - | 31/56/56/56 | - |
| 19 | TGL | Q | 1523 | - | - | 36/65/65/65 | - |
| 19 | TGL | D | 523 | - | - | 39/65/65/65 | - |
| 26 | CDL | G | 269 | - | - | 59/110/110/110 | - |
| 19 | TGL | O | 1521 | - | - | 30/65/65/65 | - |
| 14 | HEA | A | 516 | 1,15 | - | 5/32/76/76 | - |
| 23 | CHD | C | 271 | - | 1/1/12/12 | 6/9/74/74 | 0/4/4/4 |
| 14 | HEA | N | 516 | 1,15 | - | 5/32/76/76 | - |
| 25 | PEK | G | 265 | - | - | 30/56/56/56 | - |
| 23 | CHD | P | 1271 | - | 1/1/12/12 | 3/9/74/74 | 0/4/4/4 |
| 14 | HEA | N | 515 | 1 | - | 4/32/76/76 | - |
| 23 | CHD | O | 229 | - | - | 3/9/74/74 | 0/4/4/4 |
| 25 | PEK | P | 1265 | - | - | 31/56/56/56 | - |
| 26 | CDL | P | 1270 | - | - | 68/110/110/110 | - |
| 19 | TGL | A | 521 | - | - | 39/65/65/65 | - |
| 20 | PGV | A | 522 | - | - | 8/55/55/55 | - |
| 25 | PEK | P | 1264 | - | - | 24/56/56/56 | - |
| 23 | CHD | P | 1525 | - | - | 4/9/74/74 | 0/4/4/4 |
| 20 | PGV | C | 268 | - | - | 36/55/55/55 | - |
| 14 | HEA | A | 515 | 1 | - | 6/32/76/76 | - |
| 20 | PGV | N | 1524 | - | - | 26/55/55/55 | - |
| 19 | TGL | N | 1522 | - | - | 42/65/65/65 | - |
| 23 | CHD | B | 1085 | - | - | 2/9/74/74 | 0/4/4/4 |

All (260) bond length outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|------|-------------|----------|
| 20 | P | 1268 | PGV | O01-C1 | 7.64 | 1.55 | 1.34 |
| 19 | L | 522 | TGL | OG2-CB1 | 7.54 | 1.55 | 1.34 |
| 19 | N | 1522 | TGL | OG2-CB1 | 7.33 | 1.54 | 1.34 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 20 | C | 268 | PGV | O01-C1 | 6.47 | 1.52 | 1.34 |
| 28 | P | 1272 | DMU | O16-C6 | 6.17 | 1.50 | 1.40 |
| 25 | G | 1263 | PEK | O03-C21 | 6.04 | 1.51 | 1.33 |
| 25 | T | 263 | PEK | O03-C21 | 6.03 | 1.51 | 1.33 |
| 25 | G | 265 | PEK | O01-C1 | 5.99 | 1.51 | 1.34 |
| 25 | P | 1265 | PEK | O03-C21 | 5.96 | 1.50 | 1.33 |
| 25 | G | 1263 | PEK | O01-C1 | 5.80 | 1.50 | 1.34 |
| 19 | D | 523 | TGL | OB1-CB1 | 5.72 | 1.39 | 1.22 |
| 25 | G | 265 | PEK | O03-C21 | 5.70 | 1.50 | 1.33 |
| 26 | G | 269 | CDL | OB6-CB5 | 5.67 | 1.50 | 1.34 |
| 28 | G | 272 | DMU | O16-C6 | 5.65 | 1.49 | 1.40 |
| 26 | G | 269 | CDL | OA6-CA5 | 5.59 | 1.50 | 1.34 |
| 23 | O | 229 | CHD | C18-C13 | 5.50 | 1.63 | 1.54 |
| 23 | B | 1085 | CHD | C18-C13 | 5.48 | 1.63 | 1.54 |
| 20 | M | 524 | PGV | O03-C19 | 5.44 | 1.49 | 1.33 |
| 26 | C | 270 | CDL | OA8-CA7 | 5.43 | 1.49 | 1.33 |
| 20 | N | 1524 | PGV | O03-C19 | 5.41 | 1.49 | 1.33 |
| 26 | C | 270 | CDL | OB8-CB7 | 5.33 | 1.48 | 1.33 |
| 25 | P | 1265 | PEK | O01-C1 | 5.32 | 1.49 | 1.34 |
| 19 | O | 1521 | TGL | OG2-CB1 | 5.31 | 1.49 | 1.34 |
| 26 | T | 1269 | CDL | OA6-CA5 | 5.29 | 1.49 | 1.34 |
| 19 | Q | 1523 | TGL | OG2-CB1 | 5.29 | 1.49 | 1.34 |
| 19 | Q | 1523 | TGL | OG1-CA1 | 5.29 | 1.48 | 1.33 |
| 22 | R | 1229 | PSC | O01-C1 | 5.29 | 1.49 | 1.34 |
| 26 | P | 1270 | CDL | OA8-CA7 | 5.27 | 1.48 | 1.33 |
| 23 | B | 1085 | CHD | C10-C5 | -5.25 | 1.46 | 1.55 |
| 19 | L | 522 | TGL | OG1-CA1 | 5.21 | 1.48 | 1.33 |
| 19 | D | 523 | TGL | OG2-CB1 | 5.20 | 1.49 | 1.34 |
| 14 | N | 516 | HEA | CHC-C4B | 5.01 | 1.47 | 1.35 |
| 14 | N | 516 | HEA | CHD-C1D | 4.96 | 1.47 | 1.35 |
| 26 | G | 269 | CDL | OB8-CB7 | 4.88 | 1.47 | 1.33 |
| 19 | A | 521 | TGL | OG1-CA1 | 4.87 | 1.47 | 1.33 |
| 19 | O | 1521 | TGL | OG1-CA1 | 4.87 | 1.47 | 1.33 |
| 26 | P | 1270 | CDL | OA6-CA5 | 4.80 | 1.47 | 1.34 |
| 26 | T | 1269 | CDL | OB6-CB5 | 4.80 | 1.47 | 1.34 |
| 22 | B | 229 | PSC | O01-C1 | 4.74 | 1.47 | 1.34 |
| 26 | P | 1270 | CDL | OB8-CB7 | 4.74 | 1.47 | 1.33 |
| 19 | O | 1521 | TGL | OG3-CC1 | 4.68 | 1.47 | 1.33 |
| 22 | R | 1229 | PSC | O03-C19 | 4.68 | 1.47 | 1.33 |
| 19 | D | 523 | TGL | OG1-CA1 | 4.67 | 1.47 | 1.33 |
| 19 | A | 521 | TGL | OG3-CC1 | 4.65 | 1.46 | 1.33 |
| 23 | P | 1525 | CHD | C6-C5 | -4.57 | 1.46 | 1.53 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 19 | N | 1522 | TGL | OG3-CC1 | 4.54 | 1.46 | 1.33 |
| 19 | N | 1522 | TGL | OG1-CA1 | 4.54 | 1.46 | 1.33 |
| 22 | B | 229 | PSC | O03-C19 | 4.49 | 1.46 | 1.33 |
| 19 | Q | 1523 | TGL | OB1-CB1 | 4.43 | 1.35 | 1.22 |
| 19 | A | 521 | TGL | OG2-CB1 | 4.42 | 1.46 | 1.34 |
| 19 | Q | 1523 | TGL | OG3-CC1 | 4.39 | 1.46 | 1.33 |
| 19 | L | 522 | TGL | OG3-CC1 | 4.38 | 1.46 | 1.33 |
| 26 | T | 1269 | CDL | OA8-CA7 | 4.36 | 1.46 | 1.33 |
| 26 | T | 1269 | CDL | OB8-CB7 | 4.27 | 1.45 | 1.33 |
| 22 | R | 1229 | PSC | C13-C12 | 4.23 | 1.56 | 1.31 |
| 26 | G | 269 | CDL | OA8-CA7 | 4.21 | 1.45 | 1.33 |
| 14 | N | 515 | HEA | CHC-C4B | 4.19 | 1.45 | 1.35 |
| 14 | N | 515 | HEA | C1B-C2B | -4.16 | 1.36 | 1.44 |
| 19 | D | 523 | TGL | OG3-CC1 | 4.12 | 1.45 | 1.33 |
| 26 | C | 270 | CDL | OA6-CA5 | 4.11 | 1.45 | 1.34 |
| 20 | N | 1266 | PGV | O03-C19 | 4.01 | 1.45 | 1.33 |
| 25 | T | 263 | PEK | O01-C1 | 4.00 | 1.45 | 1.34 |
| 23 | C | 525 | CHD | C11-C12 | -3.99 | 1.46 | 1.53 |
| 14 | A | 516 | HEA | CHD-C1D | 3.96 | 1.45 | 1.35 |
| 20 | N | 1266 | PGV | O01-C1 | 3.95 | 1.45 | 1.34 |
| 26 | C | 270 | CDL | OB6-CB5 | 3.88 | 1.45 | 1.34 |
| 23 | P | 1525 | CHD | C10-C5 | -3.80 | 1.49 | 1.55 |
| 19 | L | 522 | TGL | C20-CA9 | -3.78 | 1.30 | 1.51 |
| 20 | N | 1524 | PGV | O01-C1 | 3.71 | 1.44 | 1.34 |
| 20 | P | 1268 | PGV | O03-C19 | 3.66 | 1.44 | 1.33 |
| 20 | C | 268 | PGV | O03-C19 | 3.65 | 1.44 | 1.33 |
| 25 | P | 1265 | PEK | P-O12 | 3.64 | 1.74 | 1.59 |
| 20 | A | 522 | PGV | C01-C02 | 3.62 | 1.61 | 1.50 |
| 26 | P | 1270 | CDL | C59-C58 | -3.60 | 1.31 | 1.51 |
| 20 | M | 524 | PGV | O01-C1 | 3.60 | 1.44 | 1.34 |
| 23 | C | 525 | CHD | C23-C24 | 3.60 | 1.58 | 1.50 |
| 26 | P | 1270 | CDL | PB2-OB3 | 3.54 | 1.63 | 1.50 |
| 23 | B | 1085 | CHD | C8-C7 | -3.53 | 1.47 | 1.53 |
| 26 | C | 270 | CDL | C59-C58 | -3.49 | 1.32 | 1.51 |
| 22 | B | 229 | PSC | C13-C12 | 3.48 | 1.52 | 1.31 |
| 23 | C | 525 | CHD | C11-C9 | 3.48 | 1.59 | 1.53 |
| 23 | O | 229 | CHD | C6-C7 | -3.43 | 1.46 | 1.52 |
| 25 | G | 265 | PEK | P-O12 | 3.43 | 1.73 | 1.59 |
| 14 | A | 516 | HEA | C1D-ND | -3.42 | 1.34 | 1.40 |
| 26 | C | 270 | CDL | C79-C78 | -3.38 | 1.32 | 1.51 |
| 19 | N | 1522 | TGL | C20-CA9 | -3.33 | 1.32 | 1.51 |
| 14 | N | 515 | HEA | CHD-C1D | 3.33 | 1.43 | 1.35 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 28 | M | 526 | DMU | C3-C4 | -3.32 | 1.44 | 1.52 |
| 19 | L | 522 | TGL | CC2-CC1 | 3.32 | 1.60 | 1.50 |
| 26 | G | 269 | CDL | C42-C41 | -3.32 | 1.33 | 1.51 |
| 14 | A | 516 | HEA | O11-C11 | 3.30 | 1.50 | 1.42 |
| 28 | Z | 1526 | DMU | C3-C4 | -3.27 | 1.44 | 1.52 |
| 23 | P | 1525 | CHD | O12-C12 | 3.23 | 1.49 | 1.43 |
| 23 | P | 1271 | CHD | C20-C17 | 3.23 | 1.60 | 1.54 |
| 23 | C | 525 | CHD | C15-C14 | -3.21 | 1.47 | 1.54 |
| 19 | L | 522 | TGL | C10-CB9 | -3.21 | 1.33 | 1.51 |
| 14 | N | 516 | HEA | C16-C15 | 3.20 | 1.57 | 1.51 |
| 26 | P | 1270 | CDL | C62-C61 | -3.20 | 1.33 | 1.51 |
| 23 | P | 1525 | CHD | C1-C10 | -3.16 | 1.48 | 1.54 |
| 19 | N | 1522 | TGL | CG3-CG2 | 3.16 | 1.60 | 1.50 |
| 19 | O | 1521 | TGL | C10-CB9 | -3.13 | 1.34 | 1.51 |
| 26 | T | 1269 | CDL | C59-C58 | -3.13 | 1.34 | 1.51 |
| 14 | A | 515 | HEA | C22-C23 | 3.13 | 1.41 | 1.32 |
| 14 | A | 515 | HEA | CHD-C1D | 3.11 | 1.43 | 1.35 |
| 19 | N | 1522 | TGL | C10-CB9 | -3.10 | 1.34 | 1.51 |
| 26 | P | 1270 | CDL | C79-C78 | -3.06 | 1.34 | 1.51 |
| 26 | P | 1270 | CDL | OB6-CB5 | 3.06 | 1.42 | 1.34 |
| 20 | P | 1267 | PGV | C01-C02 | 3.06 | 1.60 | 1.50 |
| 25 | C | 264 | PEK | C2-C1 | 3.06 | 1.59 | 1.50 |
| 26 | P | 1270 | CDL | C82-C81 | -3.06 | 1.34 | 1.51 |
| 19 | O | 1521 | TGL | C20-CA9 | -3.04 | 1.34 | 1.51 |
| 26 | G | 269 | CDL | C59-C58 | -3.04 | 1.34 | 1.51 |
| 26 | P | 1270 | CDL | C19-C18 | -3.04 | 1.34 | 1.51 |
| 19 | D | 523 | TGL | C20-CA9 | -3.04 | 1.34 | 1.51 |
| 19 | A | 521 | TGL | C10-CB9 | -3.03 | 1.34 | 1.51 |
| 23 | P | 1525 | CHD | C6-C7 | -3.03 | 1.47 | 1.52 |
| 23 | O | 229 | CHD | C22-C20 | 3.02 | 1.62 | 1.54 |
| 19 | A | 521 | TGL | C20-CA9 | -3.00 | 1.34 | 1.51 |
| 23 | C | 525 | CHD | C10-C5 | -3.00 | 1.50 | 1.55 |
| 26 | C | 270 | CDL | C62-C61 | -3.00 | 1.34 | 1.51 |
| 26 | T | 1269 | CDL | C79-C78 | -2.98 | 1.34 | 1.51 |
| 26 | C | 270 | CDL | C82-C81 | -2.96 | 1.35 | 1.51 |
| 23 | B | 1085 | CHD | O12-C12 | 2.95 | 1.48 | 1.43 |
| 23 | B | 1085 | CHD | C13-C14 | -2.94 | 1.50 | 1.55 |
| 14 | A | 515 | HEA | C12-C13 | 2.93 | 1.63 | 1.53 |
| 28 | P | 1272 | DMU | O1-C10 | 2.92 | 1.49 | 1.41 |
| 26 | C | 270 | CDL | C19-C18 | -2.91 | 1.35 | 1.51 |
| 26 | T | 1269 | CDL | C42-C41 | -2.91 | 1.35 | 1.51 |
| 20 | C | 268 | PGV | P-O11 | 2.90 | 1.71 | 1.59 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 26 | T | 1269 | CDL | C19-C18 | -2.90 | 1.35 | 1.51 |
| 19 | Q | 1523 | TGL | C10-CB9 | -2.89 | 1.35 | 1.51 |
| 14 | A | 515 | HEA | C1D-ND | -2.88 | 1.35 | 1.40 |
| 23 | O | 229 | CHD | O12-C12 | 2.87 | 1.48 | 1.43 |
| 26 | P | 1270 | CDL | C22-C21 | -2.87 | 1.35 | 1.51 |
| 26 | C | 270 | CDL | PB2-OB3 | 2.86 | 1.61 | 1.50 |
| 26 | G | 269 | CDL | C19-C18 | -2.84 | 1.35 | 1.51 |
| 14 | N | 515 | HEA | C3B-C2B | 2.83 | 1.41 | 1.34 |
| 26 | G | 269 | CDL | C62-C61 | -2.83 | 1.35 | 1.51 |
| 19 | Q | 1523 | TGL | C15-CC9 | -2.83 | 1.35 | 1.51 |
| 14 | A | 516 | HEA | CHC-C4B | 2.82 | 1.42 | 1.35 |
| 26 | G | 269 | CDL | C79-C78 | -2.82 | 1.35 | 1.51 |
| 19 | D | 523 | TGL | C15-CC9 | -2.81 | 1.35 | 1.51 |
| 28 | P | 1272 | DMU | O5-C4 | 2.80 | 1.51 | 1.44 |
| 20 | A | 522 | PGV | O01-C1 | 2.79 | 1.42 | 1.34 |
| 25 | G | 265 | PEK | P-O11 | 2.78 | 1.70 | 1.59 |
| 28 | M | 526 | DMU | C6-C1 | -2.78 | 1.44 | 1.52 |
| 25 | G | 1263 | PEK | C03-C02 | 2.77 | 1.59 | 1.50 |
| 25 | C | 264 | PEK | O01-C1 | 2.77 | 1.42 | 1.34 |
| 26 | C | 270 | CDL | C22-C21 | -2.76 | 1.36 | 1.51 |
| 26 | G | 269 | CDL | C39-C38 | -2.76 | 1.36 | 1.51 |
| 23 | C | 525 | CHD | C18-C13 | 2.76 | 1.58 | 1.54 |
| 23 | P | 1525 | CHD | C10-C9 | 2.76 | 1.61 | 1.56 |
| 26 | C | 270 | CDL | PA1-OA5 | 2.76 | 1.70 | 1.59 |
| 26 | G | 269 | CDL | C22-C21 | -2.74 | 1.36 | 1.51 |
| 23 | P | 1525 | CHD | C11-C9 | 2.74 | 1.58 | 1.53 |
| 26 | T | 1269 | CDL | C22-C21 | -2.74 | 1.36 | 1.51 |
| 26 | P | 1270 | CDL | C39-C38 | -2.70 | 1.36 | 1.51 |
| 28 | P | 1272 | DMU | C2-C1 | 2.70 | 1.59 | 1.52 |
| 19 | Q | 1523 | TGL | C20-CA9 | -2.69 | 1.36 | 1.51 |
| 26 | G | 269 | CDL | C82-C81 | -2.66 | 1.36 | 1.51 |
| 25 | P | 1265 | PEK | P-O11 | 2.63 | 1.70 | 1.59 |
| 14 | A | 515 | HEA | O11-C11 | 2.63 | 1.48 | 1.42 |
| 23 | O | 229 | CHD | C13-C12 | -2.62 | 1.50 | 1.54 |
| 14 | A | 516 | HEA | C3B-C2B | 2.62 | 1.40 | 1.34 |
| 26 | T | 1269 | CDL | C62-C61 | -2.61 | 1.36 | 1.51 |
| 26 | C | 270 | CDL | C39-C38 | -2.60 | 1.37 | 1.51 |
| 23 | B | 1085 | CHD | C4-C5 | 2.59 | 1.58 | 1.53 |
| 20 | A | 522 | PGV | O03-C19 | 2.58 | 1.40 | 1.33 |
| 28 | P | 1272 | DMU | O5-C6 | 2.58 | 1.48 | 1.41 |
| 25 | P | 1264 | PEK | C2-C1 | 2.58 | 1.58 | 1.50 |
| 20 | P | 1268 | PGV | P-O11 | 2.57 | 1.69 | 1.59 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 25 | C | 264 | PEK | O03-C01 | -2.57 | 1.39 | 1.45 |
| 14 | N | 516 | HEA | C4B-C3B | -2.56 | 1.40 | 1.44 |
| 23 | B | 1085 | CHD | C23-C24 | 2.56 | 1.56 | 1.50 |
| 26 | T | 1269 | CDL | C39-C38 | -2.56 | 1.37 | 1.51 |
| 20 | A | 522 | PGV | O01-C02 | -2.56 | 1.40 | 1.46 |
| 23 | O | 229 | CHD | O7-C7 | 2.55 | 1.48 | 1.43 |
| 26 | C | 270 | CDL | PB2-OB2 | 2.54 | 1.69 | 1.59 |
| 19 | O | 1521 | TGL | C15-CC9 | -2.53 | 1.37 | 1.51 |
| 23 | O | 229 | CHD | C13-C14 | -2.52 | 1.51 | 1.55 |
| 23 | P | 1525 | CHD | C19-C10 | 2.52 | 1.58 | 1.54 |
| 23 | W | 1059 | CHD | C20-C17 | 2.49 | 1.58 | 1.54 |
| 26 | T | 1269 | CDL | C82-C81 | -2.49 | 1.37 | 1.51 |
| 14 | A | 515 | HEA | C12-C11 | -2.48 | 1.48 | 1.52 |
| 23 | B | 1085 | CHD | C13-C12 | -2.47 | 1.50 | 1.54 |
| 14 | A | 515 | HEA | CAA-C2A | 2.46 | 1.56 | 1.52 |
| 28 | M | 526 | DMU | O16-C6 | 2.44 | 1.44 | 1.40 |
| 19 | L | 522 | TGL | C15-CC9 | -2.43 | 1.37 | 1.51 |
| 28 | G | 272 | DMU | O5-C6 | 2.43 | 1.48 | 1.41 |
| 25 | G | 1263 | PEK | P-O11 | 2.42 | 1.69 | 1.59 |
| 23 | C | 271 | CHD | O26-C24 | -2.42 | 1.22 | 1.30 |
| 23 | C | 525 | CHD | O25-C24 | 2.42 | 1.30 | 1.22 |
| 26 | C | 270 | CDL | C42-C41 | -2.42 | 1.38 | 1.51 |
| 19 | N | 1522 | TGL | C15-CC9 | -2.41 | 1.38 | 1.51 |
| 28 | Z | 1526 | DMU | O16-C6 | 2.41 | 1.44 | 1.40 |
| 19 | N | 1522 | TGL | OB1-CB1 | 2.41 | 1.29 | 1.22 |
| 14 | A | 515 | HEA | C4B-NB | -2.40 | 1.36 | 1.40 |
| 20 | N | 1266 | PGV | O01-C02 | -2.38 | 1.40 | 1.46 |
| 23 | O | 229 | CHD | C19-C10 | 2.38 | 1.58 | 1.54 |
| 14 | N | 516 | HEA | C4D-C3D | -2.36 | 1.41 | 1.45 |
| 14 | A | 515 | HEA | C2A-C1A | -2.36 | 1.37 | 1.42 |
| 14 | N | 516 | HEA | CMB-C2B | 2.36 | 1.55 | 1.50 |
| 23 | J | 60 | CHD | C20-C17 | 2.35 | 1.58 | 1.54 |
| 14 | A | 515 | HEA | CBD-CGD | 2.32 | 1.56 | 1.50 |
| 25 | C | 264 | PEK | C23-C22 | -2.32 | 1.43 | 1.52 |
| 23 | C | 271 | CHD | C10-C9 | -2.31 | 1.51 | 1.56 |
| 14 | N | 516 | HEA | C3B-C2B | 2.31 | 1.40 | 1.34 |
| 14 | N | 515 | HEA | C12-C13 | 2.30 | 1.60 | 1.53 |
| 26 | P | 1270 | CDL | PB2-OB2 | 2.29 | 1.68 | 1.59 |
| 14 | N | 516 | HEA | C1C-NC | 2.29 | 1.40 | 1.36 |
| 19 | N | 1522 | TGL | OG2-CG2 | 2.28 | 1.52 | 1.46 |
| 23 | B | 1085 | CHD | C21-C20 | 2.26 | 1.58 | 1.53 |
| 20 | N | 1524 | PGV | C21-C20 | 2.25 | 1.60 | 1.52 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 19 | A | 521 | TGL | C15-CC9 | -2.25 | 1.38 | 1.51 |
| 20 | C | 268 | PGV | O04-C19 | -2.25 | 1.15 | 1.22 |
| 20 | N | 1266 | PGV | C01-C02 | 2.25 | 1.57 | 1.50 |
| 14 | N | 515 | HEA | C4B-C3B | -2.24 | 1.40 | 1.44 |
| 14 | N | 516 | HEA | O11-C11 | 2.24 | 1.47 | 1.42 |
| 28 | Z | 1526 | DMU | O16-C18 | 2.23 | 1.49 | 1.43 |
| 23 | P | 1525 | CHD | C13-C12 | -2.21 | 1.51 | 1.54 |
| 14 | A | 516 | HEA | CMB-C2B | 2.21 | 1.55 | 1.50 |
| 19 | D | 523 | TGL | C10-CB9 | -2.21 | 1.39 | 1.51 |
| 28 | G | 272 | DMU | C3-C4 | -2.21 | 1.47 | 1.52 |
| 14 | A | 515 | HEA | C21-C22 | 2.21 | 1.57 | 1.50 |
| 28 | Z | 1526 | DMU | C2-C1 | 2.20 | 1.57 | 1.52 |
| 23 | O | 229 | CHD | C4-C5 | 2.20 | 1.57 | 1.53 |
| 23 | P | 1525 | CHD | C21-C20 | 2.20 | 1.58 | 1.53 |
| 25 | P | 1265 | PEK | C22-C21 | 2.19 | 1.57 | 1.50 |
| 28 | P | 1272 | DMU | O7-C10 | 2.19 | 1.47 | 1.41 |
| 28 | G | 272 | DMU | O1-C10 | 2.18 | 1.47 | 1.41 |
| 14 | N | 515 | HEA | O11-C11 | 2.18 | 1.47 | 1.42 |
| 23 | P | 1525 | CHD | C13-C17 | 2.18 | 1.59 | 1.55 |
| 25 | P | 1264 | PEK | O03-C21 | 2.18 | 1.39 | 1.33 |
| 23 | C | 525 | CHD | C22-C20 | 2.17 | 1.60 | 1.54 |
| 23 | J | 60 | CHD | C11-C9 | 2.17 | 1.57 | 1.53 |
| 26 | G | 269 | CDL | C17-C16 | 2.17 | 1.63 | 1.51 |
| 23 | P | 1525 | CHD | O7-C7 | 2.15 | 1.47 | 1.43 |
| 14 | A | 516 | HEA | CBD-CGD | 2.15 | 1.55 | 1.50 |
| 26 | P | 1270 | CDL | PA1-OA5 | 2.15 | 1.68 | 1.59 |
| 23 | O | 229 | CHD | C10-C5 | -2.14 | 1.51 | 1.55 |
| 19 | N | 1522 | TGL | CG1-CG2 | 2.14 | 1.57 | 1.50 |
| 28 | G | 272 | DMU | O7-C10 | 2.14 | 1.47 | 1.41 |
| 26 | P | 1270 | CDL | C42-C41 | -2.14 | 1.39 | 1.51 |
| 23 | B | 1085 | CHD | C4-C3 | 2.12 | 1.55 | 1.51 |
| 28 | G | 272 | DMU | C2-C1 | 2.10 | 1.57 | 1.52 |
| 23 | P | 1525 | CHD | C16-C17 | 2.10 | 1.58 | 1.54 |
| 25 | T | 263 | PEK | C03-C02 | 2.09 | 1.57 | 1.50 |
| 25 | P | 1265 | PEK | C03-C02 | 2.09 | 1.57 | 1.50 |
| 25 | T | 263 | PEK | C01-C02 | 2.08 | 1.57 | 1.50 |
| 20 | P | 1267 | PGV | O05-C05 | 2.08 | 1.49 | 1.43 |
| 20 | N | 1266 | PGV | C04-C05 | 2.07 | 1.58 | 1.51 |
| 28 | M | 526 | DMU | C8-C9 | -2.07 | 1.48 | 1.53 |
| 14 | A | 515 | HEA | C4C-NC | -2.06 | 1.31 | 1.36 |
| 14 | N | 516 | HEA | O2D-CGD | -2.05 | 1.23 | 1.30 |
| 14 | A | 516 | HEA | C14-C15 | 2.04 | 1.37 | 1.33 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|-------|-------------|----------|
| 14 | N | 515 | HEA | C4B-NB | -2.03 | 1.36 | 1.40 |
| 20 | C | 267 | PGV | C03-C02 | 2.03 | 1.56 | 1.50 |
| 14 | N | 515 | HEA | C4D-ND | -2.03 | 1.34 | 1.38 |
| 23 | O | 229 | CHD | C1-C2 | -2.01 | 1.49 | 1.53 |
| 14 | N | 515 | HEA | CAA-C2A | 2.00 | 1.55 | 1.52 |

All (773) bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 23 | B | 1085 | CHD | C6-C5-C10 | 15.62 | 129.24 | 112.66 |
| 23 | O | 229 | CHD | C6-C5-C10 | 15.44 | 129.05 | 112.66 |
| 25 | P | 1264 | PEK | C2-C3-C4 | 14.69 | 139.41 | 113.23 |
| 23 | C | 271 | CHD | C10-C9-C8 | 13.95 | 126.80 | 111.82 |
| 23 | O | 229 | CHD | C14-C13-C12 | 13.72 | 120.18 | 107.40 |
| 23 | B | 1085 | CHD | C1-C10-C5 | 13.40 | 127.58 | 107.77 |
| 23 | P | 1271 | CHD | C10-C9-C8 | 13.24 | 126.04 | 111.82 |
| 23 | P | 1525 | CHD | C6-C5-C10 | 12.80 | 126.25 | 112.66 |
| 23 | P | 1525 | CHD | C14-C13-C12 | 12.75 | 119.28 | 107.40 |
| 23 | O | 229 | CHD | C1-C10-C5 | 12.45 | 126.19 | 107.77 |
| 23 | C | 525 | CHD | C6-C5-C10 | 12.03 | 125.43 | 112.66 |
| 25 | C | 264 | PEK | C2-C3-C4 | 11.96 | 134.54 | 113.23 |
| 23 | P | 1525 | CHD | C1-C10-C5 | 11.50 | 124.78 | 107.77 |
| 23 | J | 60 | CHD | C10-C9-C8 | 11.28 | 123.93 | 111.82 |
| 23 | B | 1085 | CHD | C14-C13-C12 | 11.13 | 117.76 | 107.40 |
| 23 | O | 229 | CHD | C19-C10-C9 | -10.98 | 96.05 | 111.18 |
| 23 | W | 1059 | CHD | C10-C9-C8 | 10.95 | 123.57 | 111.82 |
| 23 | C | 525 | CHD | C14-C13-C12 | 10.91 | 117.56 | 107.40 |
| 23 | P | 1525 | CHD | C19-C10-C9 | -10.84 | 96.25 | 111.18 |
| 23 | P | 1271 | CHD | C6-C5-C10 | 10.69 | 124.01 | 112.66 |
| 23 | O | 229 | CHD | C18-C13-C12 | -10.62 | 98.26 | 109.07 |
| 23 | C | 525 | CHD | C19-C10-C9 | -10.52 | 96.68 | 111.18 |
| 23 | C | 525 | CHD | C1-C10-C5 | 10.01 | 122.58 | 107.77 |
| 23 | J | 60 | CHD | C13-C17-C20 | 10.01 | 131.44 | 119.50 |
| 23 | P | 1271 | CHD | C18-C13-C12 | -9.88 | 99.01 | 109.07 |
| 23 | P | 1525 | CHD | C17-C13-C12 | 9.83 | 126.64 | 117.67 |
| 23 | C | 525 | CHD | C4-C3-C2 | 9.55 | 121.96 | 110.55 |
| 23 | J | 60 | CHD | C18-C13-C12 | -9.36 | 99.54 | 109.07 |
| 23 | W | 1059 | CHD | C13-C17-C20 | 9.20 | 130.48 | 119.50 |
| 23 | B | 1085 | CHD | C6-C5-C4 | -9.13 | 100.67 | 111.19 |
| 23 | C | 271 | CHD | C18-C13-C12 | -9.13 | 99.77 | 109.07 |
| 23 | B | 1085 | CHD | C19-C10-C9 | -9.13 | 98.61 | 111.18 |
| 23 | W | 1059 | CHD | C14-C8-C7 | 9.05 | 123.81 | 111.81 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 23 | B | 1085 | CHD | C18-C13-C17 | -9.04 | 97.06 | 111.21 |
| 23 | C | 271 | CHD | C6-C5-C10 | 9.04 | 122.25 | 112.66 |
| 23 | B | 1085 | CHD | C18-C13-C12 | -8.97 | 99.94 | 109.07 |
| 23 | O | 229 | CHD | C4-C3-C2 | 8.93 | 121.22 | 110.55 |
| 23 | P | 1525 | CHD | C15-C14-C13 | 8.90 | 112.28 | 103.55 |
| 23 | P | 1271 | CHD | C6-C7-C8 | 8.75 | 120.82 | 111.48 |
| 23 | W | 1059 | CHD | C18-C13-C12 | -8.67 | 100.24 | 109.07 |
| 23 | C | 271 | CHD | C14-C13-C12 | 8.65 | 115.46 | 107.40 |
| 23 | C | 271 | CHD | C6-C7-C8 | 8.65 | 120.71 | 111.48 |
| 28 | G | 272 | DMU | O16-C6-C1 | 8.53 | 121.63 | 108.30 |
| 23 | P | 1525 | CHD | C18-C13-C12 | -8.47 | 100.44 | 109.07 |
| 28 | M | 526 | DMU | O1-C10-C5 | 8.45 | 128.23 | 110.35 |
| 23 | P | 1271 | CHD | C1-C10-C5 | 8.39 | 120.18 | 107.77 |
| 23 | C | 271 | CHD | C1-C10-C5 | 8.38 | 120.17 | 107.77 |
| 19 | L | 522 | TGL | OG3-CC1-OC1 | -8.35 | 102.51 | 123.59 |
| 23 | P | 1271 | CHD | C1-C2-C3 | 8.35 | 121.18 | 110.47 |
| 23 | C | 271 | CHD | O7-C7-C6 | -8.24 | 89.49 | 109.94 |
| 23 | W | 1059 | CHD | C14-C13-C12 | 8.12 | 114.96 | 107.40 |
| 23 | B | 1085 | CHD | C10-C9-C8 | 8.05 | 120.47 | 111.82 |
| 23 | J | 60 | CHD | C14-C13-C12 | 8.02 | 114.87 | 107.40 |
| 23 | J | 60 | CHD | C14-C8-C7 | 7.94 | 122.33 | 111.81 |
| 23 | J | 60 | CHD | C6-C7-C8 | 7.91 | 119.92 | 111.48 |
| 23 | P | 1525 | CHD | C4-C3-C2 | 7.89 | 119.98 | 110.55 |
| 23 | W | 1059 | CHD | C1-C2-C3 | 7.89 | 120.59 | 110.47 |
| 23 | C | 271 | CHD | C4-C3-C2 | 7.85 | 119.93 | 110.55 |
| 23 | C | 271 | CHD | C11-C9-C8 | 7.79 | 122.27 | 110.88 |
| 23 | W | 1059 | CHD | C6-C7-C8 | 7.77 | 119.78 | 111.48 |
| 28 | G | 272 | DMU | O1-C9-C8 | 7.64 | 123.57 | 109.69 |
| 28 | Z | 1526 | DMU | O1-C9-C8 | 7.64 | 123.56 | 109.69 |
| 23 | C | 525 | CHD | C18-C13-C17 | -7.60 | 99.31 | 111.21 |
| 23 | O | 229 | CHD | C9-C8-C7 | 7.60 | 120.97 | 111.88 |
| 23 | O | 229 | CHD | C6-C5-C4 | -7.52 | 102.53 | 111.19 |
| 23 | P | 1271 | CHD | C16-C17-C20 | 7.48 | 123.72 | 112.15 |
| 23 | C | 271 | CHD | C15-C14-C8 | 7.41 | 128.69 | 118.33 |
| 23 | O | 229 | CHD | C10-C9-C8 | 7.37 | 119.73 | 111.82 |
| 23 | B | 1085 | CHD | C17-C13-C12 | 7.35 | 124.38 | 117.67 |
| 23 | C | 525 | CHD | O12-C12-C13 | -7.31 | 98.67 | 111.03 |
| 23 | W | 1059 | CHD | C15-C14-C13 | 7.29 | 110.70 | 103.55 |
| 23 | J | 60 | CHD | C1-C2-C3 | 7.29 | 119.82 | 110.47 |
| 23 | J | 60 | CHD | C17-C13-C12 | 7.27 | 124.30 | 117.67 |
| 23 | W | 1059 | CHD | C4-C5-C10 | 7.25 | 120.35 | 112.66 |
| 23 | C | 525 | CHD | C18-C13-C14 | -7.19 | 99.97 | 111.21 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 23 | J | 60 | CHD | C1-C10-C5 | 7.12 | 118.30 | 107.77 |
| 28 | Z | 1526 | DMU | O1-C10-C5 | 7.09 | 125.36 | 110.35 |
| 23 | W | 1059 | CHD | C1-C10-C5 | 7.08 | 118.25 | 107.77 |
| 20 | C | 268 | PGV | O03-C19-C20 | 7.06 | 134.07 | 111.91 |
| 23 | W | 1059 | CHD | C17-C13-C12 | 7.06 | 124.11 | 117.67 |
| 23 | P | 1525 | CHD | C18-C13-C14 | -7.06 | 100.17 | 111.21 |
| 28 | G | 272 | DMU | C18-O16-C6 | 7.04 | 125.52 | 113.84 |
| 23 | P | 1271 | CHD | O7-C7-C6 | -7.01 | 92.55 | 109.94 |
| 23 | P | 1271 | CHD | C15-C14-C8 | 6.98 | 128.10 | 118.33 |
| 23 | J | 60 | CHD | C6-C5-C10 | 6.96 | 120.05 | 112.66 |
| 23 | W | 1059 | CHD | C4-C3-C2 | 6.92 | 118.82 | 110.55 |
| 23 | J | 60 | CHD | C9-C11-C12 | 6.91 | 123.43 | 114.30 |
| 23 | J | 60 | CHD | C4-C3-C2 | 6.88 | 118.77 | 110.55 |
| 28 | G | 272 | DMU | O5-C4-C57 | 6.84 | 123.45 | 106.44 |
| 23 | P | 1271 | CHD | C23-C22-C20 | -6.81 | 102.07 | 114.52 |
| 23 | C | 525 | CHD | C17-C13-C12 | 6.79 | 123.87 | 117.67 |
| 28 | Z | 1526 | DMU | O16-C6-C1 | 6.76 | 118.85 | 108.30 |
| 23 | C | 271 | CHD | C19-C10-C9 | -6.72 | 101.92 | 111.18 |
| 23 | P | 1271 | CHD | C5-C4-C3 | 6.72 | 122.62 | 112.76 |
| 23 | C | 271 | CHD | C15-C14-C13 | 6.71 | 110.13 | 103.55 |
| 23 | P | 1525 | CHD | C23-C22-C20 | -6.70 | 102.27 | 114.52 |
| 28 | Z | 1526 | DMU | O5-C6-C1 | 6.70 | 124.53 | 110.35 |
| 26 | C | 270 | CDL | CB4-OB6-CB5 | -6.70 | 101.30 | 117.79 |
| 23 | B | 1085 | CHD | C4-C3-C2 | 6.70 | 118.55 | 110.55 |
| 23 | C | 271 | CHD | C16-C17-C20 | 6.70 | 122.51 | 112.15 |
| 26 | P | 1270 | CDL | CB4-OB6-CB5 | -6.69 | 101.32 | 117.79 |
| 23 | W | 1059 | CHD | C16-C17-C13 | 6.67 | 110.10 | 103.55 |
| 23 | W | 1059 | CHD | C5-C6-C7 | 6.65 | 121.80 | 114.46 |
| 23 | J | 60 | CHD | C5-C6-C7 | 6.61 | 121.76 | 114.46 |
| 28 | M | 526 | DMU | O1-C9-C8 | 6.53 | 121.55 | 109.69 |
| 26 | P | 1270 | CDL | OA6-CA5-C11 | 6.52 | 125.56 | 111.50 |
| 23 | J | 60 | CHD | C16-C17-C13 | 6.52 | 109.95 | 103.55 |
| 23 | J | 60 | CHD | C5-C4-C3 | 6.52 | 122.33 | 112.76 |
| 26 | T | 1269 | CDL | OB6-CB5-C51 | 6.49 | 125.48 | 111.50 |
| 14 | A | 515 | HEA | O11-C11-C12 | 6.46 | 127.47 | 109.42 |
| 23 | W | 1059 | CHD | C9-C10-C5 | 6.42 | 117.60 | 108.58 |
| 23 | P | 1271 | CHD | C17-C13-C12 | 6.42 | 123.52 | 117.67 |
| 19 | D | 523 | TGL | OG2-CB1-CB2 | -6.41 | 97.67 | 111.50 |
| 23 | C | 525 | CHD | C15-C14-C13 | 6.40 | 109.83 | 103.55 |
| 23 | J | 60 | CHD | C15-C14-C13 | 6.39 | 109.82 | 103.55 |
| 23 | P | 1271 | CHD | C11-C9-C8 | 6.36 | 120.18 | 110.88 |
| 23 | C | 525 | CHD | C23-C22-C20 | -6.36 | 102.91 | 114.52 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 23 | B | 1085 | CHD | C17-C13-C14 | 6.33 | 106.48 | 100.09 |
| 14 | A | 516 | HEA | C3C-C4C-NC | 6.33 | 117.39 | 109.21 |
| 23 | C | 271 | CHD | C1-C2-C3 | 6.33 | 118.59 | 110.47 |
| 14 | A | 516 | HEA | CHA-C4D-C3D | -6.27 | 115.61 | 124.84 |
| 26 | C | 270 | CDL | OA6-CA5-C11 | 6.27 | 125.02 | 111.50 |
| 28 | M | 526 | DMU | O5-C4-C57 | 6.26 | 122.01 | 106.44 |
| 28 | G | 272 | DMU | O1-C10-C5 | 6.26 | 123.59 | 110.35 |
| 19 | O | 1521 | TGL | OG2-CB1-CB2 | 6.25 | 124.97 | 111.50 |
| 23 | C | 525 | CHD | C10-C9-C8 | 6.25 | 118.53 | 111.82 |
| 23 | P | 1271 | CHD | C14-C13-C12 | 6.21 | 113.19 | 107.40 |
| 14 | A | 515 | HEA | C13-C12-C11 | -6.19 | 105.05 | 114.35 |
| 26 | G | 269 | CDL | OA6-CA5-C11 | 6.17 | 124.80 | 111.50 |
| 28 | P | 1272 | DMU | O1-C9-C8 | 6.16 | 120.88 | 109.69 |
| 23 | C | 271 | CHD | C16-C17-C13 | 6.14 | 109.58 | 103.55 |
| 23 | W | 1059 | CHD | C6-C5-C10 | 6.14 | 119.17 | 112.66 |
| 23 | C | 525 | CHD | C22-C20-C17 | -6.13 | 97.61 | 110.28 |
| 28 | P | 1272 | DMU | C8-C7-C5 | 6.12 | 121.51 | 110.82 |
| 28 | M | 526 | DMU | C6-O5-C4 | 6.07 | 125.60 | 113.69 |
| 28 | P | 1272 | DMU | O1-C9-C11 | 6.07 | 121.52 | 106.44 |
| 28 | M | 526 | DMU | O16-C6-C1 | 6.05 | 117.75 | 108.30 |
| 23 | B | 1085 | CHD | O12-C12-C13 | -6.05 | 100.81 | 111.03 |
| 23 | O | 229 | CHD | C15-C14-C13 | 6.01 | 109.44 | 103.55 |
| 23 | P | 1271 | CHD | C11-C12-C13 | 6.00 | 117.40 | 111.24 |
| 23 | O | 229 | CHD | C1-C2-C3 | 5.99 | 118.16 | 110.47 |
| 23 | W | 1059 | CHD | C11-C12-C13 | 5.98 | 117.38 | 111.24 |
| 25 | G | 265 | PEK | O03-C21-C22 | 5.96 | 130.62 | 111.91 |
| 23 | P | 1525 | CHD | C5-C4-C3 | 5.96 | 121.51 | 112.76 |
| 23 | O | 229 | CHD | C18-C13-C14 | -5.96 | 101.89 | 111.21 |
| 28 | Z | 1526 | DMU | C8-C7-C5 | 5.93 | 121.17 | 110.82 |
| 28 | P | 1272 | DMU | O5-C4-C3 | 5.92 | 122.22 | 109.75 |
| 23 | P | 1525 | CHD | C11-C9-C10 | 5.91 | 119.82 | 113.73 |
| 19 | A | 521 | TGL | CG2-OG2-CB1 | 5.90 | 132.31 | 117.79 |
| 28 | P | 1272 | DMU | O5-C6-O16 | 5.89 | 123.92 | 109.97 |
| 28 | P | 1272 | DMU | O1-C10-C5 | 5.89 | 122.81 | 110.35 |
| 19 | N | 1522 | TGL | CG2-OG2-CB1 | 5.84 | 132.17 | 117.79 |
| 23 | W | 1059 | CHD | C15-C14-C8 | 5.81 | 126.45 | 118.33 |
| 23 | O | 229 | CHD | C21-C20-C17 | -5.81 | 104.03 | 112.92 |
| 23 | W | 1059 | CHD | C9-C11-C12 | 5.79 | 121.95 | 114.30 |
| 23 | J | 60 | CHD | C11-C12-C13 | 5.79 | 117.19 | 111.24 |
| 19 | O | 1521 | TGL | CG2-OG2-CB1 | 5.77 | 132.00 | 117.79 |
| 23 | P | 1271 | CHD | C15-C14-C13 | 5.74 | 109.18 | 103.55 |
| 23 | C | 525 | CHD | C11-C9-C10 | 5.73 | 119.63 | 113.73 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 26 | T | 1269 | CDL | OA6-CA5-C11 | 5.69 | 123.77 | 111.50 |
| 23 | P | 1525 | CHD | C18-C13-C17 | -5.69 | 102.31 | 111.21 |
| 23 | P | 1271 | CHD | C4-C3-C2 | 5.68 | 117.33 | 110.55 |
| 23 | J | 60 | CHD | C4-C5-C10 | 5.65 | 118.66 | 112.66 |
| 23 | O | 229 | CHD | O12-C12-C13 | -5.65 | 101.48 | 111.03 |
| 23 | P | 1525 | CHD | C22-C20-C17 | -5.64 | 98.62 | 110.28 |
| 26 | C | 270 | CDL | OB8-CB7-C71 | 5.57 | 129.38 | 111.91 |
| 28 | Z | 1526 | DMU | O1-C9-C11 | 5.57 | 120.28 | 106.44 |
| 23 | J | 60 | CHD | C15-C14-C8 | 5.56 | 126.10 | 118.33 |
| 19 | L | 522 | TGL | CC3-CC2-CC1 | 5.55 | 133.81 | 113.62 |
| 23 | C | 271 | CHD | C5-C6-C7 | 5.54 | 120.57 | 114.46 |
| 28 | M | 526 | DMU | C8-C7-C5 | 5.53 | 120.48 | 110.82 |
| 23 | C | 271 | CHD | C5-C4-C3 | 5.50 | 120.83 | 112.76 |
| 23 | P | 1271 | CHD | C19-C10-C1 | -5.47 | 99.45 | 108.26 |
| 23 | P | 1525 | CHD | O12-C12-C13 | -5.44 | 101.83 | 111.03 |
| 23 | P | 1525 | CHD | C10-C9-C8 | 5.44 | 117.66 | 111.82 |
| 23 | J | 60 | CHD | C2-C1-C10 | 5.44 | 122.11 | 112.78 |
| 23 | W | 1059 | CHD | C5-C4-C3 | 5.43 | 120.74 | 112.76 |
| 20 | P | 1268 | PGV | O03-C19-C20 | 5.41 | 128.90 | 111.91 |
| 28 | P | 1272 | DMU | O5-C4-C57 | 5.39 | 119.83 | 106.44 |
| 23 | W | 1059 | CHD | C11-C9-C8 | 5.38 | 118.75 | 110.88 |
| 26 | P | 1270 | CDL | OB8-CB7-C71 | 5.38 | 128.78 | 111.91 |
| 14 | A | 516 | HEA | C16-C15-C14 | -5.37 | 110.25 | 121.12 |
| 23 | C | 525 | CHD | C17-C13-C14 | 5.34 | 105.48 | 100.09 |
| 28 | G | 272 | DMU | C6-O5-C4 | 5.32 | 124.14 | 113.69 |
| 28 | M | 526 | DMU | C2-C3-C4 | 5.31 | 123.11 | 110.93 |
| 19 | L | 522 | TGL | CG2-OG2-CB1 | 5.30 | 130.84 | 117.79 |
| 20 | P | 1268 | PGV | O01-C1-C2 | 5.30 | 122.92 | 111.50 |
| 23 | O | 229 | CHD | C9-C11-C12 | 5.30 | 121.30 | 114.30 |
| 23 | P | 1525 | CHD | O3-C3-C4 | 5.29 | 120.39 | 109.85 |
| 23 | O | 229 | CHD | C11-C9-C10 | 5.29 | 119.18 | 113.73 |
| 28 | G | 272 | DMU | C8-C7-C5 | 5.28 | 120.05 | 110.82 |
| 28 | P | 1272 | DMU | O16-C6-C1 | 5.28 | 116.55 | 108.30 |
| 23 | P | 1271 | CHD | O12-C12-C11 | -5.27 | 98.39 | 109.12 |
| 23 | O | 229 | CHD | C17-C13-C14 | 5.26 | 105.40 | 100.09 |
| 23 | J | 60 | CHD | C19-C10-C5 | -5.25 | 101.45 | 110.36 |
| 23 | J | 60 | CHD | C9-C10-C5 | 5.25 | 115.96 | 108.58 |
| 23 | P | 1271 | CHD | C16-C17-C13 | 5.25 | 108.70 | 103.55 |
| 14 | N | 515 | HEA | C13-C12-C11 | -5.24 | 106.48 | 114.35 |
| 25 | P | 1264 | PEK | O01-C1-O02 | -5.20 | 111.13 | 123.70 |
| 28 | Z | 1526 | DMU | C2-C3-C4 | 5.20 | 122.86 | 110.93 |
| 28 | G | 272 | DMU | C2-C3-C4 | 5.19 | 122.83 | 110.93 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 19 | N | 1522 | TGL | OG3-CC1-OC1 | -5.15 | 110.60 | 123.59 |
| 23 | P | 1271 | CHD | C18-C13-C17 | -5.15 | 103.16 | 111.21 |
| 28 | P | 1272 | DMU | C6-C1-C2 | 5.12 | 120.66 | 110.00 |
| 23 | B | 1085 | CHD | C5-C4-C3 | 5.10 | 120.25 | 112.76 |
| 23 | P | 1525 | CHD | C9-C8-C7 | 5.08 | 117.95 | 111.88 |
| 23 | P | 1525 | CHD | C4-C5-C10 | -5.07 | 107.27 | 112.66 |
| 20 | N | 1524 | PGV | C4-C3-C2 | -5.05 | 95.03 | 113.19 |
| 23 | P | 1525 | CHD | C13-C17-C20 | 5.03 | 125.50 | 119.50 |
| 28 | P | 1272 | DMU | C18-O16-C6 | 5.02 | 122.17 | 113.84 |
| 26 | P | 1270 | CDL | C52-C51-CB5 | -5.01 | 95.38 | 113.62 |
| 23 | O | 229 | CHD | C17-C13-C12 | 5.00 | 122.23 | 117.67 |
| 23 | C | 525 | CHD | C9-C8-C7 | 4.98 | 117.83 | 111.88 |
| 25 | C | 264 | PEK | O01-C1-O02 | -4.98 | 111.67 | 123.70 |
| 14 | A | 516 | HEA | C1D-ND-C4D | -4.97 | 99.94 | 105.07 |
| 23 | C | 525 | CHD | C11-C12-C13 | 4.95 | 116.33 | 111.24 |
| 28 | P | 1272 | DMU | C6-O5-C4 | 4.93 | 123.36 | 113.69 |
| 28 | M | 526 | DMU | O7-C10-C5 | -4.91 | 95.36 | 108.10 |
| 19 | A | 521 | TGL | OG2-CB1-CB2 | 4.91 | 122.08 | 111.50 |
| 14 | N | 515 | HEA | O2A-CGA-CBA | 4.90 | 129.77 | 114.03 |
| 19 | Q | 1523 | TGL | OG1-CG1-CG2 | 4.89 | 122.68 | 108.43 |
| 19 | L | 522 | TGL | OG3-CC1-CC2 | 4.89 | 127.25 | 111.91 |
| 25 | G | 1263 | PEK | O01-C1-C2 | 4.88 | 122.02 | 111.50 |
| 14 | A | 516 | HEA | C3D-C4D-ND | 4.87 | 115.08 | 110.36 |
| 23 | W | 1059 | CHD | C19-C10-C5 | -4.87 | 102.10 | 110.36 |
| 26 | C | 270 | CDL | C52-C51-CB5 | -4.86 | 95.95 | 113.62 |
| 14 | A | 516 | HEA | C2B-C1B-NB | 4.85 | 115.70 | 109.88 |
| 23 | W | 1059 | CHD | C2-C1-C10 | 4.85 | 121.10 | 112.78 |
| 14 | N | 516 | HEA | C13-C12-C11 | -4.84 | 107.08 | 114.35 |
| 23 | P | 1271 | CHD | C14-C8-C7 | 4.84 | 118.22 | 111.81 |
| 14 | A | 516 | HEA | C2D-C1D-ND | 4.83 | 115.57 | 109.84 |
| 25 | P | 1265 | PEK | O01-C1-C2 | 4.83 | 121.92 | 111.50 |
| 26 | T | 1269 | CDL | OA8-CA7-C31 | 4.82 | 127.04 | 111.91 |
| 28 | M | 526 | DMU | O5-C6-C1 | 4.81 | 120.53 | 110.35 |
| 28 | Z | 1526 | DMU | C18-O16-C6 | 4.80 | 121.79 | 113.84 |
| 23 | C | 271 | CHD | C17-C13-C12 | 4.79 | 122.04 | 117.67 |
| 23 | P | 1525 | CHD | C5-C6-C7 | 4.74 | 119.69 | 114.46 |
| 20 | N | 1266 | PGV | O01-C1-O02 | -4.73 | 112.27 | 123.70 |
| 28 | M | 526 | DMU | C7-C8-C9 | 4.72 | 118.67 | 110.24 |
| 23 | C | 271 | CHD | C4-C5-C10 | 4.72 | 117.67 | 112.66 |
| 23 | C | 271 | CHD | C2-C1-C10 | 4.72 | 120.87 | 112.78 |
| 28 | P | 1272 | DMU | O61-C57-C4 | 4.69 | 127.39 | 111.29 |
| 19 | N | 1522 | TGL | CB4-CB3-CB2 | -4.68 | 96.37 | 113.19 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 23 | B | 1085 | CHD | C4-C5-C10 | -4.67 | 107.69 | 112.66 |
| 23 | O | 229 | CHD | C11-C9-C8 | 4.67 | 117.71 | 110.88 |
| 23 | J | 60 | CHD | C6-C5-C4 | -4.67 | 105.82 | 111.19 |
| 25 | G | 265 | PEK | O03-C21-O04 | -4.65 | 111.86 | 123.59 |
| 23 | C | 525 | CHD | O3-C3-C4 | 4.65 | 119.10 | 109.85 |
| 23 | P | 1525 | CHD | C11-C9-C8 | 4.62 | 117.64 | 110.88 |
| 23 | P | 1271 | CHD | C17-C13-C14 | 4.62 | 104.75 | 100.09 |
| 23 | B | 1085 | CHD | C9-C8-C7 | 4.62 | 117.40 | 111.88 |
| 28 | M | 526 | DMU | O3-C5-C7 | 4.61 | 121.01 | 110.35 |
| 23 | C | 525 | CHD | C11-C9-C8 | 4.58 | 117.58 | 110.88 |
| 23 | O | 229 | CHD | O7-C7-C6 | -4.56 | 98.62 | 109.94 |
| 20 | C | 268 | PGV | O01-C1-C2 | 4.56 | 121.32 | 111.50 |
| 23 | W | 1059 | CHD | C22-C20-C17 | 4.55 | 119.69 | 110.28 |
| 28 | P | 1272 | DMU | C1-C2-C3 | 4.55 | 120.08 | 109.68 |
| 28 | Z | 1526 | DMU | O7-C10-C5 | -4.54 | 96.33 | 108.10 |
| 28 | M | 526 | DMU | O55-C2-C3 | 4.48 | 121.83 | 109.94 |
| 25 | G | 1263 | PEK | C2-C3-C4 | 4.47 | 121.20 | 113.23 |
| 23 | W | 1059 | CHD | C16-C17-C20 | 4.47 | 119.06 | 112.15 |
| 28 | Z | 1526 | DMU | O5-C4-C3 | 4.46 | 119.15 | 109.75 |
| 23 | C | 525 | CHD | C9-C11-C12 | 4.44 | 120.16 | 114.30 |
| 23 | J | 60 | CHD | C13-C14-C8 | 4.43 | 120.39 | 114.74 |
| 28 | G | 272 | DMU | O1-C9-C11 | 4.42 | 117.43 | 106.44 |
| 25 | P | 1265 | PEK | O03-C21-C22 | 4.42 | 125.78 | 111.91 |
| 23 | P | 1271 | CHD | C9-C11-C12 | 4.41 | 120.13 | 114.30 |
| 28 | M | 526 | DMU | O1-C9-C11 | 4.41 | 117.39 | 106.44 |
| 28 | G | 272 | DMU | O61-C57-C4 | 4.37 | 126.28 | 111.29 |
| 23 | P | 1525 | CHD | C6-C5-C4 | -4.36 | 106.17 | 111.19 |
| 25 | G | 1263 | PEK | C02-O01-C1 | 4.36 | 128.53 | 117.79 |
| 25 | T | 263 | PEK | O03-C21-C22 | 4.34 | 125.52 | 111.91 |
| 23 | P | 1525 | CHD | C14-C8-C9 | 4.33 | 115.65 | 109.71 |
| 23 | B | 1085 | CHD | C1-C2-C3 | 4.33 | 116.02 | 110.47 |
| 28 | Z | 1526 | DMU | C6-O5-C4 | 4.32 | 122.17 | 113.69 |
| 20 | A | 522 | PGV | O01-C1-O02 | -4.31 | 113.28 | 123.70 |
| 23 | P | 1525 | CHD | O12-C12-C11 | -4.29 | 100.38 | 109.12 |
| 23 | C | 525 | CHD | C13-C17-C20 | 4.28 | 124.61 | 119.50 |
| 23 | B | 1085 | CHD | C11-C9-C10 | 4.28 | 118.14 | 113.73 |
| 23 | O | 229 | CHD | C5-C6-C7 | 4.27 | 119.17 | 114.46 |
| 23 | J | 60 | CHD | C22-C20-C17 | 4.26 | 119.08 | 110.28 |
| 14 | A | 516 | HEA | OMA-CMA-C3A | -4.26 | 115.63 | 124.91 |
| 14 | A | 515 | HEA | CAD-C3D-C4D | 4.25 | 132.09 | 124.66 |
| 14 | N | 515 | HEA | CAA-CBA-CGA | -4.24 | 101.87 | 113.76 |
| 23 | P | 1271 | CHD | C2-C1-C10 | 4.23 | 120.04 | 112.78 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 26 | G | 269 | CDL | OB6-CB5-C51 | 4.21 | 120.57 | 111.50 |
| 25 | C | 264 | PEK | C24-C23-C22 | -4.20 | 98.08 | 113.19 |
| 19 | Q | 1523 | TGL | CG3-CG2-CG1 | -4.20 | 101.85 | 111.79 |
| 19 | L | 522 | TGL | CA4-CA3-CA2 | -4.20 | 98.09 | 113.19 |
| 23 | C | 525 | CHD | C6-C7-C8 | 4.19 | 115.96 | 111.48 |
| 28 | G | 272 | DMU | O5-C4-C3 | 4.19 | 118.58 | 109.75 |
| 23 | O | 229 | CHD | C14-C8-C9 | 4.17 | 115.44 | 109.71 |
| 23 | W | 1059 | CHD | C6-C5-C4 | -4.17 | 106.39 | 111.19 |
| 19 | D | 523 | TGL | OG2-CB1-OB1 | 4.17 | 133.78 | 123.70 |
| 28 | M | 526 | DMU | C1-C2-C3 | 4.16 | 119.19 | 109.68 |
| 23 | C | 525 | CHD | C5-C4-C3 | 4.16 | 118.86 | 112.76 |
| 28 | G | 272 | DMU | C6-C1-C2 | 4.15 | 118.65 | 110.00 |
| 23 | J | 60 | CHD | C11-C9-C10 | 4.14 | 118.00 | 113.73 |
| 14 | N | 516 | HEA | CHC-C4B-NB | 4.14 | 129.49 | 124.38 |
| 25 | G | 265 | PEK | O01-C1-C2 | 4.12 | 120.38 | 111.50 |
| 23 | O | 229 | CHD | C15-C14-C8 | 4.11 | 124.08 | 118.33 |
| 14 | A | 516 | HEA | CHA-C4D-ND | 4.11 | 128.90 | 124.43 |
| 20 | P | 1268 | PGV | C03-C02-C01 | -4.11 | 102.07 | 111.79 |
| 28 | Z | 1526 | DMU | O3-C5-C7 | 4.11 | 119.85 | 110.35 |
| 19 | N | 1522 | TGL | OG3-CC1-CC2 | 4.11 | 124.80 | 111.91 |
| 23 | W | 1059 | CHD | C1-C10-C9 | -4.10 | 104.90 | 111.35 |
| 28 | P | 1272 | DMU | C10-O1-C9 | 4.09 | 121.72 | 113.69 |
| 23 | P | 1271 | CHD | C4-C5-C10 | 4.08 | 116.99 | 112.66 |
| 28 | G | 272 | DMU | C7-C8-C9 | 4.08 | 117.52 | 110.24 |
| 28 | Z | 1526 | DMU | O5-C4-C57 | 4.08 | 116.58 | 106.44 |
| 20 | C | 267 | PGV | C22-C21-C20 | -4.07 | 98.55 | 113.19 |
| 23 | B | 1085 | CHD | C14-C8-C9 | 4.04 | 115.25 | 109.71 |
| 28 | M | 526 | DMU | O49-C1-C2 | 4.03 | 119.67 | 110.35 |
| 14 | A | 515 | HEA | CHD-C1D-ND | -4.03 | 119.40 | 124.38 |
| 23 | J | 60 | CHD | C11-C9-C8 | 4.01 | 116.75 | 110.88 |
| 23 | C | 271 | CHD | C17-C13-C14 | 3.98 | 104.11 | 100.09 |
| 14 | A | 516 | HEA | C4D-CHA-C1A | -3.97 | 117.31 | 122.56 |
| 23 | P | 1525 | CHD | C11-C12-C13 | 3.97 | 115.32 | 111.24 |
| 20 | P | 1267 | PGV | O01-C1-O02 | -3.96 | 114.14 | 123.70 |
| 28 | G | 272 | DMU | O5-C6-C1 | 3.93 | 118.68 | 110.35 |
| 28 | G | 272 | DMU | O7-C3-C2 | 3.93 | 117.73 | 107.28 |
| 23 | C | 525 | CHD | O7-C7-C8 | -3.92 | 100.67 | 109.43 |
| 19 | D | 523 | TGL | OG1-CA1-CA2 | 3.92 | 124.19 | 111.91 |
| 23 | C | 271 | CHD | C11-C12-C13 | 3.91 | 115.26 | 111.24 |
| 14 | A | 515 | HEA | C17-C18-C19 | -3.90 | 118.26 | 127.66 |
| 14 | A | 515 | HEA | CHA-C4D-C3D | -3.87 | 119.14 | 124.84 |
| 25 | C | 264 | PEK | O03-C01-C02 | -3.87 | 97.17 | 108.43 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 14 | A | 516 | HEA | C17-C18-C19 | 3.86 | 136.96 | 127.66 |
| 23 | O | 229 | CHD | C9-C10-C5 | -3.86 | 103.16 | 108.58 |
| 28 | P | 1272 | DMU | C7-C8-C9 | 3.85 | 117.11 | 110.24 |
| 23 | J | 60 | CHD | C16-C17-C20 | 3.85 | 118.10 | 112.15 |
| 23 | P | 1525 | CHD | C9-C11-C12 | 3.84 | 119.38 | 114.30 |
| 23 | B | 1085 | CHD | C19-C10-C5 | -3.84 | 103.85 | 110.36 |
| 25 | T | 263 | PEK | O01-C1-C2 | 3.84 | 119.77 | 111.50 |
| 14 | A | 516 | HEA | C4B-NB-C1B | -3.83 | 101.12 | 105.07 |
| 20 | N | 1524 | PGV | O03-C19-C20 | 3.82 | 123.90 | 111.91 |
| 23 | C | 525 | CHD | O7-C7-C6 | -3.82 | 100.47 | 109.94 |
| 23 | J | 60 | CHD | C18-C13-C14 | -3.81 | 105.25 | 111.21 |
| 26 | P | 1270 | CDL | CA4-OA6-CA5 | 3.81 | 127.17 | 117.79 |
| 23 | J | 60 | CHD | C1-C10-C9 | -3.80 | 105.39 | 111.35 |
| 23 | B | 1085 | CHD | C9-C11-C12 | 3.79 | 119.31 | 114.30 |
| 23 | C | 525 | CHD | C6-C5-C4 | -3.79 | 106.82 | 111.19 |
| 23 | P | 1271 | CHD | C19-C10-C9 | -3.79 | 105.96 | 111.18 |
| 19 | L | 522 | TGL | C26-C25-C24 | -3.78 | 95.24 | 114.42 |
| 26 | G | 269 | CDL | CB6-CB4-CB3 | -3.78 | 102.86 | 111.79 |
| 14 | A | 516 | HEA | CHB-C1B-C2B | -3.75 | 119.12 | 124.98 |
| 28 | Z | 1526 | DMU | C57-C4-C3 | 3.74 | 124.20 | 113.33 |
| 14 | A | 515 | HEA | C13-C14-C15 | -3.72 | 118.69 | 127.66 |
| 20 | C | 268 | PGV | O04-C19-C20 | -3.71 | 109.26 | 123.73 |
| 14 | A | 515 | HEA | C3D-C4D-ND | 3.71 | 113.95 | 110.36 |
| 20 | P | 1267 | PGV | C27-C26-C25 | -3.70 | 95.63 | 114.42 |
| 23 | O | 229 | CHD | C18-C13-C17 | -3.70 | 105.42 | 111.21 |
| 23 | C | 525 | CHD | O26-C24-O25 | -3.70 | 114.09 | 123.30 |
| 23 | P | 1525 | CHD | C2-C1-C10 | 3.69 | 119.11 | 112.78 |
| 26 | T | 1269 | CDL | OA8-CA7-OA9 | -3.69 | 114.28 | 123.59 |
| 22 | B | 229 | PSC | C29-C28-C27 | -3.69 | 95.70 | 114.42 |
| 25 | T | 263 | PEK | O03-C01-C02 | 3.67 | 119.12 | 108.43 |
| 14 | A | 515 | HEA | CAD-CBD-CGD | -3.67 | 105.71 | 113.60 |
| 28 | P | 1272 | DMU | O7-C10-O1 | 3.66 | 120.90 | 110.67 |
| 26 | P | 1270 | CDL | C42-C41-C40 | 3.65 | 132.94 | 114.42 |
| 23 | P | 1525 | CHD | O7-C7-C6 | -3.64 | 100.91 | 109.94 |
| 26 | G | 269 | CDL | CB6-OB8-CB7 | 3.64 | 130.59 | 117.12 |
| 20 | M | 524 | PGV | C02-O01-C1 | 3.63 | 126.74 | 117.79 |
| 19 | O | 1521 | TGL | CG3-OG3-CC1 | 3.62 | 130.53 | 117.12 |
| 23 | B | 1085 | CHD | C11-C9-C8 | 3.62 | 116.17 | 110.88 |
| 14 | A | 516 | HEA | C3B-C4B-NB | 3.60 | 114.10 | 109.84 |
| 19 | N | 1522 | TGL | OG1-CA1-CA2 | 3.59 | 123.19 | 111.91 |
| 20 | M | 524 | PGV | C8-C9-C10 | -3.59 | 98.17 | 113.79 |
| 19 | A | 521 | TGL | OG2-CG2-CG3 | 3.58 | 121.37 | 108.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 23 | B | 1085 | CHD | C6-C7-C8 | 3.57 | 115.29 | 111.48 |
| 23 | W | 1059 | CHD | C18-C13-C14 | -3.56 | 105.64 | 111.21 |
| 23 | C | 271 | CHD | O12-C12-C11 | -3.56 | 101.87 | 109.12 |
| 14 | N | 515 | HEA | C25-C23-C24 | -3.53 | 106.80 | 114.60 |
| 20 | A | 522 | PGV | O03-C19-O04 | -3.53 | 114.68 | 123.59 |
| 20 | A | 522 | PGV | C23-C22-C21 | -3.52 | 96.53 | 114.42 |
| 23 | W | 1059 | CHD | O7-C7-C6 | -3.52 | 101.20 | 109.94 |
| 23 | B | 1085 | CHD | O25-C24-C23 | -3.50 | 111.82 | 123.08 |
| 20 | N | 1266 | PGV | O01-C02-C01 | -3.50 | 95.74 | 108.40 |
| 23 | B | 1085 | CHD | O26-C24-C23 | 3.50 | 125.26 | 114.03 |
| 19 | Q | 1523 | TGL | OG3-CC1-CC2 | 3.48 | 122.83 | 111.91 |
| 19 | D | 523 | TGL | CB3-CB2-CB1 | 3.48 | 126.27 | 113.62 |
| 26 | C | 270 | CDL | C39-C38-C37 | 3.48 | 132.08 | 114.42 |
| 23 | W | 1059 | CHD | C13-C14-C8 | 3.48 | 119.18 | 114.74 |
| 19 | A | 521 | TGL | CG3-OG3-CC1 | 3.46 | 129.94 | 117.12 |
| 14 | N | 515 | HEA | O2D-CGD-CBD | 3.46 | 125.15 | 114.03 |
| 23 | W | 1059 | CHD | O12-C12-C11 | -3.45 | 102.09 | 109.12 |
| 23 | C | 525 | CHD | C15-C16-C17 | 3.45 | 111.98 | 105.13 |
| 14 | A | 515 | HEA | O1A-CGA-CBA | -3.45 | 111.99 | 123.08 |
| 14 | A | 515 | HEA | C2D-C1D-ND | 3.45 | 113.92 | 109.84 |
| 25 | C | 264 | PEK | O02-C1-C2 | 3.44 | 137.17 | 123.73 |
| 14 | A | 515 | HEA | C1D-ND-C4D | -3.44 | 101.52 | 105.07 |
| 23 | B | 1085 | CHD | C15-C14-C13 | 3.44 | 106.92 | 103.55 |
| 14 | N | 515 | HEA | CHA-C4D-C3D | -3.44 | 119.79 | 124.84 |
| 23 | P | 1271 | CHD | C5-C6-C7 | 3.43 | 118.24 | 114.46 |
| 14 | N | 515 | HEA | CAD-C3D-C2D | 3.43 | 134.26 | 127.88 |
| 25 | C | 264 | PEK | C25-C24-C23 | -3.43 | 97.03 | 114.42 |
| 25 | C | 264 | PEK | C03-C02-C01 | -3.42 | 103.69 | 111.79 |
| 23 | P | 1271 | CHD | C21-C20-C17 | 3.42 | 118.16 | 112.92 |
| 25 | P | 1265 | PEK | O03-C21-O04 | -3.42 | 114.96 | 123.59 |
| 25 | T | 263 | PEK | O01-C1-O02 | -3.41 | 115.46 | 123.70 |
| 23 | C | 271 | CHD | C23-C22-C20 | -3.41 | 108.30 | 114.52 |
| 26 | C | 270 | CDL | OA6-CA5-OA7 | -3.40 | 115.48 | 123.70 |
| 28 | Z | 1526 | DMU | C1-C2-C3 | 3.40 | 117.45 | 109.68 |
| 28 | Z | 1526 | DMU | C7-C8-C9 | 3.40 | 116.31 | 110.24 |
| 14 | A | 516 | HEA | CAD-C3D-C4D | 3.39 | 130.59 | 124.66 |
| 28 | M | 526 | DMU | C57-C4-C3 | 3.38 | 123.17 | 113.33 |
| 28 | M | 526 | DMU | C11-C9-C8 | 3.38 | 120.92 | 113.00 |
| 14 | N | 516 | HEA | CHC-C4B-C3B | -3.38 | 117.10 | 125.80 |
| 26 | T | 1269 | CDL | OA6-CA5-OA7 | -3.38 | 115.55 | 123.70 |
| 14 | N | 515 | HEA | CHA-C4D-ND | 3.37 | 128.10 | 124.43 |
| 22 | R | 1229 | PSC | C02-O01-C1 | 3.37 | 126.10 | 117.79 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 19 | O | 1521 | TGL | OG1-CA1-CA2 | 3.37 | 122.47 | 111.91 |
| 22 | B | 229 | PSC | O01-C1-C2 | 3.37 | 118.75 | 111.50 |
| 19 | O | 1521 | TGL | OG3-CC1-CC2 | 3.36 | 122.46 | 111.91 |
| 28 | M | 526 | DMU | O7-C3-C2 | 3.35 | 116.18 | 107.28 |
| 14 | N | 516 | HEA | CAD-C3D-C4D | 3.33 | 130.48 | 124.66 |
| 25 | P | 1264 | PEK | O03-C21-C22 | -3.33 | 101.47 | 111.91 |
| 14 | N | 515 | HEA | O2A-CGA-O1A | -3.33 | 115.01 | 123.30 |
| 26 | G | 269 | CDL | OB8-CB6-CB4 | 3.32 | 118.11 | 108.43 |
| 25 | P | 1264 | PEK | O11-P-O14 | -3.32 | 96.09 | 109.07 |
| 23 | W | 1059 | CHD | C9-C8-C7 | 3.30 | 115.83 | 111.88 |
| 19 | N | 1522 | TGL | CC3-CC2-CC1 | 3.29 | 125.58 | 113.62 |
| 28 | G | 272 | DMU | O7-C10-C5 | 3.28 | 116.61 | 108.10 |
| 23 | C | 525 | CHD | C19-C10-C5 | -3.28 | 104.80 | 110.36 |
| 26 | T | 1269 | CDL | CB6-CB4-CB3 | -3.28 | 104.03 | 111.79 |
| 20 | P | 1268 | PGV | O01-C02-C03 | 3.27 | 120.26 | 108.40 |
| 26 | T | 1269 | CDL | C83-C82-C81 | 3.27 | 131.04 | 114.42 |
| 20 | P | 1267 | PGV | O14-P-O13 | 3.26 | 128.38 | 112.24 |
| 14 | N | 516 | HEA | CHA-C4D-C3D | -3.26 | 120.04 | 124.84 |
| 19 | A | 521 | TGL | OG1-CA1-CA2 | 3.25 | 122.10 | 111.91 |
| 28 | G | 272 | DMU | C1-C2-C3 | 3.24 | 117.08 | 109.68 |
| 14 | N | 515 | HEA | CAD-CBD-CGD | -3.24 | 106.64 | 113.60 |
| 23 | C | 525 | CHD | C14-C8-C9 | 3.22 | 114.12 | 109.71 |
| 28 | G | 272 | DMU | O7-C3-C4 | 3.21 | 118.24 | 109.45 |
| 23 | J | 60 | CHD | C9-C8-C7 | 3.20 | 115.71 | 111.88 |
| 20 | N | 1524 | PGV | O03-C19-O04 | -3.20 | 115.51 | 123.59 |
| 23 | C | 271 | CHD | C11-C9-C10 | -3.20 | 110.43 | 113.73 |
| 23 | B | 1085 | CHD | C15-C14-C8 | 3.19 | 122.79 | 118.33 |
| 23 | O | 229 | CHD | O12-C12-C11 | -3.18 | 102.65 | 109.12 |
| 23 | C | 271 | CHD | C9-C11-C12 | 3.16 | 118.48 | 114.30 |
| 20 | A | 522 | PGV | C8-C7-C6 | 3.15 | 130.44 | 114.42 |
| 28 | P | 1272 | DMU | O7-C10-C5 | 3.15 | 116.25 | 108.10 |
| 23 | B | 1085 | CHD | C16-C17-C13 | 3.15 | 106.64 | 103.55 |
| 23 | P | 1271 | CHD | O12-C12-C13 | -3.14 | 105.71 | 111.03 |
| 20 | P | 1268 | PGV | O02-C1-C2 | -3.14 | 111.49 | 123.73 |
| 20 | P | 1268 | PGV | C02-O01-C1 | 3.13 | 125.50 | 117.79 |
| 28 | G | 272 | DMU | O4-C7-C5 | 3.13 | 117.59 | 110.35 |
| 14 | N | 516 | HEA | O1A-CGA-CBA | -3.13 | 113.03 | 123.08 |
| 28 | P | 1272 | DMU | O4-C7-C5 | 3.12 | 117.56 | 110.35 |
| 19 | L | 522 | TGL | OG1-CA1-CA2 | 3.10 | 121.64 | 111.91 |
| 14 | N | 515 | HEA | CMC-C2C-C3C | 3.09 | 130.47 | 124.68 |
| 20 | M | 524 | PGV | O01-C1-O02 | -3.09 | 116.23 | 123.70 |
| 19 | A | 521 | TGL | C15-CC9-CC8 | 3.09 | 130.12 | 114.42 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 26 | T | 1269 | CDL | C80-C79-C78 | 3.09 | 130.09 | 114.42 |
| 19 | L | 522 | TGL | C15-CC9-CC8 | 3.08 | 130.08 | 114.42 |
| 19 | O | 1521 | TGL | C15-CC9-CC8 | 3.08 | 130.07 | 114.42 |
| 19 | D | 523 | TGL | OG1-CA1-OA1 | -3.08 | 115.83 | 123.59 |
| 22 | R | 1229 | PSC | O01-C1-C2 | 3.07 | 118.12 | 111.50 |
| 19 | A | 521 | TGL | OG3-CC1-CC2 | 3.06 | 121.52 | 111.91 |
| 20 | P | 1267 | PGV | O03-C19-O04 | -3.06 | 115.87 | 123.59 |
| 23 | P | 1525 | CHD | C17-C13-C14 | 3.06 | 103.17 | 100.09 |
| 26 | C | 270 | CDL | CA6-OA8-CA7 | 3.05 | 128.41 | 117.12 |
| 26 | P | 1270 | CDL | C39-C38-C37 | 3.04 | 129.88 | 114.42 |
| 26 | P | 1270 | CDL | OA6-CA5-OA7 | -3.04 | 116.35 | 123.70 |
| 25 | G | 265 | PEK | C24-C23-C22 | 3.04 | 124.12 | 113.19 |
| 26 | C | 270 | CDL | O1-C1-CB2 | 3.04 | 120.22 | 109.56 |
| 20 | P | 1268 | PGV | O12-P-O13 | -3.03 | 97.21 | 109.07 |
| 20 | A | 522 | PGV | O03-C19-C20 | 3.03 | 121.42 | 111.91 |
| 20 | N | 1266 | PGV | O03-C19-C20 | 3.02 | 121.37 | 111.91 |
| 19 | N | 1522 | TGL | OG3-CG3-CG2 | 3.01 | 117.21 | 108.43 |
| 23 | P | 1525 | CHD | C1-C10-C9 | -3.01 | 106.62 | 111.35 |
| 25 | P | 1264 | PEK | C25-C24-C23 | -3.01 | 99.13 | 114.42 |
| 23 | B | 1085 | CHD | C16-C17-C20 | 3.01 | 116.80 | 112.15 |
| 14 | N | 516 | HEA | C3B-C4B-NB | 3.01 | 113.40 | 109.84 |
| 23 | C | 525 | CHD | C22-C23-C24 | -3.01 | 104.53 | 112.51 |
| 25 | P | 1265 | PEK | C35-C34-C33 | -3.00 | 99.19 | 114.42 |
| 20 | P | 1267 | PGV | O03-C01-C02 | -2.99 | 99.72 | 108.43 |
| 23 | C | 271 | CHD | C18-C13-C17 | -2.99 | 106.53 | 111.21 |
| 28 | M | 526 | DMU | O7-C10-O1 | -2.98 | 102.34 | 110.67 |
| 28 | Z | 1526 | DMU | O61-C57-C4 | 2.98 | 121.52 | 111.29 |
| 14 | N | 515 | HEA | O2D-CGD-O1D | -2.98 | 115.87 | 123.30 |
| 22 | R | 1229 | PSC | O03-C19-C20 | 2.97 | 121.23 | 111.91 |
| 23 | O | 229 | CHD | O3-C3-C4 | 2.95 | 115.73 | 109.85 |
| 19 | D | 523 | TGL | C21-C20-CA9 | 2.94 | 129.36 | 114.42 |
| 14 | N | 516 | HEA | CHD-C1D-ND | 2.93 | 128.01 | 124.38 |
| 19 | D | 523 | TGL | C10-CB9-CB8 | 2.93 | 129.30 | 114.42 |
| 28 | P | 1272 | DMU | O49-C1-C2 | 2.93 | 117.11 | 110.35 |
| 25 | G | 265 | PEK | O03-C01-C02 | 2.93 | 116.95 | 108.43 |
| 25 | P | 1264 | PEK | O02-C1-C2 | 2.93 | 135.15 | 123.73 |
| 25 | P | 1264 | PEK | O04-C21-C22 | 2.91 | 135.08 | 123.73 |
| 28 | G | 272 | DMU | C10-O1-C9 | 2.91 | 119.40 | 113.69 |
| 14 | N | 515 | HEA | CMC-C2C-C1C | -2.90 | 124.00 | 128.46 |
| 19 | L | 522 | TGL | OG2-CG2-CG3 | 2.90 | 118.89 | 108.40 |
| 28 | M | 526 | DMU | C6-C1-C2 | 2.90 | 116.03 | 110.00 |
| 19 | A | 521 | TGL | OG3-CC1-OC1 | -2.90 | 116.28 | 123.59 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 14 | N | 515 | HEA | C13-C14-C15 | -2.89 | 120.69 | 127.66 |
| 14 | N | 516 | HEA | CAD-C3D-C2D | -2.89 | 122.49 | 127.88 |
| 23 | P | 1525 | CHD | C19-C10-C1 | 2.89 | 112.91 | 108.26 |
| 20 | P | 1268 | PGV | O03-C19-O04 | -2.88 | 116.32 | 123.59 |
| 20 | M | 524 | PGV | O01-C02-C01 | 2.87 | 118.79 | 108.40 |
| 28 | P | 1272 | DMU | C2-C3-C4 | 2.86 | 117.49 | 110.93 |
| 23 | P | 1271 | CHD | O26-C24-O25 | 2.86 | 130.43 | 123.30 |
| 19 | N | 1522 | TGL | C26-C25-C24 | -2.85 | 99.93 | 114.42 |
| 25 | G | 265 | PEK | O11-P-O14 | -2.85 | 97.92 | 109.07 |
| 28 | Z | 1526 | DMU | O49-C1-C2 | 2.85 | 116.94 | 110.35 |
| 20 | N | 1266 | PGV | O03-C19-O04 | -2.85 | 116.40 | 123.59 |
| 20 | M | 524 | PGV | C4-C3-C2 | -2.85 | 102.95 | 113.19 |
| 23 | C | 525 | CHD | C15-C14-C8 | 2.84 | 122.31 | 118.33 |
| 19 | D | 523 | TGL | OG3-CC1-OC1 | -2.84 | 116.42 | 123.59 |
| 25 | P | 1264 | PEK | C02-O01-C1 | 2.83 | 124.77 | 117.79 |
| 25 | G | 1263 | PEK | C01-O03-C21 | 2.83 | 127.61 | 117.12 |
| 26 | C | 270 | CDL | OB8-CB7-OB9 | -2.83 | 116.45 | 123.59 |
| 23 | B | 1085 | CHD | C13-C17-C20 | 2.83 | 122.87 | 119.50 |
| 14 | N | 515 | HEA | C26-C15-C16 | 2.83 | 120.03 | 115.27 |
| 23 | P | 1525 | CHD | C19-C10-C5 | -2.83 | 105.57 | 110.36 |
| 14 | N | 515 | HEA | CMB-C2B-C1B | -2.82 | 120.74 | 125.04 |
| 26 | P | 1270 | CDL | C55-C54-C53 | -2.82 | 100.10 | 114.42 |
| 19 | Q | 1523 | TGL | OG3-CC1-OC1 | -2.82 | 116.47 | 123.59 |
| 19 | N | 1522 | TGL | OG2-CG2-CG3 | 2.82 | 118.61 | 108.40 |
| 25 | P | 1265 | PEK | O03-C01-C02 | 2.82 | 116.63 | 108.43 |
| 23 | C | 271 | CHD | C14-C8-C7 | 2.81 | 115.54 | 111.81 |
| 23 | C | 271 | CHD | C19-C10-C5 | -2.81 | 105.60 | 110.36 |
| 14 | N | 516 | HEA | C3C-C4C-NC | 2.80 | 112.83 | 109.21 |
| 26 | T | 1269 | CDL | OB8-CB7-OB9 | -2.78 | 116.57 | 123.59 |
| 26 | P | 1270 | CDL | OA8-CA7-C31 | 2.77 | 120.61 | 111.91 |
| 19 | Q | 1523 | TGL | OG1-CA1-CA2 | 2.77 | 120.60 | 111.91 |
| 19 | O | 1521 | TGL | OG2-CG2-CG1 | 2.77 | 118.42 | 108.40 |
| 26 | C | 270 | CDL | OA6-CA4-CA3 | 2.76 | 118.39 | 108.40 |
| 25 | P | 1264 | PEK | O03-C01-C02 | -2.76 | 100.41 | 108.43 |
| 14 | A | 516 | HEA | C26-C15-C16 | 2.75 | 119.89 | 115.27 |
| 26 | P | 1270 | CDL | OA8-CA7-OA9 | -2.75 | 116.66 | 123.59 |
| 26 | C | 270 | CDL | CB6-OB8-CB7 | 2.74 | 127.28 | 117.12 |
| 19 | O | 1521 | TGL | OG2-CG2-CG3 | 2.74 | 118.33 | 108.40 |
| 20 | C | 268 | PGV | O03-C19-O04 | -2.74 | 116.67 | 123.59 |
| 14 | N | 516 | HEA | CMD-C2D-C1D | 2.74 | 129.22 | 125.04 |
| 26 | G | 269 | CDL | OA6-CA4-CA6 | 2.74 | 118.33 | 108.40 |
| 28 | P | 1272 | DMU | O5-C6-C1 | 2.74 | 116.14 | 110.35 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 25 | G | 1263 | PEK | O03-C21-C22 | 2.73 | 120.49 | 111.91 |
| 14 | N | 516 | HEA | CAD-CBD-CGD | -2.73 | 107.72 | 113.60 |
| 23 | O | 229 | CHD | C4-C5-C10 | -2.73 | 109.76 | 112.66 |
| 28 | P | 1272 | DMU | O16-C18-C19 | 2.72 | 119.08 | 109.56 |
| 26 | C | 270 | CDL | C40-C39-C38 | 2.71 | 128.20 | 114.42 |
| 28 | G | 272 | DMU | C10-C5-C7 | 2.71 | 115.64 | 110.00 |
| 26 | G | 269 | CDL | C83-C82-C81 | 2.71 | 128.17 | 114.42 |
| 23 | P | 1525 | CHD | C15-C14-C8 | 2.71 | 122.11 | 118.33 |
| 23 | P | 1271 | CHD | C13-C14-C8 | 2.71 | 118.19 | 114.74 |
| 20 | N | 1266 | PGV | O01-C1-C2 | 2.70 | 117.32 | 111.50 |
| 26 | P | 1270 | CDL | CB2-C1-CA2 | -2.70 | 104.85 | 112.79 |
| 19 | A | 521 | TGL | OG1-CA1-OA1 | -2.69 | 116.79 | 123.59 |
| 23 | O | 229 | CHD | C5-C4-C3 | 2.69 | 116.71 | 112.76 |
| 26 | P | 1270 | CDL | OB9-CB7-C71 | -2.68 | 113.26 | 123.73 |
| 19 | D | 523 | TGL | CG3-OG3-CC1 | 2.68 | 127.05 | 117.12 |
| 26 | T | 1269 | CDL | C39-C38-C37 | 2.67 | 128.00 | 114.42 |
| 14 | A | 516 | HEA | C4D-C3D-C2D | -2.67 | 103.01 | 106.90 |
| 23 | B | 1085 | CHD | C16-C15-C14 | 2.66 | 110.41 | 105.13 |
| 23 | C | 525 | CHD | O25-C24-C23 | 2.66 | 131.63 | 123.08 |
| 20 | C | 267 | PGV | C21-C20-C19 | -2.66 | 103.95 | 113.62 |
| 23 | J | 60 | CHD | O7-C7-C6 | -2.66 | 103.35 | 109.94 |
| 23 | P | 1525 | CHD | C22-C23-C24 | -2.65 | 105.48 | 112.51 |
| 26 | C | 270 | CDL | CA4-OA6-CA5 | 2.65 | 124.31 | 117.79 |
| 20 | M | 524 | PGV | C01-O03-C19 | 2.64 | 126.91 | 117.12 |
| 14 | N | 516 | HEA | CHD-C1D-C2D | -2.64 | 119.42 | 126.72 |
| 23 | B | 1085 | CHD | C9-C10-C5 | -2.64 | 104.88 | 108.58 |
| 19 | A | 521 | TGL | CB7-CB6-CB5 | -2.63 | 101.05 | 114.42 |
| 19 | O | 1521 | TGL | OB1-CB1-CB2 | -2.63 | 113.48 | 123.73 |
| 23 | C | 525 | CHD | C18-C13-C12 | -2.63 | 106.39 | 109.07 |
| 23 | O | 229 | CHD | C22-C20-C17 | -2.62 | 104.86 | 110.28 |
| 26 | C | 270 | CDL | PA1-OA5-CA3 | 2.62 | 137.07 | 121.68 |
| 25 | T | 263 | PEK | C18-C17-C16 | -2.62 | 102.37 | 113.79 |
| 28 | M | 526 | DMU | C31-C28-C25 | -2.61 | 101.15 | 114.42 |
| 26 | C | 270 | CDL | C42-C41-C40 | 2.61 | 127.67 | 114.42 |
| 28 | M | 526 | DMU | O55-C2-C1 | 2.60 | 116.36 | 110.35 |
| 26 | G | 269 | CDL | CB4-OB6-CB5 | 2.60 | 124.19 | 117.79 |
| 26 | C | 270 | CDL | O1-C1-CA2 | -2.59 | 100.47 | 109.56 |
| 26 | C | 270 | CDL | OA8-CA7-C31 | 2.59 | 120.03 | 111.91 |
| 28 | Z | 1526 | DMU | O5-C6-O16 | 2.59 | 116.10 | 109.97 |
| 19 | N | 1522 | TGL | CG3-OG3-CC1 | 2.58 | 126.66 | 117.12 |
| 14 | N | 516 | HEA | C1D-ND-C4D | -2.57 | 102.42 | 105.07 |
| 26 | P | 1270 | CDL | OA8-CA6-CA4 | 2.56 | 115.89 | 108.43 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 14 | N | 515 | HEA | O1A-CGA-CBA | -2.56 | 114.85 | 123.08 |
| 28 | G | 272 | DMU | C11-C9-C8 | 2.56 | 119.00 | 113.00 |
| 23 | P | 1271 | CHD | C6-C5-C4 | -2.56 | 108.24 | 111.19 |
| 19 | Q | 1523 | TGL | OG2-CG2-CG1 | 2.55 | 117.63 | 108.40 |
| 20 | C | 267 | PGV | O01-C1-C2 | 2.55 | 116.99 | 111.50 |
| 19 | L | 522 | TGL | CB7-CB6-CB5 | -2.53 | 101.57 | 114.42 |
| 25 | P | 1265 | PEK | C24-C23-C22 | 2.53 | 122.28 | 113.19 |
| 28 | P | 1272 | DMU | C10-C5-C7 | 2.53 | 115.26 | 110.00 |
| 25 | C | 264 | PEK | C27-C26-C25 | -2.52 | 101.62 | 114.42 |
| 14 | N | 516 | HEA | CBD-CAD-C3D | 2.52 | 119.63 | 112.63 |
| 23 | O | 229 | CHD | C11-C12-C13 | 2.52 | 113.83 | 111.24 |
| 19 | L | 522 | TGL | CG3-CG2-CG1 | -2.51 | 105.84 | 111.79 |
| 23 | B | 1085 | CHD | C1-C10-C9 | -2.51 | 107.40 | 111.35 |
| 19 | D | 523 | TGL | OG3-CC1-CC2 | 2.51 | 119.79 | 111.91 |
| 28 | Z | 1526 | DMU | C10-C5-C7 | 2.51 | 115.22 | 110.00 |
| 20 | C | 268 | PGV | P-O11-C03 | 2.51 | 136.38 | 121.68 |
| 14 | A | 515 | HEA | C16-C15-C14 | -2.51 | 116.05 | 121.12 |
| 28 | P | 1272 | DMU | O49-C1-C6 | -2.51 | 103.96 | 110.05 |
| 14 | A | 516 | HEA | CMB-C2B-C1B | 2.50 | 128.84 | 125.04 |
| 26 | T | 1269 | CDL | C82-C81-C80 | 2.49 | 127.07 | 114.42 |
| 28 | Z | 1526 | DMU | O7-C3-C2 | 2.49 | 113.90 | 107.28 |
| 20 | A | 522 | PGV | O05-C05-C04 | -2.48 | 100.85 | 109.56 |
| 23 | B | 1085 | CHD | O12-C12-C11 | -2.48 | 104.07 | 109.12 |
| 20 | M | 524 | PGV | C28-C27-C26 | -2.48 | 101.85 | 114.42 |
| 25 | G | 265 | PEK | O13-P-O11 | 2.48 | 119.24 | 107.75 |
| 22 | R | 1229 | PSC | C27-C26-C25 | -2.47 | 101.87 | 114.42 |
| 19 | N | 1522 | TGL | CB3-CB2-CB1 | 2.47 | 122.61 | 113.62 |
| 14 | N | 516 | HEA | C13-C14-C15 | 2.47 | 133.60 | 127.66 |
| 26 | P | 1270 | CDL | C58-C57-C56 | -2.47 | 101.90 | 114.42 |
| 28 | G | 272 | DMU | O5-C6-O16 | 2.46 | 115.81 | 109.97 |
| 14 | N | 516 | HEA | CHA-C4D-ND | 2.46 | 127.11 | 124.43 |
| 20 | P | 1267 | PGV | C04-C05-C06 | -2.46 | 102.93 | 111.67 |
| 26 | C | 270 | CDL | OB9-CB7-C71 | -2.45 | 114.16 | 123.73 |
| 22 | R | 1229 | PSC | C3-C2-C1 | 2.45 | 122.53 | 113.62 |
| 26 | G | 269 | CDL | CB2-C1-CA2 | -2.45 | 105.58 | 112.79 |
| 19 | N | 1522 | TGL | OG2-CB1-OB1 | 2.45 | 129.61 | 123.70 |
| 23 | P | 1271 | CHD | C13-C17-C20 | 2.44 | 122.41 | 119.50 |
| 22 | R | 1229 | PSC | C21-C20-C19 | -2.43 | 104.78 | 113.62 |
| 14 | N | 516 | HEA | C20-C21-C22 | 2.43 | 119.87 | 111.88 |
| 14 | A | 515 | HEA | CAA-CBA-CGA | -2.43 | 106.94 | 113.76 |
| 23 | B | 1085 | CHD | C18-C13-C14 | -2.43 | 107.41 | 111.21 |
| 22 | B | 229 | PSC | C3-C2-C1 | 2.43 | 122.44 | 113.62 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 28 | M | 526 | DMU | C34-C31-C28 | -2.43 | 102.11 | 114.42 |
| 26 | T | 1269 | CDL | CB6-OB8-CB7 | 2.43 | 126.10 | 117.12 |
| 20 | C | 267 | PGV | O14-P-O12 | 2.42 | 118.98 | 107.75 |
| 23 | P | 1525 | CHD | C15-C16-C17 | 2.42 | 109.92 | 105.13 |
| 20 | N | 1266 | PGV | C03-C02-C01 | -2.41 | 106.08 | 111.79 |
| 26 | T | 1269 | CDL | OA6-CA4-CA6 | 2.41 | 117.14 | 108.40 |
| 14 | A | 516 | HEA | CHD-C1D-ND | -2.41 | 121.40 | 124.38 |
| 26 | G | 269 | CDL | C23-C22-C21 | 2.41 | 126.66 | 114.42 |
| 14 | A | 515 | HEA | C12-C13-C14 | 2.41 | 118.59 | 112.23 |
| 26 | P | 1270 | CDL | CA6-CA4-CA3 | -2.41 | 106.09 | 111.79 |
| 28 | Z | 1526 | DMU | O7-C10-O1 | -2.41 | 103.95 | 110.67 |
| 14 | A | 516 | HEA | CMC-C2C-C1C | -2.40 | 124.78 | 128.46 |
| 20 | P | 1267 | PGV | C22-C21-C20 | -2.40 | 104.58 | 113.19 |
| 19 | O | 1521 | TGL | CG1-OG1-CA1 | 2.39 | 125.98 | 117.12 |
| 19 | D | 523 | TGL | C25-C24-C23 | 2.39 | 126.57 | 114.42 |
| 26 | P | 1270 | CDL | C80-C79-C78 | 2.39 | 126.54 | 114.42 |
| 25 | C | 264 | PEK | C32-C31-C30 | -2.38 | 102.33 | 114.42 |
| 28 | P | 1272 | DMU | O7-C3-C4 | 2.38 | 115.96 | 109.45 |
| 14 | A | 515 | HEA | CBA-CAA-C2A | -2.38 | 108.60 | 112.60 |
| 19 | N | 1522 | TGL | C15-CC9-CC8 | 2.38 | 126.49 | 114.42 |
| 20 | N | 1266 | PGV | C9-C10-C11 | 2.38 | 126.05 | 112.43 |
| 19 | L | 522 | TGL | C25-C24-C23 | -2.37 | 102.38 | 114.42 |
| 25 | P | 1264 | PEK | C24-C23-C22 | -2.36 | 104.70 | 113.19 |
| 14 | N | 515 | HEA | C24-C23-C22 | 2.36 | 129.47 | 122.65 |
| 25 | P | 1265 | PEK | C36-C35-C34 | 2.36 | 126.38 | 114.42 |
| 19 | A | 521 | TGL | CC3-CC2-CC1 | 2.35 | 122.18 | 113.62 |
| 14 | N | 516 | HEA | C21-C20-C19 | 2.35 | 120.71 | 112.98 |
| 28 | P | 1272 | DMU | O55-C2-C1 | 2.35 | 115.78 | 110.35 |
| 14 | N | 515 | HEA | C4B-C3B-C2B | -2.34 | 103.41 | 107.41 |
| 14 | N | 515 | HEA | C3B-C4B-NB | 2.33 | 112.60 | 109.84 |
| 23 | C | 525 | CHD | C2-C1-C10 | 2.33 | 116.77 | 112.78 |
| 20 | C | 267 | PGV | O01-C1-O02 | -2.33 | 118.08 | 123.70 |
| 28 | M | 526 | DMU | C22-C19-C18 | -2.32 | 103.19 | 113.49 |
| 28 | M | 526 | DMU | O4-C7-C5 | -2.32 | 104.98 | 110.35 |
| 19 | N | 1522 | TGL | OG1-CG1-CG2 | 2.32 | 115.18 | 108.43 |
| 26 | G | 269 | CDL | C80-C79-C78 | 2.32 | 126.18 | 114.42 |
| 26 | G | 269 | CDL | OB7-CB5-C51 | -2.31 | 114.71 | 123.73 |
| 20 | C | 268 | PGV | O12-P-O13 | -2.31 | 100.04 | 109.07 |
| 14 | N | 515 | HEA | CHC-C4B-NB | 2.31 | 127.23 | 124.38 |
| 23 | C | 271 | CHD | O12-C12-C13 | -2.31 | 107.13 | 111.03 |
| 20 | P | 1268 | PGV | O04-C19-C20 | -2.30 | 114.74 | 123.73 |
| 19 | N | 1522 | TGL | C24-C23-C22 | -2.29 | 102.78 | 114.42 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 19 | L | 522 | TGL | C24-C23-C22 | -2.29 | 102.78 | 114.42 |
| 25 | P | 1264 | PEK | C32-C31-C30 | -2.29 | 102.78 | 114.42 |
| 14 | N | 516 | HEA | C2D-C1D-ND | 2.29 | 112.55 | 109.84 |
| 26 | T | 1269 | CDL | C40-C39-C38 | 2.29 | 126.04 | 114.42 |
| 25 | G | 1263 | PEK | O03-C01-C02 | 2.28 | 115.08 | 108.43 |
| 26 | G | 269 | CDL | CA6-CA4-CA3 | -2.28 | 106.39 | 111.79 |
| 25 | P | 1265 | PEK | P-O12-C04 | 2.28 | 132.82 | 121.59 |
| 25 | C | 264 | PEK | C01-O03-C21 | 2.28 | 125.57 | 117.12 |
| 19 | N | 1522 | TGL | CA8-CA7-CA6 | -2.28 | 102.85 | 114.42 |
| 19 | L | 522 | TGL | CA8-CA7-CA6 | -2.28 | 102.85 | 114.42 |
| 20 | N | 1524 | PGV | O01-C02-C03 | 2.28 | 116.65 | 108.40 |
| 20 | M | 524 | PGV | O03-C19-C20 | 2.28 | 119.05 | 111.91 |
| 20 | C | 267 | PGV | O03-C19-O04 | -2.28 | 117.85 | 123.59 |
| 20 | C | 267 | PGV | C27-C26-C25 | -2.27 | 102.89 | 114.42 |
| 23 | W | 1059 | CHD | C19-C10-C9 | -2.27 | 108.05 | 111.18 |
| 26 | C | 270 | CDL | CB6-CB4-CB3 | 2.27 | 117.16 | 111.79 |
| 26 | G | 269 | CDL | CA4-OA6-CA5 | 2.27 | 123.37 | 117.79 |
| 26 | T | 1269 | CDL | C22-C21-C20 | 2.26 | 125.92 | 114.42 |
| 19 | D | 523 | TGL | CG3-CG2-CG1 | -2.26 | 106.44 | 111.79 |
| 14 | A | 516 | HEA | CHC-C4B-C3B | -2.26 | 119.98 | 125.80 |
| 28 | M | 526 | DMU | O5-C4-C3 | 2.26 | 114.52 | 109.75 |
| 20 | A | 522 | PGV | C8-C9-C10 | -2.25 | 103.98 | 113.79 |
| 23 | J | 60 | CHD | C19-C10-C1 | -2.25 | 104.64 | 108.26 |
| 19 | L | 522 | TGL | CC4-CC3-CC2 | -2.25 | 105.11 | 113.19 |
| 20 | A | 522 | PGV | C7-C6-C5 | -2.25 | 103.02 | 114.42 |
| 28 | Z | 1526 | DMU | C10-O1-C9 | 2.24 | 118.09 | 113.69 |
| 14 | N | 515 | HEA | C3C-C4C-NC | 2.24 | 112.11 | 109.21 |
| 20 | C | 267 | PGV | O03-C01-C02 | -2.24 | 101.91 | 108.43 |
| 14 | N | 516 | HEA | O2D-CGD-CBD | 2.24 | 121.22 | 114.03 |
| 26 | P | 1270 | CDL | OB8-CB7-OB9 | -2.24 | 117.94 | 123.59 |
| 19 | D | 523 | TGL | CG2-OG2-CB1 | 2.24 | 123.30 | 117.79 |
| 25 | T | 263 | PEK | O04-C21-C22 | -2.24 | 115.00 | 123.73 |
| 26 | G | 269 | CDL | OA6-CA5-OA7 | -2.24 | 118.30 | 123.70 |
| 23 | W | 1059 | CHD | C21-C20-C17 | 2.23 | 116.34 | 112.92 |
| 23 | C | 271 | CHD | C21-C20-C22 | 2.23 | 113.86 | 110.36 |
| 20 | N | 1524 | PGV | C5-C4-C3 | -2.23 | 103.11 | 114.42 |
| 26 | T | 1269 | CDL | C23-C22-C21 | 2.23 | 125.74 | 114.42 |
| 14 | N | 515 | HEA | C20-C19-C18 | 2.23 | 125.62 | 121.12 |
| 19 | Q | 1523 | TGL | C24-C23-C22 | 2.23 | 125.73 | 114.42 |
| 14 | N | 515 | HEA | CHC-C4B-C3B | -2.22 | 120.08 | 125.80 |
| 26 | G | 269 | CDL | C42-C41-C40 | 2.22 | 125.68 | 114.42 |
| 19 | O | 1521 | TGL | C33-C19-C18 | 2.22 | 125.67 | 114.42 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 14 | A | 516 | HEA | O2D-CGD-O1D | 2.21 | 128.81 | 123.30 |
| 22 | B | 229 | PSC | C32-C31-C30 | -2.21 | 103.21 | 114.42 |
| 26 | P | 1270 | CDL | OA6-CA4-CA3 | 2.20 | 116.38 | 108.40 |
| 26 | G | 269 | CDL | C62-C61-C60 | 2.20 | 125.62 | 114.42 |
| 14 | A | 516 | HEA | C26-C15-C14 | 2.20 | 129.33 | 123.68 |
| 26 | P | 1270 | CDL | C32-C31-CA7 | 2.20 | 121.63 | 113.62 |
| 20 | N | 1524 | PGV | O01-C02-C01 | 2.20 | 116.36 | 108.40 |
| 14 | N | 516 | HEA | C26-C15-C16 | 2.20 | 118.97 | 115.27 |
| 19 | L | 522 | TGL | OA1-CA1-CA2 | -2.20 | 115.16 | 123.73 |
| 26 | T | 1269 | CDL | OB6-CB5-OB7 | -2.20 | 118.40 | 123.70 |
| 23 | P | 1271 | CHD | C19-C10-C5 | -2.18 | 106.66 | 110.36 |
| 20 | N | 1266 | PGV | C5-C4-C3 | -2.18 | 103.36 | 114.42 |
| 25 | G | 265 | PEK | P-O11-C03 | 2.18 | 134.46 | 121.68 |
| 26 | G | 269 | CDL | OB6-CB4-CB6 | 2.17 | 116.27 | 108.40 |
| 20 | P | 1267 | PGV | C9-C10-C11 | -2.17 | 99.98 | 112.43 |
| 14 | A | 515 | HEA | O2A-CGA-CBA | 2.17 | 121.00 | 114.03 |
| 23 | B | 1085 | CHD | O7-C7-C6 | -2.17 | 104.57 | 109.94 |
| 25 | C | 264 | PEK | O13-P-O14 | 2.17 | 122.94 | 112.24 |
| 19 | O | 1521 | TGL | OG3-CC1-OC1 | -2.16 | 118.14 | 123.59 |
| 22 | B | 229 | PSC | C21-C20-C19 | -2.15 | 105.79 | 113.62 |
| 26 | G | 269 | CDL | O1-C1-CB2 | 2.15 | 117.09 | 109.56 |
| 20 | C | 267 | PGV | C02-O01-C1 | 2.15 | 123.08 | 117.79 |
| 28 | Z | 1526 | DMU | O4-C7-C8 | -2.14 | 105.39 | 110.35 |
| 19 | D | 523 | TGL | CC4-CC3-CC2 | -2.14 | 105.49 | 113.19 |
| 19 | A | 521 | TGL | CA3-CA2-CA1 | -2.13 | 105.86 | 113.62 |
| 14 | N | 516 | HEA | CMC-C2C-C1C | 2.13 | 131.73 | 128.46 |
| 25 | C | 264 | PEK | O04-C21-C22 | 2.12 | 132.02 | 123.73 |
| 26 | G | 269 | CDL | C39-C38-C37 | 2.12 | 125.20 | 114.42 |
| 22 | B | 229 | PSC | C11-C12-C13 | -2.12 | 105.65 | 123.57 |
| 20 | A | 522 | PGV | O01-C1-C2 | 2.12 | 116.07 | 111.50 |
| 14 | A | 515 | HEA | CAD-C3D-C2D | -2.12 | 123.94 | 127.88 |
| 23 | W | 1059 | CHD | C19-C10-C1 | -2.12 | 104.85 | 108.26 |
| 23 | C | 271 | CHD | C18-C13-C14 | -2.11 | 107.90 | 111.21 |
| 25 | P | 1264 | PEK | C30-C29-C28 | -2.11 | 103.70 | 114.42 |
| 19 | N | 1522 | TGL | CA5-CA4-CA3 | -2.11 | 103.70 | 114.42 |
| 20 | M | 524 | PGV | C7-C6-C5 | 2.11 | 125.14 | 114.42 |
| 20 | C | 267 | PGV | C4-C3-C2 | -2.11 | 105.61 | 113.19 |
| 14 | A | 515 | HEA | C20-C21-C22 | -2.11 | 104.96 | 111.88 |
| 26 | T | 1269 | CDL | PA1-OA5-CA3 | 2.10 | 134.02 | 121.68 |
| 20 | C | 267 | PGV | C31-C30-C29 | 2.10 | 125.09 | 114.42 |
| 19 | D | 523 | TGL | C16-C15-CC9 | 2.10 | 125.08 | 114.42 |
| 20 | C | 267 | PGV | C8-C9-C10 | -2.10 | 104.65 | 113.79 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 14 | A | 515 | HEA | C4D-C3D-C2D | -2.10 | 103.84 | 106.90 |
| 14 | A | 515 | HEA | OMA-CMA-C3A | -2.10 | 120.35 | 124.91 |
| 26 | P | 1270 | CDL | C82-C81-C80 | 2.09 | 125.06 | 114.42 |
| 22 | B | 229 | PSC | C27-C26-C25 | -2.09 | 103.82 | 114.42 |
| 26 | T | 1269 | CDL | C13-C12-C11 | 2.09 | 120.69 | 113.19 |
| 23 | O | 229 | CHD | C15-C16-C17 | 2.08 | 109.26 | 105.13 |
| 26 | T | 1269 | CDL | OB5-PB2-OB3 | -2.07 | 100.98 | 109.07 |
| 20 | P | 1267 | PGV | C31-C30-C29 | 2.06 | 124.89 | 114.42 |
| 26 | T | 1269 | CDL | C62-C61-C60 | 2.06 | 124.89 | 114.42 |
| 20 | N | 1524 | PGV | C26-C25-C24 | 2.06 | 124.88 | 114.42 |
| 23 | W | 1059 | CHD | C11-C9-C10 | 2.05 | 115.84 | 113.73 |
| 19 | A | 521 | TGL | OG1-CG1-CG2 | -2.05 | 102.46 | 108.43 |
| 14 | A | 515 | HEA | CBD-CAD-C3D | -2.04 | 106.95 | 112.63 |
| 26 | P | 1270 | CDL | C20-C19-C18 | 2.04 | 124.78 | 114.42 |
| 26 | P | 1270 | CDL | CB6-OB8-CB7 | 2.04 | 124.67 | 117.12 |
| 20 | P | 1267 | PGV | C21-C20-C19 | -2.04 | 106.22 | 113.62 |
| 20 | N | 1524 | PGV | C01-O03-C19 | 2.03 | 124.64 | 117.12 |
| 25 | G | 1263 | PEK | P-O11-C03 | 2.03 | 133.58 | 121.68 |
| 20 | N | 1266 | PGV | C30-C29-C28 | 2.03 | 124.71 | 114.42 |
| 19 | Q | 1523 | TGL | CC4-CC3-CC2 | -2.03 | 105.91 | 113.19 |
| 26 | G | 269 | CDL | OA8-CA7-OA9 | -2.02 | 118.51 | 123.59 |
| 20 | P | 1267 | PGV | C02-O01-C1 | 2.02 | 122.75 | 117.79 |
| 14 | N | 516 | HEA | C4B-NB-C1B | -2.01 | 102.99 | 105.07 |
| 14 | A | 516 | HEA | O1D-CGD-CBD | -2.01 | 116.62 | 123.08 |
| 28 | M | 526 | DMU | C10-O1-C9 | 2.00 | 117.61 | 113.69 |
| 19 | Q | 1523 | TGL | C10-CB9-CB8 | 2.00 | 124.58 | 114.42 |

All (26) chirality outliers are listed below:

| Mol | Chain | Res | Type | Atom |
|-----|-------|------|------|------|
| 23 | C | 271 | CHD | C9 |
| 23 | J | 60 | CHD | C9 |
| 23 | J | 60 | CHD | C17 |
| 23 | P | 1271 | CHD | C9 |
| 23 | W | 1059 | CHD | C17 |
| 28 | G | 272 | DMU | C3 |
| 28 | G | 272 | DMU | C9 |
| 28 | G | 272 | DMU | C4 |
| 28 | G | 272 | DMU | C2 |
| 28 | G | 272 | DMU | C5 |
| 28 | G | 272 | DMU | C6 |
| 28 | M | 526 | DMU | C5 |

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| Mol | Chain | Res | Type | Atom |
|-----|-------|------|------|------|
| 28 | M | 526 | DMU | C2 |
| 28 | M | 526 | DMU | C4 |
| 28 | M | 526 | DMU | C9 |
| 28 | P | 1272 | DMU | C10 |
| 28 | P | 1272 | DMU | C9 |
| 28 | P | 1272 | DMU | C4 |
| 28 | P | 1272 | DMU | C2 |
| 28 | P | 1272 | DMU | C5 |
| 28 | P | 1272 | DMU | C6 |
| 28 | Z | 1526 | DMU | C9 |
| 28 | Z | 1526 | DMU | C4 |
| 28 | Z | 1526 | DMU | C6 |
| 28 | Z | 1526 | DMU | C2 |
| 28 | Z | 1526 | DMU | C5 |

All (981) torsion outliers are listed below:

| Mol | Chain | Res | Type | Atoms |
|-----|-------|------|------|-----------------|
| 20 | C | 267 | PGV | C10-C11-C12-C13 |
| 20 | C | 268 | PGV | O03-C01-C02-O01 |
| 20 | C | 268 | PGV | C04-C05-C06-O06 |
| 20 | C | 268 | PGV | O02-C1-O01-C02 |
| 20 | M | 524 | PGV | C03-O11-P-O14 |
| 20 | M | 524 | PGV | C04-O12-P-O11 |
| 20 | M | 524 | PGV | C04-O12-P-O13 |
| 20 | M | 524 | PGV | C04-O12-P-O14 |
| 20 | M | 524 | PGV | C02-C03-O11-P |
| 20 | M | 524 | PGV | O12-C04-C05-C06 |
| 20 | M | 524 | PGV | C04-C05-C06-O06 |
| 20 | M | 524 | PGV | O02-C1-O01-C02 |
| 20 | M | 524 | PGV | C2-C1-O01-C02 |
| 20 | N | 1524 | PGV | C04-O12-P-O13 |
| 20 | N | 1524 | PGV | C04-O12-P-O14 |
| 20 | N | 1524 | PGV | C02-C03-O11-P |
| 20 | N | 1524 | PGV | O02-C1-O01-C02 |
| 20 | N | 1524 | PGV | C2-C1-O01-C02 |
| 20 | P | 1267 | PGV | C10-C11-C12-C13 |
| 20 | P | 1268 | PGV | C03-O11-P-O13 |
| 20 | P | 1268 | PGV | C02-C03-O11-P |
| 20 | P | 1268 | PGV | O12-C04-C05-C06 |
| 20 | P | 1268 | PGV | C2-C1-O01-C02 |
| 20 | P | 1268 | PGV | C10-C11-C12-C13 |

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| Mol | Chain | Res | Type | Atoms |
|-----|-------|------|------|-----------------|
| 22 | B | 229 | PSC | C03-O11-P-O12 |
| 22 | B | 229 | PSC | C04-O12-P-O14 |
| 22 | B | 229 | PSC | C03-C02-O01-C1 |
| 22 | B | 229 | PSC | C10-C11-C12-C13 |
| 22 | R | 1229 | PSC | C03-O11-P-O13 |
| 22 | R | 1229 | PSC | C04-O12-P-O13 |
| 22 | R | 1229 | PSC | C03-C02-O01-C1 |
| 22 | R | 1229 | PSC | O12-C04-C05-N |
| 22 | R | 1229 | PSC | C05-C04-O12-P |
| 23 | J | 60 | CHD | C16-C17-C20-C21 |
| 23 | W | 1059 | CHD | C16-C17-C20-C21 |
| 23 | W | 1059 | CHD | C16-C17-C20-C22 |
| 25 | C | 264 | PEK | C6-C7-C8-C9 |
| 25 | C | 264 | PEK | C12-C13-C14-C15 |
| 25 | G | 265 | PEK | C04-O12-P-O13 |
| 25 | G | 265 | PEK | C10-C11-C12-C13 |
| 25 | G | 265 | PEK | C13-C14-C15-C16 |
| 25 | G | 1263 | PEK | C03-O11-P-O13 |
| 25 | G | 1263 | PEK | O03-C01-C02-O01 |
| 25 | G | 1263 | PEK | C4-C5-C6-C7 |
| 25 | G | 1263 | PEK | C10-C11-C12-C13 |
| 25 | P | 1264 | PEK | C13-C14-C15-C16 |
| 25 | T | 263 | PEK | C03-O11-P-O12 |
| 25 | T | 263 | PEK | C03-O11-P-O13 |
| 25 | T | 263 | PEK | C03-O11-P-O14 |
| 25 | T | 263 | PEK | O03-C01-C02-O01 |
| 25 | T | 263 | PEK | O12-C04-C05-N |
| 25 | T | 263 | PEK | C11-C10-C9-C8 |
| 26 | C | 270 | CDL | CB2-C1-CA2-OA2 |
| 26 | C | 270 | CDL | CA2-OA2-PA1-OA3 |
| 26 | C | 270 | CDL | CA2-OA2-PA1-OA4 |
| 26 | C | 270 | CDL | CA2-OA2-PA1-OA5 |
| 26 | C | 270 | CDL | CA4-CA3-OA5-PA1 |
| 26 | C | 270 | CDL | OA7-CA5-OA6-CA4 |
| 26 | C | 270 | CDL | C11-CA5-OA6-CA4 |
| 26 | C | 270 | CDL | CB3-OB5-PB2-OB3 |
| 26 | G | 269 | CDL | CA2-OA2-PA1-OA3 |
| 26 | G | 269 | CDL | C1-CB2-OB2-PB2 |
| 26 | G | 269 | CDL | CB3-OB5-PB2-OB2 |
| 26 | G | 269 | CDL | CB3-OB5-PB2-OB3 |
| 26 | G | 269 | CDL | CB3-OB5-PB2-OB4 |
| 26 | G | 269 | CDL | OB6-CB4-CB6-OB8 |

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| Mol | Chain | Res | Type | Atoms |
|-----|-------|------|------|-----------------|
| 26 | P | 1270 | CDL | CB2-C1-CA2-OA2 |
| 26 | P | 1270 | CDL | CA2-C1-CB2-OB2 |
| 26 | P | 1270 | CDL | CA2-OA2-PA1-OA3 |
| 26 | P | 1270 | CDL | CA2-OA2-PA1-OA4 |
| 26 | P | 1270 | CDL | CA3-OA5-PA1-OA3 |
| 26 | P | 1270 | CDL | CA3-OA5-PA1-OA4 |
| 26 | P | 1270 | CDL | OA7-CA5-OA6-CA4 |
| 26 | P | 1270 | CDL | C11-CA5-OA6-CA4 |
| 26 | P | 1270 | CDL | CB2-OB2-PB2-OB3 |
| 26 | T | 1269 | CDL | O1-C1-CA2-OA2 |
| 26 | T | 1269 | CDL | CB2-C1-CA2-OA2 |
| 26 | T | 1269 | CDL | CA2-C1-CB2-OB2 |
| 26 | T | 1269 | CDL | CA3-OA5-PA1-OA2 |
| 26 | T | 1269 | CDL | CA3-OA5-PA1-OA3 |
| 26 | T | 1269 | CDL | CA3-OA5-PA1-OA4 |
| 26 | T | 1269 | CDL | C11-CA5-OA6-CA4 |
| 26 | T | 1269 | CDL | C1-CB2-OB2-PB2 |
| 26 | T | 1269 | CDL | CB3-OB5-PB2-OB3 |
| 26 | T | 1269 | CDL | CB3-OB5-PB2-OB4 |
| 26 | T | 1269 | CDL | OB6-CB4-CB6-OB8 |
| 28 | G | 272 | DMU | O5-C6-O16-C18 |
| 28 | P | 1272 | DMU | C1-C6-O16-C18 |
| 28 | Z | 1526 | DMU | O5-C6-O16-C18 |
| 19 | D | 523 | TGL | OC1-CC1-OG3-CG3 |
| 19 | Q | 1523 | TGL | OC1-CC1-OG3-CG3 |
| 19 | Q | 1523 | TGL | CC2-CC1-OG3-CG3 |
| 20 | M | 524 | PGV | O04-C19-O03-C01 |
| 23 | J | 60 | CHD | C16-C17-C20-C22 |
| 19 | A | 521 | TGL | OB1-CB1-OG2-CG2 |
| 20 | P | 1268 | PGV | O02-C1-O01-C02 |
| 26 | T | 1269 | CDL | OA7-CA5-OA6-CA4 |
| 20 | M | 524 | PGV | C20-C19-O03-C01 |
| 20 | N | 1524 | PGV | C20-C19-O03-C01 |
| 28 | Z | 1526 | DMU | O6-C11-C9-O1 |
| 20 | C | 268 | PGV | C2-C1-O01-C02 |
| 26 | P | 1270 | CDL | C51-CB5-OB6-CB4 |
| 19 | L | 522 | TGL | OA1-CA1-OG1-CG1 |
| 19 | N | 1522 | TGL | OA1-CA1-OG1-CG1 |
| 19 | Q | 1523 | TGL | CB9-C10-C11-C12 |
| 19 | D | 523 | TGL | CC2-CC1-OG3-CG3 |
| 19 | L | 522 | TGL | CA2-CA1-OG1-CG1 |
| 19 | N | 1522 | TGL | CA2-CA1-OG1-CG1 |

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| Mol | Chain | Res | Type | Atoms |
|-----|-------|------|------|-----------------|
| 20 | C | 268 | PGV | C10-C11-C12-C13 |
| 22 | B | 229 | PSC | C11-C10-C9-C8 |
| 25 | C | 264 | PEK | C7-C8-C9-C10 |
| 25 | C | 264 | PEK | C10-C11-C12-C13 |
| 25 | G | 265 | PEK | C7-C8-C9-C10 |
| 25 | P | 1264 | PEK | C10-C11-C12-C13 |
| 25 | P | 1265 | PEK | C7-C8-C9-C10 |
| 25 | T | 263 | PEK | C10-C11-C12-C13 |
| 26 | G | 269 | CDL | C15-C16-C17-C18 |
| 26 | G | 269 | CDL | C79-C80-C81-C82 |
| 28 | Z | 1526 | DMU | O5-C4-C57-O61 |
| 20 | N | 1524 | PGV | O04-C19-O03-C01 |
| 19 | D | 523 | TGL | C17-C18-C19-C33 |
| 28 | M | 526 | DMU | O5-C4-C57-O61 |
| 20 | P | 1268 | PGV | O12-C04-C05-O05 |
| 22 | R | 1229 | PSC | C20-C19-O03-C01 |
| 19 | A | 521 | TGL | CB2-CB1-OG2-CG2 |
| 19 | Q | 1523 | TGL | C21-C22-C23-C24 |
| 26 | T | 1269 | CDL | CA7-C31-C32-C33 |
| 19 | D | 523 | TGL | C13-C14-C29-C30 |
| 26 | P | 1270 | CDL | C38-C39-C40-C41 |
| 26 | P | 1270 | CDL | C62-C63-C64-C65 |
| 26 | P | 1270 | CDL | C82-C83-C84-C85 |
| 26 | T | 1269 | CDL | C79-C80-C81-C82 |
| 28 | Z | 1526 | DMU | C19-C22-C25-C28 |
| 19 | N | 1522 | TGL | C17-C18-C19-C33 |
| 20 | M | 524 | PGV | C4-C5-C6-C7 |
| 22 | R | 1229 | PSC | C22-C23-C24-C25 |
| 26 | P | 1270 | CDL | C20-C21-C22-C23 |
| 26 | T | 1269 | CDL | C22-C23-C24-C25 |
| 26 | T | 1269 | CDL | C60-C61-C62-C63 |
| 20 | N | 1524 | PGV | C19-C20-C21-C22 |
| 26 | G | 269 | CDL | C56-C57-C58-C59 |
| 28 | M | 526 | DMU | O6-C11-C9-C8 |
| 19 | D | 523 | TGL | C20-C21-C22-C23 |
| 26 | T | 1269 | CDL | C15-C16-C17-C18 |
| 28 | P | 1272 | DMU | C28-C31-C34-C37 |
| 22 | R | 1229 | PSC | O04-C19-O03-C01 |
| 19 | L | 522 | TGL | CC3-CC4-CC5-CC6 |
| 19 | N | 1522 | TGL | CC1-CC2-CC3-CC4 |
| 26 | G | 269 | CDL | CA2-C1-CB2-OB2 |
| 19 | O | 1521 | TGL | OB1-CB1-OG2-CG2 |

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| Mol | Chain | Res | Type | Atoms |
|-----|-------|------|------|-----------------|
| 23 | C | 271 | CHD | C21-C20-C22-C23 |
| 22 | B | 229 | PSC | C04-C05-N-C06 |
| 22 | B | 229 | PSC | C20-C19-O03-C01 |
| 25 | T | 263 | PEK | C22-C21-O03-C01 |
| 26 | G | 269 | CDL | C31-CA7-OA8-CA6 |
| 19 | A | 521 | TGL | C16-C15-CC9-CC8 |
| 19 | D | 523 | TGL | CB9-C10-C11-C12 |
| 23 | W | 1059 | CHD | C13-C17-C20-C22 |
| 19 | L | 522 | TGL | CC1-CC2-CC3-CC4 |
| 22 | R | 1229 | PSC | C1-C2-C3-C4 |
| 25 | G | 1263 | PEK | C33-C34-C35-C36 |
| 28 | P | 1272 | DMU | O6-C11-C9-O1 |
| 23 | C | 271 | CHD | C17-C20-C22-C23 |
| 28 | G | 272 | DMU | O6-C11-C9-C8 |
| 26 | C | 270 | CDL | OB5-CB3-CB4-OB6 |
| 20 | M | 524 | PGV | O12-C04-C05-O05 |
| 26 | P | 1270 | CDL | O1-C1-CB2-OB2 |
| 26 | G | 269 | CDL | CA5-C11-C12-C13 |
| 20 | C | 268 | PGV | C2-C3-C4-C5 |
| 26 | G | 269 | CDL | OA9-CA7-OA8-CA6 |
| 28 | G | 272 | DMU | O5-C4-C57-O61 |
| 26 | P | 1270 | CDL | OB7-CB5-OB6-CB4 |
| 22 | R | 1229 | PSC | C19-C20-C21-C22 |
| 25 | P | 1265 | PEK | C1-C2-C3-C4 |
| 26 | C | 270 | CDL | CB7-C71-C72-C73 |
| 26 | G | 269 | CDL | CA7-C31-C32-C33 |
| 26 | G | 269 | CDL | CB5-C51-C52-C53 |
| 26 | G | 269 | CDL | CB7-C71-C72-C73 |
| 28 | P | 1272 | DMU | O5-C4-C57-O61 |
| 25 | T | 263 | PEK | C29-C30-C31-C32 |
| 26 | T | 1269 | CDL | CB7-C71-C72-C73 |
| 23 | J | 60 | CHD | C13-C17-C20-C22 |
| 19 | A | 521 | TGL | CA1-CA2-CA3-CA4 |
| 19 | O | 1521 | TGL | CA1-CA2-CA3-CA4 |
| 20 | P | 1268 | PGV | C1-C2-C3-C4 |
| 22 | B | 229 | PSC | C1-C2-C3-C4 |
| 25 | G | 265 | PEK | C1-C2-C3-C4 |
| 26 | C | 270 | CDL | CA7-C31-C32-C33 |
| 22 | R | 1229 | PSC | C04-C05-N-C06 |
| 19 | D | 523 | TGL | CB1-CB2-CB3-CB4 |
| 19 | Q | 1523 | TGL | CB1-CB2-CB3-CB4 |
| 25 | C | 264 | PEK | C1-C2-C3-C4 |

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| Mol | Chain | Res | Type | Atoms |
|------------|--------------|------------|-------------|-----------------|
| 26 | P | 1270 | CDL | CB7-C71-C72-C73 |
| 19 | Q | 1523 | TGL | C13-C14-C29-C30 |
| 26 | C | 270 | CDL | C38-C39-C40-C41 |
| 26 | C | 270 | CDL | C51-CB5-OB6-CB4 |
| 23 | J | 60 | CHD | C13-C17-C20-C21 |
| 22 | B | 229 | PSC | O04-C19-O03-C01 |
| 26 | C | 270 | CDL | O1-C1-CA2-OA2 |
| 26 | G | 269 | CDL | O1-C1-CB2-OB2 |
| 26 | P | 1270 | CDL | O1-C1-CA2-OA2 |
| 26 | T | 1269 | CDL | O1-C1-CB2-OB2 |
| 25 | T | 263 | PEK | O04-C21-O03-C01 |
| 25 | G | 1263 | PEK | C2-C3-C4-C5 |
| 22 | R | 1229 | PSC | C11-C12-C13-C14 |
| 25 | P | 1265 | PEK | C4-C5-C6-C7 |
| 20 | M | 524 | PGV | C03-O11-P-O12 |
| 20 | N | 1524 | PGV | C04-O12-P-O11 |
| 22 | B | 229 | PSC | C04-O12-P-O11 |
| 22 | R | 1229 | PSC | C03-O11-P-O12 |
| 22 | R | 1229 | PSC | C04-O12-P-O11 |
| 25 | G | 265 | PEK | C04-O12-P-O11 |
| 25 | G | 1263 | PEK | C03-O11-P-O12 |
| 25 | P | 1265 | PEK | C04-O12-P-O11 |
| 26 | C | 270 | CDL | CA3-OA5-PA1-OA2 |
| 26 | C | 270 | CDL | CB3-OB5-PB2-OB2 |
| 26 | P | 1270 | CDL | CA2-OA2-PA1-OA5 |
| 26 | P | 1270 | CDL | CA3-OA5-PA1-OA2 |
| 26 | P | 1270 | CDL | CB2-OB2-PB2-OB5 |
| 26 | T | 1269 | CDL | CB3-OB5-PB2-OB2 |
| 25 | G | 1263 | PEK | C22-C21-O03-C01 |
| 23 | W | 1059 | CHD | C13-C17-C20-C21 |
| 26 | T | 1269 | CDL | C37-C38-C39-C40 |
| 19 | N | 1522 | TGL | OB1-CB1-OG2-CG2 |
| 22 | B | 229 | PSC | C04-C05-N-C07 |
| 23 | P | 1271 | CHD | C20-C22-C23-C24 |
| 20 | M | 524 | PGV | C19-C20-C21-C22 |
| 26 | T | 1269 | CDL | C61-C62-C63-C64 |
| 19 | N | 1522 | TGL | CB2-CB1-OG2-CG2 |
| 19 | O | 1521 | TGL | CB2-CB1-OG2-CG2 |
| 19 | L | 522 | TGL | C22-C23-C24-C25 |
| 19 | L | 522 | TGL | C23-C24-C25-C26 |
| 19 | N | 1522 | TGL | C22-C23-C24-C25 |
| 19 | Q | 1523 | TGL | C12-C13-C14-C29 |

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| Mol | Chain | Res | Type | Atoms |
|-----|-------|------|------|-----------------|
| 19 | Q | 1523 | TGL | C16-C17-C18-C19 |
| 20 | C | 267 | PGV | C7-C8-C9-C10 |
| 20 | M | 524 | PGV | C2-C3-C4-C5 |
| 22 | B | 229 | PSC | C2-C3-C4-C5 |
| 25 | G | 1263 | PEK | C25-C26-C27-C28 |
| 25 | P | 1265 | PEK | C29-C30-C31-C32 |
| 26 | G | 269 | CDL | C59-C60-C61-C62 |
| 26 | P | 1270 | CDL | C35-C36-C37-C38 |
| 26 | P | 1270 | CDL | C77-C78-C79-C80 |
| 26 | P | 1270 | CDL | C83-C84-C85-C86 |
| 28 | M | 526 | DMU | C19-C22-C25-C28 |
| 28 | Z | 1526 | DMU | C25-C28-C31-C34 |
| 19 | Q | 1523 | TGL | C17-C18-C19-C33 |
| 20 | A | 522 | PGV | C25-C26-C27-C28 |
| 20 | C | 268 | PGV | C22-C23-C24-C25 |
| 26 | C | 270 | CDL | C76-C77-C78-C79 |
| 26 | T | 1269 | CDL | C40-C41-C42-C43 |
| 19 | D | 523 | TGL | CG3-CG2-OG2-CB1 |
| 19 | Q | 1523 | TGL | CG3-CG2-OG2-CB1 |
| 26 | C | 270 | CDL | OB7-CB5-OB6-CB4 |
| 22 | B | 229 | PSC | C24-C25-C26-C27 |
| 25 | P | 1264 | PEK | C16-C17-C18-C19 |
| 26 | C | 270 | CDL | C43-C44-C45-C46 |
| 26 | C | 270 | CDL | C51-C52-C53-C54 |
| 26 | P | 1270 | CDL | C80-C81-C82-C83 |
| 26 | P | 1270 | CDL | OB5-CB3-CB4-OB6 |
| 19 | N | 1522 | TGL | CB5-CB6-CB7-CB8 |
| 20 | C | 267 | PGV | C13-C14-C15-C16 |
| 26 | P | 1270 | CDL | C16-C17-C18-C19 |
| 26 | P | 1270 | CDL | C37-C38-C39-C40 |
| 26 | T | 1269 | CDL | C17-C18-C19-C20 |
| 19 | O | 1521 | TGL | CA2-CA3-CA4-CA5 |
| 19 | O | 1521 | TGL | C13-C14-C29-C30 |
| 22 | R | 1229 | PSC | C5-C6-C7-C8 |
| 25 | G | 1263 | PEK | C16-C17-C18-C19 |
| 25 | G | 1263 | PEK | C31-C32-C33-C34 |
| 25 | T | 263 | PEK | C31-C32-C33-C34 |
| 20 | N | 1266 | PGV | C23-C24-C25-C26 |
| 20 | N | 1266 | PGV | C26-C27-C28-C29 |
| 20 | P | 1267 | PGV | C7-C8-C9-C10 |
| 20 | P | 1267 | PGV | C14-C15-C16-C17 |
| 26 | C | 270 | CDL | C11-C12-C13-C14 |

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| Mol | Chain | Res | Type | Atoms |
|-----|-------|------|------|-----------------|
| 26 | G | 269 | CDL | C37-C38-C39-C40 |
| 26 | G | 269 | CDL | C43-C44-C45-C46 |
| 19 | O | 1521 | TGL | CA9-C20-C21-C22 |
| 26 | P | 1270 | CDL | C36-C37-C38-C39 |
| 19 | A | 521 | TGL | C21-C20-CA9-CA8 |
| 19 | L | 522 | TGL | CB5-CB6-CB7-CB8 |
| 19 | Q | 1523 | TGL | CC2-CC3-CC4-CC5 |
| 20 | P | 1268 | PGV | C22-C23-C24-C25 |
| 26 | C | 270 | CDL | C53-C54-C55-C56 |
| 26 | G | 269 | CDL | C35-C36-C37-C38 |
| 26 | P | 1270 | CDL | C74-C75-C76-C77 |
| 25 | G | 1263 | PEK | O04-C21-O03-C01 |
| 19 | Q | 1523 | TGL | C21-C20-CA9-CA8 |
| 20 | C | 268 | PGV | C23-C24-C25-C26 |
| 22 | B | 229 | PSC | C22-C23-C24-C25 |
| 25 | C | 264 | PEK | C26-C27-C28-C29 |
| 26 | G | 269 | CDL | C19-C20-C21-C22 |
| 26 | T | 1269 | CDL | C73-C74-C75-C76 |
| 19 | D | 523 | TGL | CB2-CB3-CB4-CB5 |
| 19 | N | 1522 | TGL | C15-C16-C17-C18 |
| 20 | A | 522 | PGV | C29-C30-C31-C32 |
| 20 | C | 268 | PGV | C28-C29-C30-C31 |
| 22 | R | 1229 | PSC | C24-C25-C26-C27 |
| 23 | P | 1271 | CHD | C21-C20-C22-C23 |
| 25 | C | 264 | PEK | C2-C3-C4-C5 |
| 25 | G | 1263 | PEK | C15-C16-C17-C18 |
| 19 | A | 521 | TGL | CB4-CB5-CB6-CB7 |
| 19 | D | 523 | TGL | C23-C24-C25-C26 |
| 19 | Q | 1523 | TGL | C23-C24-C25-C26 |
| 20 | N | 1524 | PGV | C22-C23-C24-C25 |
| 20 | P | 1268 | PGV | C2-C3-C4-C5 |
| 20 | P | 1268 | PGV | C3-C4-C5-C6 |
| 25 | C | 264 | PEK | C28-C29-C30-C31 |
| 26 | C | 270 | CDL | C14-C15-C16-C17 |
| 26 | C | 270 | CDL | C81-C82-C83-C84 |
| 26 | P | 1270 | CDL | C73-C74-C75-C76 |
| 26 | T | 1269 | CDL | C36-C37-C38-C39 |
| 22 | B | 229 | PSC | C04-C05-N-C08 |
| 19 | D | 523 | TGL | CA5-CA6-CA7-CA8 |
| 25 | T | 263 | PEK | C30-C31-C32-C33 |
| 26 | G | 269 | CDL | C52-C53-C54-C55 |
| 26 | P | 1270 | CDL | C15-C16-C17-C18 |

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| Mol | Chain | Res | Type | Atoms |
|-----|-------|------|------|-----------------|
| 19 | L | 522 | TGL | CA3-CA4-CA5-CA6 |
| 19 | L | 522 | TGL | C18-C19-C33-C34 |
| 19 | N | 1522 | TGL | CA5-CA6-CA7-CA8 |
| 19 | N | 1522 | TGL | C19-C33-C34-C35 |
| 19 | Q | 1523 | TGL | C15-C16-C17-C18 |
| 20 | C | 268 | PGV | C6-C7-C8-C9 |
| 20 | N | 1524 | PGV | C23-C24-C25-C26 |
| 20 | N | 1266 | PGV | C5-C6-C7-C8 |
| 20 | N | 1266 | PGV | C6-C7-C8-C9 |
| 20 | P | 1268 | PGV | C23-C24-C25-C26 |
| 22 | R | 1229 | PSC | C29-C30-C31-C32 |
| 25 | G | 265 | PEK | C25-C26-C27-C28 |
| 26 | G | 269 | CDL | C20-C21-C22-C23 |
| 26 | P | 1270 | CDL | C63-C64-C65-C66 |
| 26 | P | 1270 | CDL | C75-C76-C77-C78 |
| 26 | T | 1269 | CDL | C57-C58-C59-C60 |
| 20 | P | 1267 | PGV | C13-C14-C15-C16 |
| 28 | G | 272 | DMU | C28-C31-C34-C37 |
| 20 | P | 1268 | PGV | C20-C19-O03-C01 |
| 19 | A | 521 | TGL | CB7-CB8-CB9-C10 |
| 22 | R | 1229 | PSC | C2-C3-C4-C5 |
| 26 | P | 1270 | CDL | C78-C79-C80-C81 |
| 28 | Z | 1526 | DMU | C19-C18-O16-C6 |
| 20 | C | 268 | PGV | C3-C4-C5-C6 |
| 19 | O | 1521 | TGL | C11-C10-CB9-CB8 |
| 26 | C | 270 | CDL | C73-C74-C75-C76 |
| 26 | G | 269 | CDL | OB7-CB5-OB6-CB4 |
| 20 | M | 524 | PGV | C10-C11-C12-C13 |
| 25 | P | 1265 | PEK | C10-C11-C12-C13 |
| 25 | T | 263 | PEK | C4-C5-C6-C7 |
| 19 | O | 1521 | TGL | CC2-CC3-CC4-CC5 |
| 25 | P | 1264 | PEK | C25-C26-C27-C28 |
| 26 | C | 270 | CDL | C59-C60-C61-C62 |
| 19 | A | 521 | TGL | CB3-CB4-CB5-CB6 |
| 26 | C | 270 | CDL | C31-CA7-OA8-CA6 |
| 26 | G | 269 | CDL | C51-CB5-OB6-CB4 |
| 26 | T | 1269 | CDL | C51-CB5-OB6-CB4 |
| 20 | C | 268 | PGV | C30-C31-C32-C33 |
| 25 | P | 1264 | PEK | C28-C29-C30-C31 |
| 20 | C | 268 | PGV | O05-C05-C06-O06 |
| 19 | D | 523 | TGL | C21-C20-CA9-CA8 |
| 20 | N | 1524 | PGV | C5-C6-C7-C8 |

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| Mol | Chain | Res | Type | Atoms |
|-----|-------|------|------|-----------------|
| 25 | T | 263 | PEK | C25-C26-C27-C28 |
| 26 | G | 269 | CDL | C61-C62-C63-C64 |
| 26 | T | 1269 | CDL | C62-C63-C64-C65 |
| 25 | P | 1264 | PEK | C15-C16-C17-C18 |
| 19 | D | 523 | TGL | C16-C15-CC9-CC8 |
| 19 | L | 522 | TGL | C21-C20-CA9-CA8 |
| 19 | N | 1522 | TGL | CC6-CC7-CC8-CC9 |
| 19 | Q | 1523 | TGL | C10-C11-C12-C13 |
| 26 | C | 270 | CDL | C72-C73-C74-C75 |
| 26 | G | 269 | CDL | C57-C58-C59-C60 |
| 25 | C | 264 | PEK | C23-C24-C25-C26 |
| 19 | N | 1522 | TGL | CB3-CB4-CB5-CB6 |
| 25 | C | 264 | PEK | C27-C28-C29-C30 |
| 26 | G | 269 | CDL | C11-C12-C13-C14 |
| 26 | P | 1270 | CDL | C58-C59-C60-C61 |
| 26 | G | 269 | CDL | OA7-CA5-OA6-CA4 |
| 26 | T | 1269 | CDL | OB7-CB5-OB6-CB4 |
| 19 | O | 1521 | TGL | CA5-CA6-CA7-CA8 |
| 25 | G | 1263 | PEK | C30-C31-C32-C33 |
| 25 | P | 1265 | PEK | C26-C27-C28-C29 |
| 26 | P | 1270 | CDL | C71-C72-C73-C74 |
| 19 | D | 523 | TGL | CC6-CC7-CC8-CC9 |
| 26 | C | 270 | CDL | C60-C61-C62-C63 |
| 26 | G | 269 | CDL | C58-C59-C60-C61 |
| 19 | D | 523 | TGL | CA3-CA4-CA5-CA6 |
| 19 | D | 523 | TGL | C33-C34-C35-C36 |
| 19 | L | 522 | TGL | C16-C15-CC9-CC8 |
| 26 | C | 270 | CDL | C64-C65-C66-C67 |
| 19 | N | 1522 | TGL | C25-C26-C27-C28 |
| 19 | O | 1521 | TGL | C12-C13-C14-C29 |
| 19 | Q | 1523 | TGL | C18-C19-C33-C34 |
| 22 | B | 229 | PSC | C26-C27-C28-C29 |
| 25 | P | 1264 | PEK | C27-C28-C29-C30 |
| 19 | D | 523 | TGL | CA6-CA7-CA8-CA9 |
| 19 | L | 522 | TGL | C12-C13-C14-C29 |
| 19 | N | 1522 | TGL | C18-C19-C33-C34 |
| 19 | O | 1521 | TGL | C21-C20-CA9-CA8 |
| 19 | O | 1521 | TGL | CB4-CB5-CB6-CB7 |
| 20 | M | 524 | PGV | C24-C25-C26-C27 |
| 26 | C | 270 | CDL | C21-C22-C23-C24 |
| 25 | P | 1265 | PEK | C13-C14-C15-C16 |
| 25 | P | 1265 | PEK | C15-C16-C17-C18 |

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| Mol | Chain | Res | Type | Atoms |
|-----|-------|------|------|-----------------|
| 28 | P | 1272 | DMU | C5-C10-O7-C3 |
| 19 | D | 523 | TGL | C16-C17-C18-C19 |
| 19 | L | 522 | TGL | CB2-CB3-CB4-CB5 |
| 19 | A | 521 | TGL | C13-C14-C29-C30 |
| 19 | L | 522 | TGL | C11-C12-C13-C14 |
| 19 | O | 1521 | TGL | CC7-CC8-CC9-C15 |
| 20 | C | 267 | PGV | C30-C31-C32-C33 |
| 26 | T | 1269 | CDL | C43-C44-C45-C46 |
| 26 | T | 1269 | CDL | C58-C59-C60-C61 |
| 20 | M | 524 | PGV | C3-C4-C5-C6 |
| 19 | O | 1521 | TGL | C15-C16-C17-C18 |
| 20 | N | 1524 | PGV | C7-C8-C9-C10 |
| 20 | N | 1524 | PGV | C21-C22-C23-C24 |
| 26 | C | 270 | CDL | C36-C37-C38-C39 |
| 26 | C | 270 | CDL | C41-C42-C43-C44 |
| 20 | N | 1266 | PGV | C30-C31-C32-C33 |
| 19 | L | 522 | TGL | C11-C10-CB9-CB8 |
| 19 | N | 1522 | TGL | CC7-CC8-CC9-C15 |
| 19 | O | 1521 | TGL | CC4-CC5-CC6-CC7 |
| 25 | G | 265 | PEK | C29-C30-C31-C32 |
| 26 | T | 1269 | CDL | C33-C34-C35-C36 |
| 19 | A | 521 | TGL | CB1-CB2-CB3-CB4 |
| 22 | B | 229 | PSC | C2-C1-O01-C02 |
| 25 | G | 265 | PEK | C2-C1-O01-C02 |
| 25 | P | 1265 | PEK | C2-C1-O01-C02 |
| 26 | G | 269 | CDL | C11-CA5-OA6-CA4 |
| 20 | C | 268 | PGV | O01-C02-C03-O11 |
| 20 | P | 1268 | PGV | O01-C02-C03-O11 |
| 19 | O | 1521 | TGL | CA3-CA4-CA5-CA6 |
| 20 | M | 524 | PGV | C26-C27-C28-C29 |
| 26 | T | 1269 | CDL | C80-C81-C82-C83 |
| 25 | G | 265 | PEK | O02-C1-O01-C02 |
| 25 | P | 1265 | PEK | O02-C1-O01-C02 |
| 28 | G | 272 | DMU | C1-C6-O16-C18 |
| 19 | D | 523 | TGL | OG1-CG1-CG2-OG2 |
| 19 | A | 521 | TGL | CA5-CA6-CA7-CA8 |
| 19 | A | 521 | TGL | CB6-CB7-CB8-CB9 |
| 19 | Q | 1523 | TGL | CA6-CA7-CA8-CA9 |
| 26 | G | 269 | CDL | C73-C74-C75-C76 |
| 26 | C | 270 | CDL | C19-C20-C21-C22 |
| 22 | B | 229 | PSC | C13-C14-C15-C16 |
| 25 | T | 263 | PEK | C2-C3-C4-C5 |

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| Mol | Chain | Res | Type | Atoms |
|------------|--------------|------------|-------------|-----------------|
| 26 | C | 270 | CDL | CA5-C11-C12-C13 |
| 22 | B | 229 | PSC | C5-C6-C7-C8 |
| 19 | N | 1522 | TGL | CC3-CC4-CC5-CC6 |
| 26 | P | 1270 | CDL | C43-C44-C45-C46 |
| 22 | R | 1229 | PSC | C11-C10-C9-C8 |
| 25 | T | 263 | PEK | C13-C14-C15-C16 |
| 23 | C | 271 | CHD | C20-C22-C23-C24 |
| 26 | G | 269 | CDL | C41-C42-C43-C44 |
| 20 | P | 1268 | PGV | O04-C19-O03-C01 |
| 26 | C | 270 | CDL | OA9-CA7-OA8-CA6 |
| 22 | B | 229 | PSC | O02-C1-O01-C02 |
| 19 | D | 523 | TGL | CC2-CC3-CC4-CC5 |
| 19 | L | 522 | TGL | CC4-CC5-CC6-CC7 |
| 25 | C | 264 | PEK | C25-C26-C27-C28 |
| 25 | G | 265 | PEK | C01-C02-C03-O11 |
| 25 | P | 1265 | PEK | C01-C02-C03-O11 |
| 25 | T | 263 | PEK | C01-C02-C03-O11 |
| 26 | C | 270 | CDL | OB5-CB3-CB4-CB6 |
| 26 | P | 1270 | CDL | OA5-CA3-CA4-CA6 |
| 25 | G | 265 | PEK | C28-C29-C30-C31 |
| 20 | P | 1267 | PGV | C30-C31-C32-C33 |
| 20 | P | 1268 | PGV | C14-C15-C16-C17 |
| 26 | T | 1269 | CDL | C39-C40-C41-C42 |
| 19 | O | 1521 | TGL | C11-C12-C13-C14 |
| 25 | P | 1264 | PEK | C2-C3-C4-C5 |
| 19 | A | 521 | TGL | C11-C10-CB9-CB8 |
| 19 | D | 523 | TGL | CA2-CA3-CA4-CA5 |
| 25 | T | 263 | PEK | C34-C35-C36-C37 |
| 26 | G | 269 | CDL | C62-C63-C64-C65 |
| 20 | C | 268 | PGV | C20-C19-O03-C01 |
| 26 | C | 270 | CDL | C15-C16-C17-C18 |
| 26 | T | 1269 | CDL | C32-C33-C34-C35 |
| 26 | C | 270 | CDL | C74-C75-C76-C77 |
| 26 | T | 1269 | CDL | C72-C73-C74-C75 |
| 19 | L | 522 | TGL | CA2-CA3-CA4-CA5 |
| 19 | Q | 1523 | TGL | OG1-CG1-CG2-CG3 |
| 20 | C | 268 | PGV | O03-C01-C02-C03 |
| 20 | M | 524 | PGV | O03-C01-C02-C03 |
| 20 | N | 1524 | PGV | O03-C01-C02-C03 |
| 25 | G | 1263 | PEK | O03-C01-C02-C03 |
| 25 | T | 263 | PEK | O03-C01-C02-C03 |
| 26 | C | 270 | CDL | CA3-CA4-CA6-OA8 |

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| Mol | Chain | Res | Type | Atoms |
|-----|-------|------|------|-----------------|
| 26 | G | 269 | CDL | CB3-CB4-CB6-OB8 |
| 26 | T | 1269 | CDL | CB3-CB4-CB6-OB8 |
| 20 | A | 522 | PGV | C10-C11-C12-C13 |
| 19 | A | 521 | TGL | C16-C17-C18-C19 |
| 19 | N | 1522 | TGL | C29-C30-C31-C32 |
| 20 | C | 268 | PGV | C15-C16-C17-C18 |
| 20 | C | 268 | PGV | C31-C32-C33-C34 |
| 19 | A | 521 | TGL | OC1-CC1-OG3-CG3 |
| 19 | L | 522 | TGL | C25-C26-C27-C28 |
| 20 | P | 1267 | PGV | C15-C16-C17-C18 |
| 26 | P | 1270 | CDL | C53-C54-C55-C56 |
| 19 | A | 521 | TGL | CC5-CC6-CC7-CC8 |
| 19 | N | 1522 | TGL | C20-C21-C22-C23 |
| 20 | P | 1267 | PGV | C31-C32-C33-C34 |
| 25 | P | 1265 | PEK | C28-C29-C30-C31 |
| 26 | C | 270 | CDL | C20-C21-C22-C23 |
| 22 | B | 229 | PSC | C14-C15-C16-C17 |
| 22 | B | 229 | PSC | C31-C32-C33-C34 |
| 25 | T | 263 | PEK | C16-C17-C18-C19 |
| 26 | G | 269 | CDL | C64-C65-C66-C67 |
| 19 | Q | 1523 | TGL | CA2-CA1-OG1-CG1 |
| 20 | C | 267 | PGV | C31-C32-C33-C34 |
| 22 | B | 229 | PSC | C23-C24-C25-C26 |
| 26 | C | 270 | CDL | C13-C14-C15-C16 |
| 25 | G | 265 | PEK | C2-C3-C4-C5 |
| 25 | G | 265 | PEK | C15-C16-C17-C18 |
| 25 | T | 263 | PEK | C15-C16-C17-C18 |
| 19 | D | 523 | TGL | CC3-CC4-CC5-CC6 |
| 19 | L | 522 | TGL | C21-C22-C23-C24 |
| 19 | N | 1522 | TGL | CC5-CC6-CC7-CC8 |
| 25 | G | 1263 | PEK | C34-C35-C36-C37 |
| 19 | D | 523 | TGL | CA9-C20-C21-C22 |
| 19 | Q | 1523 | TGL | CC3-CC4-CC5-CC6 |
| 20 | N | 1524 | PGV | C20-C21-C22-C23 |
| 26 | C | 270 | CDL | C31-C32-C33-C34 |
| 26 | T | 1269 | CDL | C59-C60-C61-C62 |
| 22 | B | 229 | PSC | C21-C22-C23-C24 |
| 25 | P | 1265 | PEK | C22-C21-O03-C01 |
| 26 | P | 1270 | CDL | C79-C80-C81-C82 |
| 25 | P | 1264 | PEK | C23-C24-C25-C26 |
| 19 | A | 521 | TGL | CG1-CG2-OG2-CB1 |
| 20 | M | 524 | PGV | C01-C02-O01-C1 |

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| Mol | Chain | Res | Type | Atoms |
|-----|-------|------|------|-----------------|
| 20 | A | 522 | PGV | C31-C32-C33-C34 |
| 26 | G | 269 | CDL | C17-C18-C19-C20 |
| 19 | A | 521 | TGL | C23-C24-C25-C26 |
| 20 | P | 1268 | PGV | C13-C14-C15-C16 |
| 22 | B | 229 | PSC | C4-C5-C6-C7 |
| 26 | T | 1269 | CDL | C81-C82-C83-C84 |
| 25 | C | 264 | PEK | C4-C5-C6-C7 |
| 25 | C | 264 | PEK | C13-C14-C15-C16 |
| 25 | P | 1264 | PEK | C7-C8-C9-C10 |
| 20 | N | 1524 | PGV | C24-C25-C26-C27 |
| 26 | T | 1269 | CDL | C63-C64-C65-C66 |
| 26 | C | 270 | CDL | C58-C59-C60-C61 |
| 26 | C | 270 | CDL | C22-C23-C24-C25 |
| 20 | C | 268 | PGV | C11-C10-C9-C8 |
| 19 | Q | 1523 | TGL | OG1-CG1-CG2-OG2 |
| 20 | M | 524 | PGV | O03-C01-C02-O01 |
| 26 | C | 270 | CDL | OB6-CB4-CB6-OB8 |
| 19 | L | 522 | TGL | OB1-CB1-OG2-CG2 |
| 19 | O | 1521 | TGL | OC1-CC1-OG3-CG3 |
| 28 | M | 526 | DMU | C25-C28-C31-C34 |
| 19 | N | 1522 | TGL | OG2-CB1-CB2-CB3 |
| 28 | G | 272 | DMU | C4-C3-O7-C10 |
| 28 | P | 1272 | DMU | C22-C25-C28-C31 |
| 20 | C | 268 | PGV | C24-C25-C26-C27 |
| 26 | G | 269 | CDL | C60-C61-C62-C63 |
| 28 | G | 272 | DMU | C34-C37-C40-C43 |
| 20 | M | 524 | PGV | C31-C32-C33-C34 |
| 28 | Z | 1526 | DMU | C34-C37-C40-C43 |
| 19 | N | 1522 | TGL | C12-C13-C14-C29 |
| 25 | P | 1265 | PEK | C16-C17-C18-C19 |
| 19 | A | 521 | TGL | CC2-CC1-OG3-CG3 |
| 19 | O | 1521 | TGL | CC2-CC1-OG3-CG3 |
| 19 | N | 1522 | TGL | C11-C10-CB9-CB8 |
| 19 | Q | 1523 | TGL | C11-C10-CB9-CB8 |
| 20 | N | 1266 | PGV | C11-C10-C9-C8 |
| 20 | N | 1524 | PGV | C10-C11-C12-C13 |
| 25 | G | 1263 | PEK | C13-C14-C15-C16 |
| 25 | G | 265 | PEK | C24-C25-C26-C27 |
| 28 | M | 526 | DMU | C34-C37-C40-C43 |
| 22 | R | 1229 | PSC | C04-C05-N-C08 |
| 28 | M | 526 | DMU | O5-C6-O16-C18 |
| 20 | C | 268 | PGV | C01-C02-C03-O11 |

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| Mol | Chain | Res | Type | Atoms |
|-----|-------|------|------|-----------------|
| 20 | M | 524 | PGV | C01-C02-C03-O11 |
| 20 | N | 1524 | PGV | C01-C02-C03-O11 |
| 20 | P | 1268 | PGV | C01-C02-C03-O11 |
| 26 | C | 270 | CDL | OA5-CA3-CA4-CA6 |
| 26 | P | 1270 | CDL | OB5-CB3-CB4-CB6 |
| 19 | A | 521 | TGL | CC6-CC7-CC8-CC9 |
| 25 | G | 1263 | PEK | C21-C22-C23-C24 |
| 25 | P | 1264 | PEK | C1-C2-C3-C4 |
| 25 | G | 1263 | PEK | O12-C04-C05-N |
| 19 | L | 522 | TGL | C17-C18-C19-C33 |
| 19 | Q | 1523 | TGL | CB5-CB6-CB7-CB8 |
| 20 | C | 268 | PGV | C14-C15-C16-C17 |
| 19 | Q | 1523 | TGL | OA1-CA1-OG1-CG1 |
| 25 | P | 1265 | PEK | O04-C21-O03-C01 |
| 26 | C | 270 | CDL | C63-C64-C65-C66 |
| 26 | G | 269 | CDL | C71-C72-C73-C74 |
| 20 | P | 1268 | PGV | C15-C16-C17-C18 |
| 19 | N | 1522 | TGL | CB1-CB2-CB3-CB4 |
| 26 | P | 1270 | CDL | C13-C14-C15-C16 |
| 20 | M | 524 | PGV | C05-C04-O12-P |
| 19 | N | 1522 | TGL | C10-C11-C12-C13 |
| 20 | N | 1524 | PGV | C28-C29-C30-C31 |
| 26 | G | 269 | CDL | C81-C82-C83-C84 |
| 19 | L | 522 | TGL | CC7-CC8-CC9-C15 |
| 20 | C | 267 | PGV | C15-C16-C17-C18 |
| 25 | T | 263 | PEK | C27-C28-C29-C30 |
| 20 | N | 1266 | PGV | C25-C26-C27-C28 |
| 25 | P | 1264 | PEK | C30-C31-C32-C33 |
| 25 | P | 1265 | PEK | C33-C34-C35-C36 |
| 19 | A | 521 | TGL | CA3-CA4-CA5-CA6 |
| 19 | A | 521 | TGL | CA6-CA7-CA8-CA9 |
| 26 | G | 269 | CDL | CA3-CA4-CA6-OA8 |
| 26 | G | 269 | CDL | C44-C45-C46-C47 |
| 25 | G | 265 | PEK | C4-C5-C6-C7 |
| 25 | P | 1264 | PEK | C4-C5-C6-C7 |
| 20 | C | 268 | PGV | O04-C19-O03-C01 |
| 26 | P | 1270 | CDL | C40-C41-C42-C43 |
| 20 | P | 1268 | PGV | C4-C5-C6-C7 |
| 25 | P | 1265 | PEK | C24-C25-C26-C27 |
| 26 | G | 269 | CDL | C14-C15-C16-C17 |
| 26 | T | 1269 | CDL | C31-CA7-OA8-CA6 |
| 19 | L | 522 | TGL | CC2-CC3-CC4-CC5 |

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| Mol | Chain | Res | Type | Atoms |
|-----|-------|------|------|-----------------|
| 22 | B | 229 | PSC | C9-C10-C11-C12 |
| 22 | R | 1229 | PSC | C9-C10-C11-C12 |
| 22 | R | 1229 | PSC | C10-C11-C12-C13 |
| 25 | C | 264 | PEK | C11-C10-C9-C8 |
| 25 | C | 264 | PEK | C9-C10-C11-C12 |
| 25 | G | 265 | PEK | C5-C6-C7-C8 |
| 25 | G | 265 | PEK | C11-C10-C9-C8 |
| 25 | P | 1264 | PEK | C5-C6-C7-C8 |
| 25 | P | 1264 | PEK | C9-C10-C11-C12 |
| 25 | P | 1264 | PEK | C12-C13-C14-C15 |
| 25 | P | 1265 | PEK | C5-C6-C7-C8 |
| 25 | T | 263 | PEK | C5-C6-C7-C8 |
| 25 | T | 263 | PEK | C9-C10-C11-C12 |
| 25 | T | 263 | PEK | C12-C13-C14-C15 |
| 26 | C | 270 | CDL | CB2-OB2-PB2-OB5 |
| 19 | O | 1521 | TGL | C14-C29-C30-C31 |
| 22 | B | 229 | PSC | C27-C28-C29-C30 |
| 26 | G | 269 | CDL | C55-C56-C57-C58 |
| 26 | P | 1270 | CDL | OA5-CA3-CA4-OA6 |
| 20 | P | 1267 | PGV | C1-C2-C3-C4 |
| 20 | P | 1268 | PGV | C30-C31-C32-C33 |
| 20 | M | 524 | PGV | C29-C30-C31-C32 |
| 20 | N | 1524 | PGV | O03-C01-C02-O01 |
| 28 | P | 1272 | DMU | C3-C4-C57-O61 |
| 19 | N | 1522 | TGL | C33-C34-C35-C36 |
| 26 | T | 1269 | CDL | C82-C83-C84-C85 |
| 28 | M | 526 | DMU | C22-C25-C28-C31 |
| 19 | A | 521 | TGL | CA2-CA3-CA4-CA5 |
| 25 | T | 263 | PEK | C28-C29-C30-C31 |
| 26 | P | 1270 | CDL | C22-C23-C24-C25 |
| 26 | G | 269 | CDL | C31-C32-C33-C34 |
| 20 | C | 267 | PGV | C29-C30-C31-C32 |
| 20 | C | 268 | PGV | C05-C04-O12-P |
| 20 | N | 1524 | PGV | C05-C04-O12-P |
| 26 | P | 1270 | CDL | C1-CA2-OA2-PA1 |
| 26 | P | 1270 | CDL | CA4-CA3-OA5-PA1 |
| 19 | A | 521 | TGL | CA4-CA5-CA6-CA7 |
| 19 | D | 523 | TGL | CB6-CB7-CB8-CB9 |
| 19 | O | 1521 | TGL | CA6-CA7-CA8-CA9 |
| 19 | O | 1521 | TGL | C16-C17-C18-C19 |
| 20 | P | 1268 | PGV | C28-C29-C30-C31 |
| 19 | N | 1522 | TGL | OG1-CA1-CA2-CA3 |

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| Mol | Chain | Res | Type | Atoms |
|-----|-------|------|------|-----------------|
| 28 | P | 1272 | DMU | O6-C11-C9-C8 |
| 19 | A | 521 | TGL | C18-C19-C33-C34 |
| 19 | D | 523 | TGL | C22-C23-C24-C25 |
| 25 | G | 265 | PEK | C26-C27-C28-C29 |
| 22 | R | 1229 | PSC | C26-C27-C28-C29 |
| 25 | G | 1263 | PEK | C01-C02-C03-O11 |
| 26 | G | 269 | CDL | OA5-CA3-CA4-CA6 |
| 26 | T | 1269 | CDL | C53-C54-C55-C56 |
| 20 | M | 524 | PGV | C14-C15-C16-C17 |
| 22 | R | 1229 | PSC | C27-C28-C29-C30 |
| 26 | C | 270 | CDL | C62-C63-C64-C65 |
| 26 | T | 1269 | CDL | C32-C31-CA7-OA8 |
| 19 | N | 1522 | TGL | C11-C12-C13-C14 |
| 19 | L | 522 | TGL | CB2-CB1-OG2-CG2 |
| 22 | R | 1229 | PSC | C02-C01-O03-C19 |
| 28 | Z | 1526 | DMU | C28-C31-C34-C37 |
| 22 | R | 1229 | PSC | C04-C05-N-C07 |
| 25 | P | 1265 | PEK | C22-C23-C24-C25 |
| 19 | L | 522 | TGL | CA6-CA7-CA8-CA9 |
| 20 | M | 524 | PGV | C13-C14-C15-C16 |
| 19 | D | 523 | TGL | OG1-CG1-CG2-CG3 |
| 22 | B | 229 | PSC | O03-C01-C02-C03 |
| 26 | C | 270 | CDL | C1-CA2-OA2-PA1 |
| 28 | G | 272 | DMU | C3-C4-C57-O61 |
| 25 | G | 265 | PEK | O01-C02-C03-O11 |
| 26 | C | 270 | CDL | OA5-CA3-CA4-OA6 |
| 26 | P | 1270 | CDL | C11-C12-C13-C14 |
| 20 | C | 268 | PGV | C9-C10-C11-C12 |
| 19 | O | 1521 | TGL | CC5-CC6-CC7-CC8 |
| 19 | N | 1522 | TGL | OG2-CG2-CG3-OG3 |
| 19 | Q | 1523 | TGL | OG2-CG2-CG3-OG3 |
| 19 | D | 523 | TGL | C11-C10-CB9-CB8 |
| 19 | Q | 1523 | TGL | CC6-CC7-CC8-CC9 |
| 19 | A | 521 | TGL | CC4-CC5-CC6-CC7 |
| 25 | P | 1264 | PEK | C24-C25-C26-C27 |
| 20 | N | 1266 | PGV | C12-C13-C14-C15 |
| 25 | C | 264 | PEK | C33-C34-C35-C36 |
| 26 | T | 1269 | CDL | OA9-CA7-OA8-CA6 |
| 19 | L | 522 | TGL | C13-C14-C29-C30 |
| 19 | O | 1521 | TGL | C29-C30-C31-C32 |
| 20 | A | 522 | PGV | C5-C6-C7-C8 |
| 26 | T | 1269 | CDL | C75-C76-C77-C78 |

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| Mol | Chain | Res | Type | Atoms |
|-----|-------|------|------|-----------------|
| 26 | T | 1269 | CDL | C52-C53-C54-C55 |
| 26 | C | 270 | CDL | C40-C41-C42-C43 |
| 19 | D | 523 | TGL | CA7-CA8-CA9-C20 |
| 20 | A | 522 | PGV | C7-C8-C9-C10 |
| 26 | G | 269 | CDL | CA2-OA2-PA1-OA5 |
| 19 | N | 1522 | TGL | CB4-CB5-CB6-CB7 |
| 20 | C | 267 | PGV | C02-C03-O11-P |
| 20 | P | 1267 | PGV | C02-C03-O11-P |
| 20 | P | 1268 | PGV | C05-C04-O12-P |
| 25 | T | 263 | PEK | C02-C03-O11-P |
| 26 | G | 269 | CDL | CA4-CA3-OA5-PA1 |
| 26 | P | 1270 | CDL | C31-C32-C33-C34 |
| 22 | B | 229 | PSC | C03-O11-P-O13 |
| 22 | B | 229 | PSC | C04-O12-P-O13 |
| 25 | G | 265 | PEK | C04-O12-P-O14 |
| 25 | G | 1263 | PEK | C03-O11-P-O14 |
| 25 | P | 1265 | PEK | C04-O12-P-O14 |
| 26 | C | 270 | CDL | CA3-OA5-PA1-OA3 |
| 26 | G | 269 | CDL | CA2-OA2-PA1-OA4 |
| 26 | P | 1270 | CDL | CB2-OB2-PB2-OB4 |
| 26 | C | 270 | CDL | C34-C35-C36-C37 |
| 26 | T | 1269 | CDL | C19-C20-C21-C22 |
| 25 | C | 264 | PEK | C17-C18-C19-C20 |
| 26 | T | 1269 | CDL | C24-C25-C26-C27 |
| 19 | O | 1521 | TGL | C17-C18-C19-C33 |
| 26 | P | 1270 | CDL | C24-C25-C26-C27 |
| 26 | T | 1269 | CDL | C77-C78-C79-C80 |
| 25 | G | 1263 | PEK | O01-C02-C03-O11 |
| 25 | P | 1265 | PEK | O01-C02-C03-O11 |
| 25 | T | 263 | PEK | O01-C02-C03-O11 |
| 28 | G | 272 | DMU | C5-C10-O7-C3 |
| 22 | B | 229 | PSC | C15-C16-C17-C18 |
| 19 | N | 1522 | TGL | C16-C15-CC9-CC8 |
| 28 | G | 272 | DMU | C19-C22-C25-C28 |
| 19 | N | 1522 | TGL | C21-C20-CA9-CA8 |
| 19 | O | 1521 | TGL | CB1-CB2-CB3-CB4 |
| 19 | N | 1522 | TGL | CG1-CG2-CG3-OG3 |
| 22 | B | 229 | PSC | O12-C04-C05-N |
| 19 | D | 523 | TGL | OG2-CG2-CG3-OG3 |
| 26 | C | 270 | CDL | OA6-CA4-CA6-OA8 |
| 25 | T | 263 | PEK | C26-C27-C28-C29 |
| 20 | C | 268 | PGV | C02-C03-O11-P |

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| Mol | Chain | Res | Type | Atoms |
|------------|--------------|------------|-------------|-----------------|
| 26 | C | 270 | CDL | C1-CB2-OB2-PB2 |
| 23 | P | 1271 | CHD | C16-C17-C20-C22 |
| 19 | L | 522 | TGL | OG1-CA1-CA2-CA3 |
| 26 | C | 270 | CDL | C71-C72-C73-C74 |
| 26 | T | 1269 | CDL | CB5-C51-C52-C53 |
| 26 | P | 1270 | CDL | OB9-CB7-OB8-CB6 |
| 19 | D | 523 | TGL | OG2-CB1-CB2-CB3 |
| 20 | M | 524 | PGV | O05-C05-C06-O06 |
| 25 | G | 265 | PEK | C22-C23-C24-C25 |
| 28 | Z | 1526 | DMU | C22-C25-C28-C31 |
| 19 | L | 522 | TGL | C19-C33-C34-C35 |
| 20 | N | 1524 | PGV | C26-C27-C28-C29 |
| 22 | R | 1229 | PSC | C28-C29-C30-C31 |
| 26 | C | 270 | CDL | C42-C43-C44-C45 |
| 25 | C | 264 | PEK | C35-C36-C37-C38 |
| 25 | T | 263 | PEK | C32-C33-C34-C35 |
| 19 | L | 522 | TGL | CA9-C20-C21-C22 |
| 19 | A | 521 | TGL | C29-C30-C31-C32 |
| 19 | O | 1521 | TGL | CG1-CG2-OG2-CB1 |
| 20 | P | 1268 | PGV | C24-C25-C26-C27 |
| 19 | N | 1522 | TGL | C14-C29-C30-C31 |
| 22 | R | 1229 | PSC | C23-C24-C25-C26 |
| 26 | T | 1269 | CDL | CB4-CB3-OB5-PB2 |
| 23 | P | 1525 | CHD | C13-C17-C20-C22 |
| 26 | P | 1270 | CDL | C76-C77-C78-C79 |
| 22 | B | 229 | PSC | C28-C29-C30-C31 |
| 26 | G | 269 | CDL | OB9-CB7-OB8-CB6 |
| 20 | C | 268 | PGV | C04-O12-P-O11 |
| 20 | N | 1524 | PGV | C03-O11-P-O12 |
| 20 | P | 1268 | PGV | C04-O12-P-O11 |
| 26 | G | 269 | CDL | CB2-OB2-PB2-OB5 |
| 26 | P | 1270 | CDL | CB3-OB5-PB2-OB2 |
| 26 | T | 1269 | CDL | CB2-OB2-PB2-OB5 |
| 19 | Q | 1523 | TGL | C29-C30-C31-C32 |
| 20 | N | 1266 | PGV | O03-C19-C20-C21 |
| 20 | C | 268 | PGV | C7-C8-C9-C10 |
| 20 | C | 268 | PGV | C13-C14-C15-C16 |
| 26 | C | 270 | CDL | C78-C79-C80-C81 |
| 19 | D | 523 | TGL | C12-C13-C14-C29 |
| 19 | Q | 1523 | TGL | CA3-CA4-CA5-CA6 |
| 25 | P | 1264 | PEK | C33-C34-C35-C36 |
| 26 | P | 1270 | CDL | C71-CB7-OB8-CB6 |

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| Mol | Chain | Res | Type | Atoms |
|-----|-------|------|------|-----------------|
| 20 | P | 1267 | PGV | C05-C04-O12-P |
| 25 | G | 265 | PEK | C02-C03-O11-P |
| 25 | G | 1263 | PEK | C02-C03-O11-P |
| 28 | P | 1272 | DMU | C31-C34-C37-C40 |
| 20 | N | 1524 | PGV | C9-C10-C11-C12 |
| 26 | P | 1270 | CDL | C72-C73-C74-C75 |
| 20 | P | 1267 | PGV | C19-C20-C21-C22 |
| 25 | G | 265 | PEK | C31-C32-C33-C34 |
| 20 | C | 268 | PGV | C25-C26-C27-C28 |
| 20 | P | 1268 | PGV | C6-C7-C8-C9 |
| 25 | P | 1264 | PEK | C3-C4-C5-C6 |
| 22 | B | 229 | PSC | C02-C01-O03-C19 |
| 26 | G | 269 | CDL | C80-C81-C82-C83 |
| 25 | C | 264 | PEK | O12-C04-C05-N |
| 26 | P | 1270 | CDL | C41-C42-C43-C44 |
| 14 | A | 515 | HEA | CAD-CBD-CGD-O1D |
| 14 | A | 516 | HEA | CAA-CBA-CGA-O1A |
| 20 | N | 1266 | PGV | C4-C5-C6-C7 |
| 14 | A | 515 | HEA | C26-C15-C16-C17 |
| 19 | A | 521 | TGL | C19-C33-C34-C35 |
| 14 | A | 515 | HEA | C14-C15-C16-C17 |
| 26 | P | 1270 | CDL | C32-C33-C34-C35 |
| 25 | G | 1263 | PEK | C26-C27-C28-C29 |
| 20 | N | 1266 | PGV | C10-C11-C12-C13 |
| 26 | P | 1270 | CDL | C57-C58-C59-C60 |
| 20 | P | 1267 | PGV | C29-C30-C31-C32 |
| 28 | G | 272 | DMU | O16-C18-C19-C22 |
| 23 | B | 1085 | CHD | C22-C23-C24-O25 |
| 26 | P | 1270 | CDL | C51-C52-C53-C54 |
| 20 | N | 1266 | PGV | C24-C25-C26-C27 |
| 26 | G | 269 | CDL | CB4-CB3-OB5-PB2 |
| 23 | W | 1059 | CHD | C22-C23-C24-O25 |
| 20 | C | 267 | PGV | C9-C10-C11-C12 |
| 25 | G | 1263 | PEK | C3-C4-C5-C6 |
| 19 | A | 521 | TGL | C15-C16-C17-C18 |
| 20 | N | 1266 | PGV | C31-C32-C33-C34 |
| 14 | A | 516 | HEA | CAD-CBD-CGD-O1D |
| 14 | N | 516 | HEA | CAA-CBA-CGA-O1A |
| 20 | C | 268 | PGV | C12-C13-C14-C15 |
| 19 | Q | 1523 | TGL | CA9-C20-C21-C22 |
| 19 | L | 522 | TGL | C24-C25-C26-C27 |
| 26 | P | 1270 | CDL | CA3-CA4-CA6-OA8 |

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| Mol | Chain | Res | Type | Atoms |
|-----|-------|------|------|-----------------|
| 23 | O | 229 | CHD | C21-C20-C22-C23 |
| 26 | C | 270 | CDL | C39-C40-C41-C42 |
| 19 | D | 523 | TGL | CA2-CA1-OG1-CG1 |
| 28 | P | 1272 | DMU | O5-C6-O16-C18 |
| 20 | P | 1268 | PGV | C11-C10-C9-C8 |
| 19 | A | 521 | TGL | C10-C11-C12-C13 |
| 19 | A | 521 | TGL | C17-C18-C19-C33 |
| 14 | N | 515 | HEA | CAD-CBD-CGD-O1D |
| 23 | O | 229 | CHD | C22-C23-C24-O25 |
| 20 | N | 1524 | PGV | C03-C02-O01-C1 |
| 26 | G | 269 | CDL | CA3-CA4-OA6-CA5 |
| 26 | G | 269 | CDL | CA6-CA4-OA6-CA5 |
| 19 | N | 1522 | TGL | CC4-CC5-CC6-CC7 |
| 23 | O | 229 | CHD | C22-C23-C24-O26 |
| 25 | G | 1263 | PEK | C5-C6-C7-C8 |
| 25 | G | 1263 | PEK | C9-C10-C11-C12 |
| 25 | P | 1265 | PEK | C6-C7-C8-C9 |
| 20 | N | 1266 | PGV | C29-C30-C31-C32 |
| 19 | O | 1521 | TGL | OG1-CA1-CA2-CA3 |
| 14 | A | 515 | HEA | CAD-CBD-CGD-O2D |
| 23 | J | 60 | CHD | C22-C23-C24-O26 |
| 19 | Q | 1523 | TGL | CA5-CA6-CA7-CA8 |
| 19 | O | 1521 | TGL | C10-C11-C12-C13 |
| 26 | G | 269 | CDL | C75-C76-C77-C78 |
| 26 | P | 1270 | CDL | C14-C15-C16-C17 |
| 28 | P | 1272 | DMU | O16-C18-C19-C22 |
| 14 | A | 516 | HEA | CAA-CBA-CGA-O2A |
| 14 | N | 516 | HEA | CAA-CBA-CGA-O2A |
| 23 | B | 1085 | CHD | C22-C23-C24-O26 |
| 23 | W | 1059 | CHD | C22-C23-C24-O26 |
| 26 | C | 270 | CDL | C32-C33-C34-C35 |
| 22 | B | 229 | PSC | C29-C30-C31-C32 |
| 19 | N | 1522 | TGL | C21-C22-C23-C24 |
| 26 | P | 1270 | CDL | CA5-C11-C12-C13 |
| 19 | N | 1522 | TGL | CA4-CA5-CA6-CA7 |
| 19 | N | 1522 | TGL | CC2-CC3-CC4-CC5 |
| 19 | N | 1522 | TGL | CA9-C20-C21-C22 |
| 20 | C | 268 | PGV | C26-C27-C28-C29 |
| 26 | G | 269 | CDL | C71-CB7-OB8-CB6 |
| 19 | D | 523 | TGL | OA1-CA1-OG1-CG1 |
| 23 | J | 60 | CHD | C22-C23-C24-O25 |
| 26 | C | 270 | CDL | C23-C24-C25-C26 |

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| Mol | Chain | Res | Type | Atoms |
|-----|-------|------|------|-----------------|
| 14 | A | 516 | HEA | CAD-CBD-CGD-O2D |
| 22 | B | 229 | PSC | C7-C8-C9-C10 |
| 20 | M | 524 | PGV | C25-C26-C27-C28 |
| 25 | P | 1265 | PEK | C17-C18-C19-C20 |
| 14 | N | 516 | HEA | C26-C15-C16-C17 |
| 19 | D | 523 | TGL | OG1-CA1-CA2-CA3 |
| 20 | P | 1267 | PGV | C9-C10-C11-C12 |
| 19 | L | 522 | TGL | OG2-CB1-CB2-CB3 |
| 19 | L | 522 | TGL | C10-C11-C12-C13 |
| 26 | C | 270 | CDL | CB4-CB6-OB8-CB7 |
| 20 | M | 524 | PGV | C21-C22-C23-C24 |
| 14 | N | 516 | HEA | CAD-CBD-CGD-O1D |
| 19 | A | 521 | TGL | CB2-CB3-CB4-CB5 |
| 25 | G | 265 | PEK | C17-C18-C19-C20 |
| 25 | G | 265 | PEK | C33-C34-C35-C36 |
| 28 | P | 1272 | DMU | C34-C37-C40-C43 |
| 19 | Q | 1523 | TGL | OG2-CB1-CB2-CB3 |
| 14 | N | 516 | HEA | CAD-CBD-CGD-O2D |
| 25 | P | 1265 | PEK | C2-C3-C4-C5 |
| 25 | P | 1265 | PEK | C25-C26-C27-C28 |
| 28 | Z | 1526 | DMU | C18-C19-C22-C25 |
| 25 | C | 264 | PEK | O01-C1-C2-C3 |
| 22 | R | 1229 | PSC | C12-C13-C14-C15 |
| 14 | A | 516 | HEA | C26-C15-C16-C17 |
| 19 | O | 1521 | TGL | C19-C33-C34-C35 |
| 26 | C | 270 | CDL | C32-C31-CA7-OA8 |
| 25 | T | 263 | PEK | C3-C4-C5-C6 |
| 14 | N | 515 | HEA | CAD-CBD-CGD-O2D |
| 19 | D | 523 | TGL | OG3-CC1-CC2-CC3 |
| 19 | L | 522 | TGL | OG3-CC1-CC2-CC3 |
| 22 | R | 1229 | PSC | O03-C19-C20-C21 |
| 22 | B | 229 | PSC | C12-C13-C14-C15 |
| 19 | Q | 1523 | TGL | CG1-CG2-CG3-OG3 |
| 20 | C | 267 | PGV | C05-C04-O12-P |
| 26 | C | 270 | CDL | CB3-CB4-CB6-OB8 |
| 23 | P | 1525 | CHD | C22-C23-C24-O25 |
| 20 | N | 1266 | PGV | C7-C8-C9-C10 |
| 19 | N | 1522 | TGL | OA1-CA1-CA2-CA3 |
| 25 | P | 1264 | PEK | O01-C1-C2-C3 |
| 26 | T | 1269 | CDL | OB9-CB7-OB8-CB6 |
| 20 | M | 524 | PGV | C9-C10-C11-C12 |
| 20 | N | 1266 | PGV | C11-C12-C13-C14 |

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| Mol | Chain | Res | Type | Atoms |
|-----|-------|------|------|-----------------|
| 25 | P | 1264 | PEK | C14-C15-C16-C17 |
| 26 | G | 269 | CDL | O1-C1-CA2-OA2 |
| 19 | A | 521 | TGL | OG1-CA1-CA2-CA3 |
| 19 | Q | 1523 | TGL | OG3-CC1-CC2-CC3 |
| 19 | L | 522 | TGL | CB4-CB5-CB6-CB7 |
| 19 | Q | 1523 | TGL | C33-C34-C35-C36 |
| 22 | B | 229 | PSC | O03-C19-C20-C21 |
| 19 | D | 523 | TGL | CB5-CB6-CB7-CB8 |
| 25 | G | 1263 | PEK | C14-C15-C16-C17 |
| 25 | P | 1265 | PEK | C3-C4-C5-C6 |
| 19 | A | 521 | TGL | OG3-CC1-CC2-CC3 |
| 20 | N | 1266 | PGV | C9-C10-C11-C12 |
| 19 | D | 523 | TGL | C15-C16-C17-C18 |
| 26 | C | 270 | CDL | C32-C31-CA7-OA9 |
| 26 | C | 270 | CDL | C12-C11-CA5-OA6 |
| 26 | P | 1270 | CDL | C23-C24-C25-C26 |
| 26 | P | 1270 | CDL | C19-C20-C21-C22 |
| 19 | A | 521 | TGL | OC1-CC1-CC2-CC3 |
| 25 | C | 264 | PEK | O02-C1-C2-C3 |
| 19 | A | 521 | TGL | C24-C25-C26-C27 |
| 20 | C | 268 | PGV | C5-C6-C7-C8 |
| 19 | A | 521 | TGL | OA1-CA1-CA2-CA3 |
| 28 | P | 1272 | DMU | C19-C22-C25-C28 |
| 25 | G | 265 | PEK | O04-C21-O03-C01 |
| 26 | T | 1269 | CDL | C71-CB7-OB8-CB6 |
| 25 | P | 1264 | PEK | O02-C1-C2-C3 |
| 26 | T | 1269 | CDL | C55-C56-C57-C58 |
| 19 | L | 522 | TGL | CG1-CG2-CG3-OG3 |
| 26 | P | 1270 | CDL | CB3-CB4-CB6-OB8 |
| 26 | C | 270 | CDL | C57-C58-C59-C60 |
| 19 | L | 522 | TGL | OC1-CC1-CC2-CC3 |
| 25 | P | 1265 | PEK | C02-C03-O11-P |
| 25 | G | 1263 | PEK | C22-C23-C24-C25 |
| 14 | N | 515 | HEA | CAA-CBA-CGA-O1A |
| 19 | D | 523 | TGL | C21-C22-C23-C24 |
| 20 | C | 268 | PGV | C03-O11-P-O13 |
| 25 | P | 1265 | PEK | C04-O12-P-O13 |
| 26 | T | 1269 | CDL | CA2-OA2-PA1-OA3 |
| 26 | T | 1269 | CDL | CB2-OB2-PB2-OB3 |
| 19 | A | 521 | TGL | C25-C26-C27-C28 |
| 23 | P | 1525 | CHD | C22-C23-C24-O26 |
| 19 | Q | 1523 | TGL | OC1-CC1-CC2-CC3 |

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| Mol | Chain | Res | Type | Atoms |
|-----|-------|------|------|-----------------|
| 19 | Q | 1523 | TGL | C20-C21-C22-C23 |
| 20 | A | 522 | PGV | C26-C27-C28-C29 |
| 26 | P | 1270 | CDL | C44-C45-C46-C47 |
| 23 | C | 271 | CHD | C22-C23-C24-O26 |
| 25 | G | 1263 | PEK | C27-C28-C29-C30 |
| 25 | G | 265 | PEK | O01-C1-C2-C3 |
| 20 | C | 268 | PGV | C4-C5-C6-C7 |
| 20 | C | 267 | PGV | C1-C2-C3-C4 |
| 26 | T | 1269 | CDL | C32-C31-CA7-OA9 |
| 23 | P | 1525 | CHD | C13-C17-C20-C21 |
| 23 | C | 525 | CHD | C22-C23-C24-O25 |
| 25 | P | 1264 | PEK | C05-C04-O12-P |
| 19 | N | 1522 | TGL | OB1-CB1-CB2-CB3 |
| 20 | A | 522 | PGV | O03-C19-C20-C21 |
| 19 | A | 521 | TGL | CC3-CC4-CC5-CC6 |
| 25 | P | 1265 | PEK | O01-C1-C2-C3 |
| 19 | D | 523 | TGL | OC1-CC1-CC2-CC3 |
| 22 | B | 229 | PSC | O04-C19-C20-C21 |
| 25 | P | 1265 | PEK | O02-C1-C2-C3 |
| 14 | A | 515 | HEA | CAA-CBA-CGA-O2A |
| 14 | N | 515 | HEA | CAA-CBA-CGA-O2A |
| 25 | T | 263 | PEK | O01-C1-C2-C3 |
| 19 | N | 1522 | TGL | C23-C24-C25-C26 |
| 22 | R | 1229 | PSC | O04-C19-C20-C21 |
| 25 | T | 263 | PEK | O02-C1-C2-C3 |
| 23 | C | 271 | CHD | C16-C17-C20-C22 |
| 25 | G | 265 | PEK | O02-C1-C2-C3 |
| 25 | G | 1263 | PEK | C28-C29-C30-C31 |
| 25 | P | 1264 | PEK | C29-C30-C31-C32 |
| 20 | C | 268 | PGV | O12-C04-C05-O05 |
| 25 | G | 265 | PEK | C14-C15-C16-C17 |
| 14 | A | 515 | HEA | CAA-CBA-CGA-O1A |
| 23 | C | 271 | CHD | C22-C23-C24-O25 |

There are no ring outliers.

39 monomers are involved in 370 short contacts:

| Mol | Chain | Res | Type | Clashes | Symm-Clashes |
|-----|-------|------|------|---------|--------------|
| 20 | P | 1268 | PGV | 1 | 0 |
| 22 | B | 229 | PSC | 26 | 0 |
| 26 | T | 1269 | CDL | 27 | 0 |
| 23 | J | 60 | CHD | 1 | 0 |

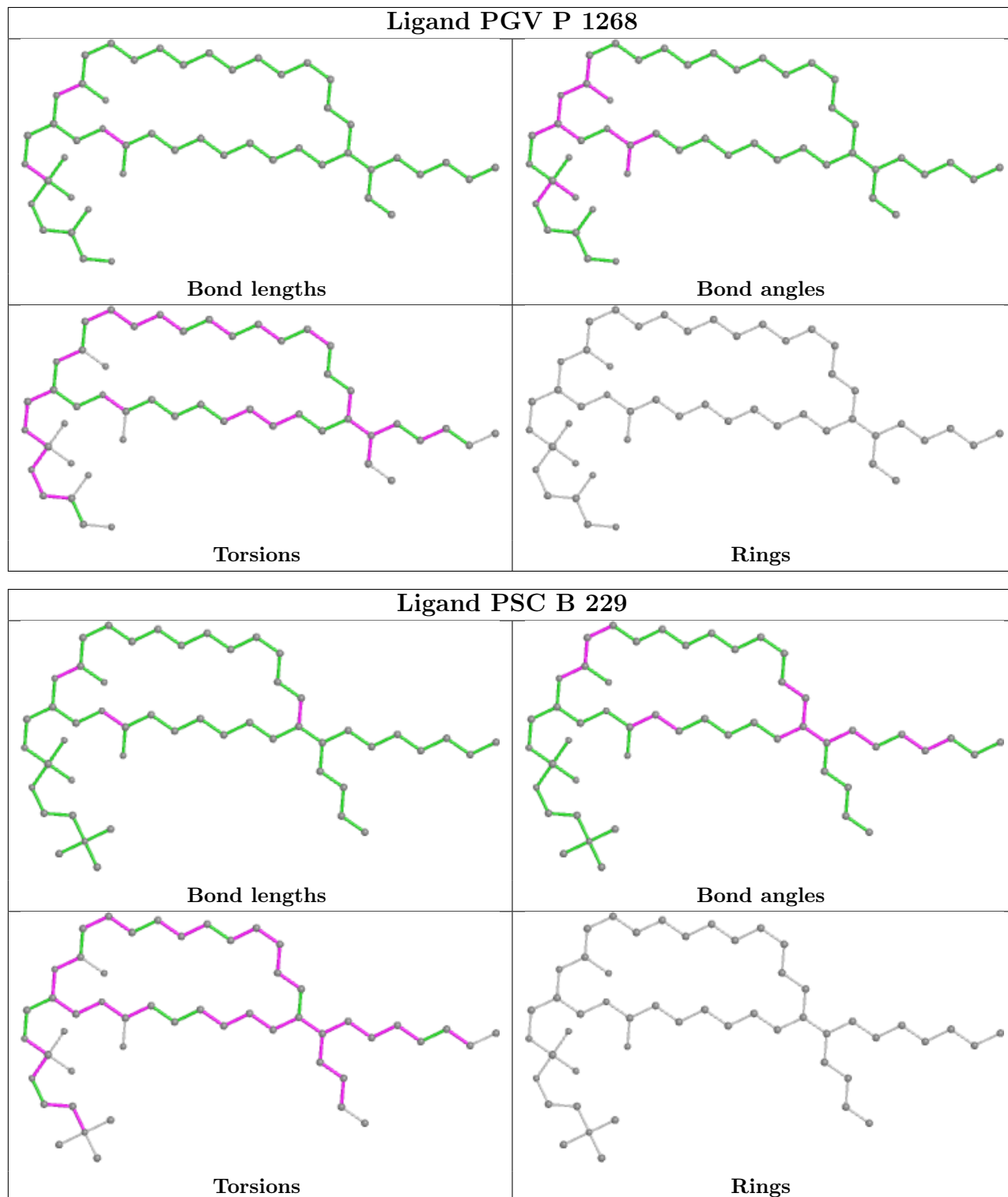
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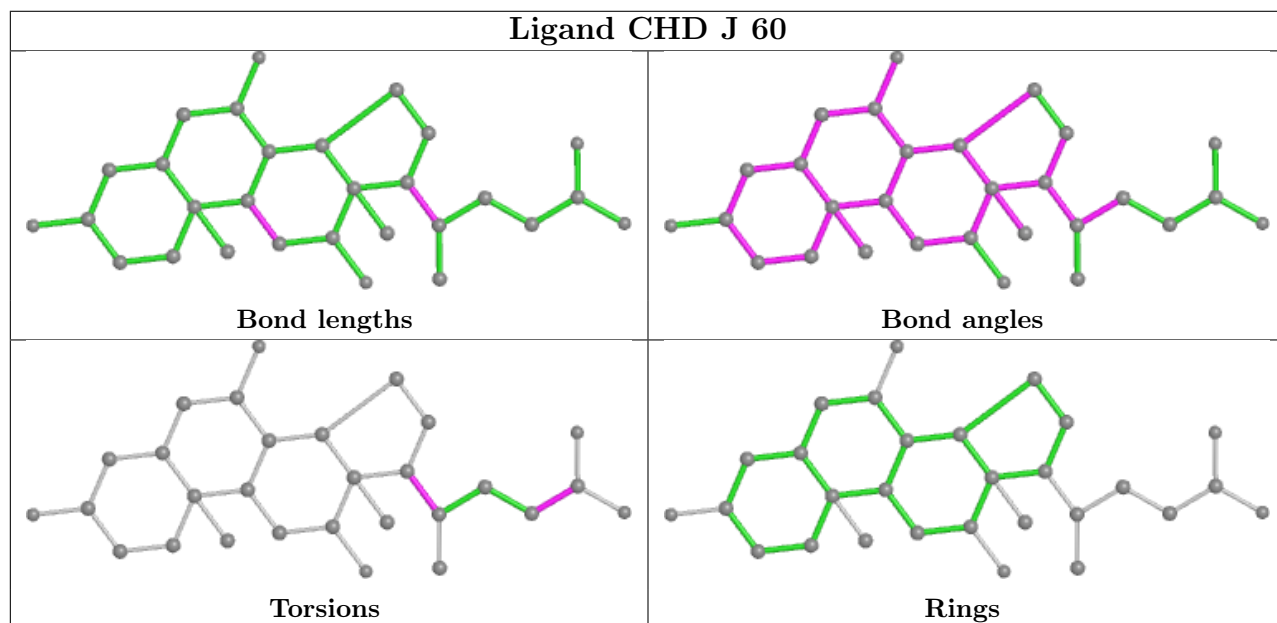
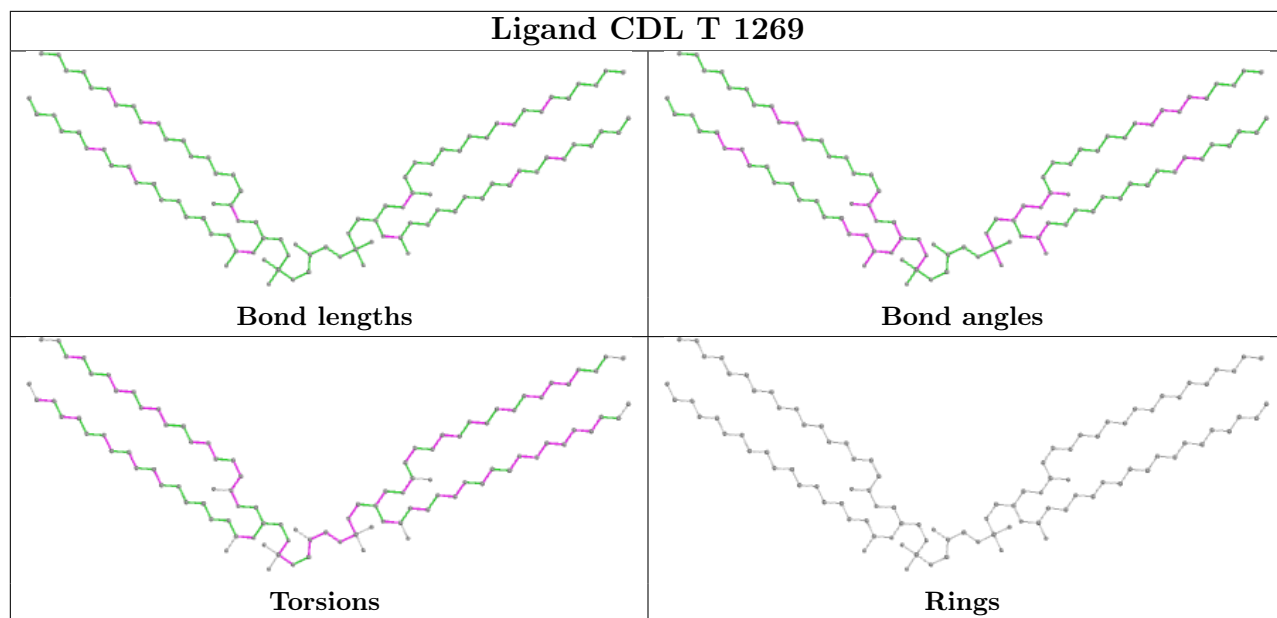
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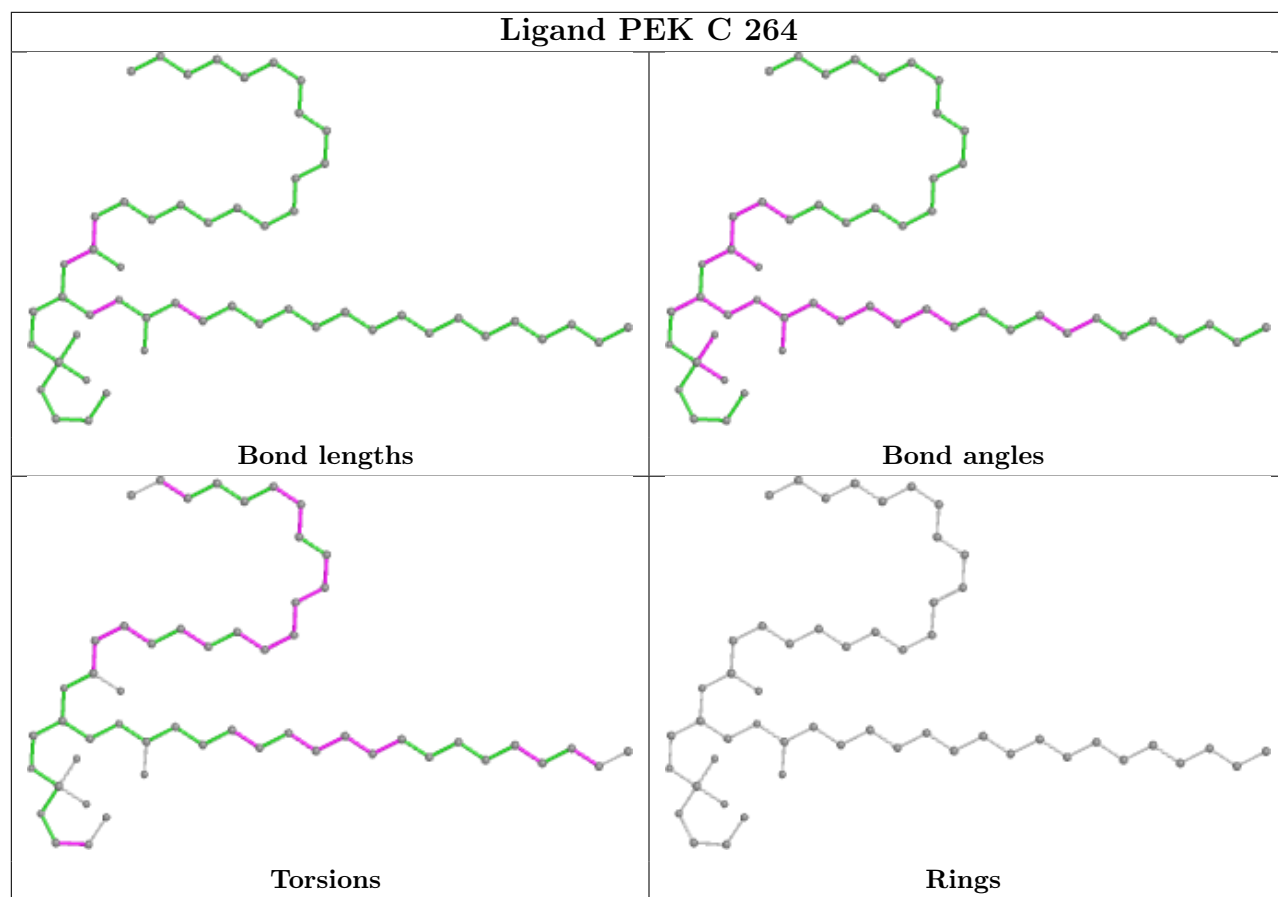
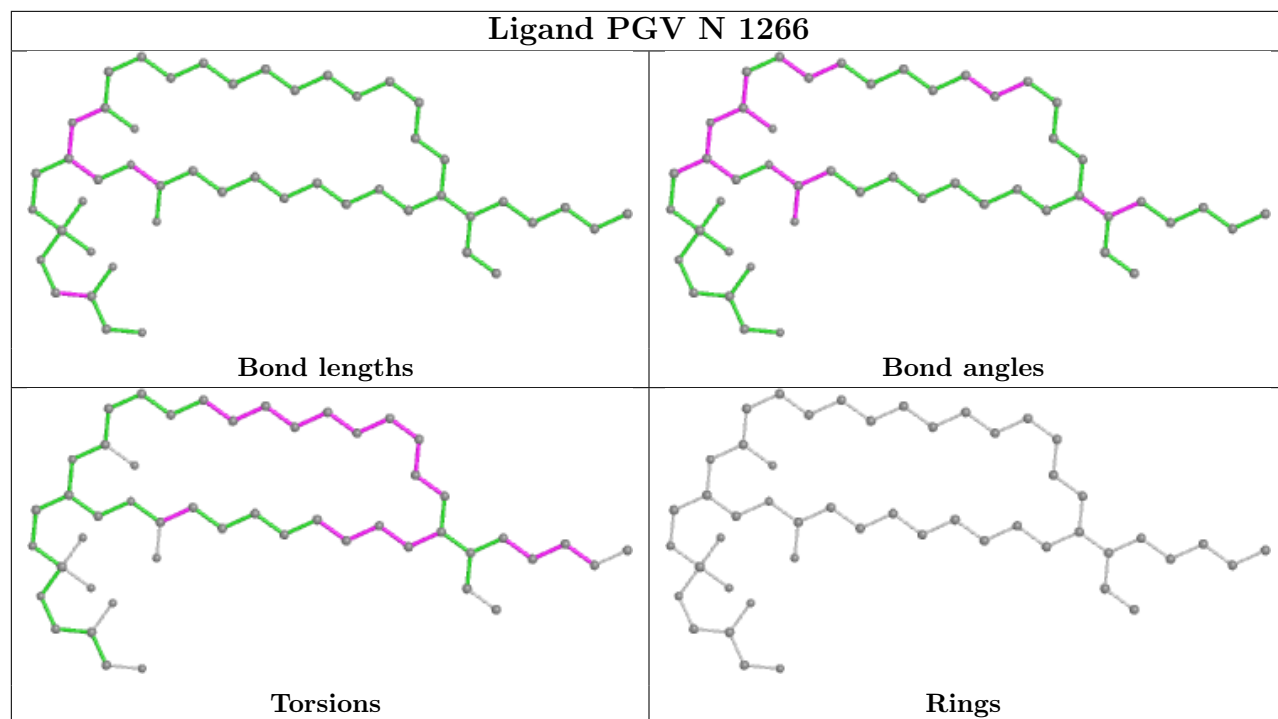
| Mol | Chain | Res | Type | Clashes | Symm-Clashes |
|-----|-------|------|------|---------|--------------|
| 20 | N | 1266 | PGV | 1 | 0 |
| 25 | C | 264 | PEK | 8 | 0 |
| 23 | W | 1059 | CHD | 1 | 0 |
| 19 | L | 522 | TGL | 15 | 0 |
| 22 | R | 1229 | PSC | 15 | 0 |
| 20 | C | 267 | PGV | 5 | 0 |
| 28 | Z | 1526 | DMU | 2 | 0 |
| 26 | C | 270 | CDL | 26 | 0 |
| 20 | M | 524 | PGV | 15 | 0 |
| 25 | T | 263 | PEK | 21 | 0 |
| 20 | P | 1267 | PGV | 5 | 0 |
| 28 | G | 272 | DMU | 4 | 0 |
| 28 | P | 1272 | DMU | 6 | 0 |
| 25 | G | 1263 | PEK | 24 | 0 |
| 19 | Q | 1523 | TGL | 12 | 0 |
| 19 | D | 523 | TGL | 8 | 0 |
| 26 | G | 269 | CDL | 30 | 0 |
| 19 | O | 1521 | TGL | 10 | 0 |
| 14 | A | 516 | HEA | 5 | 0 |
| 14 | N | 516 | HEA | 4 | 0 |
| 23 | C | 271 | CHD | 4 | 0 |
| 25 | G | 265 | PEK | 19 | 0 |
| 23 | P | 1271 | CHD | 5 | 0 |
| 14 | N | 515 | HEA | 4 | 0 |
| 23 | O | 229 | CHD | 3 | 0 |
| 25 | P | 1265 | PEK | 17 | 0 |
| 26 | P | 1270 | CDL | 25 | 0 |
| 19 | A | 521 | TGL | 8 | 0 |
| 25 | P | 1264 | PEK | 7 | 0 |
| 23 | P | 1525 | CHD | 1 | 0 |
| 20 | C | 268 | PGV | 3 | 0 |
| 14 | A | 515 | HEA | 4 | 0 |
| 20 | N | 1524 | PGV | 8 | 0 |
| 19 | N | 1522 | TGL | 15 | 0 |
| 23 | B | 1085 | CHD | 2 | 0 |

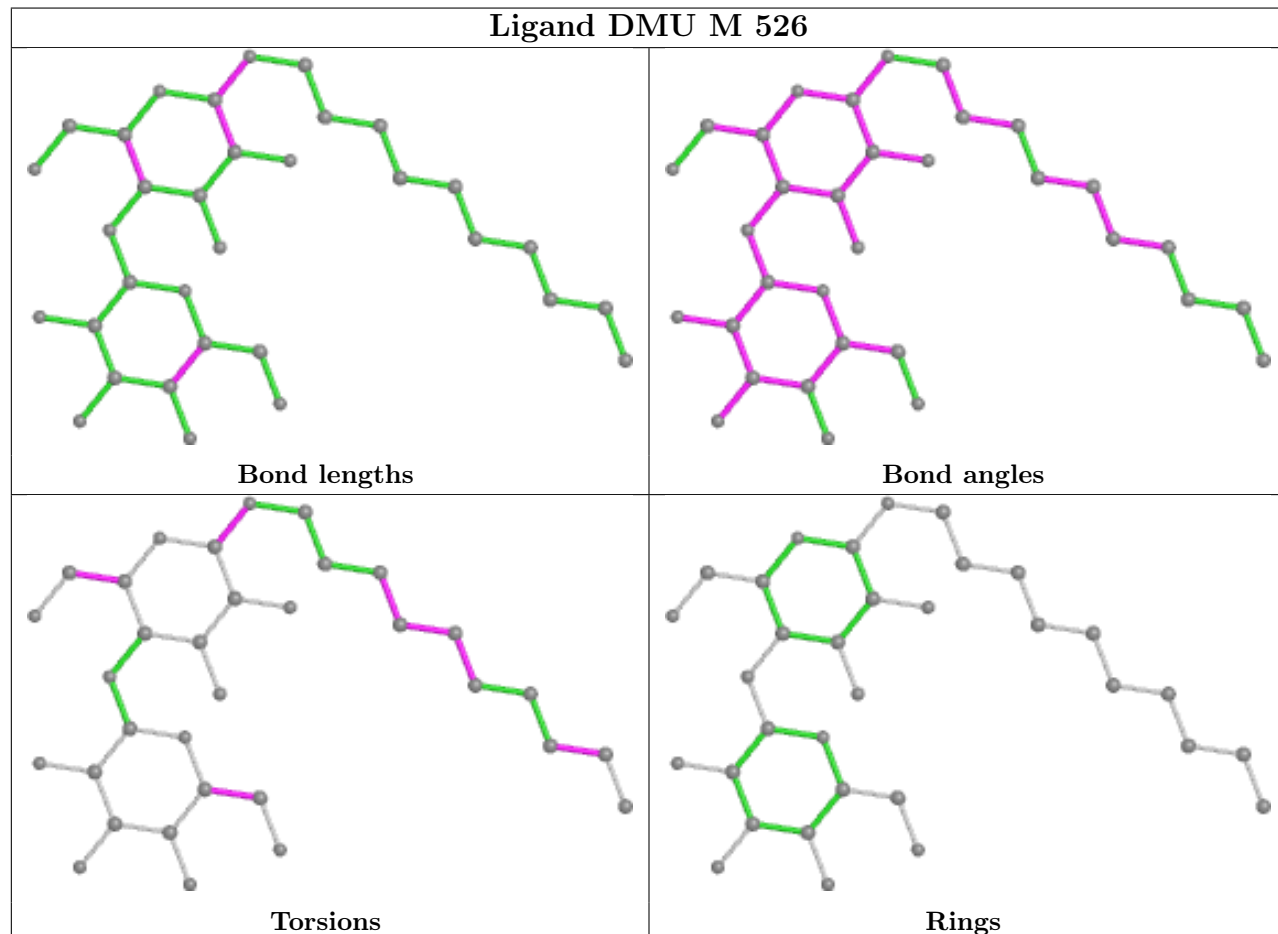
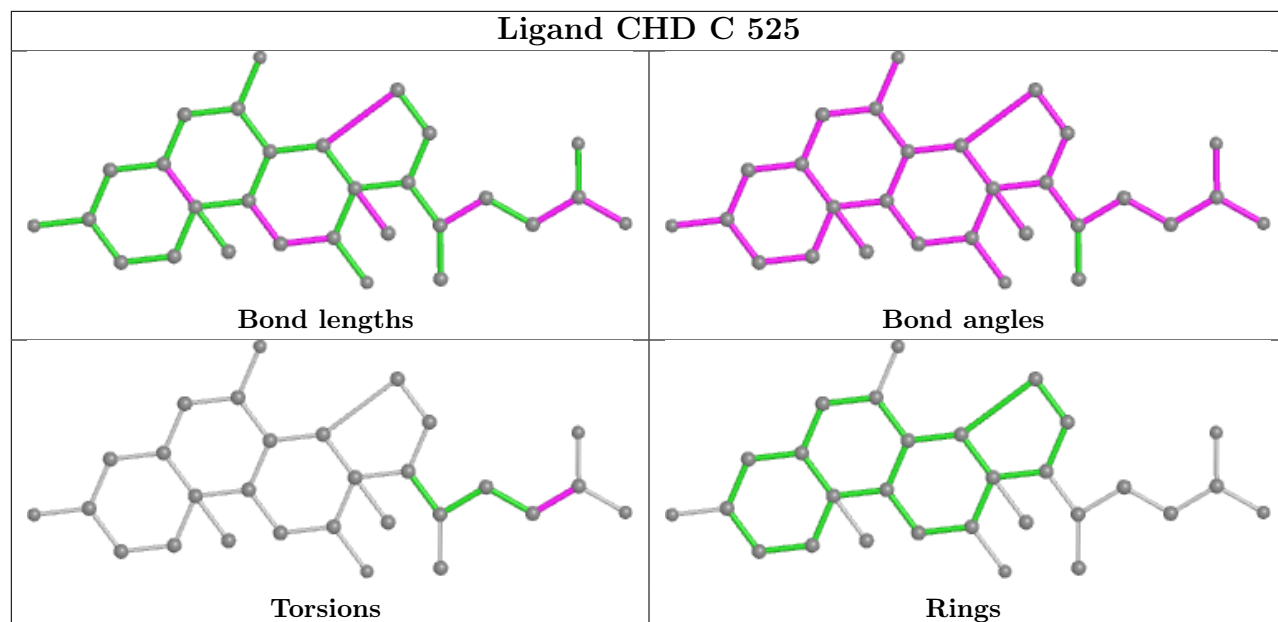
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring

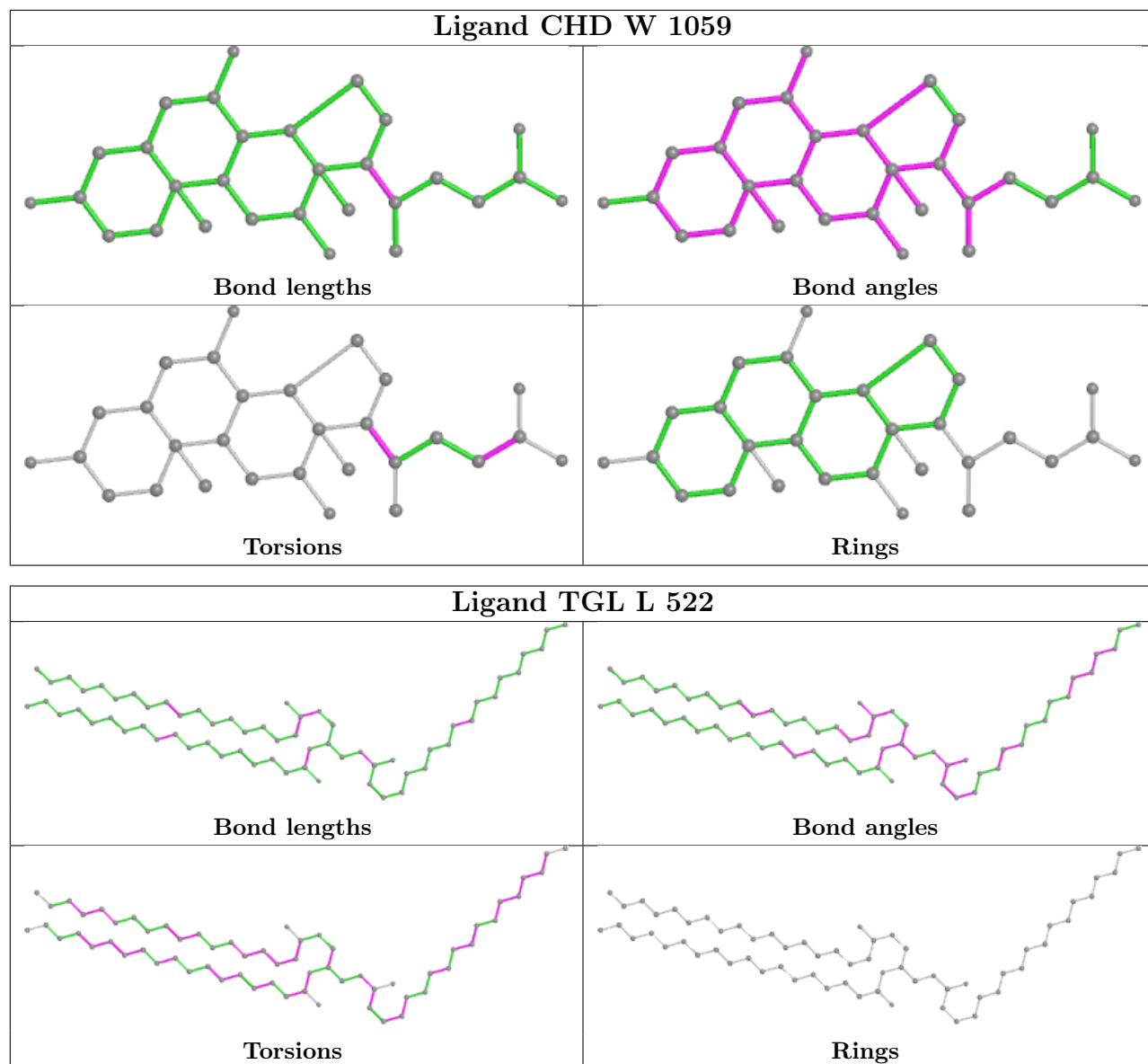
in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

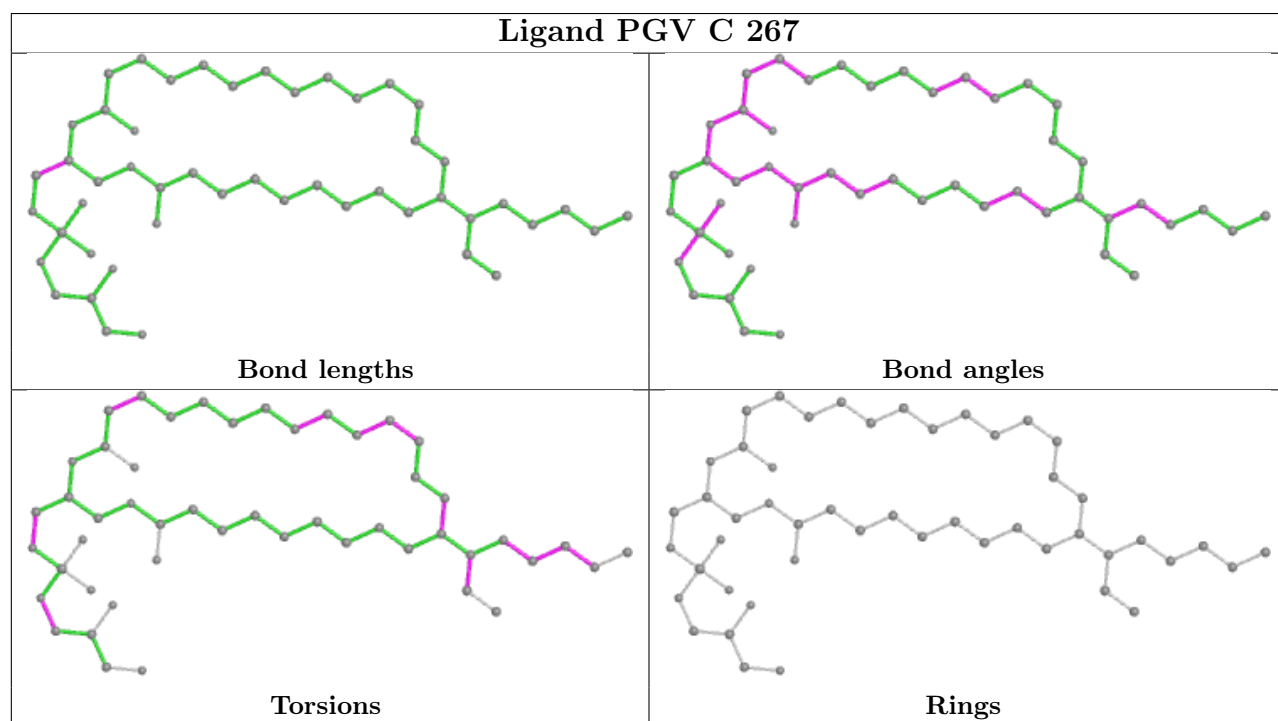
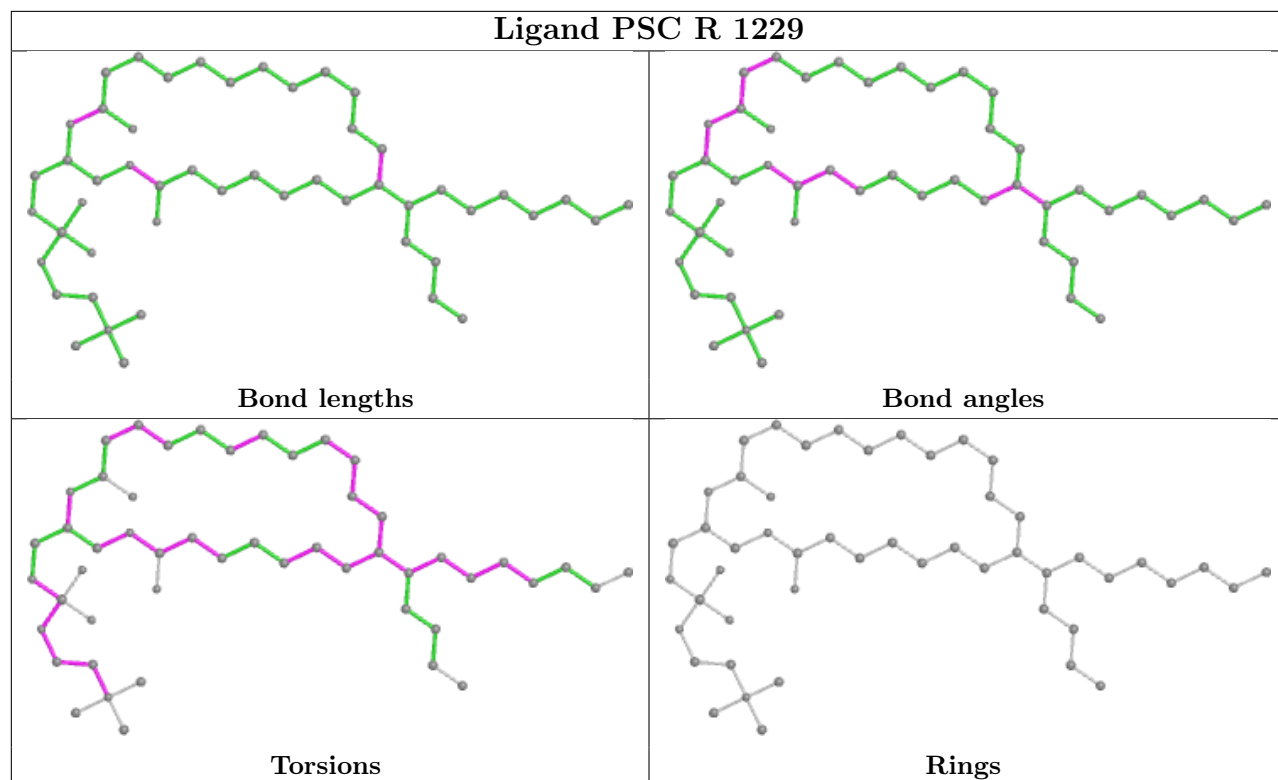


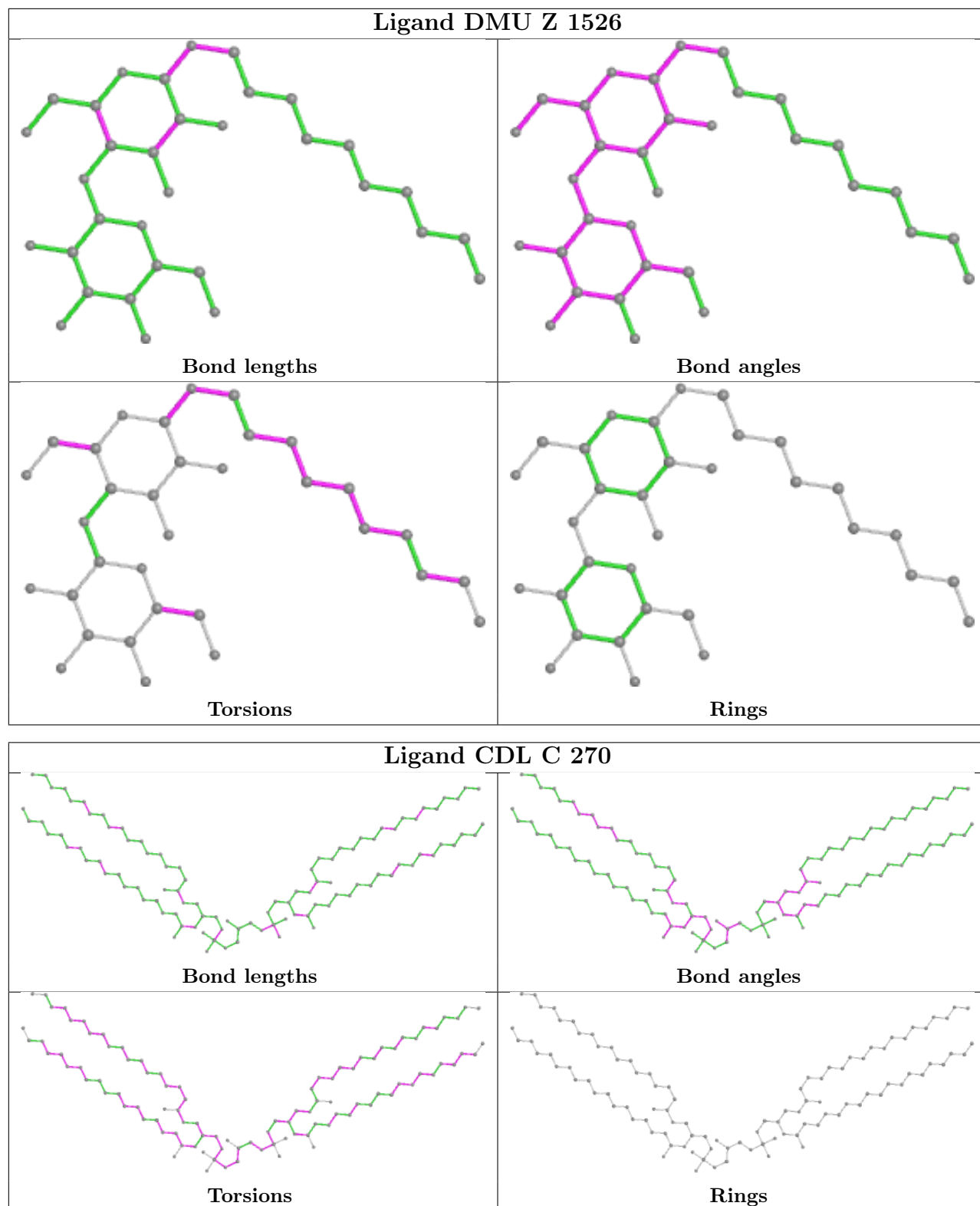


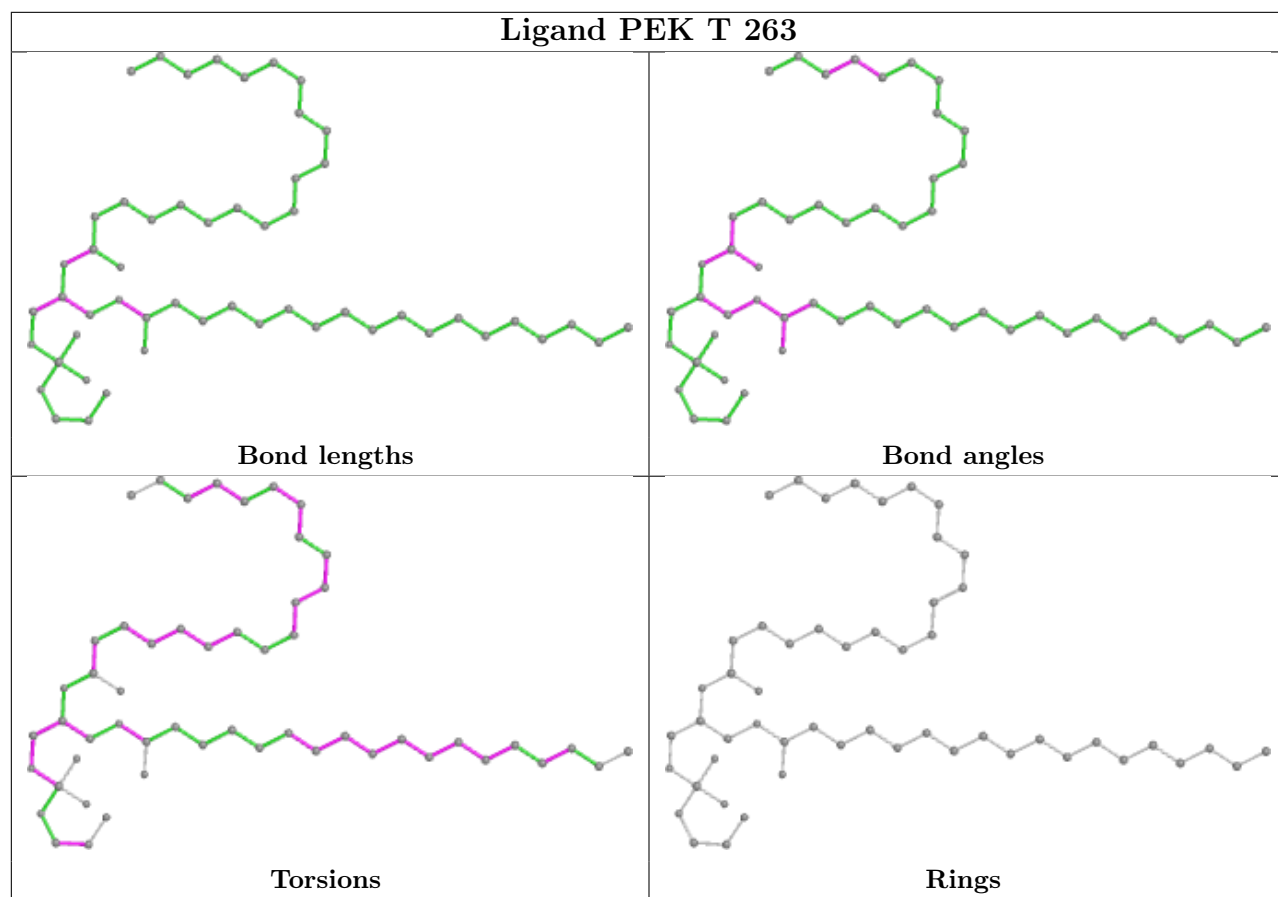
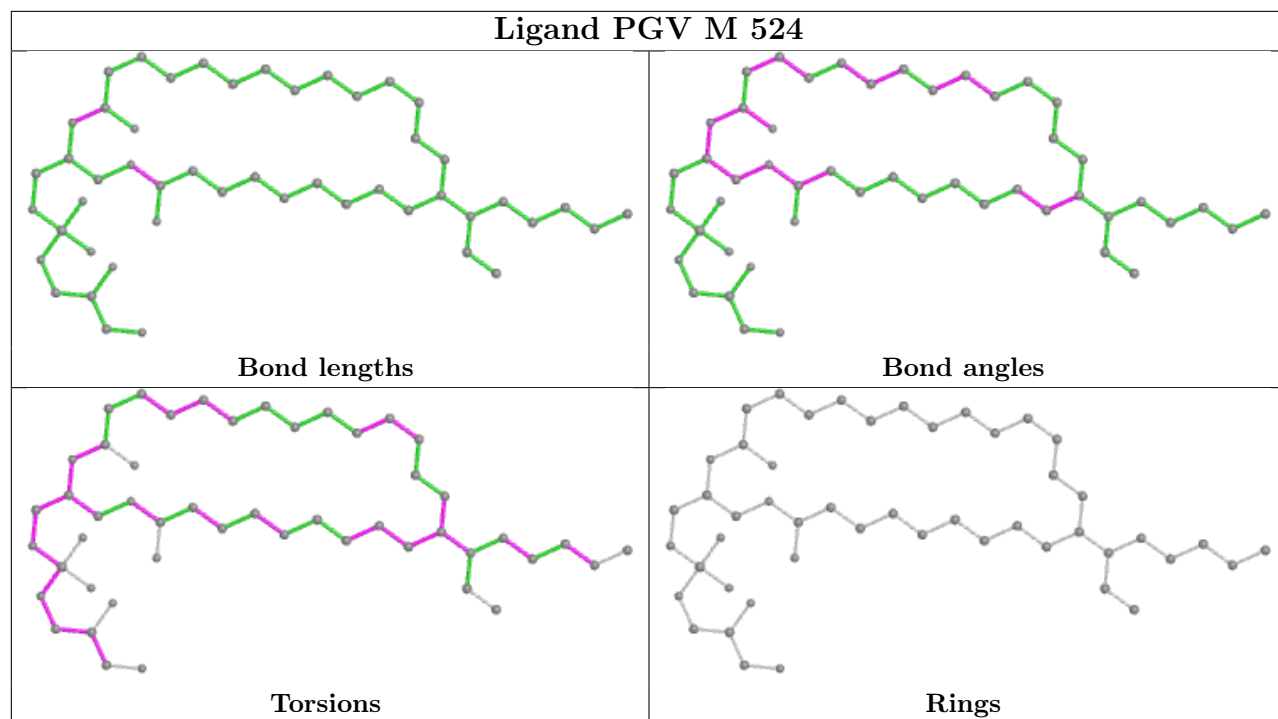


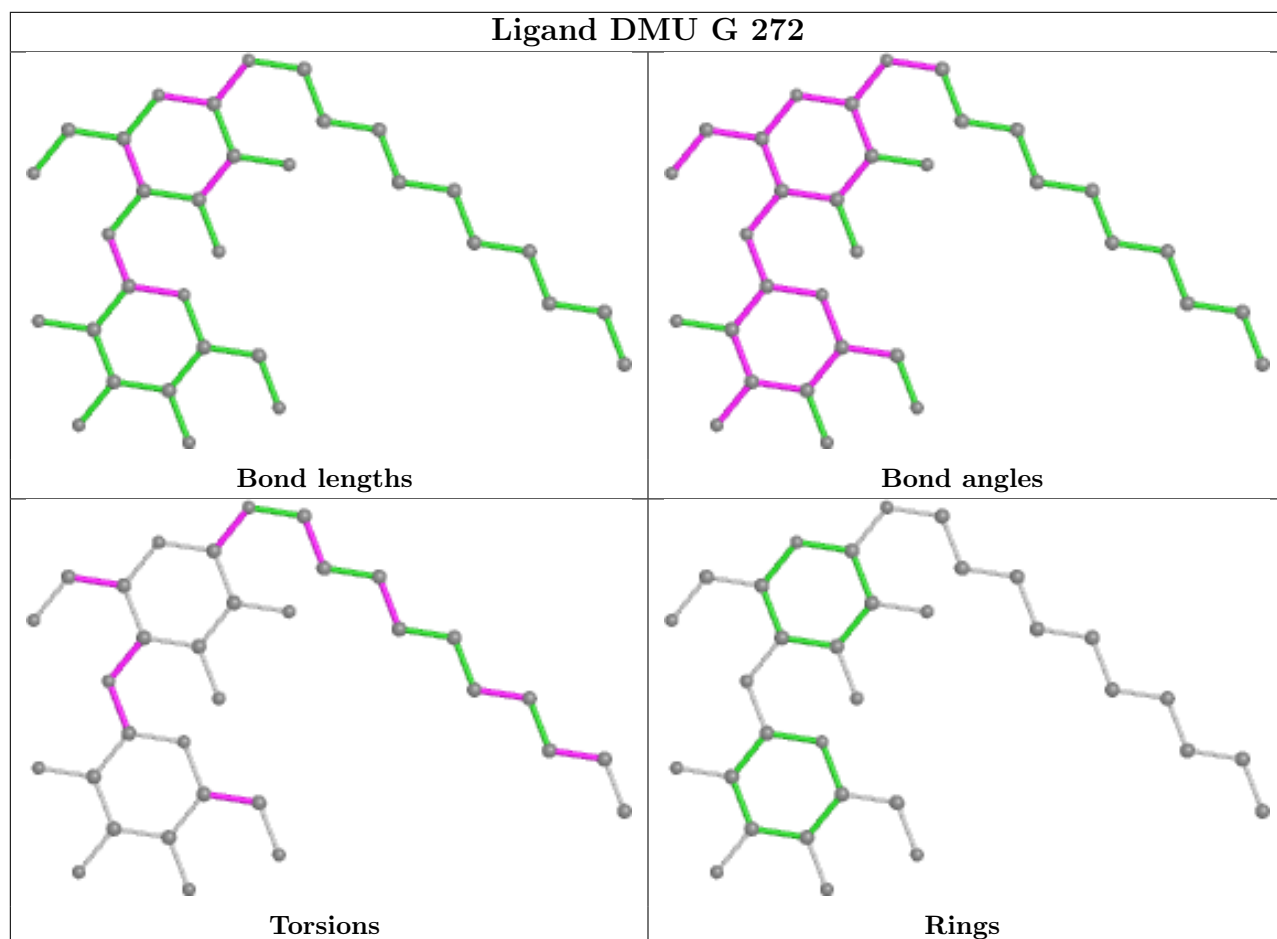
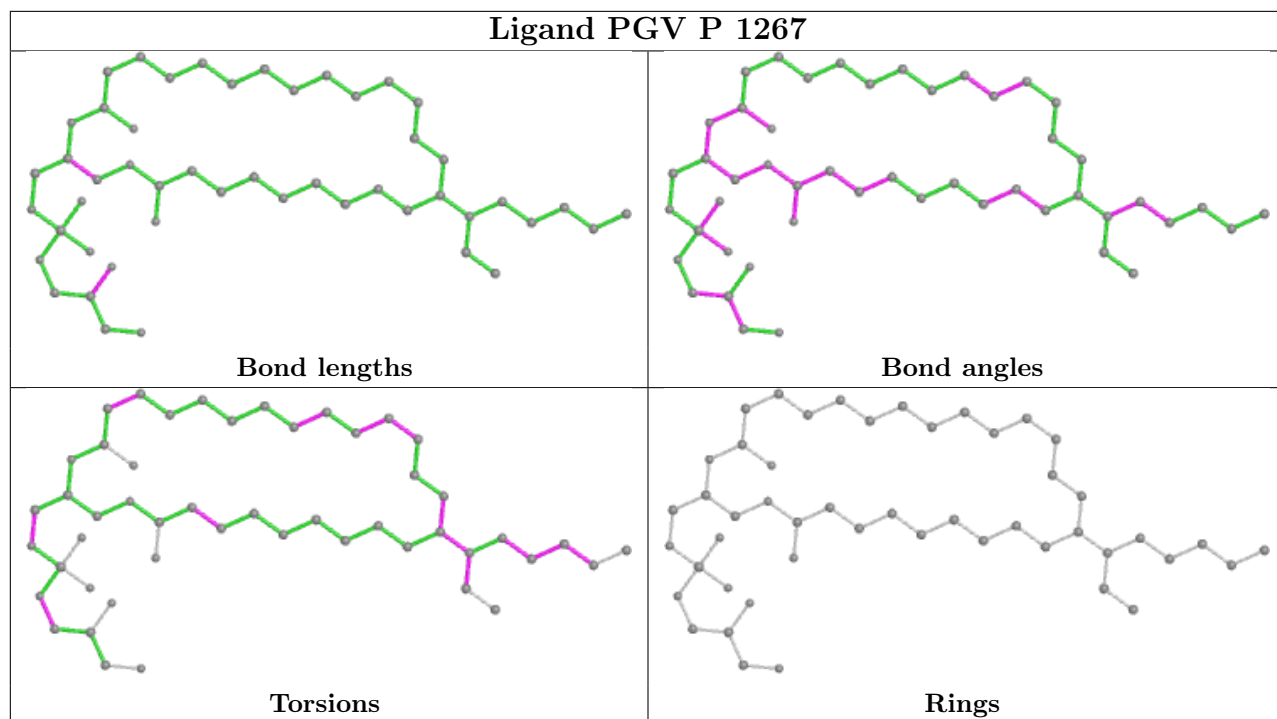


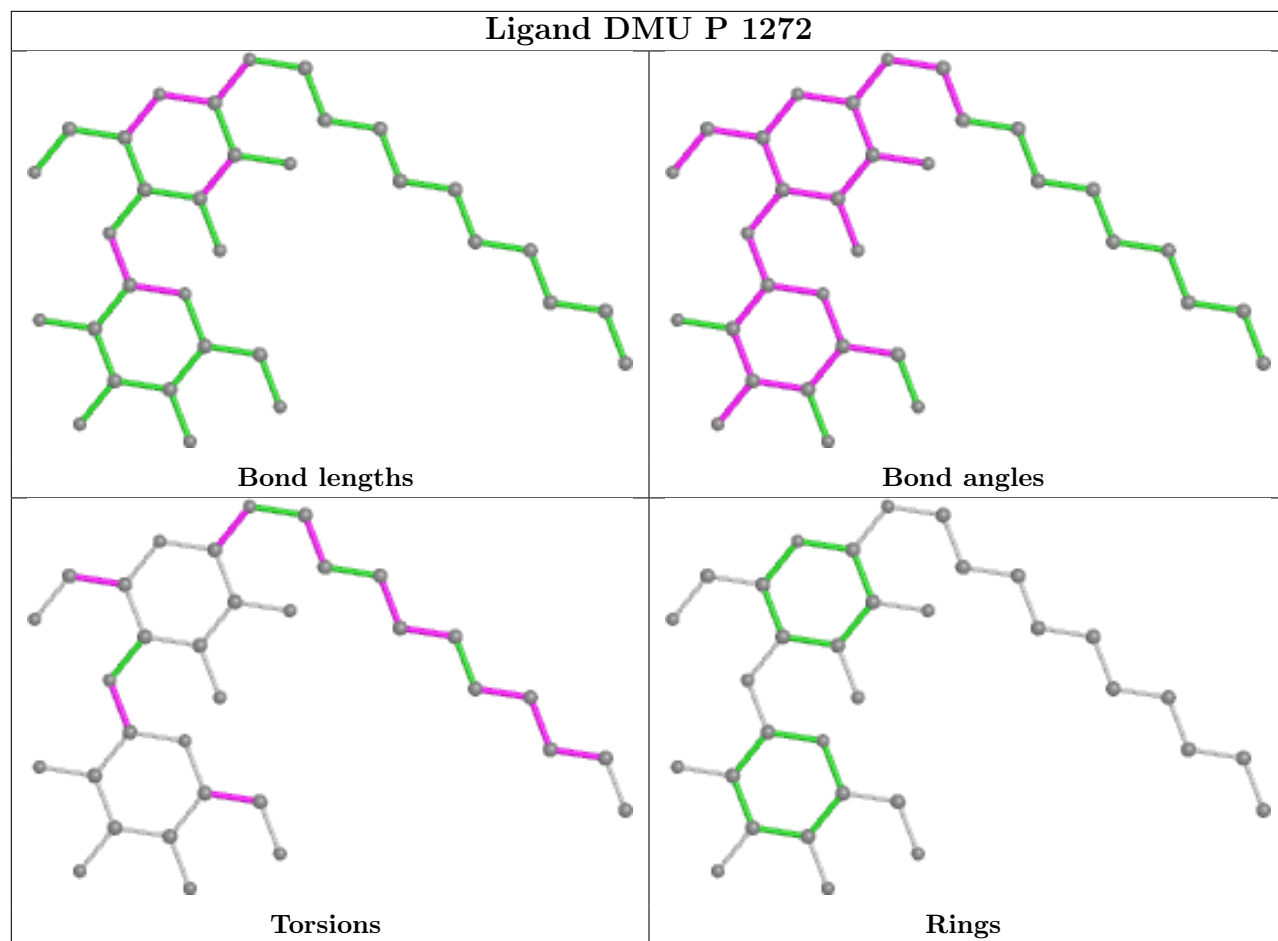


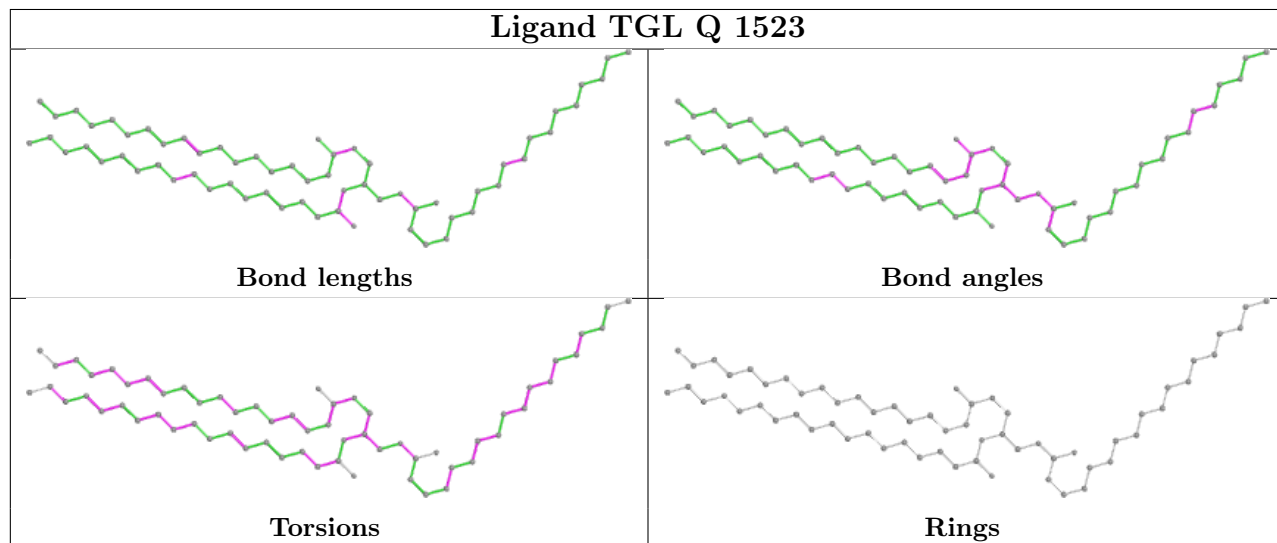
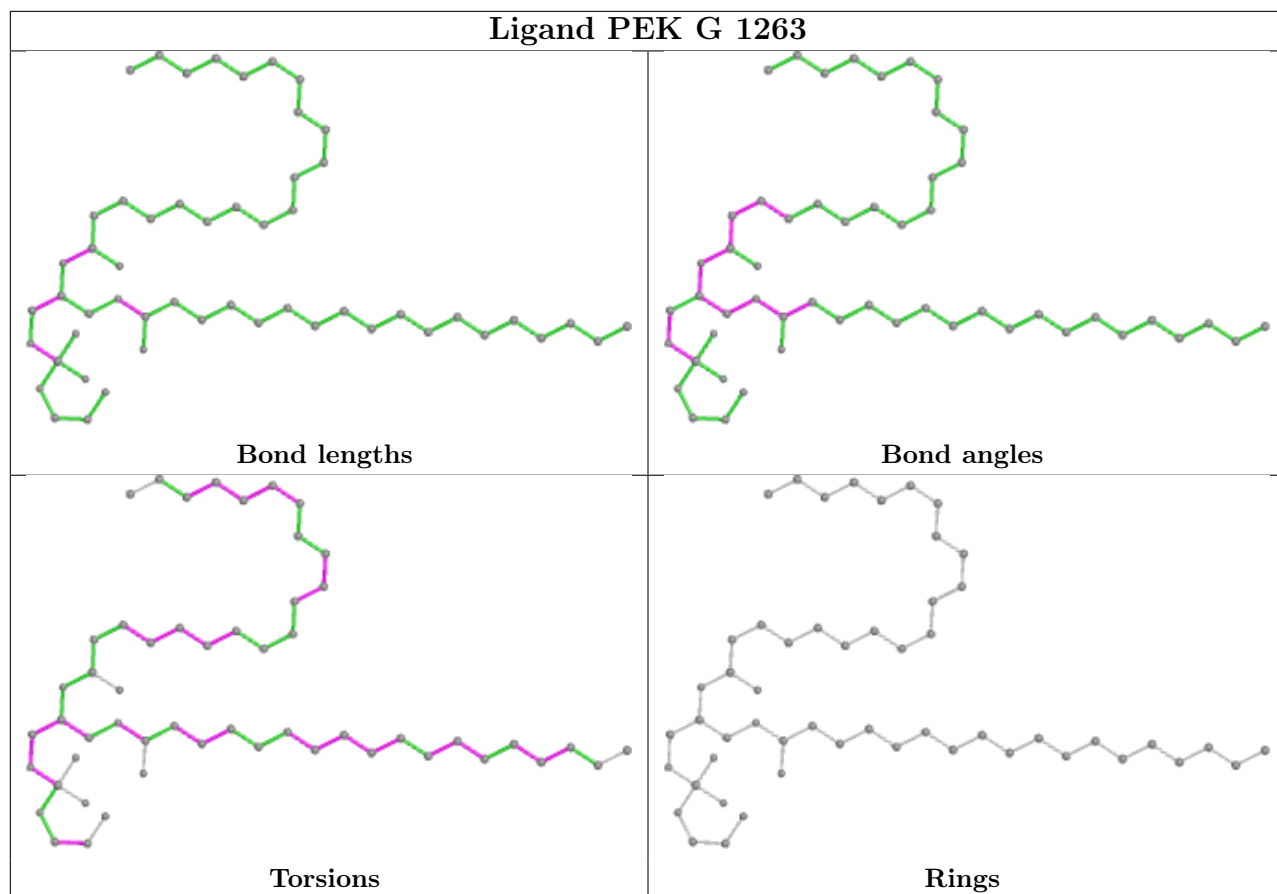


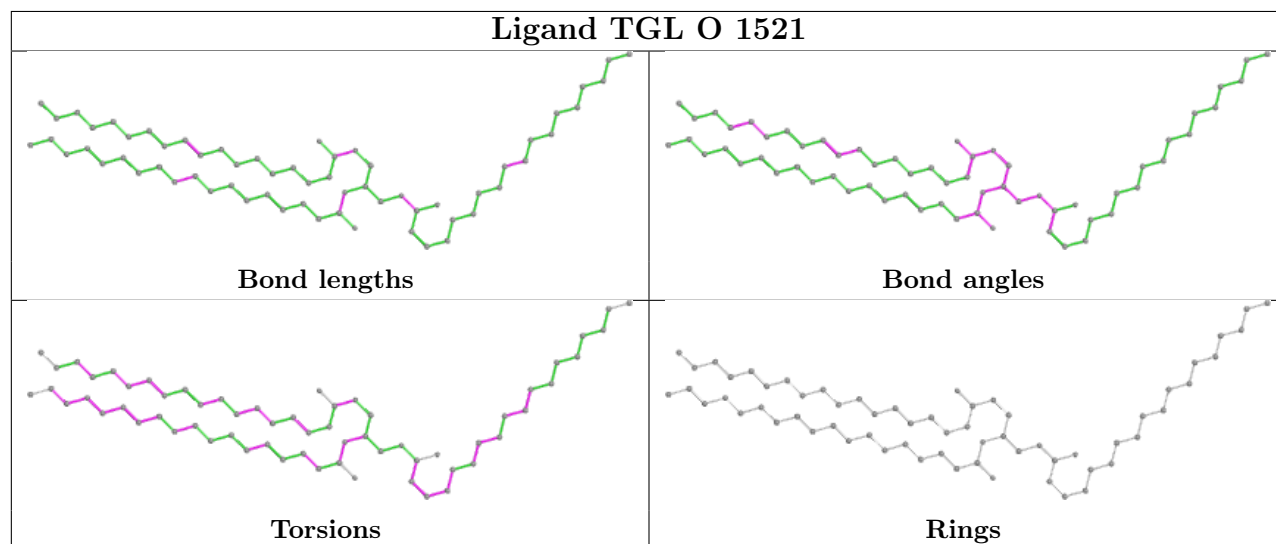
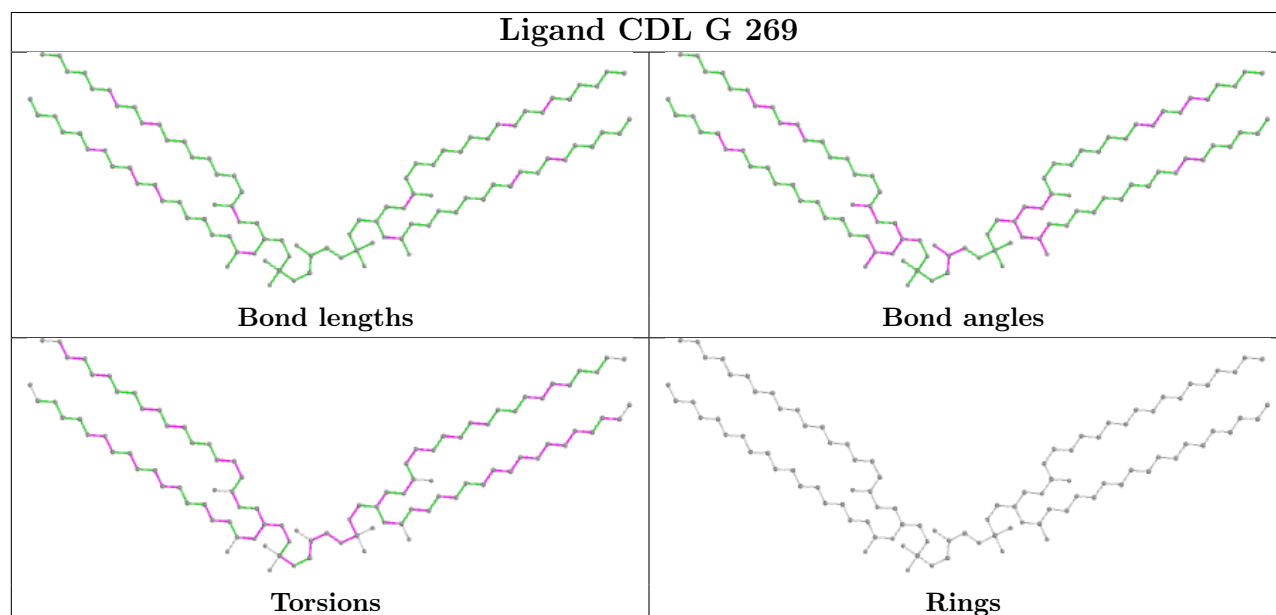
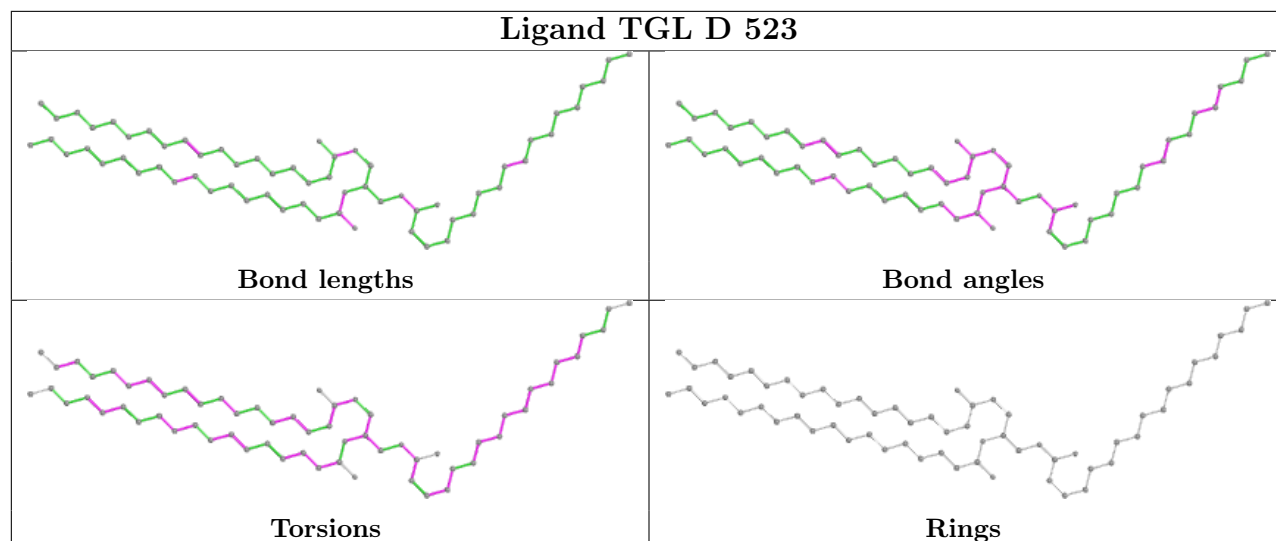


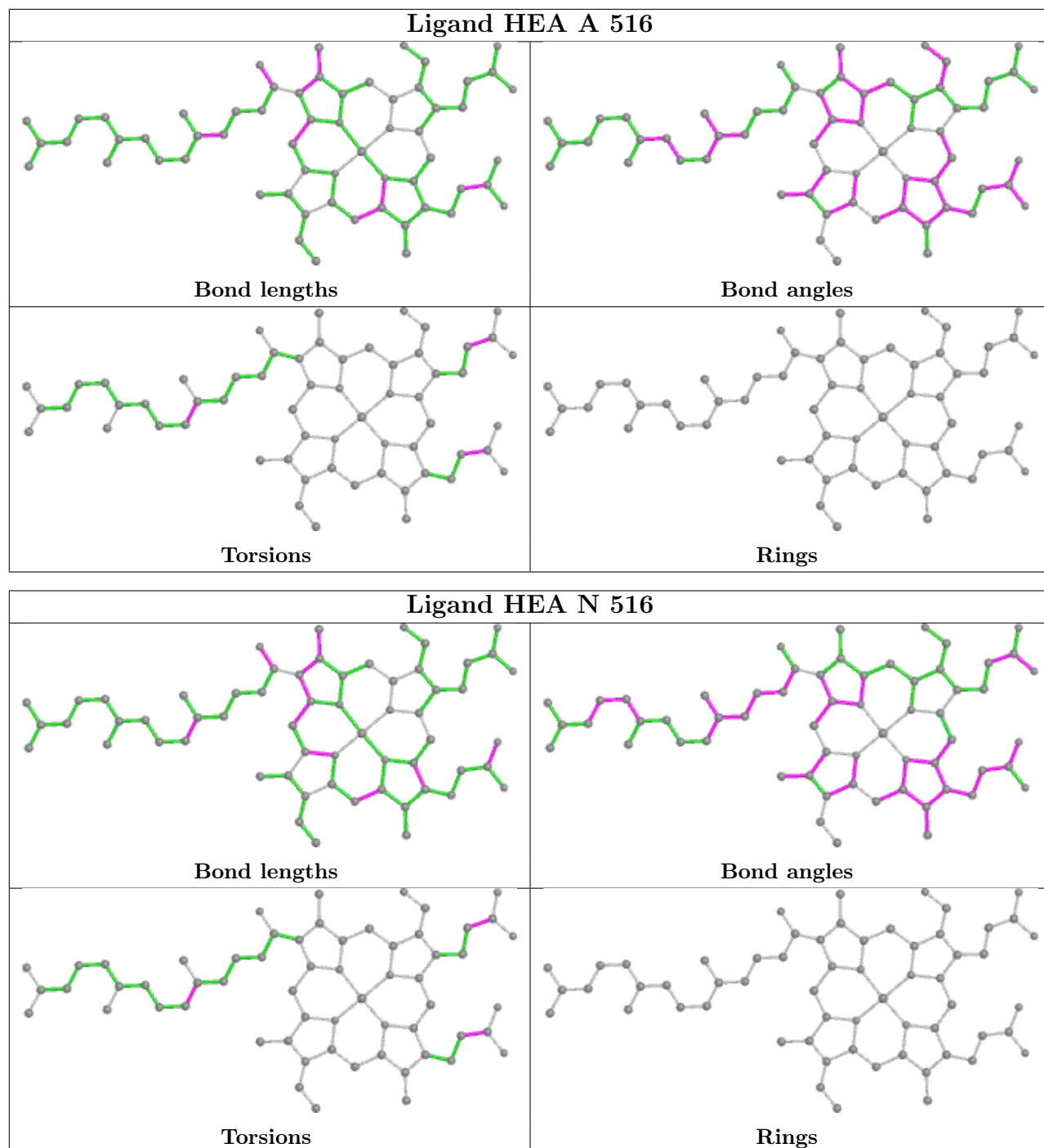


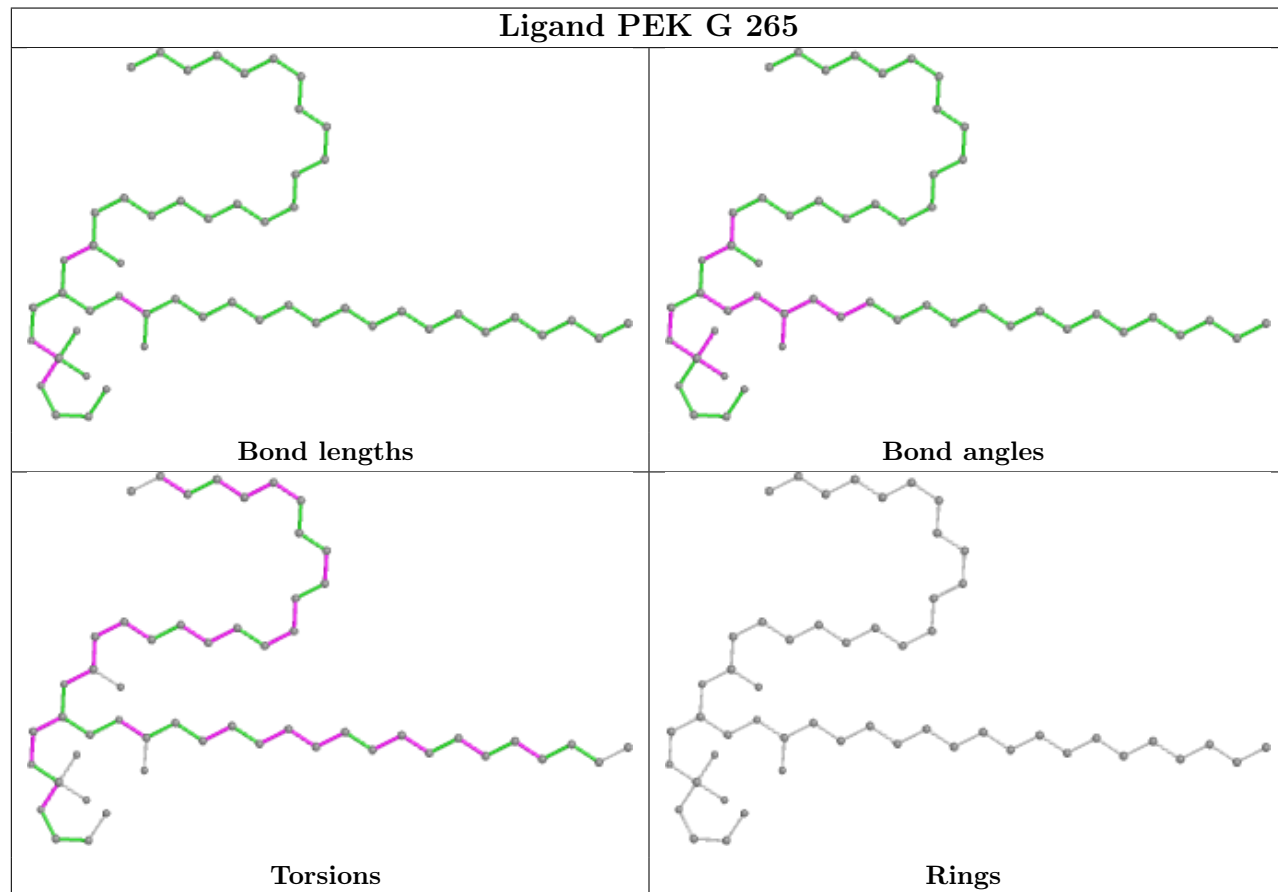
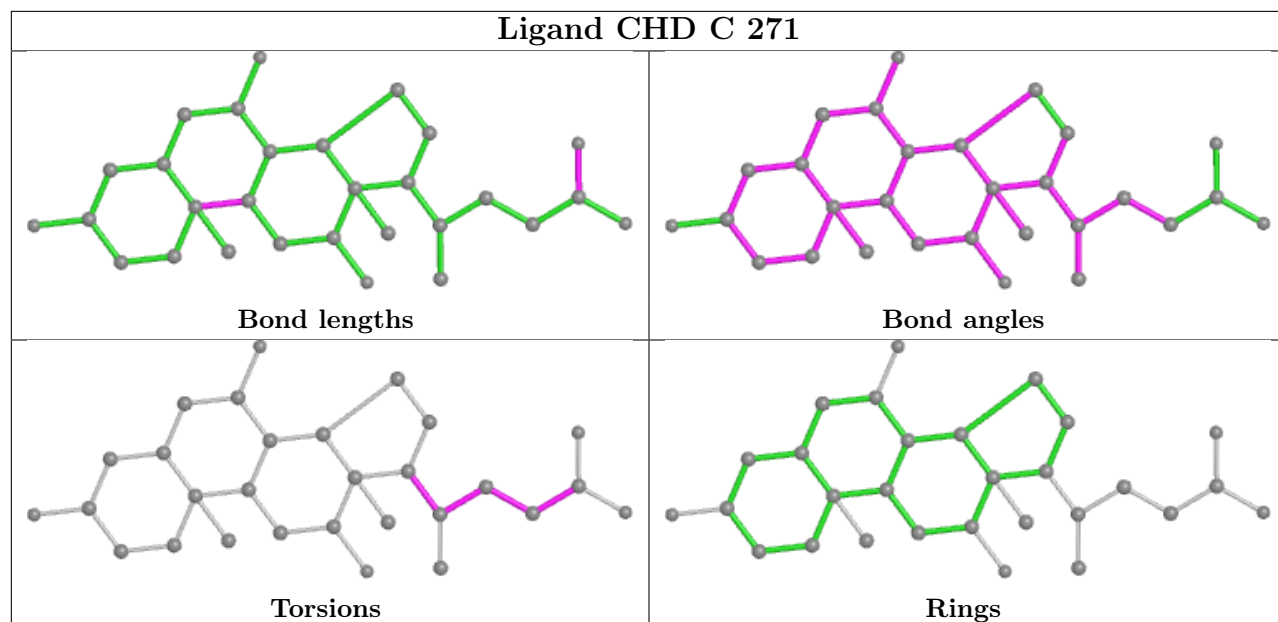


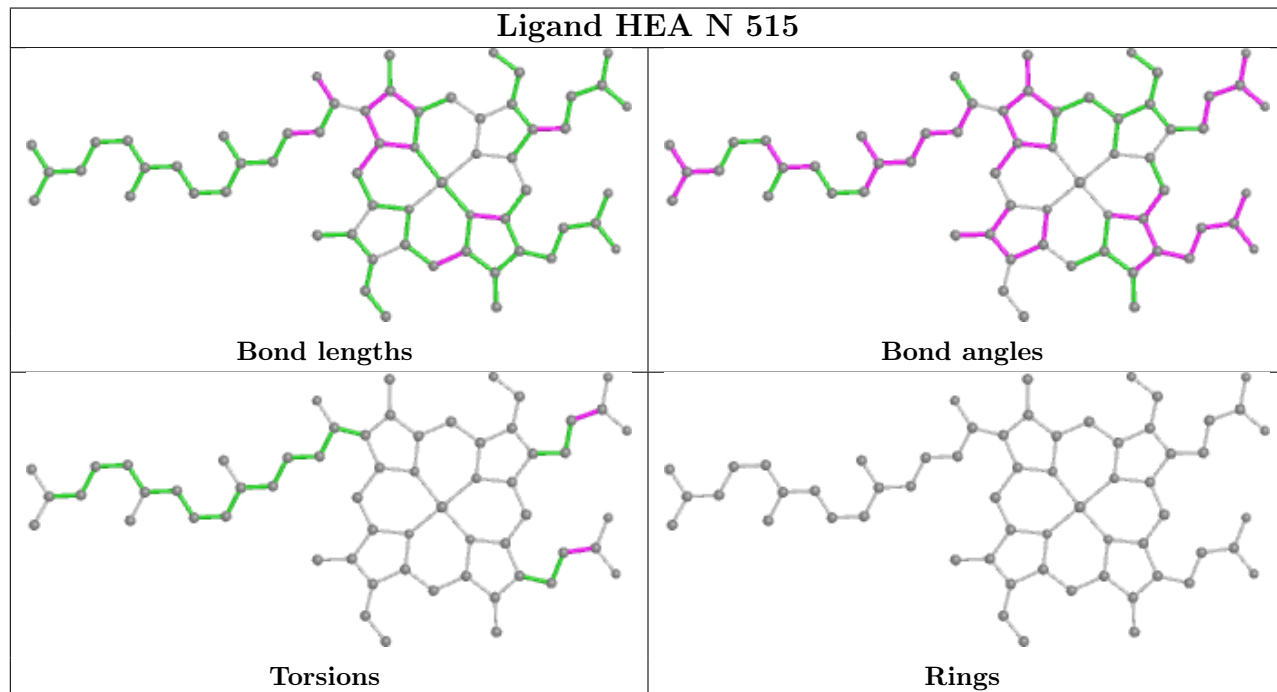
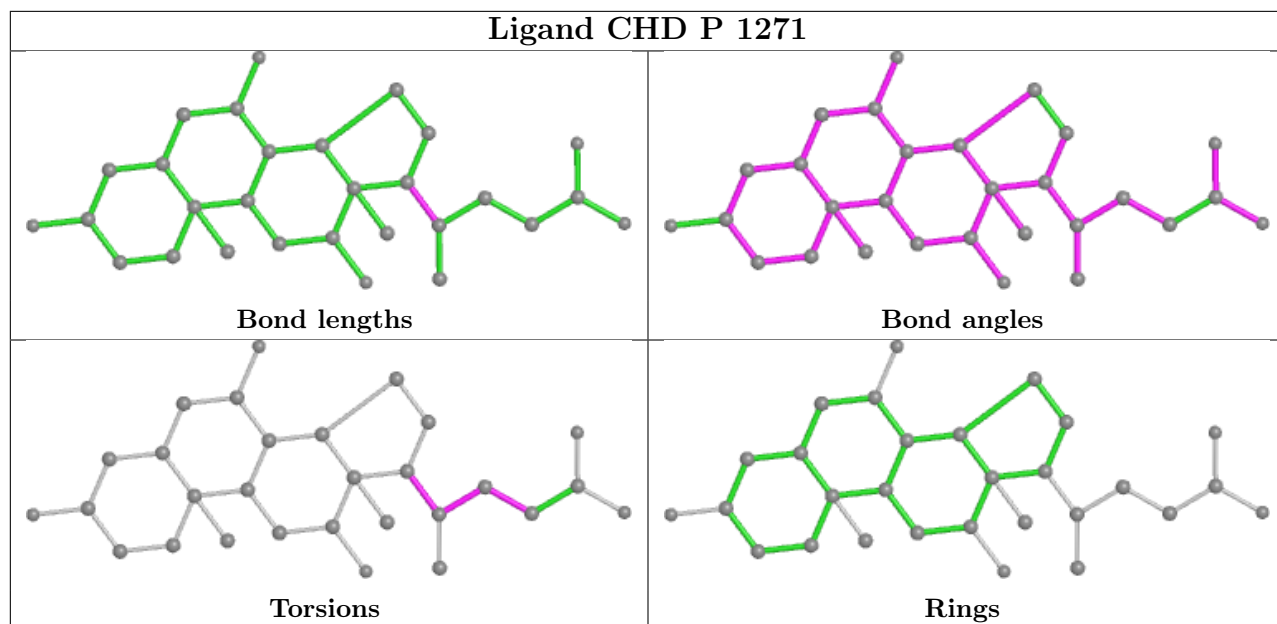


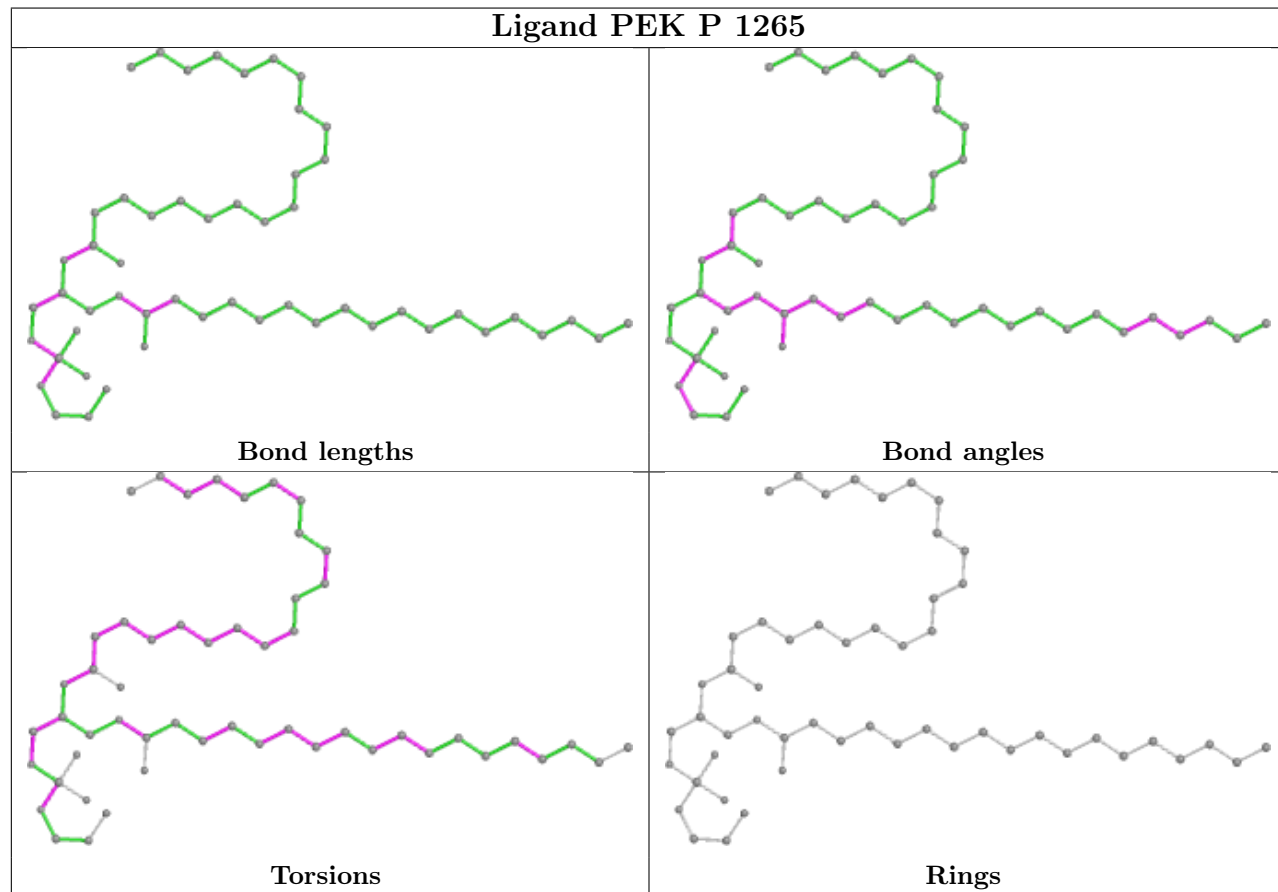
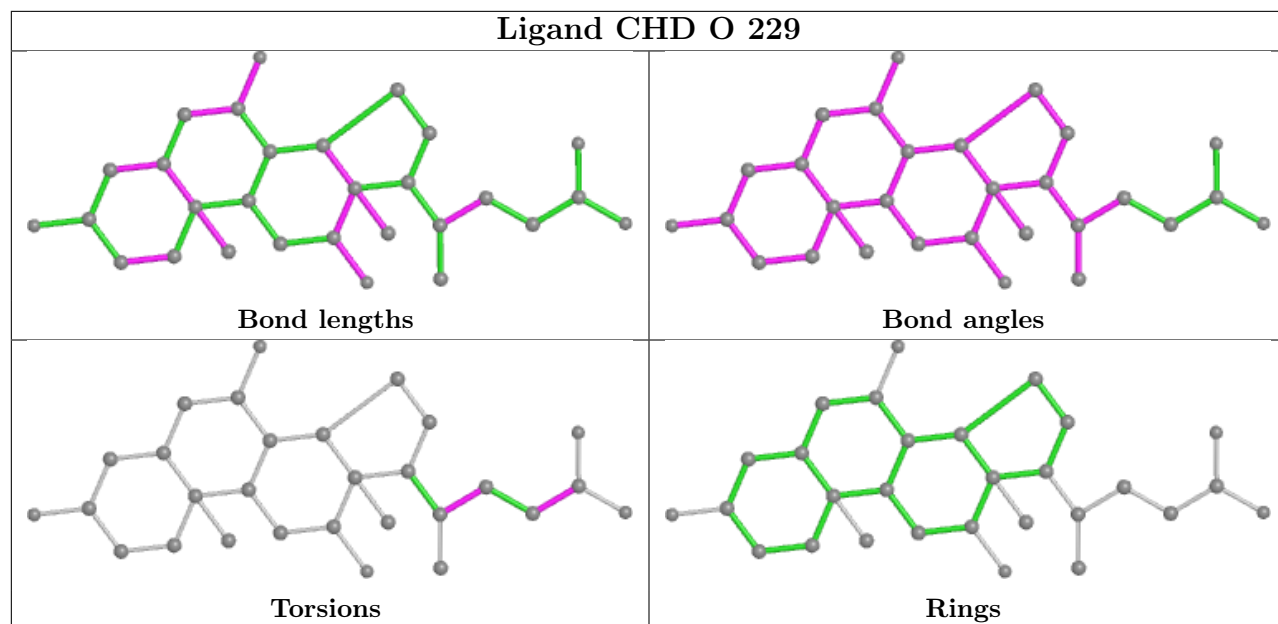


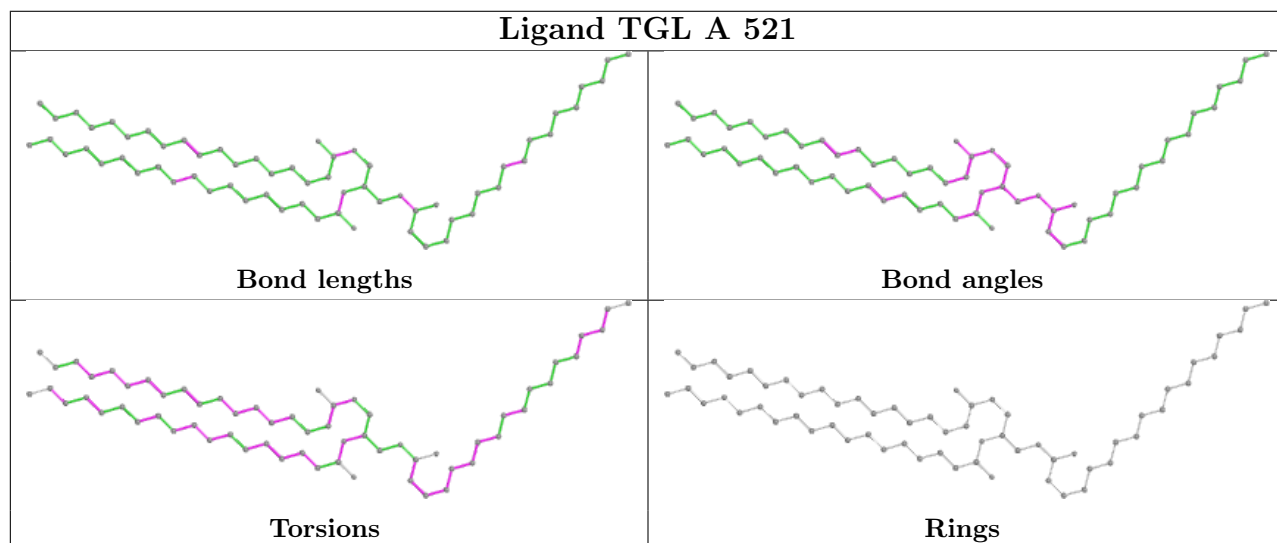
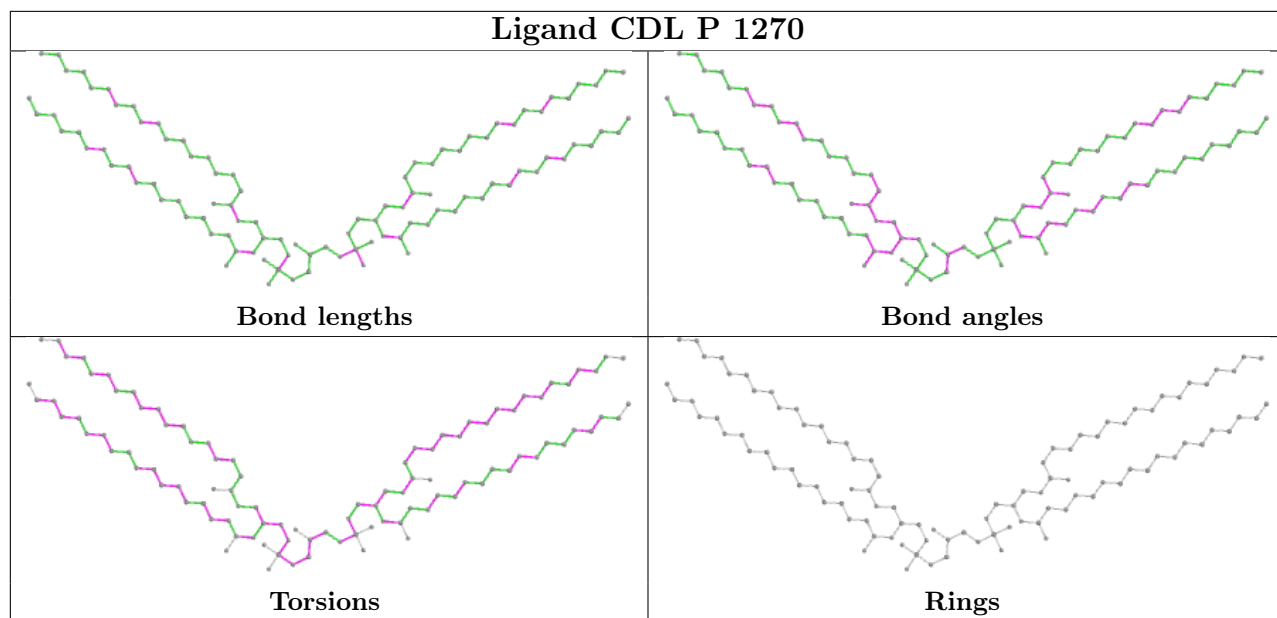


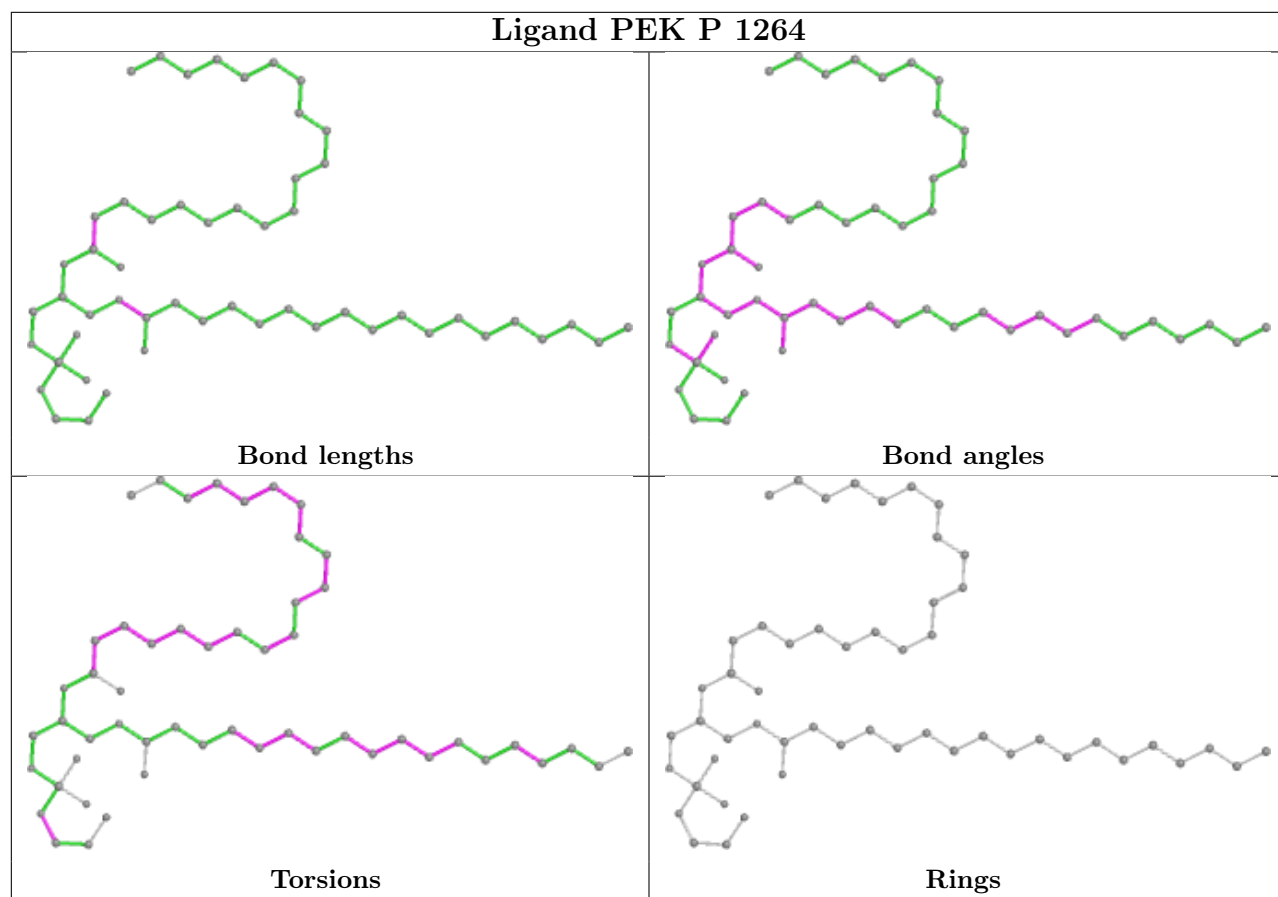
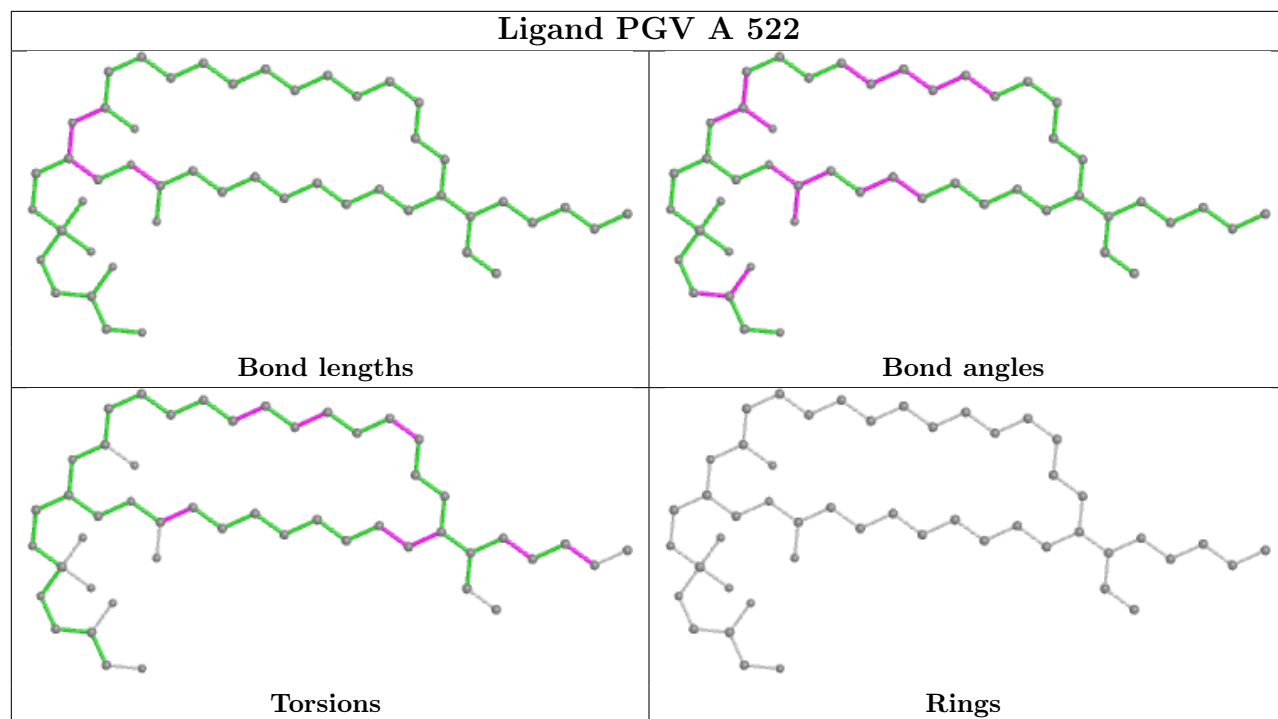


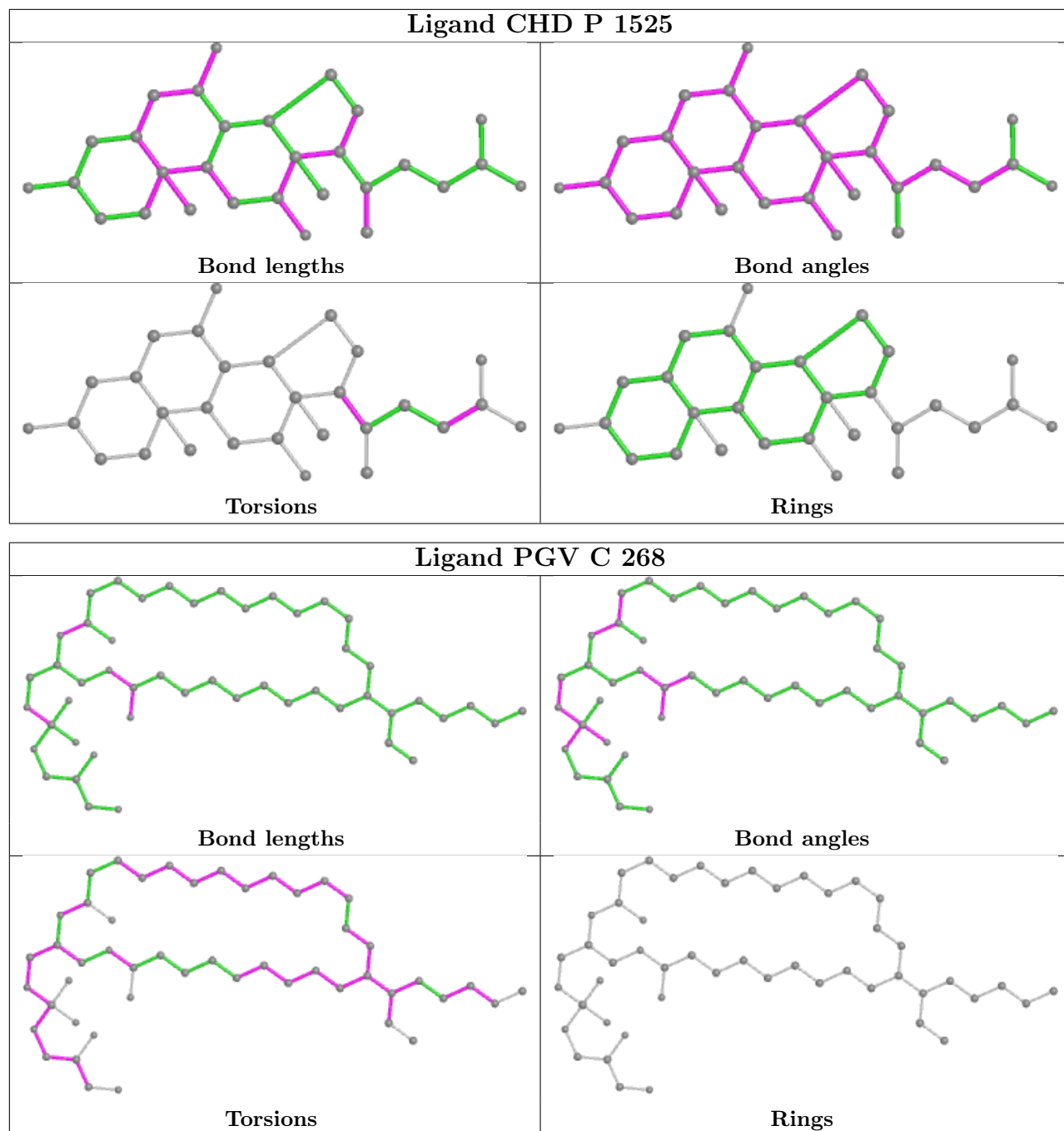


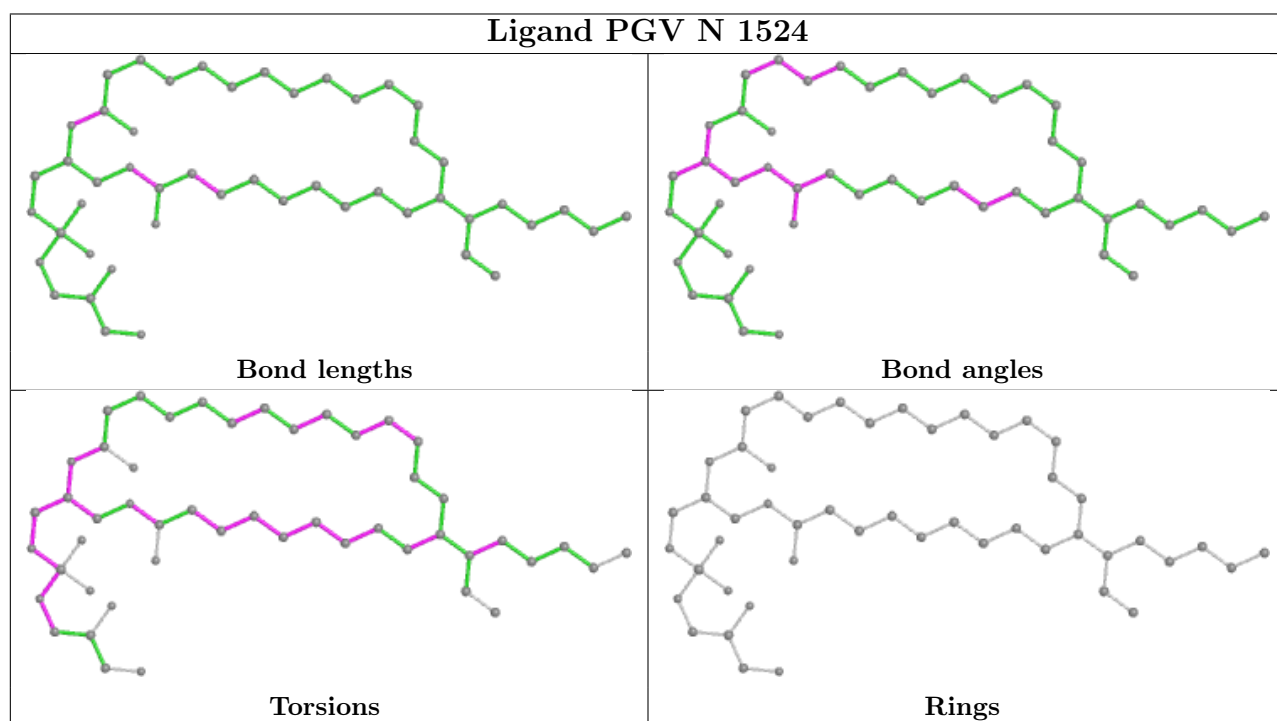
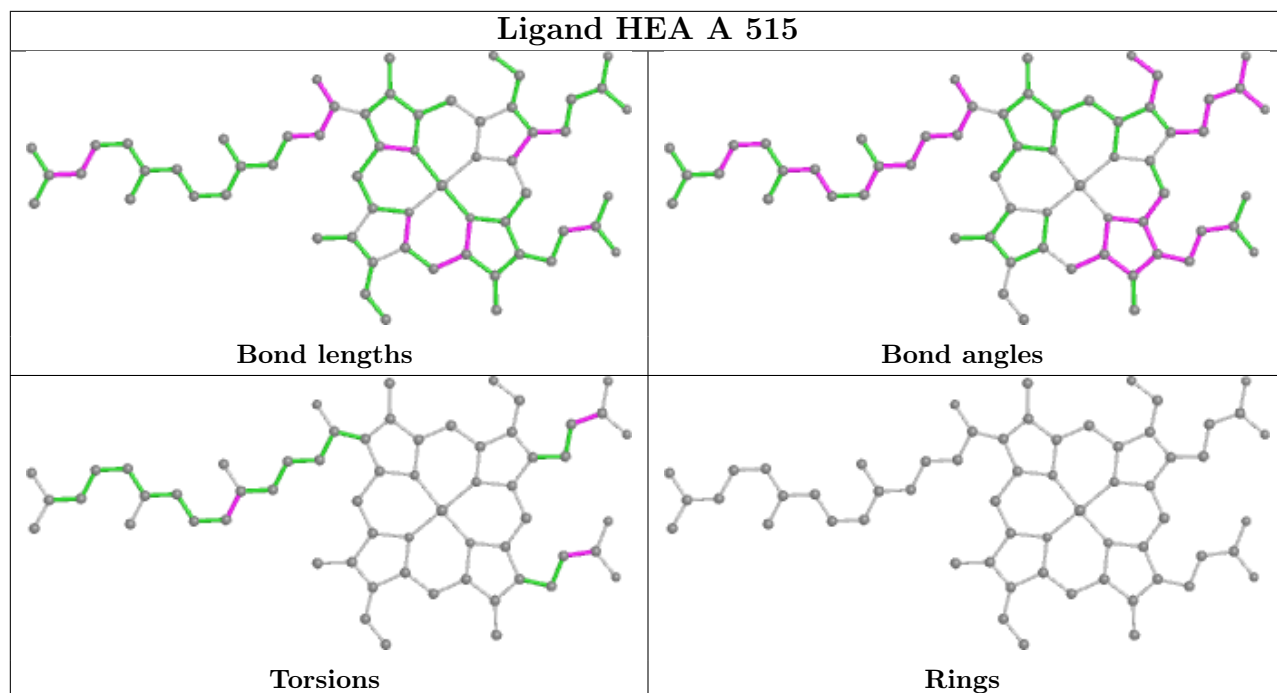


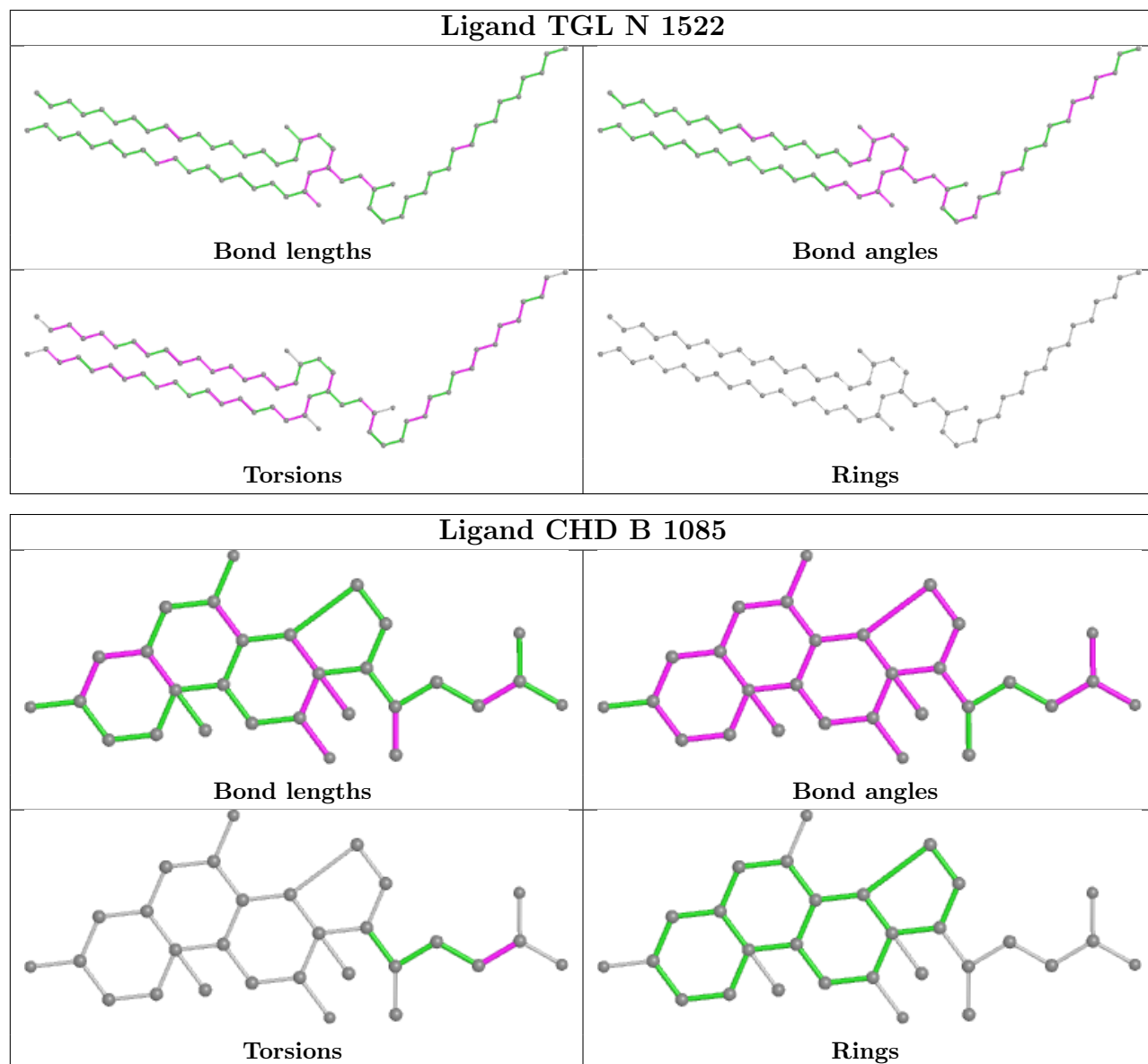












5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data i

6.1 Protein, DNA and RNA chains i

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

| Mol | Chain | Analysed | <RSRZ> | #RSRZ>2 | OWAB(Å ²) | Q<0.9 |
|-----|-------|---------------|--------|--------------|-----------------------|-------|
| 1 | A | 513/514 (99%) | 0.02 | 2 (0%) 92 90 | 21, 25, 33, 64 | 0 |
| 1 | N | 513/514 (99%) | 0.00 | 2 (0%) 92 90 | 24, 28, 36, 63 | 0 |
| 2 | B | 226/227 (99%) | -0.35 | 1 (0%) 92 90 | 20, 30, 48, 68 | 0 |
| 2 | O | 226/227 (99%) | -0.29 | 6 (2%) 54 49 | 25, 34, 58, 80 | 0 |
| 3 | C | 259/261 (99%) | -0.38 | 1 (0%) 92 90 | 23, 27, 39, 61 | 0 |
| 3 | P | 259/261 (99%) | -0.20 | 5 (1%) 66 63 | 25, 30, 41, 58 | 0 |
| 4 | D | 144/147 (97%) | -0.42 | 1 (0%) 87 86 | 27, 34, 48, 64 | 0 |
| 4 | Q | 144/147 (97%) | 0.83 | 21 (14%) 2 1 | 31, 40, 65, 115 | 0 |
| 5 | E | 105/109 (96%) | -0.11 | 2 (1%) 66 63 | 28, 33, 58, 98 | 0 |
| 5 | R | 105/109 (96%) | 0.44 | 7 (6%) 17 14 | 29, 37, 58, 101 | 0 |
| 6 | F | 98/98 (100%) | 0.35 | 8 (8%) 11 9 | 26, 35, 79, 127 | 0 |
| 6 | S | 98/98 (100%) | 0.23 | 7 (7%) 16 12 | 27, 37, 85, 121 | 0 |
| 7 | G | 83/85 (97%) | 0.77 | 17 (20%) 1 0 | 25, 33, 90, 108 | 0 |
| 7 | T | 83/85 (97%) | 0.85 | 17 (20%) 1 0 | 26, 34, 91, 107 | 0 |
| 8 | H | 79/85 (92%) | 0.22 | 11 (13%) 2 2 | 27, 37, 83, 109 | 0 |
| 8 | U | 79/85 (92%) | 0.43 | 13 (16%) 1 1 | 30, 41, 88, 109 | 0 |
| 9 | I | 72/73 (98%) | 0.17 | 2 (2%) 53 47 | 28, 40, 57, 66 | 0 |
| 9 | V | 72/73 (98%) | 0.62 | 8 (11%) 5 4 | 30, 44, 61, 77 | 0 |
| 10 | J | 58/59 (98%) | 0.37 | 8 (13%) 2 2 | 27, 35, 56, 97 | 0 |
| 10 | W | 58/59 (98%) | 0.52 | 9 (15%) 2 1 | 29, 37, 57, 102 | 0 |
| 11 | K | 49/56 (87%) | 0.27 | 3 (6%) 21 16 | 30, 37, 52, 66 | 0 |
| 11 | X | 49/56 (87%) | 1.63 | 14 (28%) 0 0 | 34, 42, 56, 72 | 0 |
| 12 | L | 46/47 (97%) | -0.40 | 2 (4%) 35 29 | 25, 31, 48, 73 | 0 |
| 12 | Y | 46/47 (97%) | -0.29 | 1 (2%) 62 57 | 29, 34, 51, 77 | 0 |

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| Mol | Chain | Analysed | <RSRZ> | #RSRZ>2 | OWAB(Å ²) | Q<0.9 |
|-----|-------|-----------------|--------|----------------|-----------------------|-------|
| 13 | M | 43/46 (93%) | -0.15 | 4 (9%) 8 6 | 27, 31, 69, 98 | 0 |
| 13 | Z | 43/46 (93%) | 0.62 | 8 (18%) 1 0 | 32, 37, 79, 106 | 0 |
| All | All | 3550/3614 (98%) | 0.07 | 180 (5%) 28 22 | 20, 31, 58, 127 | 0 |

All (180) RSRZ outliers are listed below:

| Mol | Chain | Res | Type | RSRZ |
|-----|-------|-----|------|------|
| 4 | Q | 6 | VAL | 15.2 |
| 4 | Q | 5 | VAL | 14.3 |
| 6 | F | 1 | ALA | 13.7 |
| 6 | S | 1 | ALA | 13.6 |
| 6 | S | 97 | ALA | 11.9 |
| 6 | F | 96 | LEU | 11.5 |
| 6 | S | 98 | HIS | 11.3 |
| 6 | F | 98 | HIS | 10.6 |
| 4 | Q | 4 | SER | 10.0 |
| 6 | F | 97 | ALA | 8.9 |
| 5 | R | 5 | HIS | 8.7 |
| 8 | U | 7 | LYS | 8.3 |
| 5 | R | 109 | VAL | 8.2 |
| 13 | Z | 42 | LYS | 8.1 |
| 13 | Z | 43 | SER | 7.7 |
| 5 | E | 5 | HIS | 7.6 |
| 6 | S | 2 | SER | 7.6 |
| 7 | G | 8 | HIS | 7.3 |
| 6 | S | 94 | HIS | 7.2 |
| 8 | U | 8 | ILE | 7.0 |
| 10 | W | 58 | LYS | 6.9 |
| 7 | G | 1 | ALA | 6.7 |
| 7 | T | 36 | TRP | 6.5 |
| 8 | U | 44 | THR | 6.5 |
| 6 | F | 95 | GLN | 6.3 |
| 6 | F | 2 | SER | 6.2 |
| 10 | J | 1 | PHE | 6.1 |
| 7 | G | 36 | TRP | 6.1 |
| 4 | Q | 51 | LEU | 6.0 |
| 7 | T | 3 | ALA | 6.0 |
| 8 | H | 47 | GLY | 5.8 |
| 7 | T | 8 | HIS | 5.8 |
| 4 | Q | 7 | LYS | 5.7 |
| 7 | T | 84 | LYS | 5.6 |

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| Mol | Chain | Res | Type | RSRZ |
|------------|--------------|------------|-------------|-------------|
| 7 | G | 40 | GLY | 5.6 |
| 7 | T | 42 | ARG | 5.5 |
| 13 | M | 43 | SER | 5.4 |
| 8 | H | 7 | LYS | 5.4 |
| 8 | U | 45 | ALA | 5.3 |
| 7 | T | 40 | GLY | 5.2 |
| 9 | V | 2 | THR | 5.1 |
| 6 | F | 94 | HIS | 5.1 |
| 4 | Q | 8 | SER | 5.0 |
| 7 | G | 42 | ARG | 5.0 |
| 9 | I | 37 | PHE | 5.0 |
| 7 | T | 1 | ALA | 4.9 |
| 7 | T | 5 | LYS | 4.9 |
| 8 | H | 8 | ILE | 4.7 |
| 11 | X | 6 | ALA | 4.7 |
| 8 | U | 48 | GLY | 4.7 |
| 10 | W | 57 | HIS | 4.7 |
| 7 | G | 2 | SER | 4.5 |
| 13 | Z | 41 | LYS | 4.5 |
| 13 | Z | 40 | TYR | 4.5 |
| 7 | G | 84 | LYS | 4.4 |
| 8 | H | 45 | ALA | 4.4 |
| 5 | E | 109 | VAL | 4.4 |
| 8 | U | 10 | ASN | 4.4 |
| 7 | G | 41 | HIS | 4.4 |
| 8 | H | 48 | GLY | 4.4 |
| 4 | Q | 147 | LYS | 4.4 |
| 4 | Q | 48 | TRP | 4.3 |
| 10 | W | 52 | TRP | 4.2 |
| 12 | L | 47 | LYS | 4.2 |
| 11 | X | 7 | PRO | 4.2 |
| 2 | O | 226 | MET | 4.2 |
| 7 | G | 10 | GLY | 4.2 |
| 13 | M | 42 | LYS | 4.2 |
| 7 | T | 4 | ALA | 4.2 |
| 9 | V | 37 | PHE | 4.2 |
| 11 | K | 7 | PRO | 4.2 |
| 7 | T | 41 | HIS | 4.1 |
| 10 | J | 58 | LYS | 4.0 |
| 7 | T | 39 | SER | 3.9 |
| 11 | X | 17 | VAL | 3.9 |
| 8 | H | 44 | THR | 3.9 |

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| Mol | Chain | Res | Type | RSRZ |
|------------|--------------|------------|-------------|-------------|
| 8 | U | 47 | GLY | 3.9 |
| 11 | X | 19 | ALA | 3.9 |
| 11 | X | 13 | TYR | 3.9 |
| 4 | Q | 46 | ALA | 3.9 |
| 7 | T | 2 | SER | 3.7 |
| 2 | O | 113 | TYR | 3.6 |
| 4 | D | 147 | LYS | 3.6 |
| 6 | S | 96 | LEU | 3.6 |
| 7 | G | 6 | GLY | 3.6 |
| 11 | X | 16 | ALA | 3.5 |
| 7 | G | 5 | LYS | 3.5 |
| 7 | G | 3 | ALA | 3.5 |
| 10 | W | 1 | PHE | 3.5 |
| 13 | Z | 35 | TYR | 3.4 |
| 2 | O | 90 | ILE | 3.4 |
| 7 | G | 4 | ALA | 3.4 |
| 7 | T | 10 | GLY | 3.3 |
| 8 | U | 43 | MET | 3.3 |
| 6 | S | 95 | GLN | 3.3 |
| 7 | G | 7 | ASP | 3.2 |
| 5 | R | 108 | LYS | 3.2 |
| 7 | G | 43 | GLU | 3.2 |
| 4 | Q | 141 | ASP | 3.2 |
| 10 | J | 57 | HIS | 3.2 |
| 11 | X | 20 | SER | 3.1 |
| 11 | X | 47 | ARG | 3.1 |
| 12 | Y | 47 | LYS | 3.0 |
| 4 | Q | 102 | TYR | 3.0 |
| 7 | G | 39 | SER | 3.0 |
| 8 | H | 46 | LYS | 3.0 |
| 5 | R | 96 | LEU | 2.9 |
| 8 | U | 46 | LYS | 2.9 |
| 4 | Q | 53 | ILE | 2.9 |
| 4 | Q | 60 | TYR | 2.8 |
| 13 | Z | 39 | ASN | 2.8 |
| 4 | Q | 145 | TRP | 2.8 |
| 11 | K | 6 | ALA | 2.7 |
| 11 | X | 23 | THR | 2.7 |
| 7 | T | 9 | GLY | 2.7 |
| 10 | W | 4 | ARG | 2.7 |
| 2 | O | 227 | LEU | 2.7 |
| 8 | U | 49 | ASP | 2.7 |

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| Mol | Chain | Res | Type | RSRZ |
|------------|--------------|------------|-------------|-------------|
| 8 | H | 43 | MET | 2.7 |
| 5 | R | 94 | ASN | 2.7 |
| 9 | V | 53 | ASN | 2.7 |
| 13 | M | 40 | TYR | 2.7 |
| 8 | H | 10 | ASN | 2.7 |
| 8 | U | 52 | VAL | 2.6 |
| 9 | I | 2 | THR | 2.6 |
| 7 | T | 6 | GLY | 2.6 |
| 13 | M | 39 | ASN | 2.6 |
| 9 | V | 34 | PHE | 2.6 |
| 11 | X | 18 | LEU | 2.6 |
| 3 | P | 91 | VAL | 2.6 |
| 5 | R | 93 | LEU | 2.5 |
| 4 | Q | 49 | SER | 2.5 |
| 10 | J | 56 | PRO | 2.5 |
| 7 | G | 9 | GLY | 2.5 |
| 8 | U | 9 | LYS | 2.5 |
| 10 | W | 55 | PHE | 2.5 |
| 4 | Q | 33 | LEU | 2.5 |
| 6 | F | 3 | GLY | 2.5 |
| 1 | A | 202 | LEU | 2.5 |
| 5 | R | 92 | THR | 2.5 |
| 10 | J | 52 | TRP | 2.4 |
| 9 | V | 33 | THR | 2.4 |
| 4 | Q | 140 | TYR | 2.4 |
| 8 | U | 11 | TYR | 2.4 |
| 2 | O | 59 | GLN | 2.4 |
| 10 | W | 48 | TYR | 2.4 |
| 3 | C | 38 | ASN | 2.4 |
| 7 | T | 7 | ASP | 2.4 |
| 12 | L | 2 | HIS | 2.4 |
| 10 | W | 2 | GLU | 2.4 |
| 8 | H | 49 | ASP | 2.3 |
| 3 | P | 88 | ILE | 2.3 |
| 4 | Q | 58 | GLU | 2.3 |
| 11 | X | 15 | ASN | 2.3 |
| 8 | H | 9 | LYS | 2.3 |
| 13 | Z | 32 | TRP | 2.3 |
| 1 | N | 286 | ILE | 2.3 |
| 3 | P | 37 | PHE | 2.2 |
| 11 | X | 27 | ALA | 2.2 |
| 13 | Z | 13 | LYS | 2.2 |

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| Mol | Chain | Res | Type | RSRZ |
|-----|-------|-----|------|------|
| 9 | V | 26 | MET | 2.2 |
| 7 | T | 43 | GLU | 2.2 |
| 4 | Q | 40 | LEU | 2.2 |
| 11 | X | 12 | LYS | 2.2 |
| 4 | Q | 142 | LYS | 2.2 |
| 3 | P | 38 | ASN | 2.1 |
| 10 | J | 2 | GLU | 2.1 |
| 9 | V | 36 | LYS | 2.1 |
| 2 | O | 60 | GLU | 2.1 |
| 11 | X | 24 | PHE | 2.1 |
| 1 | N | 73 | ILE | 2.1 |
| 9 | V | 3 | ALA | 2.1 |
| 10 | J | 48 | TYR | 2.1 |
| 2 | B | 91 | ASN | 2.1 |
| 4 | Q | 72 | ASN | 2.1 |
| 10 | J | 4 | ARG | 2.0 |
| 10 | W | 26 | ALA | 2.0 |
| 3 | P | 99 | TRP | 2.0 |
| 1 | A | 197 | LEU | 2.0 |
| 11 | K | 47 | ARG | 2.0 |

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

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

| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(Å ²) | Q<0.9 |
|-----|------|-------|-----|-------|------|------|----------------------------|-------|
| 7 | TPO | T | 11 | 11/12 | 0.43 | 0.35 | 71,80,101,104 | 0 |
| 7 | TPO | G | 11 | 11/12 | 0.51 | 0.31 | 66,75,101,101 | 0 |
| 9 | SAC | V | 1 | 9/10 | 0.63 | 0.54 | 83,86,88,88 | 0 |
| 9 | SAC | I | 1 | 9/10 | 0.87 | 0.30 | 63,66,69,73 | 0 |
| 1 | FME | N | 1 | 10/11 | 0.91 | 0.14 | 42,48,77,80 | 0 |
| 1 | FME | A | 1 | 10/11 | 0.94 | 0.12 | 38,41,68,76 | 0 |
| 2 | FME | B | 1 | 10/11 | 0.97 | 0.10 | 20,30,40,52 | 0 |
| 2 | FME | O | 1 | 10/11 | 0.97 | 0.10 | 33,34,40,48 | 0 |

6.3 Carbohydrates [i](#)

There are no monosaccharides in this entry.

6.4 Ligands i

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

| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(Å ²) | Q<0.9 |
|-----|------|-------|------|---------|------|------|----------------------------|-------|
| 28 | DMU | G | 272 | 33/33 | 0.39 | 0.34 | 72,100,115,116 | 0 |
| 24 | UNX | C | 262 | 1/1 | 0.40 | 0.47 | 81,81,81,81 | 0 |
| 28 | DMU | P | 1272 | 33/33 | 0.40 | 0.35 | 72,106,119,121 | 0 |
| 25 | PEK | P | 1265 | 53/53 | 0.43 | 0.30 | 46,76,107,110 | 0 |
| 25 | PEK | G | 1263 | 53/53 | 0.55 | 0.42 | 51,96,123,124 | 0 |
| 25 | PEK | G | 265 | 53/53 | 0.55 | 0.27 | 47,79,103,105 | 0 |
| 22 | PSC | R | 1229 | 52/52 | 0.58 | 0.30 | 49,95,129,135 | 0 |
| 26 | CDL | T | 1269 | 100/100 | 0.59 | 0.28 | 59,86,115,118 | 0 |
| 25 | PEK | T | 263 | 53/53 | 0.60 | 0.32 | 48,94,121,122 | 0 |
| 23 | CHD | J | 60 | 29/29 | 0.60 | 0.41 | 99,104,108,108 | 0 |
| 26 | CDL | G | 269 | 100/100 | 0.62 | 0.25 | 58,86,116,120 | 0 |
| 19 | TGL | N | 1522 | 63/63 | 0.65 | 0.25 | 49,64,84,89 | 0 |
| 24 | UNX | P | 262 | 1/1 | 0.66 | 0.42 | 82,82,82,82 | 0 |
| 22 | PSC | B | 229 | 52/52 | 0.67 | 0.32 | 45,95,136,139 | 0 |
| 23 | CHD | W | 1059 | 29/29 | 0.68 | 0.38 | 101,108,110,112 | 0 |
| 20 | PGV | P | 1268 | 51/51 | 0.70 | 0.33 | 57,77,111,112 | 0 |
| 26 | CDL | P | 1270 | 100/100 | 0.71 | 0.28 | 36,86,117,120 | 0 |
| 19 | TGL | Q | 1523 | 63/63 | 0.72 | 0.22 | 56,74,100,102 | 0 |
| 20 | PGV | N | 1524 | 51/51 | 0.72 | 0.30 | 41,76,121,123 | 0 |
| 20 | PGV | C | 268 | 51/51 | 0.73 | 0.31 | 51,79,108,111 | 0 |
| 19 | TGL | D | 523 | 63/63 | 0.73 | 0.20 | 53,67,97,99 | 0 |
| 26 | CDL | C | 270 | 100/100 | 0.77 | 0.27 | 42,84,109,110 | 0 |
| 19 | TGL | L | 522 | 63/63 | 0.77 | 0.23 | 36,62,78,81 | 0 |
| 19 | TGL | O | 1521 | 63/63 | 0.80 | 0.17 | 53,75,88,92 | 0 |
| 20 | PGV | M | 524 | 51/51 | 0.80 | 0.25 | 40,70,127,129 | 0 |
| 19 | TGL | A | 521 | 63/63 | 0.81 | 0.18 | 53,72,88,92 | 0 |
| 28 | DMU | Z | 1526 | 33/33 | 0.82 | 0.25 | 40,50,71,75 | 0 |
| 23 | CHD | C | 271 | 29/29 | 0.89 | 0.20 | 54,61,65,73 | 0 |
| 23 | CHD | P | 1271 | 29/29 | 0.90 | 0.20 | 51,63,68,69 | 0 |
| 28 | DMU | M | 526 | 33/33 | 0.91 | 0.14 | 35,44,61,65 | 0 |
| 25 | PEK | P | 1264 | 53/53 | 0.93 | 0.14 | 25,49,81,82 | 0 |
| 20 | PGV | P | 1267 | 51/51 | 0.94 | 0.13 | 23,37,80,82 | 0 |
| 25 | PEK | C | 264 | 53/53 | 0.95 | 0.12 | 24,45,77,80 | 0 |
| 20 | PGV | N | 1266 | 51/51 | 0.95 | 0.13 | 23,36,59,64 | 0 |
| 18 | NA | N | 519 | 1/1 | 0.96 | 0.07 | 31,31,31,31 | 0 |
| 20 | PGV | C | 267 | 51/51 | 0.96 | 0.11 | 22,33,73,74 | 0 |
| 23 | CHD | P | 1525 | 29/29 | 0.96 | 0.14 | 27,31,35,37 | 0 |

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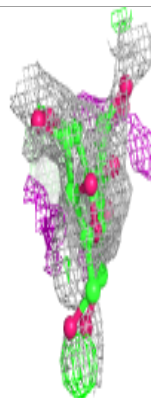
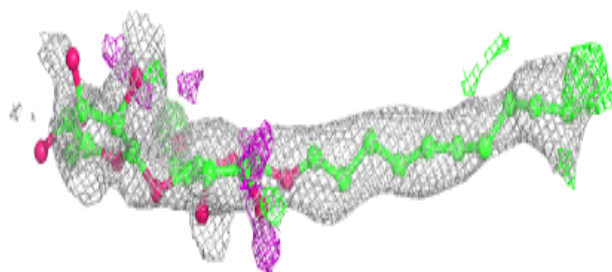
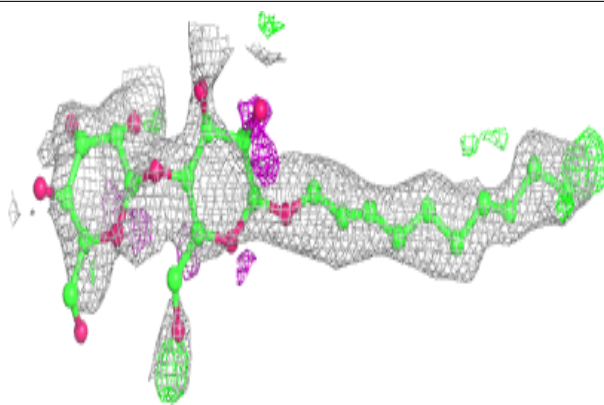
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| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(Å ²) | Q<0.9 |
|-----|------|-------|------|-------|------|------|----------------------------|-------|
| 23 | CHD | O | 229 | 29/29 | 0.97 | 0.07 | 21,25,31,33 | 0 |
| 23 | CHD | B | 1085 | 29/29 | 0.97 | 0.08 | 23,26,31,37 | 0 |
| 23 | CHD | C | 525 | 29/29 | 0.97 | 0.14 | 21,30,35,38 | 0 |
| 20 | PGV | A | 522 | 51/51 | 0.97 | 0.11 | 20,33,67,71 | 0 |
| 17 | MG | N | 518 | 1/1 | 0.97 | 0.12 | 29,29,29,29 | 0 |
| 27 | ZN | F | 99 | 1/1 | 0.98 | 0.08 | 31,31,31,31 | 0 |
| 17 | MG | A | 518 | 1/1 | 0.98 | 0.13 | 24,24,24,24 | 0 |
| 14 | HEA | N | 515 | 60/60 | 0.98 | 0.10 | 21,26,40,44 | 0 |
| 18 | NA | A | 519 | 1/1 | 0.98 | 0.07 | 28,28,28,28 | 0 |
| 15 | NO | A | 520 | 2/2 | 0.98 | 0.10 | 24,24,24,25 | 0 |
| 14 | HEA | A | 515 | 60/60 | 0.99 | 0.11 | 19,23,38,41 | 0 |
| 27 | ZN | S | 99 | 1/1 | 0.99 | 0.09 | 33,33,33,33 | 0 |
| 14 | HEA | N | 516 | 60/60 | 0.99 | 0.13 | 22,26,31,36 | 0 |
| 21 | CUA | O | 228 | 2/2 | 0.99 | 0.09 | 27,27,27,27 | 0 |
| 14 | HEA | A | 516 | 60/60 | 0.99 | 0.12 | 19,22,30,34 | 0 |
| 15 | NO | N | 520 | 2/2 | 0.99 | 0.08 | 26,26,26,31 | 0 |
| 21 | CUA | B | 228 | 2/2 | 1.00 | 0.12 | 23,23,23,23 | 0 |
| 16 | CU | A | 517 | 1/1 | 1.00 | 0.14 | 24,24,24,24 | 0 |
| 16 | CU | N | 517 | 1/1 | 1.00 | 0.15 | 26,26,26,26 | 0 |

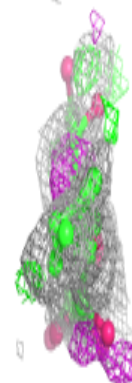
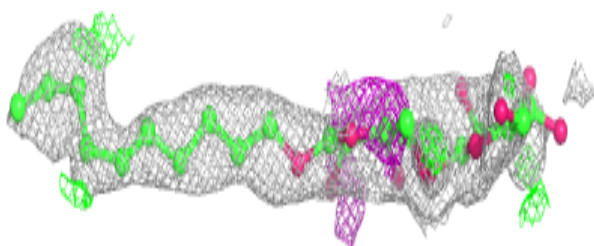
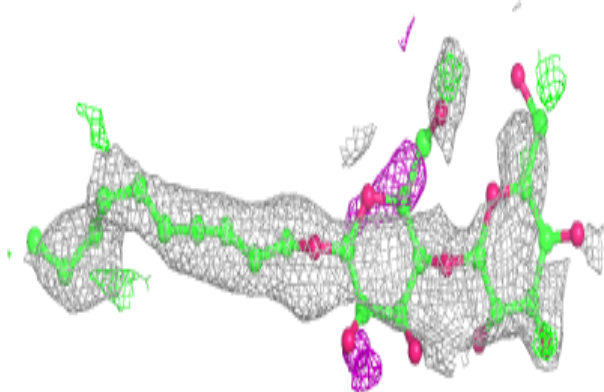
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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

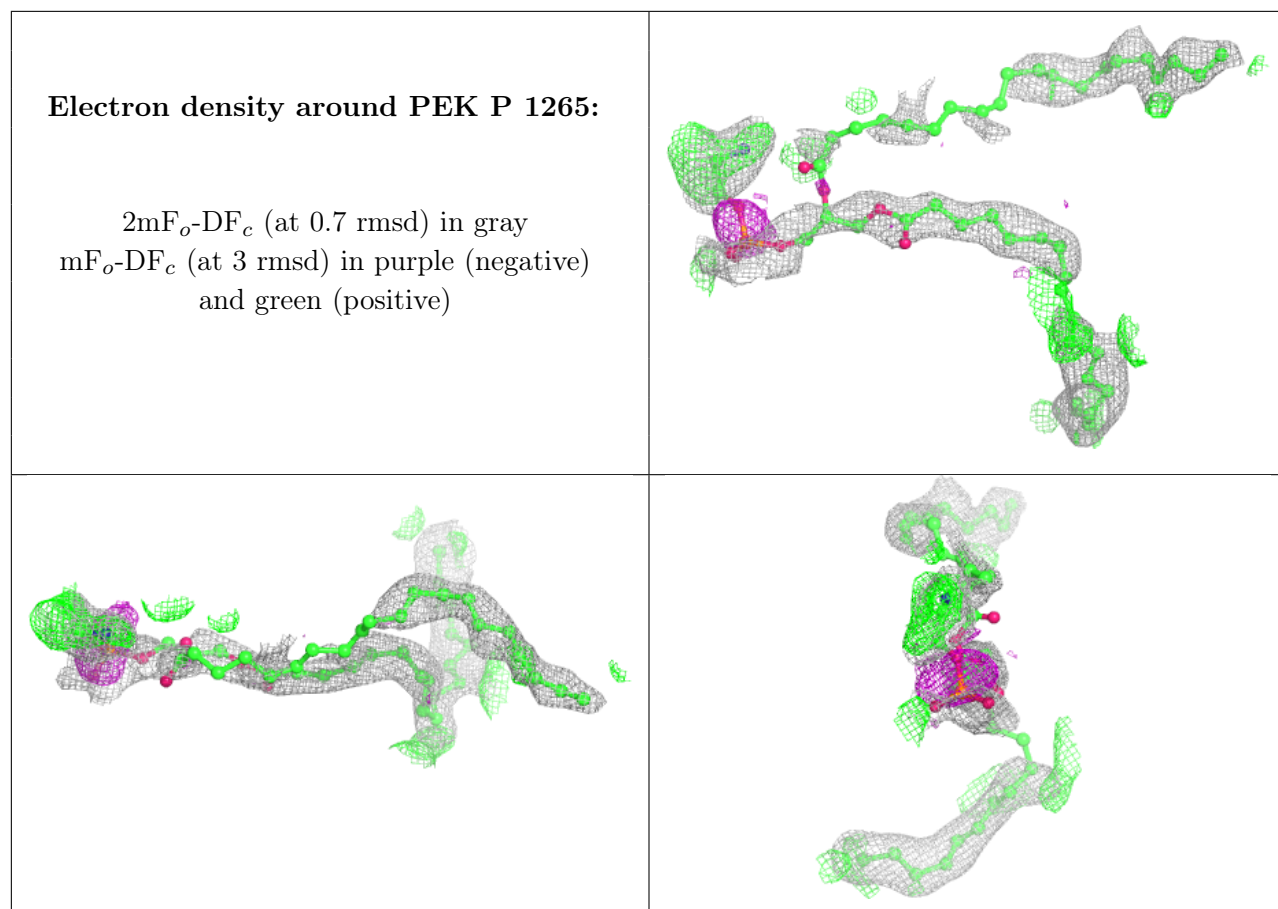
Electron density around DMU G 272:

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

**Electron density around DMU P 1272:**

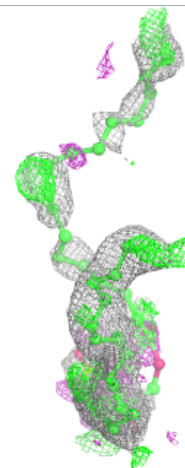
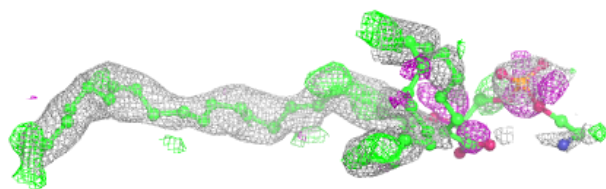
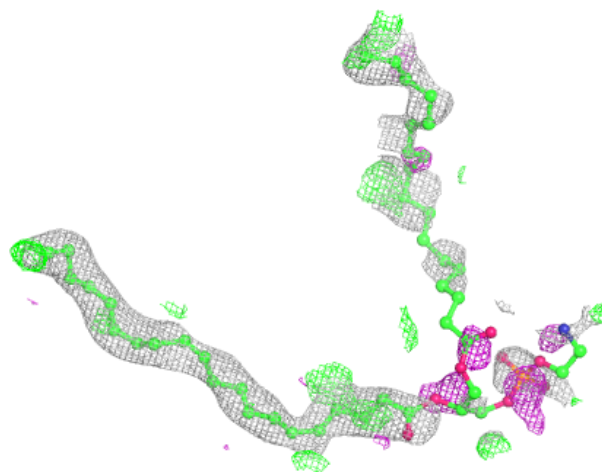
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

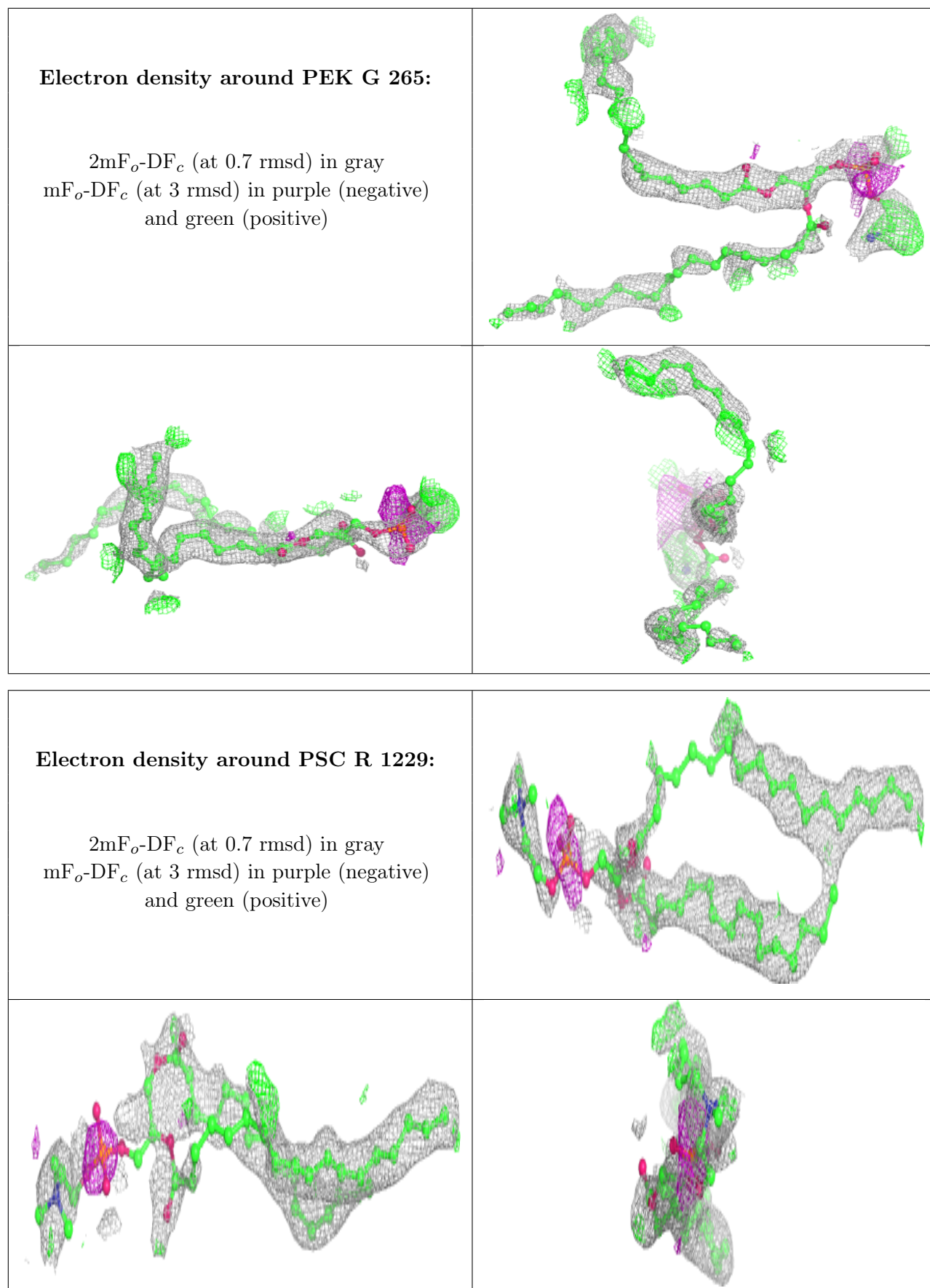


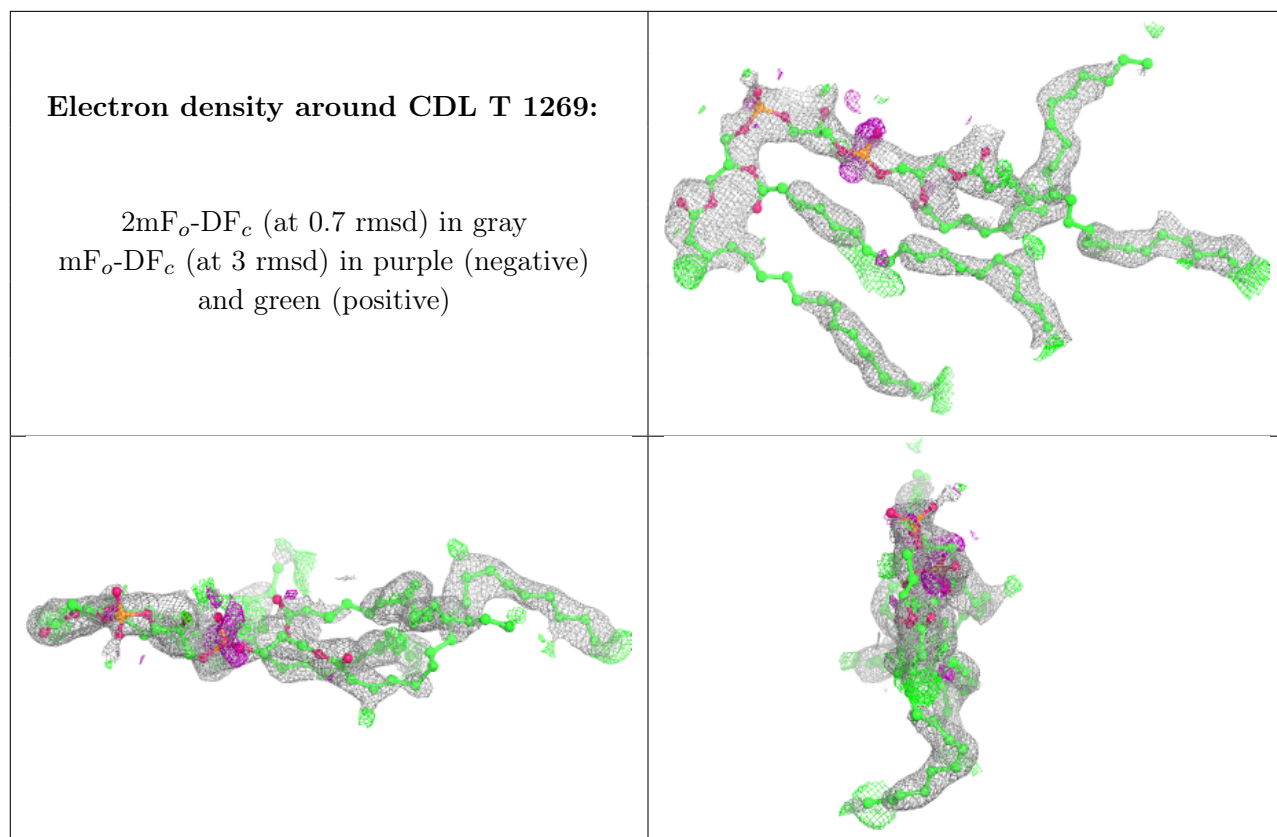


Electron density around PEK G 1263:

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

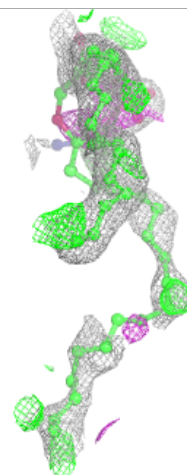
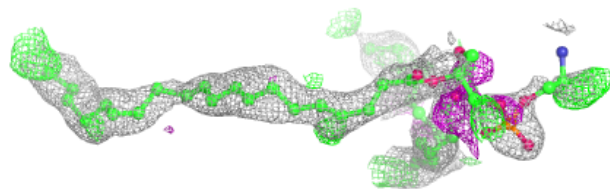
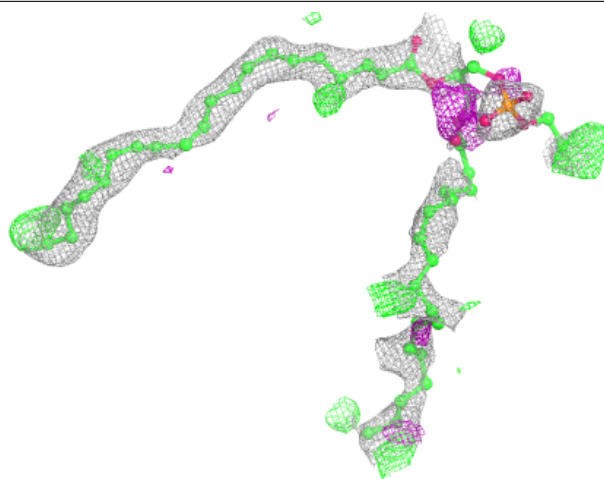






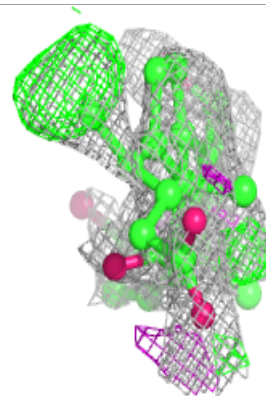
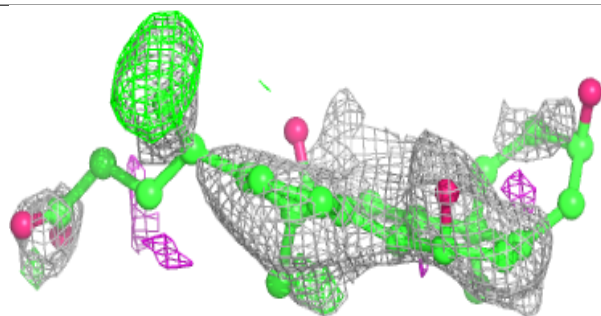
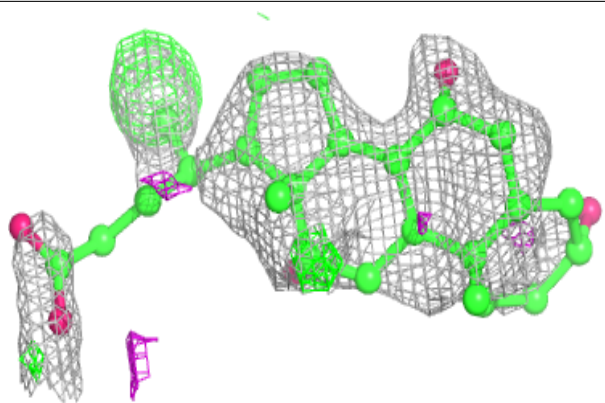
Electron density around PEK T 263:

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

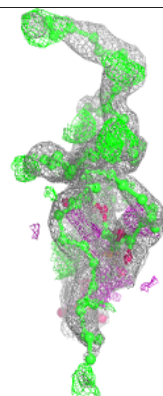
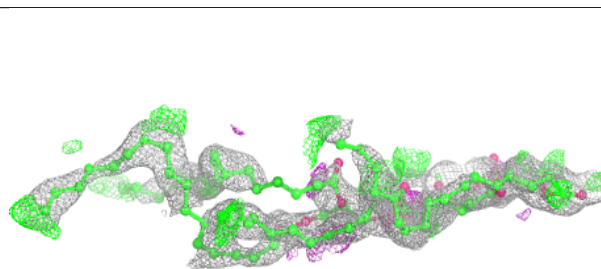
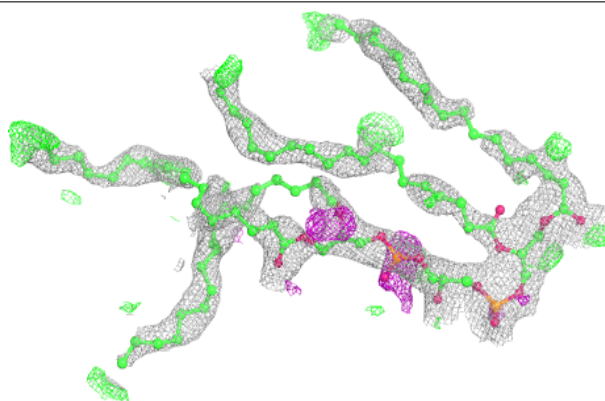


Electron density around CHD J 60:

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

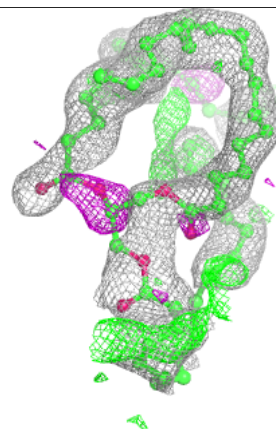
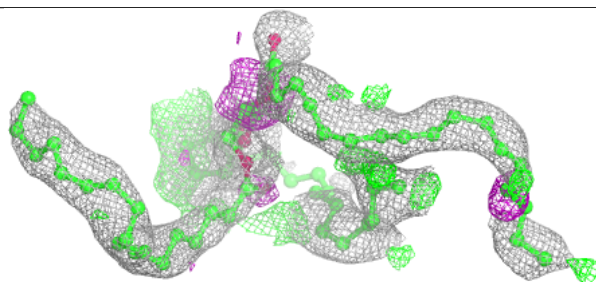
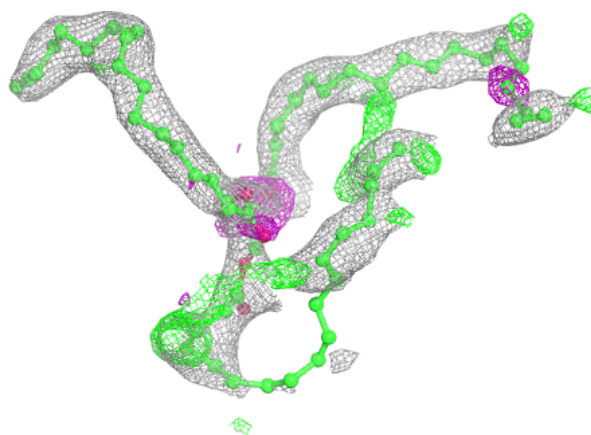
**Electron density around CDL G 269:**

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

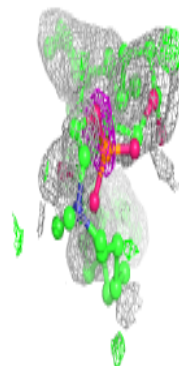
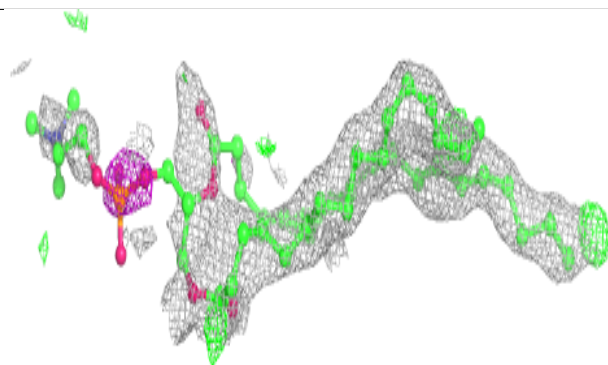
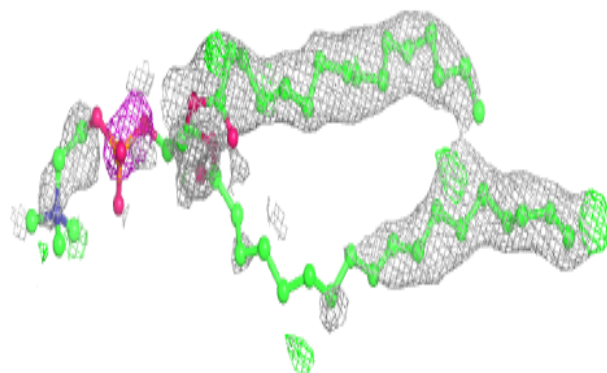


Electron density around TGL N 1522:

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

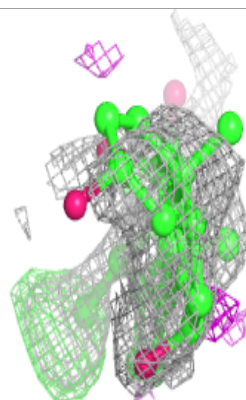
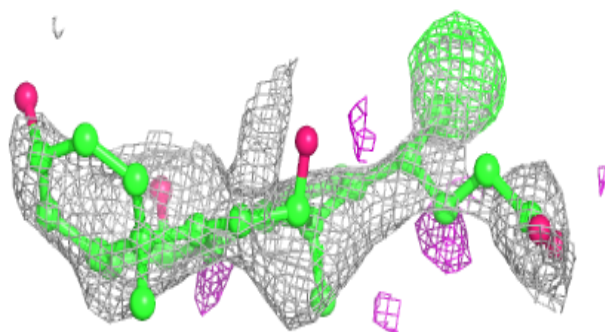
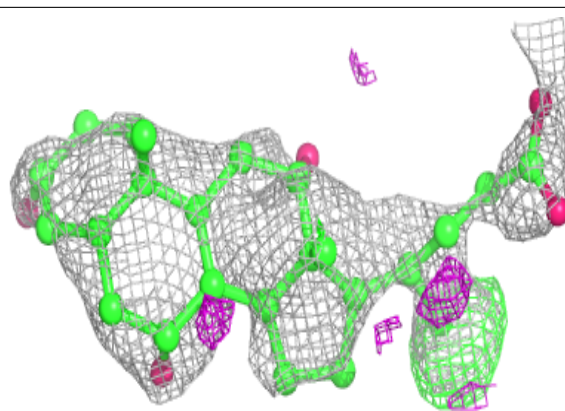
**Electron density around PSC B 229:**

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

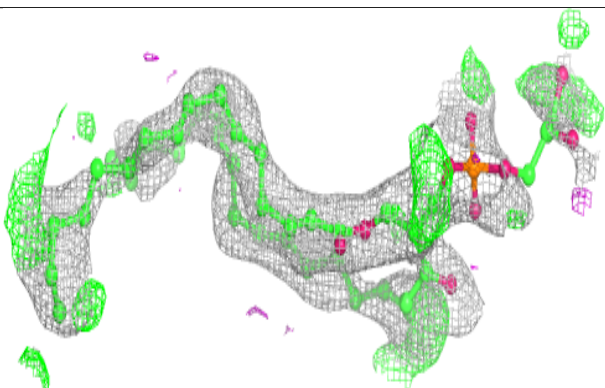
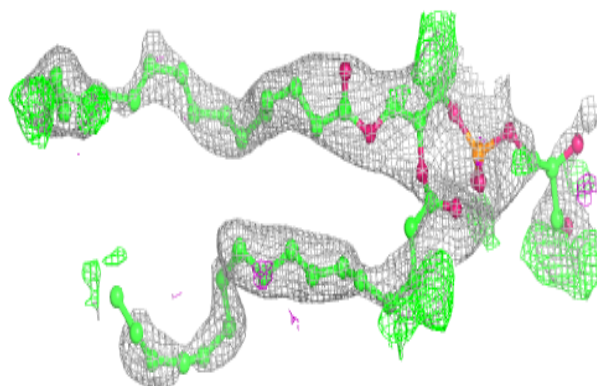


Electron density around CHD W 1059:

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

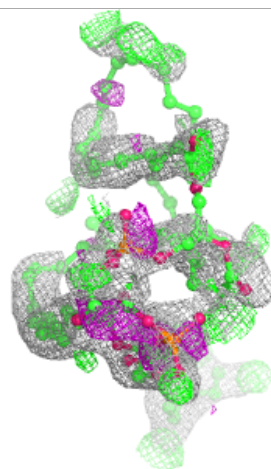
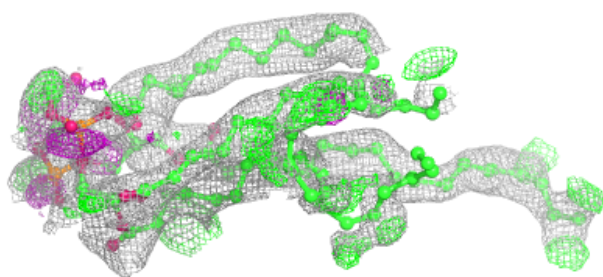
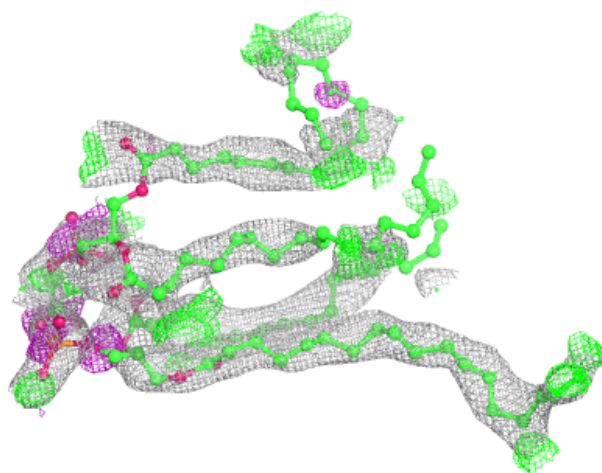
**Electron density around PGV P 1268:**

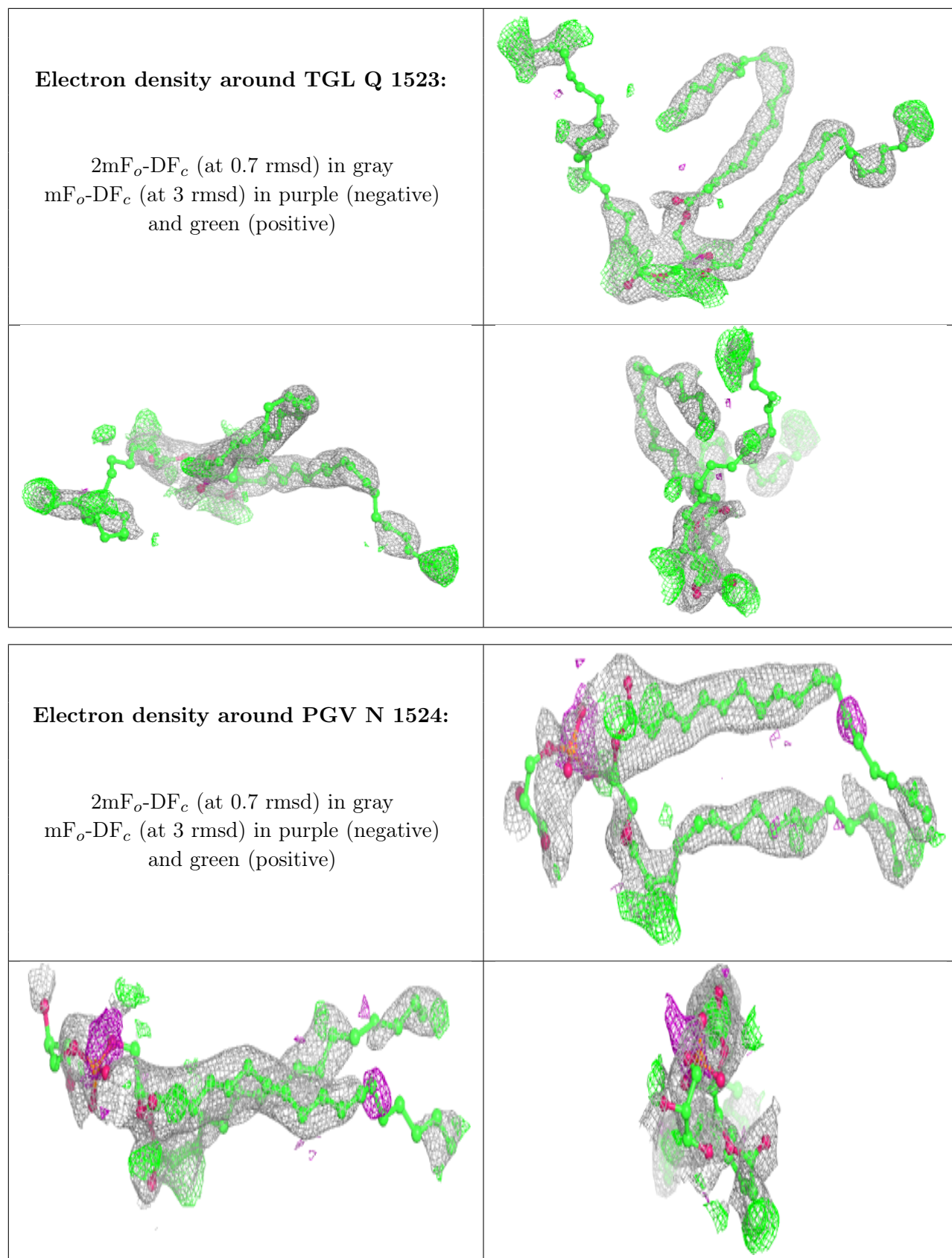
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

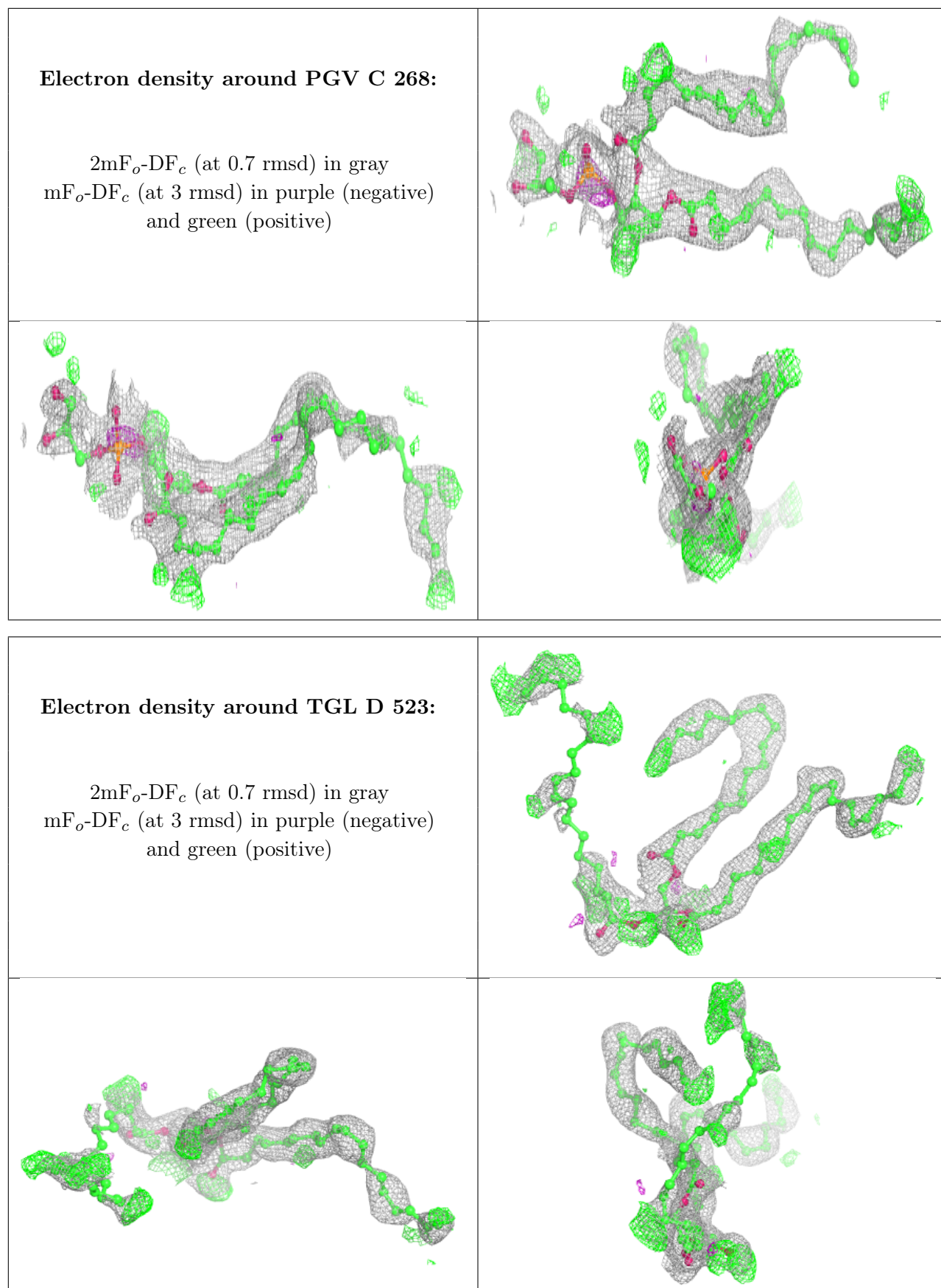


Electron density around CDL P 1270:

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

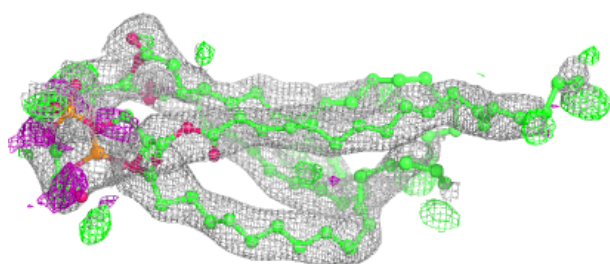
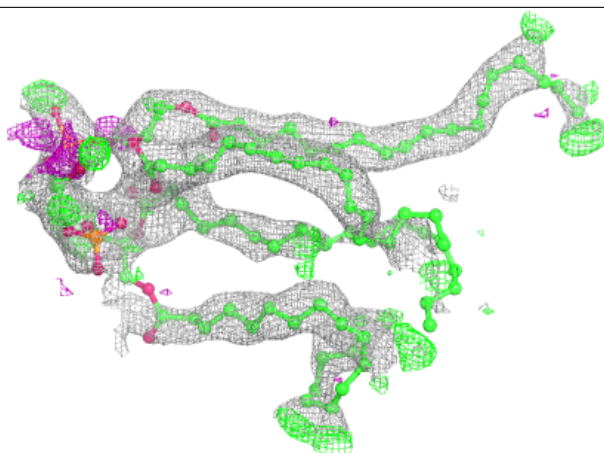




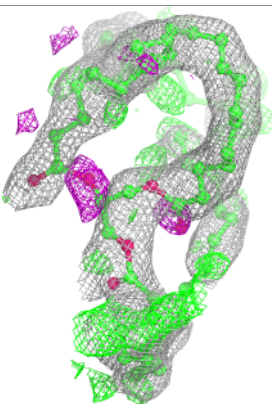
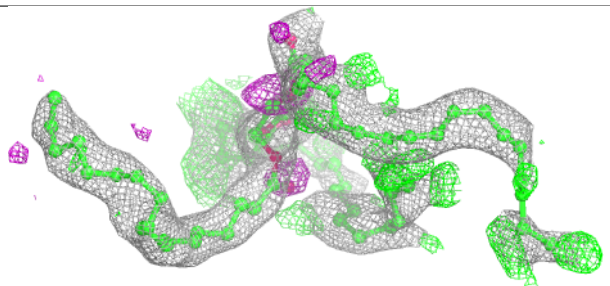
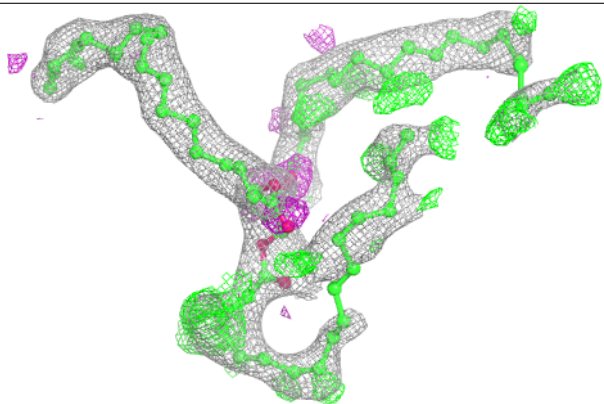


Electron density around CDL C 270:

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

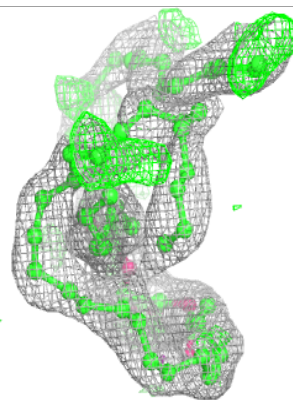
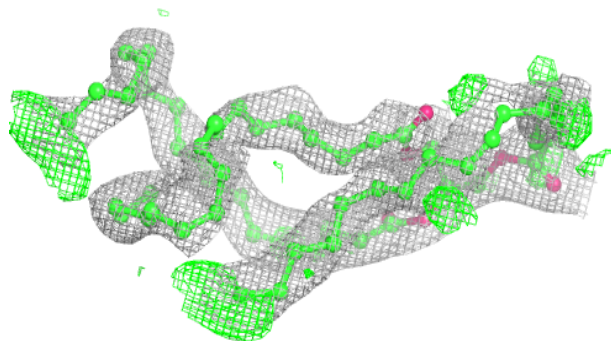
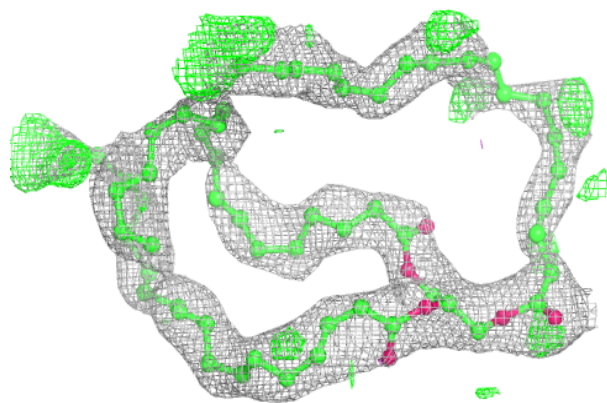
**Electron density around TGL L 522:**

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

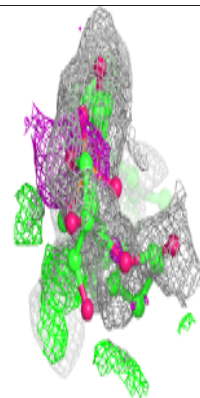
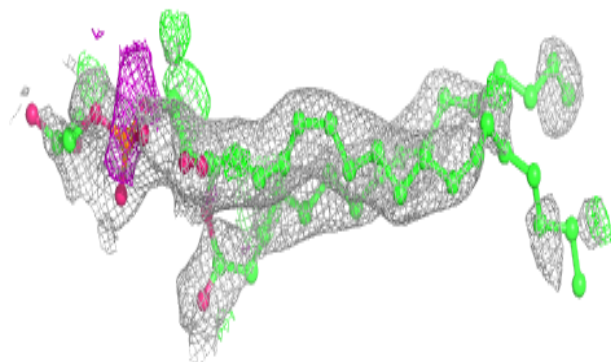
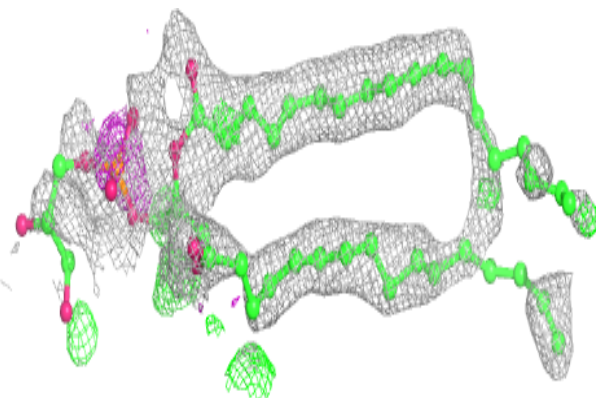


Electron density around TGL O 1521:

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

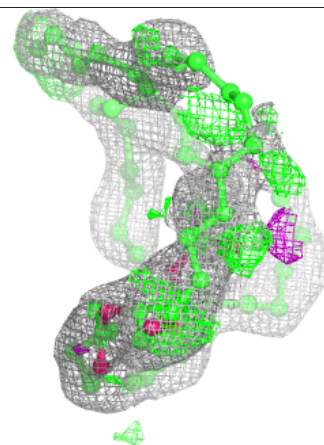
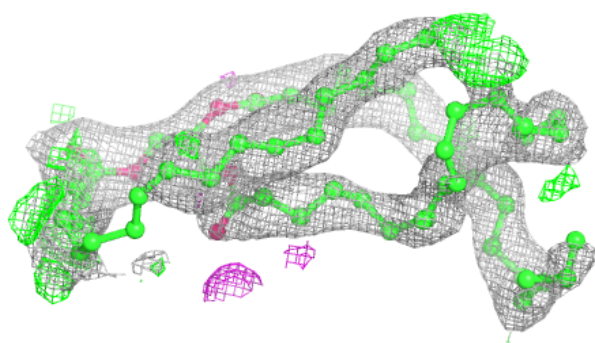
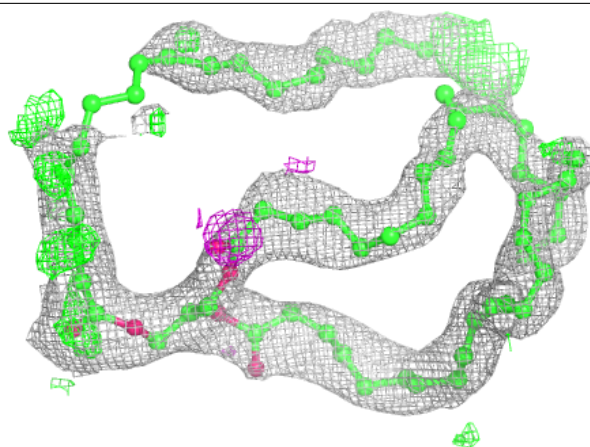
**Electron density around PGV M 524:**

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

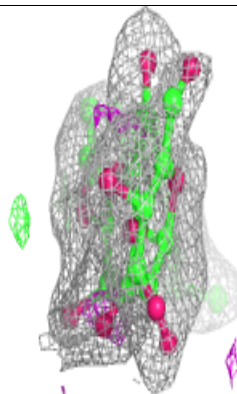
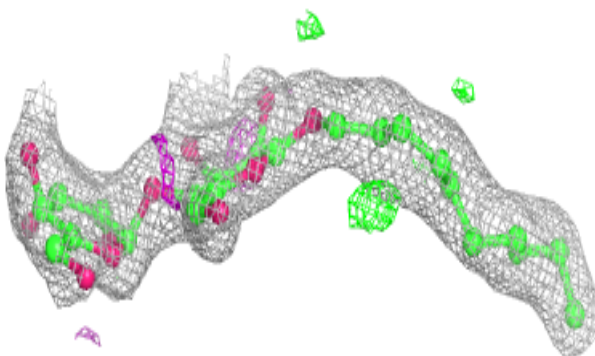
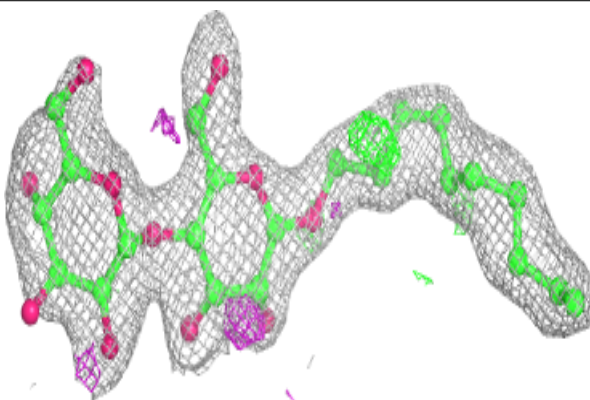


Electron density around TGL A 521:

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

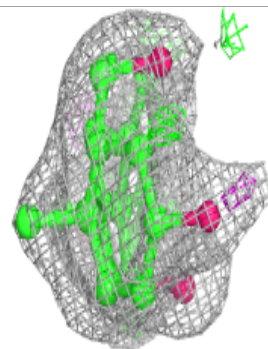
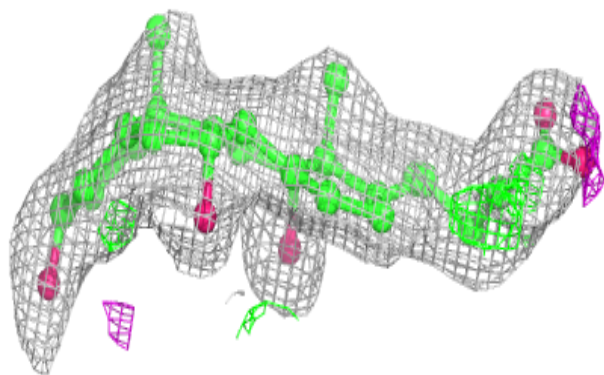
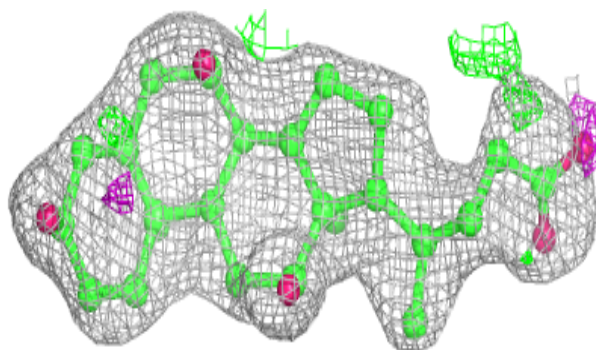
**Electron density around DMU Z 1526:**

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

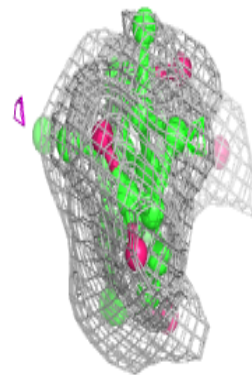
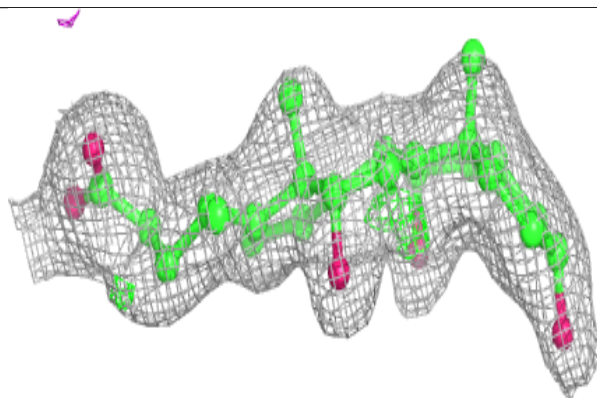
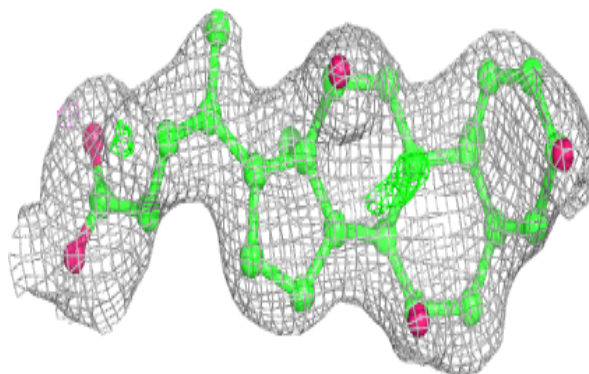


Electron density around CHD C 271:

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

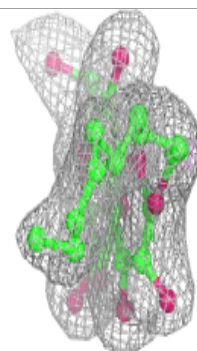
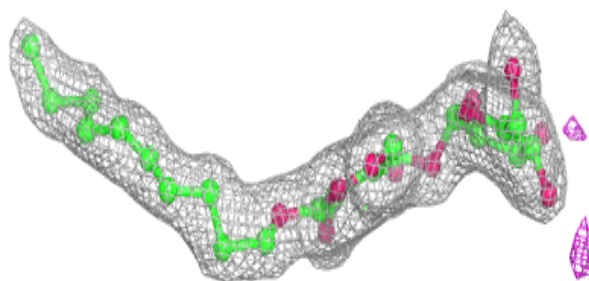
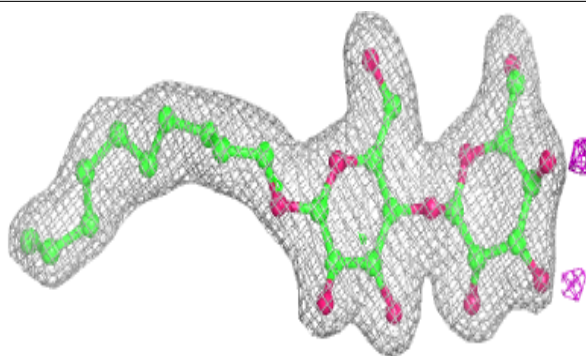
**Electron density around CHD P 1271:**

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

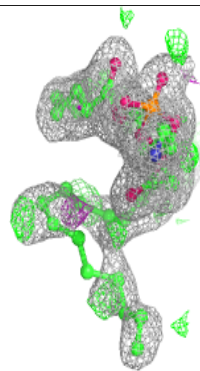
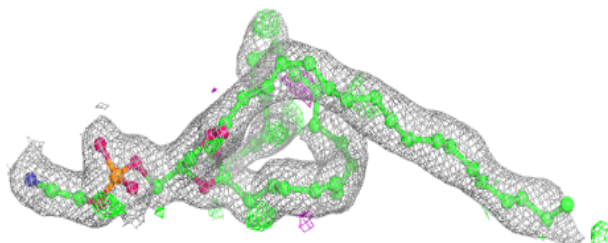
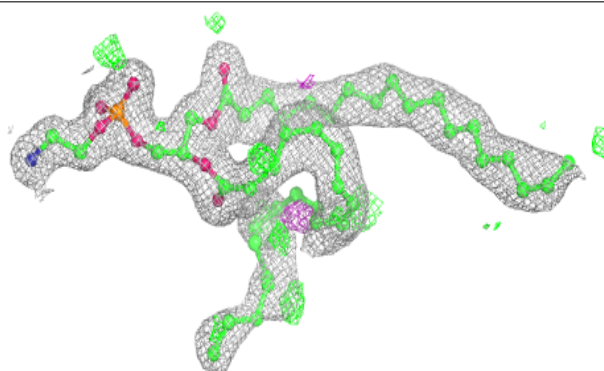


Electron density around DMU M 526:

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

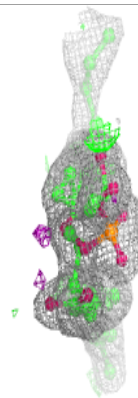
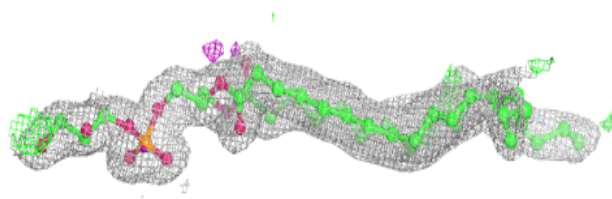
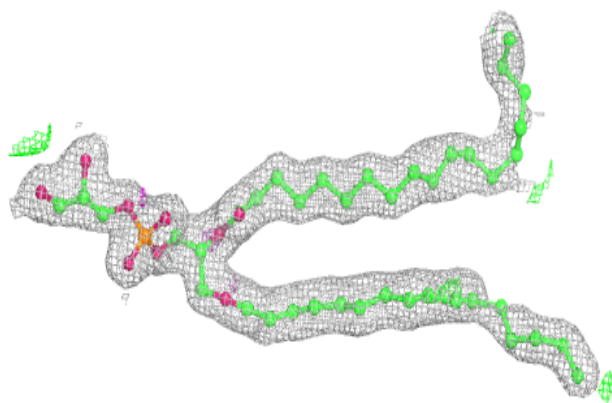
**Electron density around PEK P 1264:**

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

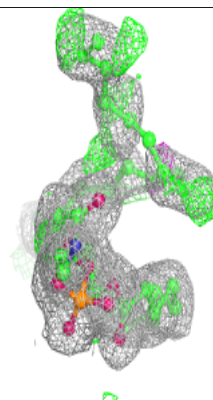
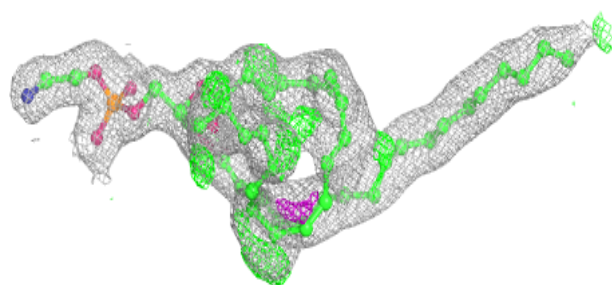
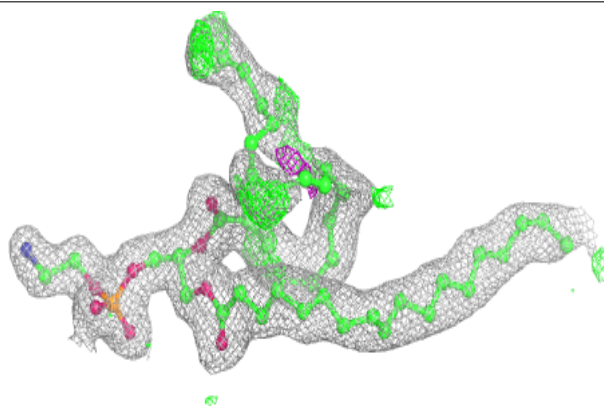


Electron density around PGV P 1267:

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

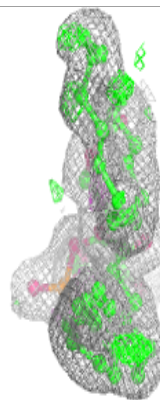
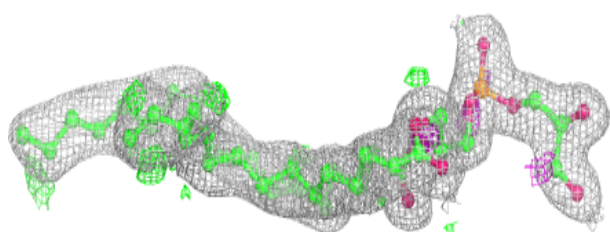
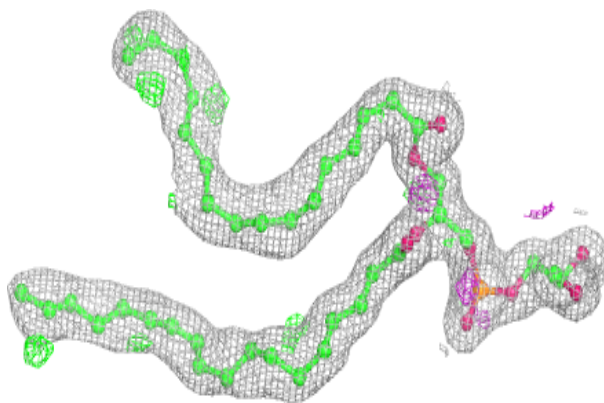
**Electron density around PEK C 264:**

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

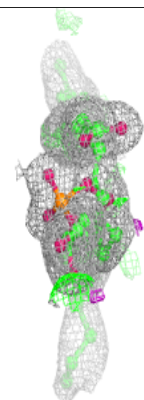
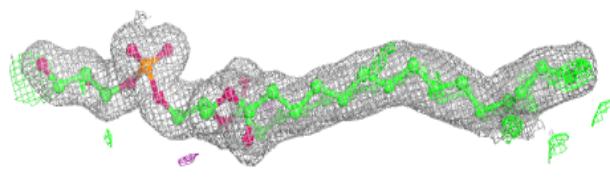
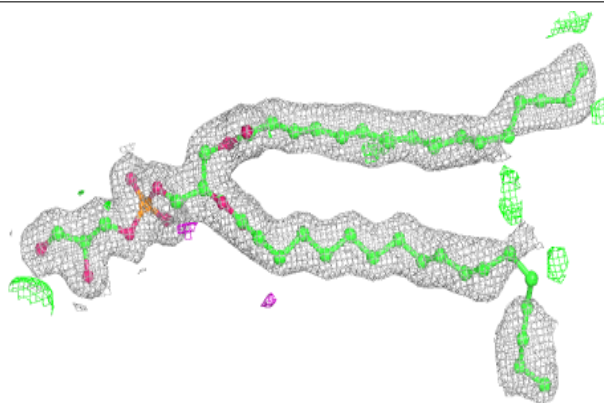


Electron density around PGV N 1266:

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

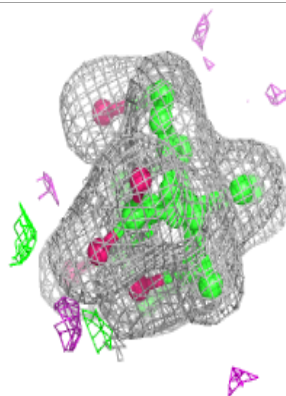
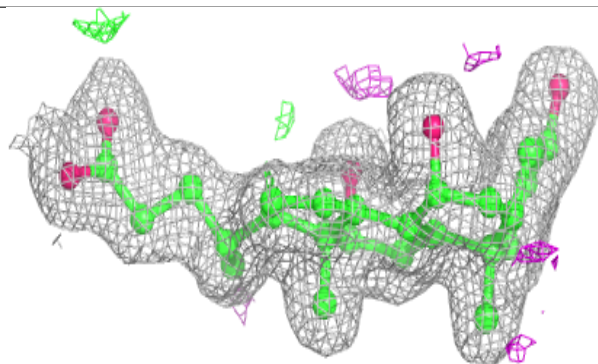
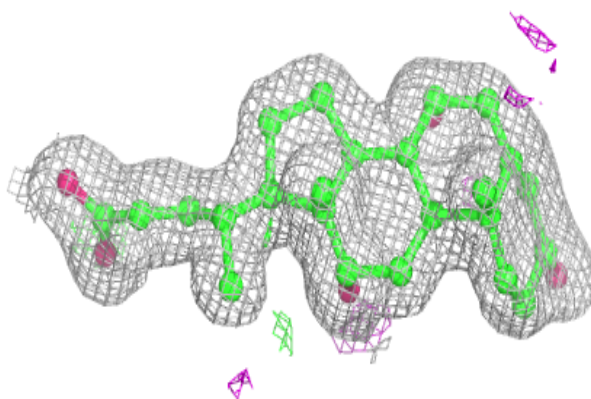
**Electron density around PGV C 267:**

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

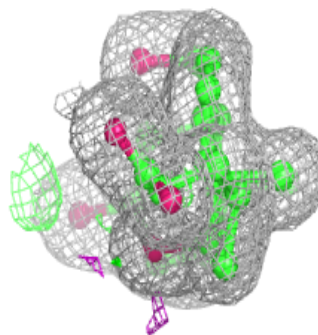
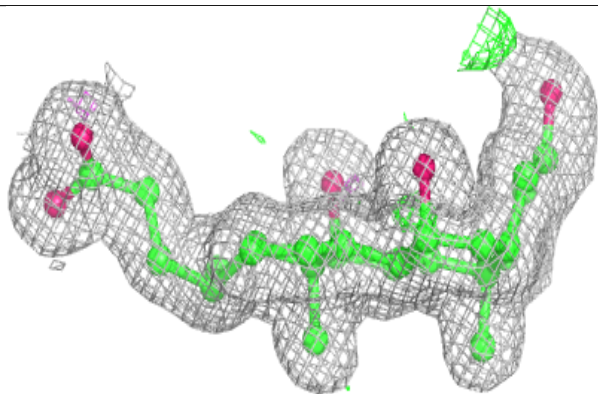
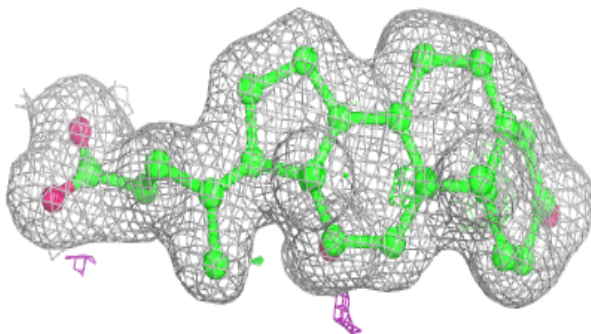


Electron density around CHD P 1525:

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

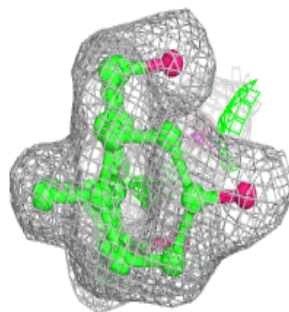
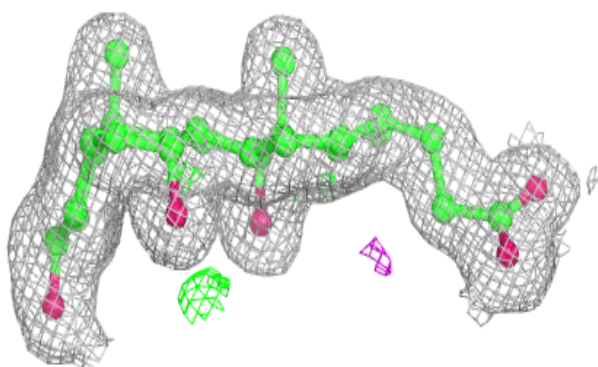
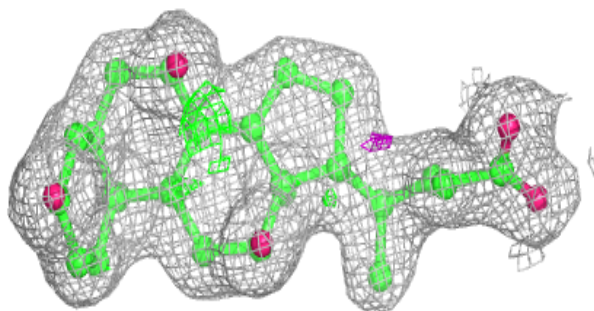
**Electron density around CHD O 229:**

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

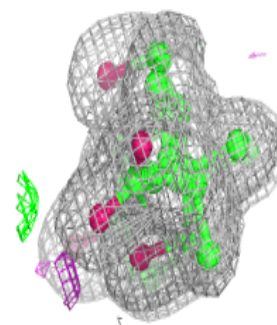
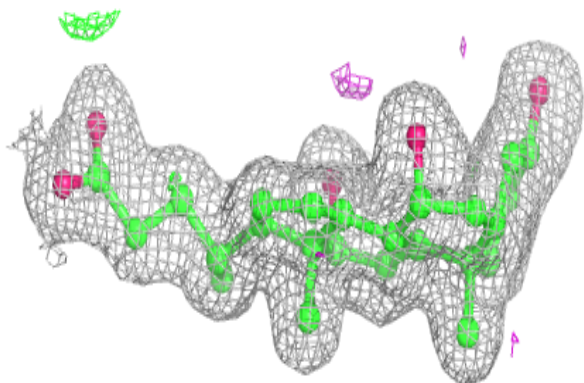
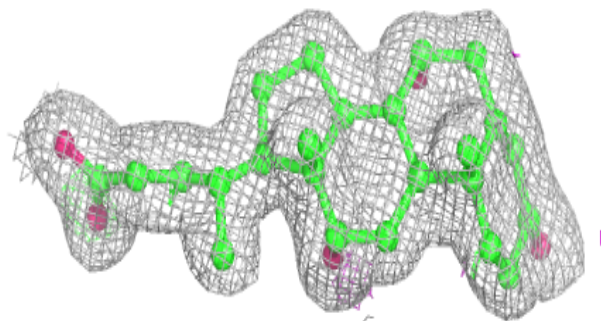


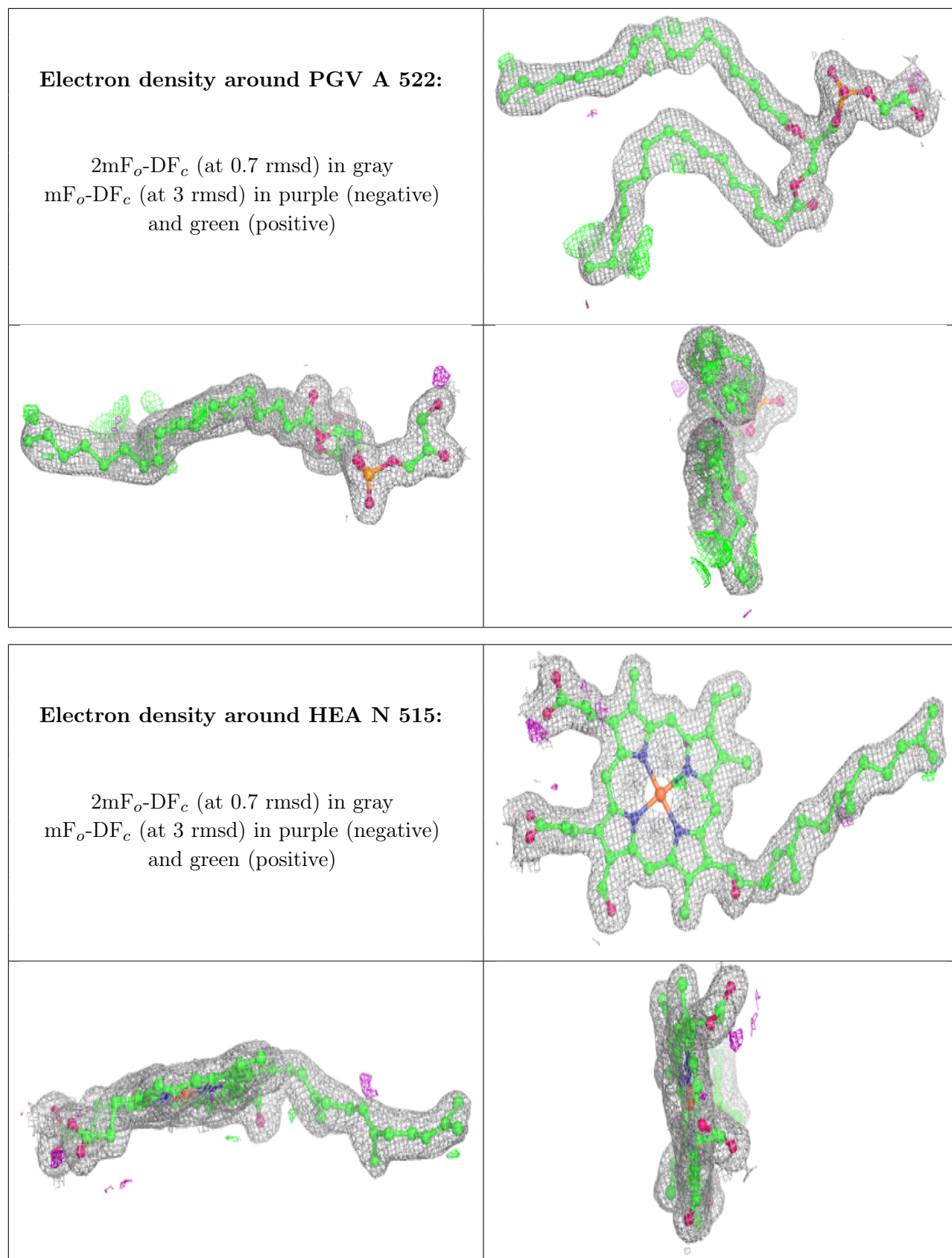
Electron density around CHD B 1085:

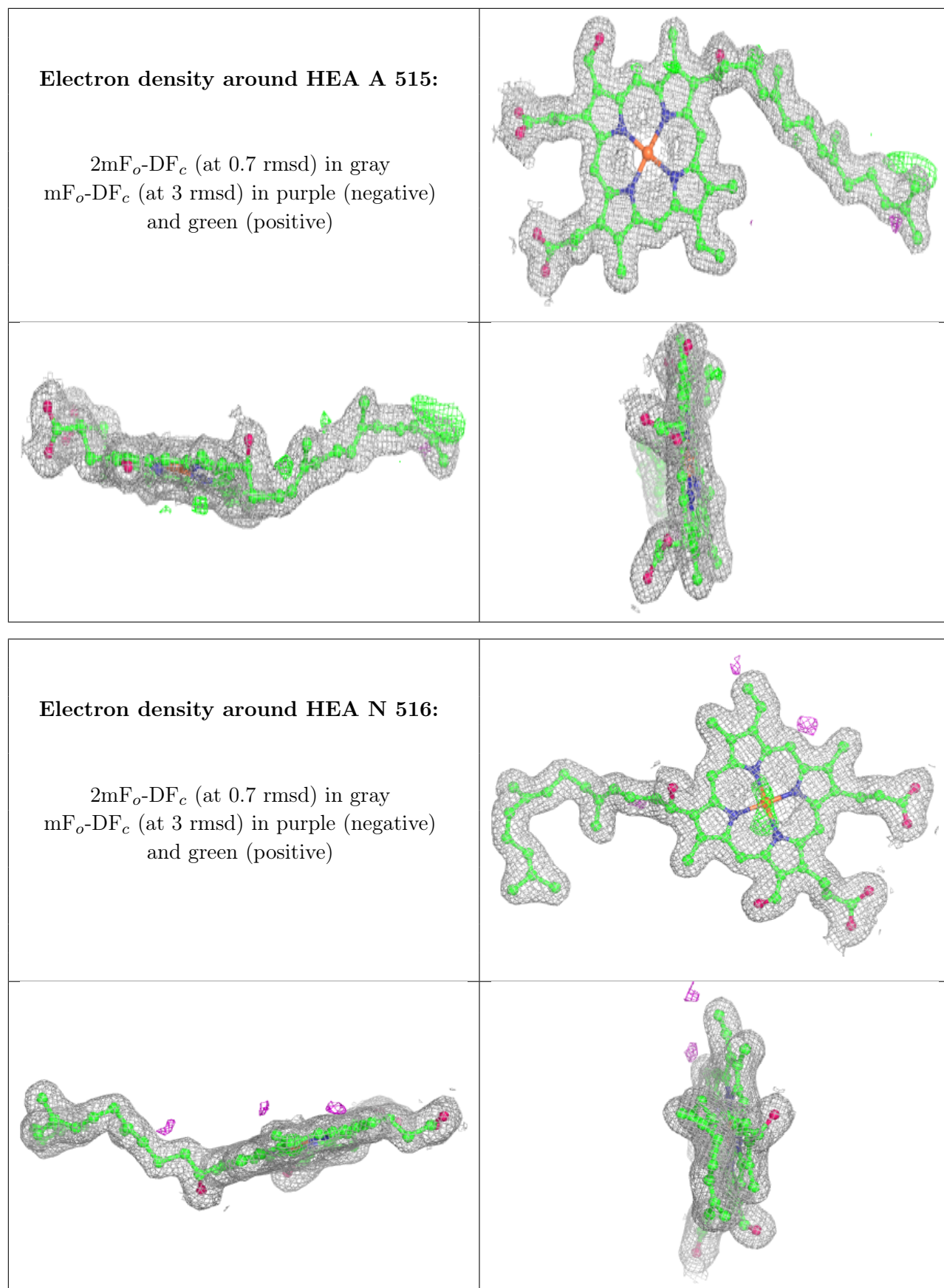
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

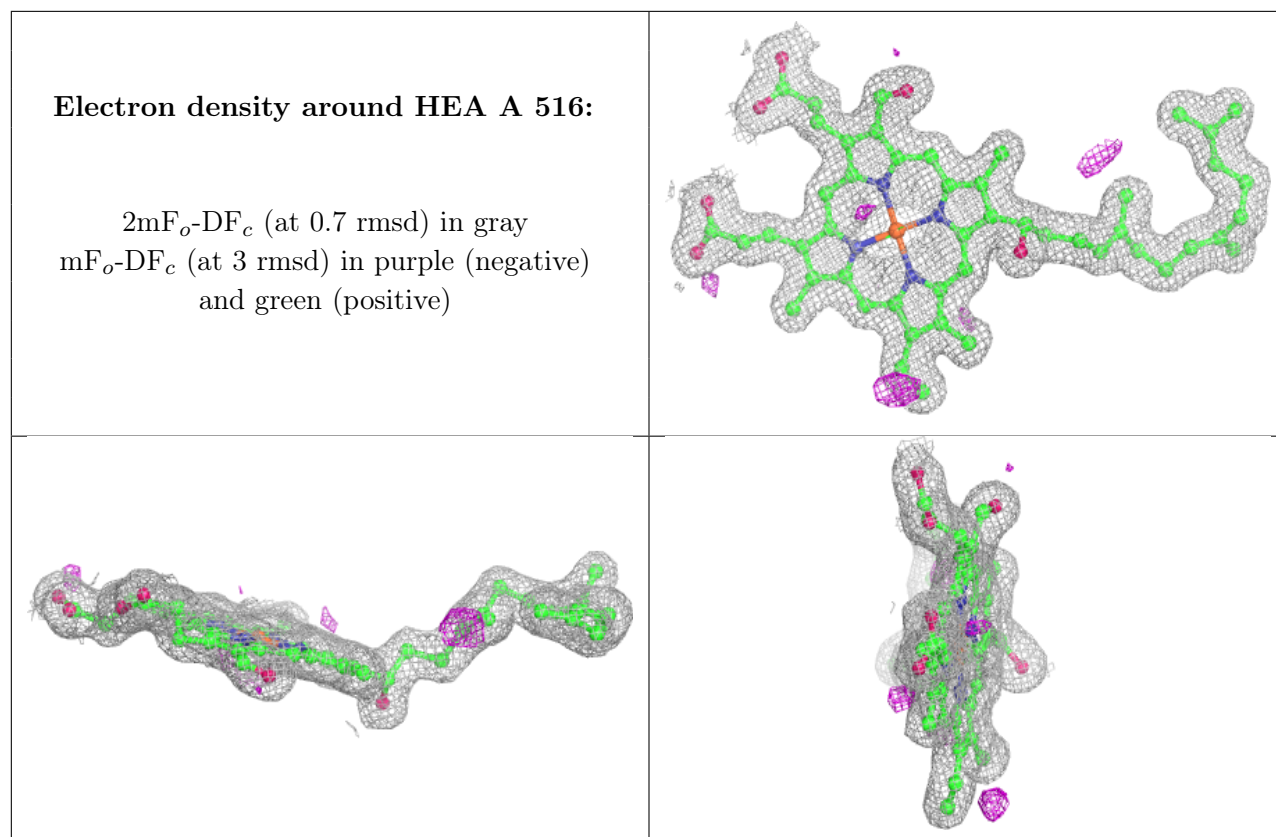
**Electron density around CHD C 525:**

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









6.5 Other polymers [i](#)

There are no such residues in this entry.