



Full wwPDB EM Validation Report ⓘ

May 26, 2024 – 04:59 AM EDT

PDB ID : 7RUC
EMDB ID : EMD-24702
Title : Metazoan pre-targeting GET complex with SGTA (cBUGGS)
Authors : Keszei, A.F.A.; Yip, M.C.J.; Shao, S.
Deposited on : 2021-08-16
Resolution : 3.60 Å (reported)

This is a Full wwPDB EM 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/EMValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

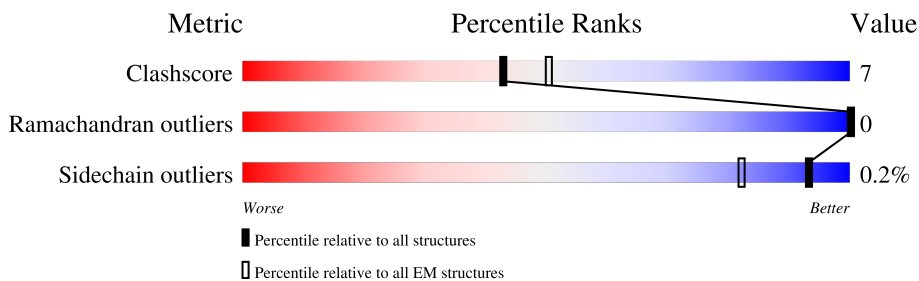
EMDB validation analysis : 0.0.1.dev92
Mogul : 1.8.5 (274361), CSD as541be (2020)
MolProbity : 4.02b-467
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.36.2

1 Overall quality at a glance

The following experimental techniques were used to determine the structure:
ELECTRON MICROSCOPY

The reported resolution of this entry is 3.60 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) | EM structures (#Entries) |
|-----------------------|--------------------------|--------------------------|
| Clashscore | 158937 | 4297 |
| Ramachandran outliers | 154571 | 4023 |
| Sidechain outliers | 154315 | 3826 |

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion $< 40\%$). The numeric value is given above the bar.

| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|------------------|
| 1 | A | 343 | |
| 1 | B | 343 | |
| 2 | C | 333 | |
| 2 | F | 333 | |
| 3 | D | 132 | |
| 3 | G | 132 | |
| 4 | H | 165 | |

2 Entry composition

There are 7 unique types of molecules in this entry. The entry contains 10766 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called ATPase GET3.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|----|---------|-------|
| | | | Total | C | N | O | S | | |
| 1 | A | 306 | 2417 | 1540 | 400 | 458 | 19 | 0 | 0 |
| 1 | B | 305 | 2412 | 1537 | 399 | 457 | 19 | 0 | 0 |

There are 6 discrepancies between the modelled and reference sequences:

| Chain | Residue | Modelled | Actual | Comment | Reference |
|-------|---------|----------|--------|---------------------|------------|
| A | -1 | GLY | - | expression tag | UNP Q6IQE5 |
| A | 0 | HIS | - | expression tag | UNP Q6IQE5 |
| A | 68 | ASN | ASP | engineered mutation | UNP Q6IQE5 |
| B | -1 | GLY | - | expression tag | UNP Q6IQE5 |
| B | 0 | HIS | - | expression tag | UNP Q6IQE5 |
| B | 68 | ASN | ASP | engineered mutation | UNP Q6IQE5 |

- Molecule 2 is a protein called Golgi to ER traffic protein 4 homolog.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|----|---------|-------|
| | | | Total | C | N | O | S | | |
| 2 | C | 271 | 2175 | 1390 | 372 | 401 | 12 | 0 | 0 |
| 2 | F | 271 | 2175 | 1390 | 372 | 401 | 12 | 0 | 0 |

There are 12 discrepancies between the modelled and reference sequences:

| Chain | Residue | Modelled | Actual | Comment | Reference |
|-------|---------|----------|--------|----------------|------------|
| C | -5 | GLY | - | expression tag | UNP Q7L5D6 |
| C | -4 | PRO | - | expression tag | UNP Q7L5D6 |
| C | -3 | LEU | - | expression tag | UNP Q7L5D6 |
| C | -2 | GLY | - | expression tag | UNP Q7L5D6 |
| C | -1 | SER | - | expression tag | UNP Q7L5D6 |
| C | 0 | THR | - | expression tag | UNP Q7L5D6 |
| F | -5 | GLY | - | expression tag | UNP Q7L5D6 |

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| Chain | Residue | Modelled | Actual | Comment | Reference |
|-------|---------|----------|--------|----------------|------------|
| F | -4 | PRO | - | expression tag | UNP Q7L5D6 |
| F | -3 | LEU | - | expression tag | UNP Q7L5D6 |
| F | -2 | GLY | - | expression tag | UNP Q7L5D6 |
| F | -1 | SER | - | expression tag | UNP Q7L5D6 |
| F | 0 | THR | - | expression tag | UNP Q7L5D6 |

- Molecule 3 is a protein called Large proline-rich protein BAG6.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 3 | D | 43 | 340 | 220 | 59 | 60 | 1 | 0 | 0 |
| 3 | G | 100 | 790 | 493 | 146 | 150 | 1 | 0 | 0 |

There are 6 discrepancies between the modelled and reference sequences:

| Chain | Residue | Modelled | Actual | Comment | Reference |
|-------|---------|----------|--------|----------------|------------|
| D | 1001 | GLY | - | expression tag | UNP P46379 |
| D | 1002 | PRO | - | expression tag | UNP P46379 |
| D | 1003 | GLY | - | expression tag | UNP P46379 |
| G | 1001 | GLY | - | expression tag | UNP P46379 |
| G | 1002 | PRO | - | expression tag | UNP P46379 |
| G | 1003 | GLY | - | expression tag | UNP P46379 |

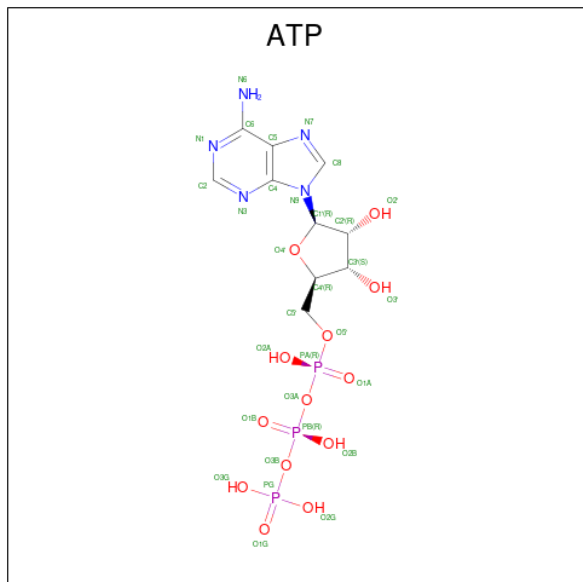
- Molecule 4 is a protein called Ubiquitin-like protein 4A.

| Mol | Chain | Residues | Atoms | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---------|-------|
| | | | Total | C | N | O | | |
| 4 | H | 48 | 392 | 245 | 74 | 73 | 0 | 0 |

There are 8 discrepancies between the modelled and reference sequences:

| Chain | Residue | Modelled | Actual | Comment | Reference |
|-------|---------|----------|--------|----------------|------------|
| H | 158 | GLY | - | expression tag | UNP P11441 |
| H | 159 | SER | - | expression tag | UNP P11441 |
| H | 160 | GLU | - | expression tag | UNP P11441 |
| H | 161 | ASN | - | expression tag | UNP P11441 |
| H | 162 | LEU | - | expression tag | UNP P11441 |
| H | 163 | TYR | - | expression tag | UNP P11441 |
| H | 164 | PHE | - | expression tag | UNP P11441 |
| H | 165 | GLN | - | expression tag | UNP P11441 |

- Molecule 5 is ADENOSINE-5'-TRIPHOSPHATE (three-letter code: ATP) (formula: $C_{10}H_{16}N_5O_{13}P_3$).



| Mol | Chain | Residues | Atoms | | | | | AltConf |
|-----|-------|----------|-------|----|---|----|---|---------|
| | | | Total | C | N | O | P | |
| 5 | A | 1 | 31 | 10 | 5 | 13 | 3 | 0 |
| 5 | B | 1 | 31 | 10 | 5 | 13 | 3 | 0 |

- Molecule 6 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

| Mol | Chain | Residues | Atoms | | AltConf |
|-----|-------|----------|-------|----|---------|
| | | | Total | Mg | |
| 6 | A | 1 | 1 | 1 | 0 |
| 6 | B | 1 | 1 | 1 | 0 |


- Molecule 7 is ZINC ION (three-letter code: ZN) (formula: Zn).

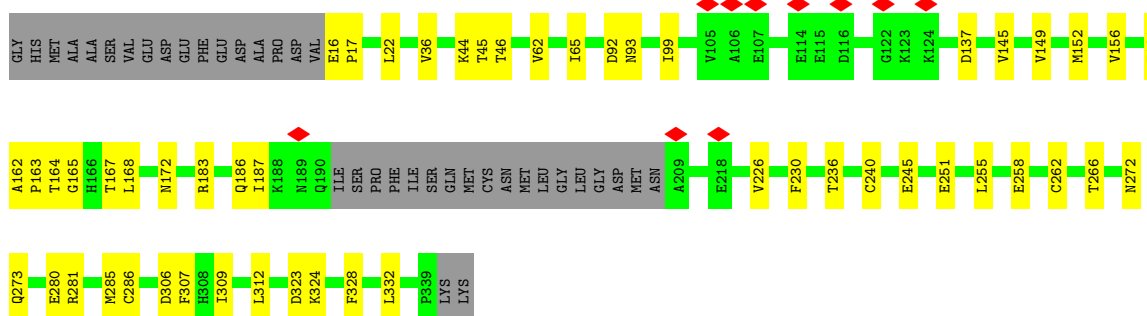
| Mol | Chain | Residues | Atoms | | AltConf |
|-----|-------|----------|-------|----|---------|
| | | | Total | Zn | |
| 7 | B | 1 | 1 | 1 | 0 |

3 Residue-property plots [i](#)


These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

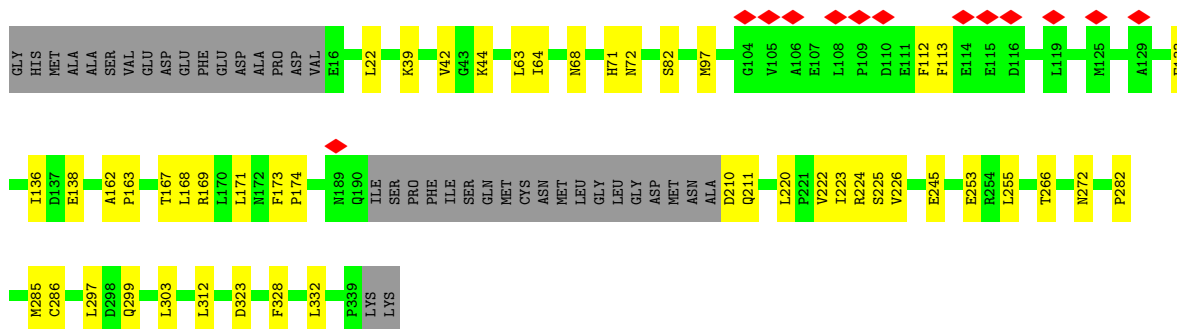
- Molecule 1: ATPase GET3

Chain A: 



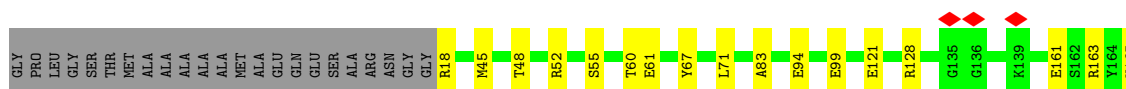
- Molecule 1: ATPase GET3

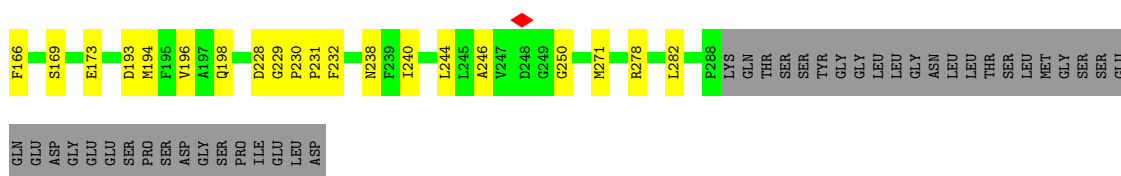
Chain B: 



- Molecule 2: Golgi to ER traffic protein 4 homolog

Chain C: 





GLN
GLU
ASP
GLY
GLU
GLU
GLU
SER
PRD
ALA
SER
ASP
GLY
SER
PRD
ILE
LEU
LEU
ASP

- Molecule 2: Golgi to ER traffic protein 4 homolog



GLY
PRD
LEU
GLY
SER
THR
THR
MET
ALA
ALA
ALA
ALA
ALA
MET
ILE
GLN
GLU
GLU
SER
SER
ALA
ALA
ARG
ASN
GLY
GLY
R18
Q24
L30
Q44
T48
E61
Y67
L71
L72
S75
M80
A83
L90
A101
D102
E103
L104
L105
E106
N107
E121
F125
V126

L130
G136
S137
G138
K139
L140
L145
H146
Q147
L151
E161
H165
S169
A170
D171
G172
A176
D193
M194
G229
P230
P231
F232
I240
W241
L244
L245
F255
R268
D269
P270
M271
Y272
N273
L276
D277
R278
L282
P288
LYS
GLN
THR
SER

SER
TYR
GLY
GLY
LEU
LEU
LEU
GLY
ASN
LEU
LEU
THR
SER
LEU
MET
SER
SER
GLN
SER
GLU
GLN
GLU
ASP
GLY
GLY
GLU
SER
PRO
ILE
GLU
LEU
ASP

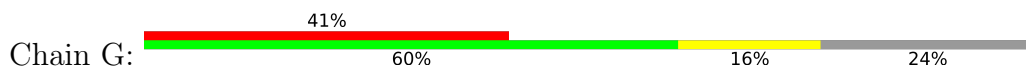
- Molecule 3: Large proline-rich protein BAG6



GLY
PRD
SER
SER
ALA
GLU
THR
E1008
A1013
E1017
P1020
Q1024
D1025
R1030
K1031
V1032
K1033
P1034
Q1035
G1045
M1046
P1047
A1048
K1049
R1050
ARG
LYS
THR
MET
GLN
SER
PRD
GLY
GLU
GLY
GLY
PRO
GLN
PHE
ARG
ASN
ALA
GLN
ARG
ALA
VAL
SER
SER
ALA
ALA
LYS
ALA
ALA
GLY
ARG
PRO
LEU

THR
SER
PRD
GLU
SER
LEU
SER
SER
ASP
LEU
GLU
ALA
PRD
GLU
VAL
GLN
GLU
SER
TYR
ARG
GLN
GLN
SER
ARG
ASP
ILE
LYS
ARG
LEU
GLN
GLY
GLY
GLY
GLY
ASP
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GLN
GLN
PHE
ASN
ALA
GLN
ARG
ALA
ALA
PHE
ALA
ASP
ASP
PRO

- Molecule 3: Large proline-rich protein BAG6



GLY
PRO
GLY
SER
VAL
GLU
THR
E1008
A1011
I1021
Q1027
R1030
K1031
Q1035
L1043
R1051
K1052
THR
MET
GLN
GLY
GLY
GLY
PRO
Q1060
L1061
L1062
L1063
S1064
E1065
A1066
V1067
S1068
R1069
A1070
A1071
K1072
A1073
G1075
A1076
R1077
P1078
L1079
T1080
S1081
P1082
E1083
S1084
L1085
S1086
R1087
D1088

L1089
E1090
A1091
P1092
E1093
V1094
Q1095
E1096
S1097
Y1098
R1099
Q1100
Q1101
L1102
R1103
S1104
D1105
I1106
Q1107
K1108
R1109
L1110
Q1111
E1112
D1113
P1114
ASN
TYR
SER
PRO
GLN
PHE
ARG
ASN
ALA
GLN
ARG
ALA
PHE
GLY
LYS
ALA
ALA
ASP
PRO

- Molecule 4: Ubiquitin-like protein 4A



MET
GLN
THR
THR
SER
LYS
VAL
ALA
LEU
GLN
GLY
ARG
GLU
CYS
SER
SER
GLN
VAL
VAL
GLU
ASP
GLY
GLU
SER
SER
VAL
SER
SER
THR
LEU
LYS
GLN
ALA
VAL
VAL
SER
VAL
SER
GLY
LYS
LEU
ASN

ILE
GLY
PRO
ASN
SER
LYS
LEU
ASN
VAL
VAL
LYS
PRD
LEU
GLU
VAL
VAL
LEU
LEU
GLU
GLY
ALA
GLN
ARG
GLN
VAL
PRO
PRD
P93
Q94
Y95
W96
Q97
L98
I99
S100
K101
V102
L103
A104
R105
H106
F107
S108
A109
A110
D111
A112
S113
R114
V115
L116
E117
Q118
L119
Q120

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| R121 | D122 | Y123 | E124 | R125 | S126 | L127 | S128 | R129 | L130 | T131 | L132 | D133 | D134 | I135 | E136 | R137 | L138 | A139 | S140 | ARG | PHE | LEU | HIS | PRO | GLU | VAL | THR | GLU | THR | MET | GLU | LYS | GLY | PHE | SER | LYS | GLY | SER | GLU | ASN | LEU | TYR | PHE | GLN |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|

4 Experimental information

| Property | Value | Source |
|--------------------------------------|---|-----------|
| EM reconstruction method | SINGLE PARTICLE | Depositor |
| Imposed symmetry | POINT, C1 | Depositor |
| Number of particles used | 56845 | Depositor |
| Resolution determination method | FSC 0.143 CUT-OFF | Depositor |
| CTF correction method | PHASE FLIPPING AND AMPLITUDE CORRECTION | Depositor |
| Microscope | FEI TITAN KRIOS | Depositor |
| Voltage (kV) | 300 | Depositor |
| Electron dose ($e^-/\text{\AA}^2$) | 54 | Depositor |
| Minimum defocus (nm) | Not provided | |
| Maximum defocus (nm) | Not provided | |
| Magnification | Not provided | |
| Image detector | GATAN K3 (6k x 4k) | Depositor |
| Maximum map value | 0.100 | Depositor |
| Minimum map value | -0.041 | Depositor |
| Average map value | 0.000 | Depositor |
| Map value standard deviation | 0.002 | Depositor |
| Recommended contour level | 0.01 | Depositor |
| Map size (\AA) | 300.3, 300.3, 300.3 | wwPDB |
| Map dimensions | 364, 364, 364 | wwPDB |
| Map angles ($^\circ$) | 90.0, 90.0, 90.0 | wwPDB |
| Pixel spacing (\AA) | 0.825, 0.825, 0.825 | Depositor |

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: ZN, MG, ATP

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

| Mol | Chain | Bond lengths | | Bond angles | |
|-----|-------|--------------|---------|-------------|---------|
| | | RMSZ | # Z >5 | RMSZ | # Z >5 |
| 1 | A | 0.29 | 0/2463 | 0.45 | 0/3327 |
| 1 | B | 0.29 | 0/2458 | 0.45 | 0/3320 |
| 2 | C | 0.28 | 0/2228 | 0.46 | 0/3010 |
| 2 | F | 0.28 | 0/2228 | 0.46 | 0/3010 |
| 3 | D | 0.26 | 0/352 | 0.42 | 0/483 |
| 3 | G | 0.24 | 0/806 | 0.49 | 0/1093 |
| 4 | H | 0.22 | 0/397 | 0.52 | 0/535 |
| All | All | 0.28 | 0/10932 | 0.46 | 0/14778 |

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [i](#)

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

| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 1 | A | 2417 | 0 | 2434 | 39 | 0 |
| 1 | B | 2412 | 0 | 2428 | 36 | 0 |
| 2 | C | 2175 | 0 | 2130 | 25 | 0 |
| 2 | F | 2175 | 0 | 2130 | 32 | 0 |
| 3 | D | 340 | 0 | 343 | 5 | 0 |
| 3 | G | 790 | 0 | 802 | 23 | 0 |

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| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 4 | H | 392 | 0 | 395 | 14 | 0 |
| 5 | A | 31 | 0 | 12 | 6 | 0 |
| 5 | B | 31 | 0 | 12 | 2 | 0 |
| 6 | A | 1 | 0 | 0 | 0 | 0 |
| 6 | B | 1 | 0 | 0 | 0 | 0 |
| 7 | B | 1 | 0 | 0 | 0 | 0 |
| All | All | 10766 | 0 | 10686 | 153 | 0 |

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

All (153) 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) |
|-------------------|------------------|--------------------------|-------------------|
| 3:G:1106:ILE:HD13 | 4:H:138:LEU:HD23 | 1.49 | 0.91 |
| 4:H:134:ASP:OD1 | 4:H:137:ARG:NH2 | 2.05 | 0.89 |
| 1:A:22:LEU:HD12 | 1:A:332:LEU:HD21 | 1.61 | 0.82 |
| 1:B:22:LEU:HD12 | 1:B:332:LEU:HD21 | 1.61 | 0.81 |
| 1:A:44:LYS:NZ | 5:A:401:ATP:O3G | 2.13 | 0.81 |
| 1:A:36:VAL:O | 1:A:161:THR:OG1 | 1.98 | 0.80 |
| 1:B:162:ALA:HB3 | 1:B:163:PRO:HD3 | 1.63 | 0.80 |
| 2:C:52:ARG:O | 2:C:55:SER:OG | 1.99 | 0.79 |
| 4:H:131:THR:N | 4:H:134:ASP:OD2 | 2.16 | 0.78 |
| 1:A:45:THR:OG1 | 5:A:401:ATP:O2B | 2.00 | 0.78 |
| 5:A:401:ATP:O3' | 1:B:245:GLU:OE1 | 1.99 | 0.77 |
| 3:G:1061:LEU:HD11 | 4:H:138:LEU:HD12 | 1.68 | 0.76 |
| 1:A:281:ARG:NH2 | 1:B:282:PRO:O | 2.19 | 0.75 |
| 2:C:246:ALA:O | 2:C:250:GLY:N | 2.18 | 0.75 |
| 1:A:149:VAL:HG21 | 1:A:226:VAL:HG12 | 1.69 | 0.74 |
| 2:C:99:GLU:N | 2:C:99:GLU:OE1 | 2.22 | 0.71 |
| 3:D:1017:GLU:N | 3:D:1017:GLU:OE1 | 2.23 | 0.70 |
| 2:C:198:GLN:NE2 | 3:D:1046:MET:SD | 2.65 | 0.69 |
| 4:H:126:SER:OG | 4:H:129:ARG:NH2 | 2.26 | 0.67 |
| 1:B:222:VAL:O | 1:B:225:SER:OG | 2.12 | 0.67 |
| 3:G:1089:LEU:HD12 | 3:G:1089:LEU:O | 1.95 | 0.67 |
| 1:B:68:ASN:O | 1:B:71:HIS:ND1 | 2.28 | 0.66 |
| 1:A:62:VAL:HG12 | 1:A:156:VAL:HG22 | 1.78 | 0.65 |
| 2:C:161:GLU:N | 2:C:161:GLU:OE1 | 2.30 | 0.65 |
| 2:C:193:ASP:OD1 | 2:C:194:MET:N | 2.30 | 0.65 |
| 1:A:251:GLU:OE2 | 1:B:72:ASN:ND2 | 2.31 | 0.64 |
| 1:A:306:ASP:OD1 | 2:F:18:ARG:N | 2.31 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 1:B:63:LEU:HD11 | 1:B:97:MET:HG2 | 1.79 | 0.63 |
| 1:B:44:LYS:N | 5:B:402:ATP:O1B | 2.32 | 0.63 |
| 1:A:168:LEU:HD13 | 1:A:258:GLU:HG2 | 1.82 | 0.61 |
| 3:G:1106:ILE:CD1 | 4:H:138:LEU:HD23 | 2.27 | 0.61 |
| 2:F:105:LEU:HD12 | 2:F:145:LEU:HB2 | 1.83 | 0.60 |
| 2:F:255:PHE:CE1 | 2:F:276:LEU:HD12 | 2.36 | 0.59 |
| 3:G:1008:GLU:OE1 | 3:G:1011:ALA:N | 2.34 | 0.59 |
| 3:G:1061:LEU:HD21 | 4:H:138:LEU:HD11 | 1.84 | 0.59 |
| 1:A:312:LEU:HD23 | 1:A:328:PHE:CZ | 2.38 | 0.59 |
| 2:C:60:THR:OG1 | 2:C:61:GLU:OE1 | 2.21 | 0.58 |
| 2:F:102:ASP:OD1 | 2:F:103:GLU:N | 2.37 | 0.57 |
| 1:A:183:ARG:NE | 1:A:186:GLN:OE1 | 2.37 | 0.56 |
| 2:F:72:LEU:O | 2:F:75:SER:OG | 2.21 | 0.56 |
| 1:A:172:ASN:ND2 | 1:A:262:CYS:SG | 2.78 | 0.56 |
| 2:C:166:PHE:O | 2:C:169:SER:OG | 2.17 | 0.56 |
| 2:C:163:ARG:NH2 | 3:D:1045:GLY:O | 2.39 | 0.56 |
| 2:F:161:GLU:N | 2:F:161:GLU:OE1 | 2.37 | 0.56 |
| 4:H:108:SER:OG | 4:H:111:ASP:OD2 | 2.22 | 0.56 |
| 2:F:147:GLN:HE22 | 2:F:151:LEU:HD11 | 1.71 | 0.56 |
| 3:G:1061:LEU:HD11 | 4:H:138:LEU:CD1 | 2.35 | 0.55 |
| 3:G:1106:ILE:HG21 | 4:H:138:LEU:HD23 | 1.88 | 0.55 |
| 1:B:68:ASN:CG | 1:B:162:ALA:HB2 | 2.27 | 0.54 |
| 1:B:223:ILE:O | 1:B:226:VAL:HG12 | 2.07 | 0.53 |
| 1:A:280:GLU:N | 1:A:280:GLU:OE1 | 2.41 | 0.53 |
| 5:A:401:ATP:PG | 1:B:39:LYS:HZ1 | 2.32 | 0.53 |
| 1:A:187:ILE:O | 1:A:187:ILE:HG22 | 2.08 | 0.53 |
| 1:A:266:THR:HG23 | 1:A:266:THR:O | 2.09 | 0.53 |
| 1:B:285:MET:SD | 1:B:286:CYS:N | 2.82 | 0.52 |
| 1:A:323:ASP:OD1 | 1:A:324:LYS:N | 2.41 | 0.52 |
| 1:A:92:ASP:OD1 | 1:A:93:ASN:N | 2.43 | 0.52 |
| 1:A:145:VAL:O | 1:A:149:VAL:HG23 | 2.10 | 0.52 |
| 1:A:152:MET:SD | 1:A:152:MET:O | 2.68 | 0.51 |
| 1:B:297:LEU:HD23 | 1:B:297:LEU:O | 2.10 | 0.51 |
| 2:C:94:GLU:OE2 | 2:C:128:ARG:NH2 | 2.40 | 0.51 |
| 3:G:1110:LEU:HD23 | 3:G:1110:LEU:O | 2.10 | 0.51 |
| 2:C:193:ASP:O | 2:C:196:VAL:HG12 | 2.11 | 0.51 |
| 2:C:228:ASP:OD2 | 2:C:229:GLY:N | 2.44 | 0.51 |
| 3:G:1027:GLN:OE1 | 3:G:1030:ARG:NH2 | 2.44 | 0.51 |
| 3:G:1043:LEU:HD23 | 3:G:1051:ARG:NH2 | 2.26 | 0.51 |
| 3:G:1061:LEU:HD22 | 3:G:1099:ARG:HB2 | 1.92 | 0.50 |
| 2:F:165:HIS:O | 2:F:169:SER:N | 2.44 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:B:162:ALA:HB3 | 1:B:163:PRO:CD | 2.40 | 0.49 |
| 1:A:44:LYS:N | 5:A:401:ATP:O1B | 2.42 | 0.49 |
| 1:B:323:ASP:N | 1:B:323:ASP:OD1 | 2.44 | 0.49 |
| 1:A:162:ALA:HB1 | 1:A:163:PRO:HD2 | 1.95 | 0.49 |
| 2:F:44:GLN:O | 2:F:48:THR:HG23 | 2.13 | 0.49 |
| 2:F:278:ARG:O | 2:F:282:LEU:HD23 | 2.13 | 0.49 |
| 1:B:42:VAL:O | 1:B:272:ASN:ND2 | 2.44 | 0.49 |
| 1:B:253:GLU:HG2 | 2:C:48:THR:HG22 | 1.93 | 0.49 |
| 1:A:22:LEU:CD1 | 1:A:332:LEU:HD21 | 2.37 | 0.49 |
| 1:B:220:LEU:HD21 | 1:B:224:ARG:HE | 1.79 | 0.48 |
| 1:A:245:GLU:OE1 | 5:B:402:ATP:O3' | 2.22 | 0.48 |
| 2:F:171:ASP:OD1 | 2:F:172:GLY:N | 2.46 | 0.48 |
| 2:F:24:GLN:OE1 | 2:F:24:GLN:N | 2.44 | 0.48 |
| 2:F:126:VAL:O | 2:F:130:LEU:HD23 | 2.13 | 0.48 |
| 1:A:272:ASN:OD1 | 1:A:273:GLN:N | 2.46 | 0.47 |
| 2:F:193:ASP:OD1 | 2:F:194:MET:N | 2.47 | 0.47 |
| 1:B:63:LEU:HD12 | 1:B:64:ILE:H | 1.80 | 0.47 |
| 1:A:285:MET:SD | 1:A:286:CYS:N | 2.87 | 0.47 |
| 2:C:173:GLU:OE1 | 2:C:173:GLU:N | 2.42 | 0.47 |
| 1:A:137:ASP:OD1 | 1:B:169:ARG:NH2 | 2.47 | 0.47 |
| 2:F:30:LEU:C | 2:F:30:LEU:HD23 | 2.36 | 0.47 |
| 2:F:83:ALA:HB1 | 2:F:121:GLU:HG2 | 1.97 | 0.46 |
| 3:G:1021:ILE:HD12 | 3:G:1021:ILE:H | 1.80 | 0.46 |
| 1:A:162:ALA:O | 1:A:167:THR:OG1 | 2.33 | 0.46 |
| 1:B:44:LYS:HE3 | 1:B:162:ALA:O | 2.15 | 0.46 |
| 1:B:332:LEU:O | 1:B:332:LEU:HD23 | 2.15 | 0.46 |
| 2:C:240:ILE:O | 2:C:244:LEU:HD13 | 2.16 | 0.46 |
| 3:G:1061:LEU:HD21 | 4:H:138:LEU:CD1 | 2.46 | 0.46 |
| 3:G:1087:ARG:NH2 | 3:G:1088:ASP:OD1 | 2.45 | 0.46 |
| 2:F:103:GLU:OE2 | 2:F:107:ASN:ND2 | 2.46 | 0.46 |
| 1:B:133:PHE:O | 1:B:136:ILE:HG22 | 2.16 | 0.46 |
| 2:C:61:GLU:OE1 | 2:C:61:GLU:N | 2.45 | 0.46 |
| 3:G:1063:LEU:O | 3:G:1067:VAL:HG22 | 2.17 | 0.45 |
| 1:B:312:LEU:HD23 | 1:B:328:PHE:CZ | 2.52 | 0.45 |
| 2:C:278:ARG:O | 2:C:282:LEU:HD23 | 2.17 | 0.44 |
| 2:F:90:LEU:HD11 | 2:F:125:PHE:CD1 | 2.52 | 0.44 |
| 3:G:1104:SER:O | 3:G:1108:LYS:HG2 | 2.16 | 0.44 |
| 2:C:271:MET:HG3 | 3:D:1046:MET:HG2 | 1.98 | 0.44 |
| 2:F:147:GLN:NE2 | 2:F:151:LEU:HD11 | 2.31 | 0.44 |
| 2:F:268:ARG:NH2 | 3:G:1035:GLN:OE1 | 2.48 | 0.43 |
| 1:B:299:GLN:NE2 | 2:C:45:MET:SD | 2.91 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 1:B:266:THR:HG23 | 1:B:266:THR:O | 2.18 | 0.43 |
| 2:F:67:TYR:CZ | 2:F:71:LEU:HD11 | 2.54 | 0.43 |
| 2:F:240:ILE:O | 2:F:244:LEU:HD13 | 2.18 | 0.43 |
| 3:G:1063:LEU:HG | 3:G:1098:TYR:CD1 | 2.54 | 0.43 |
| 1:B:303:LEU:O | 2:C:52:ARG:NH2 | 2.51 | 0.43 |
| 2:C:165:HIS:O | 2:C:169:SER:N | 2.52 | 0.43 |
| 1:A:149:VAL:HG21 | 1:A:226:VAL:CG1 | 2.44 | 0.43 |
| 2:C:230:PRO:N | 2:C:231:PRO:HD2 | 2.33 | 0.43 |
| 2:F:255:PHE:CZ | 2:F:276:LEU:HD12 | 2.54 | 0.43 |
| 2:F:270:PRO:O | 2:F:273:ASN:ND2 | 2.47 | 0.43 |
| 1:A:307:PHE:O | 1:A:309:ILE:HD12 | 2.19 | 0.42 |
| 1:A:46:THR:HG23 | 5:A:401:ATP:O1A | 2.18 | 0.42 |
| 1:B:167:THR:O | 1:B:171:LEU:HD23 | 2.19 | 0.42 |
| 2:C:232:PHE:O | 2:C:238:ASN:ND2 | 2.45 | 0.42 |
| 3:G:1102:LEU:HD11 | 4:H:123:TYR:CE1 | 2.54 | 0.42 |
| 3:D:1020:PRO:O | 3:D:1024:GLN:OE1 | 2.37 | 0.42 |
| 1:A:240:CYS:SG | 1:A:255:LEU:HD22 | 2.58 | 0.42 |
| 2:F:172:GLY:O | 2:F:176:ALA:N | 2.44 | 0.42 |
| 1:B:138:GLU:HB3 | 1:B:173:PHE:CE2 | 2.55 | 0.42 |
| 1:B:173:PHE:O | 1:B:174:PRO:C | 2.57 | 0.42 |
| 1:A:164:THR:HG23 | 1:A:165:GLY:N | 2.35 | 0.42 |
| 1:B:22:LEU:CD1 | 1:B:332:LEU:HD21 | 2.43 | 0.42 |
| 3:G:1061:LEU:HD22 | 3:G:1099:ARG:CB | 2.50 | 0.42 |
| 1:A:332:LEU:O | 1:A:332:LEU:HD23 | 2.20 | 0.41 |
| 4:H:111:ASP:O | 4:H:115:VAL:HG23 | 2.19 | 0.41 |
| 2:F:230:PRO:N | 2:F:231:PRO:CD | 2.82 | 0.41 |
| 2:F:241:TRP:CD1 | 2:F:245:LEU:HD23 | 2.56 | 0.41 |
| 3:G:1067:VAL:HA | 4:H:119:LEU:HD21 | 2.03 | 0.41 |
| 2:C:67:TYR:CE2 | 2:C:71:LEU:HD11 | 2.56 | 0.41 |
| 1:A:162:ALA:HB1 | 1:A:163:PRO:CD | 2.49 | 0.41 |
| 2:F:272:TYR:O | 2:F:276:LEU:HD23 | 2.20 | 0.41 |
| 1:A:230:PHE:HA | 1:A:236:THR:HG21 | 2.01 | 0.41 |
| 1:B:112:PHE:CD2 | 1:B:113:PHE:CD2 | 3.09 | 0.41 |
| 2:F:61:GLU:OE1 | 2:F:61:GLU:N | 2.48 | 0.41 |
| 2:F:229:GLY:O | 2:F:232:PHE:CE1 | 2.74 | 0.41 |
| 1:A:16:GLU:HB3 | 1:A:17:PRO:HD3 | 2.02 | 0.41 |
| 2:C:83:ALA:HB1 | 2:C:121:GLU:HG2 | 2.02 | 0.41 |
| 1:B:82:SER:OG | 2:F:80:ASN:OD1 | 2.38 | 0.40 |
| 1:A:65:ILE:HG21 | 1:A:99:ILE:HD11 | 2.03 | 0.40 |
| 1:A:65:ILE:CG2 | 1:A:99:ILE:HD11 | 2.51 | 0.40 |
| 1:B:210:ASP:OD1 | 1:B:211:GLN:N | 2.48 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 2:F:101:ALA:O | 2:F:105:LEU:HD23 | 2.21 | 0.40 |
| 3:G:1063:LEU:HD21 | 3:G:1098:TYR:CD1 | 2.57 | 0.40 |
| 1:B:168:LEU:HD21 | 1:B:255:LEU:HD12 | 2.04 | 0.40 |

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles | |
|-----|-------|-----------------|------------|---------|----------|-------------|-----|
| 1 | A | 302/343 (88%) | 287 (95%) | 15 (5%) | 0 | 100 | 100 |
| 1 | B | 301/343 (88%) | 279 (93%) | 22 (7%) | 0 | 100 | 100 |
| 2 | C | 269/333 (81%) | 260 (97%) | 9 (3%) | 0 | 100 | 100 |
| 2 | F | 269/333 (81%) | 262 (97%) | 7 (3%) | 0 | 100 | 100 |
| 3 | D | 41/132 (31%) | 38 (93%) | 3 (7%) | 0 | 100 | 100 |
| 3 | G | 96/132 (73%) | 92 (96%) | 4 (4%) | 0 | 100 | 100 |
| 4 | H | 46/165 (28%) | 45 (98%) | 1 (2%) | 0 | 100 | 100 |
| All | All | 1324/1781 (74%) | 1263 (95%) | 61 (5%) | 0 | 100 | 100 |

There are no Ramachandran outliers to report.

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 PDB entries followed by that with respect to all EM entries.

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

| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles | |
|-----|-------|-----------------|-------------|----------|-------------|-----|
| 1 | A | 274/305 (90%) | 274 (100%) | 0 | 100 | 100 |
| 1 | B | 274/305 (90%) | 274 (100%) | 0 | 100 | 100 |
| 2 | C | 236/281 (84%) | 235 (100%) | 1 (0%) | 91 | 97 |
| 2 | F | 236/281 (84%) | 236 (100%) | 0 | 100 | 100 |
| 3 | D | 37/110 (34%) | 36 (97%) | 1 (3%) | 44 | 73 |
| 3 | G | 86/110 (78%) | 86 (100%) | 0 | 100 | 100 |
| 4 | H | 42/148 (28%) | 42 (100%) | 0 | 100 | 100 |
| All | All | 1185/1540 (77%) | 1183 (100%) | 2 (0%) | 93 | 98 |

All (2) residues with a non-rotameric sidechain are listed below:

| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 2 | C | 18 | ARG |
| 3 | D | 1031 | LYS |

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. There are no such sidechains identified.

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 5 ligands modelled in this entry, 3 are monoatomic - leaving 2 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 |
| 5 | ATP | A | 401 | 6 | 26,33,33 | 0.67 | 0 | 31,52,52 | 1.11 | 2 (6%) |
| 5 | ATP | B | 402 | 6 | 26,33,33 | 0.67 | 0 | 31,52,52 | 1.10 | 3 (9%) |

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 |
|-----|------|-------|-----|------|---------|------------|---------|
| 5 | ATP | A | 401 | 6 | - | 0/18/38/38 | 0/3/3/3 |
| 5 | ATP | B | 402 | 6 | - | 4/18/38/38 | 0/3/3/3 |

There are no bond length outliers.

All (5) bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed($^{\circ}$) | Ideal($^{\circ}$) |
|-----|-------|-----|------|-------------|-------|------------------------|---------------------|
| 5 | A | 401 | ATP | C5-C6-N6 | 2.33 | 123.89 | 120.35 |
| 5 | B | 402 | ATP | C5-C6-N6 | 2.26 | 123.78 | 120.35 |
| 5 | A | 401 | ATP | O3'-C3'-C2' | -2.08 | 105.11 | 111.82 |
| 5 | B | 402 | ATP | O4'-C1'-C2' | -2.05 | 103.93 | 106.93 |
| 5 | B | 402 | ATP | O3'-C3'-C2' | -2.02 | 105.29 | 111.82 |

There are no chirality outliers.

All (4) torsion outliers are listed below:

| Mol | Chain | Res | Type | Atoms |
|-----|-------|-----|------|---------------|
| 5 | B | 402 | ATP | PB-O3B-PG-O2G |
| 5 | B | 402 | ATP | PB-O3B-PG-O1G |
| 5 | B | 402 | ATP | PA-O3A-PB-O2B |
| 5 | B | 402 | ATP | PA-O3A-PB-O1B |

There are no ring outliers.

2 monomers are involved in 8 short contacts:

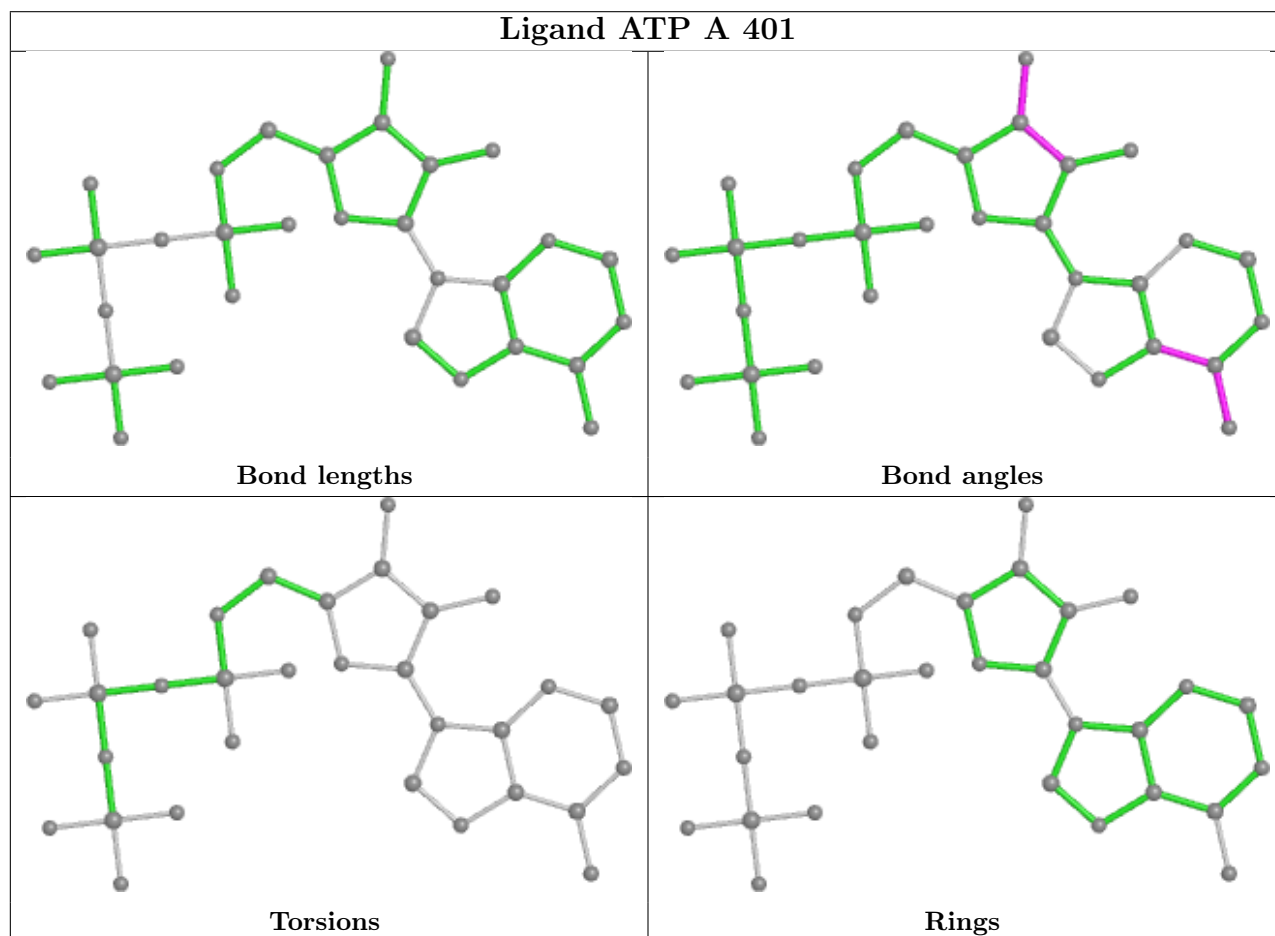
| Mol | Chain | Res | Type | Clashes | Symm-Clashes |
|-----|-------|-----|------|---------|--------------|
| 5 | A | 401 | ATP | 6 | 0 |

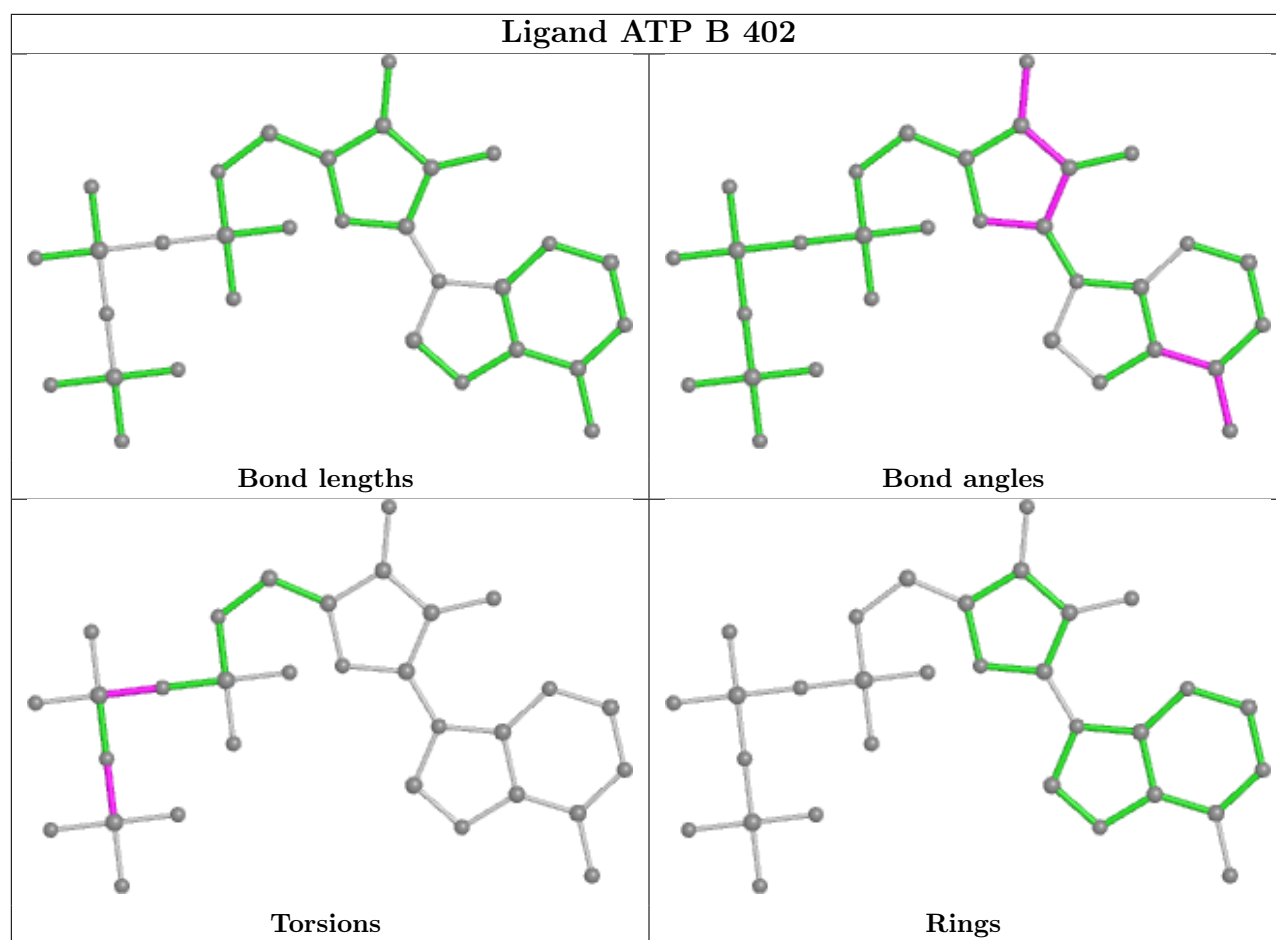
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| Mol | Chain | Res | Type | Clashes | Symm-Clashes |
|-----|-------|-----|------|---------|--------------|
| 5 | B | 402 | ATP | 2 | 0 |

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.

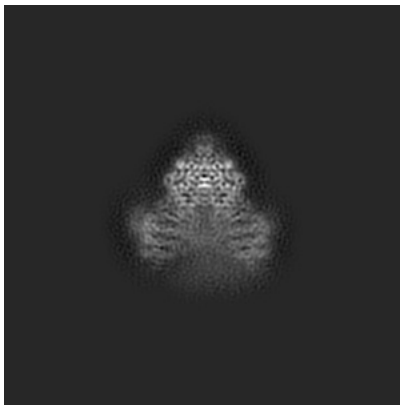
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-24702. These allow visual inspection of the internal detail of the map and identification of artifacts.

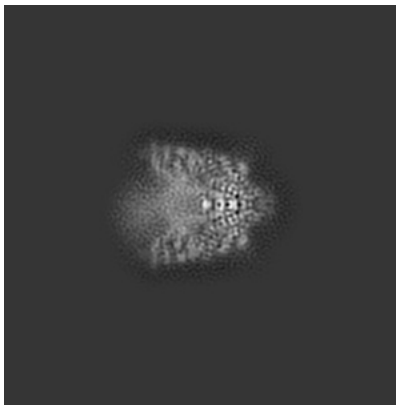
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

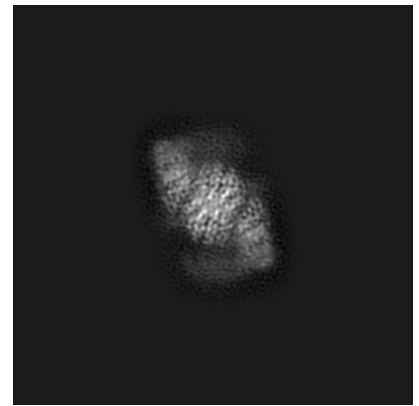
6.1.1 Primary map



X

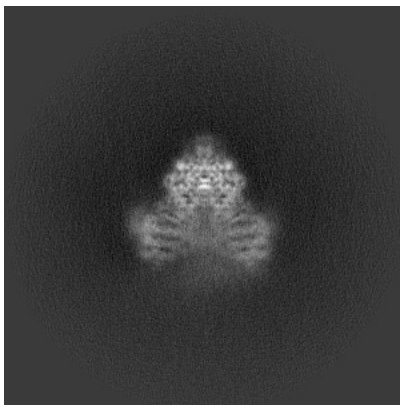


Y

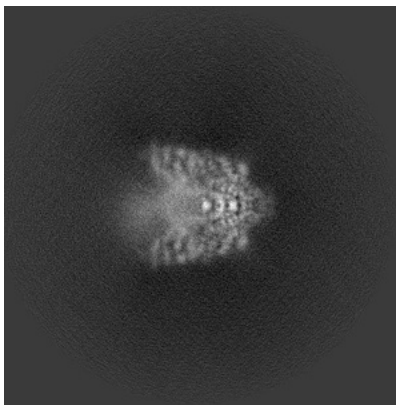


Z

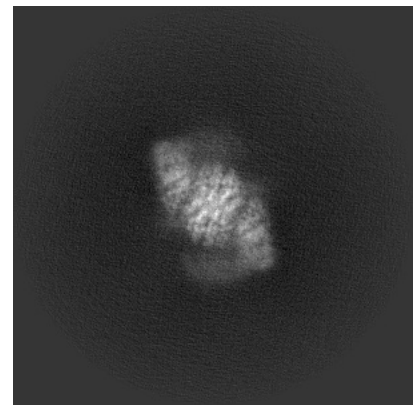
6.1.2 Raw map



X



Y



Z

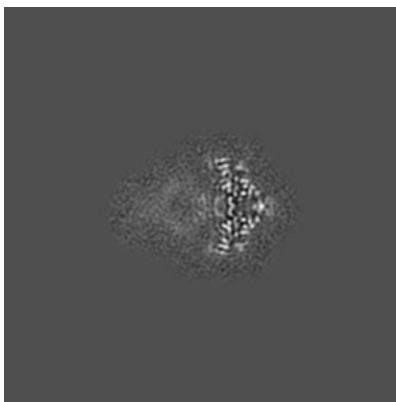
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

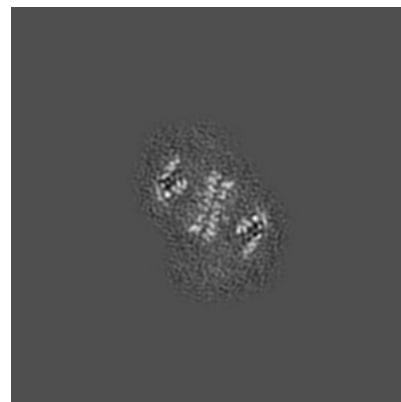
6.2.1 Primary map



X Index: 182

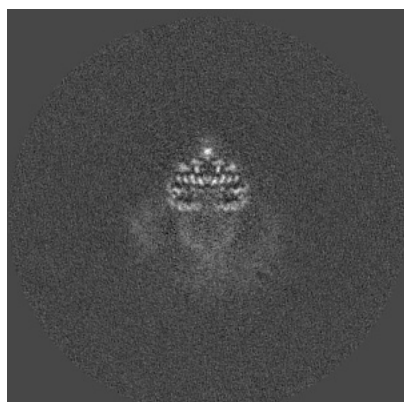


Y Index: 182

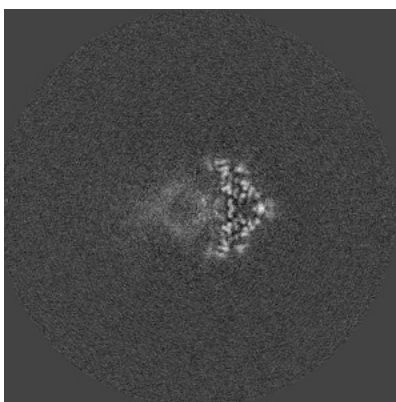


Z Index: 182

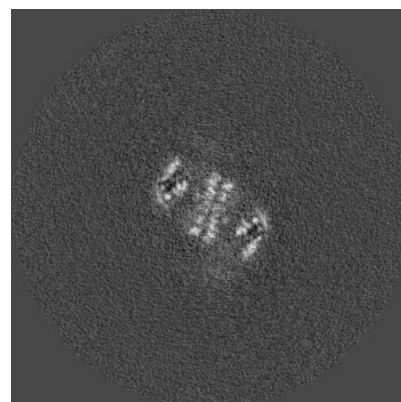
6.2.2 Raw map



X Index: 182



Y Index: 182

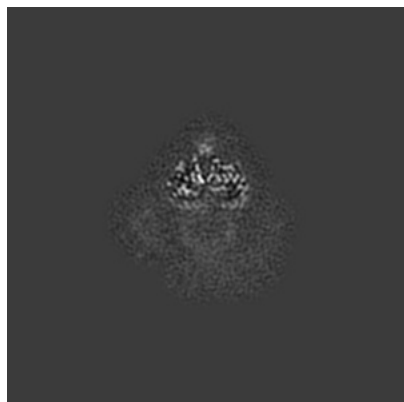


Z Index: 182

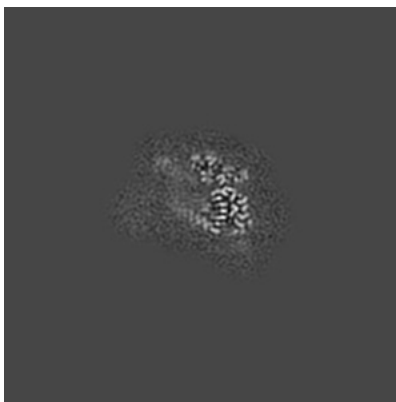
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

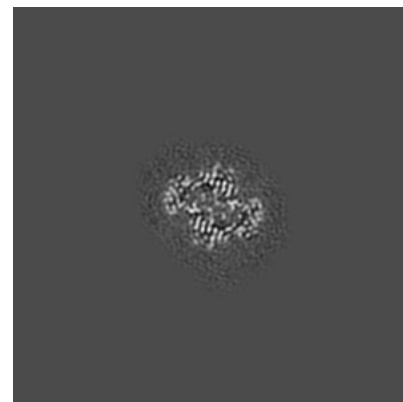
6.3.1 Primary map



X Index: 184



Y Index: 161

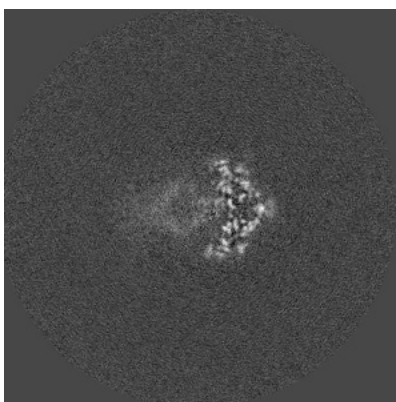


Z Index: 199

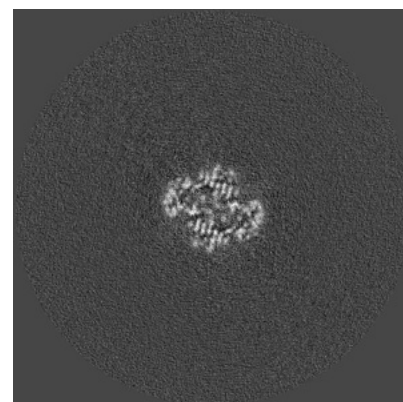
6.3.2 Raw map



X Index: 180



Y Index: 183

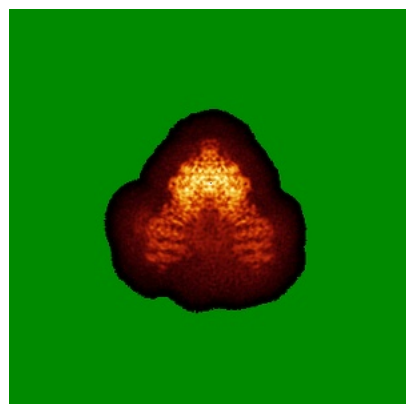


Z Index: 199

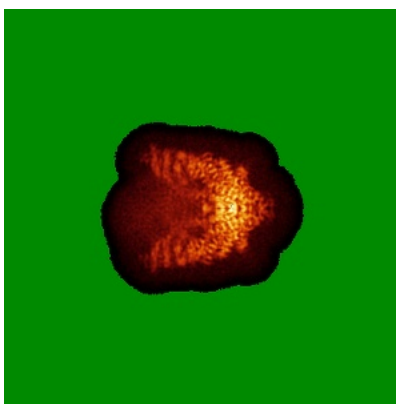
The images above show the largest variance slices of the map in three orthogonal directions.

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

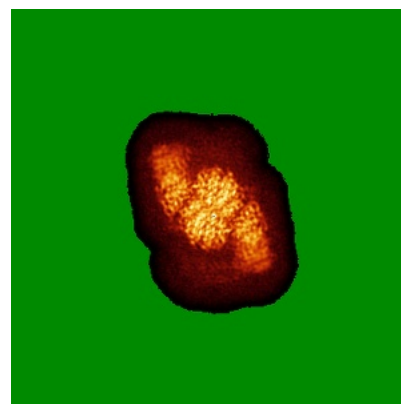
6.4.1 Primary map



X

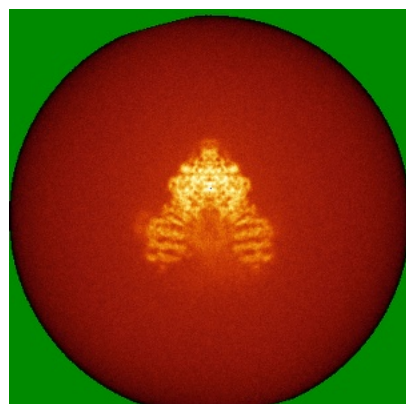


Y

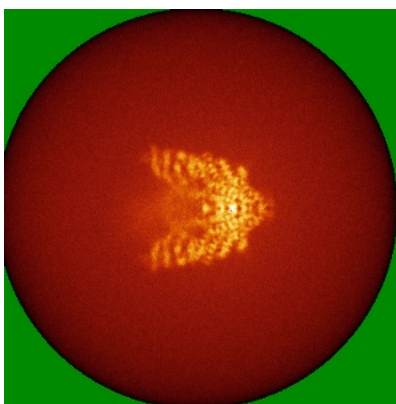


Z

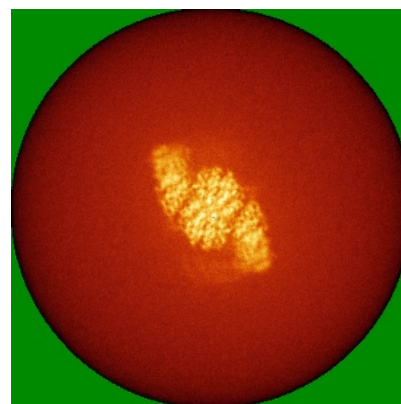
6.4.2 Raw map



X



Y

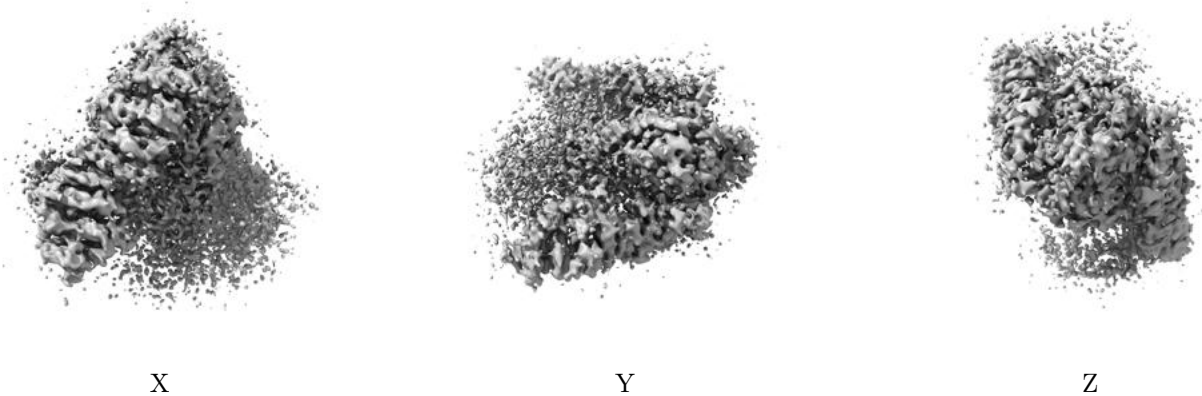


Z

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

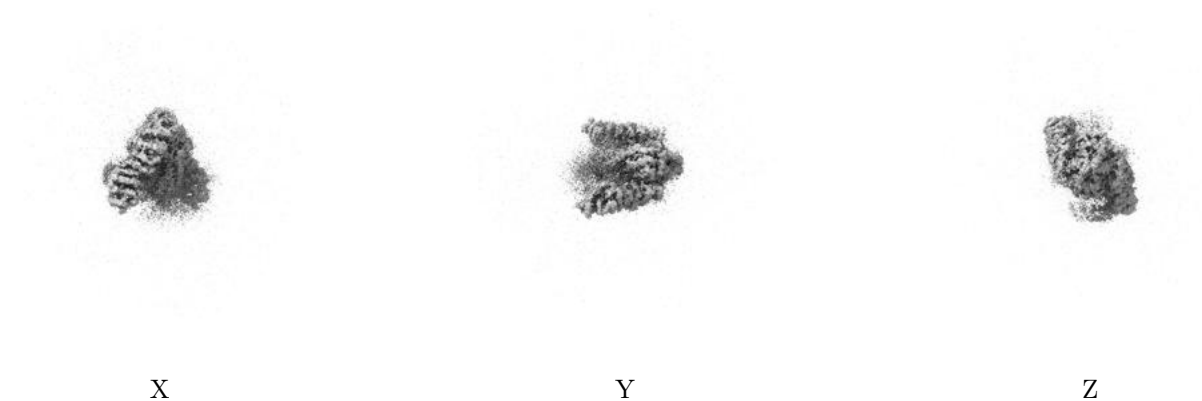
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.01. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



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

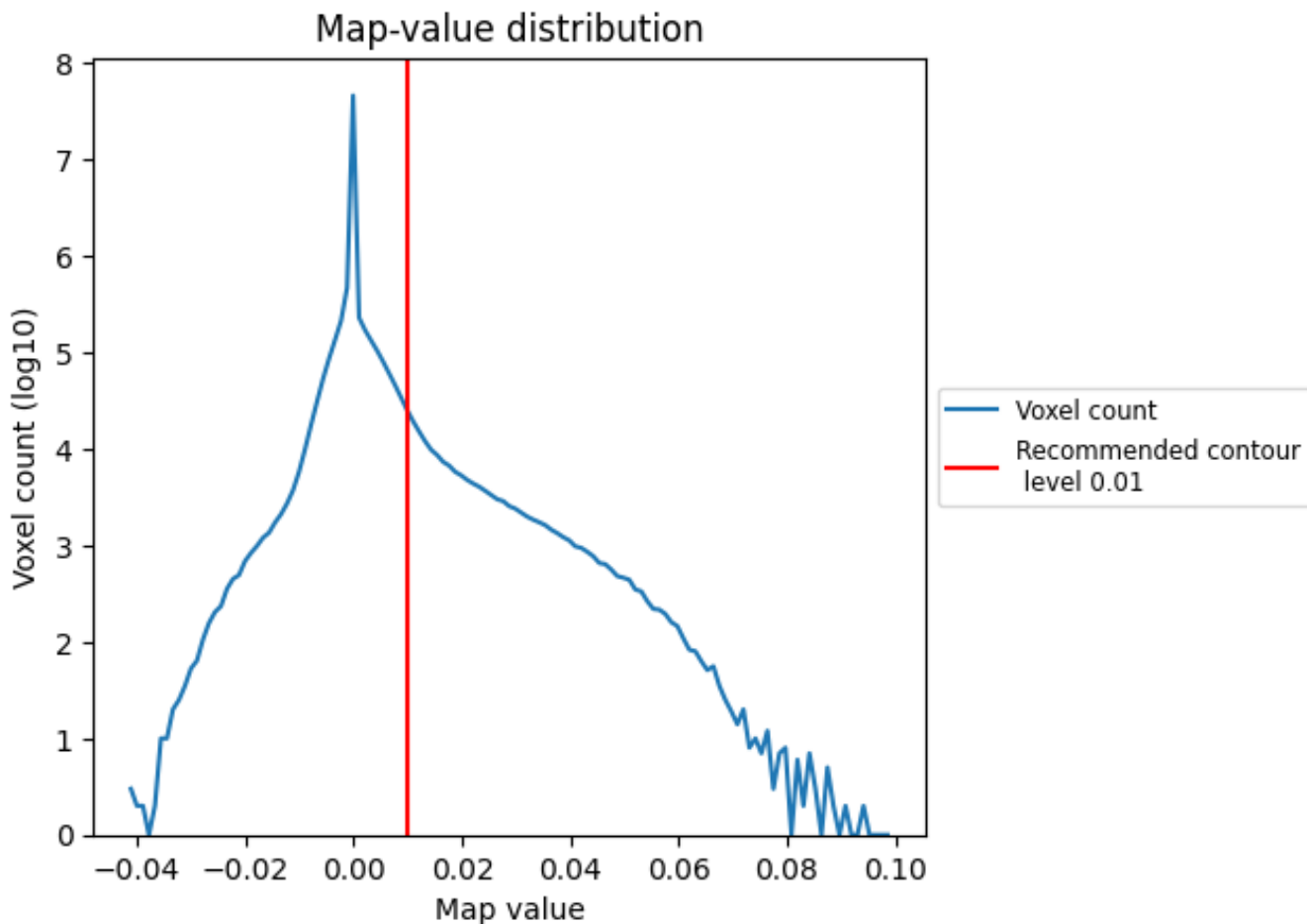
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

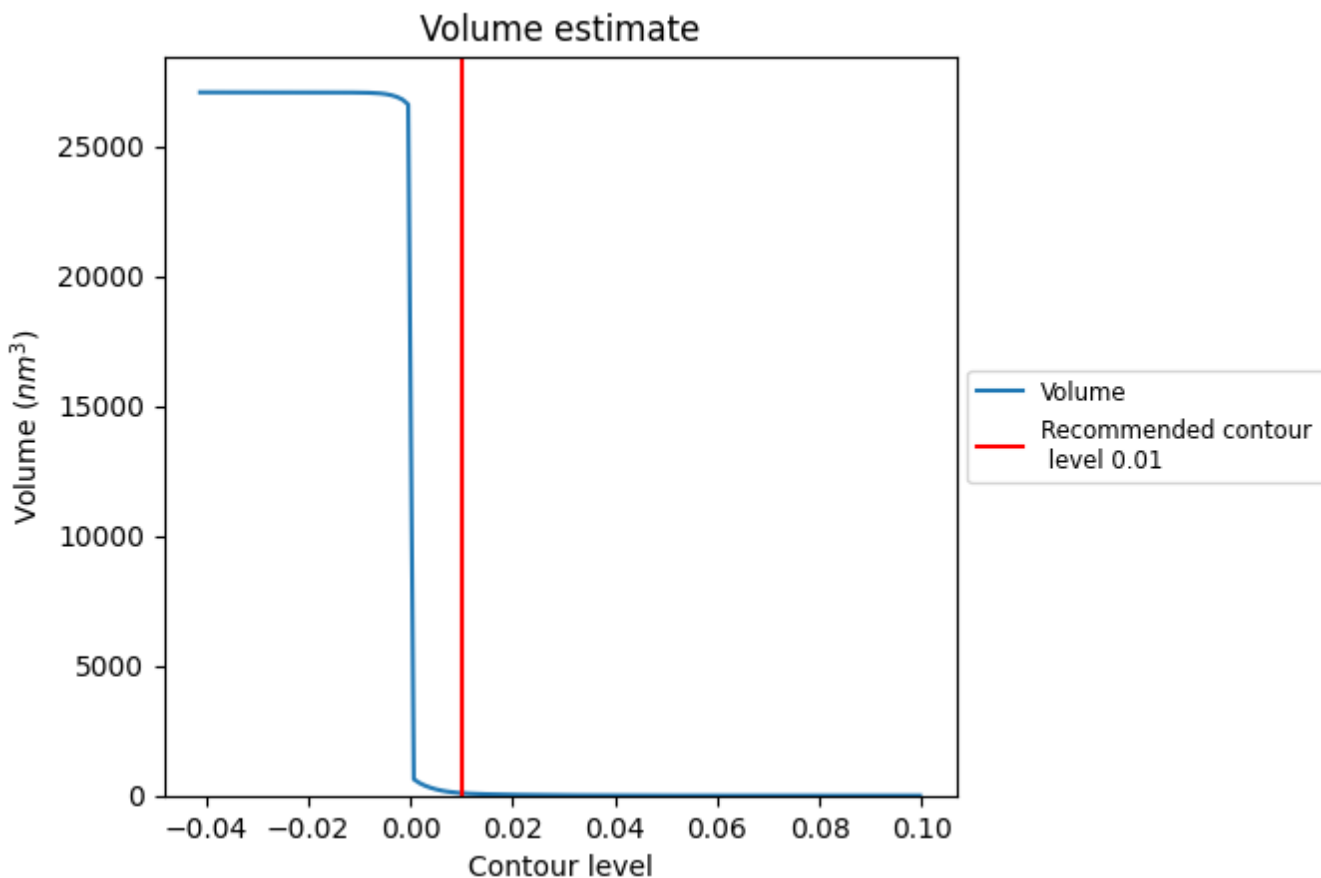
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

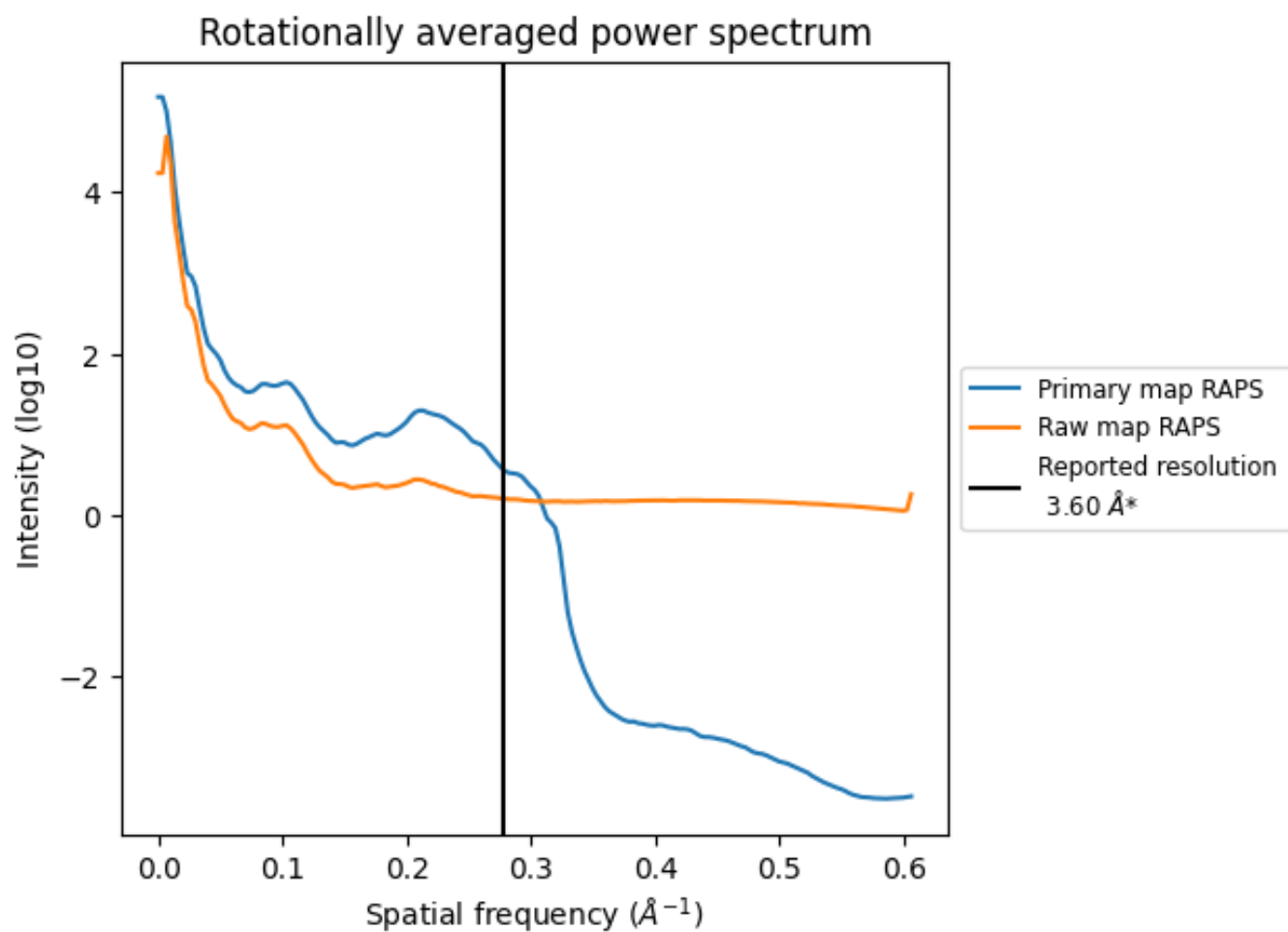
7.2 Volume estimate [\(i\)](#)



The volume at the recommended contour level is 95 nm^3 ; this corresponds to an approximate mass of 86 kDa.

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

7.3 Rotationally averaged power spectrum [i](#)

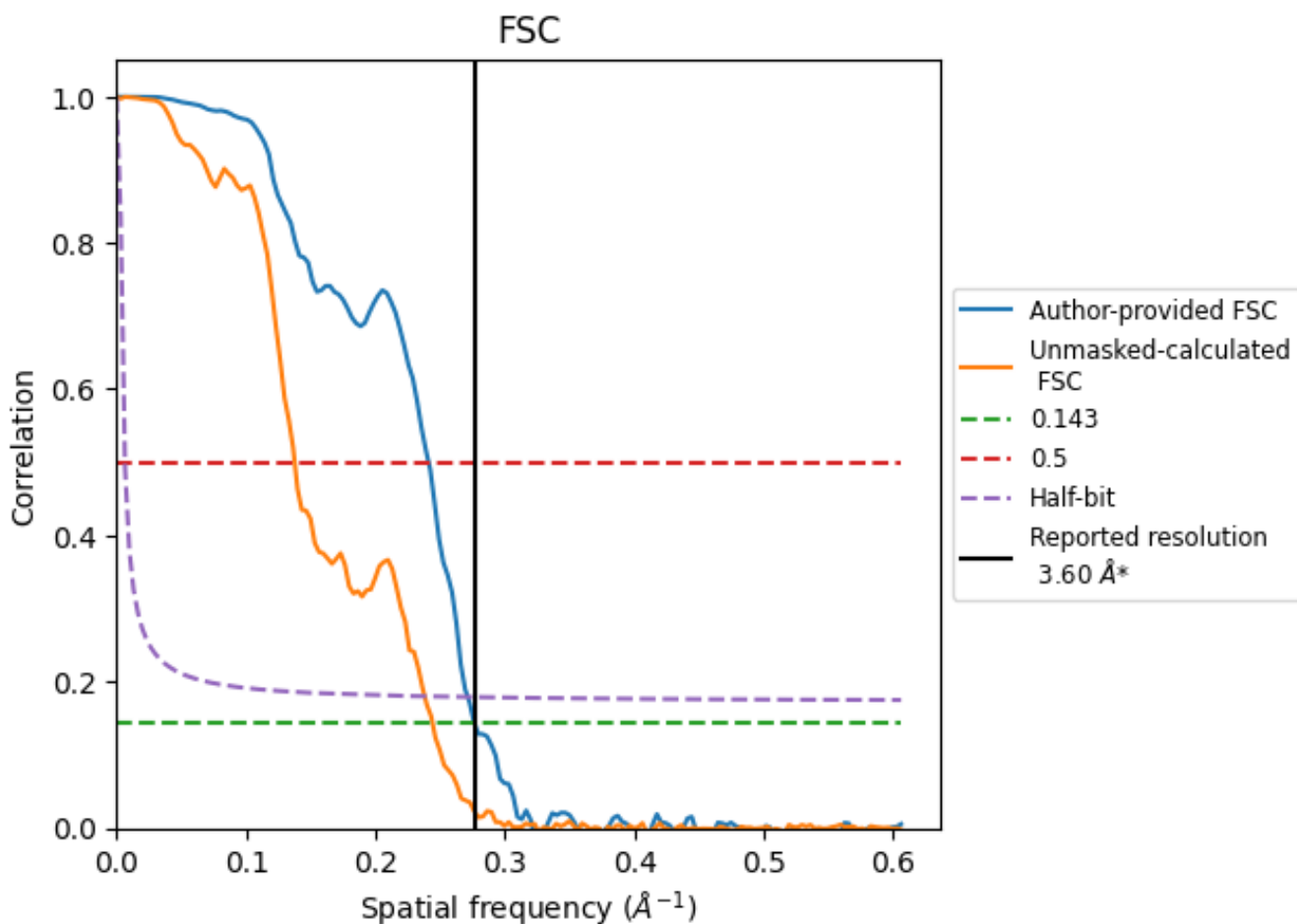


*Reported resolution corresponds to spatial frequency of 0.278 Å⁻¹

8 Fourier-Shell correlation [i](#)

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

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.278 \AA^{-1}

8.2 Resolution estimates [i](#)

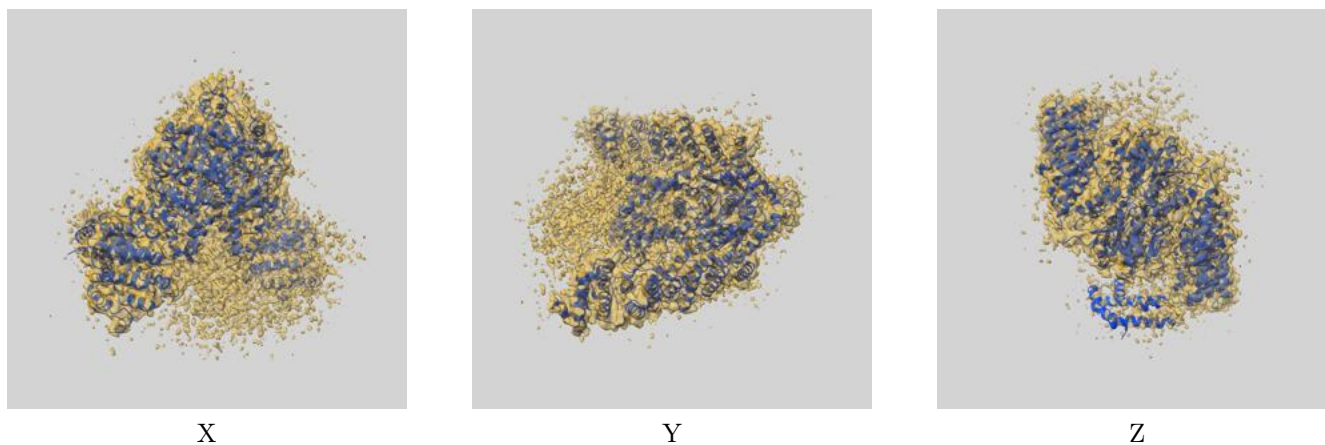
| Resolution estimate (Å) | Estimation criterion (FSC cut-off) | | |
|---------------------------|------------------------------------|------|----------|
| | 0.143 | 0.5 | Half-bit |
| Reported by author | 3.60 | - | - |
| Author-provided FSC curve | 3.62 | 4.15 | 3.68 |
| Unmasked-calculated* | 4.10 | 7.26 | 4.20 |

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 4.10 differs from the reported value 3.6 by more than 10 %

9 Map-model fit [i](#)

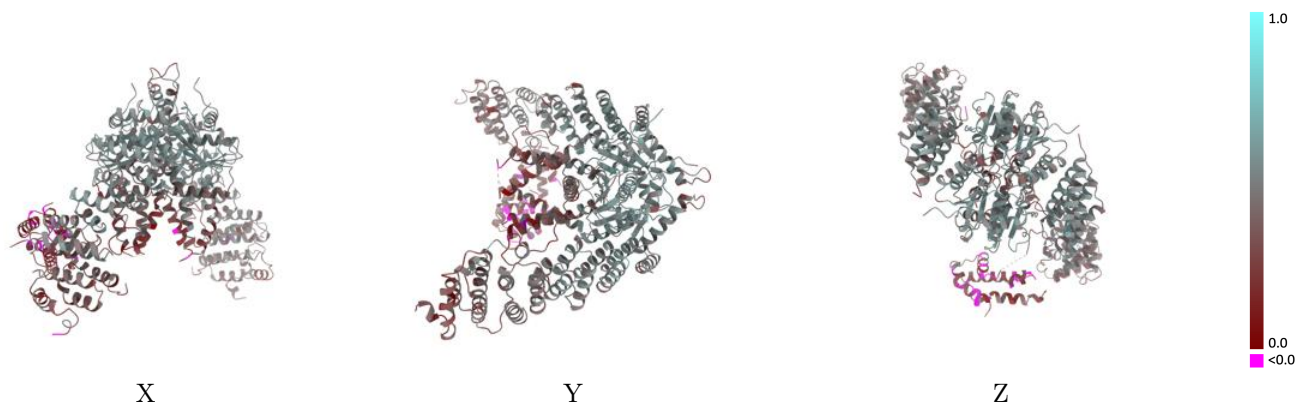
This section contains information regarding the fit between EMDB map EMD-24702 and PDB model 7RUC. Per-residue inclusion information can be found in section 3 on page 6.

9.1 Map-model overlay [i](#)



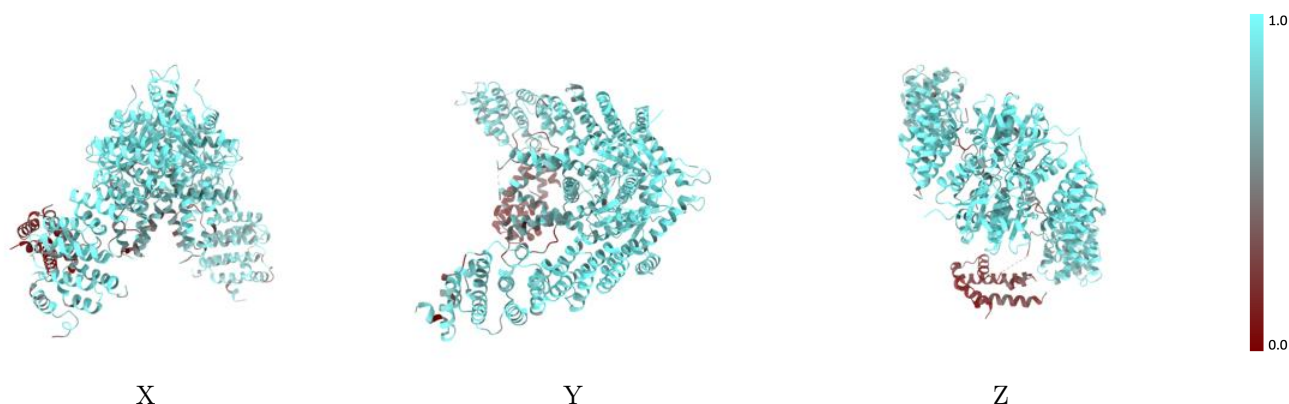
The images above show the 3D surface view of the map at the recommended contour level 0.01 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



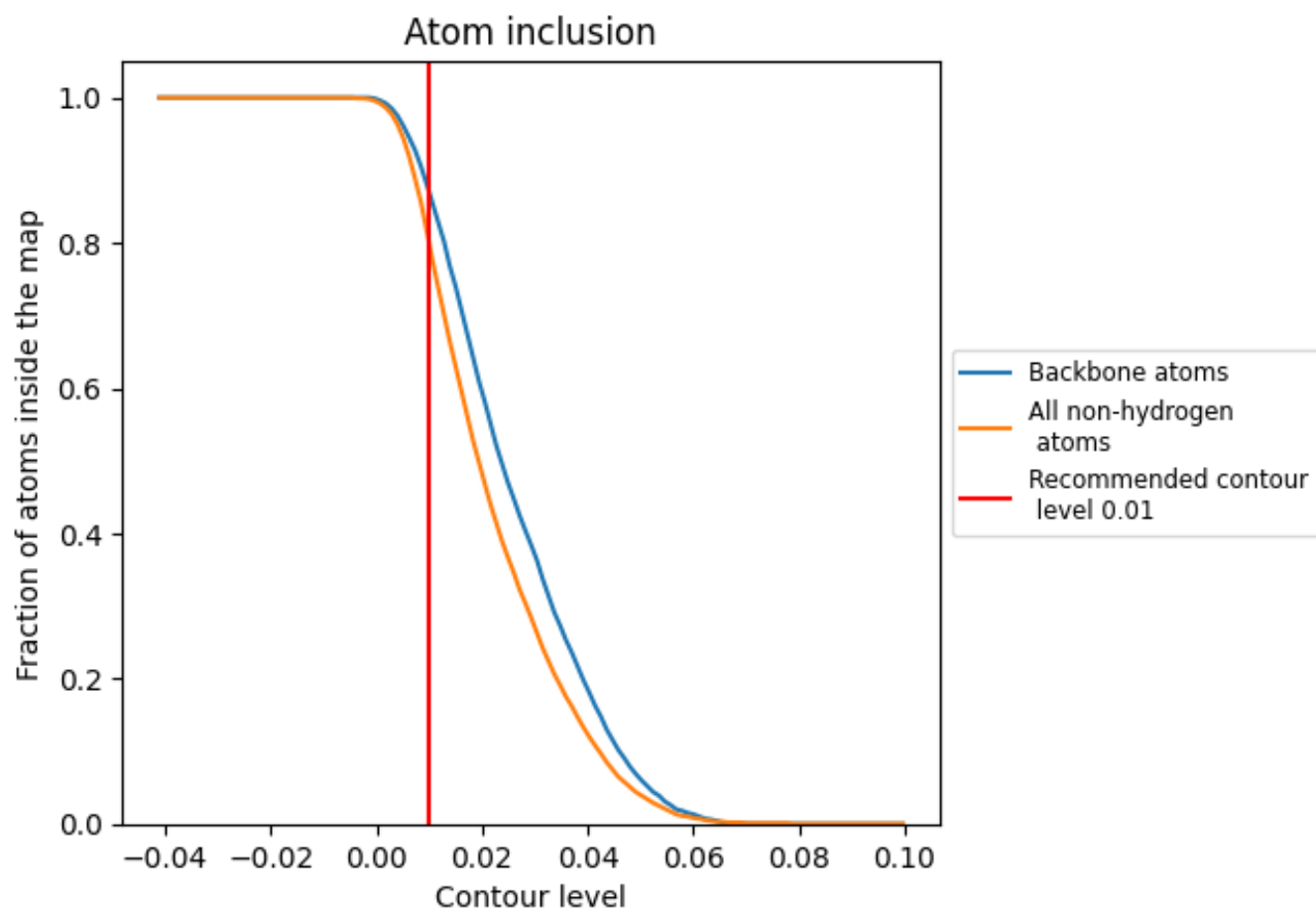
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.01).

















9.4 Atom inclusion [i](#)



At the recommended contour level, 87% of all backbone atoms, 80% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.01) and Q-score for the entire model and for each chain.

| Chain | Atom inclusion | Q-score |
|-------|--|--|
| All |  0.8000 |  0.4240 |
| A |  0.8540 |  0.4620 |
| B |  0.8480 |  0.4590 |
| C |  0.8790 |  0.4540 |
| D |  0.6610 |  0.2820 |
| F |  0.8820 |  0.4590 |
| G |  0.4220 |  0.2230 |
| H |  0.1220 |  0.1400 |

