



Full wwPDB EM Validation Report ⓘ

Aug 13, 2024 – 02:31 PM EDT

PDB ID : 9B6D
EMDB ID : EMD-44255
Title : Cryo-EM structure of the mouse TRPM8 channel in the ligand-free desensitized state
Authors : Yin, Y.; Park, C.-G.; Zhang, F.; Fedor, J.; Feng, S.; Suo, Y.; Im, W.; Lee, S.-Y.
Deposited on : 2024-03-25
Resolution : 3.30 Å (reported)
Based on initial model : .

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) : 2.37.1

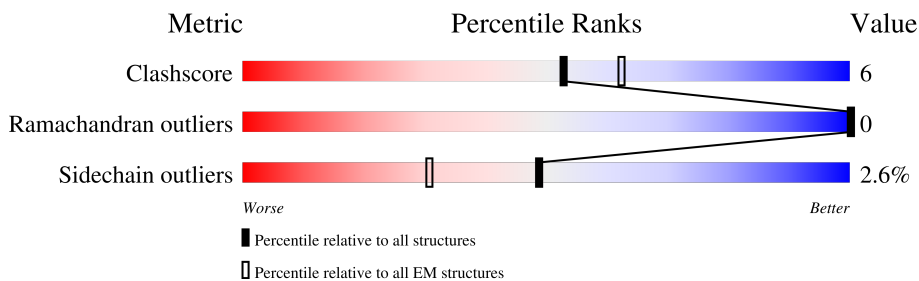
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.30 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	1135	
1	B	1135	
1	C	1135	
1	D	1135	

2 Entry composition [i](#)

There are 2 unique types of molecules in this entry. The entry contains 55528 atoms, of which 26864 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 Transient receptor potential cation channel subfamily M member 8.

Mol	Chain	Residues	Atoms						AltConf	Trace
			Total	C	H	N	O	S		
1	A	933	13475	4576	6480	1151	1239	29	0	0
1	B	933	13475	4576	6480	1151	1239	29	0	0
1	C	933	13475	4576	6480	1151	1239	29	0	0
1	D	933	13475	4576	6480	1151	1239	29	0	0

There are 128 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	0	MET	-	initiating methionine	UNP Q8R4D5
A	1	ALA	-	expression tag	UNP Q8R4D5
A	1105	SER	-	expression tag	UNP Q8R4D5
A	1106	ASN	-	expression tag	UNP Q8R4D5
A	1107	SER	-	expression tag	UNP Q8R4D5
A	1108	LEU	-	expression tag	UNP Q8R4D5
A	1109	GLU	-	expression tag	UNP Q8R4D5
A	1110	VAL	-	expression tag	UNP Q8R4D5
A	1111	LEU	-	expression tag	UNP Q8R4D5
A	1112	PHE	-	expression tag	UNP Q8R4D5
A	1113	GLN	-	expression tag	UNP Q8R4D5
A	1114	GLY	-	expression tag	UNP Q8R4D5
A	1115	PRO	-	expression tag	UNP Q8R4D5
A	1116	ASP	-	expression tag	UNP Q8R4D5
A	1117	TYR	-	expression tag	UNP Q8R4D5
A	1118	LYS	-	expression tag	UNP Q8R4D5
A	1119	ASP	-	expression tag	UNP Q8R4D5
A	1120	ASP	-	expression tag	UNP Q8R4D5
A	1121	ASP	-	expression tag	UNP Q8R4D5
A	1122	ASP	-	expression tag	UNP Q8R4D5
A	1123	LYS	-	expression tag	UNP Q8R4D5

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Chain	Residue	Modelled	Actual	Comment	Reference
A	1124	ALA	-	expression tag	UNP Q8R4D5
A	1125	HIS	-	expression tag	UNP Q8R4D5
A	1126	HIS	-	expression tag	UNP Q8R4D5
A	1127	HIS	-	expression tag	UNP Q8R4D5
A	1128	HIS	-	expression tag	UNP Q8R4D5
A	1129	HIS	-	expression tag	UNP Q8R4D5
A	1130	HIS	-	expression tag	UNP Q8R4D5
A	1131	HIS	-	expression tag	UNP Q8R4D5
A	1132	HIS	-	expression tag	UNP Q8R4D5
A	1133	HIS	-	expression tag	UNP Q8R4D5
A	1134	HIS	-	expression tag	UNP Q8R4D5
B	0	MET	-	initiating methionine	UNP Q8R4D5
B	1	ALA	-	expression tag	UNP Q8R4D5
B	1105	SER	-	expression tag	UNP Q8R4D5
B	1106	ASN	-	expression tag	UNP Q8R4D5
B	1107	SER	-	expression tag	UNP Q8R4D5
B	1108	LEU	-	expression tag	UNP Q8R4D5
B	1109	GLU	-	expression tag	UNP Q8R4D5
B	1110	VAL	-	expression tag	UNP Q8R4D5
B	1111	LEU	-	expression tag	UNP Q8R4D5
B	1112	PHE	-	expression tag	UNP Q8R4D5
B	1113	GLN	-	expression tag	UNP Q8R4D5
B	1114	GLY	-	expression tag	UNP Q8R4D5
B	1115	PRO	-	expression tag	UNP Q8R4D5
B	1116	ASP	-	expression tag	UNP Q8R4D5
B	1117	TYR	-	expression tag	UNP Q8R4D5
B	1118	LYS	-	expression tag	UNP Q8R4D5
B	1119	ASP	-	expression tag	UNP Q8R4D5
B	1120	ASP	-	expression tag	UNP Q8R4D5
B	1121	ASP	-	expression tag	UNP Q8R4D5
B	1122	ASP	-	expression tag	UNP Q8R4D5
B	1123	LYS	-	expression tag	UNP Q8R4D5
B	1124	ALA	-	expression tag	UNP Q8R4D5
B	1125	HIS	-	expression tag	UNP Q8R4D5
B	1126	HIS	-	expression tag	UNP Q8R4D5
B	1127	HIS	-	expression tag	UNP Q8R4D5
B	1128	HIS	-	expression tag	UNP Q8R4D5
B	1129	HIS	-	expression tag	UNP Q8R4D5
B	1130	HIS	-	expression tag	UNP Q8R4D5
B	1131	HIS	-	expression tag	UNP Q8R4D5
B	1132	HIS	-	expression tag	UNP Q8R4D5
B	1133	HIS	-	expression tag	UNP Q8R4D5

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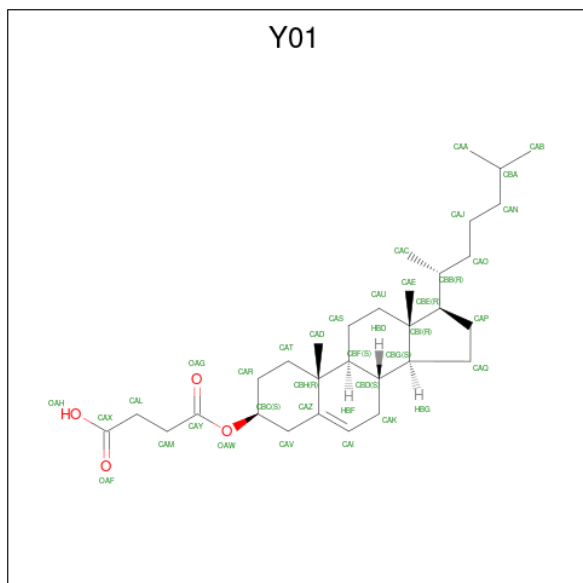
Chain	Residue	Modelled	Actual	Comment	Reference
B	1134	HIS	-	expression tag	UNP Q8R4D5
C	0	MET	-	initiating methionine	UNP Q8R4D5
C	1	ALA	-	expression tag	UNP Q8R4D5
C	1105	SER	-	expression tag	UNP Q8R4D5
C	1106	ASN	-	expression tag	UNP Q8R4D5
C	1107	SER	-	expression tag	UNP Q8R4D5
C	1108	LEU	-	expression tag	UNP Q8R4D5
C	1109	GLU	-	expression tag	UNP Q8R4D5
C	1110	VAL	-	expression tag	UNP Q8R4D5
C	1111	LEU	-	expression tag	UNP Q8R4D5
C	1112	PHE	-	expression tag	UNP Q8R4D5
C	1113	GLN	-	expression tag	UNP Q8R4D5
C	1114	GLY	-	expression tag	UNP Q8R4D5
C	1115	PRO	-	expression tag	UNP Q8R4D5
C	1116	ASP	-	expression tag	UNP Q8R4D5
C	1117	TYR	-	expression tag	UNP Q8R4D5
C	1118	LYS	-	expression tag	UNP Q8R4D5
C	1119	ASP	-	expression tag	UNP Q8R4D5
C	1120	ASP	-	expression tag	UNP Q8R4D5
C	1121	ASP	-	expression tag	UNP Q8R4D5
C	1122	ASP	-	expression tag	UNP Q8R4D5
C	1123	LYS	-	expression tag	UNP Q8R4D5
C	1124	ALA	-	expression tag	UNP Q8R4D5
C	1125	HIS	-	expression tag	UNP Q8R4D5
C	1126	HIS	-	expression tag	UNP Q8R4D5
C	1127	HIS	-	expression tag	UNP Q8R4D5
C	1128	HIS	-	expression tag	UNP Q8R4D5
C	1129	HIS	-	expression tag	UNP Q8R4D5
C	1130	HIS	-	expression tag	UNP Q8R4D5
C	1131	HIS	-	expression tag	UNP Q8R4D5
C	1132	HIS	-	expression tag	UNP Q8R4D5
C	1133	HIS	-	expression tag	UNP Q8R4D5
C	1134	HIS	-	expression tag	UNP Q8R4D5
D	0	MET	-	initiating methionine	UNP Q8R4D5
D	1	ALA	-	expression tag	UNP Q8R4D5
D	1105	SER	-	expression tag	UNP Q8R4D5
D	1106	ASN	-	expression tag	UNP Q8R4D5
D	1107	SER	-	expression tag	UNP Q8R4D5
D	1108	LEU	-	expression tag	UNP Q8R4D5
D	1109	GLU	-	expression tag	UNP Q8R4D5
D	1110	VAL	-	expression tag	UNP Q8R4D5
D	1111	LEU	-	expression tag	UNP Q8R4D5

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Chain	Residue	Modelled	Actual	Comment	Reference
D	1112	PHE	-	expression tag	UNP Q8R4D5
D	1113	GLN	-	expression tag	UNP Q8R4D5
D	1114	GLY	-	expression tag	UNP Q8R4D5
D	1115	PRO	-	expression tag	UNP Q8R4D5
D	1116	ASP	-	expression tag	UNP Q8R4D5
D	1117	TYR	-	expression tag	UNP Q8R4D5
D	1118	LYS	-	expression tag	UNP Q8R4D5
D	1119	ASP	-	expression tag	UNP Q8R4D5
D	1120	ASP	-	expression tag	UNP Q8R4D5
D	1121	ASP	-	expression tag	UNP Q8R4D5
D	1122	ASP	-	expression tag	UNP Q8R4D5
D	1123	LYS	-	expression tag	UNP Q8R4D5
D	1124	ALA	-	expression tag	UNP Q8R4D5
D	1125	HIS	-	expression tag	UNP Q8R4D5
D	1126	HIS	-	expression tag	UNP Q8R4D5
D	1127	HIS	-	expression tag	UNP Q8R4D5
D	1128	HIS	-	expression tag	UNP Q8R4D5
D	1129	HIS	-	expression tag	UNP Q8R4D5
D	1130	HIS	-	expression tag	UNP Q8R4D5
D	1131	HIS	-	expression tag	UNP Q8R4D5
D	1132	HIS	-	expression tag	UNP Q8R4D5
D	1133	HIS	-	expression tag	UNP Q8R4D5
D	1134	HIS	-	expression tag	UNP Q8R4D5

- Molecule 2 is CHOLESTEROL HEMISUCCINATE (three-letter code: Y01) (formula: $C_{31}H_{50}O_4$).

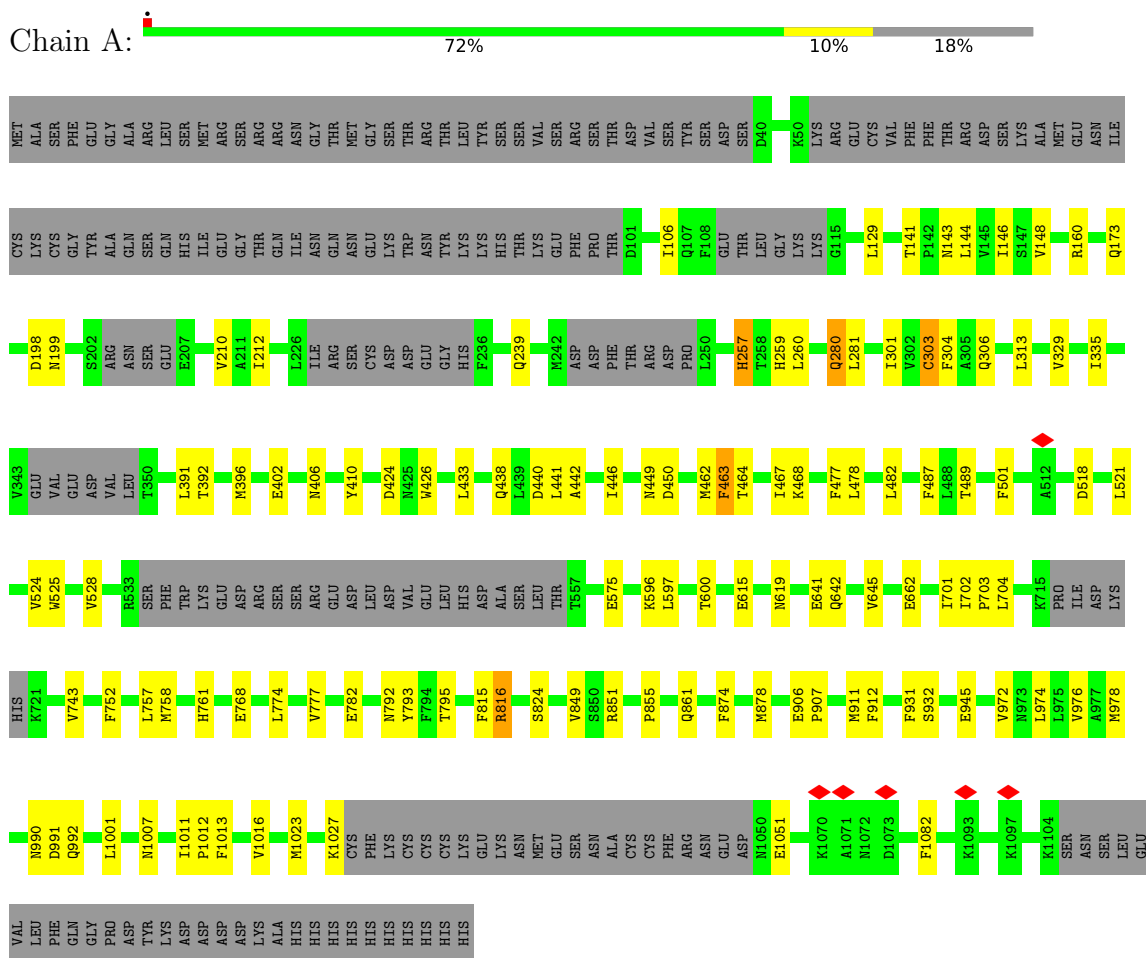


Mol	Chain	Residues	Atoms				AltConf
2	A	1	Total	C	H	O	0
			84	31	49	4	
2	A	1	Total	C	H	O	0
			84	31	49	4	
2	A	1	Total	C	H	O	0
			84	31	49	4	
2	A	1	Total	C	H	O	0
			84	31	49	4	
2	A	1	Total	C	H	O	0
			71	27	40	4	
2	B	1	Total	C	H	O	0
			84	31	49	4	
2	B	1	Total	C	H	O	0
			84	31	49	4	
2	B	1	Total	C	H	O	0
			84	31	49	4	
2	B	1	Total	C	H	O	0
			84	31	49	4	
2	B	1	Total	C	H	O	0
			71	27	40	4	
2	C	1	Total	C	H	O	0
			84	31	49	4	
2	C	1	Total	C	H	O	0
			84	31	49	4	
2	C	1	Total	C	H	O	0
			84	31	49	4	
2	C	1	Total	C	H	O	0
			84	31	49	4	
2	C	1	Total	C	H	O	0
			71	27	40	4	
2	D	1	Total	C	H	O	0
			84	31	49	4	
2	D	1	Total	C	H	O	0
			84	31	49	4	
2	D	1	Total	C	H	O	0
			84	31	49	4	
2	D	1	Total	C	H	O	0
			84	31	49	4	
2	D	1	Total	C	H	O	0
			71	27	40	4	

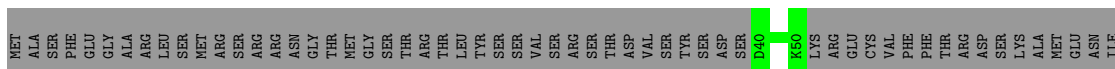
3 Residue-property plots

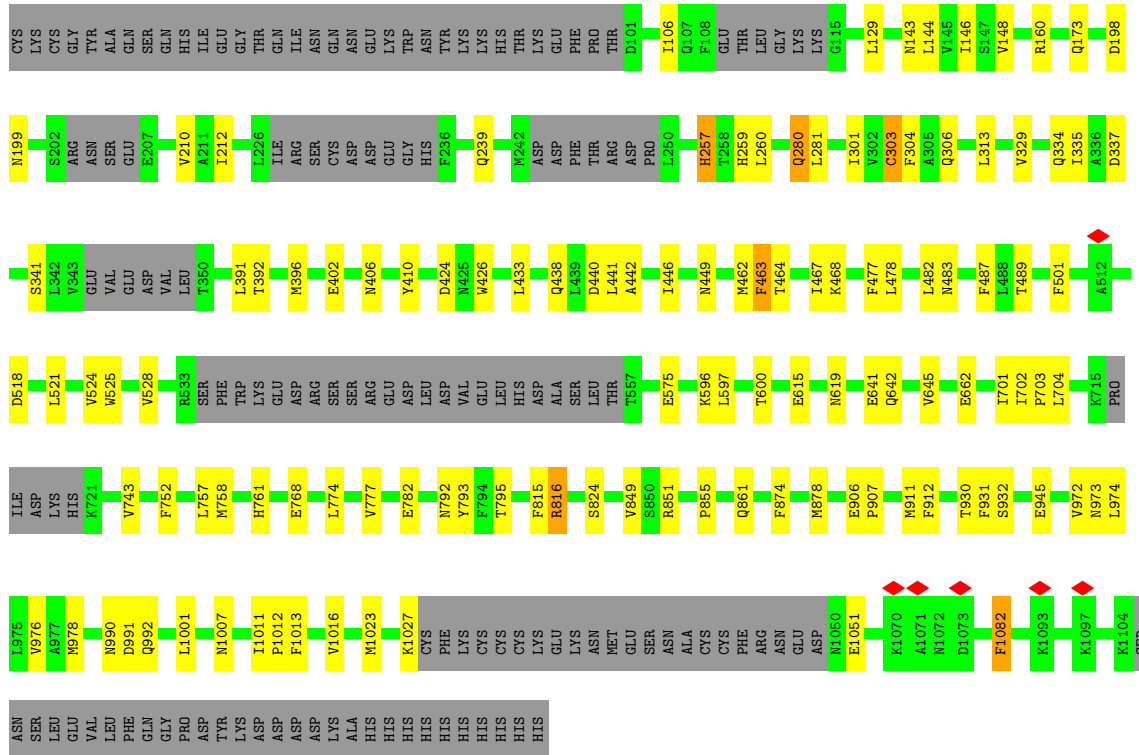
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion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

- Molecule 1: Transient receptor potential cation channel subfamily M member 8

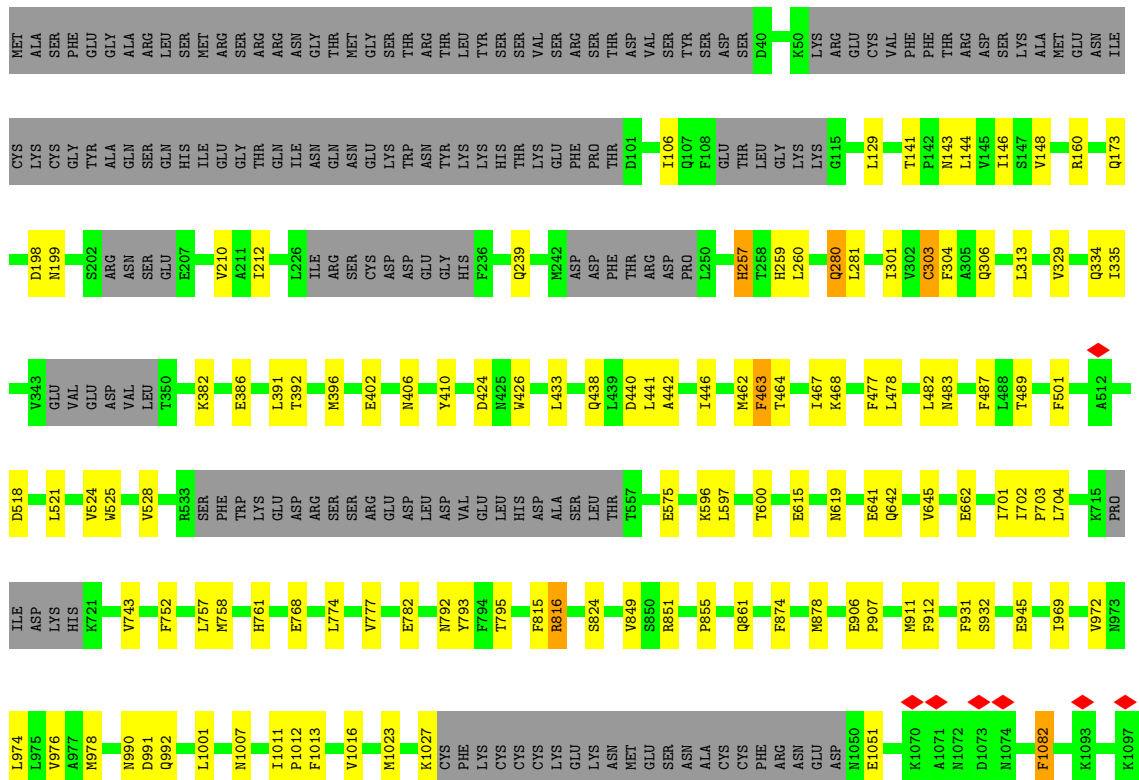


- Molecule 1: Transient receptor potential cation channel subfamily M member 8





● Molecule 1: Transient receptor potential cation channel subfamily M member 8



K1104
SER
ASN
SER
SER
LEU
LEU
GLY
VAL
LEU
PHE
GLN
GLY
MET
PRO
ASP
TYR
SER
LYS
ASP
ASP
ASP
ASP
LYS
ALA
HIS
HIS
HIS
HIS
HIS

- Molecule 1: Transient receptor potential potential cation channel subfamily M member 8



MET
ALA
SER
SER
PHE
GLY
GLY
LEU
VAL
ALA
ARG
LEU
SER
GLN
HIS
MET
ILE
MET
ARG
GLY
SER
ARG
THR
LYS
ARG
GLN
ILE
ASN
GLY
GLY
THR
MET
GLY
SER
THR
LYS
SER
ALA
HIS
HIS
HIS
HIS
HIS
HIS
HIS
HIS
HIS

CYS
LYS
LYS
CYS
GLY
TYR
ASN
TYR
ALA
GLN
SER
GLM
SER
GLN
HIS
ILE
MET
GLY
THR
LYS
LYS
THR
GLM
ILE
ASN
GLY
THR
CYS
GLM
ASN
MET
GLY
SER
LYS
TRP
LYS
THR
LYS
ASN
HIS
TYR
LYS
LYS
HIS
THR
D101
L106
Q107
F108
GLY
LEU
GLY
LYS
LYS
G116
K50
LYS
ARG
GLY
CYS
VAL
PHE
PHE
THR
ARG
ASP
SER
LYS
ALA
MET
GLY
ASN
ILE

M199
S202
S202
ASN
SER
GLU
E207
V210
I212
L226
L226
ILE
ARG
SER
CYS
GLM
ASP
ASP
GLY
HIS
F236
Q239
M242
ASP
ASP
PHE
THR
ARG
ASP
PRO
L250
E257
T258
H259
L260
Q280
L281
I301
V302
C303
F304
A305
Q306
L313
V329
I335
V343
GLU

VAL
GLU
VAL
PHE
VAL
T350
L391
T392
M396
E402
M406
Y410
Y410
D424
M425
M426
L433
Q438
L439
D440
L441
A442
L446
M462
F463
T464
I467
K468
F477
L478
L482
F487
L488
T489
F501
A512
D518
L521
V524
M525
V528

R633
SER
PHE
TRP
GLU
ASP
ASP
SER
SER
SER
ARG
GLY
ASP
LEU
ASP
VAL
VAL
GLY
LEU
HIS
ASP
ALA
SER
LEU
THR
T657
E675
K696
L697
T600
E615
N619
E641
Q642
V645
E662
I701
I702
P703
L704
K715
PRO
ILE
ASP
LYS
HIS
K721
V743

F752
L757
M758
H761
E768
L774
V777
E782
M792
Y793
F794
T795
F815
R816
S824
V849
S850
R851
P855
Q861
F874
M878
E906
P907
M911
F912
T930
F931
S932
E945
V972
R973
L974
L975
V976
A977
M978
N990
D991
Q992

L1001
M1007
I1011
P1012
F1013
V1016
M1023
K1027
CYS
PHE
LYS
LYS
CYS
CYS
CYS
LYS
GLY
GLY
ASN
MET
GLY
SER
ASN
ALA
ALA
CYS
CYS
PHE
ARG
ASN
GLY
GLY
ASP
N1050
E1051
K1070
A1071
M1072
D1073
F1082
K1097
M1102
I1103
K1104
SER
ASN
SER
LEU
LEU
VAL
LEU
PHE
GLN

GLY
PRO
ASP
TYR
LYS
ASP
ASP
ASP
ALA
HIS
HIS
HIS
HIS
HIS
HIS
HIS
HIS
HIS
HIS

4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C4	Depositor
Number of particles used	87176	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 ($e^-/\text{\AA}^2$)	53	Depositor
Minimum defocus (nm)	700	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	81000	Depositor
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	1.897	Depositor
Minimum map value	-1.041	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.048	Depositor
Recommended contour level	0.15	Depositor
Map size (\AA)	352.0, 352.0, 352.0	wwPDB
Map dimensions	320, 320, 320	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (\AA)	1.1, 1.1, 1.1	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: Y01

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	0.27	0/7157	0.45	0/9772
1	B	0.27	0/7157	0.45	0/9772
1	C	0.27	0/7157	0.45	0/9772
1	D	0.27	0/7157	0.45	0/9772
All	All	0.27	0/28628	0.45	0/39088

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	6995	6480	6481	73	0
1	B	6995	6480	6481	81	0
1	C	6995	6480	6481	79	0
1	D	6995	6480	6481	69	0
2	A	171	236	234	5	0
2	B	171	236	234	6	0
2	C	171	236	234	6	0
2	D	171	236	234	6	0
All	All	28664	26864	26860	308	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 6.

All (308) 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)
1:C:849:VAL:HG11	1:C:1001:LEU:HD22	1.55	0.88
1:A:849:VAL:HG11	1:A:1001:LEU:HD22	1.55	0.88
1:D:849:VAL:HG11	1:D:1001:LEU:HD22	1.55	0.86
1:B:849:VAL:HG11	1:B:1001:LEU:HD22	1.54	0.86
1:C:160:ARG:NH1	1:C:396:MET:SD	2.62	0.73
1:A:160:ARG:NH1	1:A:396:MET:SD	2.62	0.73
1:D:761:HIS:O	1:D:816:ARG:NH2	2.22	0.73
1:B:761:HIS:O	1:B:816:ARG:NH2	2.22	0.72
1:B:160:ARG:NH1	1:B:396:MET:SD	2.62	0.72
1:D:160:ARG:NH1	1:D:396:MET:SD	2.62	0.72
1:A:761:HIS:O	1:A:816:ARG:NH2	2.22	0.72
1:C:761:HIS:O	1:C:816:ARG:NH2	2.22	0.72
1:B:782:GLU:OE2	1:B:793:TYR:OH	2.07	0.72
1:C:782:GLU:OE2	1:C:793:TYR:OH	2.07	0.71
1:D:782:GLU:OE2	1:D:793:TYR:OH	2.07	0.71
1:D:855:PRO:O	1:D:990:ASN:ND2	2.24	0.71
1:A:782:GLU:OE2	1:A:793:TYR:OH	2.07	0.71
1:B:855:PRO:O	1:B:990:ASN:ND2	2.24	0.70
1:C:855:PRO:O	1:C:990:ASN:ND2	2.24	0.69
1:C:931:PHE:O	1:C:932:SER:OG	2.08	0.69
1:C:596:LYS:NZ	1:C:662:GLU:OE1	2.26	0.68
1:A:855:PRO:O	1:A:990:ASN:ND2	2.24	0.68
1:D:596:LYS:NZ	1:D:662:GLU:OE1	2.26	0.68
1:A:596:LYS:NZ	1:A:662:GLU:OE1	2.26	0.67
1:B:596:LYS:NZ	1:B:662:GLU:OE1	2.26	0.67
1:D:931:PHE:O	1:D:932:SER:OG	2.08	0.66
1:A:931:PHE:O	1:A:932:SER:OG	2.08	0.64
1:D:406:ASN:OD1	1:D:438:GLN:NE2	2.32	0.63
1:C:406:ASN:OD1	1:C:438:GLN:NE2	2.32	0.63
1:B:815:PHE:O	1:B:824:SER:OG	2.16	0.62
1:A:406:ASN:OD1	1:A:438:GLN:NE2	2.32	0.62
1:C:815:PHE:O	1:C:824:SER:OG	2.16	0.62
1:D:615:GLU:OE2	1:D:619:ASN:ND2	2.32	0.62
1:D:815:PHE:O	1:D:824:SER:OG	2.16	0.62
1:B:615:GLU:OE2	1:B:619:ASN:ND2	2.32	0.62
1:B:406:ASN:OD1	1:B:438:GLN:NE2	2.32	0.62
1:B:911:MET:HE2	1:C:969:ILE:HD11	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:849:VAL:HG11	1:B:1001:LEU:CD2	2.28	0.61
1:C:615:GLU:OE2	1:C:619:ASN:ND2	2.32	0.61
1:C:849:VAL:HG11	1:C:1001:LEU:CD2	2.29	0.61
1:A:615:GLU:OE2	1:A:619:ASN:ND2	2.32	0.61
1:D:849:VAL:HG11	1:D:1001:LEU:CD2	2.29	0.61
1:A:815:PHE:O	1:A:824:SER:OG	2.16	0.61
1:A:849:VAL:HG11	1:A:1001:LEU:CD2	2.29	0.60
1:B:597:LEU:O	1:B:600:THR:OG1	2.19	0.60
1:A:597:LEU:O	1:A:600:THR:OG1	2.19	0.60
1:C:597:LEU:O	1:C:600:THR:OG1	2.19	0.58
1:B:487:PHE:O	1:B:489:THR:N	2.37	0.58
1:B:301:ILE:HG22	1:B:301:ILE:O	2.04	0.58
1:D:597:LEU:O	1:D:600:THR:OG1	2.19	0.58
1:C:301:ILE:O	1:C:301:ILE:HG22	2.04	0.57
1:A:301:ILE:O	1:A:301:ILE:HG22	2.04	0.57
1:D:301:ILE:HG22	1:D:301:ILE:O	2.04	0.57
1:D:487:PHE:O	1:D:489:THR:N	2.37	0.57
1:B:931:PHE:O	1:B:932:SER:OG	2.08	0.57
1:A:280:GLN:OE1	1:A:280:GLN:O	2.24	0.56
1:B:280:GLN:O	1:B:280:GLN:OE1	2.24	0.56
1:A:173:GLN:NE2	1:A:199:ASN:OD1	2.39	0.55
1:C:792:ASN:O	1:C:795:THR:HG22	2.06	0.55
1:D:173:GLN:NE2	1:D:199:ASN:OD1	2.39	0.55
1:B:173:GLN:NE2	1:B:199:ASN:OD1	2.39	0.55
1:C:280:GLN:OE1	1:C:280:GLN:O	2.24	0.55
1:D:280:GLN:OE1	1:D:280:GLN:O	2.24	0.55
1:A:487:PHE:O	1:A:489:THR:N	2.37	0.55
1:B:792:ASN:O	1:B:795:THR:HG22	2.06	0.55
1:D:792:ASN:O	1:D:795:THR:HG22	2.06	0.55
1:C:487:PHE:O	1:C:489:THR:N	2.37	0.55
1:A:792:ASN:O	1:A:795:THR:HG22	2.06	0.54
1:C:1051:GLU:OE2	1:C:1051:GLU:N	2.30	0.54
1:C:173:GLN:NE2	1:C:199:ASN:OD1	2.39	0.54
1:D:701:ILE:HD12	1:D:704:LEU:HD13	1.90	0.54
1:D:440:ASP:OD1	1:D:441:LEU:N	2.42	0.53
1:B:701:ILE:HD12	1:B:704:LEU:HD13	1.90	0.53
1:A:701:ILE:HD12	1:A:704:LEU:HD13	1.90	0.53
1:D:257:HIS:HB2	1:D:260:LEU:HD11	1.91	0.53
1:A:440:ASP:OD1	1:A:441:LEU:N	2.42	0.53
1:A:743:VAL:HG22	2:A:1203:Y01:CAC	2.39	0.52
1:A:1051:GLU:OE2	1:A:1051:GLU:N	2.30	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:257:HIS:HB2	1:C:260:LEU:HD11	1.91	0.52
1:C:463:PHE:CE1	1:C:467:ILE:HD11	2.45	0.52
1:A:257:HIS:HB2	1:A:260:LEU:HD11	1.91	0.52
1:B:743:VAL:HG22	2:B:1203:Y01:CAC	2.40	0.52
1:D:743:VAL:HG22	2:D:1203:Y01:CAC	2.39	0.52
1:B:463:PHE:CE1	1:B:467:ILE:HD11	2.45	0.52
1:B:1051:GLU:OE2	1:B:1051:GLU:N	2.30	0.52
1:C:743:VAL:HG22	2:C:1203:Y01:CAC	2.40	0.52
1:D:433:LEU:HD13	1:D:442:ALA:HA	1.91	0.52
1:D:1023:MET:O	1:D:1027:LYS:N	2.43	0.52
1:C:701:ILE:HD12	1:C:704:LEU:HD13	1.90	0.52
1:C:1023:MET:O	1:C:1027:LYS:N	2.43	0.52
1:A:433:LEU:HD13	1:A:442:ALA:HA	1.91	0.51
1:C:433:LEU:HD13	1:C:442:ALA:HA	1.91	0.51
1:A:463:PHE:CE1	1:A:467:ILE:HD11	2.45	0.51
1:A:1023:MET:O	1:A:1027:LYS:N	2.43	0.51
1:B:1023:MET:O	1:B:1027:LYS:N	2.43	0.51
1:B:575:GLU:N	1:B:575:GLU:OE1	2.43	0.51
1:C:991:ASP:OD1	1:C:992:GLN:N	2.44	0.51
1:D:991:ASP:OD1	1:D:992:GLN:N	2.44	0.51
1:B:257:HIS:HB2	1:B:260:LEU:HD11	1.91	0.51
1:B:991:ASP:OD1	1:B:992:GLN:N	2.44	0.51
1:B:146:ILE:HG13	1:B:303:CYS:HA	1.93	0.51
2:D:1203:Y01:HAC1	2:D:1203:Y01:HAU2	1.93	0.51
1:D:463:PHE:CE1	1:D:467:ILE:HD11	2.45	0.51
1:B:440:ASP:OD1	1:B:441:LEU:N	2.42	0.51
2:C:1203:Y01:HAU2	2:C:1203:Y01:HAC1	1.93	0.51
1:D:146:ILE:HG13	1:D:303:CYS:HA	1.93	0.51
1:B:433:LEU:HD13	1:B:442:ALA:HA	1.91	0.50
1:B:464:THR:O	1:B:468:LYS:N	2.41	0.50
1:C:464:THR:O	1:C:468:LYS:N	2.41	0.50
1:A:861:GLN:NE2	2:A:1201:Y01:OAH	2.45	0.50
1:B:861:GLN:NE2	2:B:1201:Y01:OAH	2.45	0.50
1:C:440:ASP:OD1	1:C:441:LEU:N	2.42	0.50
1:A:146:ILE:HG13	1:A:303:CYS:HA	1.92	0.50
1:D:173:GLN:OE1	1:D:199:ASN:ND2	2.44	0.50
1:A:991:ASP:OD1	1:A:992:GLN:N	2.44	0.50
1:D:861:GLN:NE2	2:D:1201:Y01:OAH	2.45	0.50
1:B:173:GLN:OE1	1:B:199:ASN:ND2	2.44	0.49
1:D:1051:GLU:OE2	1:D:1051:GLU:N	2.30	0.49
1:C:861:GLN:NE2	2:C:1201:Y01:OAH	2.45	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:464:THR:O	1:D:468:LYS:N	2.41	0.49
1:C:146:ILE:HG13	1:C:303:CYS:HA	1.93	0.49
1:A:702:ILE:N	1:A:703:PRO:CD	2.76	0.49
1:B:1011:ILE:HG21	1:B:1016:VAL:HA	1.95	0.49
1:C:1011:ILE:HG21	1:C:1016:VAL:HA	1.94	0.49
1:D:702:ILE:N	1:D:703:PRO:CD	2.76	0.49
2:A:1203:Y01:HAU2	2:A:1203:Y01:HAC1	1.93	0.49
1:C:702:ILE:N	1:C:703:PRO:CD	2.76	0.49
1:A:575:GLU:OE1	1:A:575:GLU:N	2.43	0.49
2:B:1203:Y01:HAC1	2:B:1203:Y01:HAU2	1.93	0.49
1:C:391:LEU:HD23	1:C:392:THR:N	2.28	0.49
1:B:701:ILE:HD11	1:B:704:LEU:HD22	1.95	0.48
2:C:1201:Y01:HAU2	2:C:1201:Y01:HAC1	1.96	0.48
2:D:1201:Y01:HAC1	2:D:1201:Y01:HAU2	1.96	0.48
1:B:148:VAL:HG12	1:B:304:PHE:O	2.14	0.48
1:C:148:VAL:HG12	1:C:304:PHE:O	2.14	0.48
1:D:148:VAL:HG12	1:D:304:PHE:O	2.14	0.48
1:A:1011:ILE:HG21	1:A:1016:VAL:HA	1.95	0.48
1:D:701:ILE:O	1:D:701:ILE:HG13	2.14	0.48
1:A:148:VAL:HG12	1:A:304:PHE:O	2.14	0.48
1:B:702:ILE:N	1:B:703:PRO:CD	2.76	0.48
1:A:391:LEU:HD23	1:A:392:THR:N	2.28	0.48
1:C:701:ILE:O	1:C:701:ILE:HG13	2.14	0.48
1:D:701:ILE:HD11	1:D:704:LEU:HD22	1.95	0.48
1:D:1011:ILE:HG21	1:D:1016:VAL:HA	1.95	0.48
2:A:1201:Y01:HAU2	2:A:1201:Y01:HAC1	1.96	0.48
1:C:306:GLN:HA	1:C:329:VAL:HG12	1.96	0.48
1:D:129:LEU:HD23	1:D:281:LEU:HD11	1.96	0.48
1:A:129:LEU:HD23	1:A:281:LEU:HD11	1.96	0.47
1:B:391:LEU:HD23	1:B:392:THR:N	2.28	0.47
1:C:129:LEU:HD23	1:C:281:LEU:HD11	1.96	0.47
1:B:306:GLN:HA	1:B:329:VAL:HG12	1.96	0.47
2:B:1201:Y01:HAC1	2:B:1201:Y01:HAU2	1.96	0.47
1:B:129:LEU:HD23	1:B:281:LEU:HD11	1.96	0.47
1:D:391:LEU:HD23	1:D:392:THR:N	2.28	0.47
1:A:306:GLN:HA	1:A:329:VAL:HG12	1.96	0.47
1:A:450:ASP:CB	1:B:334:GLN:HE22	2.28	0.47
1:A:701:ILE:HD11	1:A:704:LEU:HD22	1.95	0.47
1:B:945:GLU:CD	1:B:945:GLU:H	2.18	0.47
2:C:1202:Y01:HAE2	2:C:1202:Y01:HAC1	1.96	0.47
1:D:313:LEU:HD11	1:D:335:ILE:HG12	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:1202:Y01:HAE2	2:D:1202:Y01:HAC1	1.96	0.47
1:C:701:ILE:HD11	1:C:704:LEU:HD22	1.95	0.47
1:A:701:ILE:HG13	1:A:701:ILE:O	2.14	0.47
1:A:974:LEU:O	1:A:978:MET:HG3	2.16	0.46
1:C:575:GLU:OE1	1:C:575:GLU:N	2.43	0.46
1:C:974:LEU:O	1:C:978:MET:HG3	2.16	0.46
1:B:313:LEU:HD11	1:B:335:ILE:HG12	1.97	0.46
1:B:701:ILE:O	1:B:701:ILE:HG13	2.14	0.46
1:D:575:GLU:OE1	1:D:575:GLU:N	2.43	0.46
1:A:433:LEU:HD12	1:A:446:ILE:CD1	2.46	0.46
1:A:945:GLU:H	1:A:945:GLU:CD	2.18	0.46
1:C:313:LEU:HD11	1:C:335:ILE:HG12	1.97	0.46
1:A:173:GLN:OE1	1:A:199:ASN:ND2	2.44	0.46
1:D:945:GLU:CD	1:D:945:GLU:H	2.18	0.46
1:D:306:GLN:HA	1:D:329:VAL:HG12	1.96	0.46
1:B:974:LEU:O	1:B:978:MET:HG3	2.16	0.46
1:C:945:GLU:H	1:C:945:GLU:CD	2.18	0.46
1:D:433:LEU:HD12	1:D:446:ILE:CD1	2.46	0.46
1:A:462:MET:CE	1:A:487:PHE:CD1	2.99	0.46
2:A:1202:Y01:HAC1	2:A:1202:Y01:HAE2	1.97	0.46
1:B:911:MET:CE	1:C:969:ILE:CD1	2.93	0.46
1:B:462:MET:CE	1:B:487:PHE:CD1	2.99	0.46
2:B:1202:Y01:HAE2	2:B:1202:Y01:HAC1	1.97	0.45
1:A:313:LEU:HD11	1:A:335:ILE:HG12	1.97	0.45
1:B:433:LEU:HD12	1:B:446:ILE:CD1	2.46	0.45
1:D:974:LEU:O	1:D:978:MET:HG3	2.16	0.45
1:A:449:ASN:CB	1:B:334:GLN:HE21	2.29	0.45
1:D:642:GLN:OE1	1:D:642:GLN:O	2.34	0.45
1:C:173:GLN:OE1	1:C:199:ASN:ND2	2.44	0.45
1:A:976:VAL:HG22	1:B:973:ASN:HB3	1.99	0.45
1:C:433:LEU:HD12	1:C:446:ILE:CD1	2.46	0.45
1:C:641:GLU:O	1:C:645:VAL:HG23	2.17	0.45
1:D:462:MET:CE	1:D:487:PHE:CD1	2.99	0.45
1:C:462:MET:CE	1:C:487:PHE:CD1	2.99	0.45
1:C:478:LEU:HD23	1:C:482:LEU:HD12	1.99	0.45
1:A:642:GLN:OE1	1:A:642:GLN:O	2.34	0.44
1:B:641:GLU:O	1:B:645:VAL:HG23	2.17	0.44
1:C:259:HIS:C	1:C:260:LEU:HD12	2.38	0.44
1:D:478:LEU:HD23	1:D:482:LEU:HD12	1.99	0.44
1:B:642:GLN:OE1	1:B:642:GLN:O	2.34	0.44
1:D:259:HIS:C	1:D:260:LEU:HD12	2.38	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:774:LEU:O	1:A:777:VAL:HG12	2.18	0.44
1:D:524:VAL:O	1:D:528:VAL:HG12	2.18	0.44
1:A:464:THR:O	1:A:468:LYS:N	2.41	0.44
1:A:641:GLU:O	1:A:645:VAL:HG23	2.17	0.44
1:B:478:LEU:HD23	1:B:482:LEU:HD12	1.99	0.44
1:B:1082:PHE:HB2	1:C:1082:PHE:CZ	2.53	0.44
1:C:642:GLN:O	1:C:642:GLN:OE1	2.34	0.44
1:D:774:LEU:O	1:D:777:VAL:HG12	2.18	0.44
1:B:259:HIS:C	1:B:260:LEU:HD12	2.38	0.44
1:A:478:LEU:HD23	1:A:482:LEU:HD12	1.99	0.44
1:B:210:VAL:HG12	1:B:212:ILE:CD1	2.48	0.43
1:B:774:LEU:O	1:B:777:VAL:HG12	2.18	0.43
1:A:259:HIS:C	1:A:260:LEU:HD12	2.38	0.43
1:C:210:VAL:HG12	1:C:212:ILE:CD1	2.48	0.43
1:A:210:VAL:HG12	1:A:212:ILE:CD1	2.48	0.43
1:B:462:MET:HB2	1:B:477:PHE:CD2	2.53	0.43
1:B:768:GLU:OE2	1:B:816:ARG:NH1	2.52	0.43
1:C:426:TRP:HE3	1:C:446:ILE:HG23	1.83	0.43
1:C:462:MET:HB2	1:C:477:PHE:CD2	2.53	0.43
1:D:210:VAL:HG12	1:D:212:ILE:CD1	2.48	0.43
1:D:641:GLU:O	1:D:645:VAL:HG23	2.17	0.43
1:D:1011:ILE:CG2	1:D:1016:VAL:HG23	2.48	0.43
1:A:433:LEU:HD12	1:A:446:ILE:HD11	2.00	0.43
1:A:462:MET:HB2	1:A:477:PHE:CD2	2.53	0.43
1:B:129:LEU:HD23	1:B:281:LEU:CD1	2.48	0.43
1:B:426:TRP:HE3	1:B:446:ILE:HG23	1.84	0.43
1:D:433:LEU:HD12	1:D:446:ILE:HD11	2.00	0.43
1:D:462:MET:HB2	1:D:477:PHE:CD2	2.53	0.43
1:A:524:VAL:O	1:A:528:VAL:HG12	2.18	0.43
1:B:337:ASP:O	1:B:341:SER:OG	2.33	0.43
1:B:757:LEU:HD12	1:B:757:LEU:C	2.39	0.43
1:C:757:LEU:C	1:C:757:LEU:HD12	2.39	0.43
1:A:1011:ILE:CG2	1:A:1016:VAL:HG23	2.48	0.43
1:C:524:VAL:O	1:C:528:VAL:HG12	2.18	0.43
1:B:524:VAL:O	1:B:528:VAL:HG12	2.18	0.43
1:C:774:LEU:O	1:C:777:VAL:HG12	2.18	0.43
1:A:129:LEU:HD23	1:A:281:LEU:CD1	2.48	0.43
1:A:768:GLU:OE2	1:A:816:ARG:NH1	2.52	0.43
1:B:1011:ILE:CG2	1:B:1016:VAL:HG23	2.48	0.43
1:C:335:ILE:HD12	1:C:335:ILE:N	2.34	0.43
1:D:525:TRP:HA	1:D:528:VAL:HG12	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:757:LEU:HD12	1:D:757:LEU:C	2.39	0.43
1:B:433:LEU:HD12	1:B:446:ILE:HD11	2.00	0.43
1:B:335:ILE:N	1:B:335:ILE:HD12	2.34	0.42
1:C:906:GLU:HB2	1:C:907:PRO:HD3	2.01	0.42
1:D:487:PHE:CD2	1:D:487:PHE:C	2.93	0.42
1:A:757:LEU:C	1:A:757:LEU:HD12	2.39	0.42
1:D:335:ILE:N	1:D:335:ILE:HD12	2.34	0.42
1:D:426:TRP:HE3	1:D:446:ILE:HG23	1.84	0.42
1:B:487:PHE:CD2	1:B:487:PHE:C	2.93	0.42
1:B:906:GLU:HB2	1:B:907:PRO:HD3	2.02	0.42
1:C:106:ILE:HG22	1:C:239:GLN:HA	2.01	0.42
1:C:129:LEU:HD23	1:C:281:LEU:CD1	2.48	0.42
1:D:106:ILE:HG22	1:D:239:GLN:HA	2.02	0.42
1:A:106:ILE:HG22	1:A:239:GLN:HA	2.02	0.42
1:A:487:PHE:C	1:A:487:PHE:CD2	2.93	0.42
1:B:525:TRP:HA	1:B:528:VAL:HG12	2.01	0.42
1:C:1011:ILE:CG2	1:C:1016:VAL:HG23	2.48	0.42
1:D:129:LEU:HD23	1:D:281:LEU:CD1	2.48	0.42
1:C:518:ASP:CB	1:C:521:LEU:HD13	2.50	0.42
1:D:143:ASN:OD1	1:D:144:LEU:N	2.53	0.42
1:A:518:ASP:CB	1:A:521:LEU:HD13	2.50	0.42
1:B:106:ILE:HG22	1:B:239:GLN:HA	2.02	0.42
1:B:518:ASP:CB	1:B:521:LEU:HD13	2.50	0.42
1:C:768:GLU:OE2	1:C:816:ARG:NH1	2.52	0.42
1:C:972:VAL:O	1:C:976:VAL:HG23	2.20	0.42
1:C:1011:ILE:HG13	1:C:1012:PRO:HD2	2.02	0.42
1:D:768:GLU:OE2	1:D:816:ARG:NH1	2.52	0.42
1:A:426:TRP:HE3	1:A:446:ILE:HG23	1.83	0.42
1:A:906:GLU:HB2	1:A:907:PRO:HD3	2.01	0.42
1:A:1011:ILE:HG13	1:A:1012:PRO:HD2	2.02	0.42
1:B:911:MET:CE	1:C:969:ILE:HD11	2.48	0.42
1:B:972:VAL:O	1:B:976:VAL:HG23	2.20	0.42
1:C:525:TRP:HA	1:C:528:VAL:HG12	2.01	0.42
1:C:487:PHE:CD2	1:C:487:PHE:C	2.93	0.42
1:A:143:ASN:OD1	1:A:144:LEU:N	2.53	0.41
1:B:1011:ILE:HG13	1:B:1012:PRO:HD2	2.02	0.41
1:D:1011:ILE:HG13	1:D:1012:PRO:HD2	2.02	0.41
1:B:911:MET:HE3	1:C:969:ILE:CD1	2.49	0.41
1:C:433:LEU:HD12	1:C:446:ILE:HD11	2.00	0.41
1:A:335:ILE:N	1:A:335:ILE:HD12	2.34	0.41
1:A:874:PHE:CE2	1:A:911:MET:SD	3.13	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:874:PHE:CE2	1:B:911:MET:SD	3.13	0.41
1:D:906:GLU:HB2	1:D:907:PRO:HD3	2.02	0.41
1:A:402:GLU:N	1:A:402:GLU:CD	2.74	0.41
1:A:972:VAL:O	1:A:976:VAL:HG23	2.20	0.41
1:B:446:ILE:N	1:B:446:ILE:HD12	2.36	0.41
1:C:143:ASN:OD1	1:C:144:LEU:N	2.53	0.41
1:D:518:ASP:CB	1:D:521:LEU:HD13	2.50	0.41
1:A:525:TRP:HA	1:A:528:VAL:HG12	2.01	0.41
1:B:143:ASN:OD1	1:B:144:LEU:N	2.53	0.41
1:D:402:GLU:N	1:D:402:GLU:CD	2.74	0.41
1:D:972:VAL:O	1:D:976:VAL:HG23	2.20	0.41
1:C:382:LYS:O	1:C:386:GLU:N	2.54	0.41
1:C:402:GLU:N	1:C:402:GLU:CD	2.74	0.41
1:B:482:LEU:HD13	1:B:483:ASN:C	2.41	0.41
1:C:446:ILE:HD12	1:C:446:ILE:N	2.36	0.41
1:C:482:LEU:HD13	1:C:483:ASN:C	2.41	0.41
1:D:874:PHE:CE2	1:D:911:MET:SD	3.13	0.41
1:B:449:ASN:CB	1:C:334:GLN:HE21	2.34	0.40
1:C:874:PHE:CE2	1:C:911:MET:SD	3.13	0.40
2:B:1205:Y01:HAD2	2:B:1205:Y01:HAS2	2.00	0.40
1:C:141:THR:O	1:C:141:THR:HG23	2.22	0.40
2:C:1202:Y01:HAD2	2:C:1202:Y01:HAS2	1.93	0.40
1:A:141:THR:HG23	1:A:141:THR:O	2.22	0.40
1:B:402:GLU:CD	1:B:402:GLU:N	2.74	0.40
2:D:1201:Y01:HAD2	2:D:1201:Y01:HAS2	1.99	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	913/1135 (80%)	885 (97%)	28 (3%)	0	100 100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	B	913/1135 (80%)	885 (97%)	28 (3%)	0	100	100
1	C	913/1135 (80%)	885 (97%)	28 (3%)	0	100	100
1	D	913/1135 (80%)	885 (97%)	28 (3%)	0	100	100
All	All	3652/4540 (80%)	3540 (97%)	112 (3%)	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	665/1022 (65%)	648 (97%)	17 (3%)	46	71
1	B	665/1022 (65%)	647 (97%)	18 (3%)	44	71
1	C	665/1022 (65%)	648 (97%)	17 (3%)	46	71
1	D	665/1022 (65%)	647 (97%)	18 (3%)	44	71
All	All	2660/4088 (65%)	2590 (97%)	70 (3%)	49	71

All (70) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	198	ASP
1	A	257	HIS
1	A	280	GLN
1	A	303	CYS
1	A	410	TYR
1	A	424	ASP
1	A	463	PHE
1	A	501	PHE
1	A	752	PHE
1	A	758	MET
1	A	816	ARG
1	A	851	ARG
1	A	878	MET

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Mol	Chain	Res	Type
1	A	912	PHE
1	A	1007	ASN
1	A	1013	PHE
1	A	1082	PHE
1	B	198	ASP
1	B	257	HIS
1	B	280	GLN
1	B	303	CYS
1	B	410	TYR
1	B	424	ASP
1	B	463	PHE
1	B	501	PHE
1	B	752	PHE
1	B	758	MET
1	B	816	ARG
1	B	851	ARG
1	B	878	MET
1	B	912	PHE
1	B	930	THR
1	B	1007	ASN
1	B	1013	PHE
1	B	1082	PHE
1	C	198	ASP
1	C	257	HIS
1	C	280	GLN
1	C	303	CYS
1	C	410	TYR
1	C	424	ASP
1	C	463	PHE
1	C	501	PHE
1	C	752	PHE
1	C	758	MET
1	C	816	ARG
1	C	851	ARG
1	C	878	MET
1	C	912	PHE
1	C	1007	ASN
1	C	1013	PHE
1	C	1082	PHE
1	D	198	ASP
1	D	257	HIS
1	D	280	GLN

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Mol	Chain	Res	Type
1	D	303	CYS
1	D	410	TYR
1	D	424	ASP
1	D	463	PHE
1	D	501	PHE
1	D	752	PHE
1	D	758	MET
1	D	816	ARG
1	D	851	ARG
1	D	878	MET
1	D	912	PHE
1	D	930	THR
1	D	1007	ASN
1	D	1013	PHE
1	D	1082	PHE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (10) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	259	HIS
1	A	280	GLN
1	B	259	HIS
1	B	280	GLN
1	B	334	GLN
1	C	259	HIS
1	C	280	GLN
1	D	259	HIS
1	D	280	GLN
1	D	642	GLN

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](#)

20 ligands are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
2	Y01	B	1202	-	38,38,38	1.05	2 (5%)	57,57,57	2.35	17 (29%)
2	Y01	A	1204	-	38,38,38	1.05	2 (5%)	57,57,57	2.26	12 (21%)
2	Y01	D	1203	-	38,38,38	1.04	2 (5%)	57,57,57	2.32	13 (22%)
2	Y01	B	1205	-	34,34,38	1.13	2 (5%)	52,52,57	2.42	17 (32%)
2	Y01	B	1203	-	38,38,38	1.05	2 (5%)	57,57,57	2.32	13 (22%)
2	Y01	A	1202	-	38,38,38	1.05	2 (5%)	57,57,57	2.35	17 (29%)
2	Y01	C	1204	-	38,38,38	1.05	2 (5%)	57,57,57	2.26	12 (21%)
2	Y01	D	1201	-	38,38,38	1.06	2 (5%)	57,57,57	2.33	14 (24%)
2	Y01	B	1201	-	38,38,38	1.06	2 (5%)	57,57,57	2.32	14 (24%)
2	Y01	A	1201	-	38,38,38	1.06	2 (5%)	57,57,57	2.32	14 (24%)
2	Y01	A	1205	-	34,34,38	1.13	2 (5%)	52,52,57	2.43	17 (32%)
2	Y01	A	1203	-	38,38,38	1.04	2 (5%)	57,57,57	2.32	13 (22%)
2	Y01	C	1201	-	38,38,38	1.06	2 (5%)	57,57,57	2.32	14 (24%)
2	Y01	C	1203	-	38,38,38	1.04	2 (5%)	57,57,57	2.31	13 (22%)
2	Y01	D	1205	-	34,34,38	1.13	2 (5%)	52,52,57	2.43	17 (32%)
2	Y01	D	1202	-	38,38,38	1.05	2 (5%)	57,57,57	2.35	17 (29%)
2	Y01	C	1202	-	38,38,38	1.05	2 (5%)	57,57,57	2.35	17 (29%)
2	Y01	D	1204	-	38,38,38	1.05	2 (5%)	57,57,57	2.26	12 (21%)
2	Y01	C	1205	-	34,34,38	1.13	2 (5%)	52,52,57	2.43	17 (32%)
2	Y01	B	1204	-	38,38,38	1.05	2 (5%)	57,57,57	2.26	12 (21%)

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
2	Y01	B	1202	-	-	9/19/77/77	0/4/4/4
2	Y01	A	1204	-	-	12/19/77/77	0/4/4/4
2	Y01	D	1203	-	-	8/19/77/77	0/4/4/4
2	Y01	B	1205	-	-	8/15/73/77	0/4/4/4
2	Y01	B	1203	-	-	8/19/77/77	0/4/4/4
2	Y01	A	1202	-	-	9/19/77/77	0/4/4/4
2	Y01	C	1204	-	-	12/19/77/77	0/4/4/4
2	Y01	D	1201	-	-	6/19/77/77	0/4/4/4
2	Y01	B	1201	-	-	6/19/77/77	0/4/4/4
2	Y01	A	1201	-	-	6/19/77/77	0/4/4/4
2	Y01	A	1205	-	-	8/15/73/77	0/4/4/4
2	Y01	A	1203	-	-	8/19/77/77	0/4/4/4
2	Y01	C	1201	-	-	6/19/77/77	0/4/4/4
2	Y01	C	1203	-	-	8/19/77/77	0/4/4/4
2	Y01	D	1205	-	-	8/15/73/77	0/4/4/4
2	Y01	D	1202	-	-	9/19/77/77	0/4/4/4
2	Y01	C	1202	-	-	9/19/77/77	0/4/4/4
2	Y01	D	1204	-	-	12/19/77/77	0/4/4/4
2	Y01	C	1205	-	-	8/15/73/77	0/4/4/4
2	Y01	B	1204	-	-	12/19/77/77	0/4/4/4

All (40) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	D	1204	Y01	OAW-CAY	3.27	1.43	1.34
2	C	1204	Y01	OAW-CAY	3.27	1.43	1.34
2	A	1204	Y01	OAW-CAY	3.26	1.43	1.34
2	B	1204	Y01	OAW-CAY	3.26	1.43	1.34
2	A	1202	Y01	OAW-CAY	3.24	1.43	1.34
2	D	1205	Y01	OAW-CAY	3.23	1.43	1.34
2	D	1202	Y01	OAW-CAY	3.23	1.43	1.34
2	B	1202	Y01	OAW-CAY	3.23	1.43	1.34
2	C	1202	Y01	OAW-CAY	3.23	1.43	1.34
2	B	1205	Y01	OAW-CAY	3.23	1.43	1.34
2	A	1205	Y01	OAW-CAY	3.22	1.43	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	1201	Y01	OAW-CAY	3.22	1.43	1.34
2	C	1205	Y01	OAW-CAY	3.22	1.43	1.34
2	A	1201	Y01	OAW-CAY	3.20	1.43	1.34
2	C	1201	Y01	OAW-CAY	3.19	1.43	1.34
2	D	1201	Y01	OAW-CAY	3.18	1.43	1.34
2	A	1203	Y01	OAW-CAY	3.17	1.43	1.34
2	C	1203	Y01	OAW-CAY	3.17	1.43	1.34
2	D	1203	Y01	OAW-CAY	3.16	1.43	1.34
2	B	1203	Y01	OAW-CAY	3.16	1.43	1.34
2	B	1205	Y01	OAH-CAX	-2.81	1.21	1.30
2	C	1205	Y01	OAH-CAX	-2.79	1.21	1.30
2	D	1204	Y01	OAH-CAX	-2.79	1.21	1.30
2	B	1201	Y01	OAH-CAX	-2.79	1.21	1.30
2	C	1201	Y01	OAH-CAX	-2.79	1.21	1.30
2	D	1203	Y01	OAH-CAX	-2.79	1.21	1.30
2	B	1203	Y01	OAH-CAX	-2.79	1.21	1.30
2	A	1205	Y01	OAH-CAX	-2.79	1.21	1.30
2	A	1203	Y01	OAH-CAX	-2.78	1.21	1.30
2	D	1201	Y01	OAH-CAX	-2.78	1.21	1.30
2	A	1202	Y01	OAH-CAX	-2.78	1.21	1.30
2	A	1201	Y01	OAH-CAX	-2.78	1.21	1.30
2	D	1202	Y01	OAH-CAX	-2.77	1.21	1.30
2	C	1203	Y01	OAH-CAX	-2.77	1.21	1.30
2	D	1205	Y01	OAH-CAX	-2.77	1.21	1.30
2	A	1204	Y01	OAH-CAX	-2.77	1.21	1.30
2	C	1204	Y01	OAH-CAX	-2.77	1.21	1.30
2	C	1202	Y01	OAH-CAX	-2.77	1.21	1.30
2	B	1202	Y01	OAH-CAX	-2.77	1.21	1.30
2	B	1204	Y01	OAH-CAX	-2.75	1.21	1.30

All (292) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	C	1201	Y01	CAT-CBH-CBF	-9.57	95.36	108.73
2	D	1201	Y01	CAT-CBH-CBF	-9.56	95.37	108.73
2	B	1201	Y01	CAT-CBH-CBF	-9.56	95.37	108.73
2	A	1201	Y01	CAT-CBH-CBF	-9.56	95.37	108.73
2	D	1204	Y01	CAT-CBH-CBF	-9.44	95.55	108.73
2	B	1204	Y01	CAT-CBH-CBF	-9.43	95.56	108.73
2	A	1204	Y01	CAT-CBH-CBF	-9.43	95.56	108.73
2	C	1204	Y01	CAT-CBH-CBF	-9.41	95.59	108.73
2	C	1203	Y01	CAT-CBH-CBF	-9.36	95.65	108.73

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	D	1203	Y01	CAT-CBH-CBF	-9.34	95.68	108.73
2	A	1203	Y01	CAT-CBH-CBF	-9.34	95.68	108.73
2	B	1203	Y01	CAT-CBH-CBF	-9.33	95.70	108.73
2	B	1202	Y01	CAT-CBH-CBF	-9.20	95.88	108.73
2	D	1202	Y01	CAT-CBH-CBF	-9.20	95.88	108.73
2	C	1202	Y01	CAT-CBH-CBF	-9.20	95.88	108.73
2	A	1202	Y01	CAT-CBH-CBF	-9.20	95.88	108.73
2	C	1205	Y01	CAT-CBH-CBF	-8.98	96.19	108.73
2	D	1205	Y01	CAT-CBH-CBF	-8.97	96.19	108.73
2	A	1205	Y01	CAT-CBH-CBF	-8.97	96.20	108.73
2	B	1205	Y01	CAT-CBH-CBF	-8.95	96.22	108.73
2	B	1203	Y01	CAV-CAZ-CAI	7.02	130.73	120.61
2	A	1203	Y01	CAV-CAZ-CAI	7.01	130.71	120.61
2	D	1203	Y01	CAV-CAZ-CAI	7.01	130.71	120.61
2	C	1203	Y01	CAV-CAZ-CAI	6.98	130.66	120.61
2	D	1201	Y01	CAV-CAZ-CAI	6.90	130.56	120.61
2	C	1201	Y01	CAV-CAZ-CAI	6.88	130.52	120.61
2	A	1201	Y01	CAV-CAZ-CAI	6.86	130.50	120.61
2	B	1201	Y01	CAV-CAZ-CAI	6.86	130.49	120.61
2	D	1202	Y01	CAV-CAZ-CAI	6.81	130.42	120.61
2	A	1202	Y01	CAV-CAZ-CAI	6.79	130.39	120.61
2	C	1202	Y01	CAV-CAZ-CAI	6.78	130.38	120.61
2	B	1202	Y01	CAV-CAZ-CAI	6.77	130.37	120.61
2	A	1205	Y01	CAV-CAZ-CAI	6.74	130.31	120.61
2	C	1205	Y01	CAV-CAZ-CAI	6.73	130.31	120.61
2	D	1205	Y01	CAV-CAZ-CAI	6.72	130.29	120.61
2	B	1205	Y01	CAV-CAZ-CAI	6.70	130.27	120.61
2	B	1204	Y01	CAV-CAZ-CAI	6.61	130.13	120.61
2	A	1204	Y01	CAV-CAZ-CAI	6.60	130.12	120.61
2	D	1204	Y01	CAV-CAZ-CAI	6.59	130.11	120.61
2	C	1204	Y01	CAV-CAZ-CAI	6.59	130.10	120.61
2	D	1205	Y01	CBH-CBF-CBD	-5.20	104.94	112.73
2	B	1202	Y01	CBH-CBF-CBD	-5.20	104.94	112.73
2	D	1202	Y01	CBH-CBF-CBD	-5.19	104.95	112.73
2	C	1205	Y01	CBH-CBF-CBD	-5.18	104.96	112.73
2	A	1205	Y01	CBH-CBF-CBD	-5.18	104.96	112.73
2	A	1202	Y01	CBH-CBF-CBD	-5.18	104.97	112.73
2	C	1202	Y01	CBH-CBF-CBD	-5.17	104.98	112.73
2	B	1205	Y01	CBH-CBF-CBD	-5.17	104.98	112.73
2	D	1203	Y01	CBH-CBF-CBD	-5.04	105.18	112.73
2	C	1203	Y01	CBH-CBF-CBD	-5.04	105.18	112.73
2	A	1203	Y01	CBH-CBF-CBD	-5.03	105.19	112.73

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	1203	Y01	CBH-CBF-CBD	-5.03	105.19	112.73
2	D	1204	Y01	CBH-CBF-CBD	-4.89	105.40	112.73
2	B	1204	Y01	CBH-CBF-CBD	-4.89	105.41	112.73
2	A	1204	Y01	CBH-CBF-CBD	-4.88	105.41	112.73
2	C	1204	Y01	CBH-CBF-CBD	-4.87	105.43	112.73
2	C	1201	Y01	CBH-CBF-CBD	-4.78	105.56	112.73
2	A	1201	Y01	CBH-CBF-CBD	-4.77	105.58	112.73
2	B	1201	Y01	CBH-CBF-CBD	-4.77	105.58	112.73
2	D	1201	Y01	CBH-CBF-CBD	-4.76	105.59	112.73
2	D	1205	Y01	OAW-CAY-CAM	4.11	120.36	111.50
2	C	1205	Y01	OAW-CAY-CAM	4.10	120.33	111.50
2	A	1205	Y01	OAW-CAY-CAM	4.09	120.32	111.50
2	B	1205	Y01	OAW-CAY-CAM	4.07	120.27	111.50
2	C	1202	Y01	OAW-CAY-CAM	3.98	120.09	111.50
2	B	1202	Y01	OAW-CAY-CAM	3.98	120.08	111.50
2	A	1202	Y01	OAW-CAY-CAM	3.98	120.07	111.50
2	D	1202	Y01	OAW-CAY-CAM	3.97	120.05	111.50
2	B	1203	Y01	CAD-CBH-CBF	3.94	116.38	111.68
2	C	1204	Y01	OAW-CAY-CAM	3.93	119.98	111.50
2	A	1204	Y01	OAW-CAY-CAM	3.92	119.96	111.50
2	C	1203	Y01	CAD-CBH-CBF	3.92	116.36	111.68
2	B	1204	Y01	OAW-CAY-CAM	3.92	119.94	111.50
2	D	1204	Y01	OAW-CAY-CAM	3.91	119.94	111.50
2	D	1203	Y01	CAD-CBH-CBF	3.91	116.35	111.68
2	B	1201	Y01	CAU-CBI-CBE	-3.91	110.72	116.57
2	A	1203	Y01	CAD-CBH-CBF	3.91	116.34	111.68
2	D	1201	Y01	CAU-CBI-CBE	-3.90	110.73	116.57
2	A	1201	Y01	CAU-CBI-CBE	-3.87	110.78	116.57
2	C	1201	Y01	CAU-CBI-CBE	-3.85	110.81	116.57
2	C	1202	Y01	CAU-CBI-CBE	-3.81	110.87	116.57
2	D	1202	Y01	CAU-CBI-CBE	-3.80	110.88	116.57
2	A	1202	Y01	CAU-CBI-CBE	-3.80	110.89	116.57
2	B	1202	Y01	CAU-CBI-CBE	-3.79	110.90	116.57
2	C	1201	Y01	OAW-CAY-CAM	3.76	119.60	111.50
2	D	1201	Y01	OAW-CAY-CAM	3.75	119.58	111.50
2	B	1201	Y01	OAW-CAY-CAM	3.74	119.57	111.50
2	A	1201	Y01	OAW-CAY-CAM	3.74	119.56	111.50
2	D	1205	Y01	CAD-CBH-CBF	3.69	116.08	111.68
2	A	1205	Y01	CAD-CBH-CBF	3.68	116.07	111.68
2	B	1205	Y01	CAD-CBH-CBF	3.67	116.05	111.68
2	C	1205	Y01	CAD-CBH-CBF	3.67	116.05	111.68
2	D	1203	Y01	OAW-CAY-CAM	3.65	119.37	111.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	C	1203	Y01	OAW-CAY-CAM	3.65	119.36	111.50
2	B	1203	Y01	OAW-CAY-CAM	3.64	119.34	111.50
2	A	1204	Y01	CAD-CBH-CBF	3.64	116.02	111.68
2	D	1203	Y01	CBH-CAZ-CAI	-3.63	117.34	122.90
2	D	1204	Y01	CAD-CBH-CBF	3.63	116.01	111.68
2	A	1203	Y01	OAW-CAY-CAM	3.63	119.33	111.50
2	A	1203	Y01	CAU-CBI-CBE	-3.62	111.15	116.57
2	B	1204	Y01	CAD-CBH-CBF	3.62	116.00	111.68
2	B	1203	Y01	CAU-CBI-CBE	-3.62	111.15	116.57
2	B	1203	Y01	CBH-CAZ-CAI	-3.62	117.37	122.90
2	C	1204	Y01	CAD-CBH-CBF	3.61	115.99	111.68
2	C	1203	Y01	CAU-CBI-CBE	-3.61	111.16	116.57
2	D	1203	Y01	CAU-CBI-CBE	-3.61	111.17	116.57
2	A	1203	Y01	CBH-CAZ-CAI	-3.60	117.39	122.90
2	C	1203	Y01	CBH-CAZ-CAI	-3.59	117.41	122.90
2	B	1205	Y01	CAU-CBI-CBE	-3.57	111.23	116.57
2	C	1205	Y01	CAU-CBI-CBE	-3.56	111.24	116.57
2	A	1205	Y01	CAU-CBI-CBE	-3.56	111.24	116.57
2	A	1202	Y01	CAU-CAS-CBF	3.56	119.28	113.11
2	C	1202	Y01	CAU-CAS-CBF	3.55	119.27	113.11
2	D	1205	Y01	CAU-CBI-CBE	-3.55	111.26	116.57
2	D	1202	Y01	CAU-CAS-CBF	3.55	119.26	113.11
2	B	1202	Y01	CAK-CBD-CBF	-3.54	105.42	109.71
2	B	1202	Y01	CAU-CAS-CBF	3.54	119.25	113.11
2	D	1205	Y01	CAK-CBD-CBF	-3.53	105.43	109.71
2	A	1205	Y01	CAK-CBD-CBF	-3.53	105.44	109.71
2	A	1202	Y01	CAK-CBD-CBF	-3.52	105.44	109.71
2	B	1205	Y01	CAK-CBD-CBF	-3.52	105.45	109.71
2	C	1205	Y01	CAK-CBD-CBF	-3.52	105.45	109.71
2	C	1202	Y01	CAK-CBD-CBF	-3.50	105.47	109.71
2	D	1202	Y01	CAK-CBD-CBF	-3.48	105.49	109.71
2	D	1204	Y01	CAU-CBI-CBE	-3.48	111.37	116.57
2	C	1201	Y01	CBH-CAZ-CAI	-3.47	117.60	122.90
2	D	1201	Y01	CAV-CAZ-CBH	-3.47	111.81	116.42
2	B	1204	Y01	CAU-CBI-CBE	-3.46	111.39	116.57
2	B	1201	Y01	CBH-CAZ-CAI	-3.46	117.61	122.90
2	A	1204	Y01	CAU-CBI-CBE	-3.46	111.39	116.57
2	D	1201	Y01	CBH-CAZ-CAI	-3.46	117.61	122.90
2	C	1204	Y01	CAU-CBI-CBE	-3.45	111.40	116.57
2	A	1201	Y01	CBH-CAZ-CAI	-3.45	117.63	122.90
2	A	1201	Y01	CAV-CAZ-CBH	-3.43	111.86	116.42
2	A	1202	Y01	CAV-CAZ-CBH	-3.43	111.86	116.42

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	D	1202	Y01	CAV-CAZ-CBH	-3.43	111.86	116.42
2	B	1201	Y01	CAD-CBH-CBF	3.43	115.77	111.68
2	D	1201	Y01	CAD-CBH-CBF	3.43	115.77	111.68
2	C	1204	Y01	CBH-CAZ-CAI	-3.43	117.66	122.90
2	C	1201	Y01	CAD-CBH-CBF	3.43	115.77	111.68
2	C	1201	Y01	CAV-CAZ-CBH	-3.43	111.87	116.42
2	A	1204	Y01	CBH-CAZ-CAI	-3.42	117.66	122.90
2	C	1202	Y01	CAV-CAZ-CBH	-3.42	111.87	116.42
2	D	1205	Y01	CAV-CAZ-CBH	-3.42	111.88	116.42
2	A	1201	Y01	CAD-CBH-CBF	3.42	115.76	111.68
2	D	1204	Y01	CBH-CAZ-CAI	-3.42	117.67	122.90
2	B	1203	Y01	CAV-CAZ-CBH	-3.41	111.89	116.42
2	A	1203	Y01	CAV-CAZ-CBH	-3.41	111.89	116.42
2	B	1201	Y01	CAV-CAZ-CBH	-3.41	111.89	116.42
2	C	1205	Y01	CAV-CAZ-CBH	-3.41	111.89	116.42
2	B	1202	Y01	CAV-CAZ-CBH	-3.40	111.90	116.42
2	A	1205	Y01	CAV-CAZ-CBH	-3.40	111.91	116.42
2	B	1204	Y01	CBH-CAZ-CAI	-3.39	117.71	122.90
2	C	1203	Y01	CAV-CAZ-CBH	-3.39	111.91	116.42
2	D	1202	Y01	CBH-CAZ-CAI	-3.39	117.71	122.90
2	B	1202	Y01	CBH-CAZ-CAI	-3.39	117.72	122.90
2	B	1205	Y01	CAV-CAZ-CBH	-3.38	111.93	116.42
2	B	1201	Y01	CAU-CAS-CBF	3.38	118.97	113.11
2	C	1201	Y01	CAU-CAS-CBF	3.38	118.97	113.11
2	C	1202	Y01	CBH-CAZ-CAI	-3.37	117.74	122.90
2	D	1201	Y01	CAU-CAS-CBF	3.37	118.96	113.11
2	D	1203	Y01	CAV-CAZ-CBH	-3.37	111.94	116.42
2	A	1202	Y01	CBH-CAZ-CAI	-3.37	117.75	122.90
2	A	1201	Y01	CAU-CAS-CBF	3.37	118.95	113.11
2	A	1205	Y01	CBH-CAZ-CAI	-3.36	117.77	122.90
2	C	1205	Y01	CBH-CAZ-CAI	-3.35	117.78	122.90
2	B	1205	Y01	CBH-CAZ-CAI	-3.34	117.79	122.90
2	D	1205	Y01	CBH-CAZ-CAI	-3.32	117.82	122.90
2	B	1204	Y01	CAV-CAZ-CBH	-3.21	112.15	116.42
2	A	1204	Y01	CAV-CAZ-CBH	-3.17	112.21	116.42
2	D	1204	Y01	CAV-CAZ-CBH	-3.17	112.21	116.42
2	C	1204	Y01	CAV-CAZ-CBH	-3.15	112.23	116.42
2	D	1205	Y01	CAU-CAS-CBF	3.05	118.40	113.11
2	A	1205	Y01	CAU-CAS-CBF	3.01	118.33	113.11
2	C	1205	Y01	CAU-CAS-CBF	3.00	118.31	113.11
2	B	1205	Y01	CAU-CAS-CBF	3.00	118.31	113.11
2	C	1203	Y01	CAU-CAS-CBF	2.95	118.23	113.11

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	D	1203	Y01	CAU-CAS-CBF	2.95	118.23	113.11
2	A	1203	Y01	CAU-CAS-CBF	2.95	118.23	113.11
2	D	1202	Y01	CAD-CBH-CBF	2.94	115.18	111.68
2	A	1202	Y01	CAD-CBH-CBF	2.93	115.17	111.68
2	B	1202	Y01	CAD-CBH-CBF	2.93	115.17	111.68
2	C	1202	Y01	CAD-CBH-CBF	2.92	115.16	111.68
2	B	1203	Y01	CAU-CAS-CBF	2.92	118.17	113.11
2	B	1204	Y01	CAD-CBH-CAZ	2.85	112.96	108.34
2	D	1204	Y01	CAD-CBH-CAZ	2.84	112.93	108.34
2	A	1204	Y01	CAD-CBH-CAZ	2.82	112.91	108.34
2	C	1204	Y01	CAD-CBH-CAZ	2.80	112.87	108.34
2	C	1203	Y01	CBI-CBE-CBB	-2.79	115.11	119.49
2	C	1204	Y01	CAU-CAS-CBF	2.79	117.95	113.11
2	A	1204	Y01	CAU-CAS-CBF	2.78	117.94	113.11
2	D	1204	Y01	CAU-CAS-CBF	2.78	117.94	113.11
2	A	1203	Y01	CBI-CBE-CBB	-2.78	115.14	119.49
2	D	1203	Y01	CBI-CBE-CBB	-2.77	115.14	119.49
2	B	1203	Y01	CBI-CBE-CBB	-2.77	115.14	119.49
2	B	1204	Y01	CAU-CAS-CBF	2.77	117.91	113.11
2	A	1202	Y01	CBD-CAK-CAI	-2.64	108.94	112.73
2	C	1202	Y01	CBD-CAK-CAI	-2.63	108.95	112.73
2	D	1202	Y01	CBD-CAK-CAI	-2.63	108.95	112.73
2	B	1202	Y01	CBD-CAK-CAI	-2.63	108.95	112.73
2	C	1202	Y01	CAD-CBH-CAZ	2.61	112.57	108.34
2	A	1202	Y01	CAD-CBH-CAZ	2.61	112.56	108.34
2	D	1202	Y01	CAD-CBH-CAZ	2.60	112.55	108.34
2	B	1202	Y01	CAD-CBH-CAZ	2.59	112.53	108.34
2	C	1205	Y01	CAD-CBH-CAZ	2.59	112.53	108.34
2	A	1205	Y01	CAD-CBH-CAZ	2.57	112.50	108.34
2	D	1205	Y01	CAD-CBH-CAZ	2.56	112.48	108.34
2	B	1203	Y01	CAK-CBD-CBF	-2.55	106.62	109.71
2	B	1205	Y01	CAD-CBH-CAZ	2.55	112.47	108.34
2	D	1201	Y01	CBI-CBE-CBB	-2.54	115.51	119.49
2	B	1201	Y01	CBI-CBE-CBB	-2.54	115.51	119.49
2	A	1203	Y01	CAK-CBD-CBF	-2.54	106.64	109.71
2	D	1203	Y01	CAK-CBD-CBF	-2.53	106.65	109.71
2	A	1201	Y01	CBI-CBE-CBB	-2.53	115.52	119.49
2	C	1201	Y01	CBI-CBE-CBB	-2.53	115.53	119.49
2	C	1201	Y01	CAK-CBD-CBF	-2.52	106.66	109.71
2	C	1203	Y01	CAK-CBD-CBF	-2.51	106.67	109.71
2	B	1205	Y01	CBI-CBE-CBB	-2.50	115.56	119.49
2	D	1201	Y01	CAK-CBD-CBF	-2.50	106.68	109.71

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	1204	Y01	CAC-CBB-CBE	-2.50	109.09	112.92
2	A	1201	Y01	CAK-CBD-CBF	-2.50	106.69	109.71
2	A	1205	Y01	CBI-CBE-CBB	-2.50	115.58	119.49
2	C	1205	Y01	CBI-CBE-CBB	-2.48	115.60	119.49
2	C	1204	Y01	CAC-CBB-CBE	-2.48	109.12	112.92
2	D	1204	Y01	CAC-CBB-CBE	-2.48	109.12	112.92
2	A	1204	Y01	CAC-CBB-CBE	-2.48	109.13	112.92
2	D	1205	Y01	CBI-CBE-CBB	-2.47	115.62	119.49
2	B	1201	Y01	CAK-CBD-CBF	-2.46	106.73	109.71
2	D	1203	Y01	CAD-CBH-CAZ	2.44	112.29	108.34
2	B	1205	Y01	CAS-CBF-CBD	2.44	115.27	111.75
2	C	1203	Y01	CAD-CBH-CAZ	2.44	112.28	108.34
2	A	1203	Y01	CAD-CBH-CAZ	2.43	112.28	108.34
2	C	1205	Y01	CAS-CBF-CBD	2.43	115.26	111.75
2	B	1203	Y01	CAD-CBH-CAZ	2.43	112.27	108.34
2	A	1205	Y01	CAS-CBF-CBD	2.42	115.24	111.75
2	C	1202	Y01	CAP-CBE-CBB	-2.42	108.40	112.15
2	D	1202	Y01	CAP-CBE-CBB	-2.41	108.42	112.15
2	B	1202	Y01	CAP-CBE-CBB	-2.40	108.43	112.15
2	A	1202	Y01	CAP-CBE-CBB	-2.40	108.43	112.15
2	D	1205	Y01	CAS-CBF-CBD	2.38	115.19	111.75
2	C	1201	Y01	CAD-CBH-CAZ	2.38	112.19	108.34
2	A	1201	Y01	CAD-CBH-CAZ	2.37	112.18	108.34
2	D	1201	Y01	CAD-CBH-CAZ	2.37	112.18	108.34
2	A	1201	Y01	CAS-CBF-CBH	-2.36	109.97	113.08
2	D	1201	Y01	CAS-CBF-CBH	-2.35	109.98	113.08
2	B	1202	Y01	CAS-CBF-CBD	2.35	115.14	111.75
2	C	1202	Y01	CAS-CBF-CBD	2.34	115.13	111.75
2	D	1202	Y01	CAS-CBF-CBD	2.34	115.13	111.75
2	C	1201	Y01	CAS-CBF-CBH	-2.34	110.00	113.08
2	B	1201	Y01	CAD-CBH-CAZ	2.34	112.13	108.34
2	B	1201	Y01	CAS-CBF-CBH	-2.33	110.02	113.08
2	A	1202	Y01	CAS-CBF-CBD	2.33	115.11	111.75
2	A	1202	Y01	CAS-CBF-CBH	-2.27	110.08	113.08
2	B	1205	Y01	CBD-CAK-CAI	-2.27	109.47	112.73
2	B	1202	Y01	CAS-CAU-CBI	2.27	116.67	112.78
2	B	1202	Y01	CAS-CBF-CBH	-2.27	110.09	113.08
2	C	1202	Y01	CAS-CBF-CBH	-2.26	110.10	113.08
2	C	1205	Y01	CBD-CAK-CAI	-2.26	109.49	112.73
2	D	1202	Y01	CAS-CAU-CBI	2.26	116.65	112.78
2	D	1202	Y01	CAS-CBF-CBH	-2.26	110.11	113.08
2	C	1202	Y01	CAS-CAU-CBI	2.25	116.65	112.78

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	D	1205	Y01	CBD-CAK-CAI	-2.25	109.50	112.73
2	A	1202	Y01	CAS-CAU-CBI	2.25	116.64	112.78
2	A	1205	Y01	CBD-CAK-CAI	-2.25	109.50	112.73
2	B	1205	Y01	CAC-CBB-CAO	-2.20	106.20	111.78
2	C	1205	Y01	CAC-CBB-CAO	-2.20	106.20	111.78
2	A	1203	Y01	CAP-CBE-CBB	-2.20	108.74	112.15
2	B	1203	Y01	CAP-CBE-CBB	-2.20	108.74	112.15
2	D	1203	Y01	CAP-CBE-CBB	-2.20	108.74	112.15
2	A	1205	Y01	CAC-CBB-CAO	-2.20	106.21	111.78
2	D	1205	Y01	CAC-CBB-CAO	-2.19	106.23	111.78
2	C	1203	Y01	CAP-CBE-CBB	-2.17	108.79	112.15
2	A	1205	Y01	CAS-CBF-CBH	-2.11	110.31	113.08
2	C	1205	Y01	CAS-CBF-CBH	-2.10	110.31	113.08
2	A	1201	Y01	CAS-CBF-CBD	2.10	114.78	111.75
2	D	1205	Y01	CAS-CBF-CBH	-2.09	110.32	113.08
2	B	1201	Y01	CAS-CBF-CBD	2.09	114.77	111.75
2	B	1205	Y01	CAS-CBF-CBH	-2.09	110.33	113.08
2	D	1201	Y01	CAS-CBF-CBD	2.08	114.76	111.75
2	C	1201	Y01	CAS-CBF-CBD	2.08	114.76	111.75
2	B	1202	Y01	CAD-CBH-CAT	2.08	112.71	109.43
2	A	1202	Y01	CAD-CBH-CAT	2.07	112.70	109.43
2	B	1204	Y01	CAS-CBF-CBH	-2.07	110.35	113.08
2	C	1202	Y01	CAD-CBH-CAT	2.07	112.70	109.43
2	A	1204	Y01	CAS-CBF-CBH	-2.06	110.37	113.08
2	D	1202	Y01	CAD-CBH-CAT	2.06	112.68	109.43
2	C	1205	Y01	CAP-CBE-CBI	-2.04	101.38	103.84
2	C	1204	Y01	CAS-CBF-CBH	-2.04	110.39	113.08
2	D	1204	Y01	CAS-CBF-CBH	-2.03	110.41	113.08
2	A	1205	Y01	CAP-CBE-CBI	-2.02	101.41	103.84
2	D	1205	Y01	CAP-CBE-CBI	-2.02	101.41	103.84
2	B	1205	Y01	CAP-CBE-CBI	-2.01	101.42	103.84

There are no chirality outliers.

All (172) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	1203	Y01	CAV-CBC-OAW-CAY
2	B	1203	Y01	CAV-CBC-OAW-CAY
2	C	1203	Y01	CAV-CBC-OAW-CAY
2	D	1203	Y01	CAV-CBC-OAW-CAY
2	A	1202	Y01	CAJ-CAO-CBB-CBE
2	B	1202	Y01	CAJ-CAO-CBB-CBE

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Mol	Chain	Res	Type	Atoms
2	C	1202	Y01	CAJ-CAO-CBB-CBE
2	D	1202	Y01	CAJ-CAO-CBB-CBE
2	A	1203	Y01	CAJ-CAO-CBB-CBE
2	B	1203	Y01	CAJ-CAO-CBB-CBE
2	C	1203	Y01	CAJ-CAO-CBB-CBE
2	D	1203	Y01	CAJ-CAO-CBB-CBE
2	A	1203	Y01	CAO-CAJ-CAN-CBA
2	B	1203	Y01	CAO-CAJ-CAN-CBA
2	C	1203	Y01	CAO-CAJ-CAN-CBA
2	D	1203	Y01	CAO-CAJ-CAN-CBA
2	A	1203	Y01	CAJ-CAO-CBB-CAC
2	B	1203	Y01	CAJ-CAO-CBB-CAC
2	C	1203	Y01	CAJ-CAO-CBB-CAC
2	D	1203	Y01	CAJ-CAO-CBB-CAC
2	A	1204	Y01	CAN-CAJ-CAO-CBB
2	B	1204	Y01	CAN-CAJ-CAO-CBB
2	C	1204	Y01	CAN-CAJ-CAO-CBB
2	D	1204	Y01	CAN-CAJ-CAO-CBB
2	A	1202	Y01	CAO-CBB-CBE-CAP
2	B	1202	Y01	CAO-CBB-CBE-CAP
2	C	1202	Y01	CAO-CBB-CBE-CAP
2	D	1202	Y01	CAO-CBB-CBE-CAP
2	A	1204	Y01	CAX-CAL-CAM-CAY
2	B	1204	Y01	CAX-CAL-CAM-CAY
2	C	1204	Y01	CAX-CAL-CAM-CAY
2	D	1204	Y01	CAX-CAL-CAM-CAY
2	A	1202	Y01	CAN-CAJ-CAO-CBB
2	B	1202	Y01	CAN-CAJ-CAO-CBB
2	C	1202	Y01	CAN-CAJ-CAO-CBB
2	D	1202	Y01	CAN-CAJ-CAO-CBB
2	A	1202	Y01	CAJ-CAO-CBB-CAC
2	B	1202	Y01	CAJ-CAO-CBB-CAC
2	C	1202	Y01	CAJ-CAO-CBB-CAC
2	D	1202	Y01	CAJ-CAO-CBB-CAC
2	A	1202	Y01	CAO-CAJ-CAN-CBA
2	B	1202	Y01	CAO-CAJ-CAN-CBA
2	C	1202	Y01	CAO-CAJ-CAN-CBA
2	D	1202	Y01	CAO-CAJ-CAN-CBA
2	A	1201	Y01	CAO-CAJ-CAN-CBA
2	B	1201	Y01	CAO-CAJ-CAN-CBA
2	C	1201	Y01	CAO-CAJ-CAN-CBA
2	D	1201	Y01	CAO-CAJ-CAN-CBA

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Mol	Chain	Res	Type	Atoms
2	A	1205	Y01	CAJ-CAO-CBB-CAC
2	B	1205	Y01	CAJ-CAO-CBB-CAC
2	C	1205	Y01	CAJ-CAO-CBB-CAC
2	D	1205	Y01	CAJ-CAO-CBB-CAC
2	A	1203	Y01	CAM-CAY-OAW-CBC
2	B	1203	Y01	CAM-CAY-OAW-CBC
2	C	1203	Y01	CAM-CAY-OAW-CBC
2	D	1203	Y01	CAM-CAY-OAW-CBC
2	A	1203	Y01	OAG-CAY-OAW-CBC
2	B	1203	Y01	OAG-CAY-OAW-CBC
2	C	1203	Y01	OAG-CAY-OAW-CBC
2	D	1203	Y01	OAG-CAY-OAW-CBC
2	A	1205	Y01	CAJ-CAO-CBB-CBE
2	B	1205	Y01	CAJ-CAO-CBB-CBE
2	C	1205	Y01	CAJ-CAO-CBB-CBE
2	D	1205	Y01	CAJ-CAO-CBB-CBE
2	A	1205	Y01	CAX-CAL-CAM-CAY
2	B	1205	Y01	CAX-CAL-CAM-CAY
2	C	1205	Y01	CAX-CAL-CAM-CAY
2	D	1205	Y01	CAX-CAL-CAM-CAY
2	A	1204	Y01	CAJ-CAN-CBA-CAA
2	A	1204	Y01	CAJ-CAN-CBA-CAB
2	B	1204	Y01	CAJ-CAN-CBA-CAA
2	B	1204	Y01	CAJ-CAN-CBA-CAB
2	C	1204	Y01	CAJ-CAN-CBA-CAA
2	C	1204	Y01	CAJ-CAN-CBA-CAB
2	D	1204	Y01	CAJ-CAN-CBA-CAA
2	D	1204	Y01	CAJ-CAN-CBA-CAB
2	A	1201	Y01	CAJ-CAN-CBA-CAB
2	B	1201	Y01	CAJ-CAN-CBA-CAB
2	C	1201	Y01	CAJ-CAN-CBA-CAB
2	D	1201	Y01	CAJ-CAN-CBA-CAB
2	A	1205	Y01	CAC-CBB-CBE-CBI
2	B	1205	Y01	CAC-CBB-CBE-CBI
2	C	1205	Y01	CAC-CBB-CBE-CBI
2	D	1205	Y01	CAC-CBB-CBE-CBI
2	D	1204	Y01	CAC-CBB-CBE-CBI
2	A	1201	Y01	CAJ-CAN-CBA-CAA
2	B	1201	Y01	CAJ-CAN-CBA-CAA
2	C	1201	Y01	CAJ-CAN-CBA-CAA
2	D	1201	Y01	CAJ-CAN-CBA-CAA
2	A	1205	Y01	CAM-CAY-OAW-CBC

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Mol	Chain	Res	Type	Atoms
2	B	1205	Y01	CAM-CAY-OAW-CBC
2	C	1205	Y01	CAM-CAY-OAW-CBC
2	D	1205	Y01	CAM-CAY-OAW-CBC
2	A	1204	Y01	CAC-CBB-CBE-CBI
2	B	1204	Y01	CAC-CBB-CBE-CBI
2	C	1204	Y01	CAC-CBB-CBE-CBI
2	A	1205	Y01	OAG-CAY-OAW-CBC
2	B	1205	Y01	OAG-CAY-OAW-CBC
2	C	1205	Y01	OAG-CAY-OAW-CBC
2	D	1205	Y01	OAG-CAY-OAW-CBC
2	A	1204	Y01	CAO-CBB-CBE-CBI
2	B	1204	Y01	CAO-CBB-CBE-CBI
2	C	1204	Y01	CAO-CBB-CBE-CBI
2	D	1204	Y01	CAO-CBB-CBE-CBI
2	A	1205	Y01	CAO-CBB-CBE-CBI
2	B	1205	Y01	CAO-CBB-CBE-CBI
2	C	1205	Y01	CAO-CBB-CBE-CBI
2	D	1205	Y01	CAO-CBB-CBE-CBI
2	A	1205	Y01	CAC-CBB-CBE-CAP
2	B	1205	Y01	CAC-CBB-CBE-CAP
2	C	1205	Y01	CAC-CBB-CBE-CAP
2	D	1205	Y01	CAC-CBB-CBE-CAP
2	A	1204	Y01	CAC-CBB-CBE-CAP
2	B	1204	Y01	CAC-CBB-CBE-CAP
2	C	1204	Y01	CAC-CBB-CBE-CAP
2	D	1204	Y01	CAC-CBB-CBE-CAP
2	B	1201	Y01	CAJ-CAO-CBB-CAC
2	D	1201	Y01	CAJ-CAO-CBB-CAC
2	A	1201	Y01	CAJ-CAO-CBB-CAC
2	C	1201	Y01	CAJ-CAO-CBB-CAC
2	A	1202	Y01	CAC-CBB-CBE-CAP
2	B	1202	Y01	CAC-CBB-CBE-CAP
2	C	1202	Y01	CAC-CBB-CBE-CAP
2	D	1202	Y01	CAC-CBB-CBE-CAP
2	C	1204	Y01	CAJ-CAO-CBB-CAC
2	D	1204	Y01	CAJ-CAO-CBB-CAC
2	A	1204	Y01	CAJ-CAO-CBB-CAC
2	B	1204	Y01	CAJ-CAO-CBB-CAC
2	A	1204	Y01	CAM-CAL-CAX-OAF
2	D	1204	Y01	CAM-CAL-CAX-OAF
2	B	1204	Y01	CAM-CAL-CAX-OAF
2	C	1204	Y01	CAM-CAL-CAX-OAF

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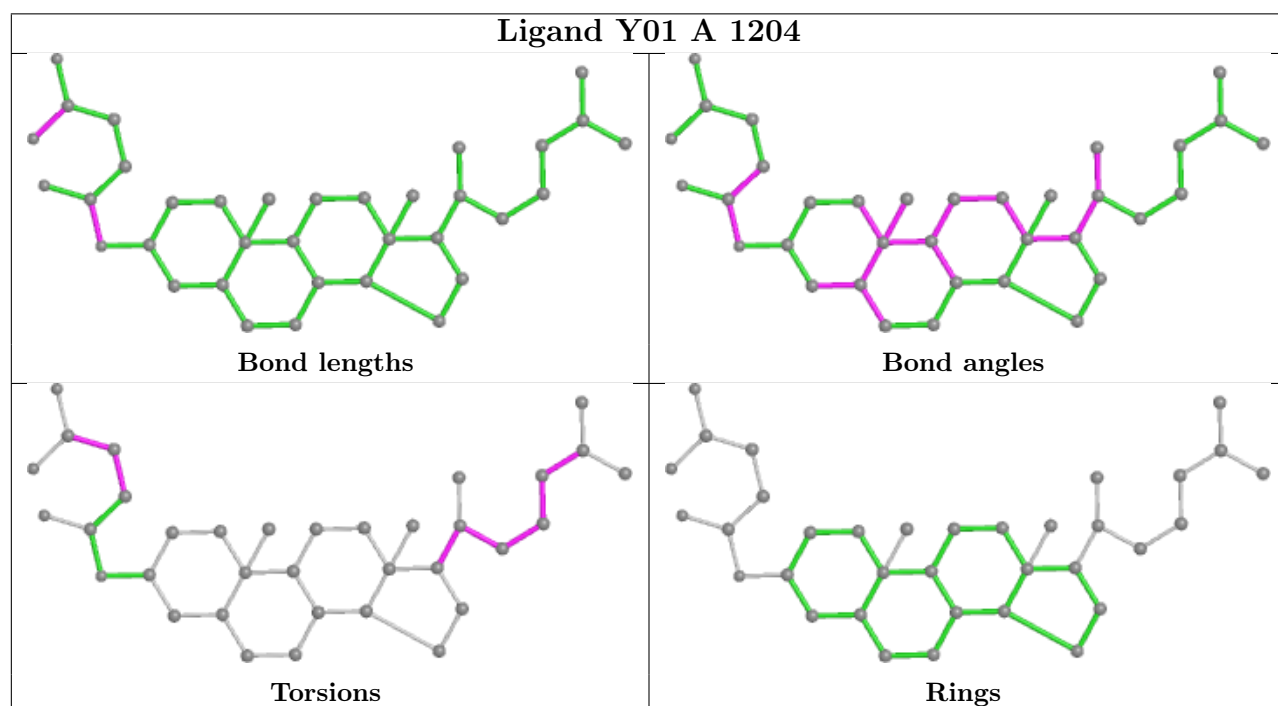
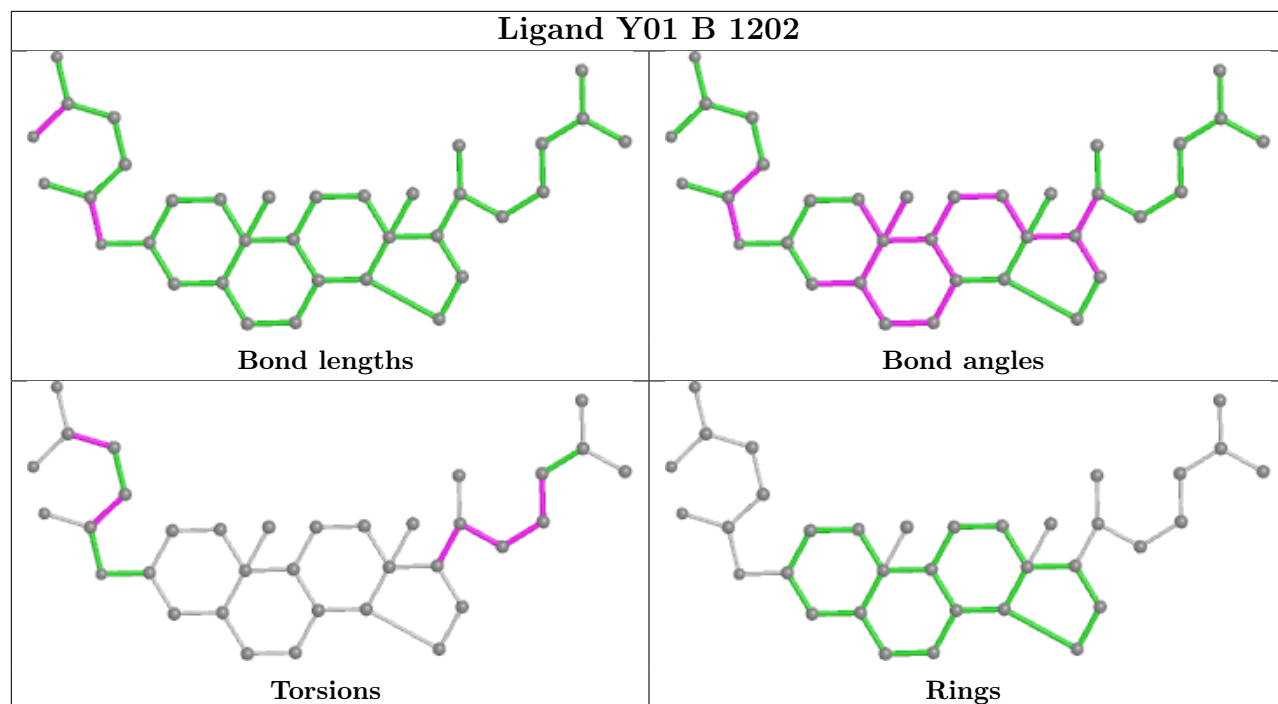
Mol	Chain	Res	Type	Atoms
2	A	1204	Y01	CAM-CAL-CAX-OAH
2	C	1204	Y01	CAM-CAL-CAX-OAH
2	B	1204	Y01	CAM-CAL-CAX-OAH
2	D	1204	Y01	CAM-CAL-CAX-OAH
2	A	1202	Y01	CAM-CAL-CAX-OAF
2	B	1202	Y01	CAM-CAL-CAX-OAF
2	C	1202	Y01	CAM-CAL-CAX-OAF
2	D	1202	Y01	CAM-CAL-CAX-OAF
2	A	1201	Y01	OAG-CAY-OAW-CBC
2	B	1201	Y01	OAG-CAY-OAW-CBC
2	C	1201	Y01	OAG-CAY-OAW-CBC
2	D	1201	Y01	OAG-CAY-OAW-CBC
2	A	1204	Y01	CAO-CBB-CBE-CAP
2	B	1204	Y01	CAO-CBB-CBE-CAP
2	C	1204	Y01	CAO-CBB-CBE-CAP
2	D	1204	Y01	CAO-CBB-CBE-CAP
2	B	1203	Y01	CAJ-CAN-CBA-CAB
2	C	1203	Y01	CAJ-CAN-CBA-CAB
2	D	1203	Y01	CAJ-CAN-CBA-CAB
2	A	1204	Y01	CAO-CAJ-CAN-CBA
2	C	1204	Y01	CAO-CAJ-CAN-CBA
2	A	1203	Y01	CAJ-CAN-CBA-CAB
2	A	1202	Y01	CAM-CAL-CAX-OAH
2	B	1202	Y01	CAM-CAL-CAX-OAH
2	C	1202	Y01	CAM-CAL-CAX-OAH
2	D	1202	Y01	CAM-CAL-CAX-OAH
2	D	1204	Y01	CAO-CAJ-CAN-CBA
2	B	1204	Y01	CAO-CAJ-CAN-CBA
2	C	1201	Y01	CAM-CAY-OAW-CBC
2	B	1203	Y01	CAL-CAM-CAY-OAW
2	C	1203	Y01	CAL-CAM-CAY-OAW
2	D	1203	Y01	CAL-CAM-CAY-OAW
2	A	1202	Y01	CAL-CAM-CAY-OAW
2	A	1203	Y01	CAL-CAM-CAY-OAW
2	B	1202	Y01	CAL-CAM-CAY-OAW
2	D	1202	Y01	CAL-CAM-CAY-OAW
2	A	1201	Y01	CAM-CAY-OAW-CBC
2	B	1201	Y01	CAM-CAY-OAW-CBC
2	D	1201	Y01	CAM-CAY-OAW-CBC
2	C	1202	Y01	CAL-CAM-CAY-OAW

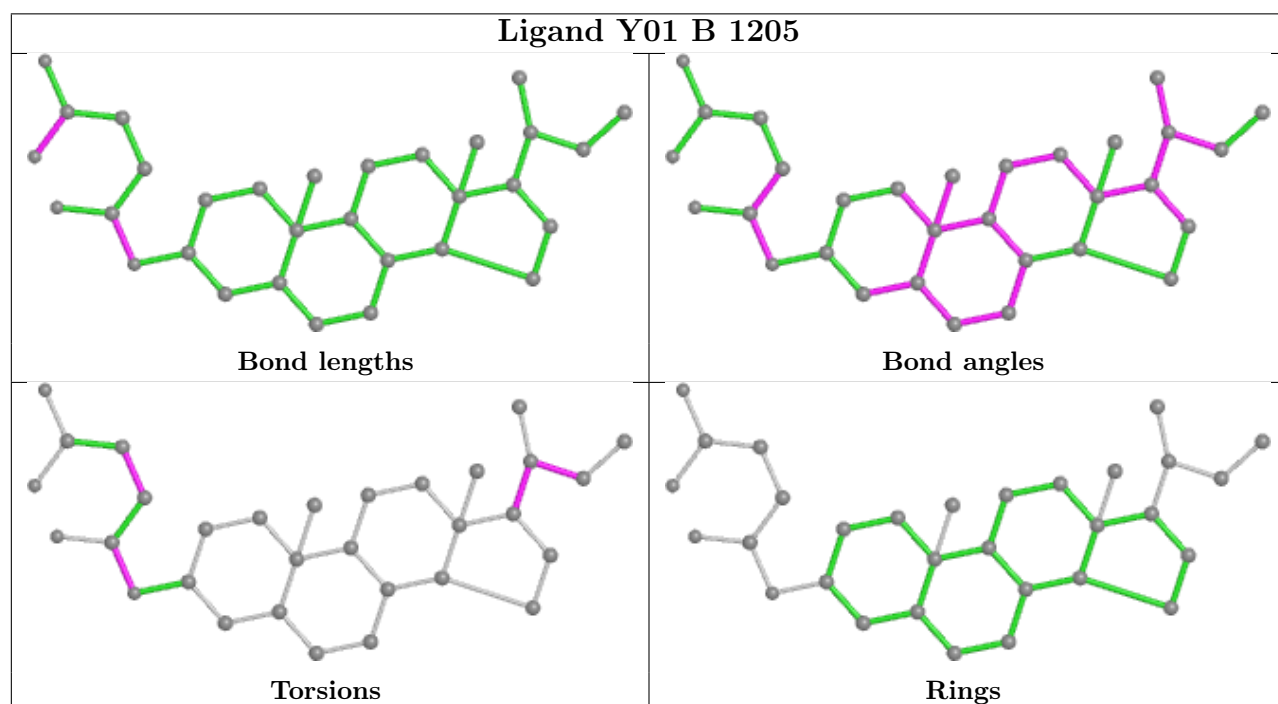
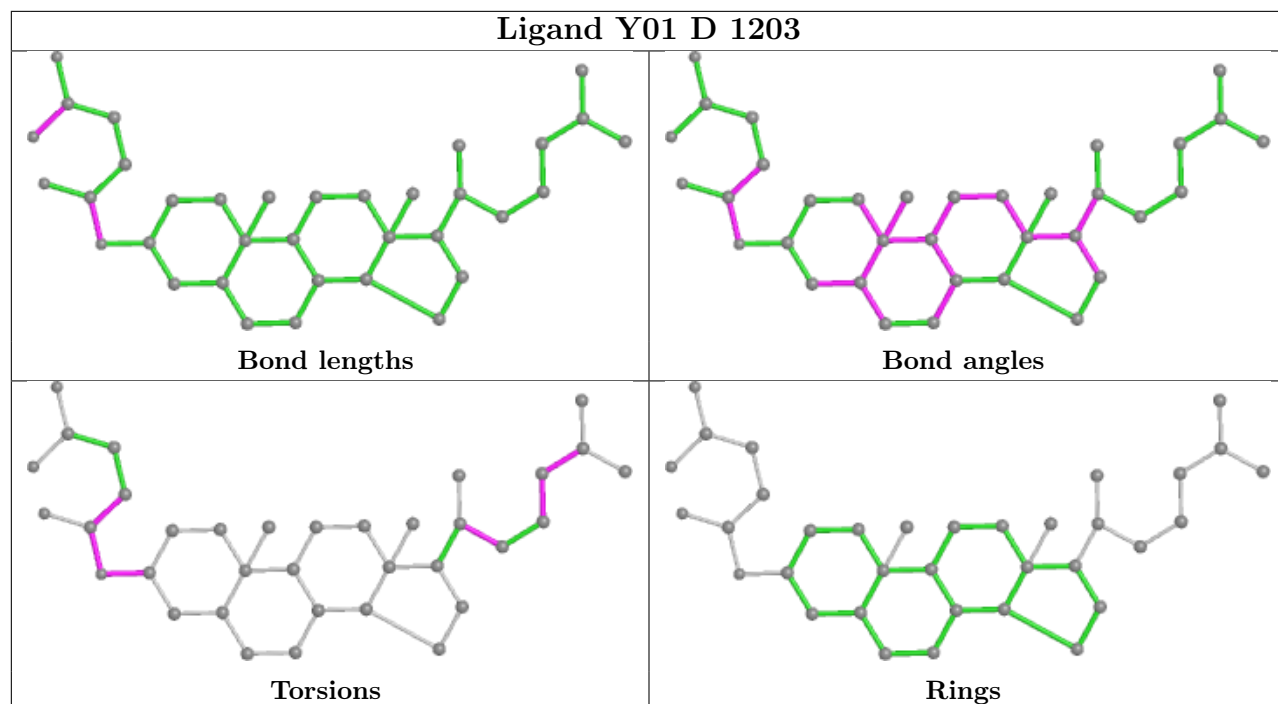
There are no ring outliers.

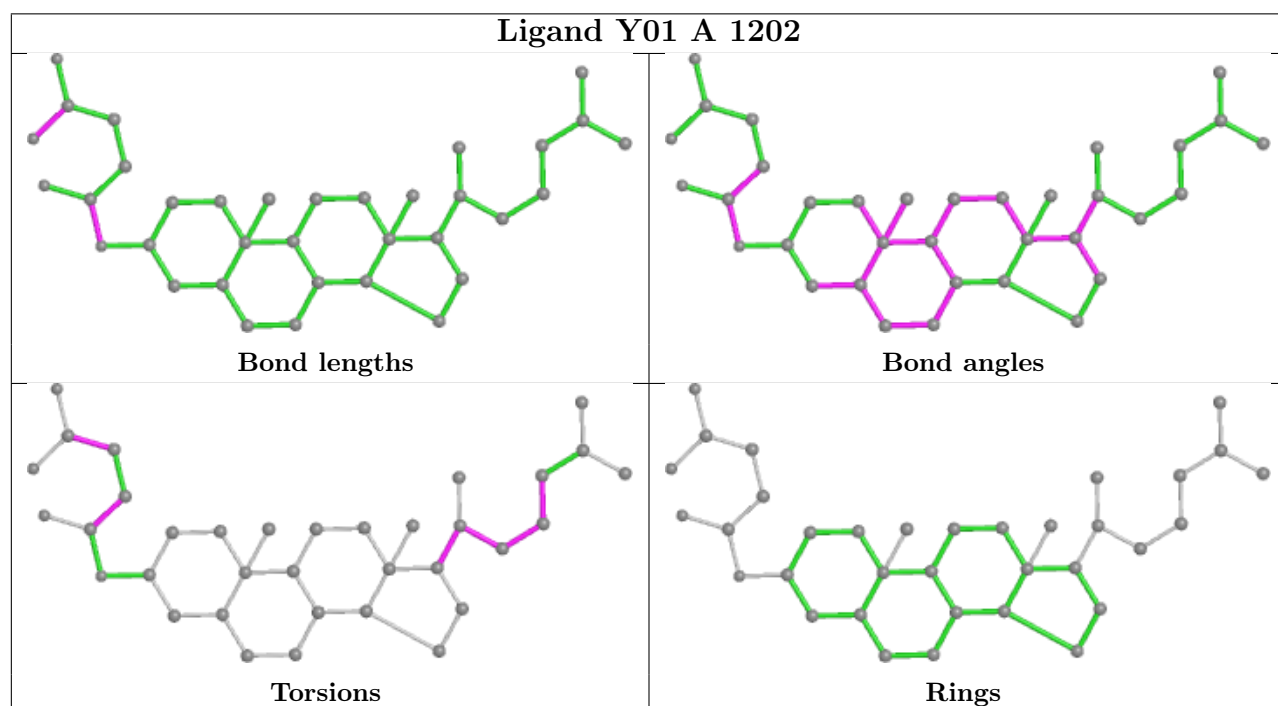
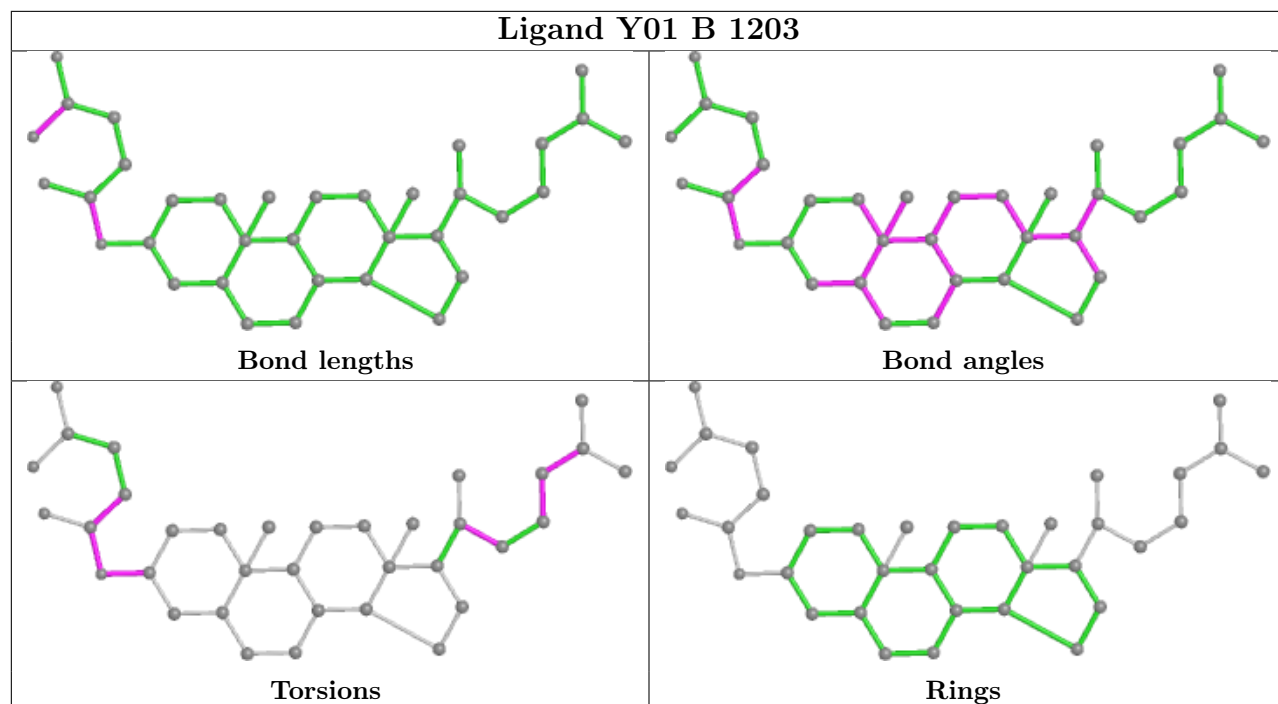
13 monomers are involved in 23 short contacts:

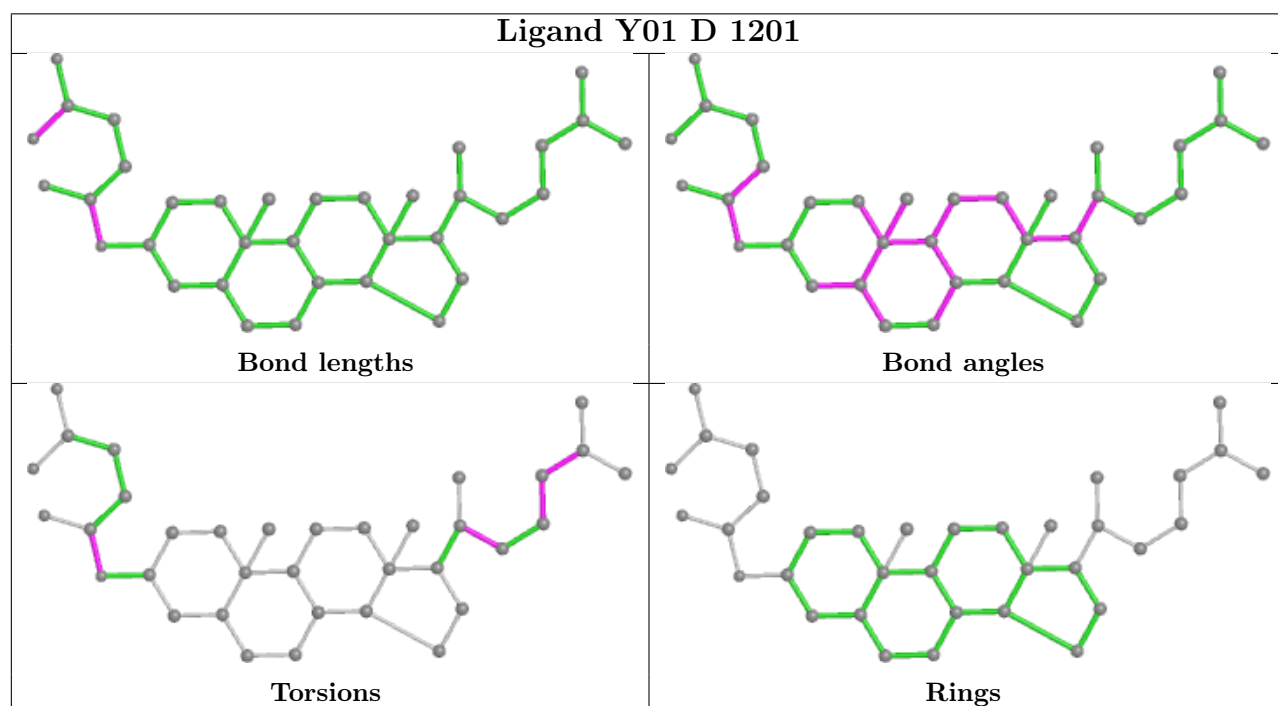
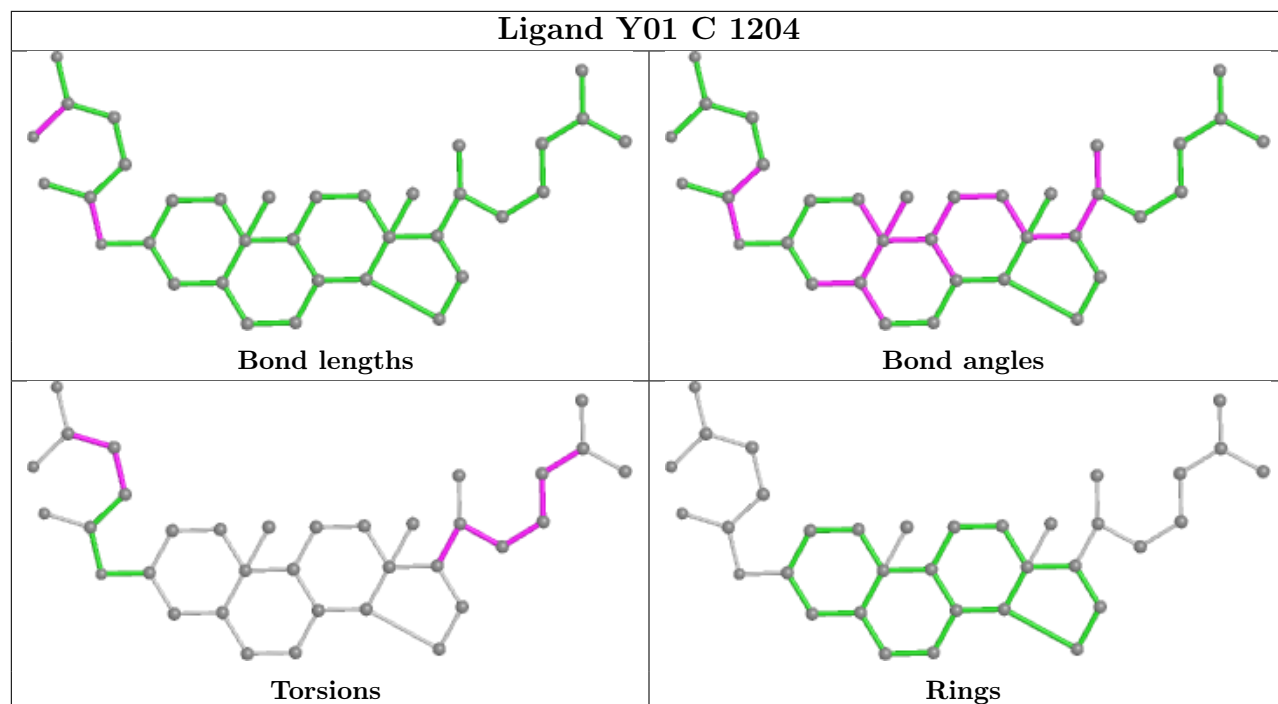
Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	B	1202	Y01	1	0
2	D	1203	Y01	2	0
2	B	1205	Y01	1	0
2	B	1203	Y01	2	0
2	A	1202	Y01	1	0
2	D	1201	Y01	3	0
2	B	1201	Y01	2	0
2	A	1201	Y01	2	0
2	A	1203	Y01	2	0
2	C	1201	Y01	2	0
2	C	1203	Y01	2	0
2	D	1202	Y01	1	0
2	C	1202	Y01	2	0

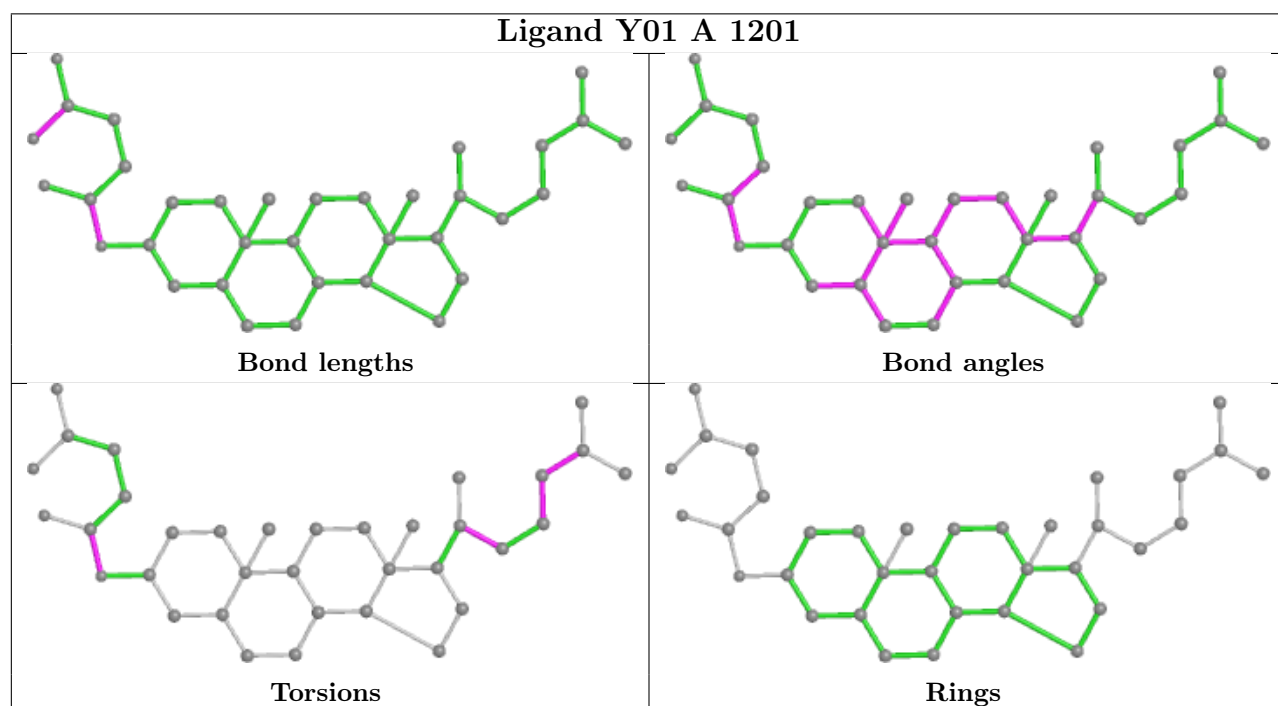
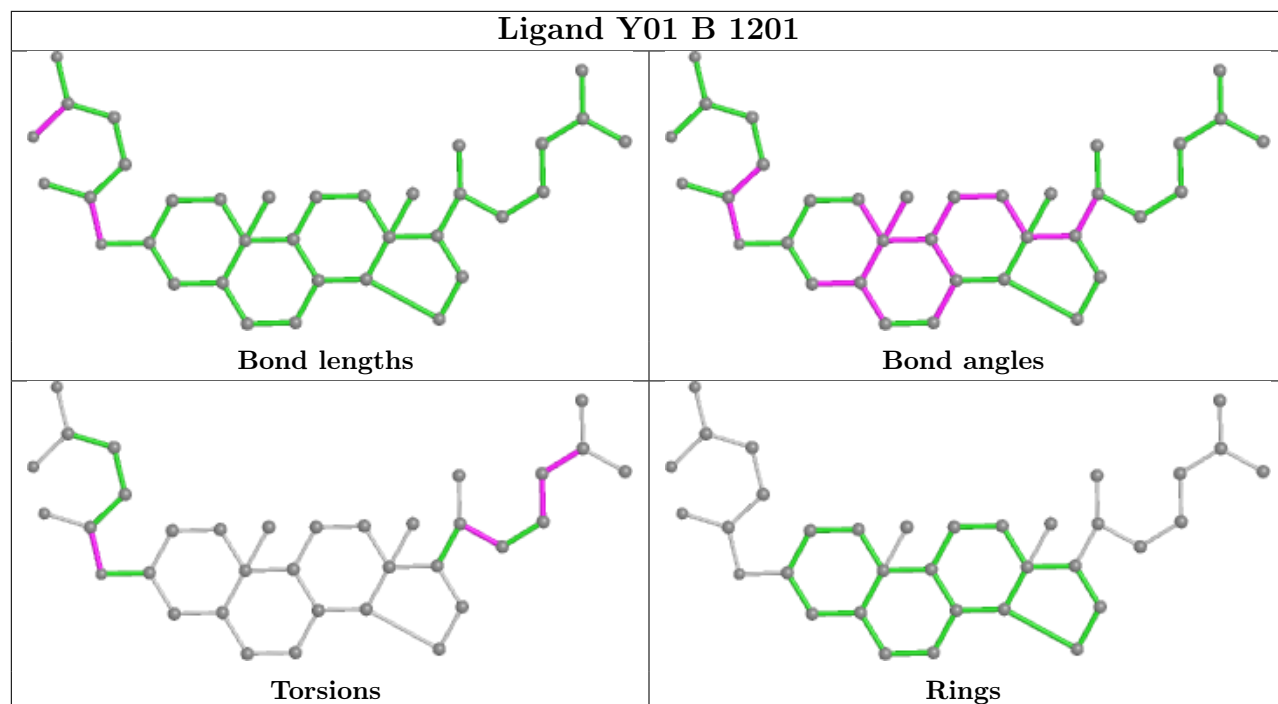
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included.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

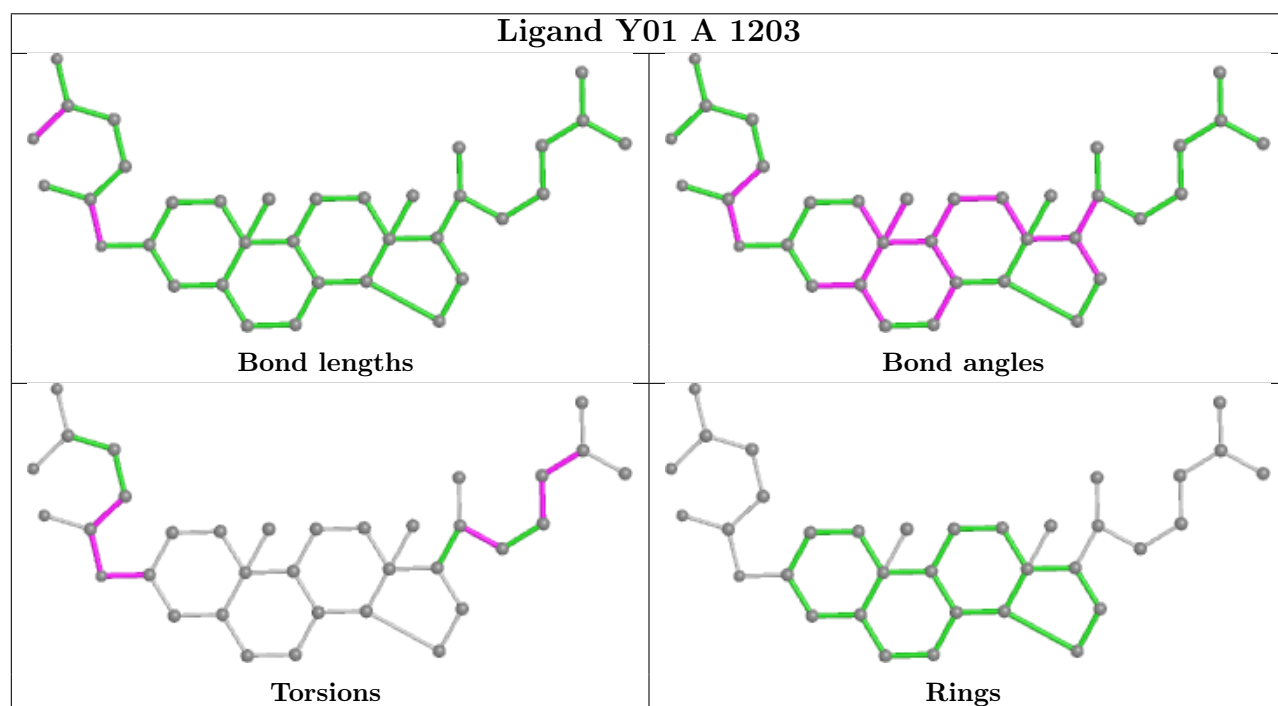
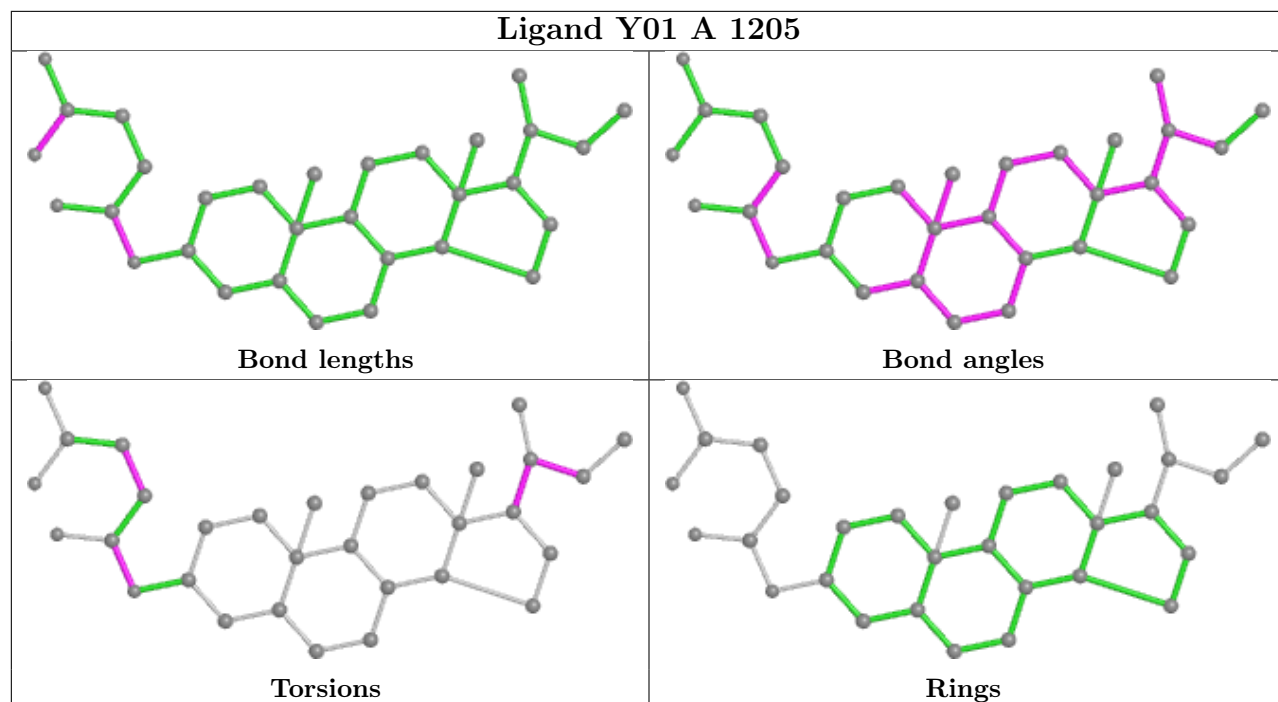


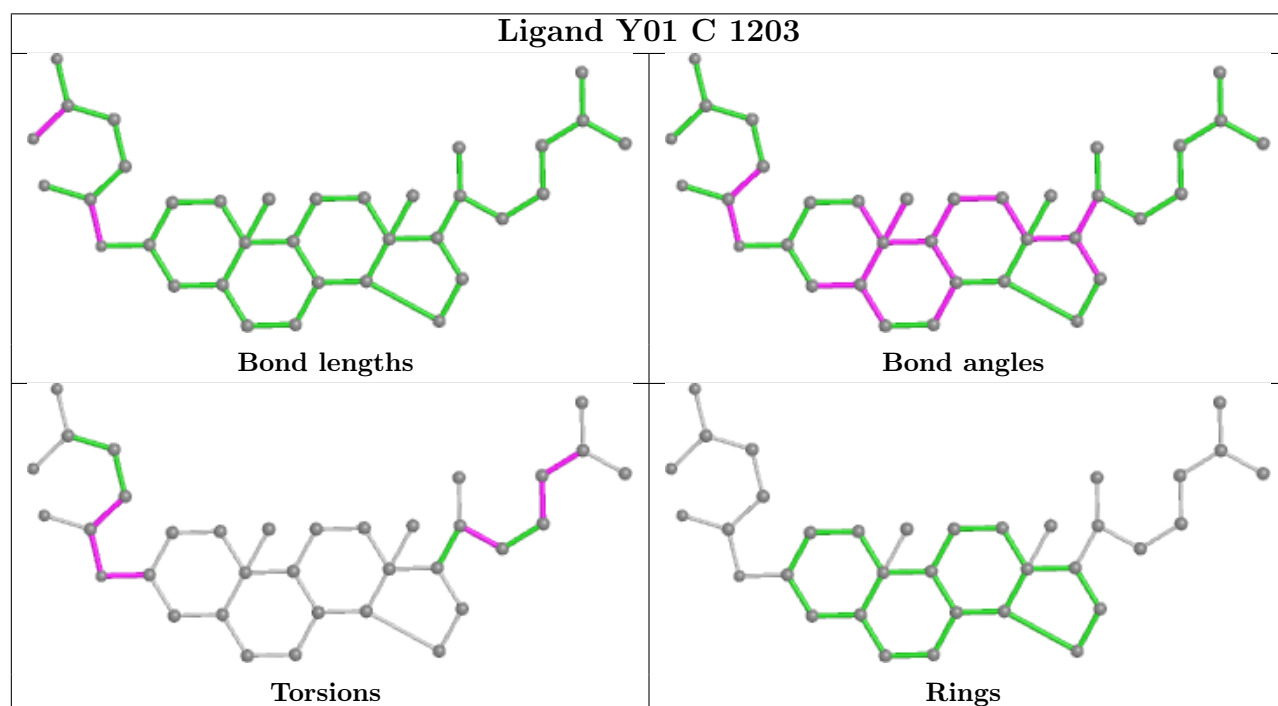
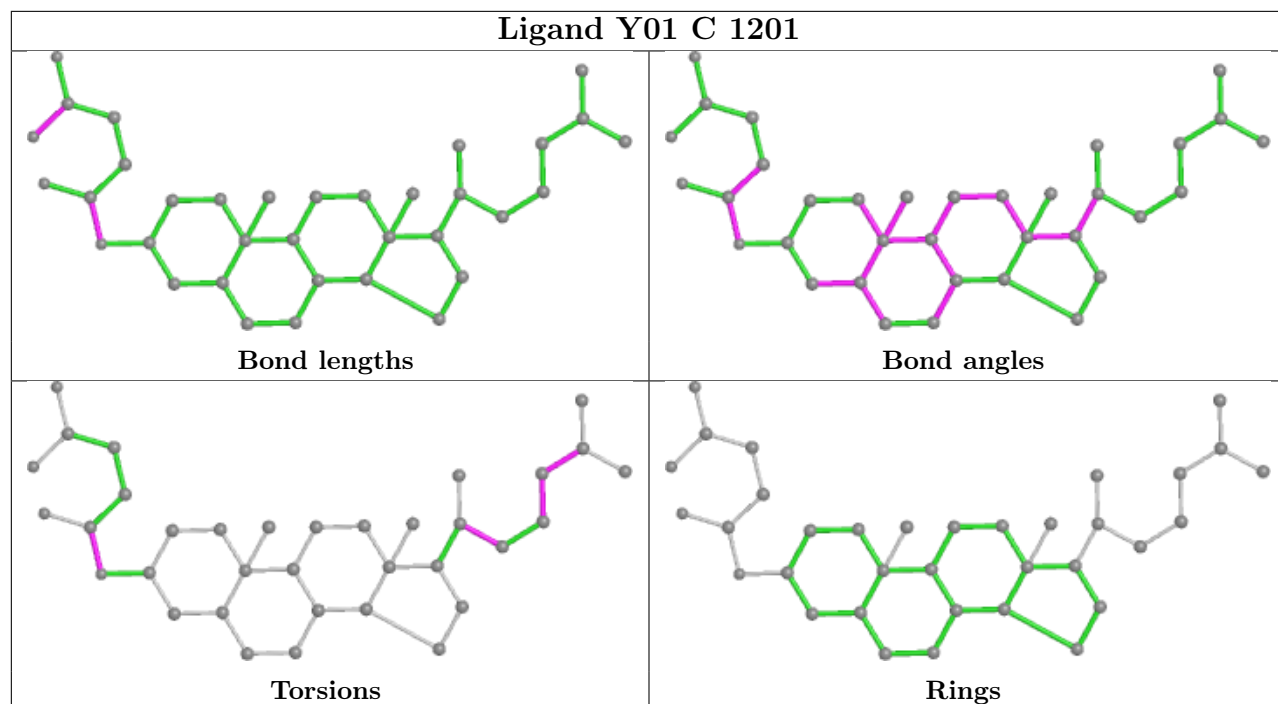


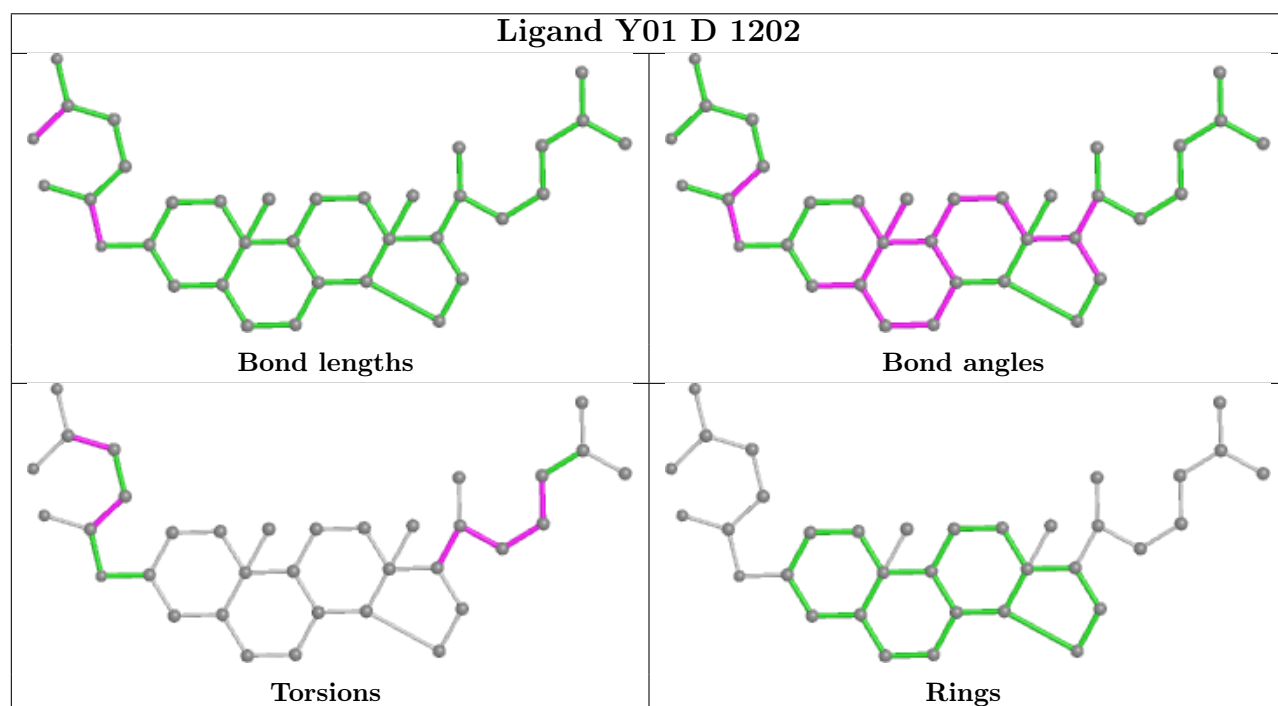
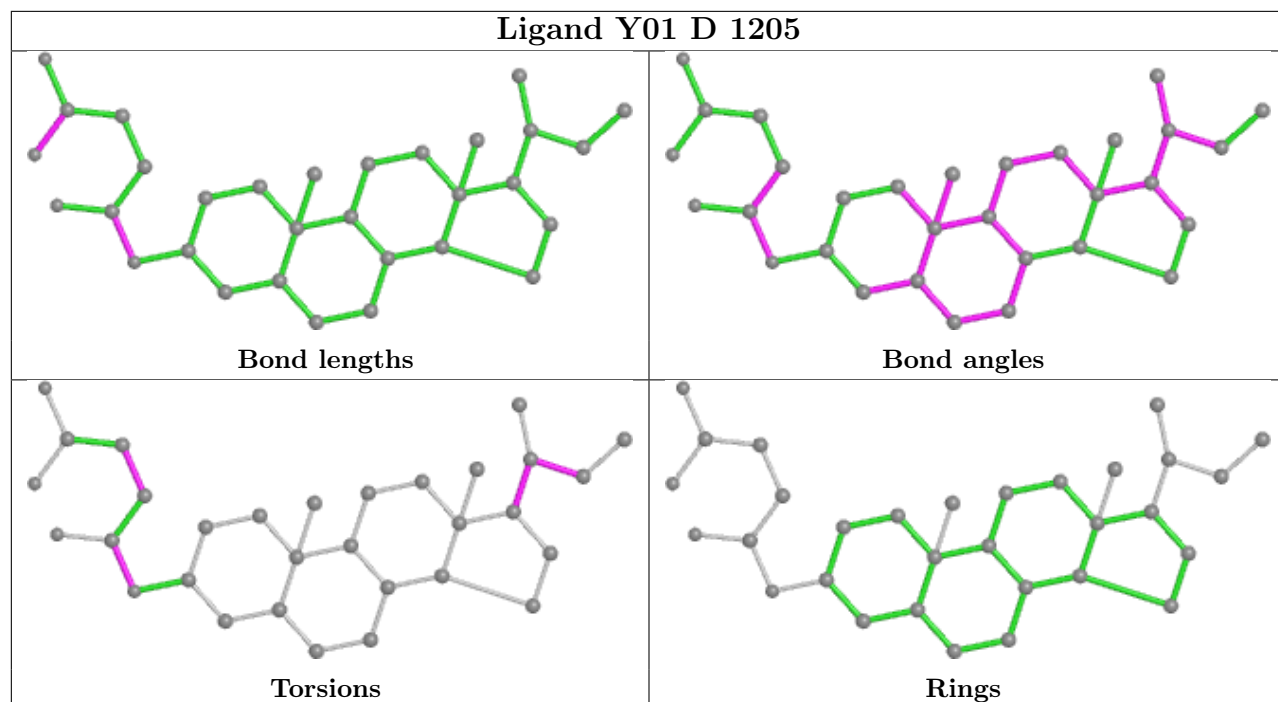


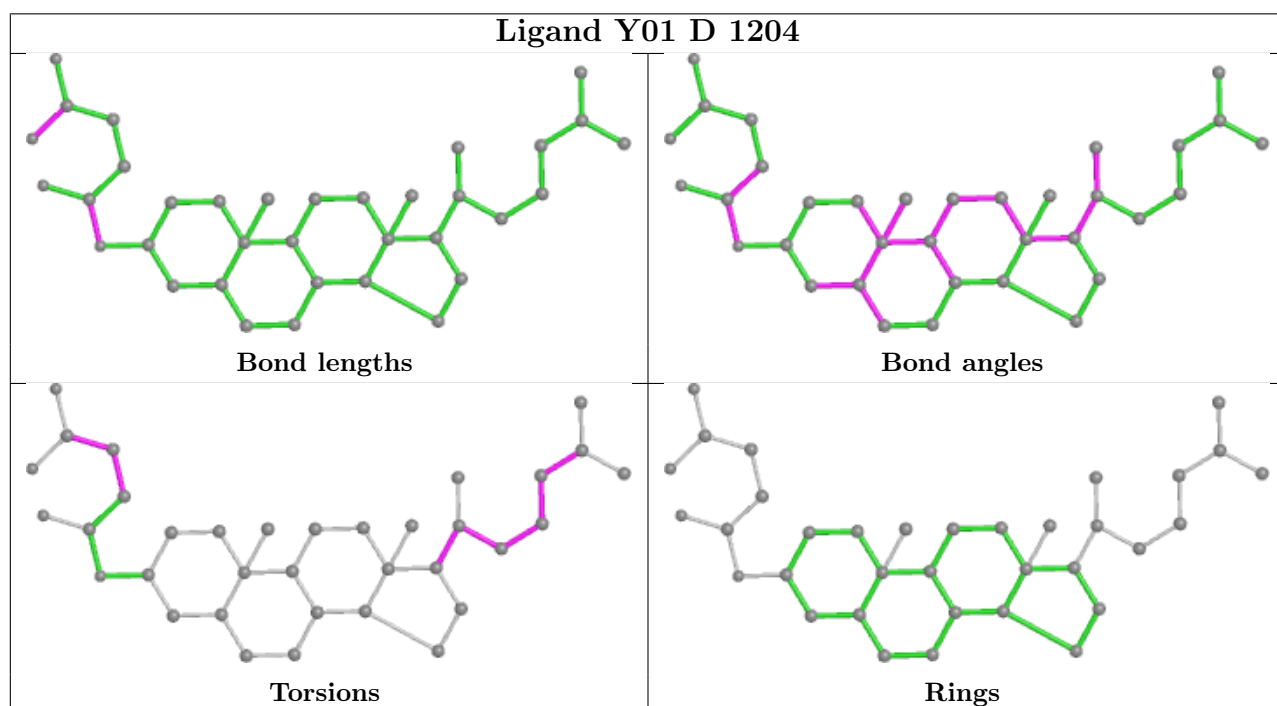
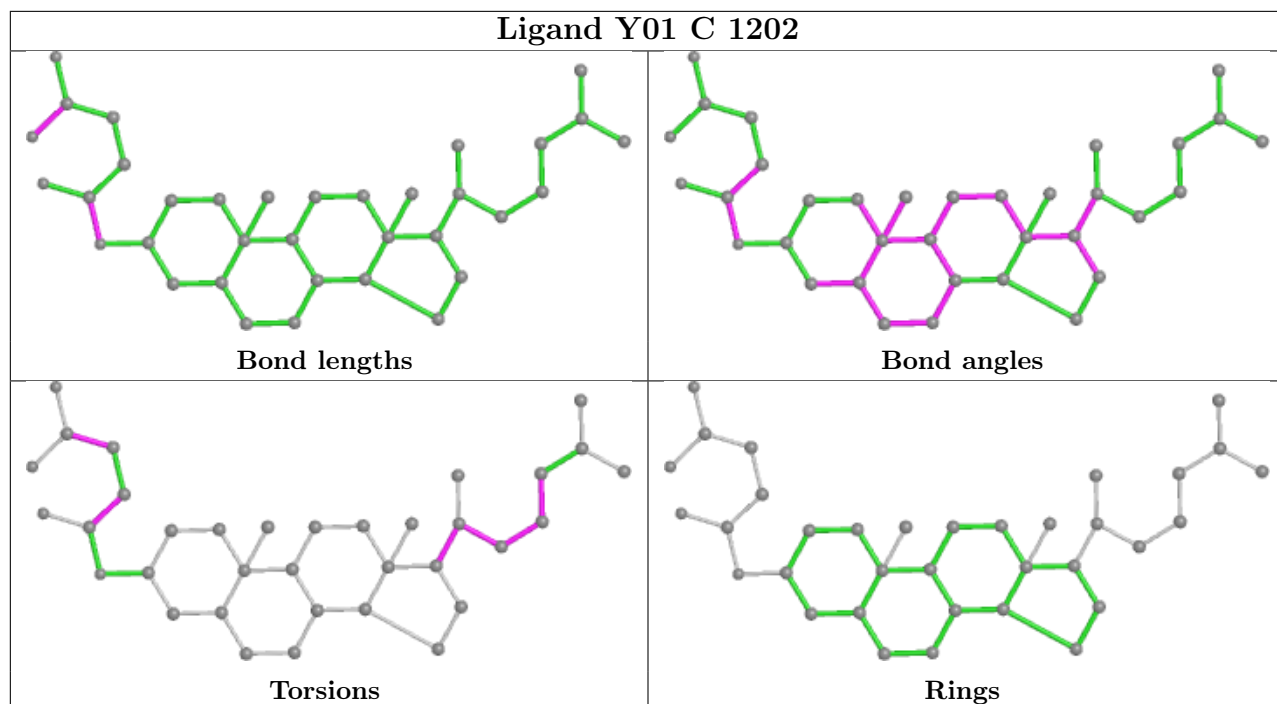


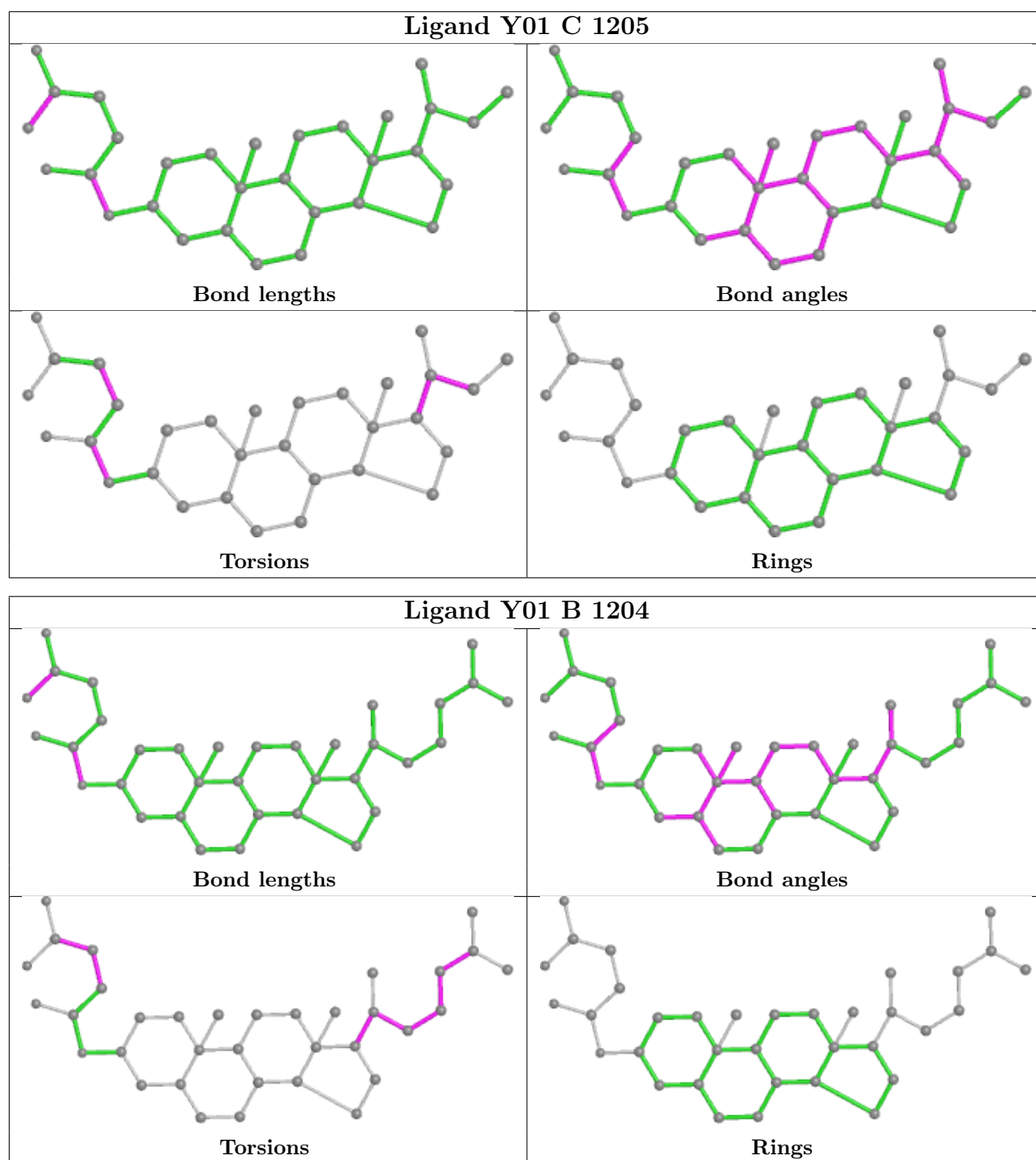












5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

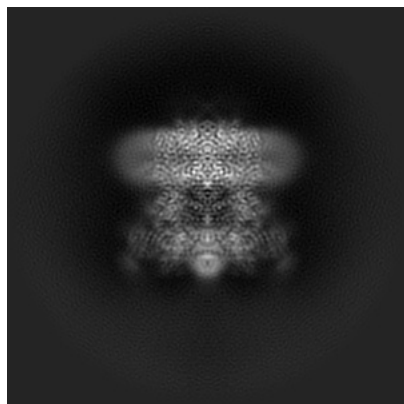
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-44255. These allow visual inspection of the internal detail of the map and identification of artifacts.

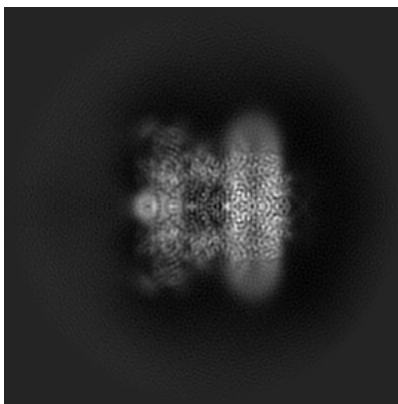
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

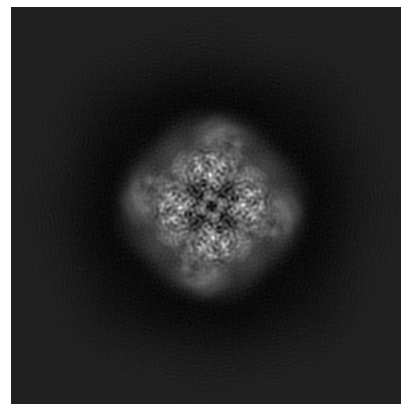
6.1.1 Primary map



X

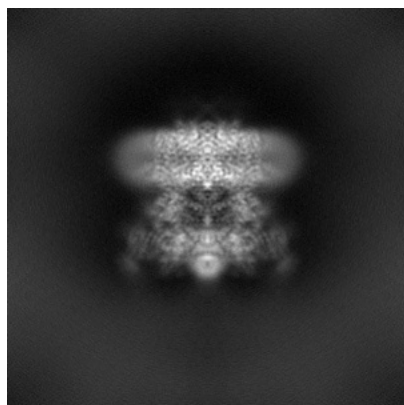


Y

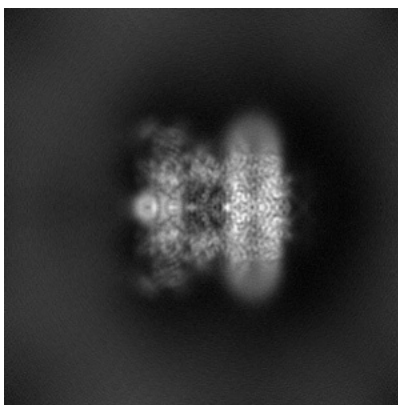


Z

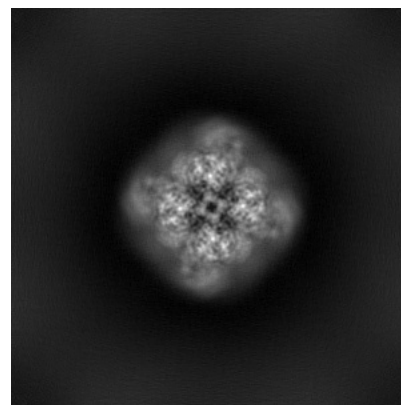
6.1.2 Raw map



X



Y

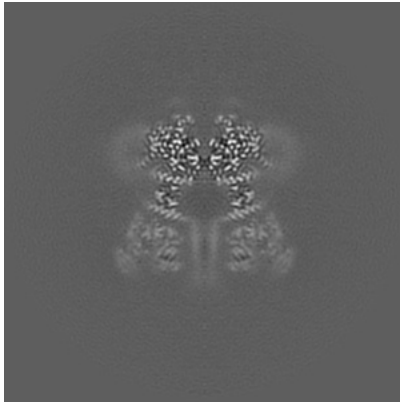


Z

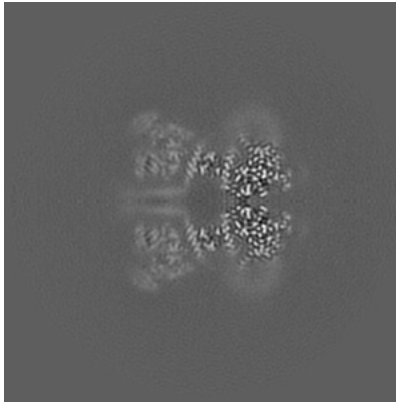
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

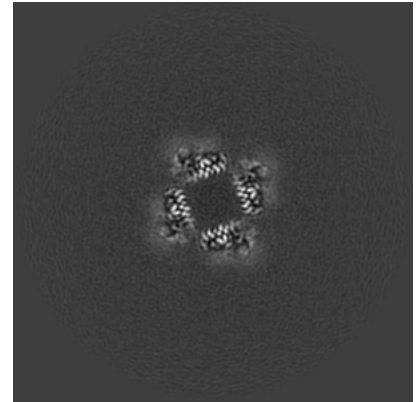
6.2.1 Primary map



X Index: 160

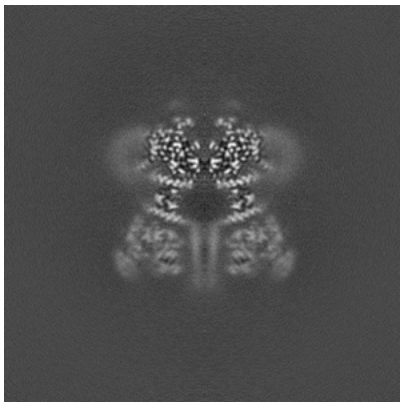


Y Index: 160

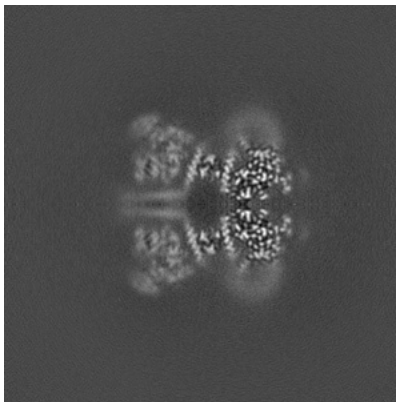


Z Index: 160

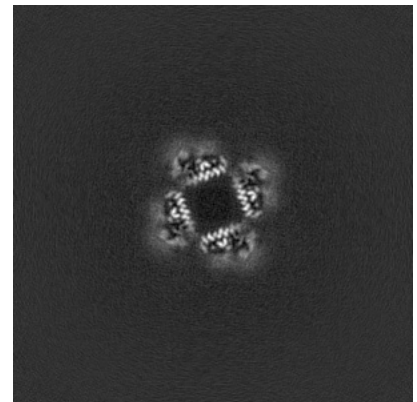
6.2.2 Raw map



X Index: 160



Y Index: 160

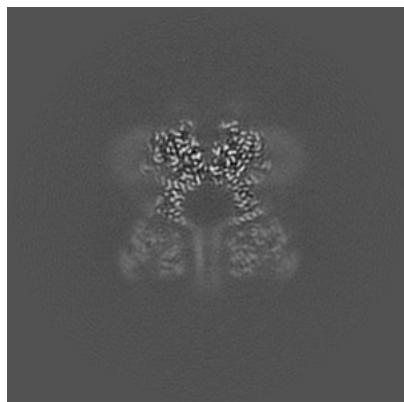


Z Index: 160

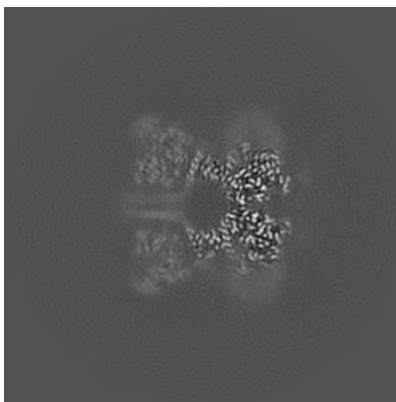
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

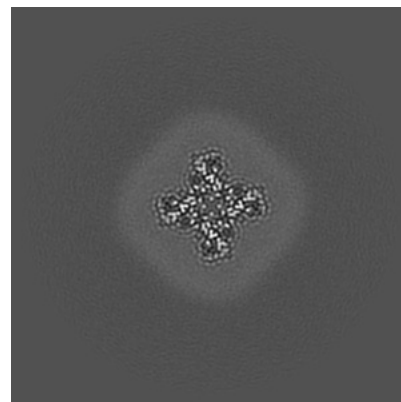
6.3.1 Primary map



X Index: 162

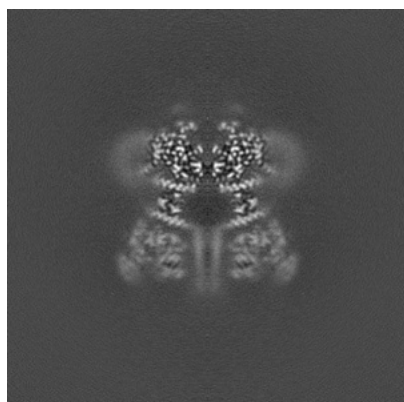


Y Index: 158

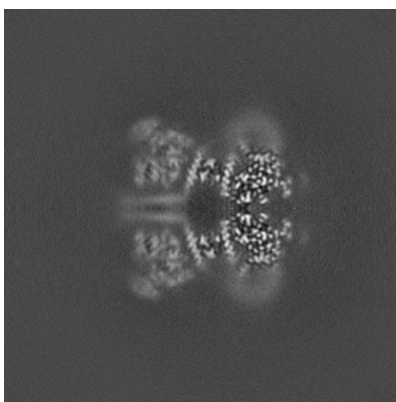


Z Index: 208

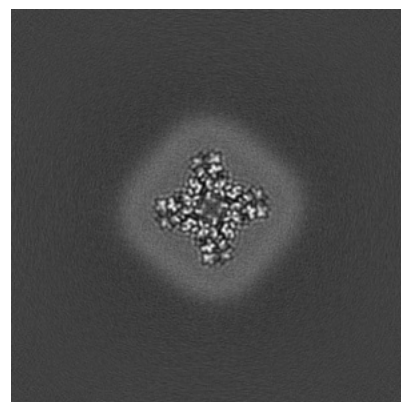
6.3.2 Raw map



X Index: 160



Y Index: 160

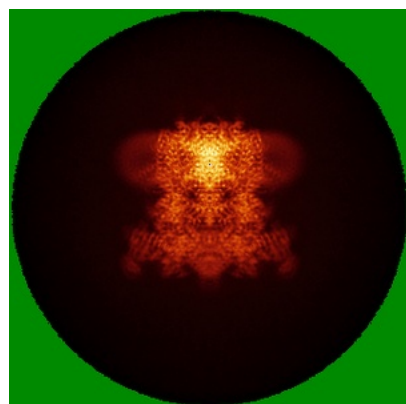


Z Index: 211

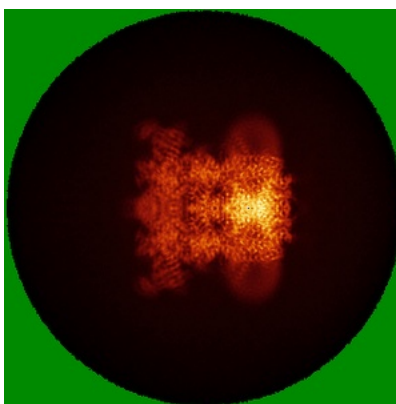
The images above show the largest variance slices of the map in three orthogonal directions.

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

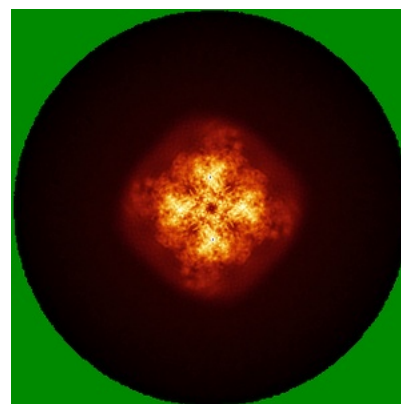
6.4.1 Primary map



X

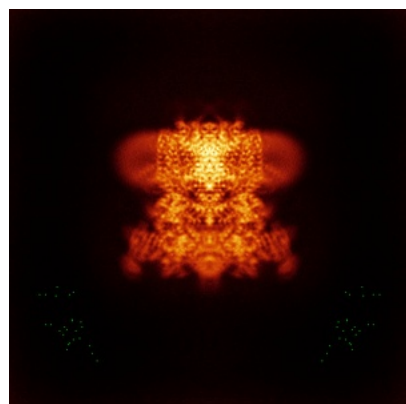


Y

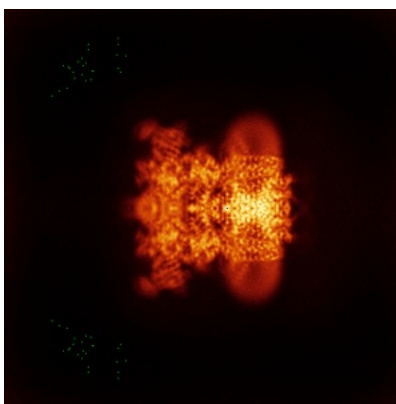


Z

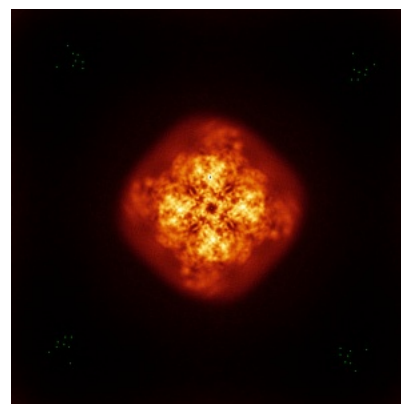
6.4.2 Raw map



X



Y

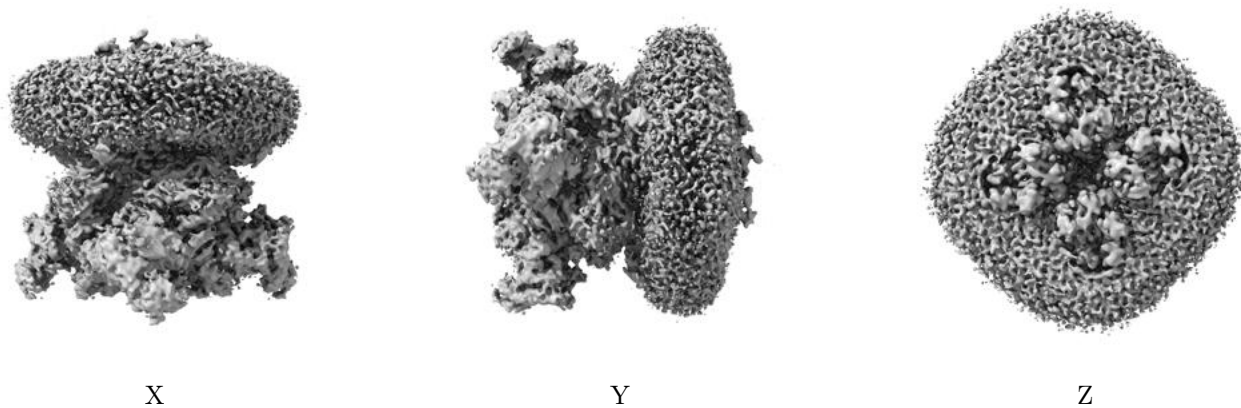


Z

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.

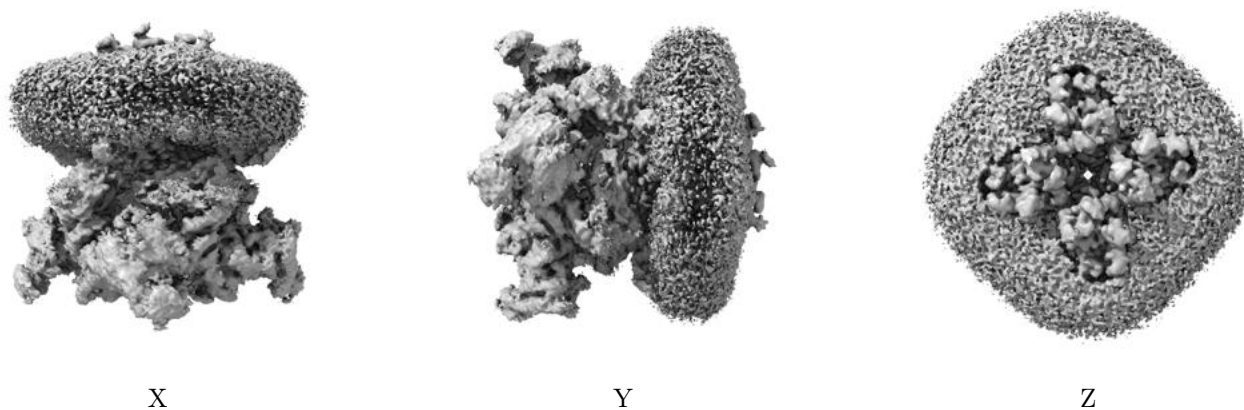
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.15. 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.

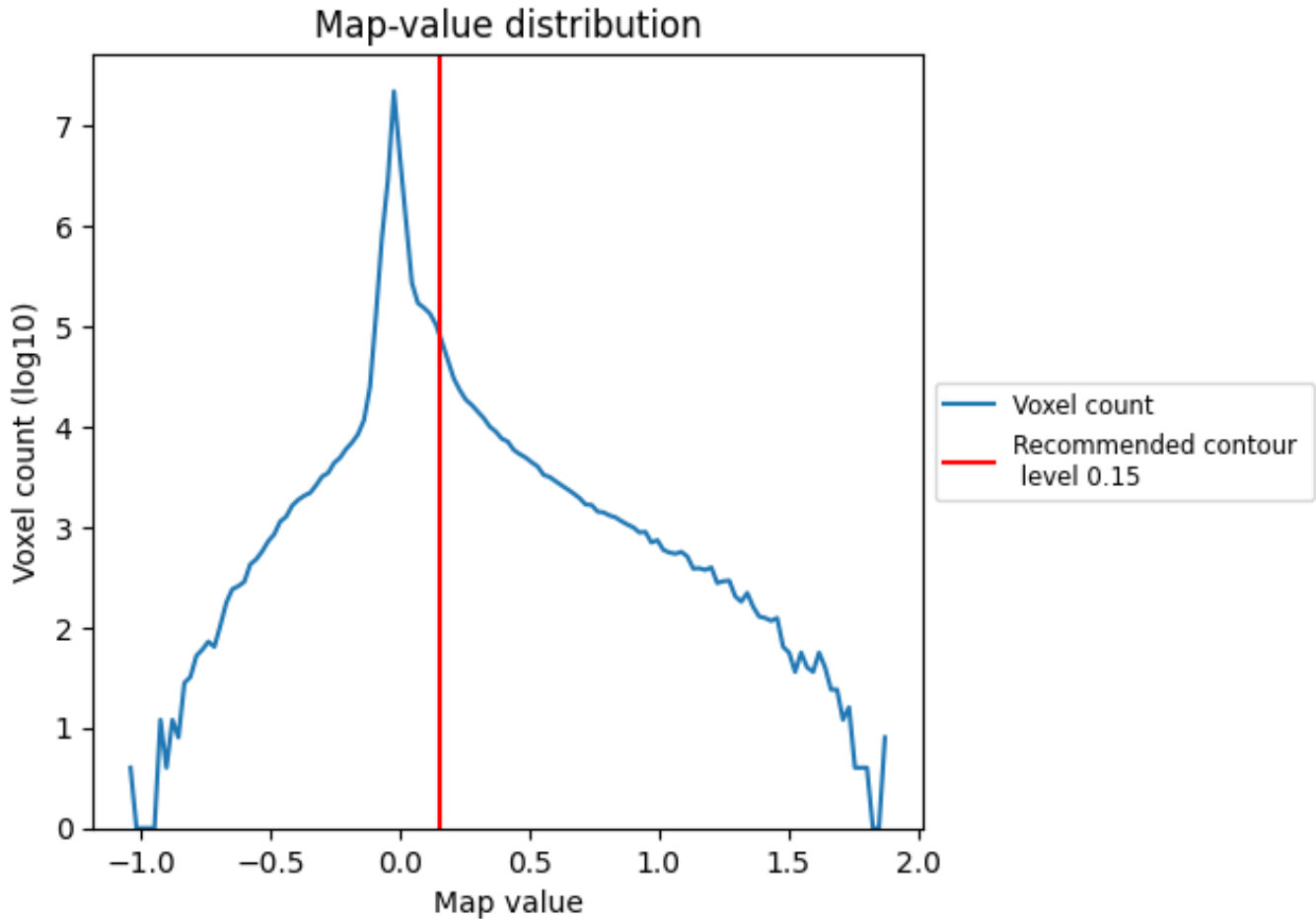
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

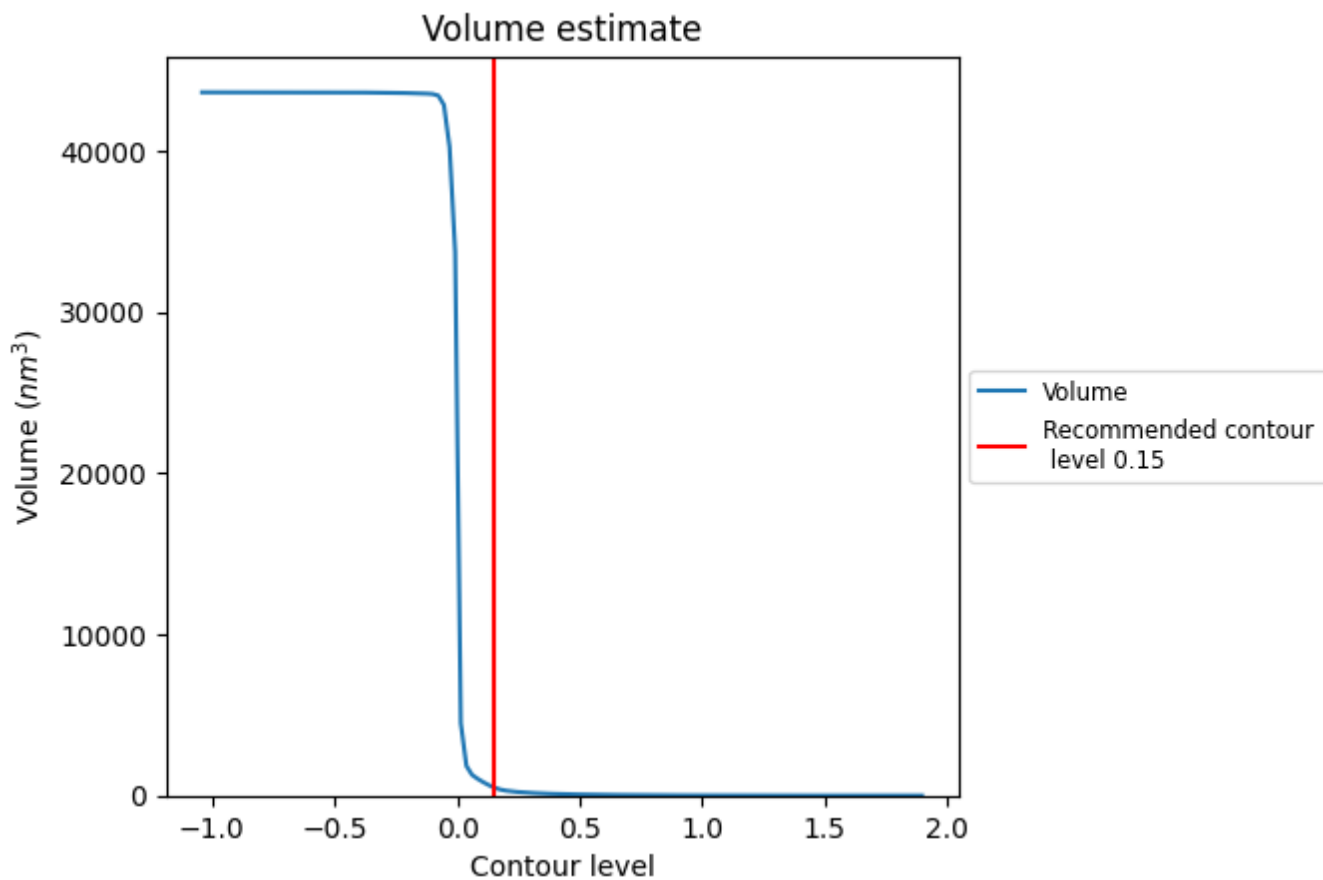
This section contains the results of statistical analysis of the map.

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.

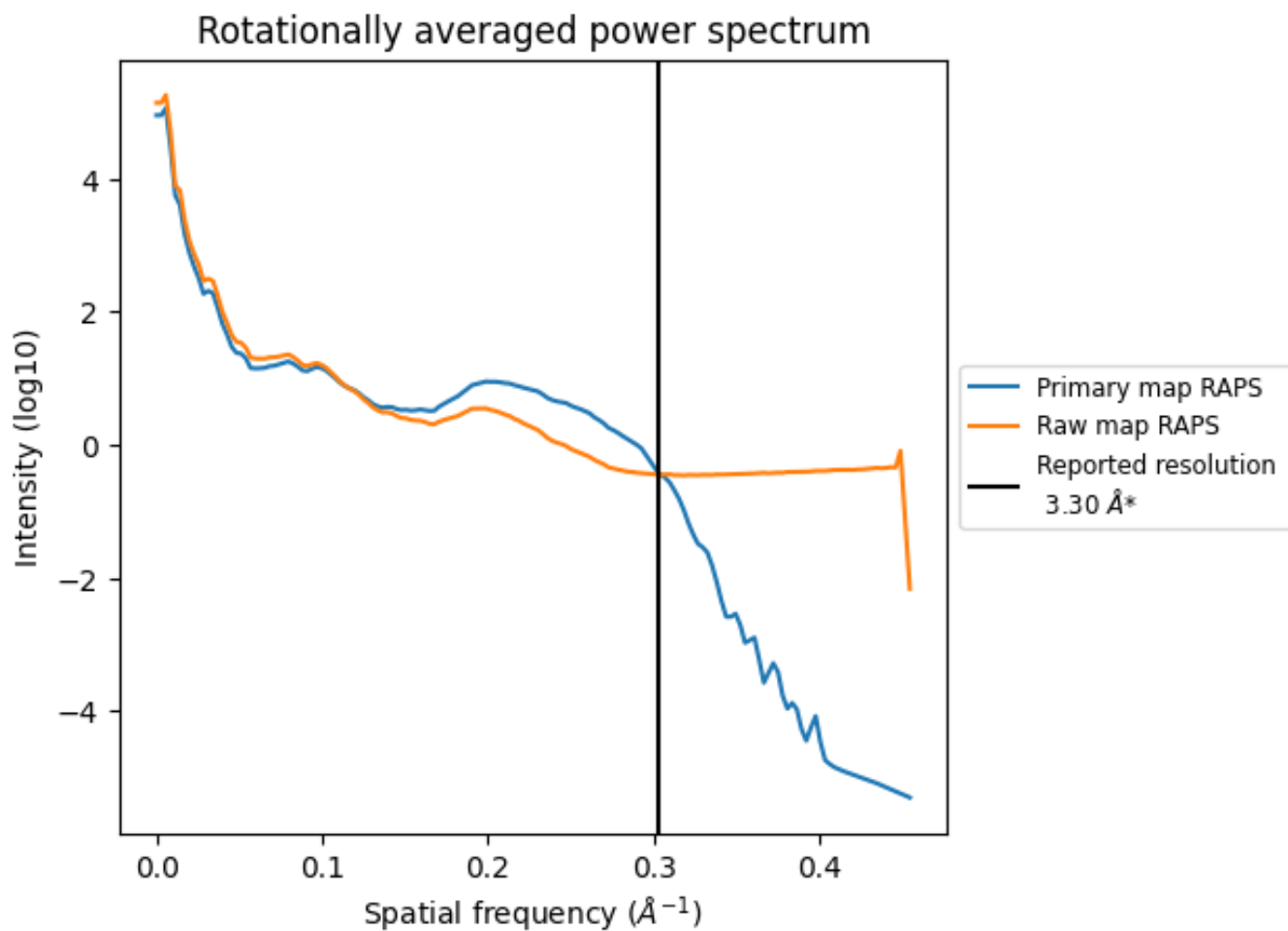
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 505 nm³; this corresponds to an approximate mass of 456 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](#)

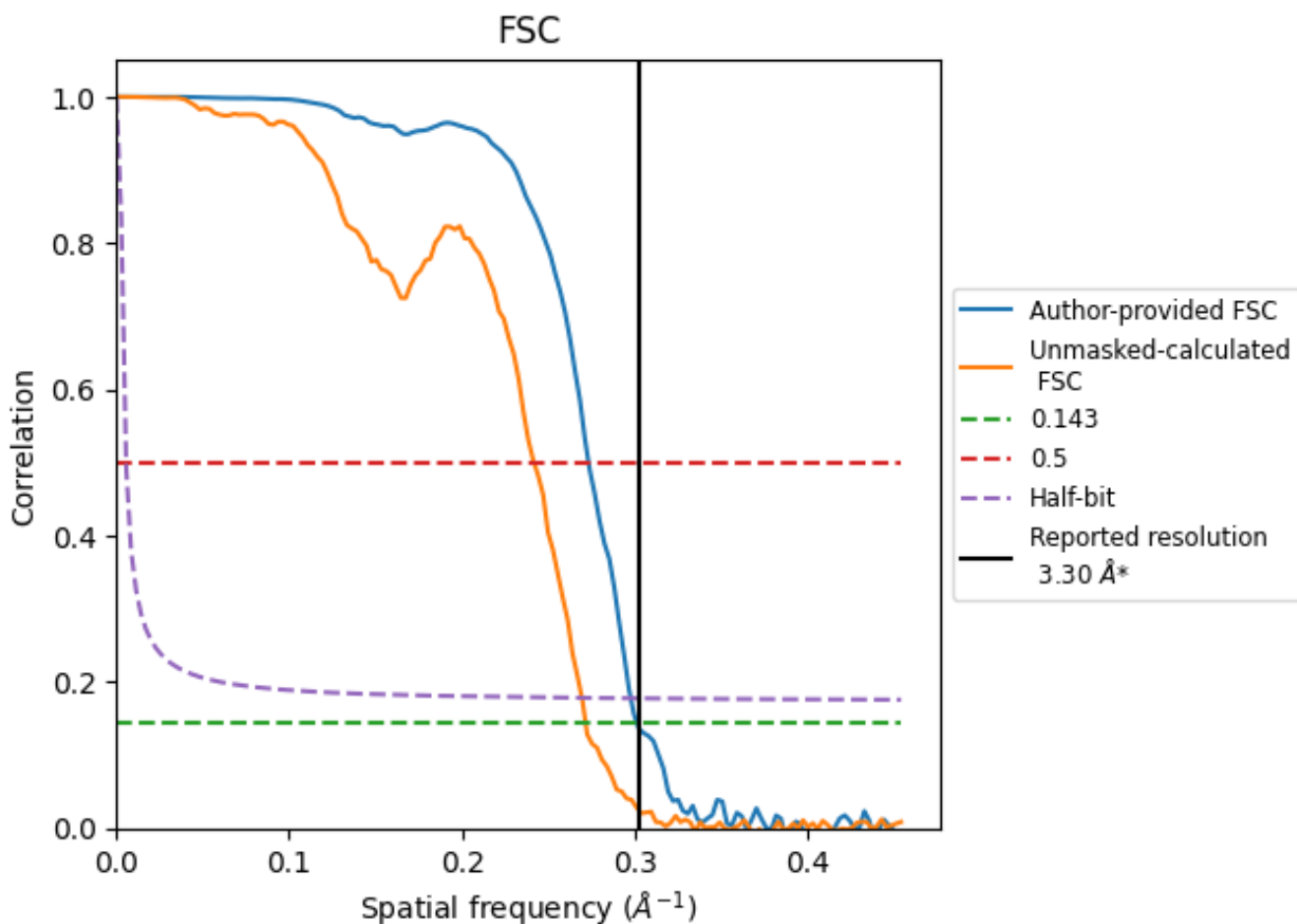


*Reported resolution corresponds to spatial frequency of 0.303 Å⁻¹

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 0.303 \AA^{-1}

8.2 Resolution estimates [i](#)

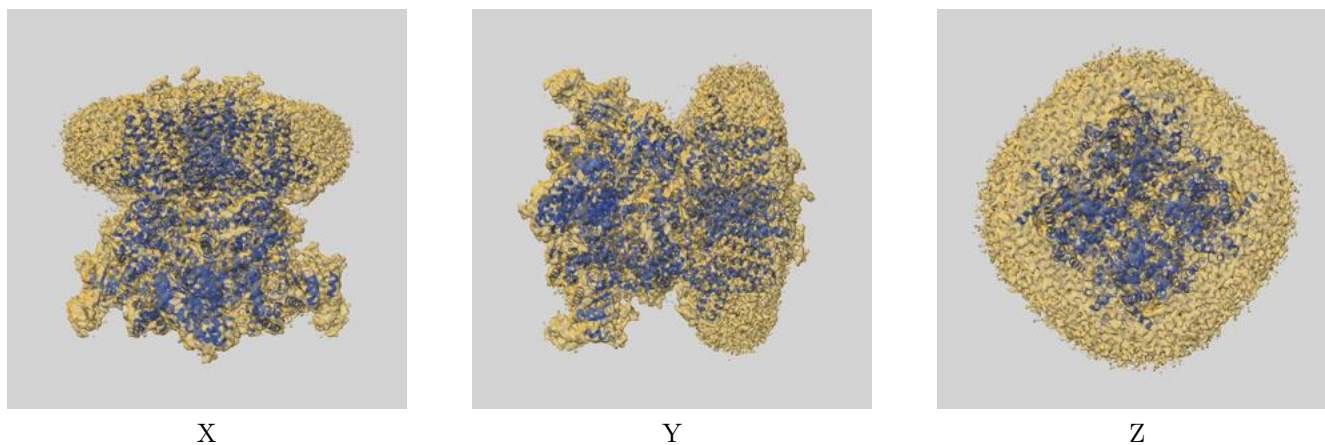
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.30	-	-
Author-provided FSC curve	3.32	3.66	3.36
Unmasked-calculated*	3.68	4.14	3.71

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 3.68 differs from the reported value 3.3 by more than 10 %

9 Map-model fit [i](#)

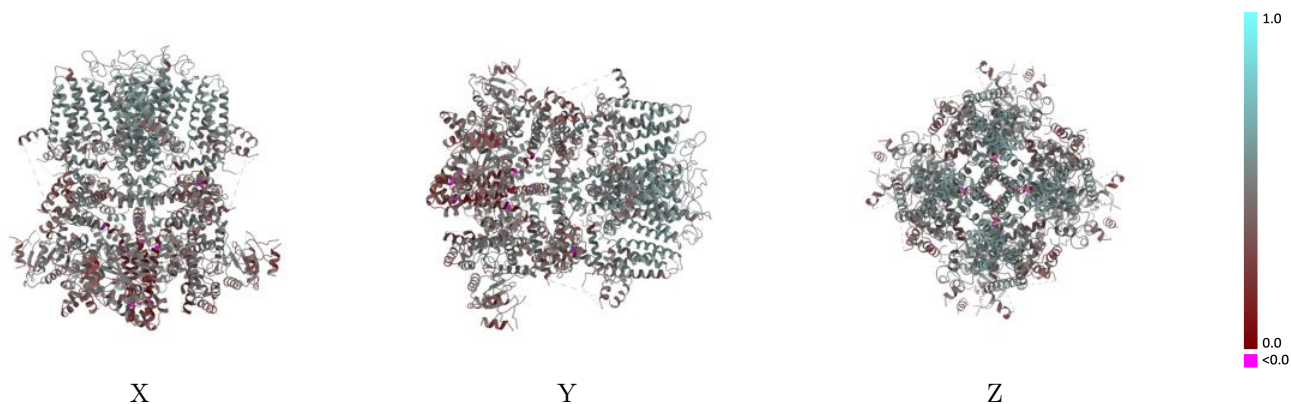
This section contains information regarding the fit between EMDB map EMD-44255 and PDB model 9B6D. Per-residue inclusion information can be found in section 3 on page 8.

9.1 Map-model overlay [i](#)



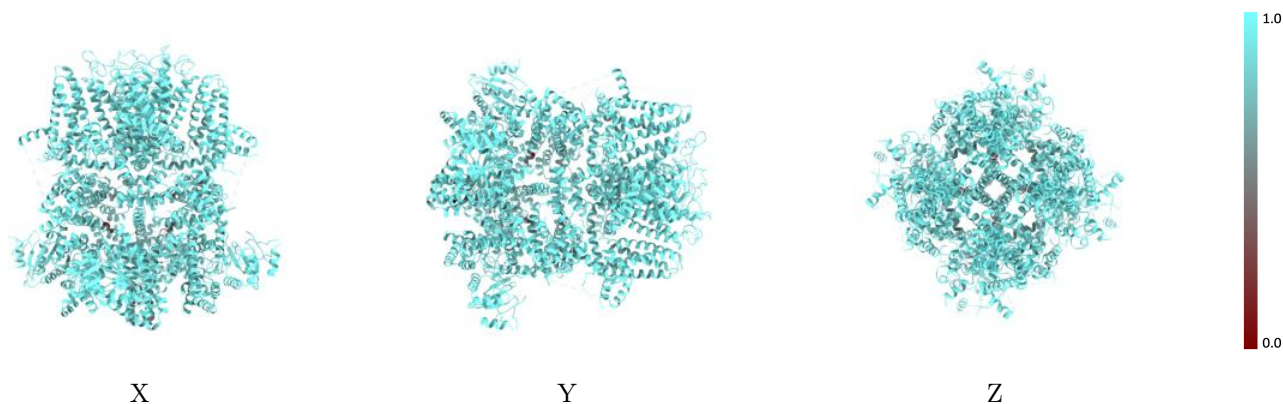
The images above show the 3D surface view of the map at the recommended contour level 0.15 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



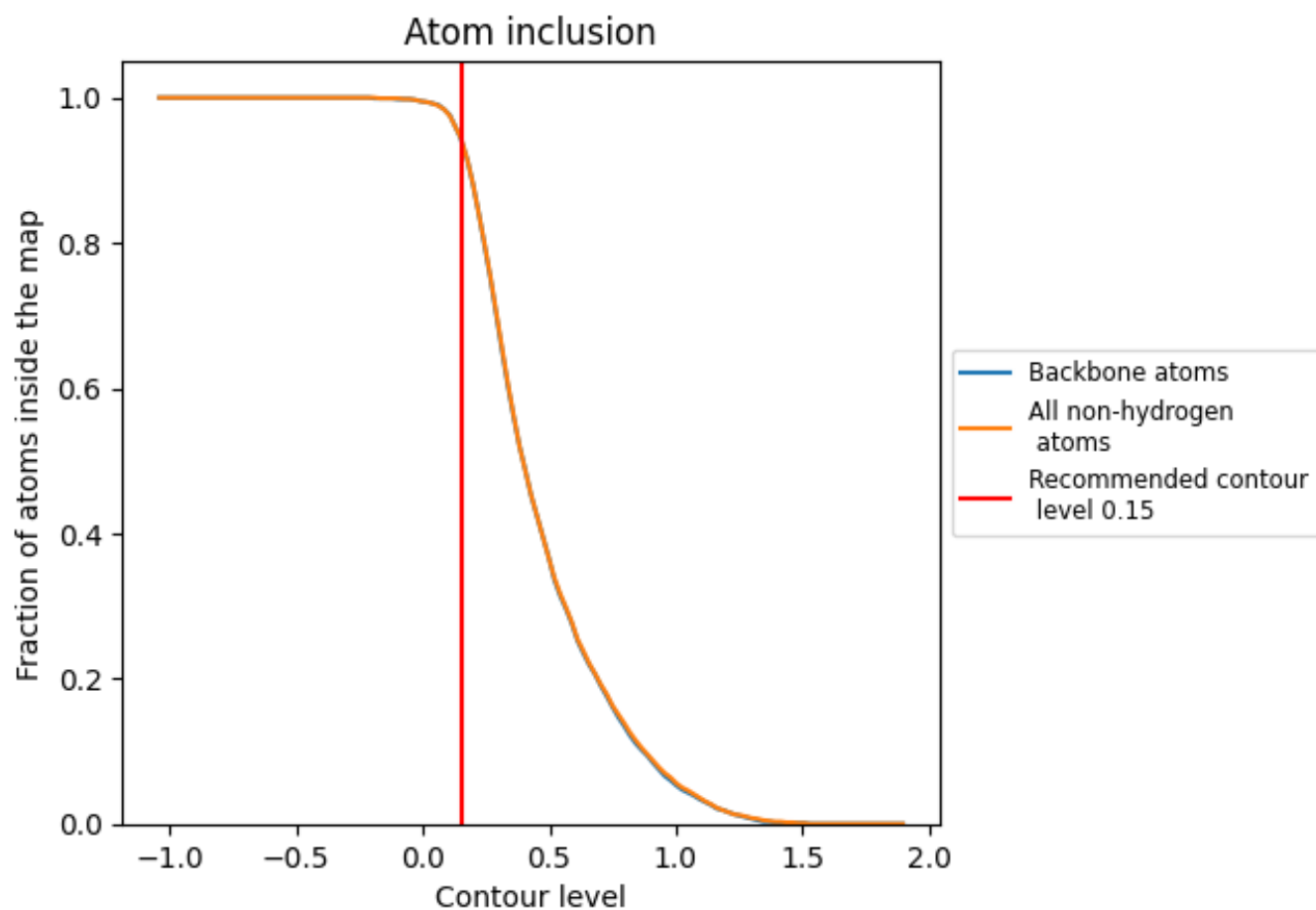
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.15).











9.4 Atom inclusion [i](#)



At the recommended contour level, 94% of all backbone atoms, 94% 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 (0.15) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9450	 0.4600
A	 0.9480	 0.4610
B	 0.9470	 0.4630
C	 0.9450	 0.4600
D	 0.9460	 0.4560

