wwPDB EM Validation Summary Report (i)

Sep 18, 2021 – 08:23 am BST

PDB ID	:	7OZ1
EMDB ID	:	EMD-13118
Title	:	Cryo-EM structure of ABCG1 E242Q mutant with ATP and cholesteryl hemisuccinate bound
Authors	:	Skarda, L.; Kowal, J.; Locher, K.P.
Deposited on	:	2021-06-25
Resolution	:	4.00 Å(reported)

This is a wwPDB EM Validation Summary 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 (i) symbol.

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

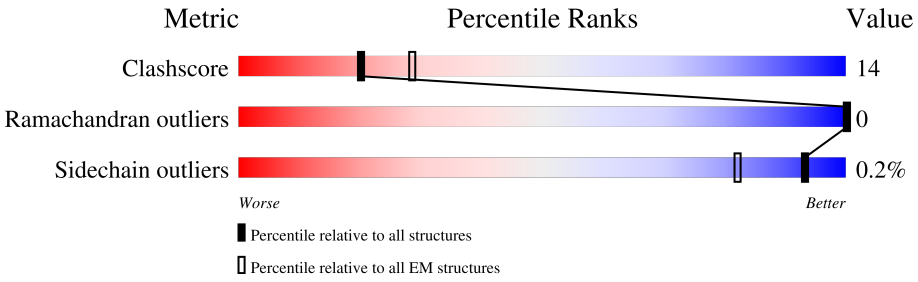
EMDB validation analysis	:	0.0.0.dev97
Mogul	:	1.8.5 (274361), CSD as541be (2020)
MolProbity	:	4.02b-467
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.23.1

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 4.00 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 <=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	680	15% 60% 20% 20%
1	B	680	15% 60% 20% 20%

2 Entry composition

There are 4 unique types of molecules in this entry. The entry contains 8942 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 Isoform 4 of ATP-binding cassette sub-family G member 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	544	Total	C	N	O	S	0	0
			4257	2765	701	757	34		
1	B	544	Total	C	N	O	S	0	0
			4257	2765	701	757	34		

There are 30 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	242	GLN	GLU	engineered mutation	UNP P45844
A	667	SER	-	linker	UNP P45844
A	668	SER	-	linker	UNP P45844
A	669	ARG	-	linker	UNP P45844
A	670	VAL	-	linker	UNP P45844
A	671	ASP	-	linker	UNP P45844
A	672	THR	-	expression tag	UNP P45844
A	673	GLU	-	expression tag	UNP P45844
A	674	THR	-	expression tag	UNP P45844
A	675	SER	-	expression tag	UNP P45844
A	676	GLN	-	expression tag	UNP P45844
A	677	VAL	-	expression tag	UNP P45844
A	678	ALA	-	expression tag	UNP P45844
A	679	PRO	-	expression tag	UNP P45844
A	680	ALA	-	expression tag	UNP P45844
B	242	GLN	GLU	engineered mutation	UNP P45844
B	667	SER	-	linker	UNP P45844
B	668	SER	-	linker	UNP P45844
B	669	ARG	-	linker	UNP P45844
B	670	VAL	-	linker	UNP P45844
B	671	ASP	-	linker	UNP P45844
B	672	THR	-	expression tag	UNP P45844
B	673	GLU	-	expression tag	UNP P45844
B	674	THR	-	expression tag	UNP P45844
B	675	SER	-	expression tag	UNP P45844
B	676	GLN	-	expression tag	UNP P45844

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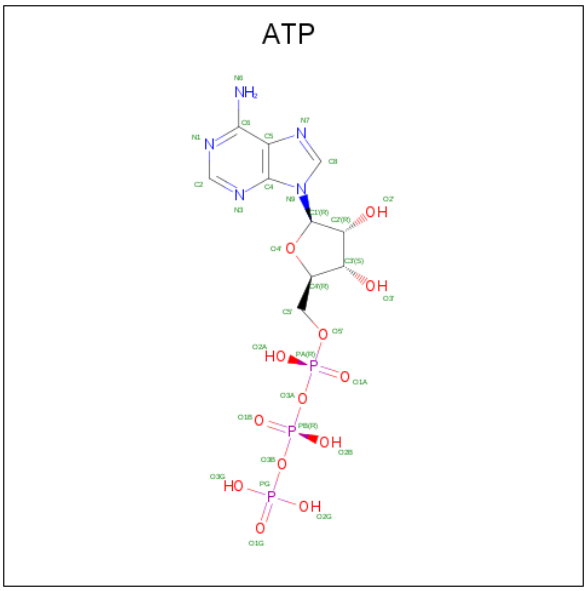
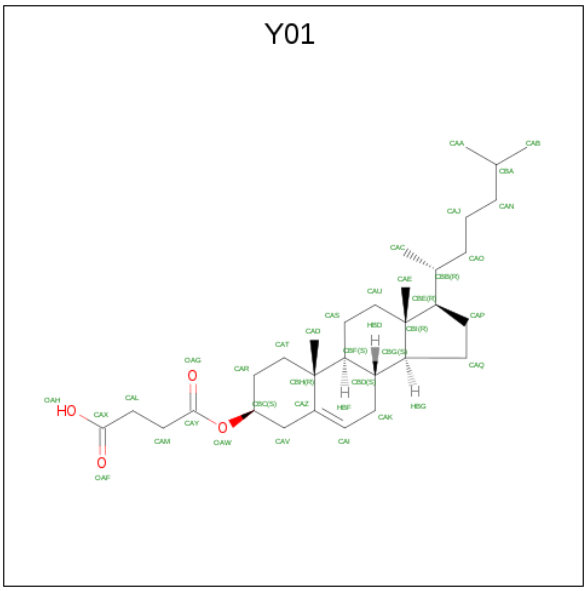
Chain	Residue	Modelled	Actual	Comment	Reference
B	677	VAL	-	expression tag	UNP P45844
B	678	ALA	-	expression tag	UNP P45844
B	679	PRO	-	expression tag	UNP P45844
B	680	ALA	-	expression tag	UNP P45844

- Molecule 2 is ADENOSINE-5'-TRIPHOSPHATE (three-letter code: ATP) (formula: $C_{10}H_{16}N_5O_{13}P_3$).



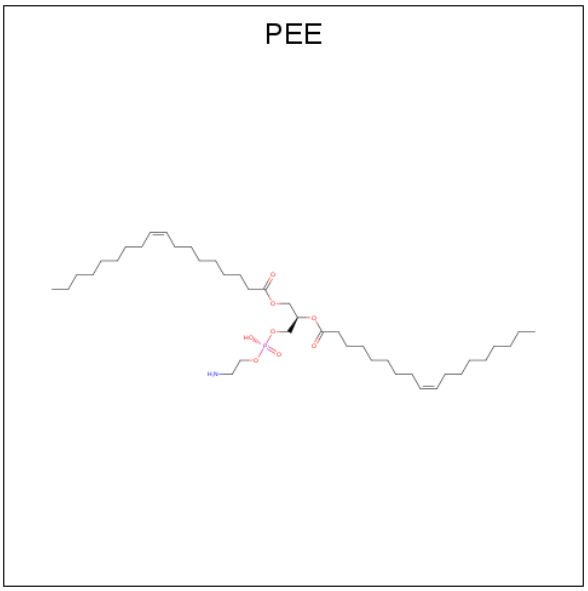
Mol	Chain	Residues	Atoms					AltConf
2	A	1	Total	C	N	O	P	0
			31	10	5	13	3	
2	B	1	Total	C	N	O	P	0
			31	10	5	13	3	

- Molecule 3 is CHOLESTEROL HEMISUCCINATE (three-letter code: Y01) (formula: $C_{31}H_{50}O_4$).



Mol	Chain	Residues	Atoms			AltConf
3	A	1	Total	C	O	0
			140	124	16	
3	A	1	Total	C	O	0
			140	124	16	
3	A	1	Total	C	O	0
			140	124	16	
3	A	1	Total	C	O	0
			140	124	16	
3	B	1	Total	C	O	0
			140	124	16	
3	B	1	Total	C	O	0
			140	124	16	
3	B	1	Total	C	O	0
			140	124	16	
3	B	1	Total	C	O	0
			140	124	16	

- Molecule 4 is 1,2-dioleoyl-sn-glycero-3-phosphoethanolamine (three-letter code: PEE) (formula: $C_{41}H_{78}NO_8P$).



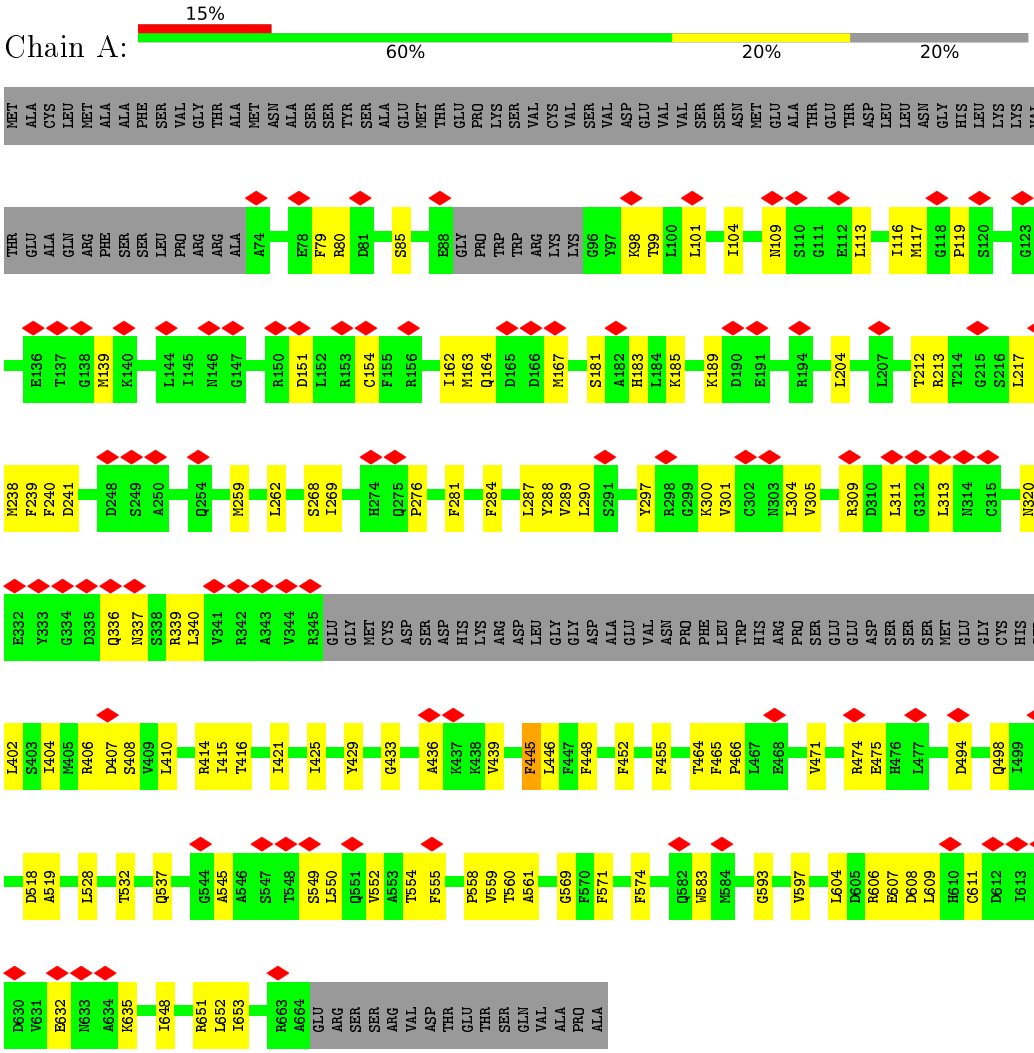
Mol	Chain	Residues	Atoms					AltConf
4	A	1	Total	C	N	O	P	0
			43	33	1	8	1	
4	B	1	Total	C	N	O	P	0
			43	33	1	8	1	

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.

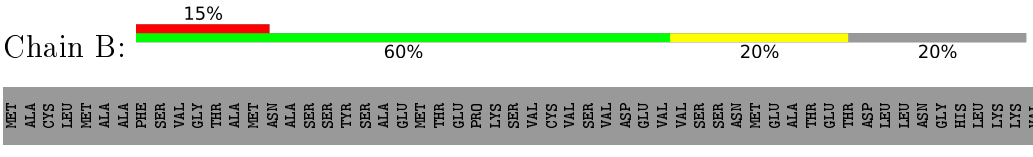
- Molecule 1: Isoform 4 of ATP-binding cassette sub-family G member 1

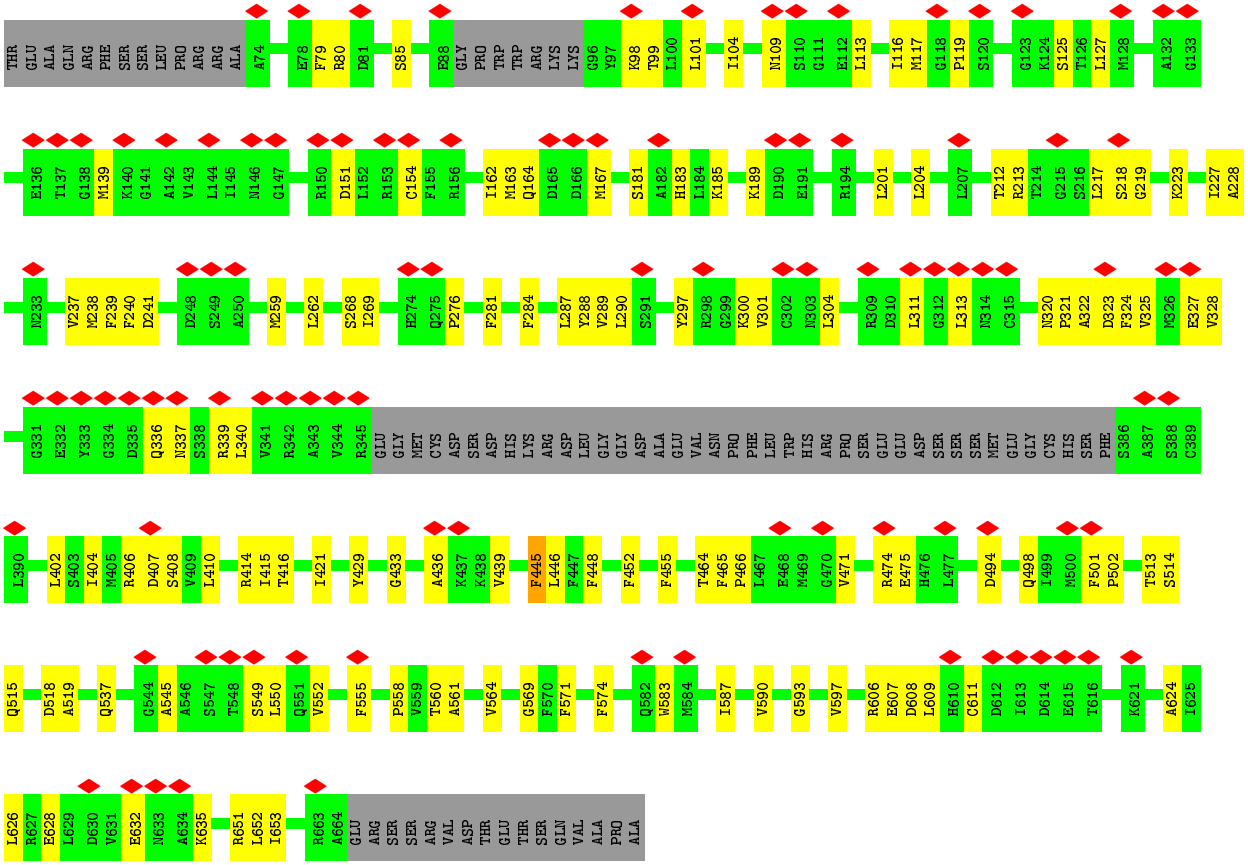
Chain A:



- Molecule 1: Isoform 4 of ATP-binding cassette sub-family G member 1

Chain B:




THR GLU ALA GLN ARG PHE SER SER LEU PRO ARG ARG ALA A74 E78 F79 R80 D81 S85 E88 GLY PRO TRP TRP ARG LYS LYS G96 Y97 K98 Y99 L100 L101 I104 N109 S110 G111 E112 L113 I116 M117 G118 P119 S120 G123 K124 S125 T126 L127 M128 A132 G133
E136 T137 G138 M139 K140 C141 A142 V143 L144 I145 N146 G147 R150 D151 L152 R153 C154 F155 R156 I162 M163 Q164 D165 D166 M167 S181 A182 H183 L184 K185 K189 D190 E191 R194 L201 L204 L207 T212 R213 T214 G215 S216 L217 S218 G219 K223 I227 A228
M233 V237 M238 F239 F240 D241 D248 S249 A250 M259 L262 S268 I269 H274 Q275 P276 F281 F284 I287 Y288 V289 L290 S291 Y297 R298 G299 K300 V301 C302 N303 I304 R309 D310 L311 G312 L313 N314 C315 M320 P321 A322 D323 F324 V325 M326 E327 V328
G331 E332 Y333 G334 D335 Q336 N337 S338 R339 L340 V341 R342 A343 V344 R345 GLU GLY MET CYS ASP SER ASP HIS LYS ARG ASP LEU GLY GLY ASP ALA GLU VAL ASN PRO PHE LEU TRP HIS ARG PRO SER GLU GLU ASP SER SER SER MET GLU GLY CYS HIS SER PHE S386 A387 S388 C389
L390 L402 S403 I404 M405 R406 D407 S408 V409 L410 R414 I415 T416 I421 Y429 G433 A436 K437 K438 V439 F445 L446 F447 F448 F452 F455 T464 F465 P466 L467 E468 M469 G470 V471 R474 E475 H476 L477 D494 Q498 I499 M500 F501 P502 T513 S514
Q515 D518 A519 Q537 G544 A545 A546 S547 T548 S549 L550 Q551 V552 F555 P558 V559 T560 A561 V564 G569 F570 F571 F574 Q582 W583 M584 I587 V590 G593 V597 R606 E607 D608 L609 H610 C611 D612 I613 D614 E615 T616 K621 A624 I625
L626 R627 E628 L629 D630 V631 E632 N633 A634 K635 R651 L652 I653 R663 A664 GLU ARG SER SER ARG VAL ASP THR GLU THR SER GLN VAL ALA PRO ALA

4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	39791	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	1.76	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	0.059	Depositor
Minimum map value	-0.049	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.002	Depositor
Recommended contour level	0.016	Depositor
Map size (Å)	253.44, 253.44, 253.44	wwPDB
Map dimensions	384, 384, 384	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.66, 0.66, 0.66	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: Y01, PEE, 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	0.33	0/4346	0.46	1/5877 (0.0%)
1	B	0.33	0/4346	0.46	1/5877 (0.0%)
All	All	0.33	0/8692	0.46	2/11754 (0.0%)

There are no bond length outliers.

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	276	PRO	N-CA-C	-6.90	94.16	112.10
1	B	276	PRO	N-CA-C	-6.89	94.17	112.10

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	4257	0	4343	115	0
1	B	4257	0	4343	112	0
2	A	31	0	12	1	0
2	B	31	0	12	1	0
3	A	140	0	196	27	0
3	B	140	0	196	28	0
4	A	43	0	63	5	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
4	B	43	0	63	5	0
All	All	8942	0	9228	249	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 14.

The worst 5 of 249 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:A:704:Y01:HAR2	3:A:704:Y01:CAL	1.60	1.32
3:B:705:Y01:CAL	3:B:705:Y01:HAR2	1.60	1.31
3:B:705:Y01:CAR	3:B:705:Y01:HAL2	1.78	1.13
3:A:704:Y01:CAR	3:A:704:Y01:HAL2	1.78	1.12
3:A:704:Y01:HAR2	3:A:704:Y01:HAL2	1.06	1.06

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	538/680 (79%)	497 (92%)	41 (8%)	0	100	100
1	B	538/680 (79%)	497 (92%)	41 (8%)	0	100	100
All	All	1076/1360 (79%)	994 (92%)	82 (8%)	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	466/583 (80%)	465 (100%)	1 (0%)	93 96
1	B	466/583 (80%)	465 (100%)	1 (0%)	93 96
All	All	932/1166 (80%)	930 (100%)	2 (0%)	93 96

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

Mol	Chain	Res	Type
1	A	445	PHE
1	B	445	PHE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 7 such sidechains are listed below:

Mol	Chain	Res	Type
1	B	183	HIS
1	B	320	ASN
1	B	515	GLN
1	B	418	HIS
1	B	175	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)

12 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	ATP	A	701	-	26,33,33	0.93	1 (3%)	31,52,52	1.55	5 (16%)
3	Y01	B	704	-	35,38,38	0.43	0	54,57,57	0.78	0
3	Y01	B	705	-	35,38,38	0.41	0	54,57,57	0.66	0
3	Y01	A	702	-	35,38,38	0.39	0	54,57,57	1.10	5 (9%)
4	PEE	B	706	-	42,42,50	0.79	2 (4%)	45,47,55	0.56	0
3	Y01	B	702	-	35,38,38	0.41	0	54,57,57	0.93	2 (3%)
3	Y01	A	703	-	35,38,38	0.43	0	54,57,57	0.78	0
4	PEE	A	705	-	42,42,50	0.79	2 (4%)	45,47,55	0.56	0
3	Y01	A	704	-	35,38,38	0.41	0	54,57,57	0.66	0
3	Y01	B	703	-	35,38,38	0.39	0	54,57,57	1.10	5 (9%)
3	Y01	A	706	-	35,38,38	0.41	0	54,57,57	0.93	2 (3%)
2	ATP	B	701	-	26,33,33	0.93	1 (3%)	31,52,52	1.55	5 (16%)

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	ATP	A	701	-	-	5/18/38/38	0/3/3/3
3	Y01	B	704	-	-	7/17/77/77	0/4/4/4
3	Y01	B	705	-	-	9/17/77/77	0/4/4/4
3	Y01	A	702	-	-	12/17/77/77	0/4/4/4
4	PEE	B	706	-	-	23/46/46/54	-
3	Y01	B	702	-	-	8/17/77/77	0/4/4/4
3	Y01	A	703	-	-	6/17/77/77	0/4/4/4
4	PEE	A	705	-	-	23/46/46/54	-
3	Y01	A	704	-	-	9/17/77/77	0/4/4/4
3	Y01	B	703	-	-	12/17/77/77	0/4/4/4
3	Y01	A	706	-	-	8/17/77/77	0/4/4/4

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	ATP	B	701	-	-	6/18/38/38	0/3/3/3

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

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	A	705	PEE	C19-C18	3.37	1.51	1.28
4	B	706	PEE	C19-C18	3.36	1.51	1.28
4	B	706	PEE	C39-C38	3.32	1.51	1.31
4	A	705	PEE	C39-C38	3.31	1.51	1.31
2	A	701	ATP	C5-C4	2.51	1.47	1.40

The worst 5 of 24 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	B	701	ATP	PA-O3A-PB	-3.58	120.56	132.83
2	A	701	ATP	PA-O3A-PB	-3.57	120.59	132.83
2	B	701	ATP	C3'-C2'-C1'	3.40	106.09	100.98
2	A	701	ATP	C3'-C2'-C1'	3.38	106.07	100.98
2	B	701	ATP	N3-C2-N1	-3.12	123.80	128.68

There are no chirality outliers.

5 of 128 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	701	ATP	C5'-O5'-PA-O2A
2	B	701	ATP	C5'-O5'-PA-O2A
3	A	702	Y01	CAM-CAY-OAW-CBC
3	A	703	Y01	CAV-CBC-OAW-CAY
3	A	703	Y01	CAM-CAY-OAW-CBC

There are no ring outliers.

12 monomers are involved in 66 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	A	701	ATP	1	0
3	B	704	Y01	2	0
3	B	705	Y01	11	0
3	A	702	Y01	14	0
4	B	706	PEE	5	0
3	B	702	Y01	1	0
3	A	703	Y01	1	0

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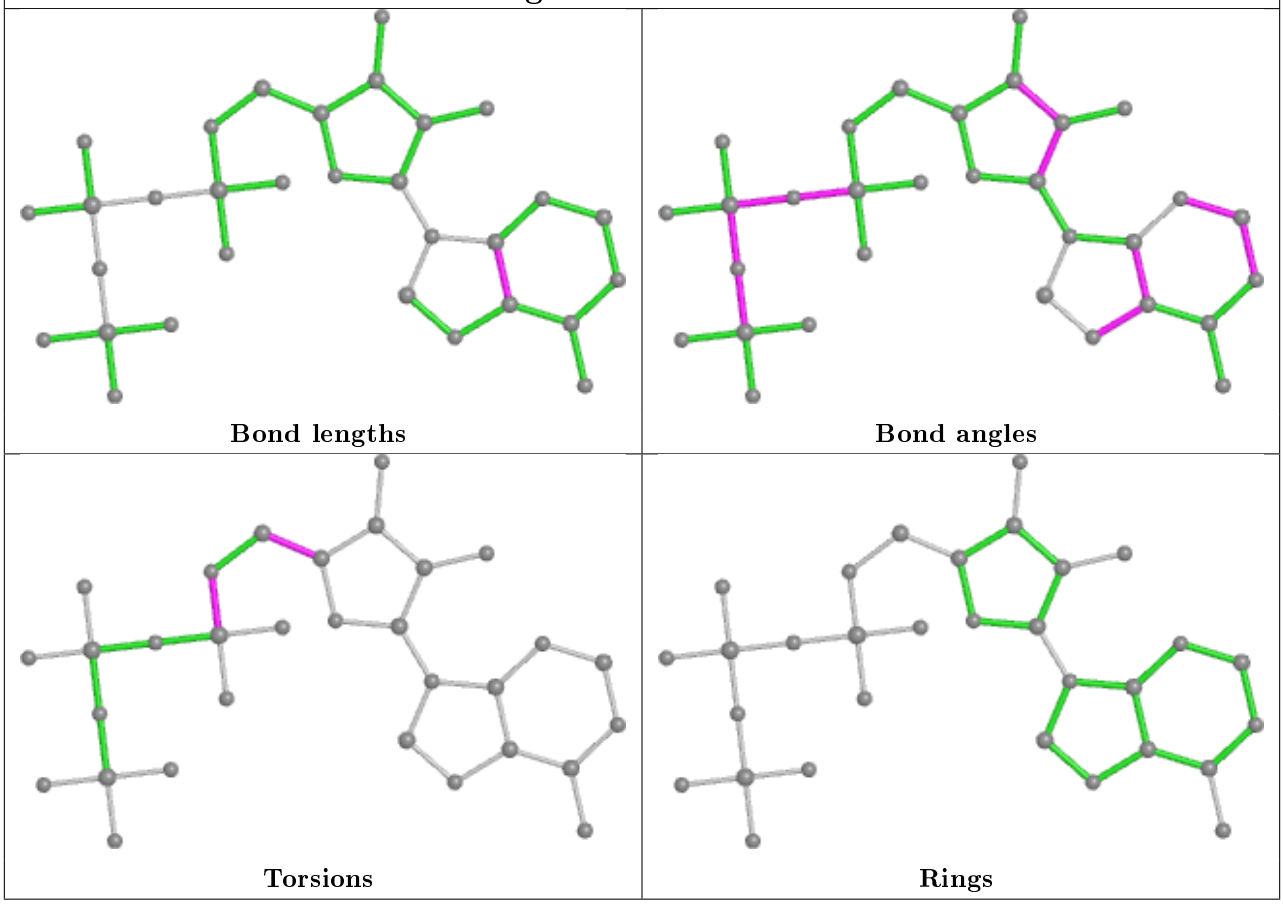
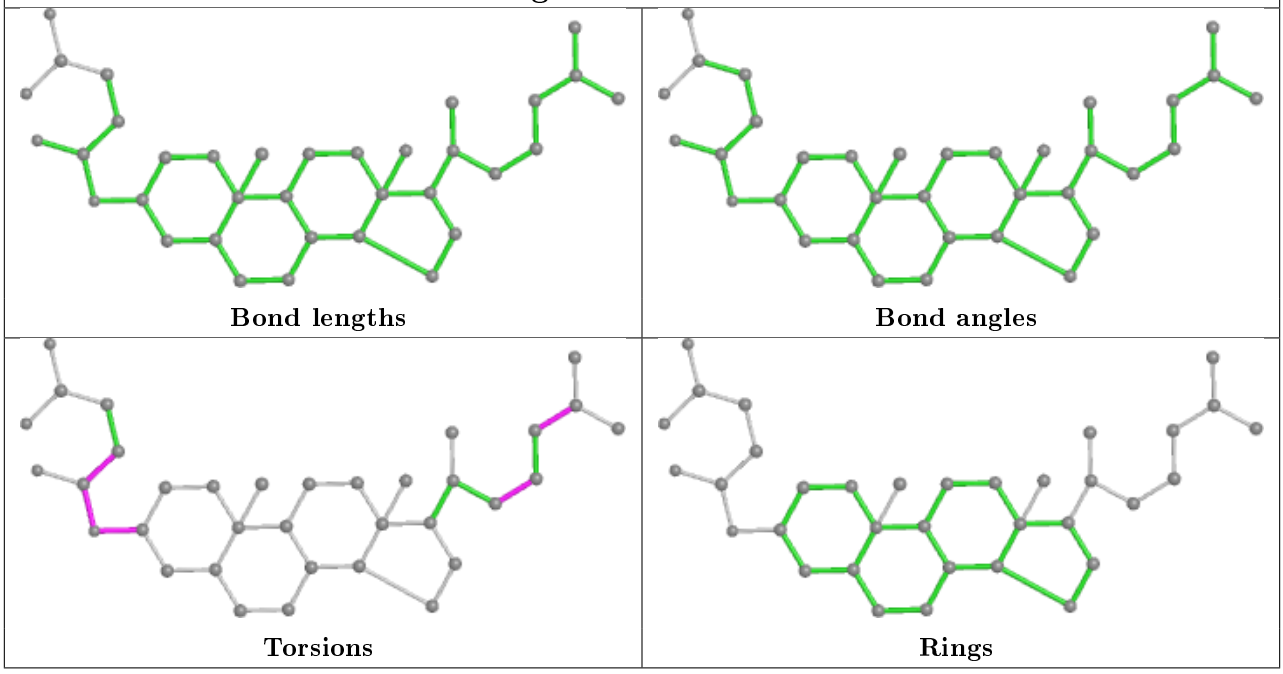
Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	A	705	PEE	5	0
3	A	704	Y01	10	0
3	B	703	Y01	14	0
3	A	706	Y01	2	0
2	B	701	ATP	1	0

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 then 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

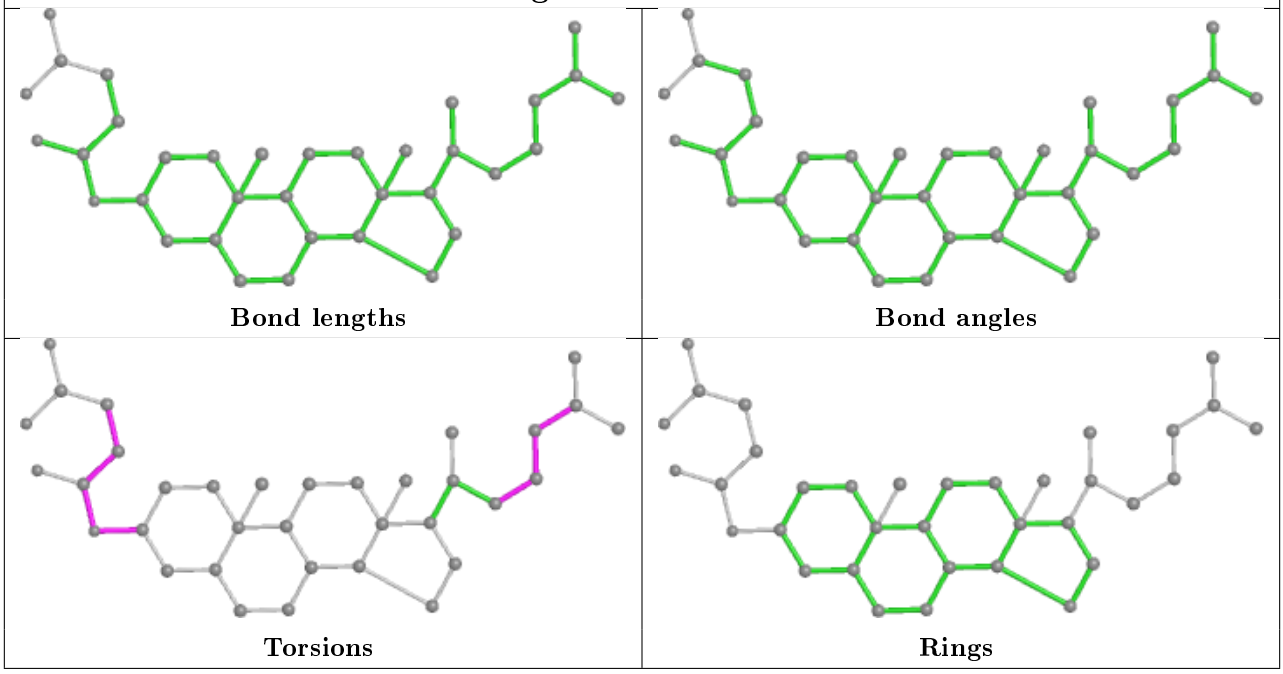
Ligand ATP A 701



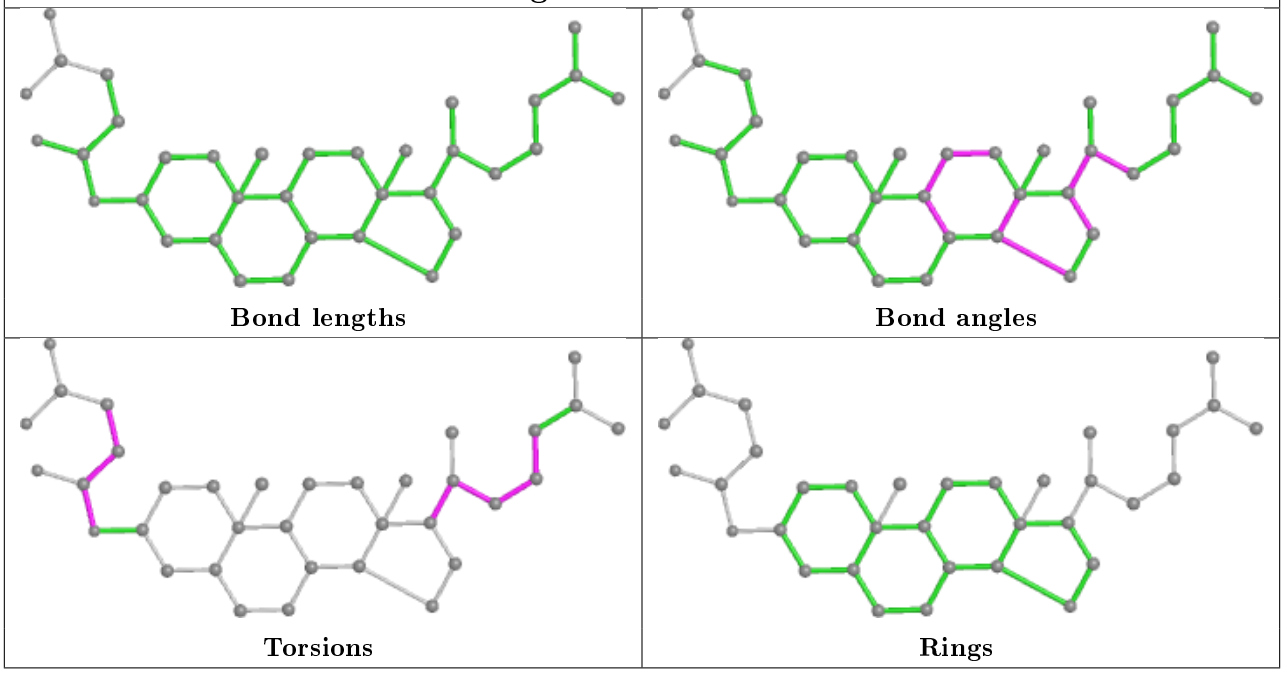
Ligand Y01 B 704



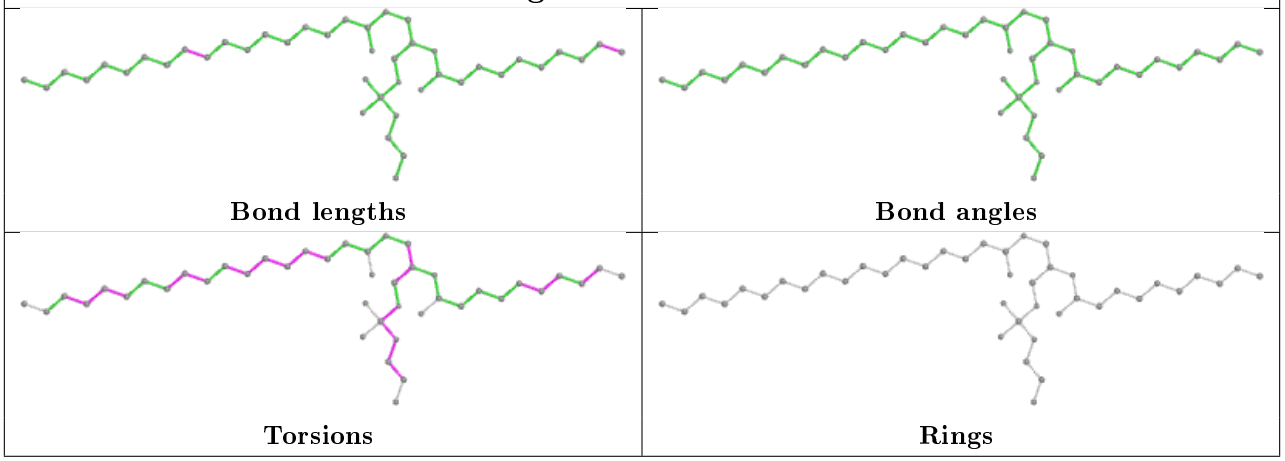
Ligand Y01 B 705



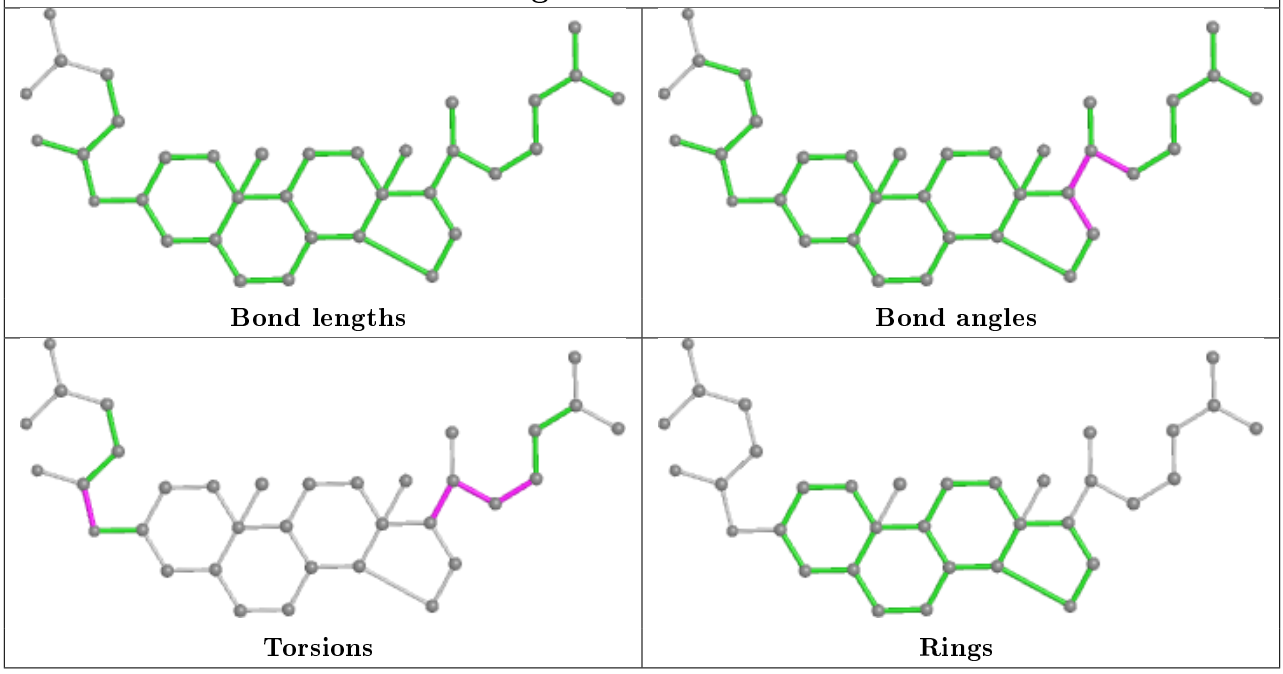
Ligand Y01 A 702



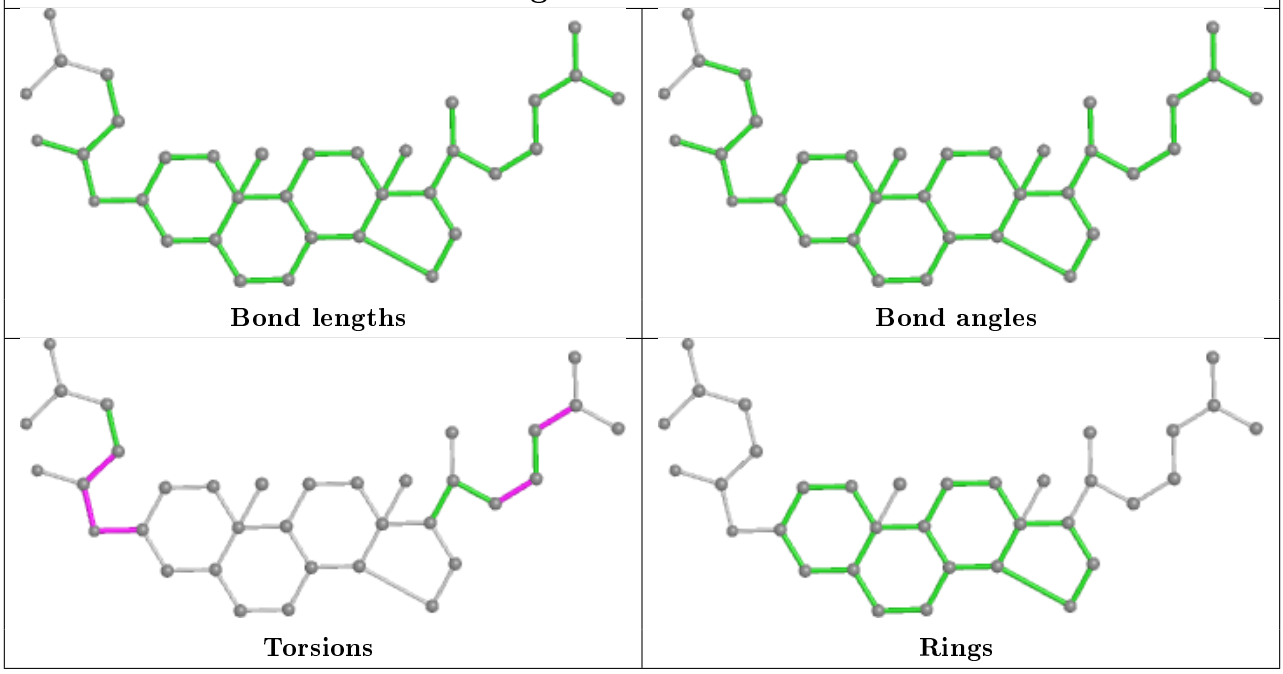
Ligand PEE B 706



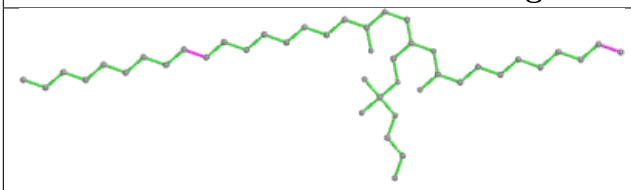
Ligand Y01 B 702



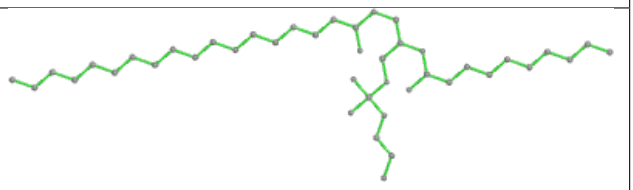
Ligand Y01 A 703



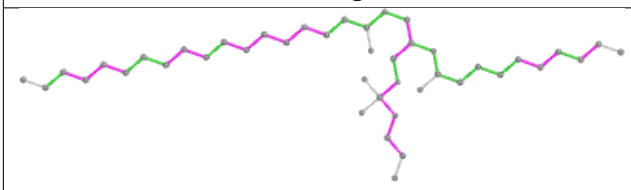
Ligand PEE A 705



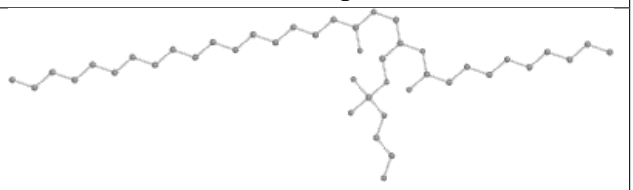
Bond lengths



Bond angles

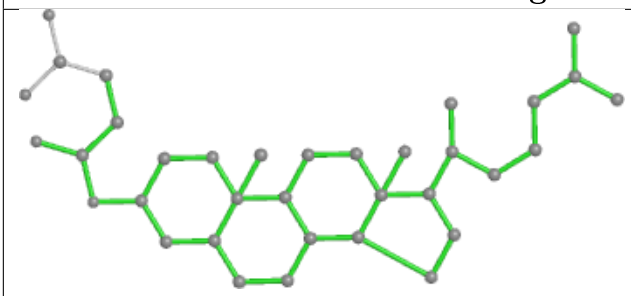


Torsions

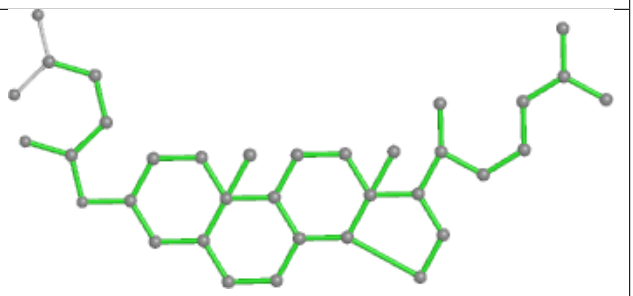


Rings

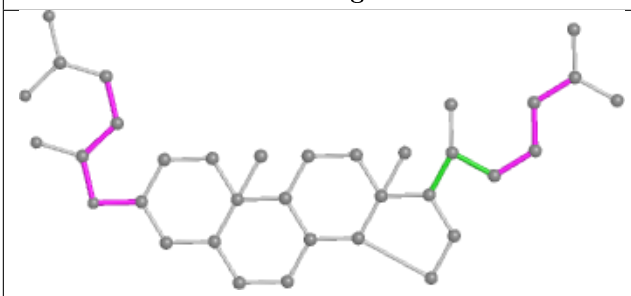
Ligand Y01 A 704



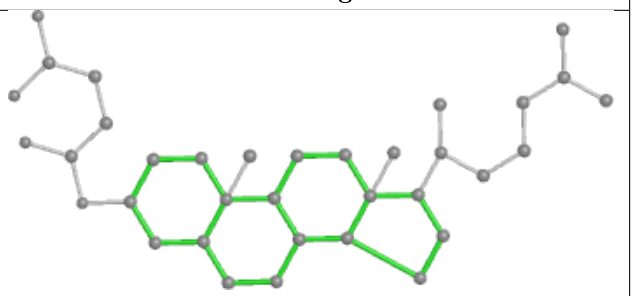
Bond lengths



Bond angles

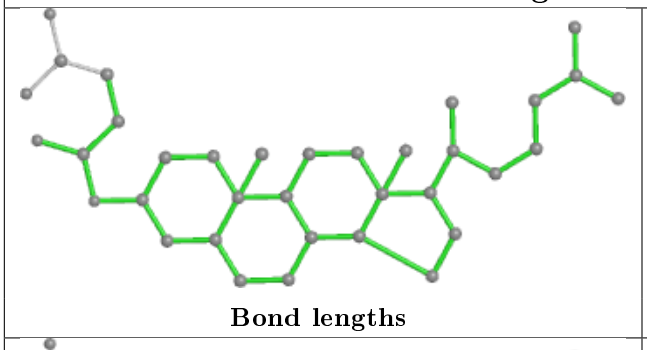


Torsions

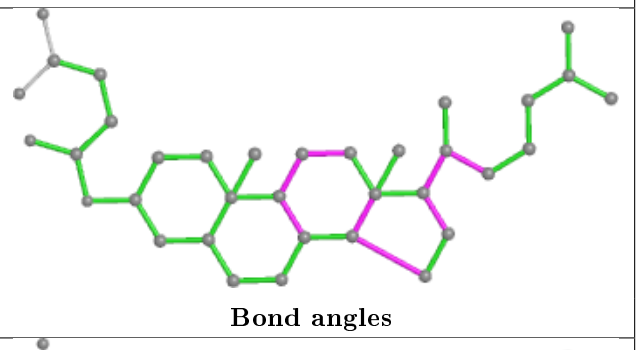


Rings

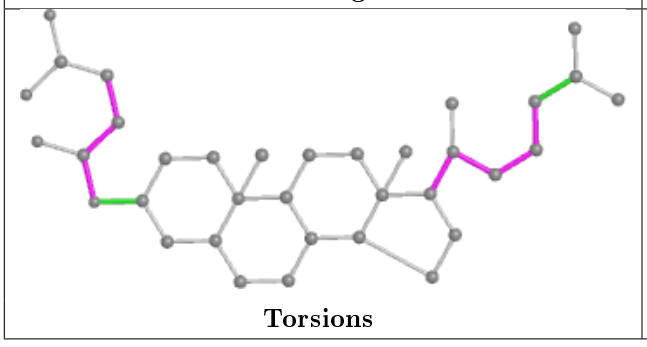
Ligand Y01 B 703



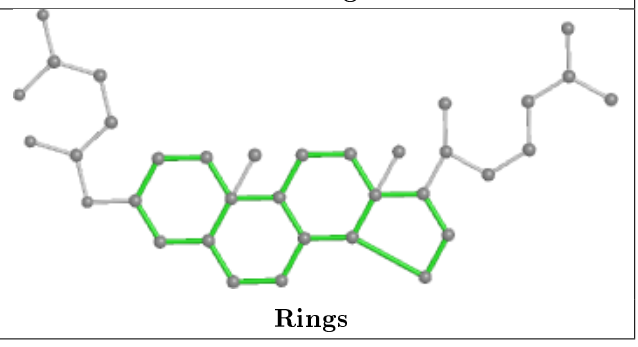
Bond lengths



Bond angles

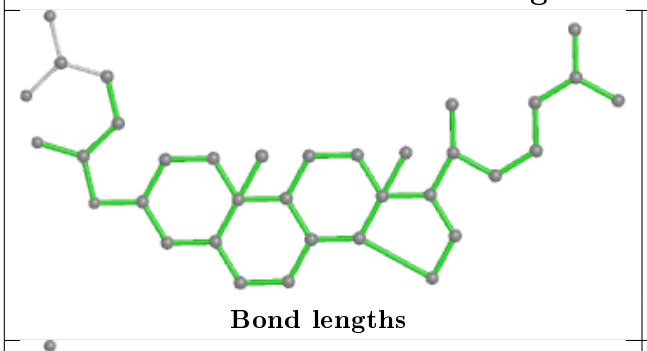


Torsions

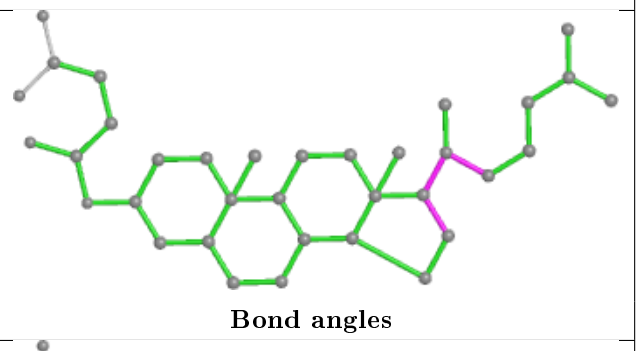


Rings

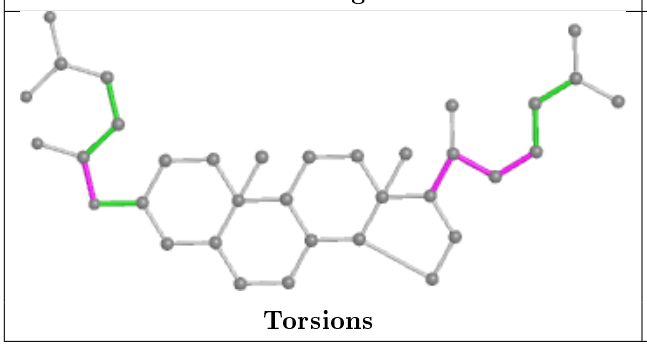
Ligand Y01 A 706



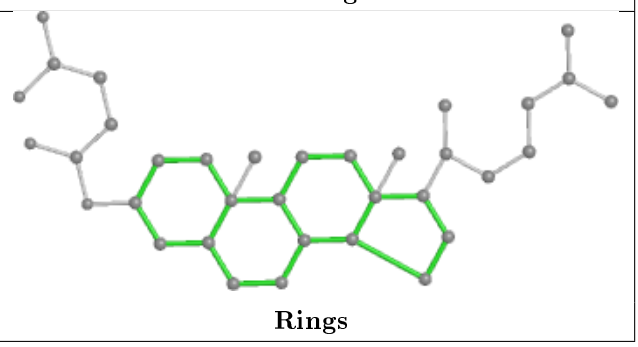
Bond lengths



Bond angles

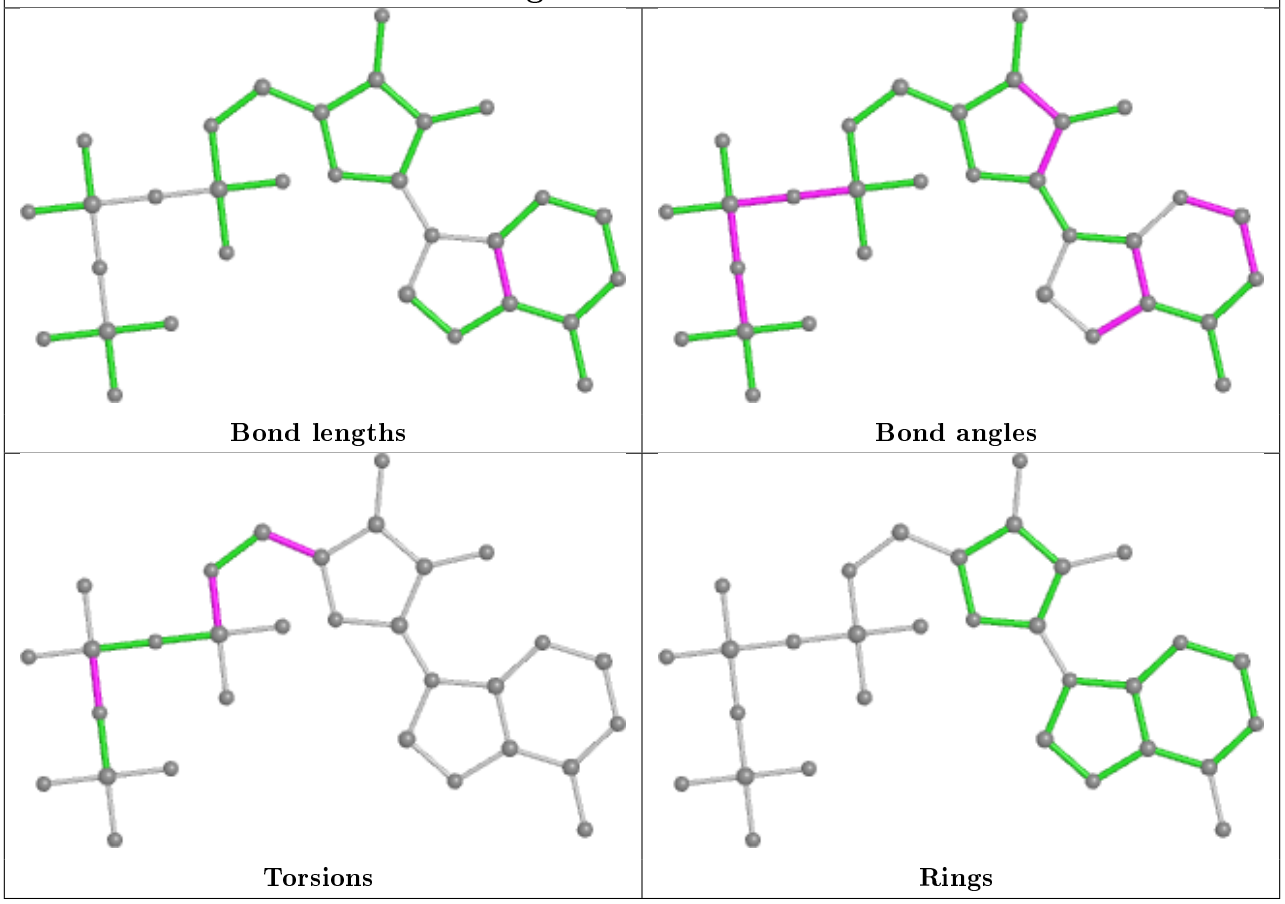


Torsions



Rings

Ligand ATP B 701



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.

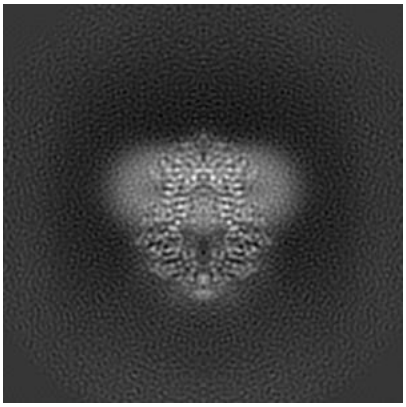
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-13118. These allow visual inspection of the internal detail of the map and identification of artifacts.

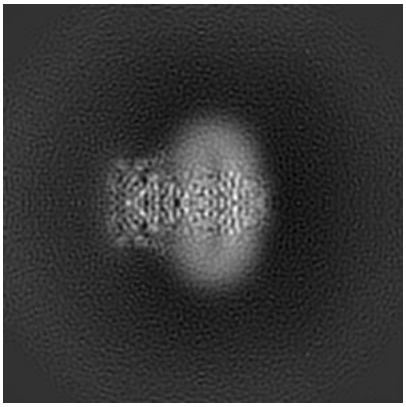
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

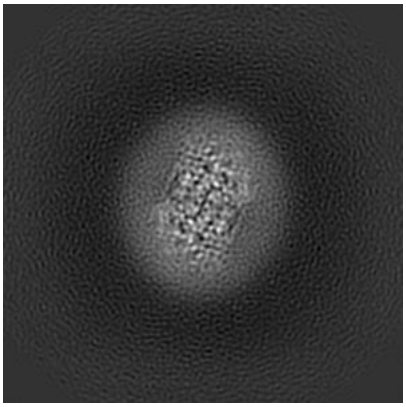
6.1.1 Primary map



X



Y

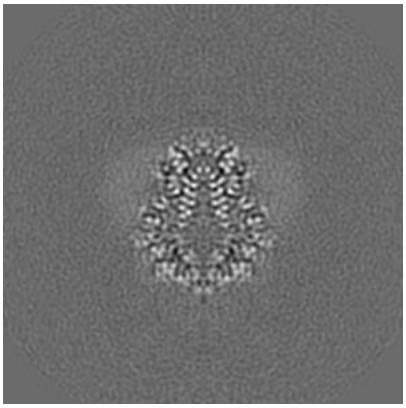


Z

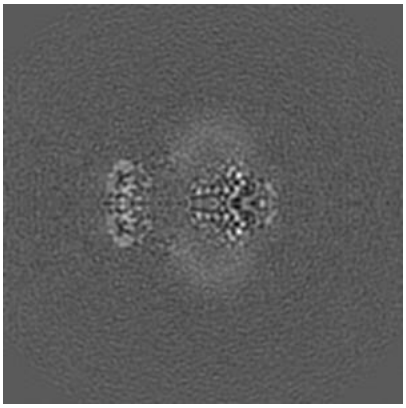
The images above show the map projected in three orthogonal directions.

6.2 Central slices

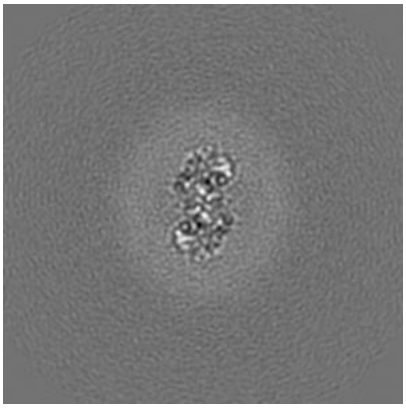
6.2.1 Primary map



X Index: 192



Y Index: 192

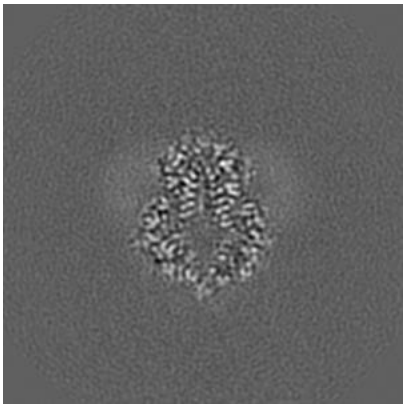


Z Index: 192

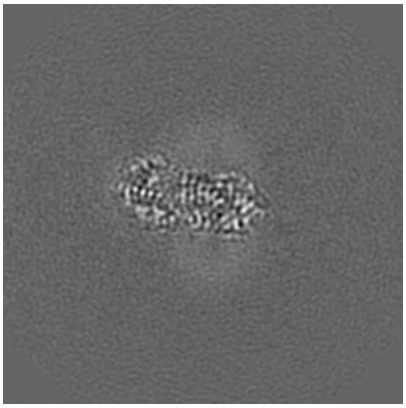
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

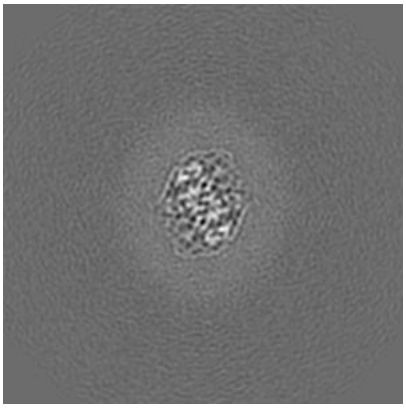
6.3.1 Primary map



X Index: 194



Y Index: 216

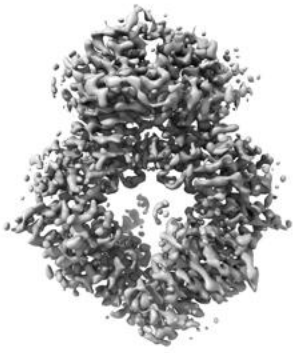


Z Index: 223

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

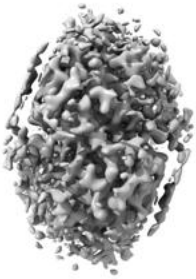
6.4 Orthogonal surface views (i)

6.4.1 Primary map



X

Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.016. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

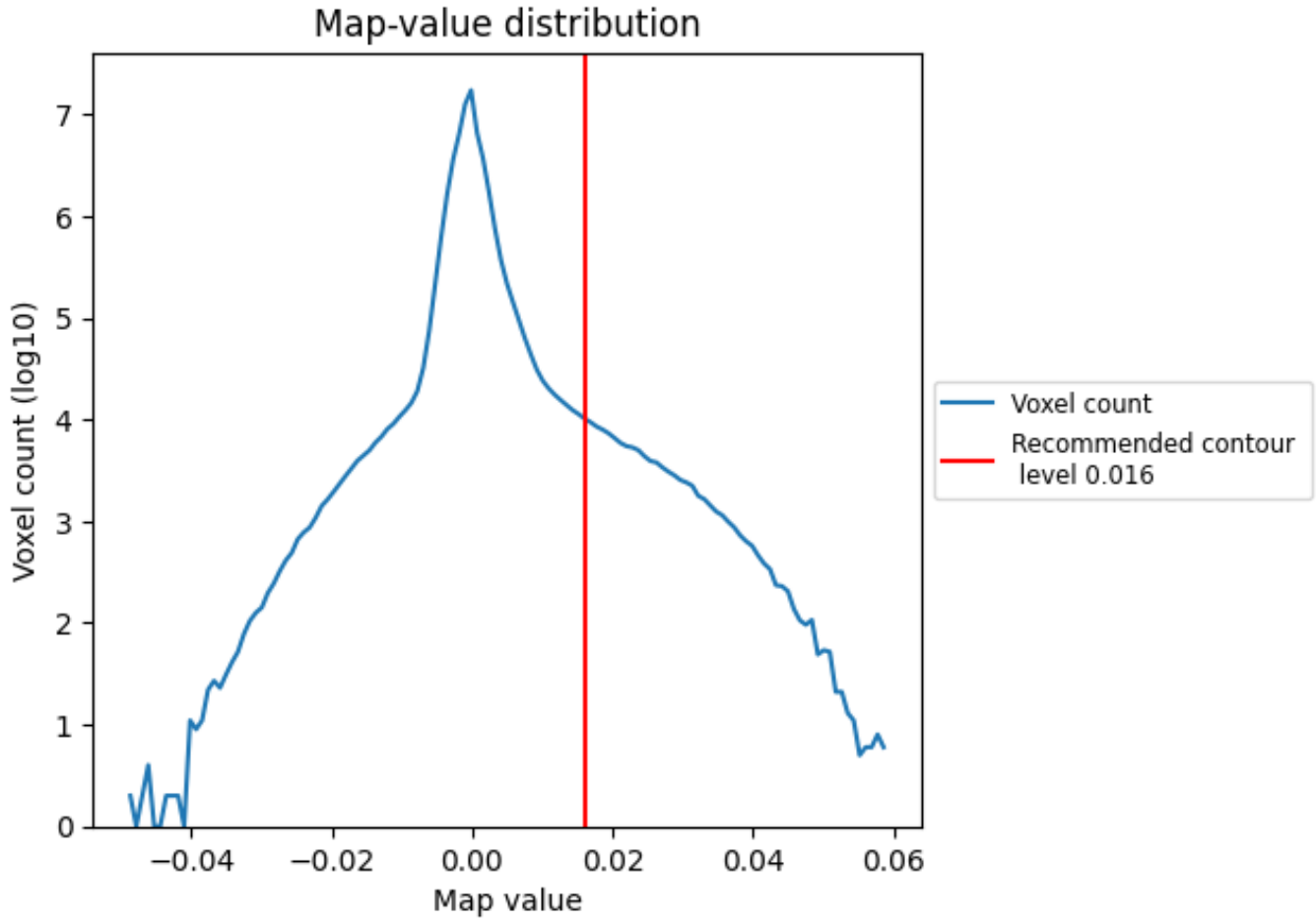
6.5 Mask visualisation (i)

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

7 Map analysis

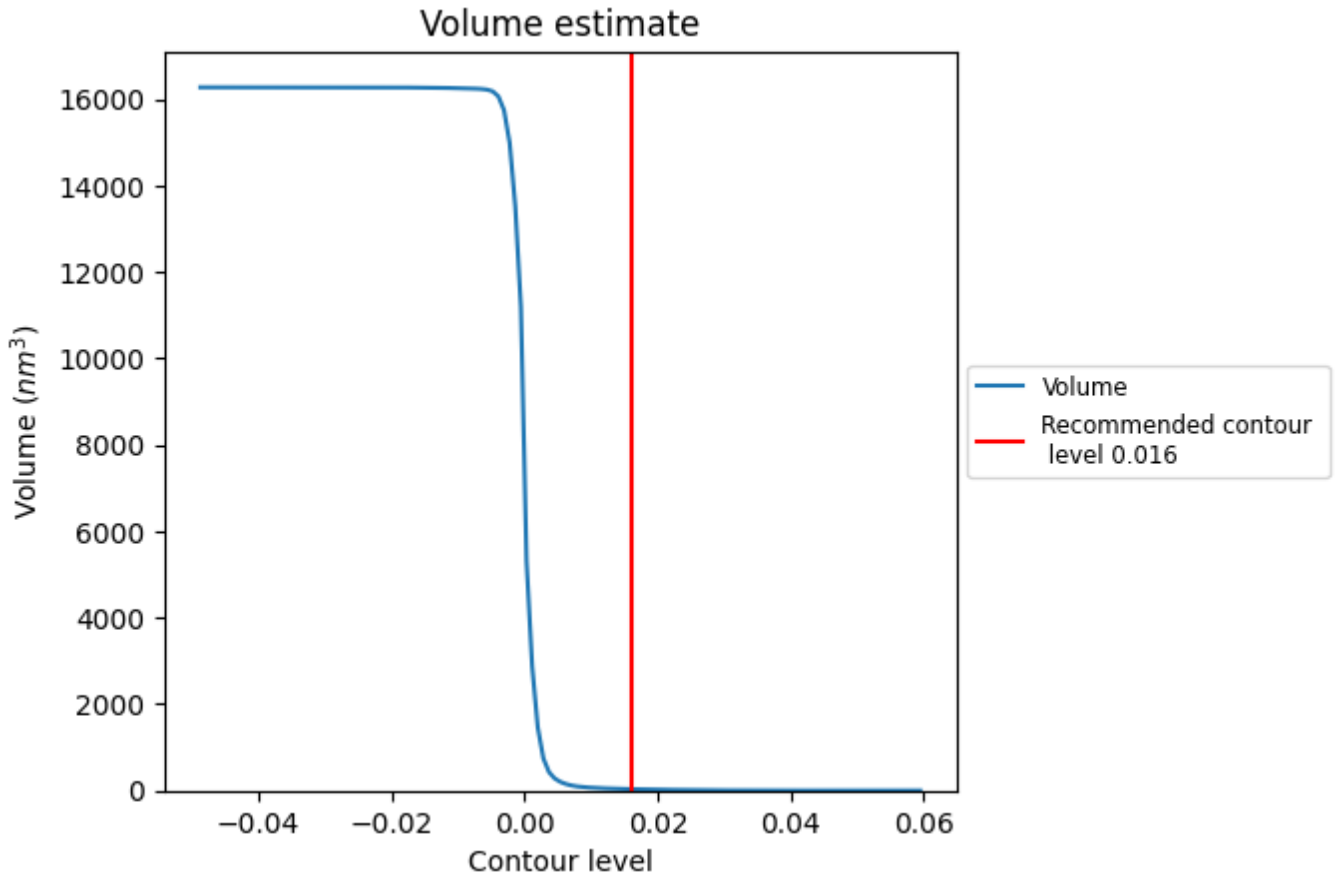
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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.

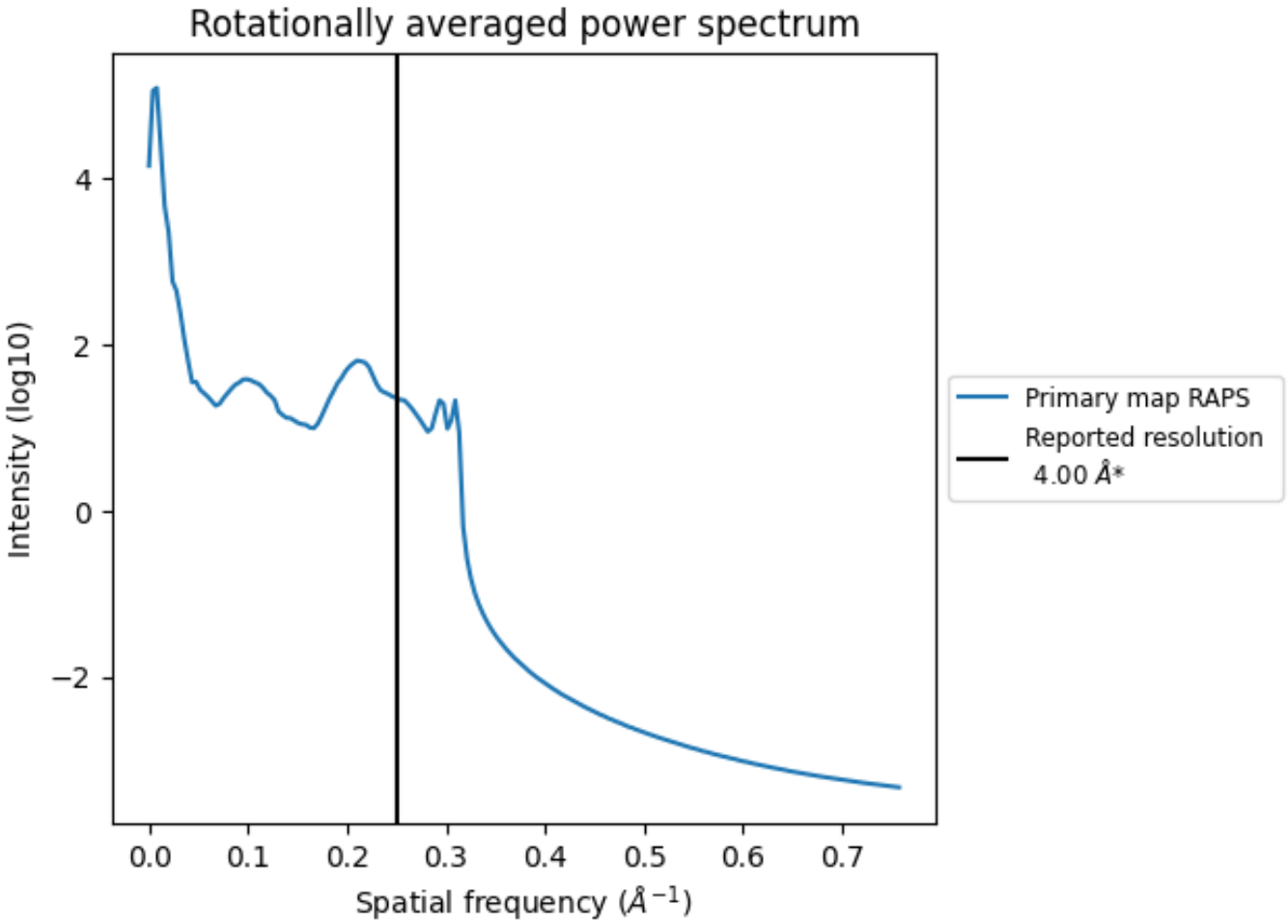
7.2 Volume estimate



The volume at the recommended contour level is 33 nm^3; this corresponds to an approximate mass of 30 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 0.250 Å^{-1}

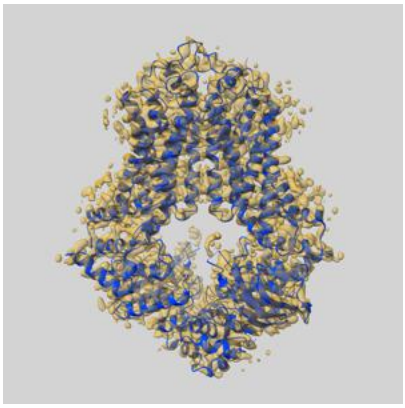
8 Fourier-Shell correlation

This section was not generated. No FSC curve or half-maps provided.

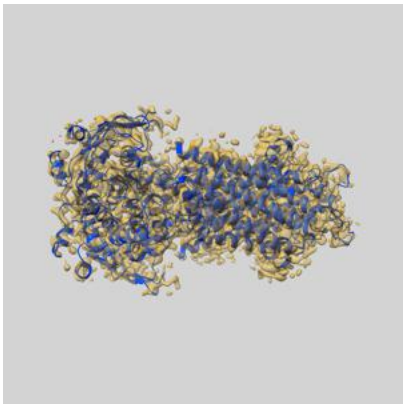
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-13118 and PDB model 7OZ1. Per-residue inclusion information can be found in section 3 on page 7.

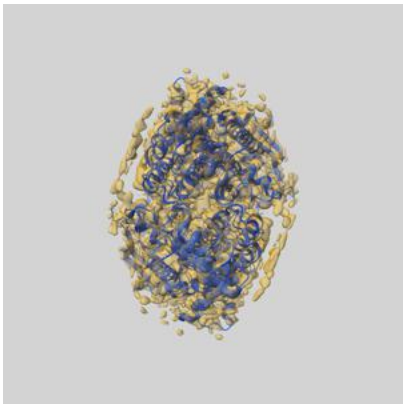
9.1 Map-model overlay



X



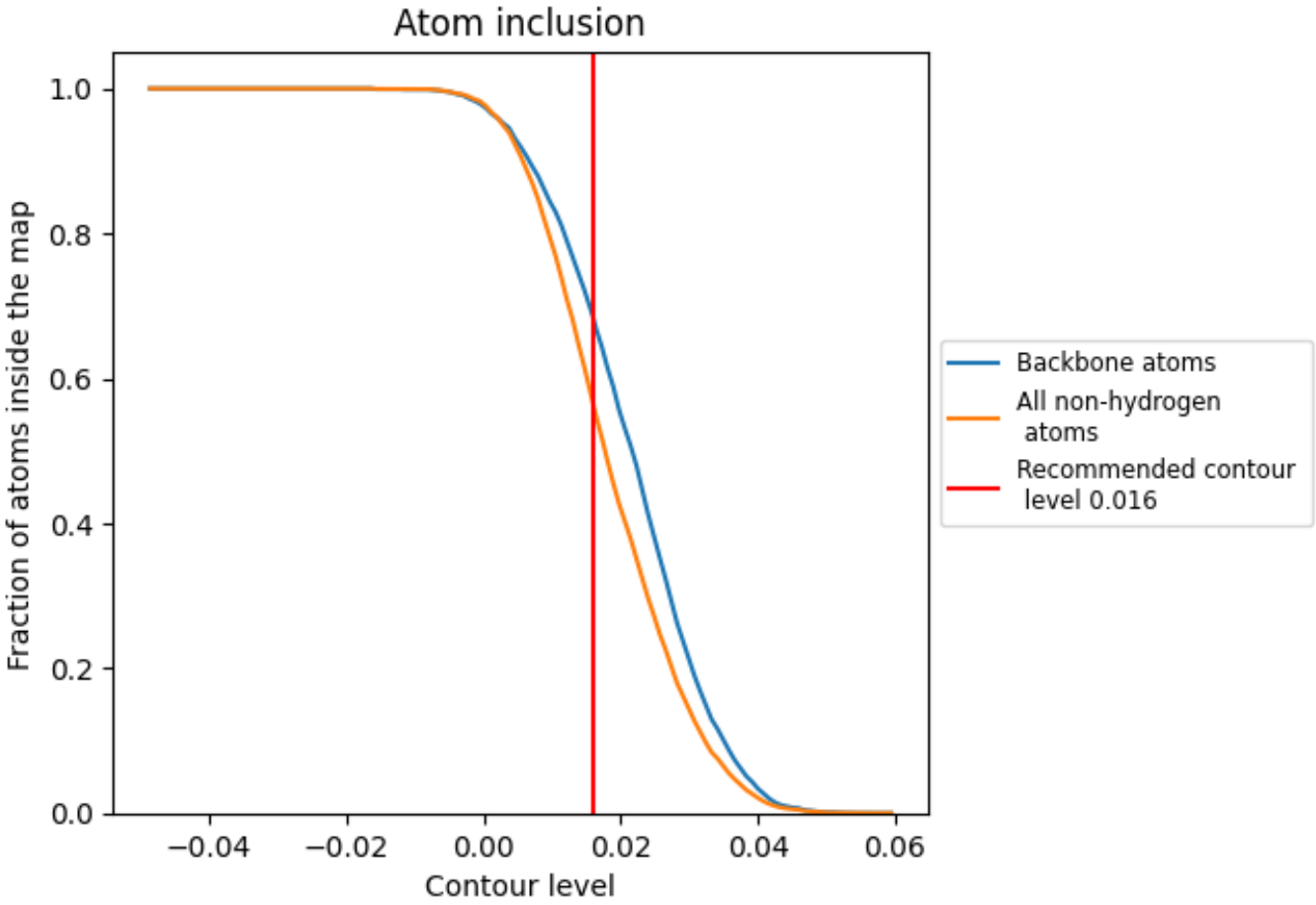
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.016 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 Atom inclusion (i)



At the recommended contour level, 68% of all backbone atoms, 56% of all non-hydrogen atoms, are inside the map.