



# wwPDB X-ray Structure Validation Summary Report ⓘ

Feb 19, 2024 – 04:21 PM JST

PDB ID : 8IH6  
Title : Crystal structure of decarboxylase-hydratase complex from Pseudomonas species AP-3  
Authors : Shi, Q.L.; Su, D.  
Deposited on : 2023-02-22  
Resolution : 2.52 Å(reported)

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

We welcome your comments at [validation@mail.wwpdb.org](mailto:validation@mail.wwpdb.org)

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

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

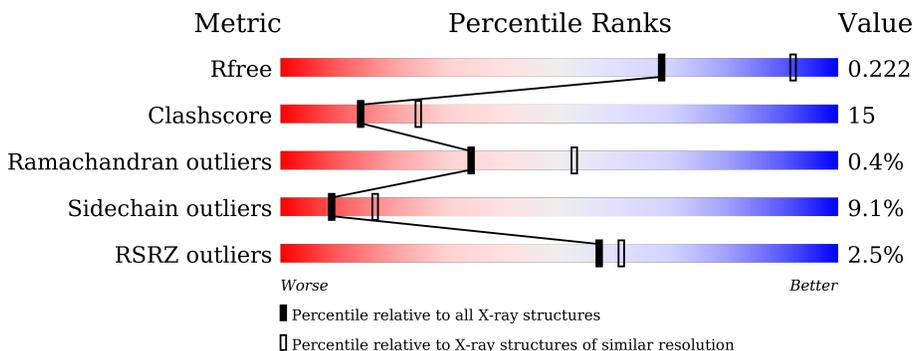
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 2.52 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
$R_{free}$	130704	5743 (2.54-2.50)
Clashscore	141614	6463 (2.54-2.50)
Ramachandran outliers	138981	6335 (2.54-2.50)
Sidechain outliers	138945	6337 (2.54-2.50)
RSRZ outliers	127900	5630 (2.54-2.50)

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

Mol	Chain	Length	Quality of chain
1	A	266	 75% 20% . .
1	B	266	 74% 23% . .
1	C	266	 73% 24% .
1	D	266	 74% 22% . .
1	E	266	 79% 18% . .
2	F	258	 62% 31% 5% .

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Mol	Chain	Length	Quality of chain
2	G	258	
2	H	258	
2	I	258	
2	J	258	

## 2 Entry composition [i](#)

There are 4 unique types of molecules in this entry. The entry contains 19733 atoms, of which 32 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called 2-oxopent-4-enoate hydratase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	264	Total 1945	C 1222	N 347	O 370	S 6	0	0	0
1	B	264	Total 1942	C 1220	N 343	O 372	S 7	0	0	0
1	C	265	Total 1947	C 1222	N 343	O 375	S 7	0	0	0
1	D	263	Total 1938	C 1219	N 343	O 369	S 7	0	0	0
1	E	264	Total 1948	C 1223	N 346	O 372	S 7	0	0	0

There are 25 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-4	ALA	-	expression tag	UNP Q9KWS4
A	-3	ASP	-	expression tag	UNP Q9KWS4
A	-2	LEU	-	expression tag	UNP Q9KWS4
A	-1	ASN	-	expression tag	UNP Q9KWS4
A	0	TRP	-	expression tag	UNP Q9KWS4
B	-4	ALA	-	expression tag	UNP Q9KWS4
B	-3	ASP	-	expression tag	UNP Q9KWS4
B	-2	LEU	-	expression tag	UNP Q9KWS4
B	-1	ASN	-	expression tag	UNP Q9KWS4
B	0	TRP	-	expression tag	UNP Q9KWS4
C	-4	ALA	-	expression tag	UNP Q9KWS4
C	-3	ASP	-	expression tag	UNP Q9KWS4
C	-2	LEU	-	expression tag	UNP Q9KWS4
C	-1	ASN	-	expression tag	UNP Q9KWS4
C	0	TRP	-	expression tag	UNP Q9KWS4
D	-4	ALA	-	expression tag	UNP Q9KWS4
D	-3	ASP	-	expression tag	UNP Q9KWS4
D	-2	LEU	-	expression tag	UNP Q9KWS4
D	-1	ASN	-	expression tag	UNP Q9KWS4

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Chain	Residue	Modelled	Actual	Comment	Reference
D	0	TRP	-	expression tag	UNP Q9KWS4
E	-4	ALA	-	expression tag	UNP Q9KWS4
E	-3	ASP	-	expression tag	UNP Q9KWS4
E	-2	LEU	-	expression tag	UNP Q9KWS4
E	-1	ASN	-	expression tag	UNP Q9KWS4
E	0	TRP	-	expression tag	UNP Q9KWS4

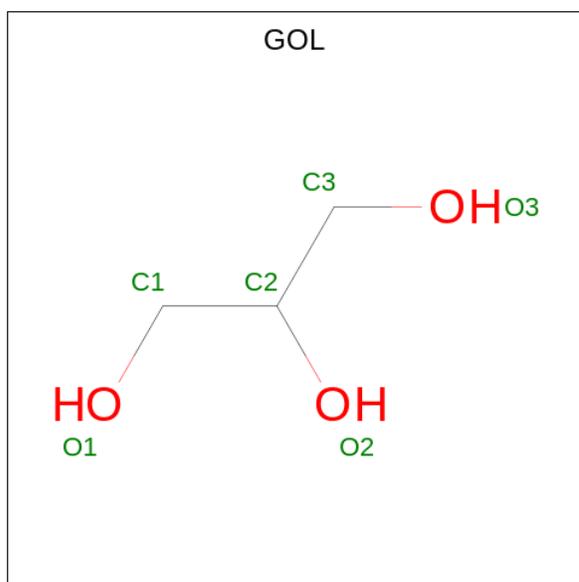
- Molecule 2 is a protein called 4-oxalocrotonate decarboxylase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	F	253	Total	C	N	O	S	0	0	0
			1815	1140	318	348	9			
2	G	256	Total	C	N	O	S	0	0	0
			1894	1184	337	363	10			
2	H	256	Total	C	N	O	S	0	0	0
			1874	1172	329	363	10			
2	I	257	Total	C	N	O	S	0	0	0
			1905	1190	341	364	10			
2	J	255	Total	C	N	O	S	0	0	0
			1876	1172	332	362	10			

There are 10 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
F	-1	ALA	-	expression tag	UNP Q9KWS3
F	0	ALA	-	expression tag	UNP Q9KWS3
G	-1	ALA	-	expression tag	UNP Q9KWS3
G	0	ALA	-	expression tag	UNP Q9KWS3
H	-1	ALA	-	expression tag	UNP Q9KWS3
H	0	ALA	-	expression tag	UNP Q9KWS3
I	-1	ALA	-	expression tag	UNP Q9KWS3
I	0	ALA	-	expression tag	UNP Q9KWS3
J	-1	ALA	-	expression tag	UNP Q9KWS3
J	0	ALA	-	expression tag	UNP Q9KWS3

- Molecule 3 is GLYCEROL (three-letter code: GOL) (formula: C<sub>3</sub>H<sub>8</sub>O<sub>3</sub>) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
3	B	1	Total	C	H	O	0	0
			14	3	8	3		
3	G	1	Total	C	H	O	0	0
			14	3	8	3		
3	H	1	Total	C	H	O	0	0
			14	3	8	3		
3	J	1	Total	C	H	O	0	0
			14	3	8	3		

- Molecule 4 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	40	Total	O	0	0
			40	40		
4	B	63	Total	O	0	0
			63	63		
4	F	62	Total	O	0	0
			62	62		
4	C	62	Total	O	0	0
			62	62		
4	D	58	Total	O	0	0
			58	58		
4	E	66	Total	O	0	0
			66	66		
4	G	60	Total	O	0	0
			60	60		
4	H	66	Total	O	0	0
			66	66		

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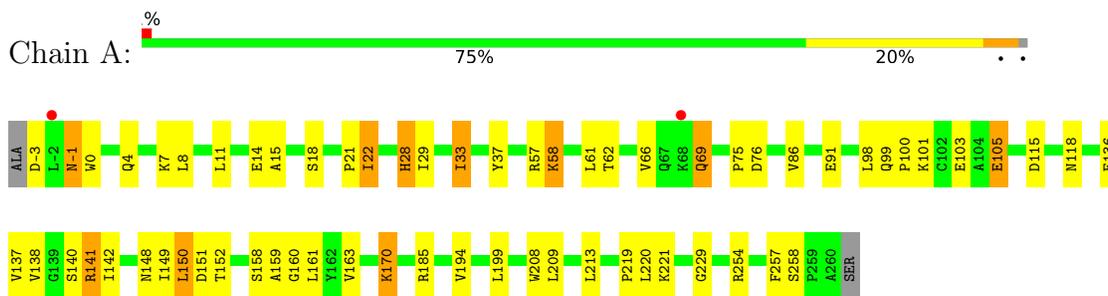
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<b>Mol</b>	<b>Chain</b>	<b>Residues</b>	<b>Atoms</b>		<b>ZeroOcc</b>	<b>AltConf</b>
4	I	40	Total	O	0	0
			40	40		
4	J	76	Total	O	0	0
			76	76		

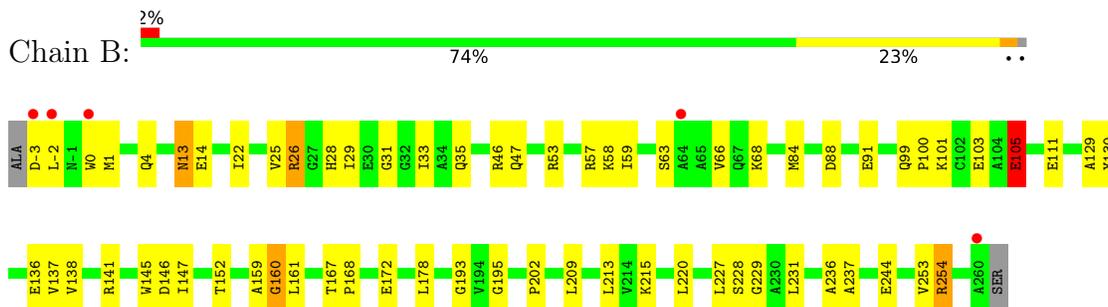
### 3 Residue-property plots [i](#)

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 electron density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red dot above a residue indicates a poor fit to the electron density ( $RSRZ > 2$ ). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

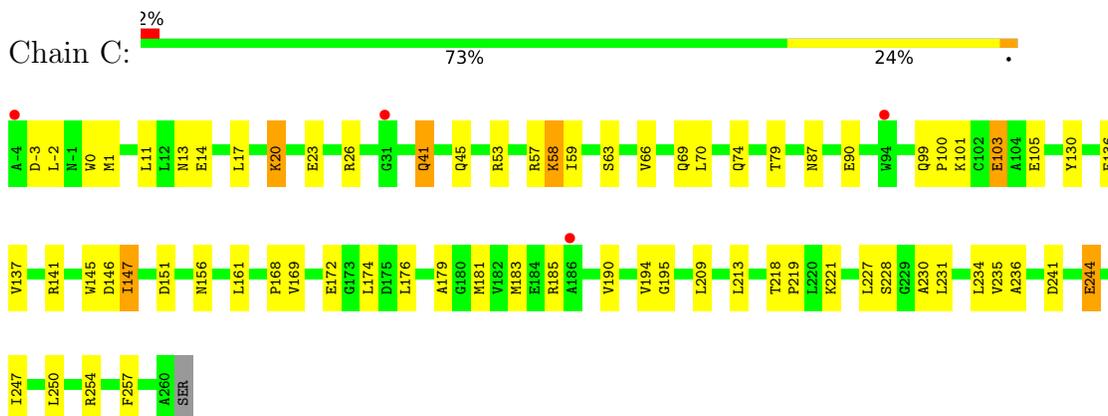
- Molecule 1: 2-oxopent-4-enoate hydratase



- Molecule 1: 2-oxopent-4-enoate hydratase

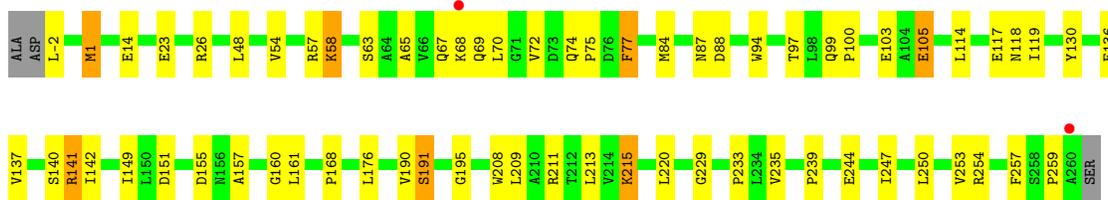


- Molecule 1: 2-oxopent-4-enoate hydratase

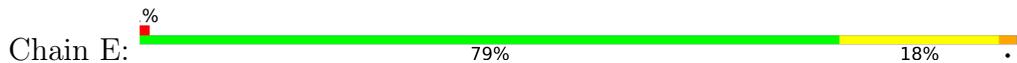


- Molecule 1: 2-oxopent-4-enoate hydratase

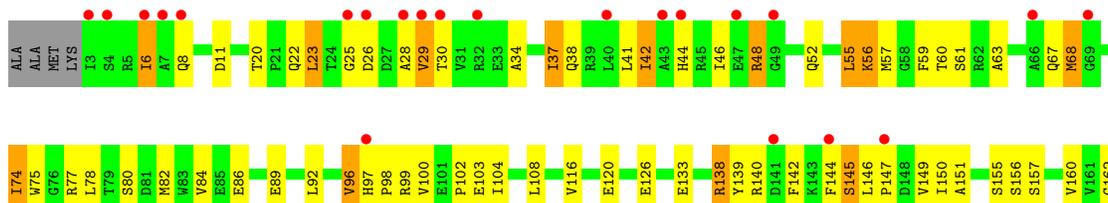




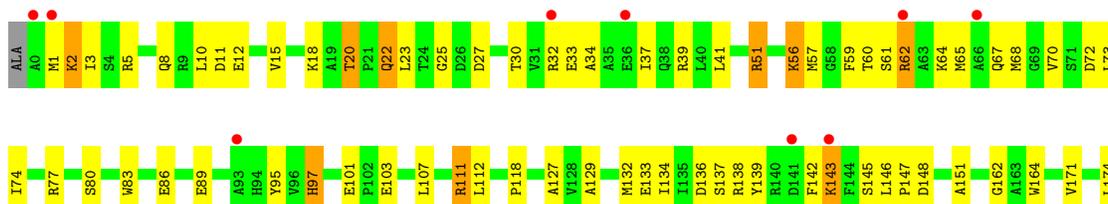
- Molecule 1: 2-oxopent-4-enoate hydratase



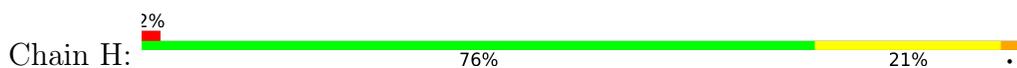
- Molecule 2: 4-oxalocrotonate decarboxylase

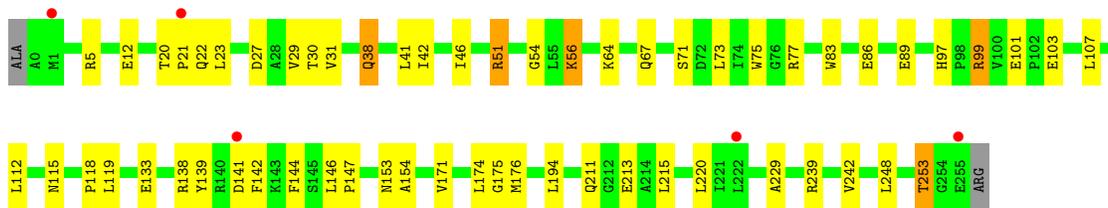


- Molecule 2: 4-oxalocrotonate decarboxylase

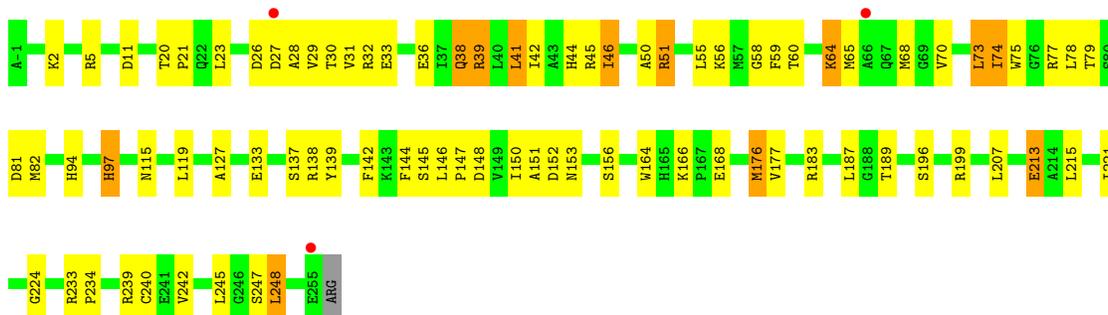


- Molecule 2: 4-oxalocrotonate decarboxylase

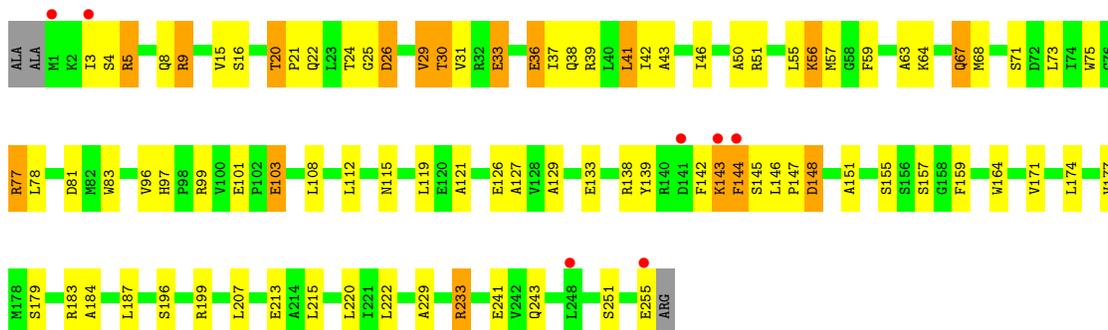




● Molecule 2: 4-oxalocrotonate decarboxylase



● Molecule 2: 4-oxalocrotonate decarboxylase



## 4 Data and refinement statistics

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	203.98Å 107.79Å 164.85Å 90.00° 124.46° 90.00°	Depositor
Resolution (Å)	30.35 – 2.52 30.35 – 2.52	Depositor EDS
% Data completeness (in resolution range)	99.8 (30.35-2.52) 99.9 (30.35-2.52)	Depositor EDS
$R_{merge}$	(Not available)	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	2.05 (at 2.51Å)	Xtrriage
Refinement program	PHENIX (1.15.2_3472: ???)	Depositor
R, $R_{free}$	0.174 , 0.222 0.185 , 0.222	Depositor DCC
$R_{free}$ test set	4869 reflections (4.89%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	46.0	Xtrriage
Anisotropy	0.731	Xtrriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.34 , 50.0	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.50$ , $\langle L^2 \rangle = 0.34$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
$F_o, F_c$ correlation	0.95	EDS
Total number of atoms	19733	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	54.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.59% of the height of the origin peak. No significant pseudotranslation is detected.*

<sup>1</sup>Intensities estimated from amplitudes.

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

## 5 Model quality [i](#)

### 5.1 Standard geometry [i](#)

Bond lengths and bond angles in the following residue types are not validated in this section:  
GOL

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
1	A	1.00	5/1974 (0.3%)	0.85	1/2688 (0.0%)
1	B	1.01	3/1971 (0.2%)	0.82	0/2685
1	C	1.01	5/1976 (0.3%)	0.84	0/2693
1	D	1.00	4/1967 (0.2%)	0.83	0/2678
1	E	1.03	3/1977 (0.2%)	0.83	0/2692
2	F	0.95	3/1842 (0.2%)	0.89	0/2507
2	G	0.99	2/1921 (0.1%)	0.86	0/2602
2	H	1.03	2/1901 (0.1%)	0.81	0/2580
2	I	1.01	0/1932	0.86	0/2616
2	J	1.02	2/1903 (0.1%)	0.88	0/2580
All	All	1.01	29/19364 (0.1%)	0.85	1/26321 (0.0%)

The worst 5 of 29 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	G	86	GLU	CD-OE1	-6.67	1.18	1.25
2	J	241	GLU	CD-OE1	-6.48	1.18	1.25
2	G	86	GLU	CD-OE2	-6.29	1.18	1.25
2	H	86	GLU	CD-OE1	-6.24	1.18	1.25
2	F	120	GLU	CD-OE1	-6.21	1.18	1.25

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	115	ASP	CB-CA-C	-6.88	96.65	110.40

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	1945	0	1963	45	0
1	B	1942	0	1952	43	0
1	C	1947	0	1950	47	0
1	D	1938	0	1959	41	0
1	E	1948	0	1963	40	0
2	F	1815	0	1790	83	0
2	G	1894	0	1915	85	0
2	H	1874	0	1871	48	0
2	I	1905	0	1931	109	0
2	J	1876	0	1879	79	0
3	B	6	8	8	0	0
3	G	6	8	8	0	0
3	H	6	8	8	0	0
3	J	6	8	8	0	0
4	A	40	0	0	0	0
4	B	63	0	0	1	0
4	C	62	0	0	0	0
4	D	58	0	0	1	0
4	E	66	0	0	0	0
4	F	62	0	0	0	0
4	G	60	0	0	3	0
4	H	66	0	0	2	0
4	I	40	0	0	1	0
4	J	76	0	0	2	0
All	All	19701	32	19205	593	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 15.

The worst 5 of 593 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)
2:I:42:ILE:CD1	2:I:77:ARG:HD2	1.65	1.24
2:I:56:LYS:HD2	2:I:133:GLU:OE2	1.43	1.17
1:D:58:LYS:HE3	1:D:136:GLU:OE1	1.46	1.16

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:42:ILE:HD13	2:I:77:ARG:CD	1.78	1.10
2:J:9:ARG:HH11	2:J:20:THR:CG2	1.64	1.09

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 X-ray entries followed by that with respect to entries of similar resolution.

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	262/266 (98%)	252 (96%)	9 (3%)	1 (0%)	34	53
1	B	262/266 (98%)	257 (98%)	4 (2%)	1 (0%)	34	53
1	C	263/266 (99%)	257 (98%)	6 (2%)	0	100	100
1	D	261/266 (98%)	256 (98%)	5 (2%)	0	100	100
1	E	262/266 (98%)	254 (97%)	8 (3%)	0	100	100
2	F	251/258 (97%)	240 (96%)	7 (3%)	4 (2%)	9	16
2	G	254/258 (98%)	247 (97%)	6 (2%)	1 (0%)	34	53
2	H	254/258 (98%)	247 (97%)	7 (3%)	0	100	100
2	I	255/258 (99%)	249 (98%)	6 (2%)	0	100	100
2	J	253/258 (98%)	245 (97%)	5 (2%)	3 (1%)	13	22
All	All	2577/2620 (98%)	2504 (97%)	63 (2%)	10 (0%)	34	53

5 of 10 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	F	29	VAL
2	G	25	GLY
2	J	25	GLY
2	F	23	LEU
2	F	26	ASP

### 5.3.2 Protein sidechains [i](#)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	198/203 (98%)	181 (91%)	17 (9%)	10	19
1	B	198/203 (98%)	185 (93%)	13 (7%)	16	30
1	C	198/203 (98%)	188 (95%)	10 (5%)	24	43
1	D	198/203 (98%)	184 (93%)	14 (7%)	14	27
1	E	199/203 (98%)	191 (96%)	8 (4%)	31	54
2	F	178/195 (91%)	150 (84%)	28 (16%)	2	4
2	G	193/195 (99%)	174 (90%)	19 (10%)	8	14
2	H	189/195 (97%)	173 (92%)	16 (8%)	10	19
2	I	194/195 (100%)	174 (90%)	20 (10%)	7	13
2	J	190/195 (97%)	159 (84%)	31 (16%)	2	4
All	All	1935/1990 (97%)	1759 (91%)	176 (9%)	9	17

5 of 176 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	H	56	LYS
2	I	213	GLU
2	H	97	HIS
2	I	41	LEU
2	J	16	SER

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

Mol	Chain	Res	Type
2	G	97	HIS
2	H	38	GLN
2	I	97	HIS
2	H	210	GLN
1	C	41	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](#)

4 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	$\# Z  > 2$
3	GOL	H	301	-	5,5,5	0.22	0	5,5,5	0.26	0
3	GOL	J	301	-	5,5,5	0.11	0	5,5,5	0.32	0
3	GOL	G	301	-	5,5,5	0.16	0	5,5,5	0.27	0
3	GOL	B	301	-	5,5,5	0.21	0	5,5,5	0.18	0

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
3	GOL	H	301	-	-	2/4/4/4	-
3	GOL	J	301	-	-	1/4/4/4	-
3	GOL	G	301	-	-	4/4/4/4	-
3	GOL	B	301	-	-	4/4/4/4	-

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

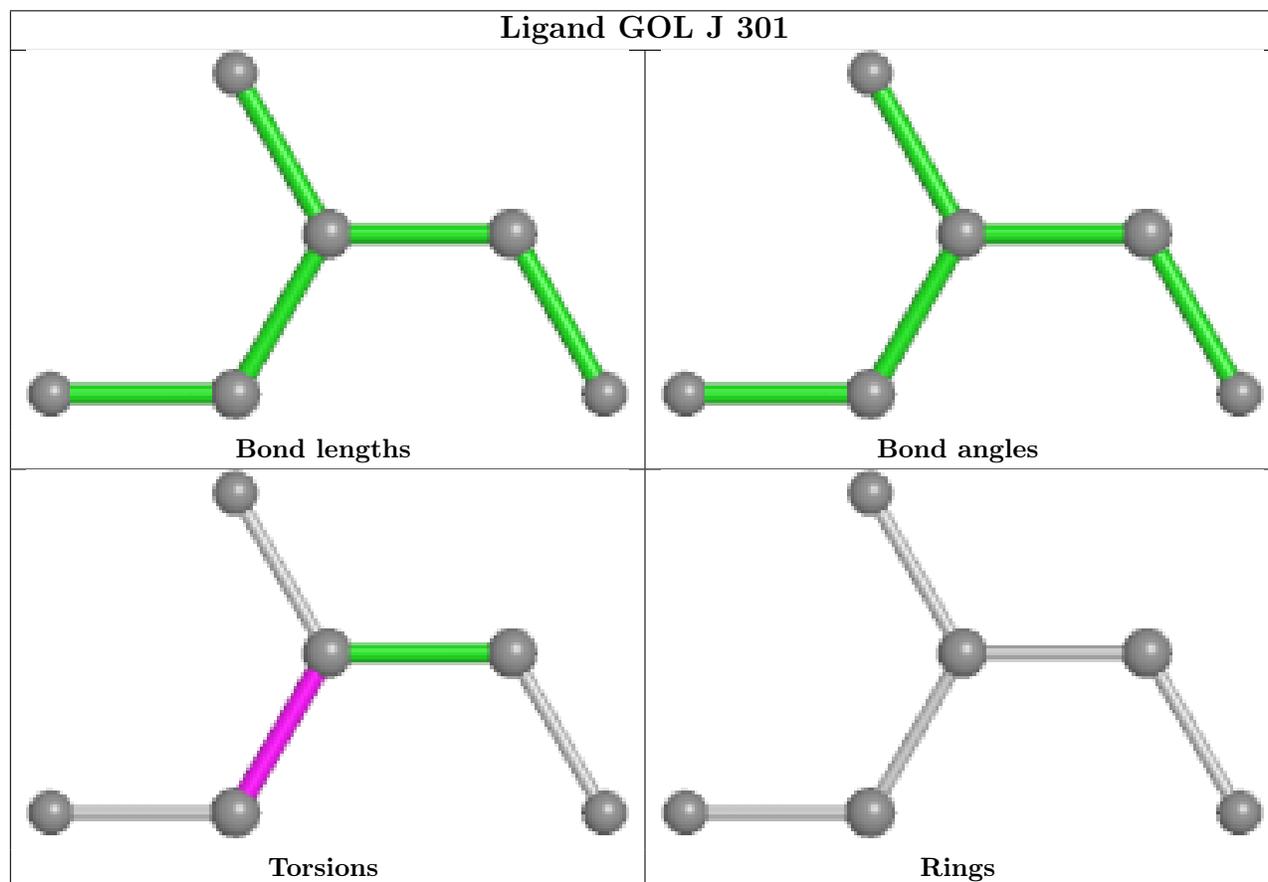
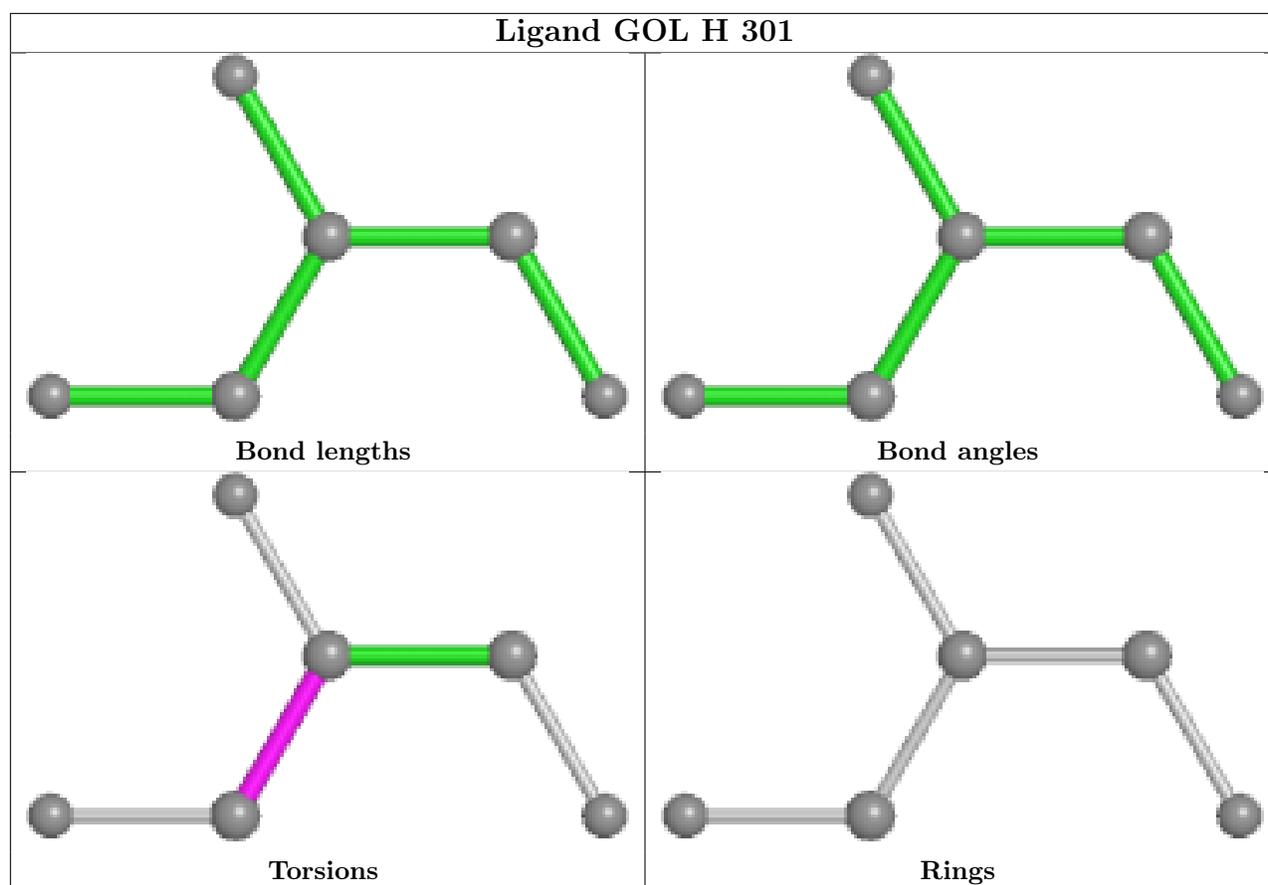
5 of 11 torsion outliers are listed below:

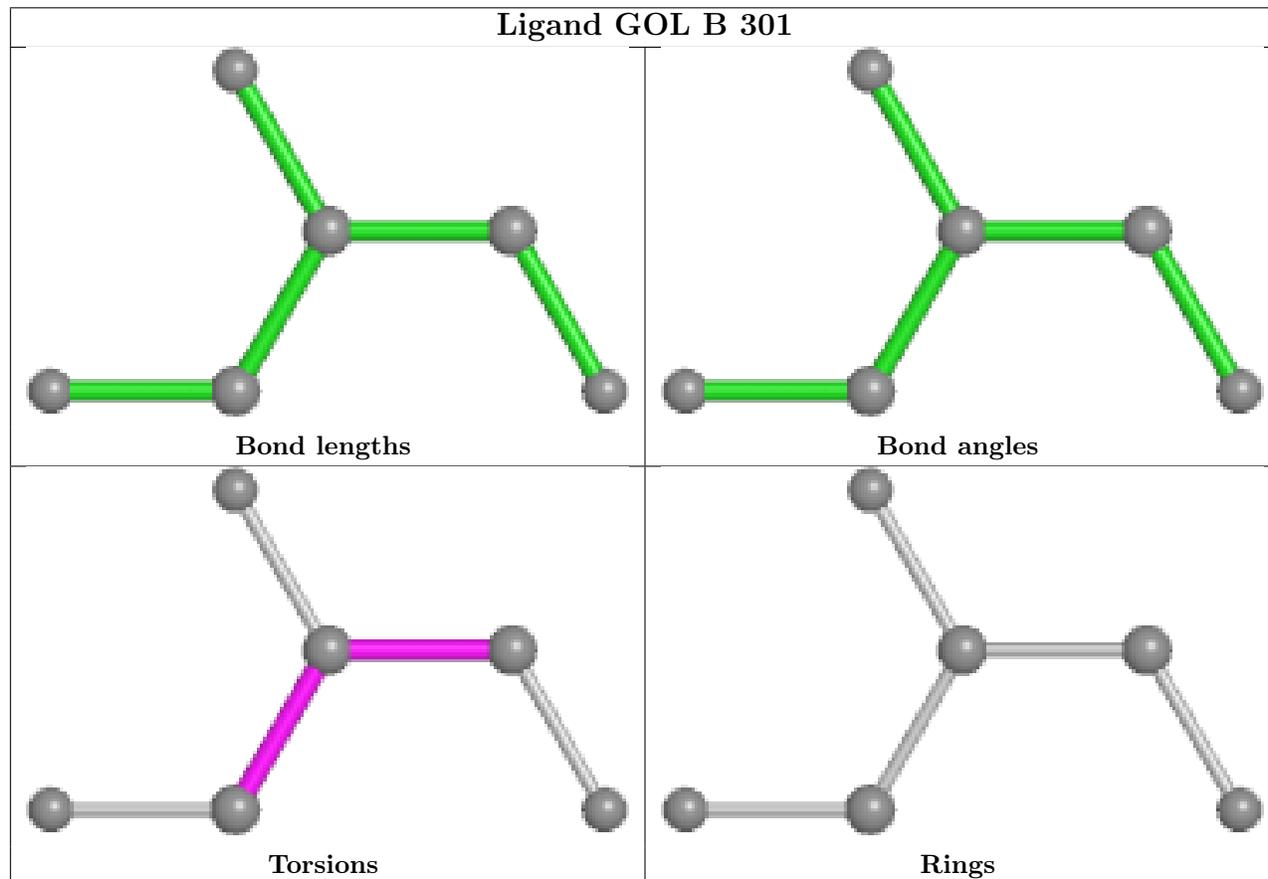
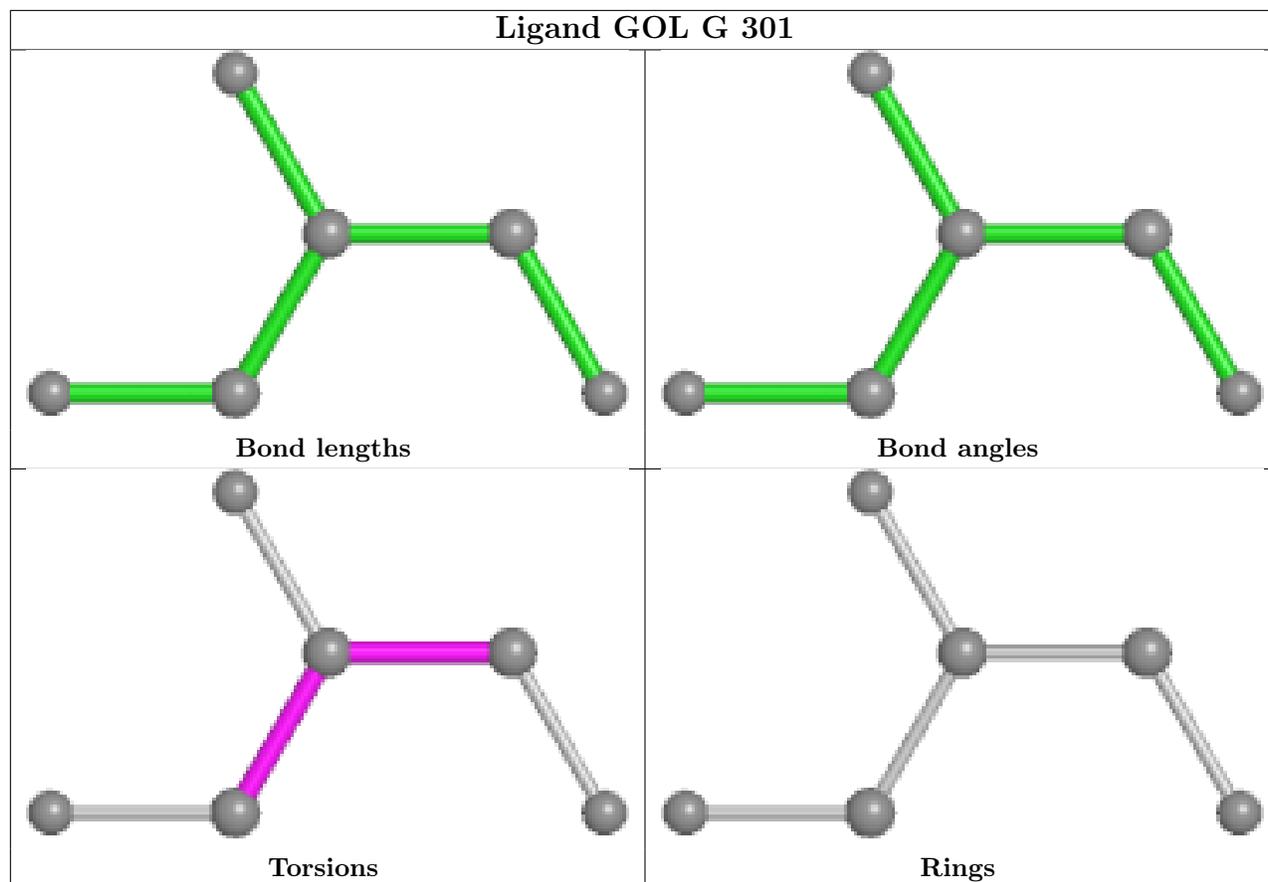
Mol	Chain	Res	Type	Atoms
3	B	301	GOL	C1-C2-C3-O3
3	H	301	GOL	C1-C2-C3-O3
3	H	301	GOL	O2-C2-C3-O3
3	G	301	GOL	O2-C2-C3-O3
3	B	301	GOL	O1-C1-C2-C3

There are no ring outliers.

No monomer is involved in short contacts.

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.





## 5.7 Other polymers [i](#)

There are no such residues in this entry.

## 5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

## 6 Fit of model and data [i](#)

### 6.1 Protein, DNA and RNA chains [i](#)

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
1	A	264/266 (99%)	-0.18	2 (0%) 86 88	33, 49, 76, 108	0
1	B	264/266 (99%)	-0.27	5 (1%) 66 70	32, 46, 67, 104	0
1	C	265/266 (99%)	-0.29	4 (1%) 73 76	35, 47, 67, 115	0
1	D	263/266 (98%)	-0.30	2 (0%) 86 88	36, 47, 71, 87	0
1	E	264/266 (99%)	-0.34	3 (1%) 80 83	29, 46, 72, 103	0
2	F	253/258 (98%)	0.28	23 (9%) 9 9	37, 59, 116, 176	0
2	G	256/258 (99%)	0.03	11 (4%) 35 39	36, 54, 93, 120	0
2	H	256/258 (99%)	-0.17	5 (1%) 65 68	32, 51, 80, 109	0
2	I	257/258 (99%)	-0.08	3 (1%) 79 81	37, 54, 86, 121	0
2	J	255/258 (98%)	0.03	7 (2%) 54 58	33, 52, 95, 115	0
All	All	2597/2620 (99%)	-0.13	65 (2%) 57 61	29, 50, 87, 176	0

The worst 5 of 65 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
2	F	3	ILE	5.5
2	F	28	ALA	4.9
2	F	26	ASP	4.9
2	F	144	PHE	4.6
2	F	147	PRO	4.4

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

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

### 6.3 Carbohydrates [i](#)

There are no monosaccharides in this entry.

### 6.4 Ligands [i](#)

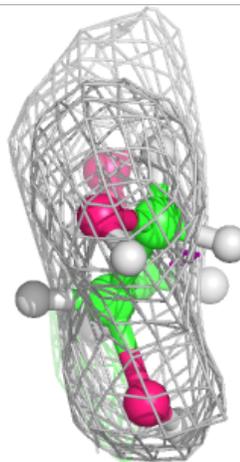
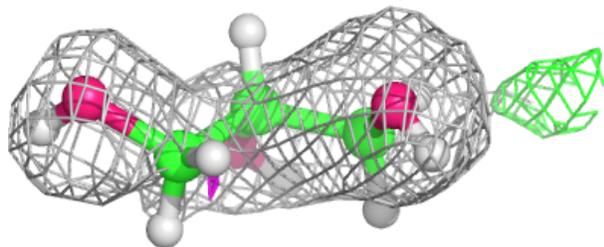
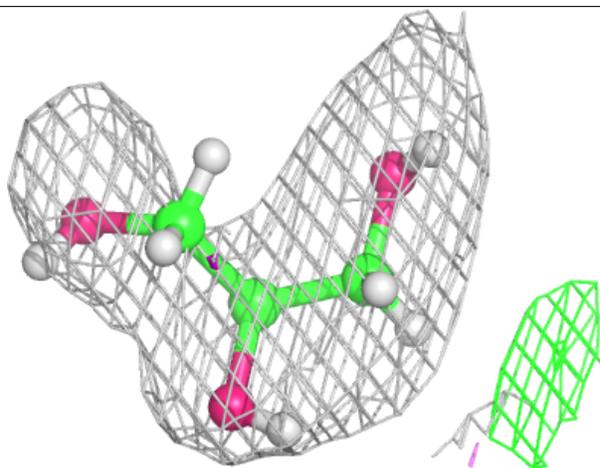
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95<sup>th</sup> percentile and maximum values of B factors of atoms in the group. The column labelled 'Q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

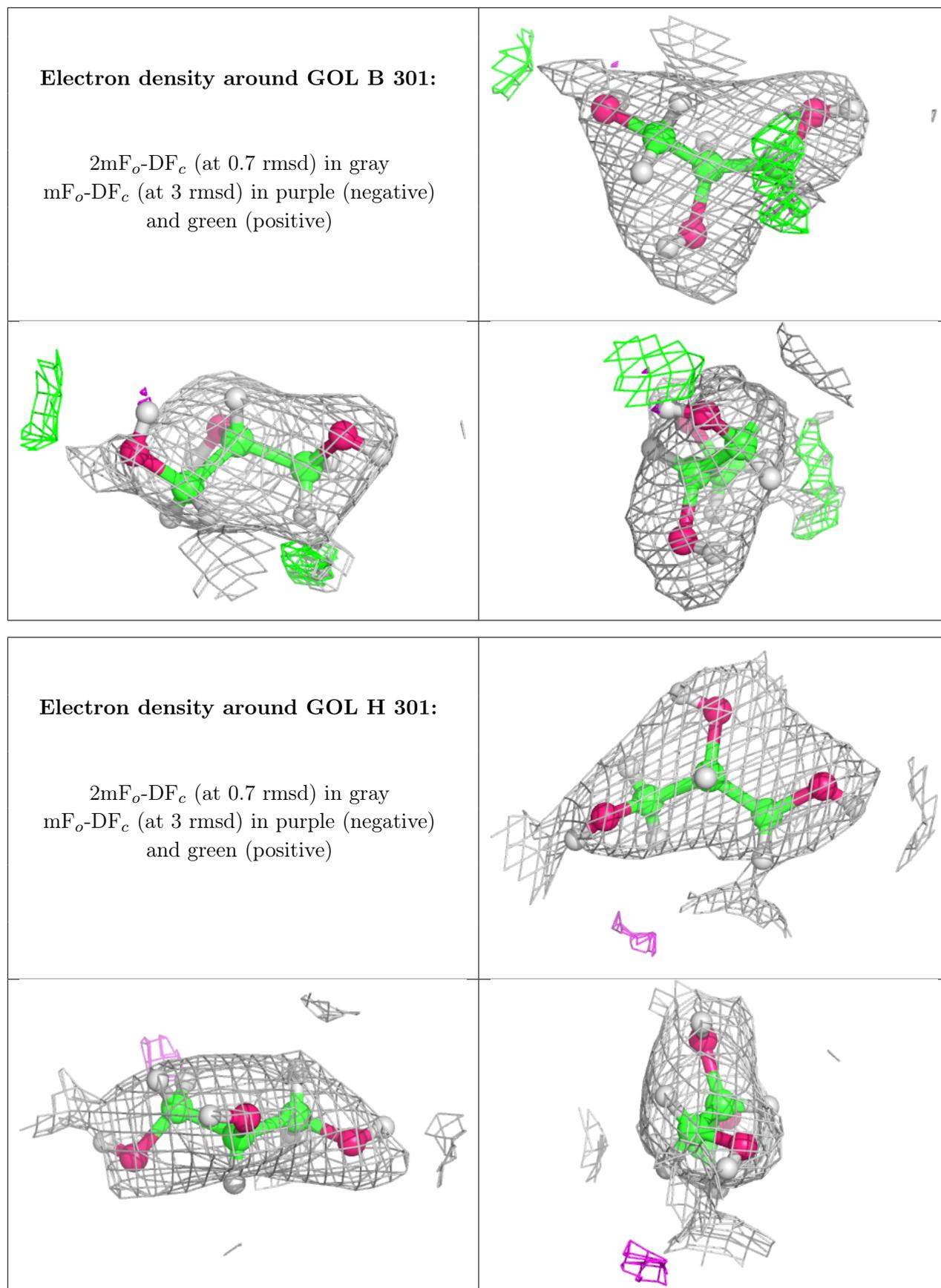
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å <sup>2</sup> )	Q<0.9
3	GOL	J	301	6/6	0.68	0.32	51,70,88,91	0
3	GOL	B	301	6/6	0.90	0.12	67,80,86,86	0
3	GOL	H	301	6/6	0.93	0.20	52,67,78,81	0
3	GOL	G	301	6/6	0.95	0.17	53,77,96,102	0

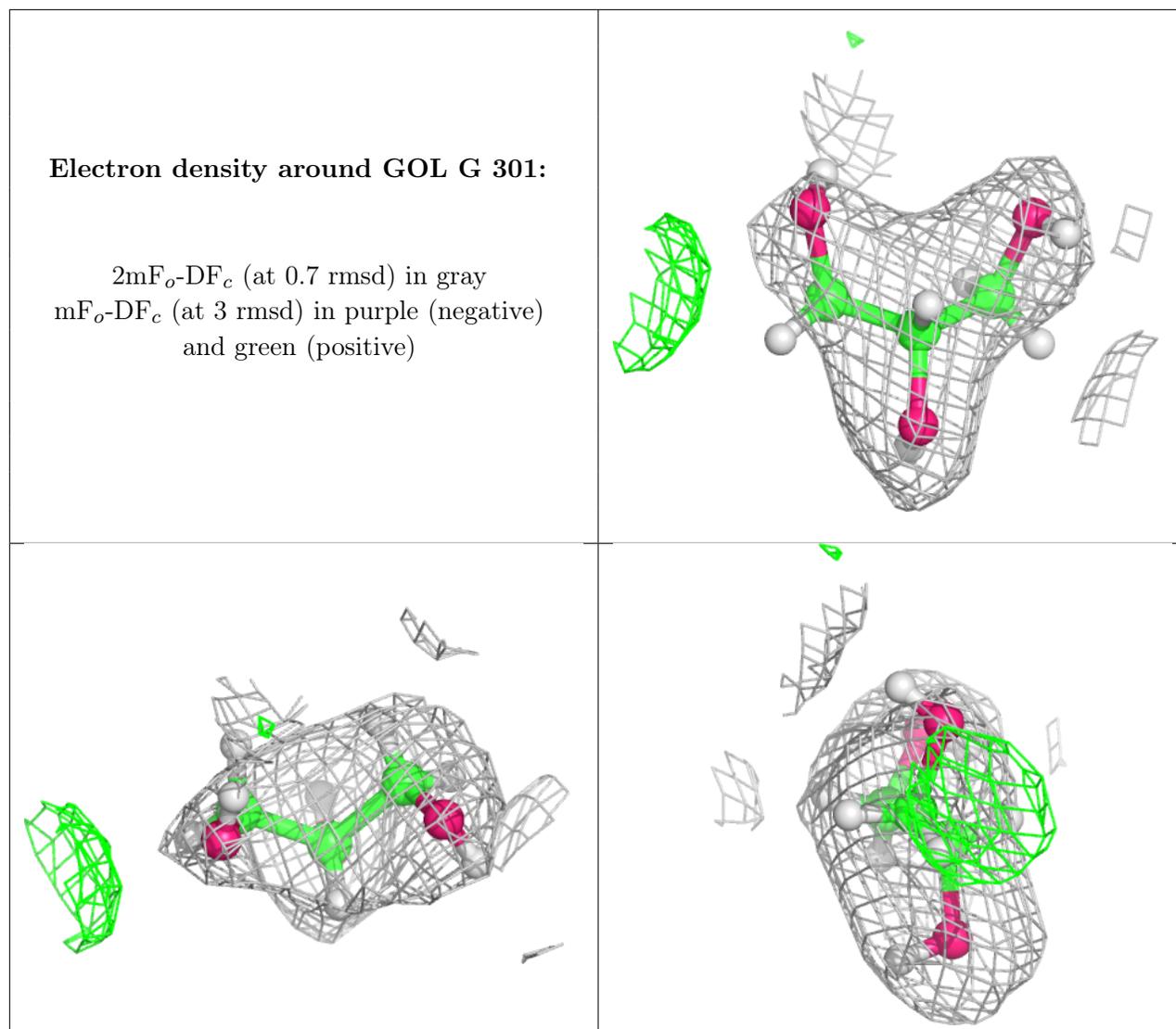
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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

**Electron density around GOL J 301:**

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







## 6.5 Other polymers [i](#)

There are no such residues in this entry.