



Full wwPDB X-ray Structure Validation Report ⓘ

Jun 12, 2024 – 09:27 AM EDT

PDB ID : 6NZY
Title : Structural Determination of the Carboxy-terminal portion of ATP-citrate lyase
Authors : Nguyen, V.H.; Fraser, M.E.
Deposited on : 2019-02-14
Resolution : 1.90 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

MolProbity : 4.02b-467
Mogul : 1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix) : 1.13
EDS : 2.36.2
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) : 2.36.2

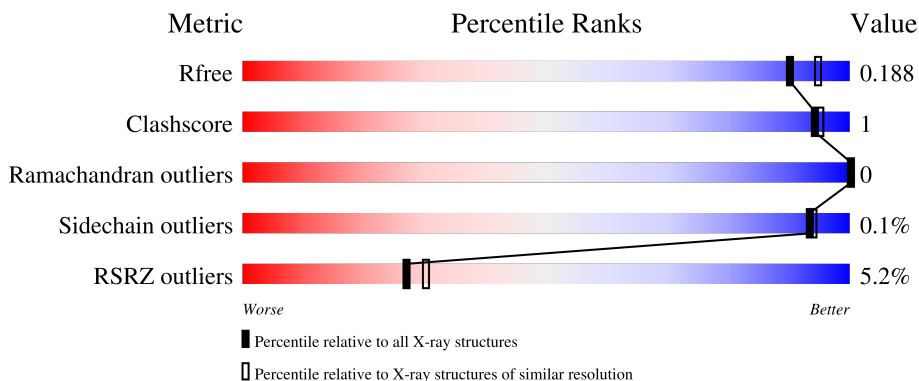
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

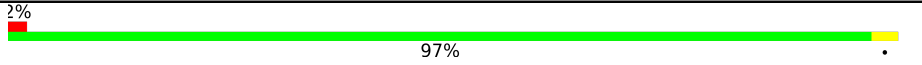
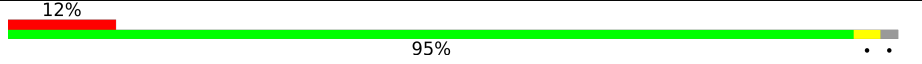
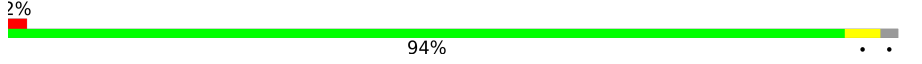
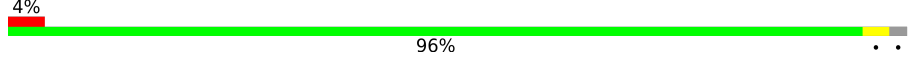
The reported resolution of this entry is 1.90 Å.

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	6207 (1.90-1.90)
Clashscore	141614	6847 (1.90-1.90)
Ramachandran outliers	138981	6760 (1.90-1.90)
Sidechain outliers	138945	6760 (1.90-1.90)
RSRZ outliers	127900	6082 (1.90-1.90)

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

Mol	Chain	Length	Quality of chain
1	A	262	 2% 97%
1	B	262	 12% 95%
1	C	262	 2% 94%
1	D	262	 4% 96%

2 Entry composition [i](#)

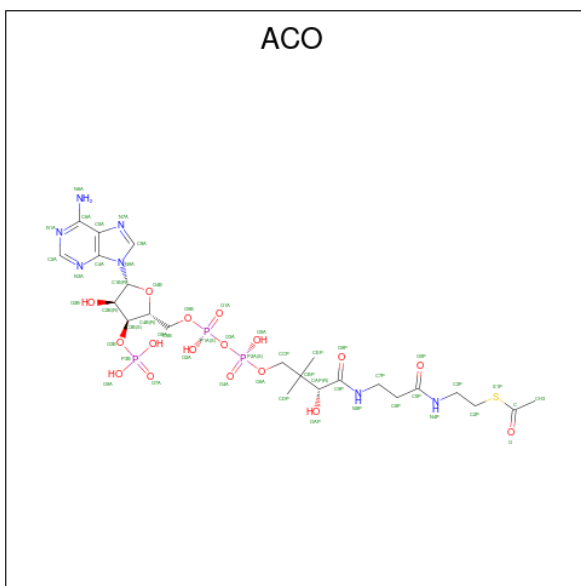
There are 6 unique types of molecules in this entry. The entry contains 16923 atoms, of which 8359 are hydrogens and 0 are deuteriums.

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 ATP-citrate lyase alpha-subunit.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace	
			Total	C	H	N	O				S
1	A	262	Total 4122	C 1302	H 2079	N 347	O 382	S 12	0	5	0
1	B	258	Total 4054	C 1281	H 2044	N 342	O 375	S 12	0	5	0
1	C	257	Total 4035	C 1275	H 2033	N 341	O 374	S 12	0	6	0
1	D	258	Total 4072	C 1286	H 2053	N 346	O 375	S 12	0	7	0

- Molecule 2 is ACETYL COENZYME *A (three-letter code: ACO) (formula: C₂₃H₃₈N₇O₁₇P₃S).



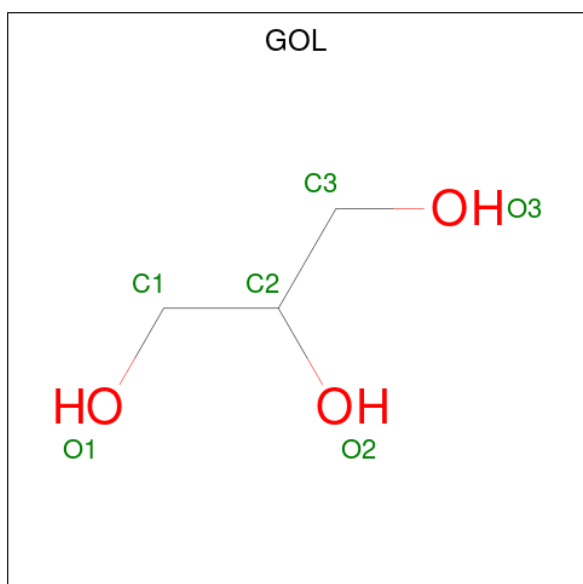
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	
			Total	C	H	N	O			P
2	A	1	Total 47	C 11	H 15	N 5	O 13	P 3	0	0
2	D	1	Total 47	C 11	H 15	N 5	O 13	P 3	0	0

- Molecule 3 is PHOSPHATE ION (three-letter code: PO4) (formula: O_4P).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	1	Total O P 5 4 1	0	0
3	B	1	Total O P 5 4 1	0	0
3	C	1	Total O P 5 4 1	0	0
3	D	1	Total O P 5 4 1	0	0

- Molecule 4 is GLYCEROL (three-letter code: GOL) (formula: $C_3H_8O_3$).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
4	A	1	Total	C	H	O	0	1
			28	6	16	6		
4	A	1	Total	C	H	O	0	0
			14	3	8	3		
4	A	1	Total	C	H	O	0	0
			14	3	8	3		
4	A	1	Total	C	H	O	0	0
			14	3	8	3		
4	A	1	Total	C	H	O	0	0
			14	3	8	3		
4	A	1	Total	C	H	O	0	0
			14	3	8	3		
4	A	1	Total	C	H	O	0	0
			14	3	8	3		
4	A	1	Total	C	H	O	0	0
			14	3	8	3		
4	C	1	Total	C	H	O	0	0
			14	3	8	3		
4	C	1	Total	C	H	O	0	0
			14	3	8	3		
4	D	1	Total	C	H	O	0	0
			14	3	8	3		
4	D	1	Total	C	H	O	0	0
			14	3	8	3		
4	D	1	Total	C	H	O	0	0
			14	3	8	3		
4	D	1	Total	C	H	O	0	0
			14	3	8	3		

- Molecule 5 is SODIUM ION (three-letter code: NA) (formula: Na).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	A	3	Total	Na	0	0
			3	3		
5	B	1	Total	Na	0	0
			1	1		
5	C	2	Total	Na	0	0
			2	2		
5	D	2	Total	Na	0	0
			2	2		

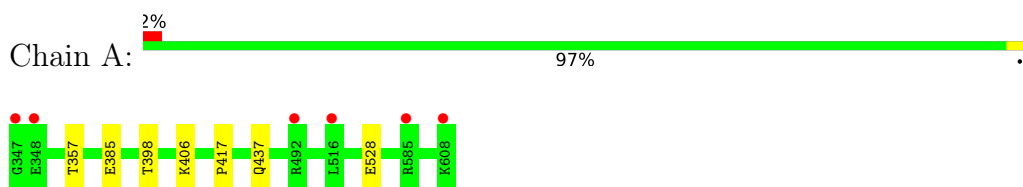
- Molecule 6 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
6	A	84	Total O 84 84	0	0
6	B	73	Total O 73 73	0	0
6	C	68	Total O 68 68	0	0
6	D	83	Total O 83 83	0	0

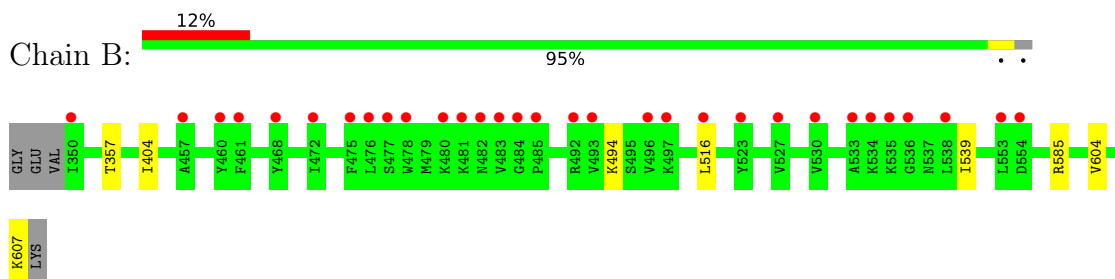
3 Residue-property plots [i](#)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and 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.

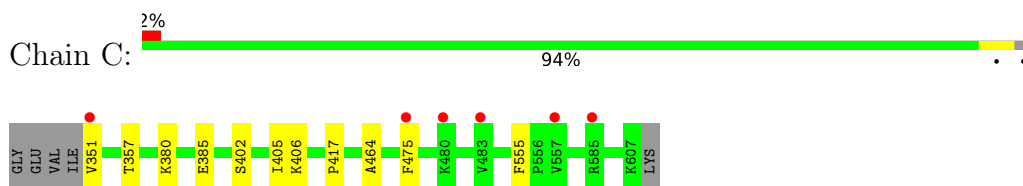
- Molecule 1: ATP-citrate lyase alpha-subunit



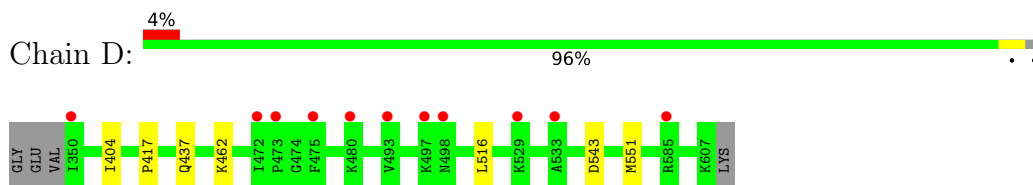
- Molecule 1: ATP-citrate lyase alpha-subunit



- Molecule 1: ATP-citrate lyase alpha-subunit



- Molecule 1: ATP-citrate lyase alpha-subunit



4 Data and refinement statistics i

Property	Value	Source
Space group	P 32	Depositor
Cell constants a, b, c, α , β , γ	82.18Å 82.18Å 151.20Å 90.00° 90.00° 120.00°	Depositor
Resolution (Å)	71.17 – 1.90 71.17 – 1.90	Depositor EDS
% Data completeness (in resolution range)	94.1 (71.17-1.90) 94.1 (71.17-1.90)	Depositor EDS
R_{merge}	0.06	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	0.98 (at 1.90Å)	Xtriage
Refinement program	PHENIX dev_3381	Depositor
R, R_{free}	0.167 , 0.190 0.166 , 0.188	Depositor DCC
R_{free} test set	4544 reflections (5.05%)	wwPDB-VP
Wilson B-factor (Å ²)	32.3	Xtriage
Anisotropy	0.026	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.44 , 55.8	EDS
L-test for twinning ²	$\langle L \rangle = 0.49$, $\langle L^2 \rangle = 0.32$	Xtriage
Estimated twinning fraction	0.014 for -h,-k,l 0.039 for h,-h-k,-l 0.057 for -k,-h,-l	Xtriage
F_o, F_c correlation	0.97	EDS
Total number of atoms	16923	wwPDB-VP
Average B, all atoms (Å ²)	56.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.36% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

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

5 Model quality [i](#)

5.1 Standard geometry [i](#)

Bond lengths and bond angles in the following residue types are not validated in this section: ACO, NA, PO4, 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	0.38	0/2114	0.50	0/2862
1	B	0.34	0/2084	0.47	0/2824
1	C	0.36	0/2076	0.47	0/2813
1	D	0.35	0/2095	0.47	0/2838
All	All	0.36	0/8369	0.48	0/11337

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	2043	2079	2071	7	0
1	B	2010	2044	2032	7	0
1	C	2002	2033	2019	7	0
1	D	2019	2053	2033	6	0
2	A	32	15	11	0	0
2	D	32	15	11	0	0
3	A	5	0	0	0	0
3	B	5	0	0	0	0
3	C	5	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	D	5	0	0	0	0
4	A	54	72	72	2	0
4	C	12	16	16	0	0
4	D	24	32	32	1	0
5	A	3	0	0	0	0
5	B	1	0	0	0	0
5	C	2	0	0	0	0
5	D	2	0	0	0	0
6	A	84	0	0	0	0
6	B	73	0	0	3	0
6	C	68	0	0	0	0
6	D	83	0	0	0	0
All	All	8564	8359	8297	22	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 1.

All (22) 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:A:417:PRO:HG3	1:C:357[B]:THR:HG21	1.76	0.67
1:B:357[B]:THR:HG21	1:D:417:PRO:HG3	1.77	0.66
1:B:607:LYS:NZ	6:B:803:HOH:O	2.39	0.55
1:A:528:GLU:OE1	4:A:707:GOL:O2	2.25	0.55
1:B:604:VAL:O	1:C:380:LYS:NZ	2.30	0.54
1:B:585:ARG:NH2	6:B:805:HOH:O	2.40	0.53
1:D:404:ILE:CD1	1:D:516:LEU:HD12	2.40	0.52
1:B:404:ILE:CD1	1:B:516:LEU:HD12	2.42	0.49
1:C:351:VAL:O	1:C:351:VAL:HG12	2.13	0.49
1:A:357[A]:THR:HG21	1:C:417:PRO:HG3	1.94	0.49
1:C:385:GLU:HG2	1:C:406:LYS:HB2	1.96	0.47
1:A:385:GLU:HG2	1:A:406:LYS:HB2	1.97	0.46
1:C:405:ILE:HD11	1:C:555:PHE:HZ	1.80	0.46
1:C:464:ALA:HB2	1:C:475:PHE:CD1	2.50	0.46
1:A:398:THR:HG21	4:A:710:GOL:H32	1.98	0.46
1:B:494:LYS:NZ	6:B:807:HOH:O	2.49	0.45
1:A:385:GLU:H	1:A:385:GLU:CD	2.19	0.45
1:D:543:ASP:OD1	4:D:705:GOL:O3	2.27	0.44
1:B:494:LYS:HB2	1:B:539:ILE:HD11	2.00	0.42
1:A:437:GLN:HG2	1:D:437:GLN:HG2	2.02	0.42
1:D:462:LYS:HD2	1:D:551:MET:CE	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:404:ILE:HD12	1:D:516:LEU:CD1	2.51	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 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	266/262 (102%)	263 (99%)	3 (1%)	0	100	100
1	B	262/262 (100%)	257 (98%)	5 (2%)	0	100	100
1	C	261/262 (100%)	258 (99%)	3 (1%)	0	100	100
1	D	263/262 (100%)	259 (98%)	4 (2%)	0	100	100
All	All	1052/1048 (100%)	1037 (99%)	15 (1%)	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 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	225/219 (103%)	225 (100%)	0	100	100
1	B	222/219 (101%)	222 (100%)	0	100	100
1	C	221/219 (101%)	220 (100%)	1 (0%)	88	89
1	D	223/219 (102%)	223 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
All	All	891/876 (102%)	890 (100%)	1 (0%)	93 94

All (1) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	C	402	SER

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

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 29 ligands modelled in this entry, 8 are monoatomic - leaving 21 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
4	GOL	C	702	-	5,5,5	0.85	0	5,5,5	1.04	0
4	GOL	A	707	-	5,5,5	0.90	0	5,5,5	0.90	0
4	GOL	A	703[B]	-	5,5,5	0.75	0	5,5,5	0.71	0
4	GOL	C	703	-	5,5,5	0.93	0	5,5,5	0.98	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
3	PO4	B	701	-	4,4,4	1.06	0	6,6,6	0.52	0
4	GOL	D	704	-	5,5,5	0.69	0	5,5,5	0.84	0
4	GOL	D	703	-	5,5,5	0.84	0	5,5,5	0.95	0
4	GOL	A	705	-	5,5,5	0.73	0	5,5,5	1.03	0
2	ACO	D	701	-	29,34,53	0.64	0	34,53,79	0.61	1 (2%)
3	PO4	D	702	-	4,4,4	1.05	0	6,6,6	0.50	0
4	GOL	A	709	-	5,5,5	0.83	0	5,5,5	1.03	0
4	GOL	D	705	-	5,5,5	0.88	0	5,5,5	0.93	0
3	PO4	C	701	-	4,4,4	1.09	0	6,6,6	0.58	0
3	PO4	A	702	-	4,4,4	0.86	0	6,6,6	0.45	0
2	ACO	A	701	-	29,34,53	0.64	0	34,53,79	0.62	1 (2%)
4	GOL	A	704	-	5,5,5	0.64	0	5,5,5	0.87	0
4	GOL	A	703[A]	-	5,5,5	0.72	0	5,5,5	0.81	0
4	GOL	A	710	-	5,5,5	0.67	0	5,5,5	1.01	0
4	GOL	D	706	-	5,5,5	0.83	0	5,5,5	1.05	0
4	GOL	A	708	-	5,5,5	0.90	0	5,5,5	1.03	0
4	GOL	A	706	-	5,5,5	1.07	0	5,5,5	0.76	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
4	GOL	C	702	-	-	2/4/4/4	-
2	ACO	A	701	-	-	3/20/40/67	0/3/3/3
4	GOL	A	704	-	-	0/4/4/4	-
4	GOL	A	707	-	-	4/4/4/4	-
4	GOL	A	705	-	-	0/4/4/4	-
4	GOL	A	703[B]	-	-	4/4/4/4	-
2	ACO	D	701	-	-	6/20/40/67	0/3/3/3
4	GOL	A	703[A]	-	-	2/4/4/4	-
4	GOL	A	710	-	-	2/4/4/4	-
4	GOL	D	705	-	-	0/4/4/4	-
4	GOL	D	706	-	-	0/4/4/4	-
4	GOL	C	703	-	-	2/4/4/4	-
4	GOL	A	708	-	-	2/4/4/4	-
4	GOL	D	704	-	-	2/4/4/4	-
4	GOL	A	709	-	-	0/4/4/4	-
4	GOL	D	703	-	-	0/4/4/4	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	GOL	A	706	-	-	0/4/4/4	-

There are no bond length outliers.

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed($^{\circ}$)	Ideal($^{\circ}$)
2	D	701	ACO	C5A-C6A-N6A	2.35	123.92	120.35
2	A	701	ACO	C5A-C6A-N6A	2.16	123.63	120.35

There are no chirality outliers.

All (29) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	D	701	ACO	C5B-O5B-P1A-O1A
4	A	707	GOL	C1-C2-C3-O3
4	A	708	GOL	C1-C2-C3-O3
4	A	710	GOL	C1-C2-C3-O3
4	C	702	GOL	C1-C2-C3-O3
4	A	708	GOL	O2-C2-C3-O3
4	A	703[A]	GOL	O1-C1-C2-C3
4	A	703[B]	GOL	O1-C1-C2-C3
4	A	707	GOL	O1-C1-C2-C3
4	D	704	GOL	C1-C2-C3-O3
4	A	703[A]	GOL	O1-C1-C2-O2
4	A	703[B]	GOL	O1-C1-C2-O2
4	A	710	GOL	O2-C2-C3-O3
4	C	702	GOL	O2-C2-C3-O3
4	A	707	GOL	O2-C2-C3-O3
2	A	701	ACO	P1A-O3A-P2A-O4A
2	D	701	ACO	P2A-O3A-P1A-O5B
2	A	701	ACO	C5B-O5B-P1A-O3A
4	A	703[B]	GOL	O2-C2-C3-O3
4	C	703	GOL	O2-C2-C3-O3
2	D	701	ACO	C5B-O5B-P1A-O2A
4	D	704	GOL	O2-C2-C3-O3
2	D	701	ACO	CCP-O6A-P2A-O5A
2	D	701	ACO	P1A-O3A-P2A-O4A
4	A	703[B]	GOL	C1-C2-C3-O3
4	A	707	GOL	O1-C1-C2-O2
2	D	701	ACO	C5B-O5B-P1A-O3A
2	A	701	ACO	P1A-O3A-P2A-O5A

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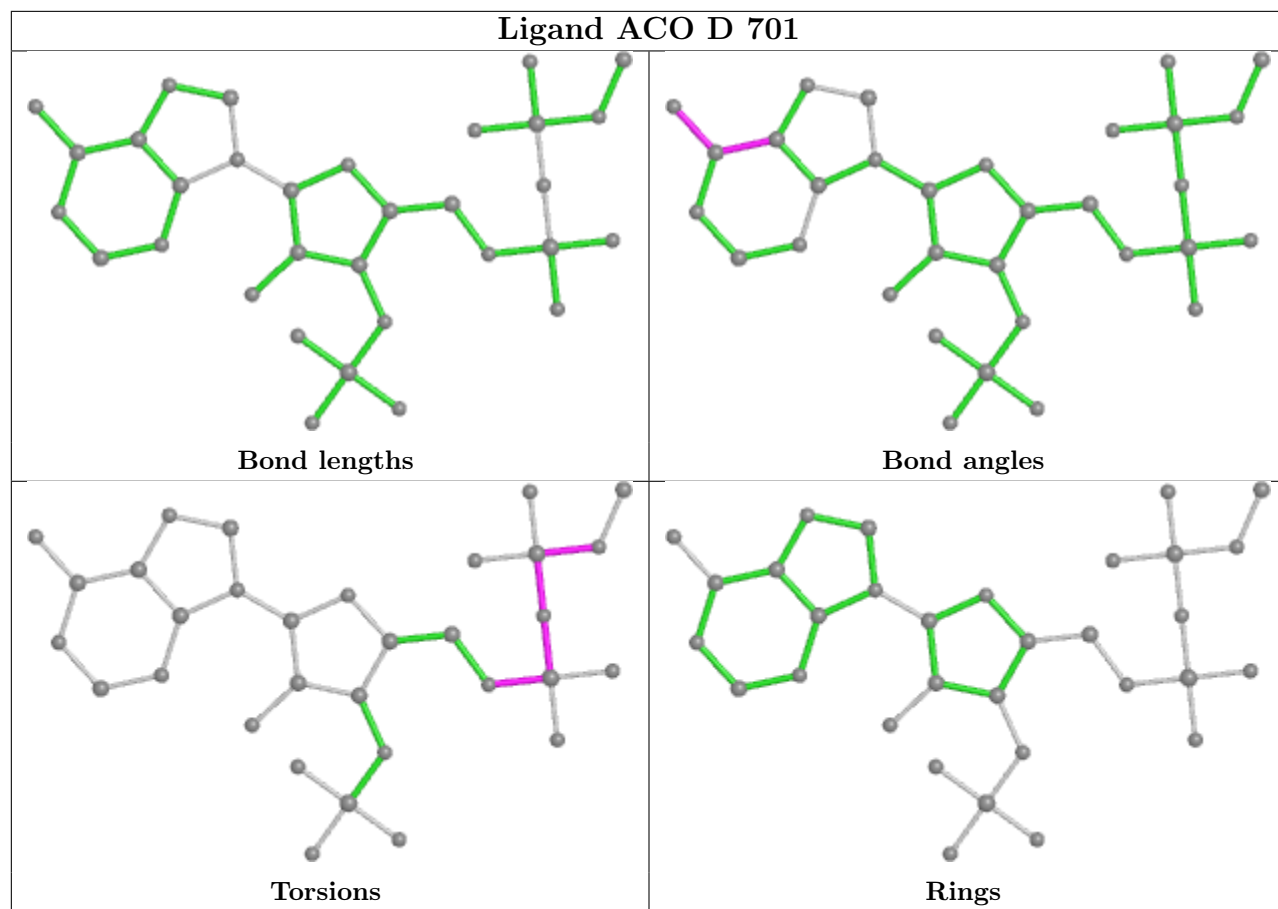
Mol	Chain	Res	Type	Atoms
4	C	703	GOL	C1-C2-C3-O3

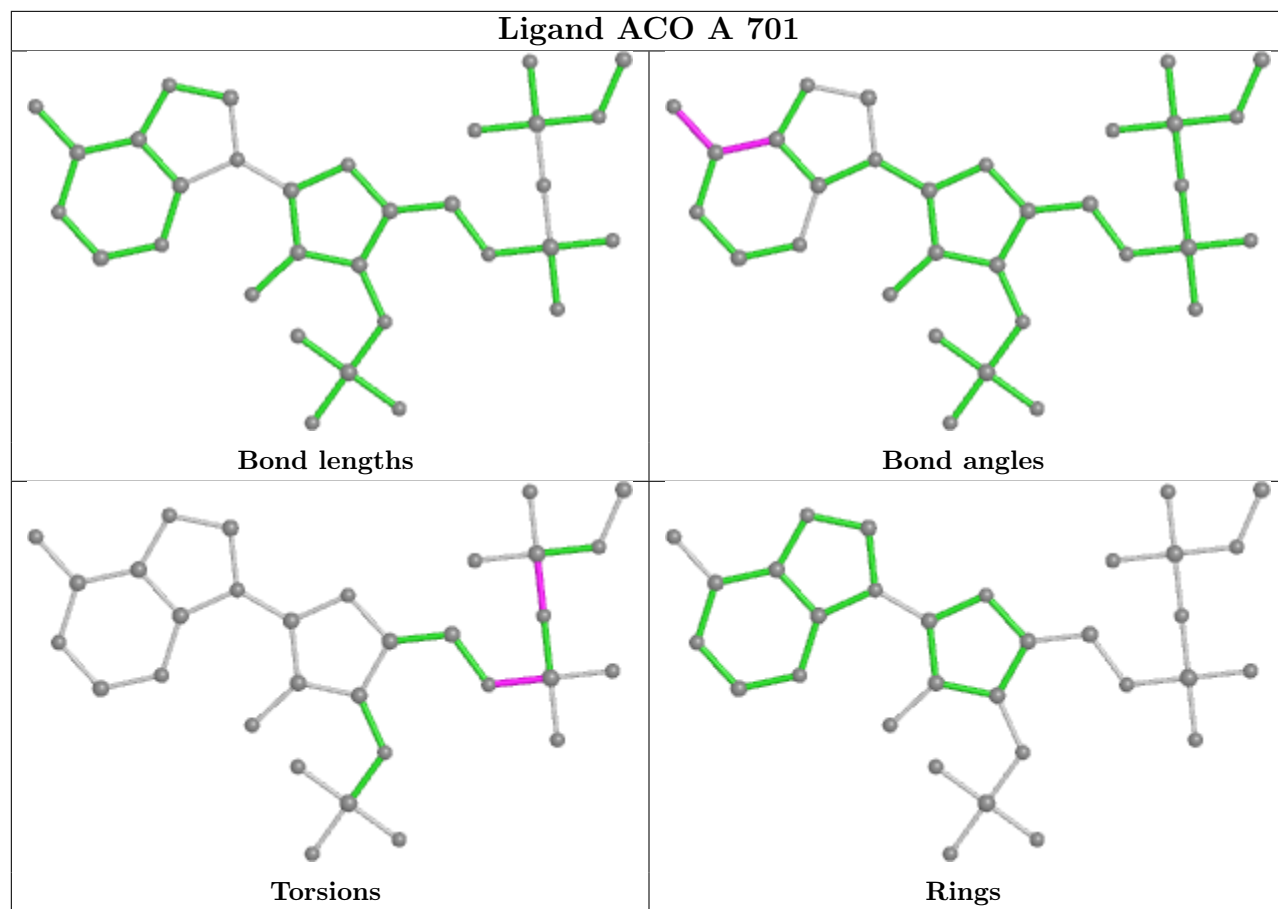
There are no ring outliers.

3 monomers are involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	A	707	GOL	1	0
4	D	705	GOL	1	0
4	A	710	GOL	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 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

6.1 Protein, DNA and RNA chains

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	A	262/262 (100%)	0.15	6 (2%) 60 63	24, 41, 82, 115	0
1	B	258/262 (98%)	0.63	31 (12%) 4 4	24, 50, 107, 135	0
1	C	257/262 (98%)	0.30	6 (2%) 60 63	24, 47, 88, 121	0
1	D	258/262 (98%)	0.30	11 (4%) 35 38	26, 44, 91, 110	0
All	All	1035/1048 (98%)	0.34	54 (5%) 27 30	24, 46, 93, 135	0

All (54) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	350	ILE	7.0
1	B	481	LYS	6.5
1	B	484	GLY	5.2
1	A	608	LYS	5.0
1	B	476	LEU	5.0
1	B	472	ILE	4.8
1	B	475	PHE	4.7
1	D	350	ILE	4.7
1	C	351	VAL	4.6
1	B	497	LYS	4.0
1	B	480	LYS	3.9
1	D	493	VAL	3.8
1	B	460	TYR	3.8
1	D	533	ALA	3.7
1	C	557	VAL	3.7
1	B	477	SER	3.7
1	C	475	PHE	3.5
1	B	496	VAL	3.5
1	B	538	LEU	3.5
1	A	516	LEU	3.4
1	B	535	LYS	3.4

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Mol	Chain	Res	Type	RSRZ
1	B	530	VAL	3.2
1	B	457	ALA	3.1
1	B	483	VAL	3.0
1	B	534	LYS	3.0
1	B	536	GLY	2.9
1	C	480	LYS	2.9
1	A	492	ARG	2.8
1	A	347	GLY	2.8
1	A	585	ARG	2.7
1	D	473	PRO	2.7
1	B	533	ALA	2.7
1	B	553	LEU	2.6
1	B	554	ASP	2.6
1	B	461	PHE	2.5
1	D	497	LYS	2.5
1	C	483	VAL	2.5
1	D	529	LYS	2.5
1	B	516	LEU	2.5
1	D	498	ASN	2.4
1	B	492	ARG	2.4
1	C	585	ARG	2.4
1	D	585	ARG	2.3
1	B	527	VAL	2.3
1	D	480	LYS	2.3
1	B	468	TYR	2.2
1	D	472	ILE	2.2
1	B	478	TRP	2.2
1	B	523	TYR	2.1
1	B	482	ASN	2.1
1	B	485	PRO	2.1
1	D	475	PHE	2.1
1	A	348	GLU	2.0
1	B	493	VAL	2.0

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](#)

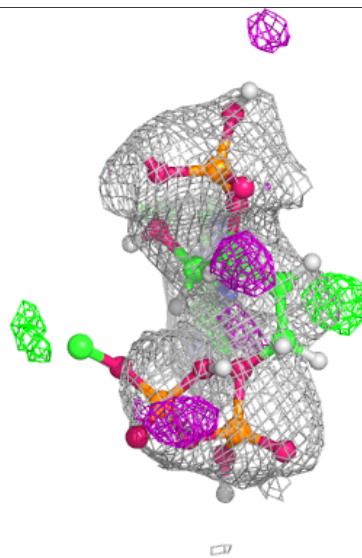
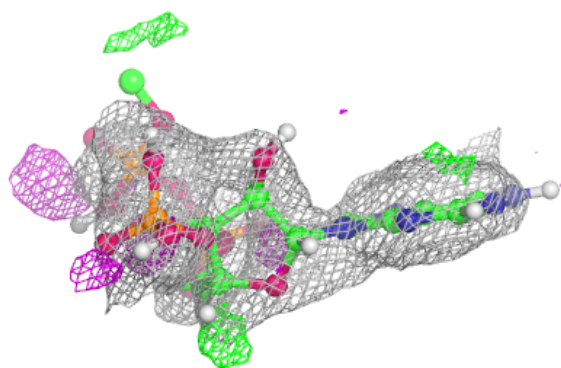
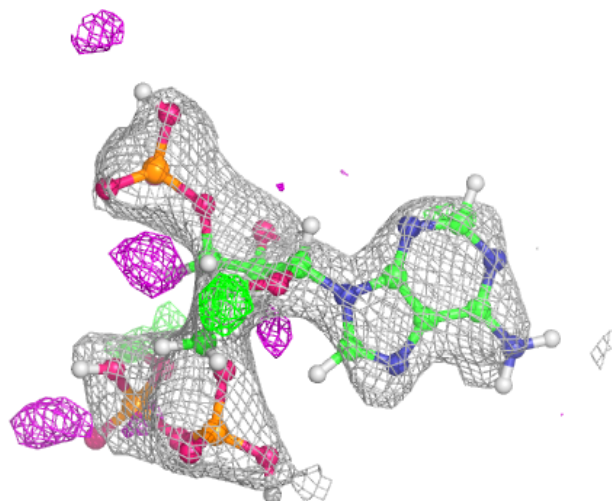
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists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

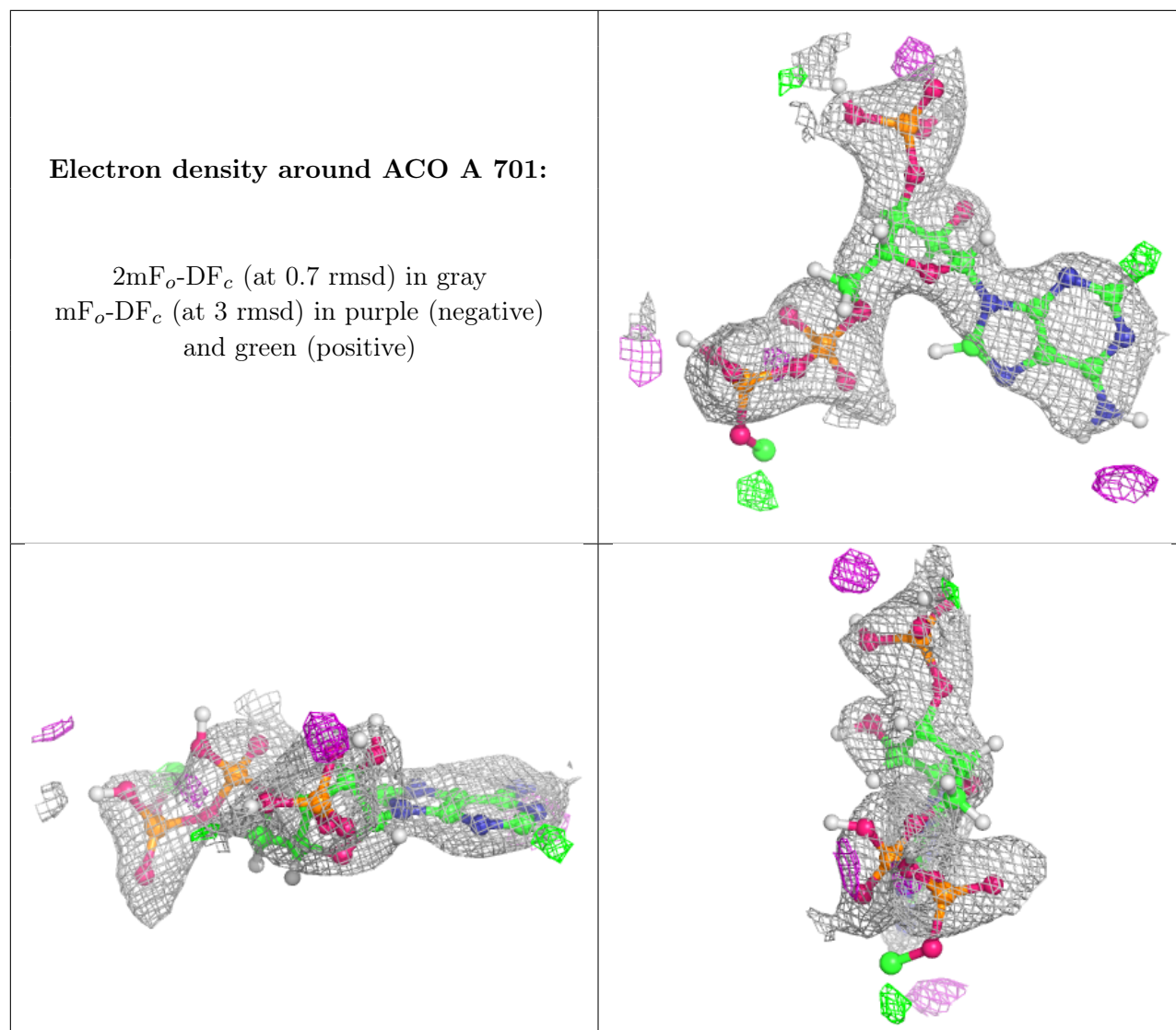
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
4	GOL	A	705	6/6	0.63	0.23	72,87,90,92	0
4	GOL	D	704	6/6	0.72	0.20	62,75,78,78	0
5	NA	C	704	1/1	0.76	0.18	51,51,51,51	0
2	ACO	D	701	32/51	0.78	0.18	104,114,135,142	0
2	ACO	A	701	32/51	0.80	0.15	108,118,140,145	0
5	NA	A	711	1/1	0.81	0.17	57,57,57,57	0
4	GOL	A	704	6/6	0.82	0.16	45,60,66,72	0
4	GOL	D	706	6/6	0.84	0.18	73,88,92,93	0
4	GOL	A	710	6/6	0.85	0.19	64,77,79,79	0
4	GOL	A	709	6/6	0.88	0.18	66,79,81,82	0
5	NA	D	708	1/1	0.88	0.12	64,64,64,64	0
4	GOL	A	707	6/6	0.89	0.12	61,74,77,79	0
4	GOL	A	706	6/6	0.90	0.18	55,66,70,71	0
4	GOL	A	703[A]	6/6	0.90	0.19	41,50,52,53	14
5	NA	C	705	1/1	0.90	0.13	60,60,60,60	0
4	GOL	A	703[B]	6/6	0.90	0.19	41,49,52,53	14
4	GOL	A	708	6/6	0.91	0.16	55,66,69,69	0
4	GOL	C	702	6/6	0.91	0.14	41,49,59,59	0
5	NA	A	713	1/1	0.92	0.31	59,59,59,59	0
4	GOL	C	703	6/6	0.92	0.20	54,65,71,73	0
4	GOL	D	705	6/6	0.93	0.21	66,79,80,80	0
4	GOL	D	703	6/6	0.95	0.10	54,65,68,68	0
5	NA	A	712	1/1	0.95	0.26	48,48,48,48	0
5	NA	D	707	1/1	0.96	0.15	48,48,48,48	0
3	PO4	C	701	5/5	0.96	0.14	65,68,71,72	0
3	PO4	D	702	5/5	0.97	0.12	64,65,67,69	0
5	NA	B	702	1/1	0.97	0.13	65,65,65,65	0
3	PO4	B	701	5/5	0.97	0.13	56,56,61,62	0
3	PO4	A	702	5/5	0.98	0.10	39,42,45,49	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 ACO D 701:

$2mF_o-DF_c$ (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.