



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 5, 2026 – 08:18 PM UTC

PDB ID : 7E01 / pdb_00007e01
Title : Trans-3/4-proline-hydroxylase H11 in the sixth reaction state
Authors : Gong, W.G.; Yang, L.Y.
Deposited on : 2021-01-26
Resolution : 1.72 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 : 4-5-2 with Phenix2.0
Mogul : 2022.3.0, CSD as543be (2022)
Xtriage (Phenix) : 2.0
EDS : 3.0
Buster-report : wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4 : 9.0.010 (Gargrove)
Density-Fitness : 1.0.12
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

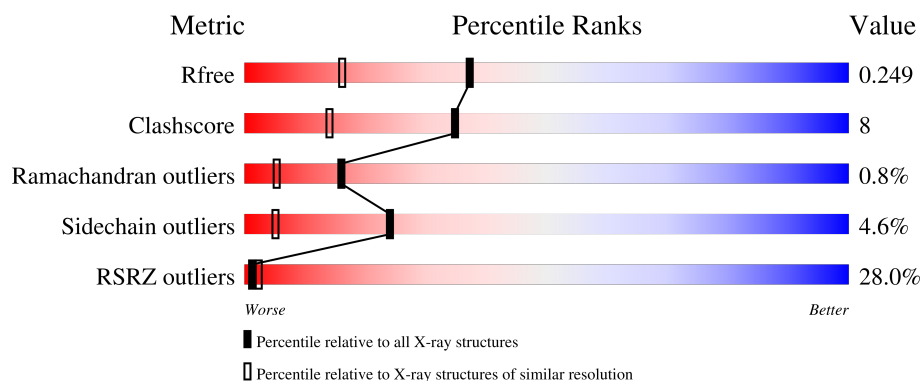
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 1.72 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}	180053	1039 (1.72-1.72)
Clashscore	190562	1049 (1.72-1.72)
Ramachandran outliers	187476	1041 (1.72-1.72)
Sidechain outliers	187428	1041 (1.72-1.72)
RSRZ outliers	180081	1039 (1.72-1.72)

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	266	

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
2	PRO	A	301	-	-	X	-

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
3	O	A	302	-	-	X	-
3	O	A	303	-	-	X	-

2 Entry composition [i](#)

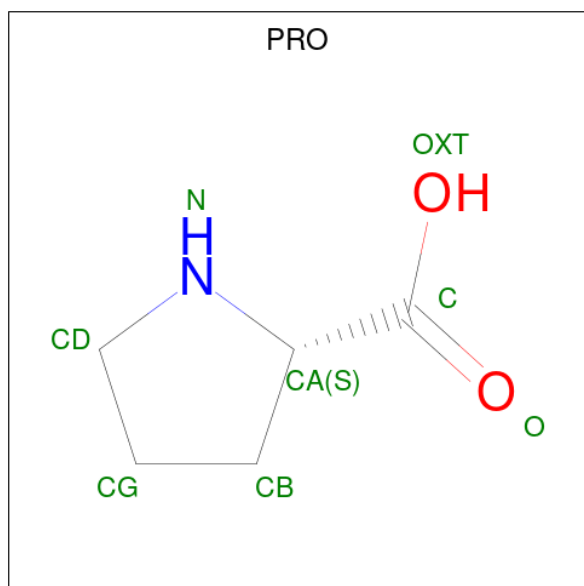
There are 4 unique types of molecules in this entry. The entry contains 2288 atoms, of which 0 are hydrogens and 0 are deuteriums.

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 Phytanoyl-CoA dioxygenase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	264	Total	C	N	O	S	0	2	0
			2088	1324	372	386	6			

- Molecule 2 is PROLINE (CCD ID: PRO) (formula: C₅H₉NO₂) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
2	A	1	Total	C	N	O	0	0
			8	5	1	2		

- Molecule 3 is OXYGEN ATOM (CCD ID: O) (formula: O) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	2	Total	O	0	0
			2	2		

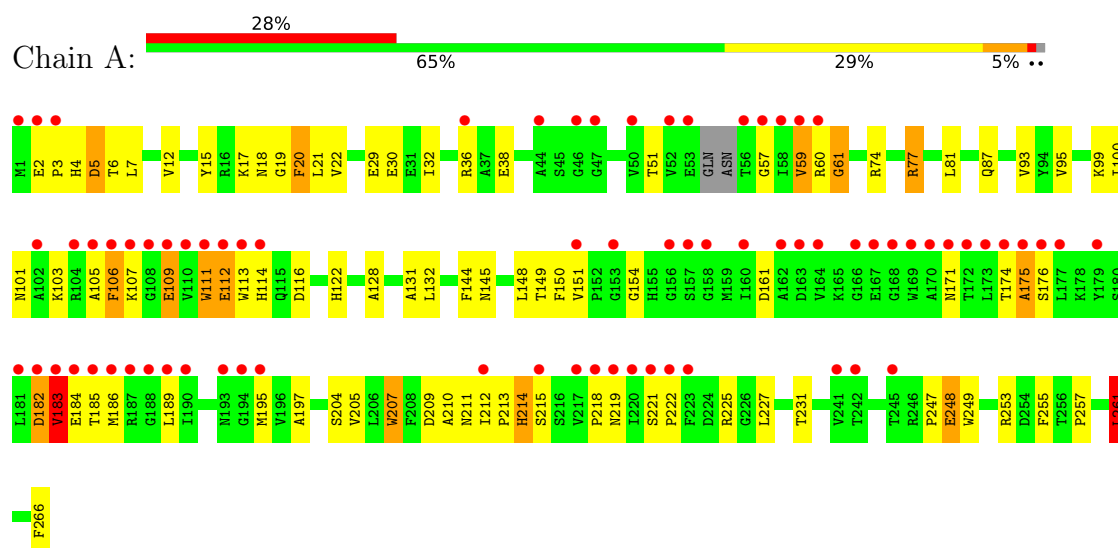
- Molecule 4 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	190	Total 190	O 190	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: Phytanoyl-CoA dioxygenase



4 Data and refinement statistics

Property	Value	Source
Space group	P 41 2 2	Depositor
Cell constants a, b, c, α , β , γ	75.37Å 75.37Å 144.75Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	75.37 – 1.72 75.37 – 1.72	Depositor EDS
% Data completeness (in resolution range)	99.7 (75.37-1.72) 99.7 (75.37-1.72)	Depositor EDS
R_{merge}	0.05	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	4.20 (at 1.72Å)	Xtriage
Refinement program	REFMAC 5.8.0135	Depositor
R, R_{free}	0.207 , 0.236 0.219 , 0.249	Depositor DCC
R_{free} test set	2204 reflections (4.90%)	wwPDB-VP
Wilson B-factor (Å ²)	26.2	Xtriage
Anisotropy	0.012	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.35 , 36.0	EDS
L-test for twinning ²	$\langle L \rangle = 0.50$, $\langle L^2 \rangle = 0.33$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.95	EDS
Total number of atoms	2288	wwPDB-VP
Average B, all atoms (Å ²)	37.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 6.53% 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

5.1 Standard geometry

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

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	1.88	51/2143 (2.4%)	1.61	31/2914 (1.1%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	3

All (51) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	103	LYS	CA-C	-9.25	1.42	1.53
1	A	247	PRO	CA-C	9.04	1.63	1.52
1	A	22	VAL	CA-C	-8.18	1.42	1.52
1	A	209	ASP	CA-C	-7.07	1.43	1.52
1	A	212	ILE	C-N	6.93	1.42	1.33
1	A	17	LYS	N-CA	6.88	1.54	1.46
1	A	249	TRP	CA-C	-6.74	1.43	1.52
1	A	128	ALA	N-CA	-6.71	1.39	1.45
1	A	4	HIS	CA-C	-6.67	1.43	1.52
1	A	255	PHE	C-O	6.61	1.32	1.24
1	A	248	GLU	CD-OE2	6.61	1.37	1.25
1	A	29	GLU	CA-C	-6.60	1.44	1.52
1	A	60	ARG	CA-C	6.58	1.59	1.53
1	A	101	ASN	N-CA	6.46	1.54	1.46
1	A	227	LEU	N-CA	6.29	1.53	1.46
1	A	149	THR	C-O	-6.29	1.16	1.24
1	A	111	TRP	CA-C	-6.28	1.45	1.52
1	A	122	HIS	C-O	-6.27	1.16	1.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	148	LEU	CA-CB	6.23	1.63	1.53
1	A	151	VAL	CA-C	-6.21	1.48	1.53
1	A	21	LEU	N-CA	-6.13	1.38	1.46
1	A	231	THR	CA-C	6.07	1.60	1.52
1	A	210	ALA	CA-C	6.05	1.61	1.52
1	A	95	VAL	C-O	-6.02	1.17	1.24
1	A	15	TYR	CA-CB	5.99	1.62	1.53
1	A	19	GLY	CA-C	5.94	1.60	1.51
1	A	211	ASN	N-CA	5.90	1.53	1.46
1	A	248	GLU	N-CA	5.89	1.53	1.46
1	A	131	ALA	CA-CB	-5.85	1.43	1.53
1	A	213	PRO	CA-C	-5.79	1.44	1.52
1	A	18	ASN	CA-C	-5.77	1.45	1.52
1	A	197	ALA	CA-C	-5.73	1.45	1.52
1	A	209	ASP	C-O	5.72	1.30	1.23
1	A	197	ALA	C-O	-5.67	1.19	1.24
1	A	32	ILE	CA-C	-5.60	1.45	1.52
1	A	20	PHE	CA-C	-5.52	1.45	1.52
1	A	93	VAL	CA-C	-5.49	1.46	1.52
1	A	87	GLN	C-O	5.41	1.30	1.24
1	A	204	SER	N-CA	-5.37	1.38	1.45
1	A	257	PRO	CA-C	-5.32	1.46	1.52
1	A	30	GLU	C-O	-5.30	1.17	1.24
1	A	38	GLU	N-CA	-5.23	1.40	1.46
1	A	266	PHE	C-O	5.16	1.33	1.23
1	A	81	LEU	N-CA	5.13	1.52	1.46
1	A	99	LYS	N-CA	5.11	1.52	1.45
1	A	214	HIS	C-O	-5.06	1.17	1.23
1	A	151	VAL	C-O	-5.06	1.18	1.24
1	A	207	TRP	C-N	-5.06	1.26	1.33
1	A	7	LEU	CA-CB	-5.06	1.46	1.53
1	A	144	PHE	CA-C	-5.03	1.46	1.52
1	A	74	ARG	CD-NE	-5.01	1.39	1.46

All (31) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	183	VAL	N-CA-C	22.18	135.14	112.96
1	A	182	ASP	CA-C-N	-10.55	109.92	121.84
1	A	182	ASP	C-N-CA	-10.55	109.92	121.84
1	A	154	GLY	N-CA-C	8.66	124.64	114.16
1	A	175	ALA	N-CA-C	-7.95	92.96	107.75

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	128	ALA	O-C-N	6.98	126.18	121.71
1	A	231	THR	O-C-N	6.94	131.26	122.93
1	A	151	VAL	N-CA-C	6.93	114.41	107.55
1	A	218	PRO	N-CA-C	6.88	122.32	111.38
1	A	261	LEU	CB-CA-C	-6.61	99.59	109.90
1	A	57	GLY	N-CA-C	6.44	121.81	110.80
1	A	5	ASP	CA-C-O	-6.30	113.86	121.05
1	A	18	ASN	N-CA-C	6.14	119.25	111.69
1	A	6	THR	N-CA-CB	6.03	121.39	111.62
1	A	184	GLU	N-CA-C	-5.99	104.67	111.14
1	A	205	VAL	O-C-N	5.91	129.64	123.26
1	A	77	ARG	CA-C-O	5.87	126.54	119.43
1	A	32	ILE	N-CA-C	5.82	116.55	110.62
1	A	225	ARG	CA-C-N	-5.65	116.20	121.62
1	A	225	ARG	C-N-CA	-5.65	116.20	121.62
1	A	29	GLU	N-CA-C	5.58	117.37	111.28
1	A	60	ARG	CA-C-N	5.58	126.03	122.18
1	A	60	ARG	C-N-CA	5.58	126.03	122.18
1	A	59	VAL	N-CA-C	5.36	116.17	108.93
1	A	38	GLU	N-CA-C	5.32	117.08	111.28
1	A	214	HIS	N-CA-C	5.25	116.79	108.96
1	A	61	GLY	N-CA-C	5.24	120.36	111.19
1	A	171	ASN	N-CA-C	5.16	119.29	113.15
1	A	212	ILE	CA-C-N	-5.14	114.62	119.76
1	A	212	ILE	C-N-CA	-5.14	114.62	119.76
1	A	12	VAL	N-CA-C	5.04	115.26	110.42

There are no chirality outliers.

All (3) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	174	THR	Peptide
1	A	175	ALA	Peptide
1	A	36[A]	ARG	Sidechain

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	2088	0	2001	29	1
2	A	8	0	7	6	0
3	A	2	0	0	6	0
4	A	190	0	0	3	0
All	All	2288	0	2008	31	1

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 8.

All (31) 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:214:HIS:NE2	3:A:302:O:O	1.78	1.16
2:A:301:PRO:HG3	3:A:303:O:O	1.62	0.98
1:A:116[B]:ASP:OD1	2:A:301:PRO:HB3	1.78	0.82
1:A:116[B]:ASP:OD1	2:A:301:PRO:CB	2.27	0.82
1:A:214:HIS:CE1	3:A:302:O:O	2.32	0.81
1:A:116[B]:ASP:OD1	2:A:301:PRO:CG	2.36	0.72
1:A:185:THR:OG1	1:A:186:MET:N	2.23	0.70
2:A:301:PRO:CG	3:A:303:O:O	2.38	0.69
1:A:183:VAL:HG12	1:A:183:VAL:O	2.01	0.59
1:A:105:ALA:HB1	1:A:222:PRO:HA	1.87	0.57
1:A:114:HIS:NE2	3:A:302:O:O	2.39	0.56
1:A:5:ASP:HA	4:A:550:HOH:O	2.06	0.56
1:A:77:ARG:HB2	1:A:261:LEU:HD13	1.88	0.54
1:A:253:ARG:NH1	4:A:402:HOH:O	2.33	0.53
1:A:113:TRP:CD2	1:A:215:SER:HB2	2.45	0.51
1:A:132:LEU:C	1:A:132:LEU:HD12	2.36	0.51
1:A:145:ASN:HA	1:A:219:ASN:HA	1.93	0.50
1:A:116[B]:ASP:OD1	2:A:301:PRO:HG3	2.11	0.50
1:A:2:GLU:O	1:A:3:PRO:C	2.56	0.47
1:A:109:GLU:HG2	1:A:111:TRP:CD1	2.49	0.47
1:A:105:ALA:HB1	1:A:222:PRO:C	2.40	0.46
1:A:195:MET:HE3	1:A:195:MET:HB2	1.70	0.45
1:A:61:GLY:HA2	1:A:100:ILE:O	2.17	0.45
1:A:20:PHE:HA	1:A:207:TRP:O	2.17	0.45
1:A:116[A]:ASP:OD1	3:A:302:O:O	2.35	0.44
1:A:77:ARG:NH2	4:A:408:HOH:O	2.47	0.43
1:A:150:PHE:CD1	1:A:214:HIS:HB3	2.54	0.42
1:A:112:GLU:H	1:A:112:GLU:HG2	1.47	0.42
1:A:105:ALA:CB	1:A:222:PRO:C	2.92	0.42
1:A:106:PHE:N	1:A:221:SER:O	2.46	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:59:VAL:O	1:A:59:VAL:HG23	2.21	0.40

All (1) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:106:PHE:CE2	1:A:183:VAL:CG1[5_455]	1.94	0.26

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%)	250 (95%)	10 (4%)	2 (1%)	16 5

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	106	PHE
1	A	182	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	217/223 (97%)	207 (95%)	10 (5%)	24 5

All (10) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	51	THR
1	A	107	LYS
1	A	109	GLU
1	A	112	GLU
1	A	161	ASP
1	A	176	SER
1	A	183	VAL
1	A	189	LEU
1	A	248	GLU
1	A	261	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (1) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	25	HIS

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 oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 3 ligands modelled in this entry, 2 are monoatomic - leaving 1 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
2	PRO	A	301	-	8,8,8	1.43	2 (25%)	10,10,10	1.44	2 (20%)

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	PRO	A	301	-	-	0/4/11/11	0/1/1/1

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A	301	PRO	CD-N	-2.74	1.39	1.49
2	A	301	PRO	OXT-C	-2.19	1.23	1.30

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A	301	PRO	CD-N-CA	2.79	114.43	107.22
2	A	301	PRO	OXT-C-O	-2.41	118.61	124.08

There are no chirality outliers.

There are no torsion outliers.

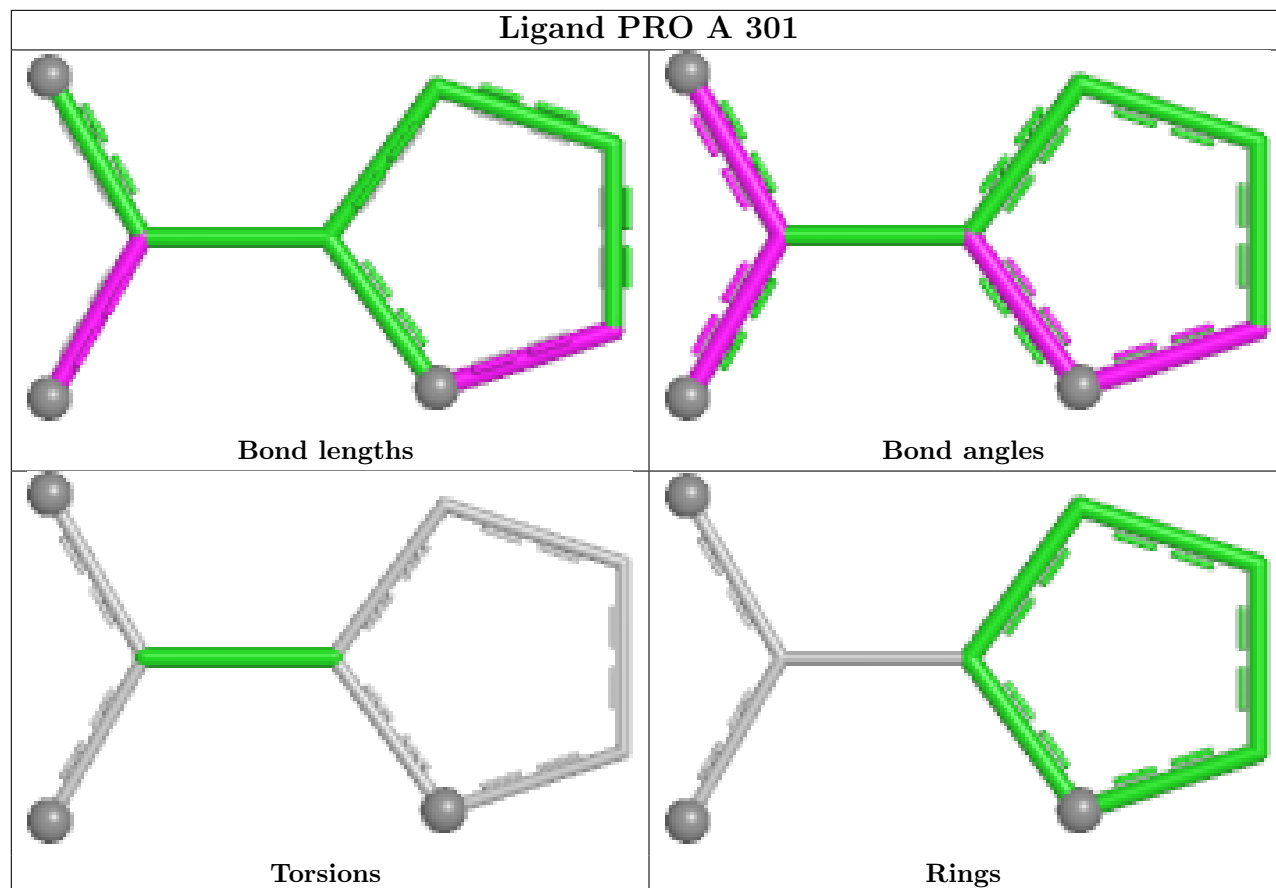
There are no ring outliers.

1 monomer is involved in 6 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	A	301	PRO	6	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	264/266 (99%)	1.46	74 (28%) ⓘ ⓘ	12, 31, 77, 94	2 (0%)

All (74) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	183	VAL	8.6
1	A	220	ILE	8.2
1	A	111	TRP	7.1
1	A	106	PHE	6.9
1	A	175	ALA	6.4
1	A	222	PRO	6.2
1	A	58	ILE	6.2
1	A	59	VAL	6.0
1	A	1	MET	5.8
1	A	52	VAL	5.8
1	A	110	VAL	5.5
1	A	170	ALA	5.5
1	A	56	THR	5.4
1	A	217	VAL	5.0
1	A	185	THR	4.9
1	A	181	LEU	4.8
1	A	189	LEU	4.8
1	A	182	ASP	4.7
1	A	157	SER	4.5
1	A	215	SER	4.5
1	A	57	GLY	4.5
1	A	223	PHE	4.5
1	A	164	VAL	4.4
1	A	53	GLU	4.4
1	A	60	ARG	4.3
1	A	184	GLU	4.2
1	A	218	PRO	4.2

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Mol	Chain	Res	Type	RSRZ
1	A	2	GLU	4.0
1	A	107	LYS	4.0
1	A	113	TRP	3.9
1	A	108	GLY	3.9
1	A	162	ALA	3.8
1	A	109	GLU	3.8
1	A	190	ILE	3.8
1	A	169	TRP	3.7
1	A	172	THR	3.7
1	A	174	THR	3.7
1	A	245	THR	3.7
1	A	112	GLU	3.6
1	A	177	LEU	3.4
1	A	105	ALA	3.4
1	A	221	SER	3.4
1	A	160	ILE	3.2
1	A	188	GLY	3.2
1	A	104	ARG	3.2
1	A	156	GLY	3.1
1	A	3	PRO	3.0
1	A	168	GLY	3.0
1	A	176	SER	3.0
1	A	186	MET	2.9
1	A	179	TYR	2.8
1	A	194	GLY	2.8
1	A	173	LEU	2.8
1	A	158	GLY	2.8
1	A	102	ALA	2.7
1	A	36[A]	ARG	2.7
1	A	151	VAL	2.6
1	A	219	ASN	2.6
1	A	167	GLU	2.5
1	A	153	GLY	2.5
1	A	166	GLY	2.5
1	A	212	ILE	2.4
1	A	50	VAL	2.3
1	A	241	VAL	2.3
1	A	46	GLY	2.3
1	A	171	ASN	2.3
1	A	195	MET	2.2
1	A	187	ARG	2.2
1	A	44	ALA	2.1

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Mol	Chain	Res	Type	RSRZ
1	A	242	THR	2.1
1	A	114	HIS	2.1
1	A	193	ASN	2.1
1	A	163	ASP	2.1
1	A	47	GLY	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 oligosaccharides in this entry.

6.4 Ligands [i](#)

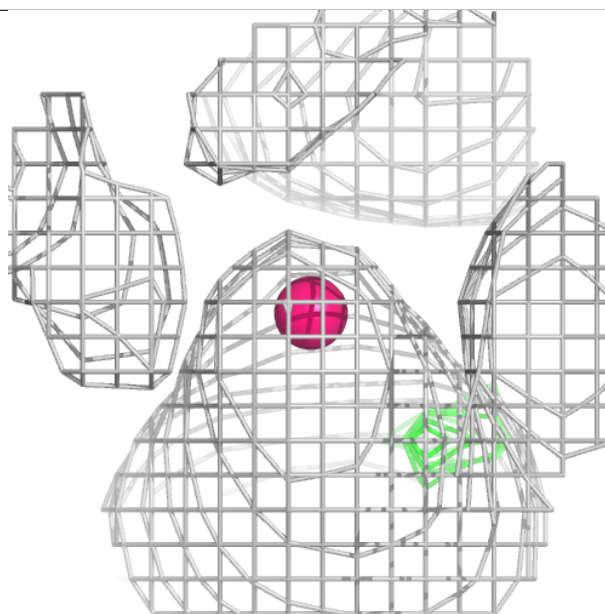
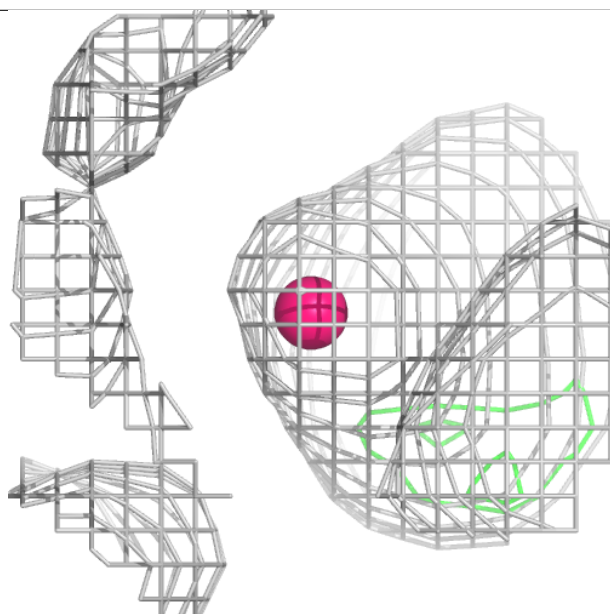
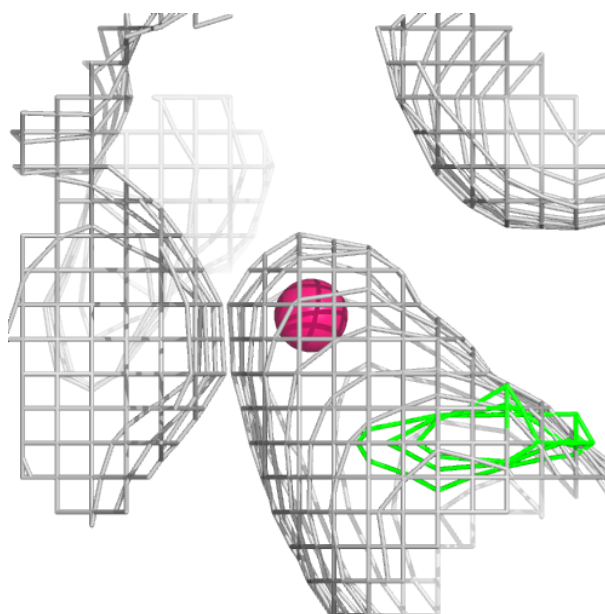
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
3	O	A	302	1/1	0.84	0.22	39,39,39,39	0
2	PRO	A	301	8/8	0.88	0.13	35,40,45,46	0
3	O	A	303	1/1	0.91	0.17	54,54,54,54	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.

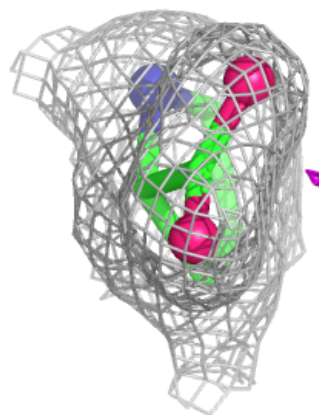
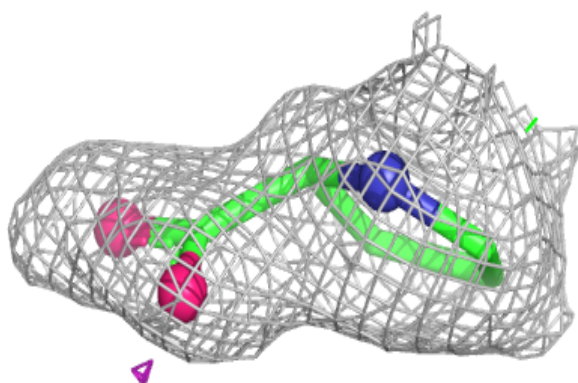
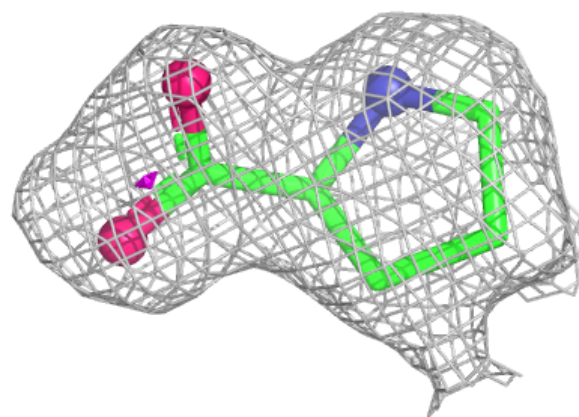
Electron density around O A 302:

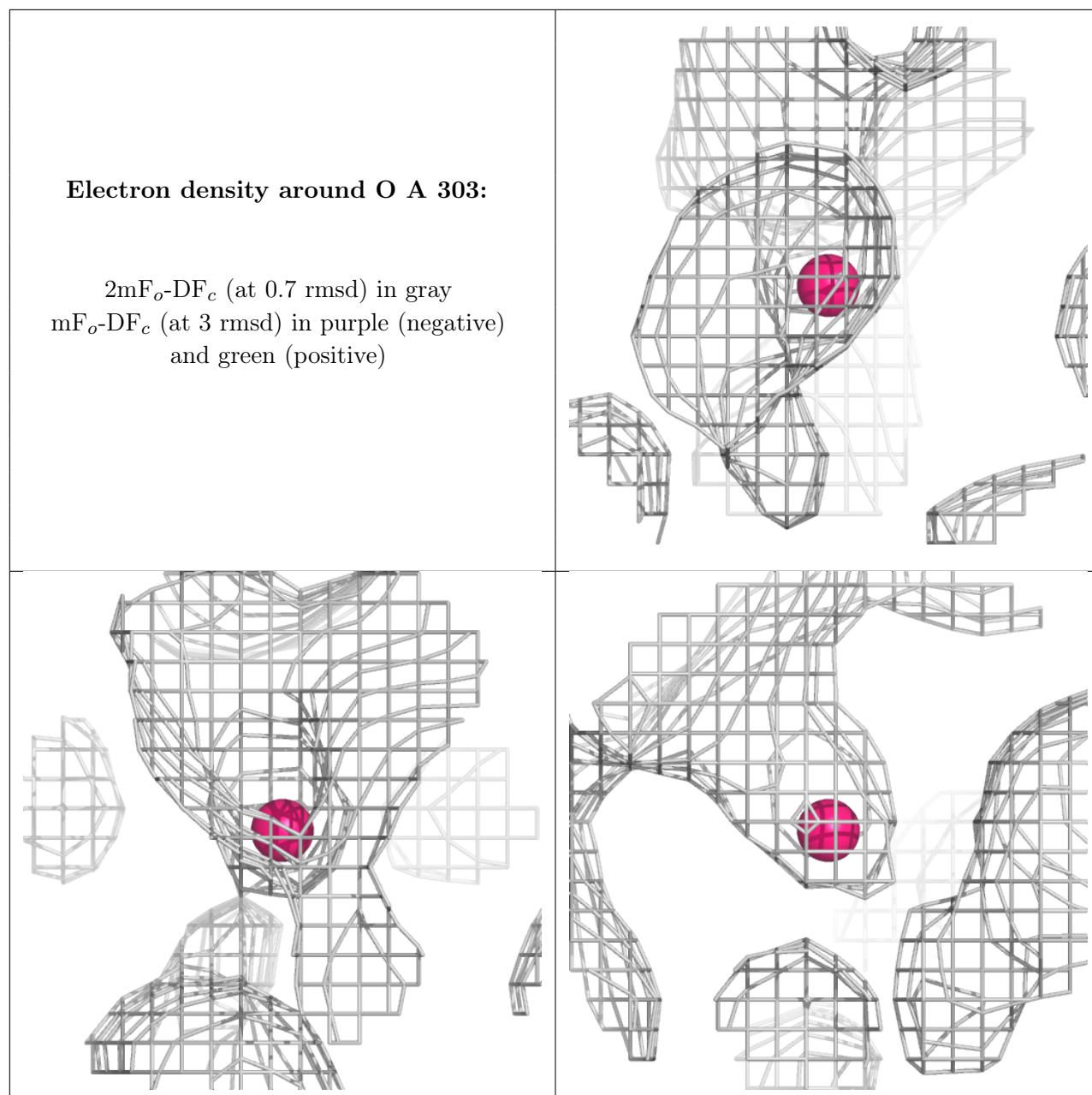
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



Electron density around PRO A 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 ⓘ

There are no such residues in this entry.