Full wwPDB X-ray Structure Validation Report (i)

Feb 2, 2026 – 04:03 PM EST

PDB ID	:	9PAA / pdb_00009paa
Title	:	Crystal structure of HCoV-229E 3CLpro with ALG-0987608 (inhibitor 1)
Authors	:	Reddem, E.R.; Forouhad, F.; Shapiro, L.; Stoycheva, A.
Deposited on	:	2025-06-25
Resolution	:	1.41 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 (i) 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 (i)) were used in the production of this report:

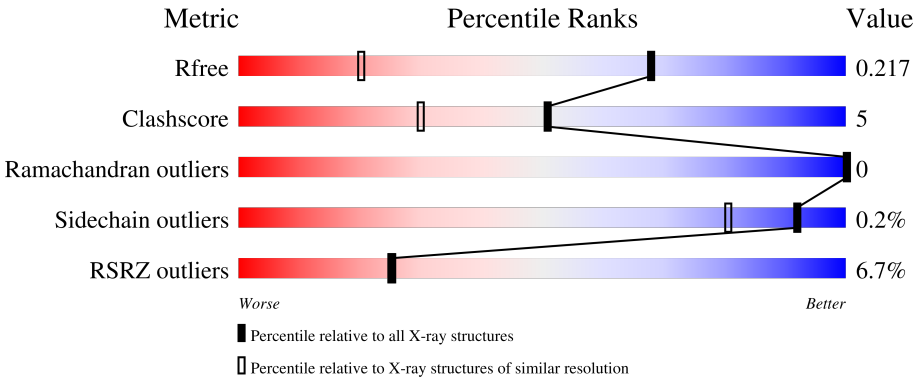
MolProbity	:	4-5-2 with Phenix2.0
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	2.0
EDS	:	3.0
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4	:	9.0.010 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.47

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
X-RAY DIFFRACTION

The reported resolution of this entry is 1.41 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}	164625	3500 (1.44-1.40)
Clashscore	180529	3801 (1.44-1.40)
Ramachandran outliers	177936	3734 (1.44-1.40)
Sidechain outliers	177891	3733 (1.44-1.40)
RSRZ outliers	164620	3499 (1.44-1.40)

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 <=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	301	9% 93% 7%
1	B	301	4% 89% 11%

2 Entry composition (i)

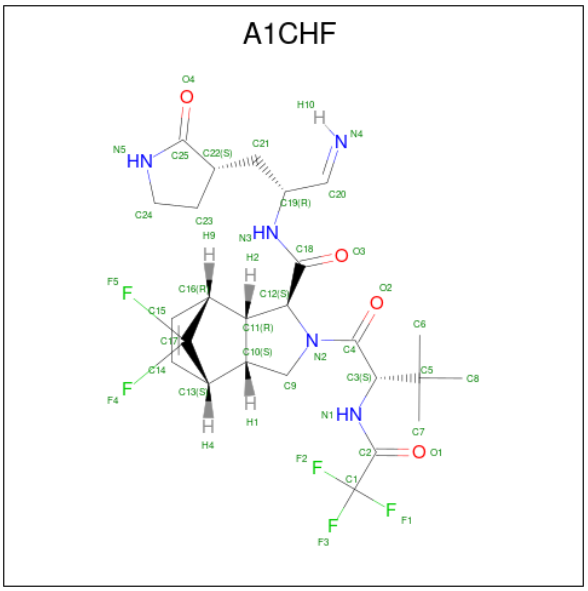
There are 4 unique types of molecules in this entry. The entry contains 5289 atoms, of which 0 are hydrogens and 0 are deuteriums.

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 3C-like proteinase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	300	Total	C	N	O	S	0	0	0
			2305	1464	397	426	18			
1	B	301	Total	C	N	O	S	0	1	0
			2321	1476	399	428	18			

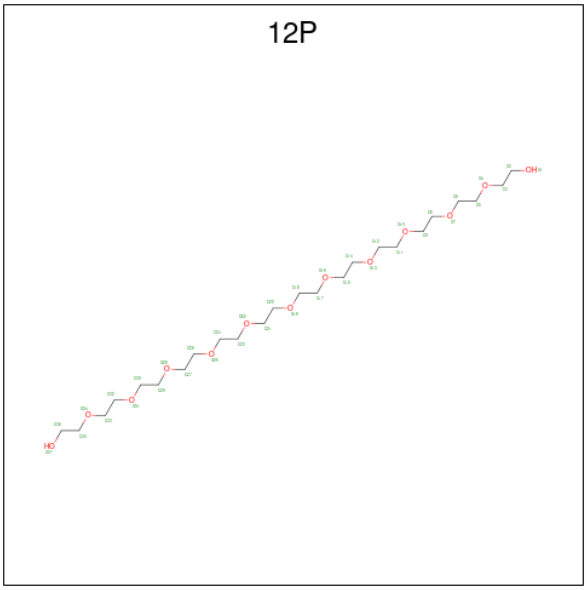
- Molecule 2 is (1R,2R,3S,6S,7S)-4-[(2S)-3,3-dimethyl-2-(2,2,2-trifluoroacetamido)butanoyl]-10,10-difluoro-N-{(1E,2R)-1-imino-3-[(3R)-2-oxo-3,4-dihydro-2H-pyrrol-3-yl]propan-2-yl}-4-azatricyclo[5.2.1.0 2,6]decane-3-carboxamide (non-preferred name) (CCD ID: A1CHF) (formula: $C_{25}H_{32}F_5N_5O_4$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
2	A	1	Total	C	F	N	O	0	0
			39	25	5	5	4		
2	B	1	Total	C	F	N	O	0	0
			39	25	5	5	4		

- Molecule 3 is DODECAETHYLENE GLYCOL (CCD ID: 12P) (formula: $C_{24}H_{50}O_{13}$) (la-

beled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	B	1	Total C O 37 24 13	0	0

- Molecule 4 is water.

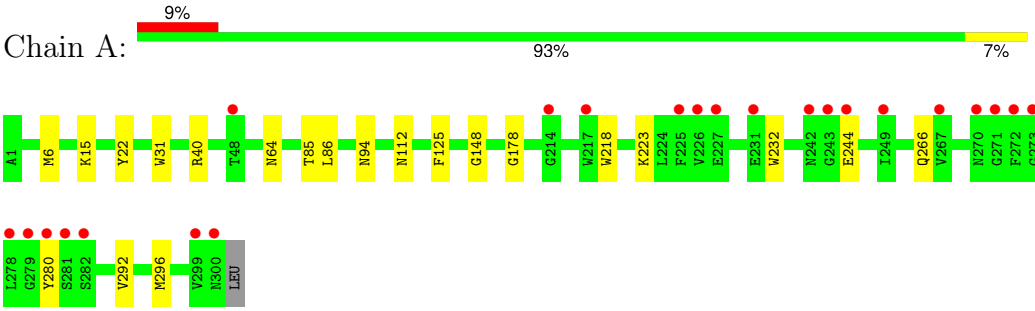
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	266	Total O 266 266	0	0
4	B	282	Total O 282 282	0	0

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.

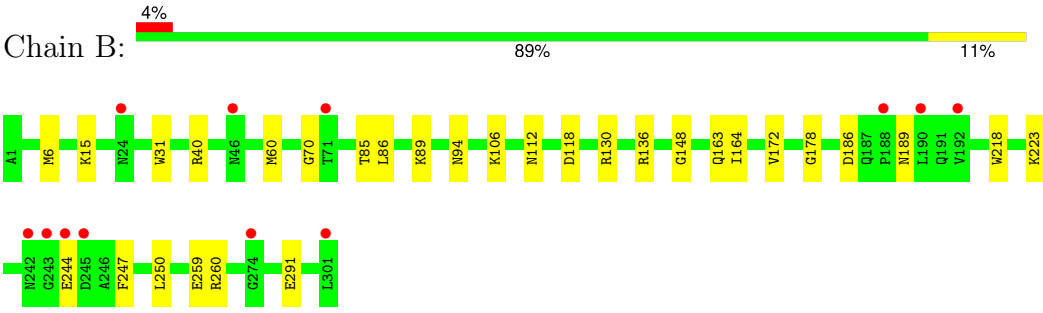
• Molecule 1: 3C-like proteinase

Chain A:



• Molecule 1: 3C-like proteinase

Chain B:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	53.29Å 76.37Å 77.01Å 90.00° 91.60° 90.00°	Depositor
Resolution (Å)	34.37 – 1.41 34.37 – 1.41	Depositor EDS
% Data completeness (in resolution range)	99.8 (34.37-1.41) 99.8 (34.37-1.41)	Depositor EDS
R_{merge}	0.13	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.31 (at 1.41Å)	Xtriage
Refinement program	PHENIX 1.21.1_5286	Depositor
R, R_{free}	0.193 , 0.217 0.194 , 0.217	Depositor DCC
R_{free} test set	5828 reflections (4.92%)	wwPDB-VP
Wilson B-factor (Å^2)	13.5	Xtriage
Anisotropy	0.156	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.34 , 29.5	EDS
L-test for twinning[2]	$< \|L\| > = 0.47$, $< L^2 > = 0.30$	Xtriage
Estimated twinning fraction	0.017 for -h,l,k 0.029 for -h,-l,-k 0.046 for h,-k,-l	Xtriage
F_o,F_c correlation	0.95	EDS
Total number of atoms	5289	wwPDB-VP
Average B, all atoms (Å^2)	19.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.89% of the height of the origin peak. No significant pseudotranslation is detected.*

[1] Intensities estimated from amplitudes.

[2] Theoretical values of $< |L| >$, $< L^2 >$ 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: 12P, A1CHF

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	0.25	0/2357	0.46	0/3190
1	B	0.26	0/2373	0.46	0/3212
All	All	0.26	0/4730	0.46	0/6402

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

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	2305	0	2237	20	0
1	B	2321	0	2258	27	0
2	A	39	0	0	0	0
2	B	39	0	0	0	0
3	B	37	0	50	11	0
4	A	266	0	0	3	1
4	B	282	0	0	5	1
All	All	5289	0	4545	47	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 5.

All (47) 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:B:244:GLU:HB2	1:B:247:PHE:HB2	1.58	0.86
1:A:15:LYS:HZ2	3:B:402:12P:H272	1.45	0.81
1:A:15:LYS:HD3	3:B:402:12P:H211	1.70	0.73
1:B:89:LYS:NZ	4:B:503:HOH:O	2.27	0.67
1:B:291:GLU:OE2	4:B:501:HOH:O	2.14	0.66
1:A:244:GLU:H	1:A:244:GLU:CD	2.04	0.66
1:A:85:THR:HG23	1:A:178:GLY:HA2	1.82	0.60
1:B:164[B]:ILE:HD11	1:B:186:ASP:HA	1.84	0.59
1:B:223:LYS:HE3	1:B:259:GLU:HB2	1.85	0.58
1:B:189:ASN:ND2	4:B:506:HOH:O	2.30	0.58
1:B:70:GLY:H	3:B:402:12P:H32	1.69	0.57
1:B:70:GLY:H	3:B:402:12P:H52	1.74	0.52
1:B:164[A]:ILE:HG12	1:B:172:VAL:HB	1.92	0.52
1:B:225:PHE:CE2	1:B:227:GLU:HB2	2.44	0.52
1:A:280:TYR:OH	4:A:501:HOH:O	2.16	0.51
3:B:402:12P:H112	3:B:402:12P:H62	1.93	0.51
1:B:164[A]:ILE:CG1	1:B:172:VAL:HB	2.41	0.50
1:A:15:LYS:HZ2	3:B:402:12P:C27	2.18	0.49
1:A:31:TRP:CE2	1:A:94:ASN:HB2	2.47	0.49
1:B:85:THR:HG23	1:B:178:GLY:HA2	1.96	0.48
1:A:223:LYS:NZ	4:A:505:HOH:O	2.47	0.47
1:B:106:LYS:NZ	4:B:511:HOH:O	2.46	0.47
1:A:125:PHE:HD1	1:B:6:MET:HG3	1.80	0.46
1:B:70:GLY:H	3:B:402:12P:C3	2.29	0.46
1:A:31:TRP:CD2	1:A:94:ASN:HB2	2.51	0.46
1:A:218:TRP:CD1	1:A:218:TRP:H	2.32	0.45
1:B:218:TRP:CD1	1:B:218:TRP:H	2.33	0.45
1:A:112:ASN:O	1:A:148:GLY:HA2	2.18	0.44
1:B:112:ASN:O	1:B:148:GLY:HA2	2.16	0.44
3:B:402:12P:H62	3:B:402:12P:H91	1.61	0.44
1:A:232:TRP:CD1	1:A:266:GLN:HE21	2.35	0.44
1:A:40:ARG:HA	1:A:86:LEU:HG	2.00	0.44
1:B:40:ARG:HA	1:B:86:LEU:HG	1.99	0.44
1:A:15:LYS:NZ	3:B:402:12P:H272	2.24	0.43
1:B:15:LYS:HG2	4:B:505:HOH:O	2.18	0.43
1:A:6:MET:HB2	4:A:713:HOH:O	2.19	0.42
1:B:60:MET:HE2	1:B:60:MET:HB3	1.87	0.42
1:A:22:TYR:CE2	1:A:64:ASN:HB2	2.54	0.42
1:A:15:LYS:NZ	3:B:402:12P:H242	2.35	0.42
1:B:31:TRP:CD2	1:B:94:ASN:HB2	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:125:PHE:CD1	1:B:6:MET:HG3	2.55	0.41
1:B:70:GLY:N	3:B:402:12P:H52	2.34	0.41
1:B:130:ARG:NH1	1:B:136:ARG:HB2	2.36	0.41
1:B:163:GLN:C	1:B:164[B]:ILE:HG13	2.46	0.41
1:B:223:LYS:HG2	1:B:260:ARG:HG3	2.01	0.41
1:B:250:LEU:HD23	1:B:250:LEU:HA	1.91	0.41
1:A:292:VAL:O	1:A:296:MET:HG2	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)
4:A:623:HOH:O	4:B:502:HOH:O[1_655]	2.17	0.03

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	298/301 (99%)	292 (98%)	6 (2%)	0	100	100
1	B	300/301 (100%)	294 (98%)	6 (2%)	0	100	100
All	All	598/602 (99%)	586 (98%)	12 (2%)	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	245/246 (100%)	245 (100%)	0	100 100
1	B	247/246 (100%)	246 (100%)	1 (0%)	89 76
All	All	492/492 (100%)	491 (100%)	1 (0%)	92 80

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

Mol	Chain	Res	Type
1	B	118	ASP

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (4) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	228	HIS
1	B	153	ASN
1	B	269	ASN
1	B	300	ASN

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)

3 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	A1CHF	A	401	1	38,42,42	1.06	2 (5%)	51,67,67	2.12	11 (21%)
3	12P	B	402	-	36,36,36	0.31	0	35,35,35	0.28	0
2	A1CHF	B	401	1	38,42,42	1.00	1 (2%)	51,67,67	1.92	11 (21%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	A1CHF	A	401	1	-	13/36/89/89	0/5/4/4
3	12P	B	402	-	-	19/34/34/34	-
2	A1CHF	B	401	1	-	12/36/89/89	0/5/4/4

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A	401	A1CHF	C5-C3	-3.40	1.51	1.55
2	B	401	A1CHF	C5-C3	-3.20	1.51	1.55
2	A	401	A1CHF	C25-N5	2.27	1.36	1.33

All (22) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	A	401	A1CHF	F5-C17-F4	7.87	114.99	105.55
2	B	401	A1CHF	F5-C17-F4	7.54	114.60	105.55
2	B	401	A1CHF	C21-C19-N3	6.50	120.50	110.69
2	A	401	A1CHF	C21-C19-N3	6.00	119.75	110.69
2	A	401	A1CHF	C17-C16-C15	4.70	102.88	99.14
2	A	401	A1CHF	C18-C12-N2	4.11	121.50	112.01
2	A	401	A1CHF	C17-C13-C14	3.56	101.97	99.14
2	A	401	A1CHF	C21-C19-C20	3.54	116.40	110.99
2	B	401	A1CHF	C10-C13-C14	3.29	109.31	107.20
2	B	401	A1CHF	C21-C19-C20	2.93	115.47	110.99
2	A	401	A1CHF	C4-C3-N1	-2.92	103.86	107.40
2	A	401	A1CHF	C10-C11-C12	2.82	108.07	104.60
2	B	401	A1CHF	C17-C16-C15	2.71	101.30	99.14

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	B	401	A1CHF	C18-C12-N2	2.59	118.00	112.01
2	B	401	A1CHF	C1-C2-N1	2.56	118.89	115.24
2	B	401	A1CHF	C17-C13-C14	2.48	101.11	99.14
2	B	401	A1CHF	C9-N2-C12	-2.29	109.42	112.41
2	B	401	A1CHF	C23-C22-C25	2.25	105.96	102.87
2	A	401	A1CHF	O2-C4-N2	-2.18	117.47	121.38
2	A	401	A1CHF	C1-C2-N1	2.14	118.29	115.24
2	B	401	A1CHF	O4-C25-N5	-2.02	122.94	125.76
2	A	401	A1CHF	C20-C19-N3	2.00	114.06	110.37

There are no chirality outliers.

All (44) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	401	A1CHF	C11-C12-C18-O3
2	A	401	A1CHF	N2-C12-C18-N3
2	A	401	A1CHF	N3-C19-C21-C22
2	A	401	A1CHF	C20-C19-N3-C18
2	A	401	A1CHF	C19-C21-C22-C23
2	B	401	A1CHF	N2-C12-C18-N3
2	B	401	A1CHF	N2-C12-C18-O3
2	B	401	A1CHF	N3-C19-C21-C22
2	B	401	A1CHF	C20-C19-N3-C18
2	B	401	A1CHF	C19-C21-C22-C23
2	B	401	A1CHF	C19-C21-C22-C25
3	B	402	12P	O7-C8-C9-O10
3	B	402	12P	O22-C23-C24-O25
3	B	402	12P	O4-C5-C6-O7
3	B	402	12P	O28-C29-C30-O31
3	B	402	12P	C9-C8-O7-C6
2	A	401	A1CHF	N2-C12-C18-O3
3	B	402	12P	O25-C26-C27-O28
3	B	402	12P	O31-C32-C33-O34
3	B	402	12P	O19-C20-C21-O22
2	A	401	A1CHF	C11-C12-C18-N3
3	B	402	12P	C27-C26-O25-C24
2	A	401	A1CHF	C19-C21-C22-C25
3	B	402	12P	C21-C20-O19-C18
3	B	402	12P	C6-C5-O4-C3
3	B	402	12P	C2-C3-O4-C5
3	B	402	12P	C12-C11-O10-C9
3	B	402	12P	O10-C11-C12-O13

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Mol	Chain	Res	Type	Atoms
3	B	402	12P	O16-C17-C18-O19
3	B	402	12P	C17-C18-O19-C20
3	B	402	12P	C36-C35-O34-C33
2	B	401	A1CHF	F3-C1-C2-N1
3	B	402	12P	C24-C23-O22-C21
2	B	401	A1CHF	F3-C1-C2-O1
2	B	401	A1CHF	F2-C1-C2-N1
2	A	401	A1CHF	F1-C1-C2-N1
2	B	401	A1CHF	F2-C1-C2-O1
2	A	401	A1CHF	F2-C1-C2-N1
2	A	401	A1CHF	F1-C1-C2-O1
2	B	401	A1CHF	F1-C1-C2-O1
2	B	401	A1CHF	F1-C1-C2-N1
3	B	402	12P	C26-C27-O28-C29
2	A	401	A1CHF	F2-C1-C2-O1
2	A	401	A1CHF	F3-C1-C2-N1

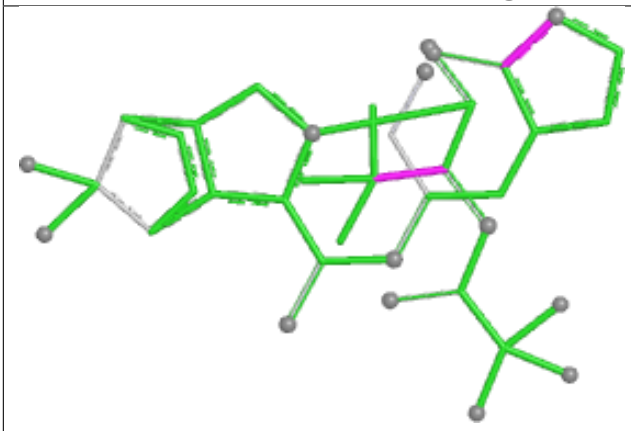
There are no ring outliers.

1 monomer is involved in 11 short contacts:

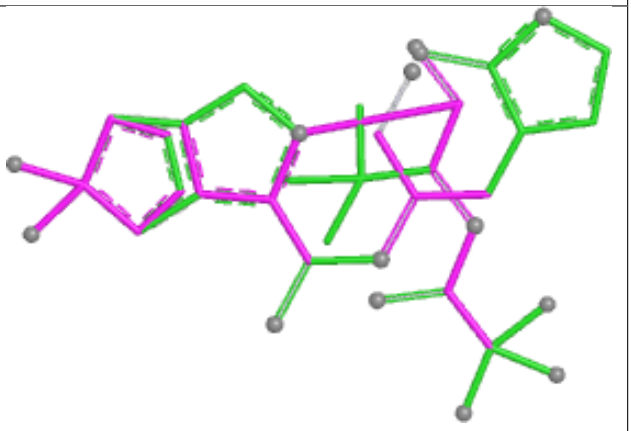
Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	B	402	12P	11	0

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.

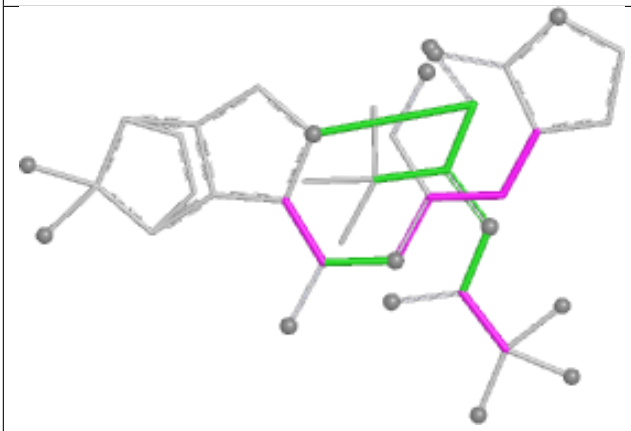
Ligand A1CHF A 401



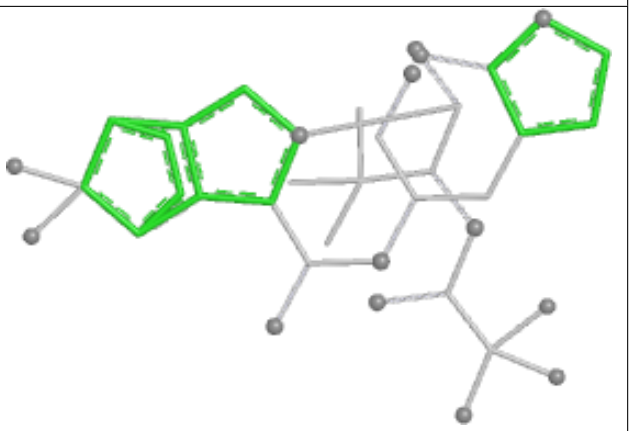
Bond lengths



Bond angles



Torsions

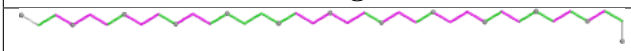


Rings

Ligand 12P B 402

Bond lengths

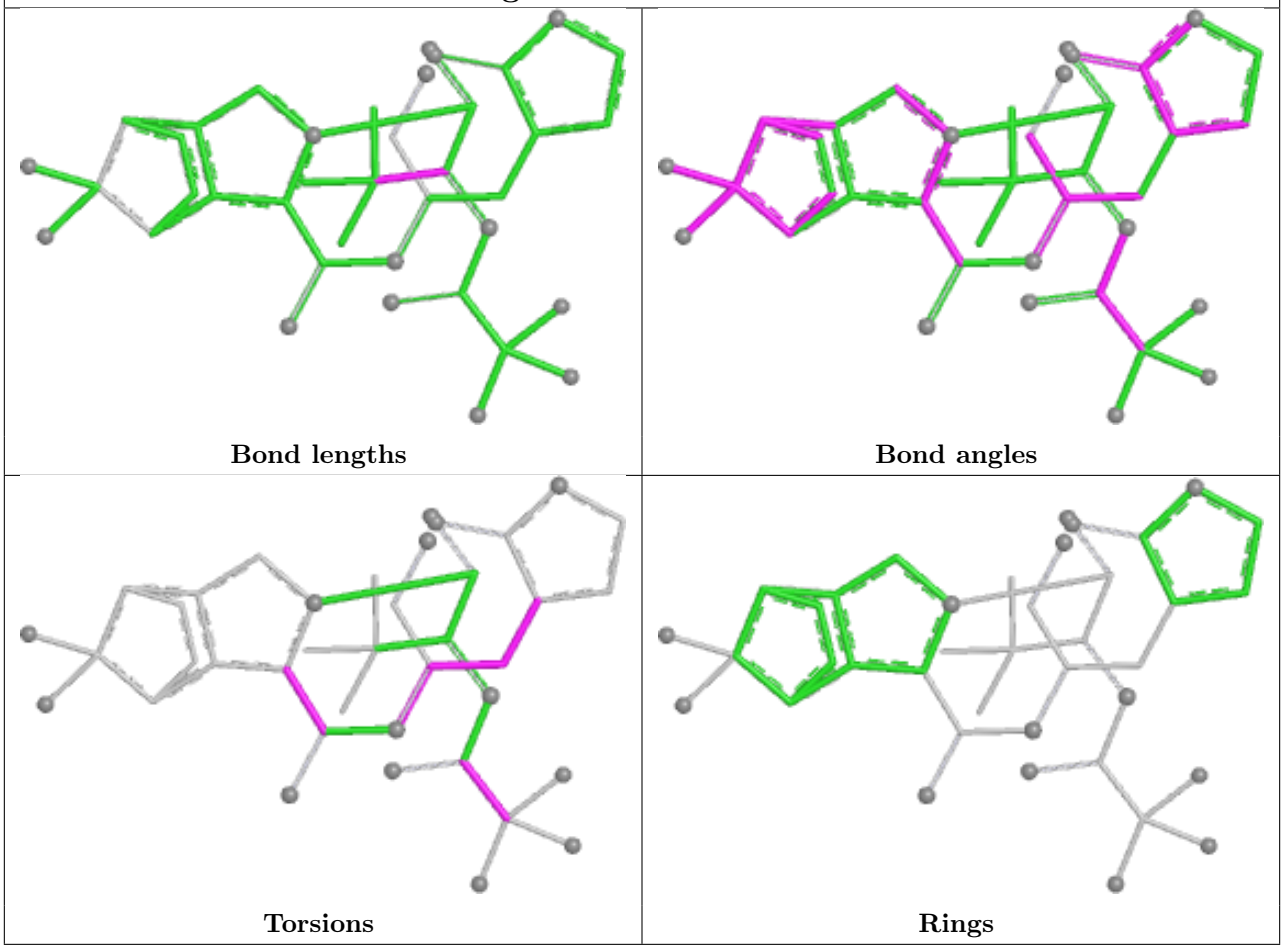
Bond angles



Torsions

Rings

Ligand A1CHF B 401



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, 95^{th} 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	300/301 (99%)	0.38	27 (9%)	17	15	9, 17, 36, 71	0
1	B	301/301 (100%)	0.27	13 (4%)	40	41	7, 16, 29, 58	1 (0%)
All	All	601/602 (99%)	0.33	40 (6%)	25	25	7, 16, 32, 71	1 (0%)

All (40) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	243	GLY	9.0
1	A	243	GLY	6.1
1	A	279	GLY	5.9
1	B	190	LEU	5.8
1	A	281	SER	5.8
1	A	214	GLY	5.0
1	B	244	GLU	4.8
1	A	274	GLY	4.8
1	A	280	TYR	4.7
1	A	242	ASN	4.6
1	A	273	GLY	4.2
1	B	225	PHE	3.9
1	B	245	ASP	3.9
1	A	272	PHE	3.9
1	B	71	THR	3.5
1	A	270	ASN	3.5
1	A	225	PHE	3.3
1	A	282	SER	3.2
1	A	276	GLN	3.1
1	B	301	LEU	3.0
1	A	299	VAL	3.0
1	A	275	LYS	3.0
1	A	271	GLY	2.9
1	A	277	ILE	2.9

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Mol	Chain	Res	Type	RSRZ
1	B	242	ASN	2.8
1	A	249	ILE	2.8
1	B	46	ASN	2.8
1	A	278	LEU	2.6
1	A	244	GLU	2.5
1	A	267	VAL	2.4
1	B	24	ASN	2.3
1	A	48	THR	2.3
1	B	274	GLY	2.3
1	A	226	VAL	2.3
1	A	227	GLU	2.2
1	A	300	ASN	2.2
1	B	188	PRO	2.1
1	A	217	TRP	2.1
1	B	192	VAL	2.0
1	A	231	GLU	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)

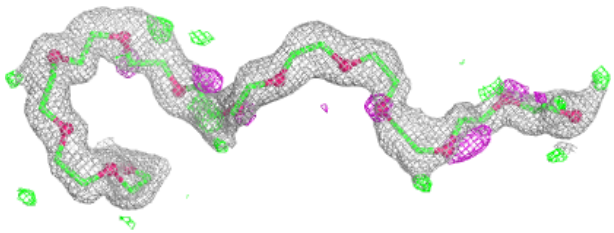
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95^{th} percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9'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

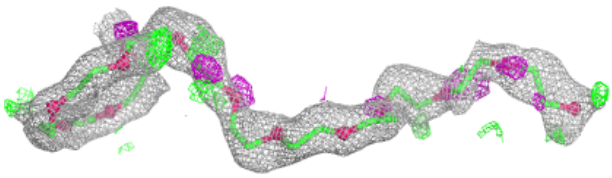
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
3	12P	B	402	37/37	0.78	0.15	27,32,36,37	0
2	A1CHF	B	401	39/39	0.90	0.10	14,18,27,33	0
2	A1CHF	A	401	39/39	0.91	0.09	12,16,23,24	0

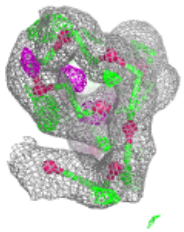
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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

Electron density around 12P B 402:

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

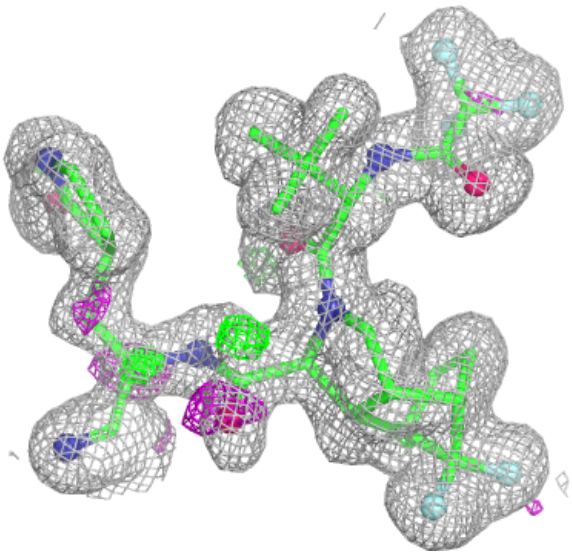


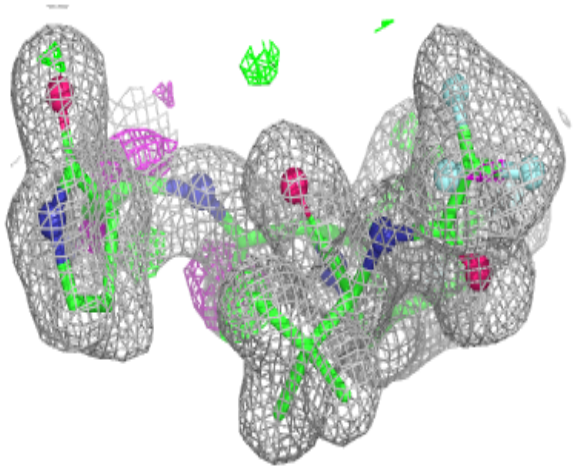




Electron density around A1CHF B 401:

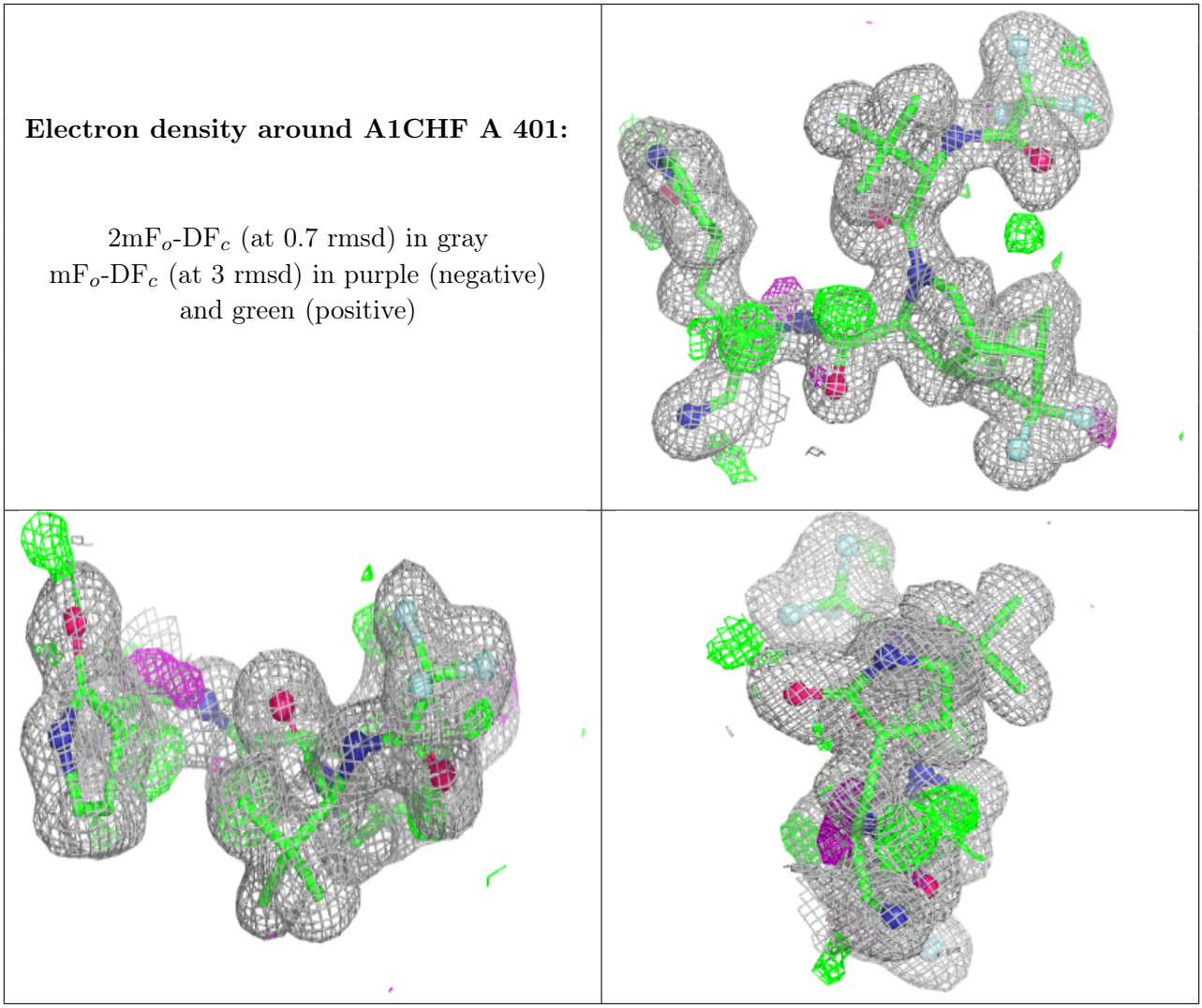
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)





Electron density around A1CHF A 401:

$2mF_o$-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.