



Full wwPDB X-ray Structure Validation Report ⓘ

Oct 24, 2024 – 12:14 PM EDT

PDB ID : 7HL5
Title : Group deposition for crystallographic fragment screening of the NS5 RNA-dependent RNA polymerase from Dengue virus serotype 2 – Crystal structure of the NS5 RNA-dependent RNA polymerase from Dengue virus serotype 2 in complex with Z44548882 (DNV2_NS5A-x1149)
Authors : Saini, M.; Chopra, A.; Aschenbrenner, J.C.; Marples, P.G.; Balcomb, B.H.; Fearon, D.; von Delft, F.; Ruiz, F.X.; Arnold, E.
Deposited on : 2024-10-15
Resolution : 1.63 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 : 2022.3.0, CSD as543be (2022)
Xtriage (Phenix) : 1.20.1
EDS : 3.0
buster-report : 1.1.7 (2018)
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4 : 9.0.003 (Gargrove)
Density-Fitness : 1.0.11
Ideal geometry (proteins) : Engh & Huber (2001)

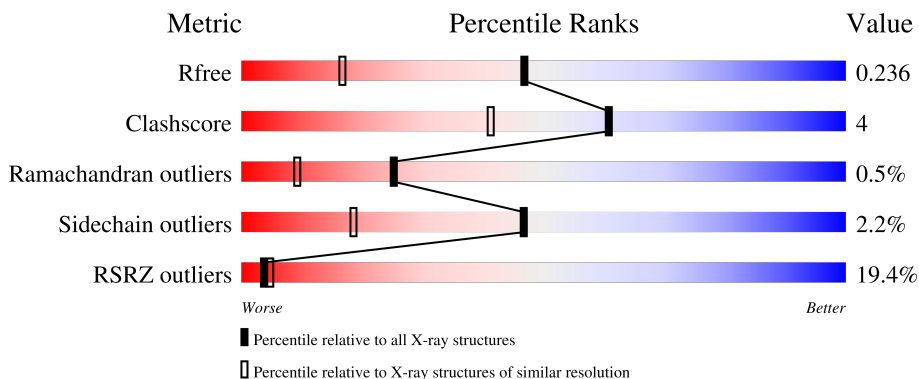
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 1.63 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	1015 (1.64-1.64)
Clashscore	180529	1093 (1.64-1.64)
Ramachandran outliers	177936	1077 (1.64-1.64)
Sidechain outliers	177891	1077 (1.64-1.64)
RSRZ outliers	164620	1015 (1.64-1.64)

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	637	

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:

Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.39

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
4	DMS	A	1004	-	-	X	-
6	PO4	A	1008	-	X	X	-

2 Entry composition [i](#)

There are 8 unique types of molecules in this entry. The entry contains 5278 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 Genome polyprotein.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	582	4759	2999	853	873	34	0	0	0

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	264	GLY	-	expression tag	UNP Q91H74
A	265	PRO	-	expression tag	UNP Q91H74

- Molecule 2 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
			Total	Zn		
2	A	2	2	2	0	0

- Molecule 3 is 2-(N-MORPHOLINO)-ETHANESULFONIC ACID (three-letter code: MES) (formula: C₆H₁₃NO₄S).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
			Total	C	N	O	S		
3	A	1	12	6	1	4	1	0	0

- Molecule 4 is DIMETHYL SULFOXIDE (three-letter code: DMS) (formula: C₂H₆OS).



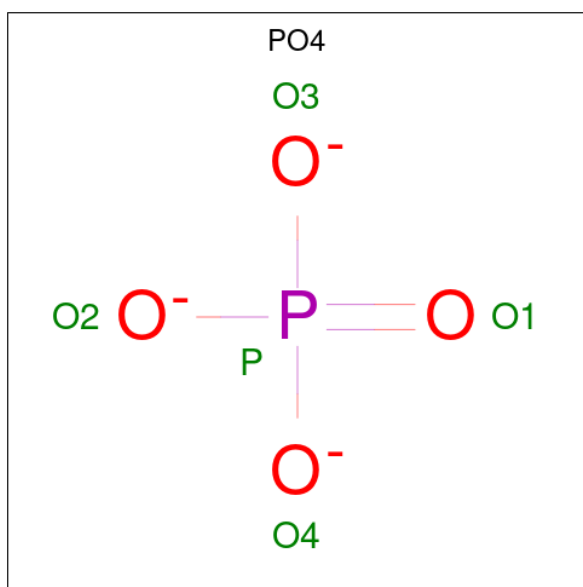
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
			Total	C	O	S		
4	A	1	4	2	1	1	0	0
4	A	1	4	2	1	1	0	0
4	A	1	4	2	1	1	0	0

- Molecule 5 is DI(HYDROXYETHYL)ETHER (three-letter code: PEG) (formula: C₄H₁₀O₃).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
5	A	1	Total	C	O	0	0
			7	4	3		
5	A	1	Total	C	O	0	0
			7	4	3		
5	A	1	Total	C	O	0	0
			7	4	3		

- Molecule 6 is PHOSPHATE ION (three-letter code: PO4) (formula: O₄P).



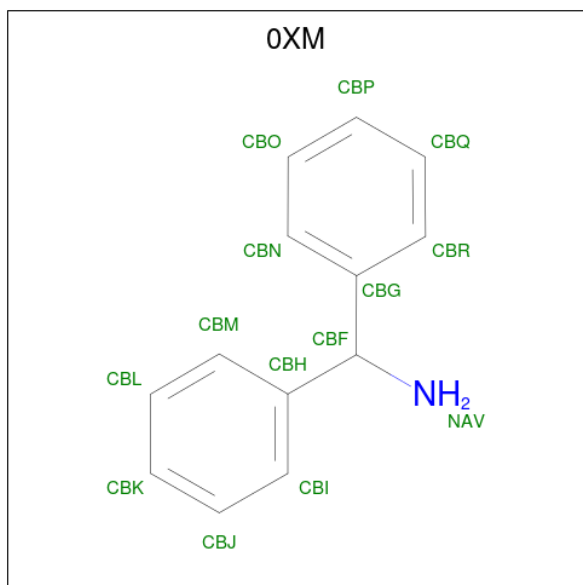
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
6	A	1	Total	O	P	0	0
			5	4	1		

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Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
6	A	1	Total	O	P	0	0
			5	4	1		

- Molecule 7 is 1,1-diphenylmethanamine (three-letter code: OXM) (formula: C₁₃H₁₃N) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
7	A	1	Total	C	N	0	0
			14	13	1		

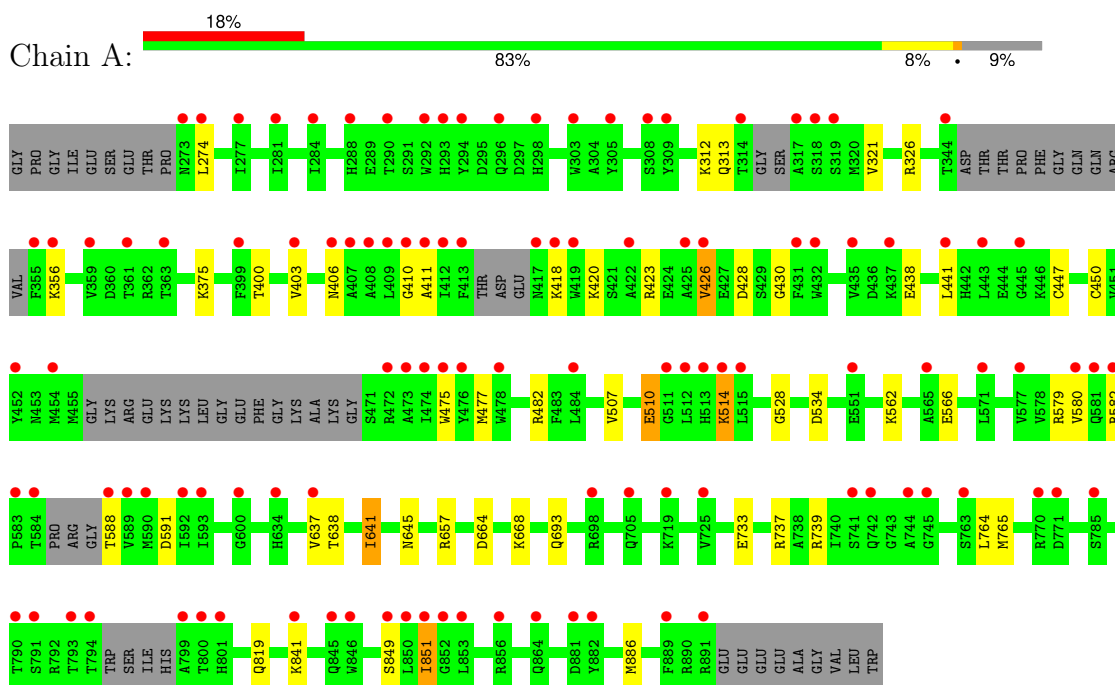
- Molecule 8 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
8	A	448	Total	O	0	0
			448	448		

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: Genome polyprotein



4 Data and refinement statistics

Property	Value	Source
Space group	I 2 2 2	Depositor
Cell constants a, b, c, α , β , γ	82.41Å 116.35Å 148.50Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	42.47 – 1.63 42.47 – 1.63	Depositor EDS
% Data completeness (in resolution range)	95.8 (42.47-1.63) 95.8 (42.47-1.63)	Depositor EDS
R_{merge}	0.12	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	0.99 (at 1.63Å)	Xtrriage
Refinement program	REFMAC 5.8.0267, REFMAC5	Depositor
R, R_{free}	0.189 , 0.218 0.218 , 0.236	Depositor DCC
R_{free} test set	4526 reflections (5.12%)	wwPDB-VP
Wilson B-factor (Å ²)	29.3	Xtrriage
Anisotropy	0.195	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.36 , 55.5	EDS
L-test for twinning ²	$\langle L \rangle = 0.49$, $\langle L^2 \rangle = 0.33$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
F_o, F_c correlation	0.94	EDS
Total number of atoms	5278	wwPDB-VP
Average B, all atoms (Å ²)	51.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 5.12% 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: ZN, DMS, PEG, PO4, MES, OXM

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	0.74	1/4865 (0.0%)	0.83	2/6560 (0.0%)

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	510	GLU	CD-OE2	10.91	1.37	1.25

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	739	ARG	NE-CZ-NH1	6.01	123.31	120.30
1	A	657	ARG	CG-CD-NE	-5.33	100.61	111.80

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	4759	0	4668	34	0
2	A	2	0	0	0	0
3	A	12	0	13	0	0
4	A	12	0	18	5	0
5	A	21	0	30	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
6	A	10	0	0	4	0
7	A	14	0	13	5	0
8	A	448	0	0	9	3
All	All	5278	0	4742	39	3

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 4.

All (39) 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:664:ASP:OD1	6:A:1008:PO4:O4	1.95	0.83
1:A:534:ASP:OD1	6:A:1008:PO4:O4	2.09	0.71
1:A:841:LYS:CD	7:A:1012:OXM:H32	2.25	0.66
1:A:733:GLU:O	1:A:737:ARG:HG3	1.96	0.66
1:A:664:ASP:OD1	6:A:1008:PO4:P	2.55	0.64
1:A:638:THR:HA	1:A:641:ILE:HG22	1.84	0.59
1:A:819:GLN:NE2	8:A:1105:HOH:O	2.33	0.57
1:A:841:LYS:HD3	7:A:1012:OXM:H32	1.86	0.56
1:A:406:ASN:OD1	1:A:423:ARG:NH1	2.40	0.55
1:A:851:ILE:HD11	7:A:1012:OXM:CBQ	2.37	0.55
1:A:562:LYS:HE3	1:A:566:GLU:OE2	2.09	0.53
1:A:528:GLY:O	1:A:668:LYS:HE3	2.09	0.53
1:A:534:ASP:OD1	6:A:1008:PO4:P	2.67	0.51
4:A:1004:DMS:C1	8:A:1246:HOH:O	2.59	0.50
1:A:510:GLU:O	1:A:514:LYS:HG3	2.13	0.48
1:A:312:LYS:O	1:A:313:GLN:CG	2.61	0.48
1:A:447:CYS:SG	1:A:450:CYS:HB2	2.53	0.48
1:A:475:TRP:CD1	1:A:475:TRP:N	2.82	0.47
1:A:403:VAL:HG21	1:A:426:VAL:HG21	1.97	0.47
1:A:637:VAL:HG13	8:A:1446:HOH:O	2.15	0.46
1:A:841:LYS:HD3	7:A:1012:OXM:CBN	2.46	0.46
1:A:507:VAL:O	1:A:510:GLU:HG2	2.17	0.45
1:A:764:LEU:HG	1:A:765:MET:HE2	1.99	0.45
1:A:582:ARG:O	1:A:588:THR:HA	2.17	0.45
4:A:1004:DMS:C1	8:A:1271:HOH:O	2.64	0.44
1:A:411:ALA:HA	1:A:477:MET:O	2.18	0.43
1:A:841:LYS:HD2	7:A:1012:OXM:H32	1.98	0.43
4:A:1004:DMS:H11	8:A:1246:HOH:O	2.18	0.42
1:A:886:MET:HE1	8:A:1279:HOH:O	2.19	0.42
4:A:1004:DMS:H12	8:A:1271:HOH:O	2.18	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:507:VAL:C	1:A:510:GLU:HG2	2.40	0.42
1:A:400:THR:HG23	1:A:426:VAL:CG1	2.49	0.42
1:A:886:MET:CE	8:A:1279:HOH:O	2.67	0.42
1:A:321:VAL:HG11	1:A:326:ARG:CZ	2.50	0.41
1:A:428:ASP:OD1	1:A:430:GLY:N	2.50	0.41
1:A:849:SER:OG	1:A:851:ILE:HB	2.19	0.41
4:A:1004:DMS:H13	8:A:1246:HOH:O	2.18	0.41
1:A:438:GLU:O	1:A:441:LEU:HB2	2.21	0.41
1:A:579:ARG:HA	1:A:591:ASP:O	2.21	0.40

All (3) 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)
8:A:1146:HOH:O	8:A:1146:HOH:O[2_445]	1.70	0.50
8:A:1306:HOH:O	8:A:1421:HOH:O[2_545]	1.93	0.27
8:A:1140:HOH:O	8:A:1140:HOH:O[2_545]	2.10	0.10

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	568/637 (89%)	541 (95%)	24 (4%)	3 (0%)	25 9

All (3) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	418	LYS
1	A	420	LYS
1	A	410	GLY

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	510/554 (92%)	499 (98%)	11 (2%)	47 18

All (11) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	274	LEU
1	A	356	LYS
1	A	375	LYS
1	A	426	VAL
1	A	482	ARG
1	A	514	LYS
1	A	580	VAL
1	A	641	ILE
1	A	645	ASN
1	A	693	GLN
1	A	851	ILE

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	786	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 12 ligands modelled in this entry, 2 are monoatomic - leaving 10 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
6	PO4	A	1010	-	4,4,4	1.09	1 (25%)	6,6,6	0.46	0
4	DMS	A	1004	-	3,3,3	0.56	0	3,3,3	0.62	0
7	OXM	A	1012	-	14,15,15	0.24	0	17,19,19	0.24	0
5	PEG	A	1011	-	6,6,6	0.16	0	5,5,5	0.14	0
4	DMS	A	1006	-	3,3,3	0.16	0	3,3,3	0.39	0
6	PO4	A	1008	-	4,4,4	4.91	4 (100%)	6,6,6	0.77	0
5	PEG	A	1007	-	6,6,6	0.20	0	5,5,5	0.11	0
4	DMS	A	1005	-	3,3,3	0.27	0	3,3,3	0.05	0
5	PEG	A	1009	-	6,6,6	0.18	0	5,5,5	0.06	0
3	MES	A	1003	-	12,12,12	0.70	0	15,16,16	0.28	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
7	OXM	A	1012	-	-	0/8/8/8	0/2/2/2
5	PEG	A	1011	-	-	2/4/4/4	-
5	PEG	A	1007	-	-	1/4/4/4	-
5	PEG	A	1009	-	-	3/4/4/4	-
3	MES	A	1003	-	-	3/6/14/14	0/1/1/1

All (5) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	A	1008	PO4	P-O1	7.87	1.68	1.50
6	A	1008	PO4	P-O2	4.23	1.66	1.54
6	A	1008	PO4	P-O4	-3.03	1.45	1.54
6	A	1008	PO4	P-O3	2.76	1.62	1.54
6	A	1010	PO4	P-O1	2.10	1.55	1.50

There are no bond angle outliers.

There are no chirality outliers.

All (9) torsion outliers are listed below:

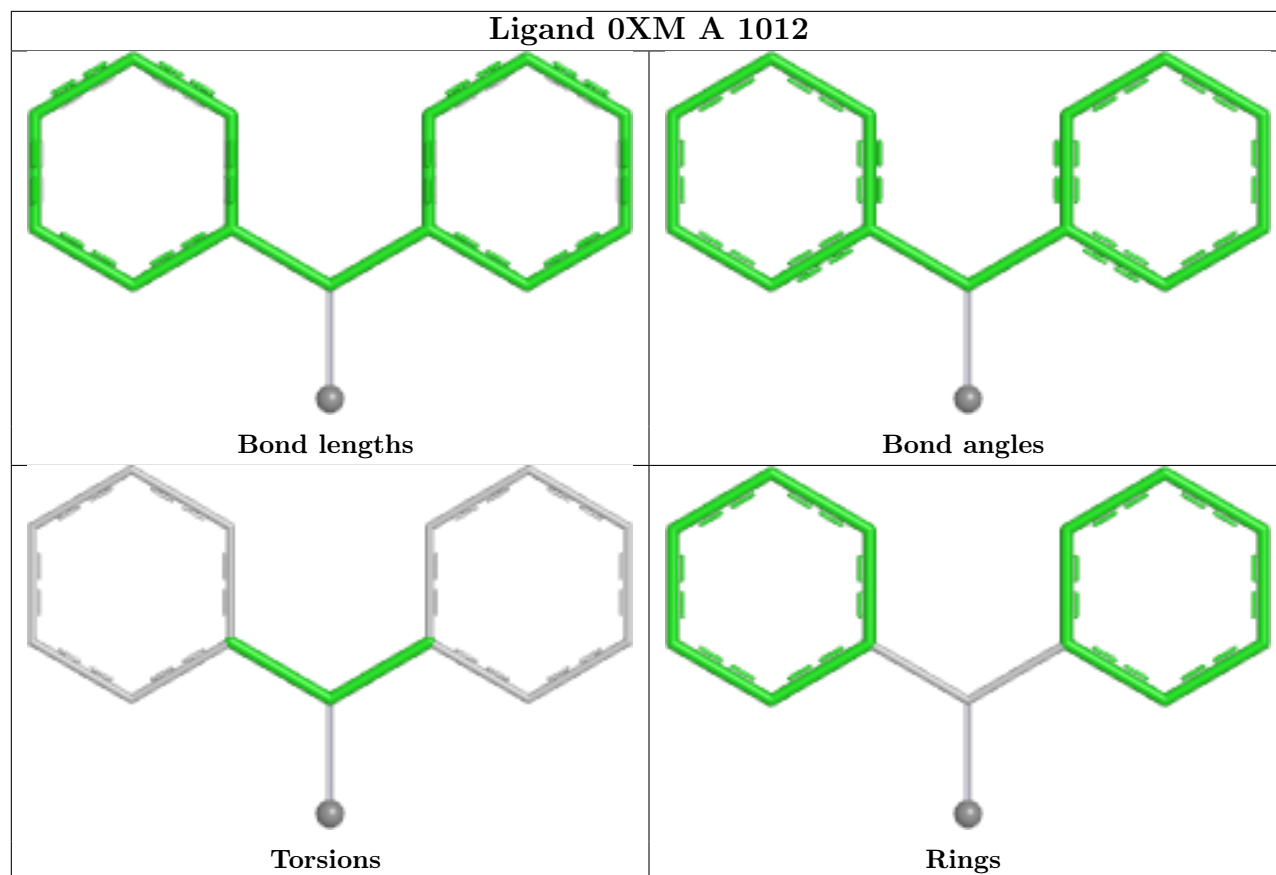
Mol	Chain	Res	Type	Atoms
3	A	1003	MES	C7-C8-S-O1S
3	A	1003	MES	C7-C8-S-O3S
5	A	1011	PEG	O2-C3-C4-O4
5	A	1007	PEG	O2-C3-C4-O4
3	A	1003	MES	C7-C8-S-O2S
5	A	1009	PEG	O2-C3-C4-O4
5	A	1009	PEG	C4-C3-O2-C2
5	A	1011	PEG	C4-C3-O2-C2
5	A	1009	PEG	O1-C1-C2-O2

There are no ring outliers.

3 monomers are involved in 14 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	A	1004	DMS	5	0
7	A	1012	0XM	5	0
6	A	1008	PO4	4	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	582/637 (91%)	1.36	113 (19%) 4 5	6, 38, 109, 167	24 (4%)

All (113) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	512	LEU	24.8
1	A	741	SER	18.8
1	A	719	LYS	17.9
1	A	785	SER	17.9
1	A	801	HIS	17.8
1	A	763	SER	17.0
1	A	551	GLU	16.8
1	A	698	ARG	16.1
1	A	864	GLN	14.9
1	A	851	ILE	13.1
1	A	515	LEU	12.5
1	A	853	LEU	12.2
1	A	725	VAL	11.4
1	A	850	LEU	11.3
1	A	513	HIS	10.7
1	A	852	GLY	10.1
1	A	514	LYS	9.4
1	A	849	SER	7.8
1	A	705	GLN	7.7
1	A	771	ASP	7.4
1	A	841	LYS	7.2
1	A	770	ARG	7.2
1	A	856	ARG	7.0
1	A	600	GLY	6.0
1	A	799	ALA	5.9
1	A	355	PHE	5.6
1	A	845	GLN	5.3

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Mol	Chain	Res	Type	RSRZ
1	A	589	VAL	5.1
1	A	413	PHE	5.1
1	A	475	TRP	5.1
1	A	407	ALA	4.7
1	A	294	TYR	4.5
1	A	292	TRP	4.4
1	A	284	ILE	4.3
1	A	359	VAL	4.3
1	A	473	ALA	4.2
1	A	412	ILE	4.0
1	A	794	THR	4.0
1	A	409	LEU	4.0
1	A	314	THR	4.0
1	A	317	ALA	3.9
1	A	410	GLY	3.8
1	A	281	ILE	3.8
1	A	274	LEU	3.8
1	A	431	PHE	3.8
1	A	363	THR	3.7
1	A	411	ALA	3.6
1	A	403	VAL	3.5
1	A	426	VAL	3.5
1	A	637	VAL	3.5
1	A	293	HIS	3.3
1	A	309	TYR	3.3
1	A	584	THR	3.2
1	A	800	THR	3.2
1	A	580	VAL	3.2
1	A	356	LYS	3.2
1	A	419	TRP	3.2
1	A	298	HIS	3.2
1	A	793	THR	3.2
1	A	408	ALA	3.1
1	A	290	THR	3.1
1	A	308	SER	3.0
1	A	583	PRO	3.0
1	A	422	ALA	2.9
1	A	344	THR	2.9
1	A	474	ILE	2.9
1	A	791	SER	2.8
1	A	478	TRP	2.8
1	A	361	THR	2.8

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Mol	Chain	Res	Type	RSRZ
1	A	593	ILE	2.8
1	A	406	ASN	2.8
1	A	305	TYR	2.8
1	A	277	ILE	2.7
1	A	592	ILE	2.7
1	A	441	LEU	2.7
1	A	590	MET	2.7
1	A	889	PHE	2.5
1	A	454	MET	2.5
1	A	472	ARG	2.5
1	A	273	ASN	2.5
1	A	303	TRP	2.5
1	A	588	THR	2.4
1	A	435	VAL	2.4
1	A	744	ALA	2.4
1	A	634	HIS	2.4
1	A	443	LEU	2.4
1	A	742	GLN	2.4
1	A	484	LEU	2.4
1	A	417	ASN	2.3
1	A	288	HIS	2.3
1	A	565	ALA	2.3
1	A	511	GLY	2.3
1	A	399	PHE	2.3
1	A	476	TYR	2.3
1	A	571	LEU	2.3
1	A	846	TRP	2.2
1	A	319	SER	2.2
1	A	790	THR	2.2
1	A	882	TYR	2.2
1	A	445	GLY	2.2
1	A	432	TRP	2.1
1	A	452	TYR	2.1
1	A	418	LYS	2.1
1	A	425	ALA	2.1
1	A	745	GLY	2.1
1	A	437	LYS	2.1
1	A	296	GLN	2.1
1	A	581	GLN	2.1
1	A	577	VAL	2.1
1	A	891	ARG	2.0
1	A	582	ARG	2.0

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Mol	Chain	Res	Type	RSRZ
1	A	318	SER	2.0
1	A	881	ASP	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](#)

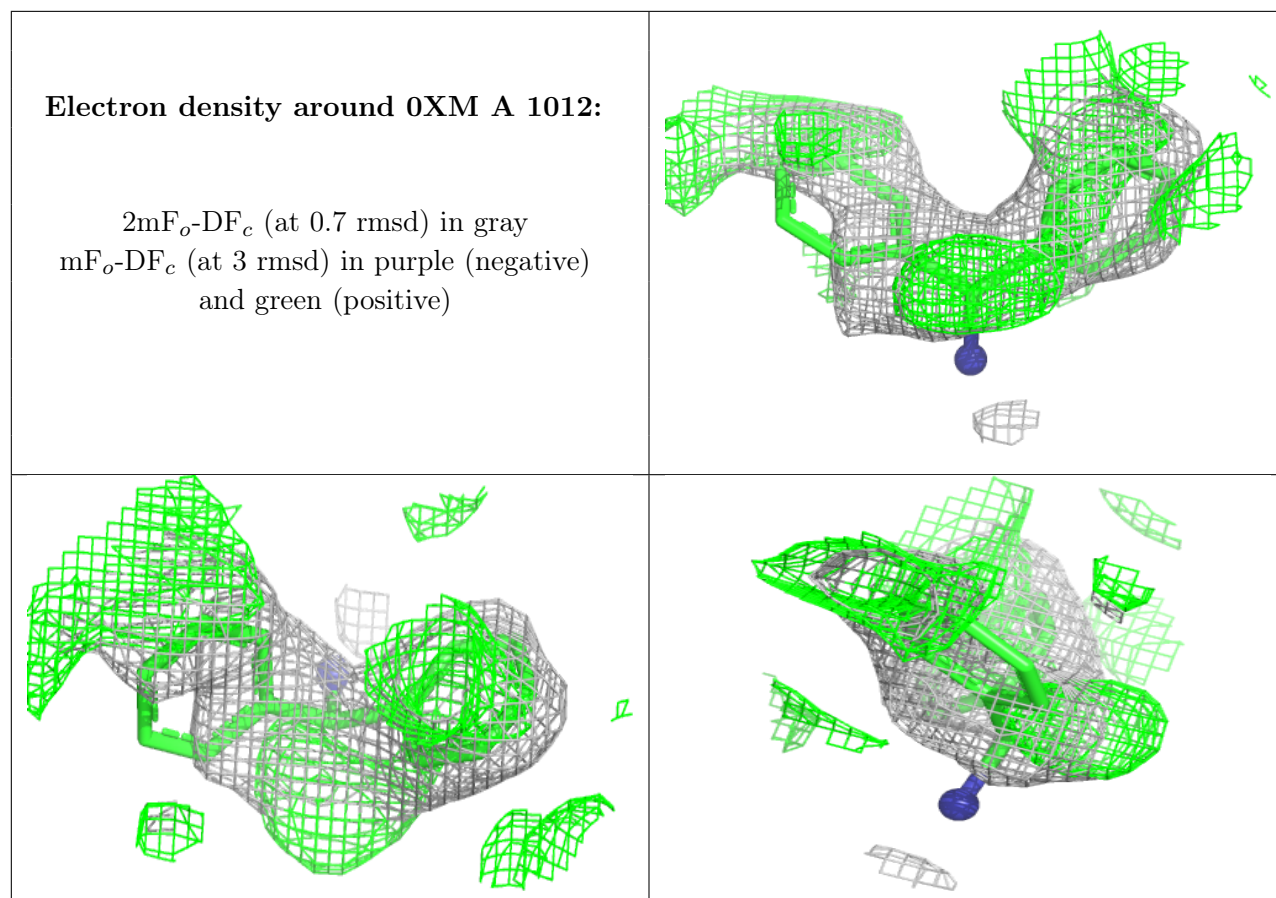
There are no monosaccharides in this entry.

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(\AA^2)	Q<0.9
5	PEG	A	1009	7/7	0.53	0.24	122,132,142,147	0
5	PEG	A	1007	7/7	0.63	0.21	80,98,104,106	0
6	PO4	A	1010	5/5	0.64	0.15	71,80,91,106	0
7	0XM	A	1012	14/14	0.73	0.34	56,58,60,61	14
4	DMS	A	1005	4/4	0.74	0.24	81,89,97,101	0
6	PO4	A	1008	5/5	0.76	0.14	33,35,52,54	0
5	PEG	A	1011	7/7	0.84	0.17	67,72,77,78	0
3	MES	A	1003	12/12	0.87	0.35	741,797,809,811	12
4	DMS	A	1004	4/4	0.94	0.12	40,42,42,45	0
4	DMS	A	1006	4/4	0.96	0.10	48,52,53,55	0
2	ZN	A	1002	1/1	0.99	0.06	52,52,52,52	0
2	ZN	A	1001	1/1	1.00	0.01	22,22,22,22	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.



6.5 Other polymers [i](#)

There are no such residues in this entry.