



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 8, 2026 – 03:49 AM UTC

PDB ID : 6ONF / pdb_00006onf
Title : Crystal structure of HIV-1 LM/HT Clade A/E CRF01 gp120 core in complex with (S)-MCG-III-188-A02.
Authors : Tolbert, W.D.; Sherburn, R.; Pazgier, M.
Deposited on : 2019-04-22
Resolution : 1.84 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

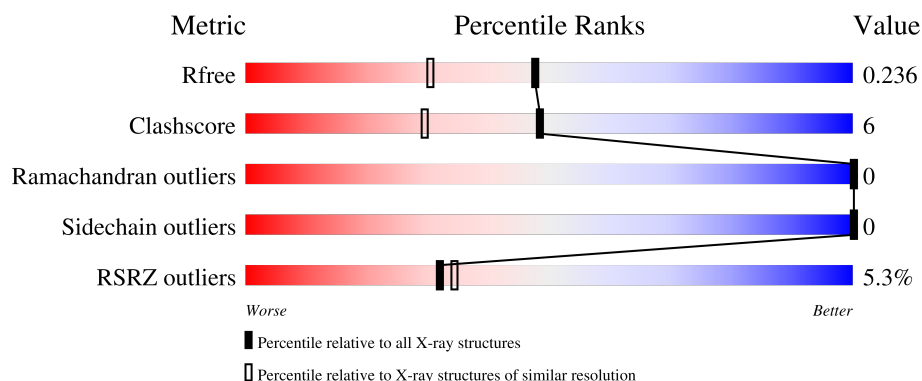
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 1.84 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	1296 (1.84-1.84)
Clashscore	190562	1329 (1.84-1.84)
Ramachandran outliers	187476	1318 (1.84-1.84)
Sidechain outliers	187428	1318 (1.84-1.84)
RSRZ outliers	180081	1296 (1.84-1.84)

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	355	5% 86% 10% .

2 Entry composition

There are 5 unique types of molecules in this entry. The entry contains 3097 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 clade A/E 93TH057 HIV-1 gp120 core.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	340	Total	C	N	O	S	0	1	0
			2676	1681	462	510	23			

There are 9 discrepancies between the modelled and reference sequences:

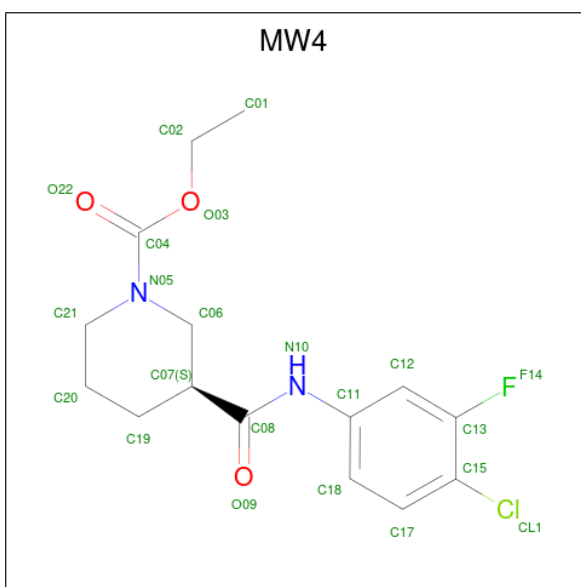
Chain	Residue	Modelled	Actual	Comment	Reference
A	42	VAL	-	expression tag	UNP A0A0M3KKW9
A	43	PRO	-	expression tag	UNP A0A0M3KKW9
A	61	TYR	HIS	engineered mutation	UNP A0A0M3KKW9
A	105	HIS	GLN	engineered mutation	UNP A0A0M3KKW9
A	108	ILE	VAL	engineered mutation	UNP A0A0M3KKW9
A	375	THR	HIS	engineered mutation	UNP A0A0M3KKW9
A	474	ASP	ASN	engineered mutation	UNP A0A0M3KKW9
A	475	MET	ILE	engineered mutation	UNP A0A0M3KKW9
A	476	ARG	LYS	engineered mutation	UNP A0A0M3KKW9

- Molecule 2 is 2-acetamido-2-deoxy-beta-D-glucopyranose (CCD ID: NAG) (formula: $C_8H_{15}NO_6$).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
2	A	1	Total	C	N	O	0	0
			14	8	1	5		
2	A	1	Total	C	N	O	0	0
			14	8	1	5		
2	A	1	Total	C	N	O	0	0
			14	8	1	5		
2	A	1	Total	C	N	O	0	0
			14	8	1	5		
2	A	1	Total	C	N	O	0	0
			14	8	1	5		
2	A	1	Total	C	N	O	0	0
			14	8	1	5		
2	A	1	Total	C	N	O	0	0
			14	8	1	5		
2	A	1	Total	C	N	O	0	0
			14	8	1	5		

- Molecule 3 is ethyl (3*S*)-3-[(4-chloro-3-fluorophenyl)carbamoyl]piperidine-1-carboxylate (CCD ID: MW4) (formula: C₁₅H₁₈ClFN₂O₃).



Mol	Chain	Residues	Atoms						ZeroOcc	AltConf
3	A	1	Total	C	Cl	F	N	O	0	1
			44	30	2	2	4	6		

- Molecule 4 is 4-(2-HYDROXYETHYL)-1-PIPERAZINE ETHANESULFONIC ACID (CCD ID: EPE) (formula: $C_8H_{18}N_2O_4S$).

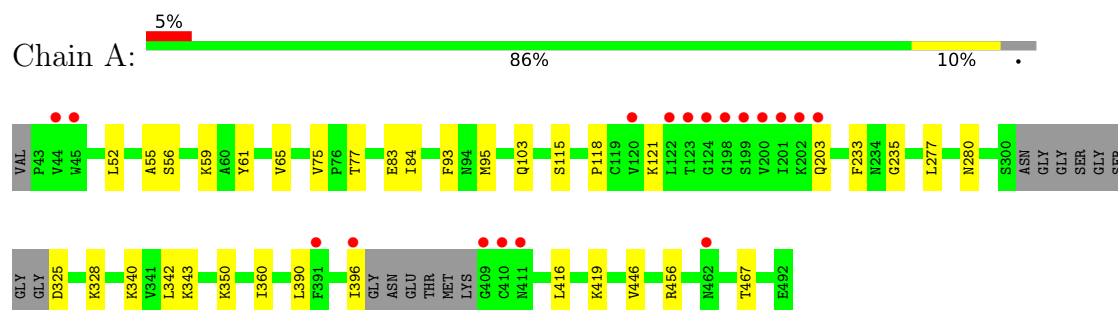


Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
4	A	1	Total	C	N	O	S	0	0
			15	8	2	4	1		

- Molecule 5 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	A	222	Total 222	O 222	0	0

- Molecule 1: clade A/E 93TH057 HIV-1 gp120 core



4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	66.62Å 66.79Å 86.38Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	50.00 – 1.84 50.00 – 1.84	Depositor EDS
% Data completeness (in resolution range)	79.1 (50.00-1.84) 87.2 (50.00-1.84)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	0.07	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.55 (at 1.84Å)	Xtriage
Refinement program	PHENIX (1.15.2_3472: ???)	Depositor
R, R_{free}	0.192 , 0.231 0.195 , 0.236	Depositor DCC
R_{free} test set	1488 reflections (4.37%)	wwPDB-VP
Wilson B-factor (Å ²)	27.2	Xtriage
Anisotropy	0.378	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.32 , 33.0	EDS
L-test for twinning ²	$\langle L \rangle = 0.48$, $\langle L^2 \rangle = 0.31$	Xtriage
Estimated twinning fraction	0.035 for k,h,-l	Xtriage
F_o, F_c correlation	0.96	EDS
Total number of atoms	3097	wwPDB-VP
Average B, all atoms (Å ²)	32.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 7.79% 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: EPE, MW4, NAG

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	0.34	0/2733	0.54	0/3708

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	2676	0	2608	30	0
2	A	140	0	130	2	0
3	A	44	0	0	0	0
4	A	15	0	17	0	0
5	A	222	0	0	5	0
All	All	3097	0	2755	31	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 6.

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:52:LEU:H	1:A:103:GLN:HE22	1.17	0.86
2:A:507:NAG:O3	5:A:601:HOH:O	2.01	0.79
1:A:121:LYS:HD2	1:A:203:GLN:NE2	2.02	0.74
1:A:325:ASP:OD1	5:A:602:HOH:O	2.07	0.71
1:A:390:LEU:HD21	1:A:416:LEU:HD11	1.74	0.68
1:A:343:LYS:HG3	5:A:792:HOH:O	2.05	0.56
1:A:121:LYS:HD2	1:A:203:GLN:HE22	1.66	0.56
1:A:65:VAL:HB	1:A:115:SER:HB3	1.88	0.56
1:A:56:SER:C	1:A:77:THR:HG23	2.32	0.55
1:A:360:ILE:HB	1:A:467:THR:HG22	1.89	0.54
1:A:342:LEU:HD23	1:A:396:ILE:HD11	1.89	0.54
1:A:325:ASP:O	1:A:328:LYS:HG2	2.10	0.51
1:A:340:LYS:HE2	5:A:797:HOH:O	2.11	0.51
1:A:343:LYS:O	1:A:343:LYS:HD3	2.11	0.50
1:A:93:PHE:HB2	1:A:233:PHE:HZ	1.79	0.48
1:A:360:ILE:O	1:A:467:THR:HA	2.14	0.48
1:A:280:ASN:ND2	5:A:611:HOH:O	2.40	0.48
1:A:55:ALA:HA	1:A:75:VAL:O	2.14	0.47
1:A:55:ALA:HB1	1:A:77:THR:HA	1.95	0.47
1:A:118:PRO:CG	1:A:121:LYS:HG3	2.43	0.47
1:A:343:LYS:HE2	1:A:396:ILE:HG23	1.97	0.46
1:A:446:VAL:HG21	2:A:506:NAG:H82	1.97	0.46
1:A:93:PHE:HB2	1:A:233:PHE:CZ	2.50	0.46
1:A:95:MET:SD	1:A:235:GLY:HA3	2.58	0.43
1:A:118:PRO:HG3	1:A:121:LYS:HG3	2.01	0.42
1:A:83:GLU:C	1:A:84:ILE:HD12	2.45	0.42
1:A:419:LYS:HA	1:A:419:LYS:HD3	1.75	0.41
1:A:59:LYS:HD3	1:A:61:TYR:OH	2.21	0.41
1:A:350:LYS:HE3	1:A:350:LYS:HB3	1.88	0.41
1:A:280:ASN:HB2	1:A:456:ARG:O	2.21	0.40
1:A:277:LEU:HD23	1:A:277:LEU:HA	1.96	0.40

There are no symmetry-related clashes.

5.3 Torsion angles

5.3.1 Protein backbone

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	335/355 (94%)	324 (97%)	11 (3%)	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	305/313 (97%)	305 (100%)	0	100	100

There are no protein residues with a non-rotameric sidechain to report.

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (5) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	103	GLN
1	A	203	GLN
1	A	425	ASN
1	A	444	ASN
1	A	461	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

13 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	NAG	A	504	1	14,14,15	0.46	0	17,19,21	0.58	0
4	EPE	A	512	-	15,15,15	0.89	1 (6%)	19,20,20	2.28	7 (36%)
2	NAG	A	502	1	14,14,15	1.11	2 (14%)	17,19,21	0.64	0
2	NAG	A	501	1	14,14,15	0.48	0	17,19,21	0.67	0
2	NAG	A	503	1	14,14,15	0.67	1 (7%)	17,19,21	0.86	1 (5%)
2	NAG	A	507	1	14,14,15	1.29	1 (7%)	17,19,21	1.09	1 (5%)
2	NAG	A	510	1	14,14,15	0.27	0	17,19,21	0.95	1 (5%)
3	MW4	A	511[A]	-	23,23,23	2.19	9 (39%)	31,31,31	1.64	7 (22%)
2	NAG	A	509	1	14,14,15	0.50	0	17,19,21	0.55	0
2	NAG	A	506	1	14,14,15	0.28	0	17,19,21	0.47	0
3	MW4	A	511[B]	-	23,23,23	2.51	10 (43%)	31,31,31	2.04	8 (25%)
2	NAG	A	505	1	14,14,15	0.28	0	17,19,21	0.70	1 (5%)
2	NAG	A	508	1	14,14,15	0.39	0	17,19,21	0.60	1 (5%)

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	NAG	A	504	1	-	2/6/23/26	0/1/1/1
4	EPE	A	512	-	-	6/9/19/19	0/1/1/1
2	NAG	A	502	1	-	2/6/23/26	0/1/1/1
2	NAG	A	501	1	-	0/6/23/26	0/1/1/1
2	NAG	A	503	1	-	0/6/23/26	0/1/1/1
2	NAG	A	507	1	-	1/6/23/26	0/1/1/1
2	NAG	A	510	1	-	1/6/23/26	0/1/1/1
3	MW4	A	511[A]	-	-	0/15/25/25	0/2/2/2
2	NAG	A	509	1	-	1/6/23/26	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	NAG	A	506	1	-	2/6/23/26	0/1/1/1
3	MW4	A	511[B]	-	-	7/15/25/25	0/2/2/2
2	NAG	A	505	1	-	0/6/23/26	0/1/1/1
2	NAG	A	508	1	-	1/6/23/26	0/1/1/1

All (24) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	A	511[B]	MW4	C04-N05	5.31	1.44	1.35
2	A	507	NAG	O5-C1	-4.37	1.36	1.43
3	A	511[A]	MW4	C12-C11	4.23	1.46	1.39
3	A	511[B]	MW4	C12-C11	4.23	1.46	1.39
3	A	511[B]	MW4	C06-N05	4.21	1.51	1.46
3	A	511[B]	MW4	O03-C04	4.19	1.42	1.34
3	A	511[A]	MW4	C04-N05	3.86	1.42	1.35
3	A	511[A]	MW4	O03-C04	3.84	1.42	1.34
3	A	511[B]	MW4	C06-C07	3.75	1.59	1.53
3	A	511[A]	MW4	C08-N10	3.45	1.43	1.35
3	A	511[B]	MW4	C08-N10	3.36	1.43	1.35
3	A	511[A]	MW4	C06-C07	3.27	1.58	1.53
4	A	512	EPE	C10-S	3.09	1.81	1.77
2	A	502	NAG	O5-C1	-3.00	1.38	1.43
3	A	511[A]	MW4	C18-C17	2.72	1.43	1.38
3	A	511[A]	MW4	C07-C08	2.70	1.56	1.51
2	A	502	NAG	C1-C2	2.67	1.56	1.52
3	A	511[B]	MW4	C07-C08	2.60	1.56	1.51
3	A	511[B]	MW4	C18-C17	2.59	1.43	1.38
2	A	503	NAG	O5-C1	2.36	1.47	1.43
3	A	511[B]	MW4	C15-C13	2.20	1.41	1.38
3	A	511[B]	MW4	F14-C13	2.18	1.41	1.35
3	A	511[A]	MW4	F14-C13	2.15	1.41	1.35
3	A	511[A]	MW4	O22-C04	2.15	1.24	1.21

All (27) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	A	511[B]	MW4	O03-C04-N05	6.39	122.92	111.77
4	A	512	EPE	C5-N4-C3	5.23	120.10	108.84
3	A	511[A]	MW4	O03-C04-N05	4.72	120.01	111.77
3	A	511[B]	MW4	O03-C04-O22	-4.65	116.68	124.76
4	A	512	EPE	C7-N4-C5	3.65	120.97	111.24
2	A	510	NAG	C1-O5-C5	3.37	116.71	112.19

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	A	512	EPE	O1S-S-C10	3.33	111.76	106.73
3	A	511[B]	MW4	C02-O03-C04	3.29	121.72	115.66
2	A	507	NAG	C4-C3-C2	3.19	115.70	111.02
3	A	511[A]	MW4	O03-C04-O22	-3.06	119.44	124.76
3	A	511[B]	MW4	C13-C15-CL1	3.00	123.58	119.79
4	A	512	EPE	C7-N4-C3	2.78	118.65	111.24
4	A	512	EPE	C3-C2-N1	2.75	116.20	110.65
2	A	503	NAG	C1-O5-C5	2.74	115.86	112.19
4	A	512	EPE	C6-N1-C2	2.66	114.56	108.84
3	A	511[A]	MW4	C07-C08-N10	2.60	120.19	115.16
3	A	511[A]	MW4	O09-C08-C07	-2.59	118.20	122.19
3	A	511[A]	MW4	C02-O03-C04	2.55	120.36	115.66
4	A	512	EPE	C2-C3-N4	2.40	115.49	110.65
3	A	511[B]	MW4	C07-C08-N10	2.33	119.66	115.16
3	A	511[A]	MW4	C13-C15-CL1	2.28	122.67	119.79
3	A	511[B]	MW4	O09-C08-C07	-2.24	118.73	122.19
2	A	505	NAG	C1-O5-C5	2.19	115.12	112.19
3	A	511[B]	MW4	C06-C07-C08	2.16	114.12	110.07
3	A	511[B]	MW4	O22-C04-N05	-2.11	120.39	124.30
2	A	508	NAG	C1-O5-C5	2.06	114.94	112.19
3	A	511[A]	MW4	O22-C04-N05	-2.03	120.55	124.30

There are no chirality outliers.

All (23) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	A	511[B]	MW4	O03-C04-N05-C21
3	A	511[B]	MW4	O03-C04-N05-C06
3	A	511[B]	MW4	O22-C04-N05-C21
3	A	511[B]	MW4	O22-C04-N05-C06
3	A	511[B]	MW4	N05-C04-O03-C02
3	A	511[B]	MW4	O22-C04-O03-C02
4	A	512	EPE	C10-C9-N1-C2
4	A	512	EPE	C8-C7-N4-C5
4	A	512	EPE	C9-C10-S-O1S
2	A	506	NAG	O5-C5-C6-O6
2	A	506	NAG	C4-C5-C6-O6
4	A	512	EPE	C9-C10-S-O3S
2	A	504	NAG	O5-C5-C6-O6
2	A	509	NAG	O5-C5-C6-O6
2	A	504	NAG	C4-C5-C6-O6
4	A	512	EPE	C9-C10-S-O2S

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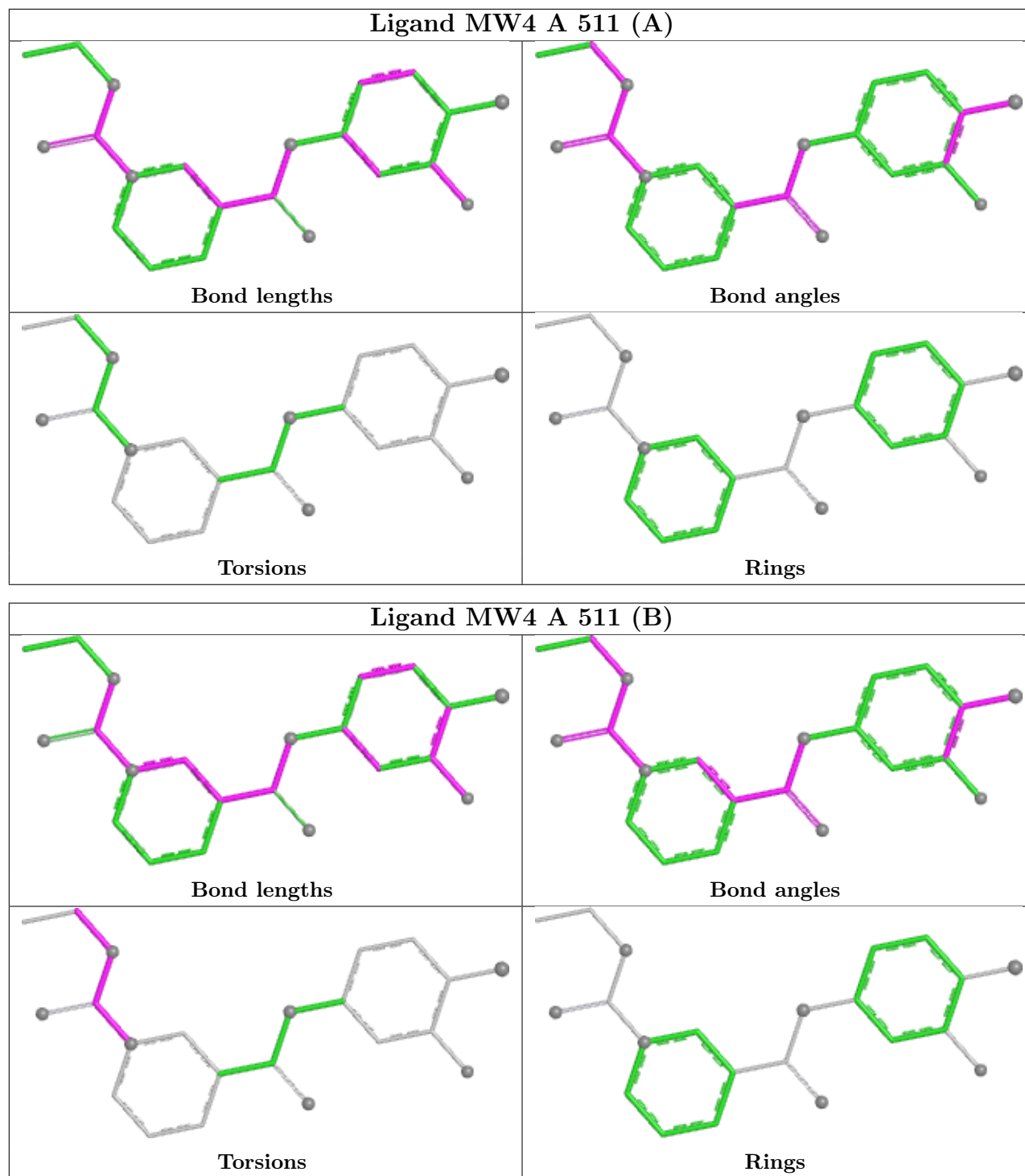
Mol	Chain	Res	Type	Atoms
2	A	502	NAG	C4-C5-C6-O6
2	A	502	NAG	O5-C5-C6-O6
2	A	508	NAG	O5-C5-C6-O6
2	A	510	NAG	O5-C5-C6-O6
2	A	507	NAG	C3-C2-N2-C7
3	A	511[B]	MW4	C01-C02-O03-C04
4	A	512	EPE	C8-C7-N4-C3

There are no ring outliers.

2 monomers are involved in 2 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	A	507	NAG	1	0
2	A	506	NAG	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 ⓘ

There are no chain breaks in this entry.

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

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

In the following table, the column labelled ‘#RSRZ > 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 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	340/355 (95%)	0.19	18 (5%) 32 34	18, 29, 56, 78	1 (0%)

All (18) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	124	GLY	4.1
1	A	202[A]	LYS	3.9
1	A	123	THR	3.5
1	A	122	LEU	3.4
1	A	409	GLY	3.0
1	A	462	ASN	3.0
1	A	396	ILE	3.0
1	A	199	SER	3.0
1	A	120	VAL	2.9
1	A	200	VAL	2.6
1	A	391	PHE	2.4
1	A	198	GLY	2.2
1	A	201	ILE	2.2
1	A	45	TRP	2.2
1	A	410	CYS	2.2
1	A	203	GLN	2.1
1	A	411	ASN	2.1
1	A	44	VAL	2.1

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](#)

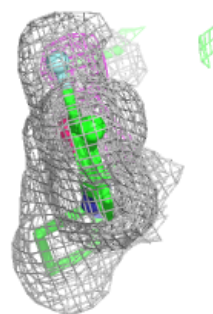
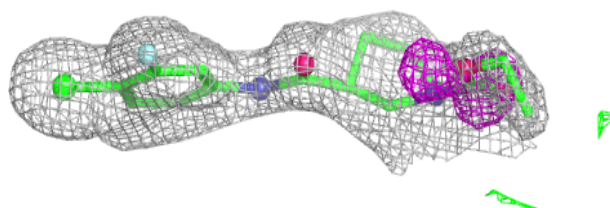
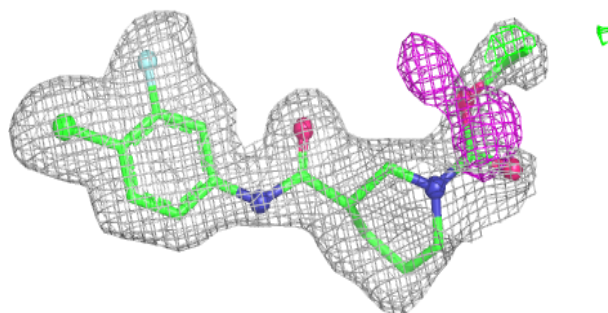
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists 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
2	NAG	A	509	14/15	0.67	0.16	67,71,80,83	0
2	NAG	A	502	14/15	0.72	0.15	54,63,70,71	0
2	NAG	A	507	14/15	0.77	0.15	56,62,71,77	0
2	NAG	A	504	14/15	0.79	0.11	37,47,51,52	0
2	NAG	A	510	14/15	0.81	0.12	43,48,54,56	0
2	NAG	A	506	14/15	0.83	0.10	39,49,57,61	0
2	NAG	A	508	14/15	0.84	0.12	36,45,54,57	0
3	MW4	A	511[A]	22/22	0.91	0.10	21,29,36,41	22
3	MW4	A	511[B]	22/22	0.91	0.10	22,29,36,41	22
2	NAG	A	505	14/15	0.92	0.09	32,39,50,50	0
2	NAG	A	503	14/15	0.93	0.09	20,26,33,35	0
2	NAG	A	501	14/15	0.93	0.07	27,33,37,38	0
4	EPE	A	512	15/15	0.97	0.06	22,26,31,32	0

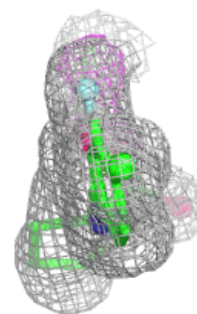
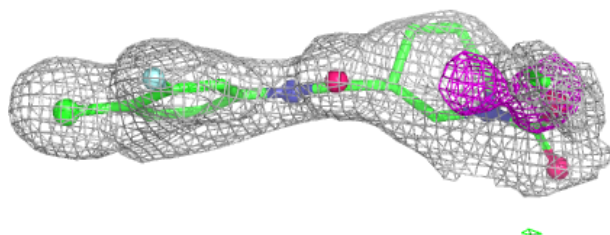
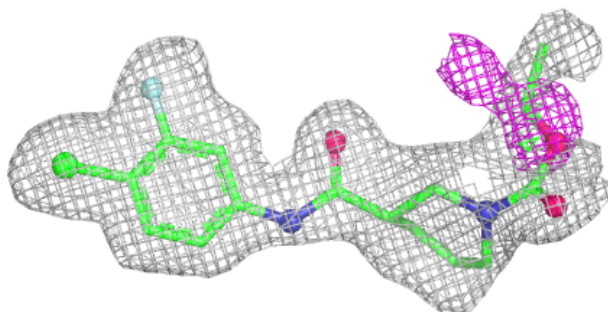
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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

Electron density around MW4 A 511 (A):

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

**Electron density around MW4 A 511 (B):**

$2mF_o-DF_c$ (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.