



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 6, 2026 – 01:44 PM UTC

PDB ID : 2ILP / pdb_00002ilp
Title : Clostridium botulinum Serotype A Light Chain inhibited by 4-chlorocinnamic hydroxamate
Authors : Silvaggi, N.R.; Allen, K.N.
Deposited on : 2006-10-03
Resolution : 1.90 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

MolProbity : 4-5-2 with Phenix2.0
Mogul : 2022.3.0, CSD as543be (2022)
Xtriage (Phenix) : 2.0
EDS : 3.0
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

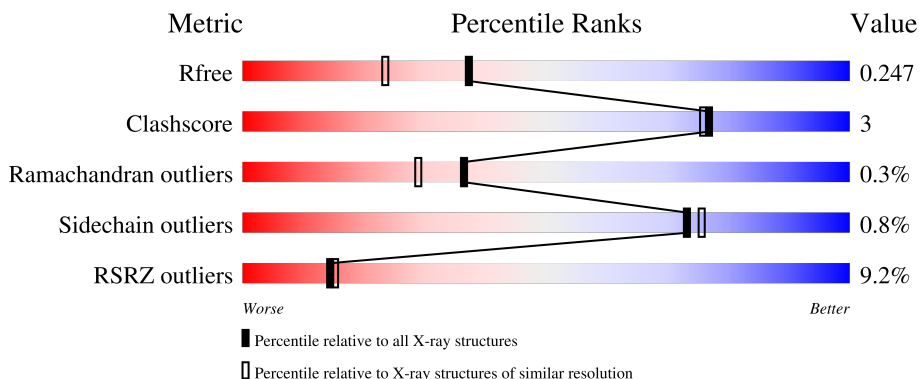
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 1.90 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	180053	7789 (1.90-1.90)
Clashscore	190562	8410 (1.90-1.90)
Ramachandran outliers	187476	8333 (1.90-1.90)
Sidechain outliers	187428	8333 (1.90-1.90)
RSRZ outliers	180081	7790 (1.90-1.90)

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

Mol	Chain	Length	Quality of chain
1	A	444	9% 85% 6% 8%
1	B	444	8% 85% 6% 8%

2 Entry composition

There are 5 unique types of molecules in this entry. The entry contains 7294 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 Botulinum neurotoxin A light-chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	407	Total	C	N	O	S	0	1	0
			3308	2133	548	619	8			
1	B	407	Total	C	N	O	S	0	5	0
			3338	2149	553	628	8			

There are 42 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-19	MET	-	cloning artifact	UNP Q7B8V4
A	-18	GLY	-	cloning artifact	UNP Q7B8V4
A	-17	SER	-	cloning artifact	UNP Q7B8V4
A	-16	SER	-	cloning artifact	UNP Q7B8V4
A	-15	HIS	-	cloning artifact	UNP Q7B8V4
A	-14	HIS	-	cloning artifact	UNP Q7B8V4
A	-13	HIS	-	cloning artifact	UNP Q7B8V4
A	-12	HIS	-	cloning artifact	UNP Q7B8V4
A	-11	HIS	-	cloning artifact	UNP Q7B8V4
A	-10	HIS	-	cloning artifact	UNP Q7B8V4
A	-9	SER	-	cloning artifact	UNP Q7B8V4
A	-8	SER	-	cloning artifact	UNP Q7B8V4
A	-7	GLY	-	cloning artifact	UNP Q7B8V4
A	-6	LEU	-	cloning artifact	UNP Q7B8V4
A	-5	VAL	-	cloning artifact	UNP Q7B8V4
A	-4	PRO	-	cloning artifact	UNP Q7B8V4
A	-3	ARG	-	cloning artifact	UNP Q7B8V4
A	-2	GLY	-	cloning artifact	UNP Q7B8V4
A	-1	SER	-	cloning artifact	UNP Q7B8V4
A	0	HIS	-	cloning artifact	UNP Q7B8V4
A	2	GLN	PRO	conflict	UNP Q7B8V4
B	-19	MET	-	cloning artifact	UNP Q7B8V4
B	-18	GLY	-	cloning artifact	UNP Q7B8V4
B	-17	SER	-	cloning artifact	UNP Q7B8V4
B	-16	SER	-	cloning artifact	UNP Q7B8V4

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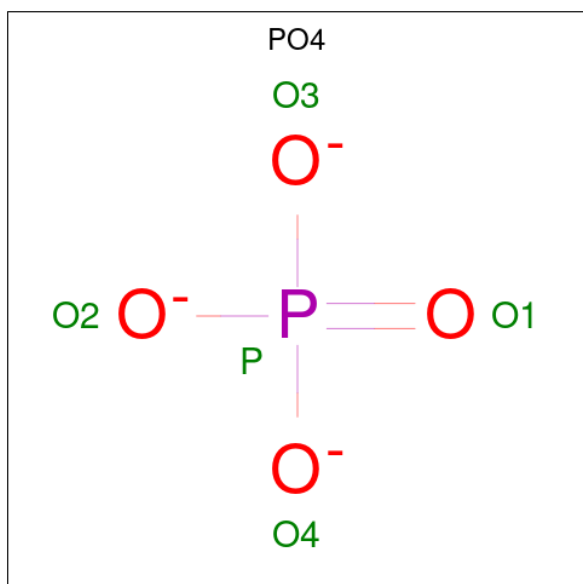
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Chain	Residue	Modelled	Actual	Comment	Reference
B	-15	HIS	-	cloning artifact	UNP Q7B8V4
B	-14	HIS	-	cloning artifact	UNP Q7B8V4
B	-13	HIS	-	cloning artifact	UNP Q7B8V4
B	-12	HIS	-	cloning artifact	UNP Q7B8V4
B	-11	HIS	-	cloning artifact	UNP Q7B8V4
B	-10	HIS	-	cloning artifact	UNP Q7B8V4
B	-9	SER	-	cloning artifact	UNP Q7B8V4
B	-8	SER	-	cloning artifact	UNP Q7B8V4
B	-7	GLY	-	cloning artifact	UNP Q7B8V4
B	-6	LEU	-	cloning artifact	UNP Q7B8V4
B	-5	VAL	-	cloning artifact	UNP Q7B8V4
B	-4	PRO	-	cloning artifact	UNP Q7B8V4
B	-3	ARG	-	cloning artifact	UNP Q7B8V4
B	-2	GLY	-	cloning artifact	UNP Q7B8V4
B	-1	SER	-	cloning artifact	UNP Q7B8V4
B	0	HIS	-	cloning artifact	UNP Q7B8V4
B	2	GLN	PRO	conflict	UNP Q7B8V4

- Molecule 2 is ZINC ION (CCD ID: ZN) (formula: Zn).

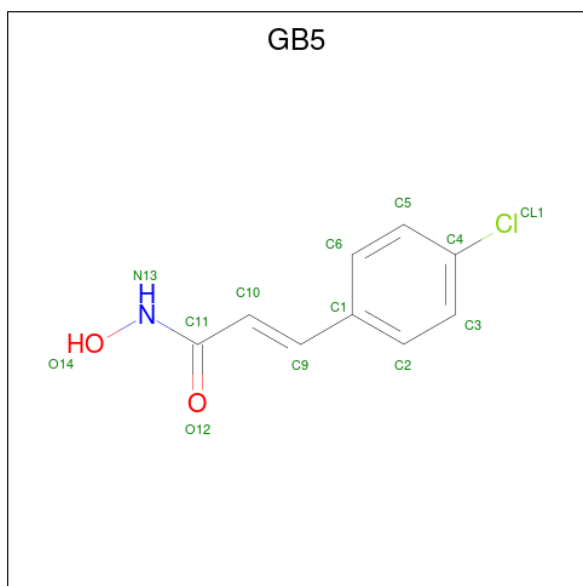
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	A	1	Total Zn 1 1	0	0
2	B	1	Total Zn 1 1	0	0

- Molecule 3 is PHOSPHATE ION (CCD ID: PO4) (formula: O₄P).



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

- Molecule 4 is (2E)-3-(4-CHLOROPHENYL)-N-HYDROXYACRYLAMIDE (CCD ID: GB5) (formula: C₉H₈ClNO₂).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
4	A	1	Total	C	Cl	N	O	0	0
			13	9	1	1	2		
4	B	1	Total	C	Cl	N	O	0	0
			13	9	1	1	2		

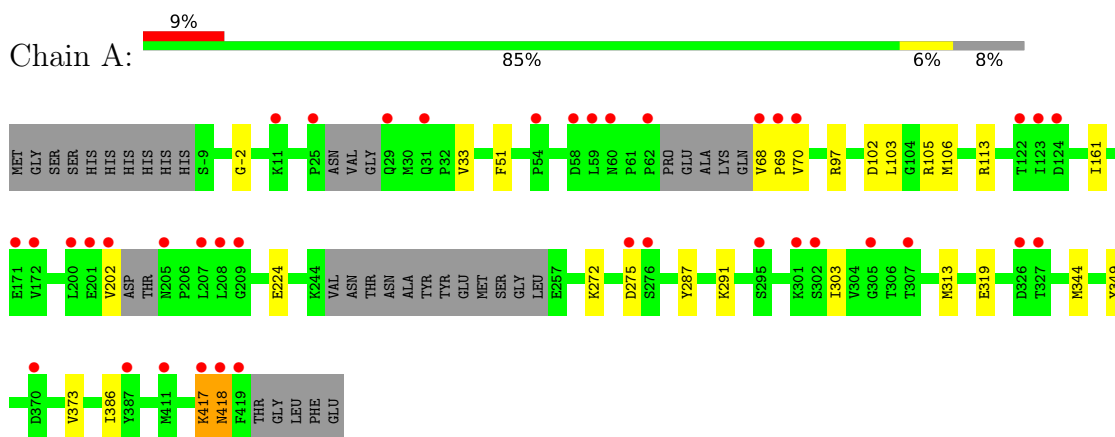
- Molecule 5 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	A	313	Total	O	0	0
			313	313		
5	B	302	Total	O	0	0
			302	302		

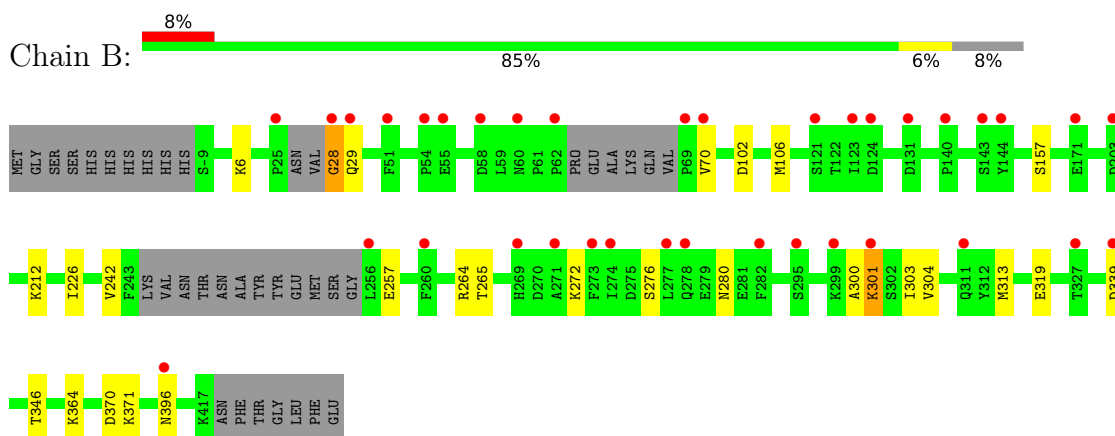
3 Residue-property plots [i](#)

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: Botulinum neurotoxin A light-chain



- Molecule 1: Botulinum neurotoxin A light-chain



4 Data and refinement statistics

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α , β , γ	73.66Å 67.69Å 98.40Å 90.00° 106.53° 90.00°	Depositor
Resolution (Å)	50.00 – 1.90 50.00 – 1.90	Depositor EDS
% Data completeness (in resolution range)	97.9 (50.00-1.90) 97.9 (50.00-1.90)	Depositor EDS
R_{merge}	0.09	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	2.80 (at 1.90Å)	Xtriage
Refinement program	REFMAC 5.2.0019	Depositor
R, R_{free}	0.173 , 0.216 0.215 , 0.247	Depositor DCC
R_{free} test set	3626 reflections (4.95%)	wwPDB-VP
Wilson B-factor (Å ²)	26.0	Xtriage
Anisotropy	0.088	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.39 , 46.6	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	0.94	EDS
Total number of atoms	7294	wwPDB-VP
Average B, all atoms (Å ²)	34.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.44% 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: GB5, ZN, PO4

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	0.66	0/3383	0.77	0/4569
1	B	0.64	0/3415	0.76	0/4615
All	All	0.65	0/6798	0.76	0/9184

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	1
1	B	0	1
All	All	0	2

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	417	LYS	Peptide
1	B	28	GLY	Peptide

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	3308	0	3264	23	0
1	B	3338	0	3284	19	0
2	A	1	0	0	0	0
2	B	1	0	0	0	0
3	A	5	0	0	0	0
4	A	13	0	7	1	0
4	B	13	0	7	0	0
5	A	313	0	0	1	0
5	B	302	0	0	9	0
All	All	7294	0	6562	39	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 3.

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:B:339:ASP:HB3	5:B:758:HOH:O	1.90	0.70
1:B:102:ASP:OD1	5:B:821:HOH:O	2.10	0.69
1:A:272:LYS:NZ	5:A:639:HOH:O	2.26	0.67
1:B:319:GLU:OE2	5:B:784:HOH:O	2.11	0.67
1:A:102:ASP:OD1	1:A:105:ARG:NH2	2.29	0.66
1:A:417:LYS:HA	1:A:418:ASN:CB	2.27	0.65
1:A:103:LEU:HA	1:A:106:MET:HE3	1.80	0.63
1:B:28:GLY:N	1:B:29:GLN:HA	2.19	0.57
1:A:70:VAL:HG22	1:A:161:ILE:HD11	1.87	0.56
1:A:344:MET:HG3	1:A:349:TYR:CZ	2.42	0.53
1:A:417:LYS:HA	1:A:418:ASN:HB2	1.89	0.53
1:A:68:VAL:N	1:A:69:PRO:CD	2.72	0.52
1:A:113:ARG:HD2	5:B:809:HOH:O	2.11	0.51
1:B:6:LYS:NZ	5:B:748:HOH:O	2.31	0.51
1:B:70:VAL:HG22	1:B:371:LYS:HG2	1.93	0.50
1:A:303:ILE:HD11	1:A:313:MET:HG3	1.92	0.49
1:A:-2:GLY:CA	1:B:106:MET:HE3	2.41	0.49
1:B:396:ASN:HB3	5:B:847:HOH:O	2.13	0.48
1:A:-2:GLY:N	1:B:106:MET:HE3	2.29	0.47
1:A:417:LYS:HA	1:A:418:ASN:HB3	1.97	0.46
1:B:70:VAL:HG22	1:B:371:LYS:CG	2.45	0.46
1:B:364:LYS:N	1:B:364:LYS:HD2	2.31	0.46
1:A:319:GLU:HG2	5:B:809:HOH:O	2.17	0.45
1:A:-2:GLY:HA2	1:B:106:MET:HE3	1.99	0.45
1:B:300:ALA:O	1:B:301:LYS:HE3	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:272:LYS:NZ	5:B:884:HOH:O	2.49	0.45
1:B:226:ILE:CG2	1:B:265:THR:HG23	2.47	0.44
1:A:161:ILE:HD13	1:A:373:VAL:CG2	2.47	0.44
1:A:287:TYR:CE2	1:A:291:LYS:HD2	2.51	0.44
1:A:33:VAL:HG11	1:A:51:PHE:CZ	2.52	0.44
1:A:417:LYS:CA	1:A:418:ASN:CB	2.95	0.43
1:A:319:GLU:CG	5:B:809:HOH:O	2.67	0.42
1:B:303:ILE:HD11	1:B:313:MET:HG3	2.01	0.42
1:B:264[B]:ARG:HD2	1:B:346:THR:HB	2.02	0.42
1:A:161:ILE:HD13	1:A:373:VAL:HG21	2.02	0.41
1:A:224:GLU:OE1	4:A:600:GB5:N13	2.54	0.40
1:B:242:VAL:HG21	1:B:257:GLU:CD	2.45	0.40
1:B:212:LYS:NZ	1:B:370:ASP:OD2	2.54	0.40
1:A:97:ARG:HA	1:A:386:ILE:HG23	2.03	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	398/444 (90%)	390 (98%)	7 (2%)	1 (0%)	36	29
1	B	404/444 (91%)	397 (98%)	6 (2%)	1 (0%)	43	36
All	All	802/888 (90%)	787 (98%)	13 (2%)	2 (0%)	36	36

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	418	ASN
1	B	157	SER

5.3.2 Protein sidechains ⓘ

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	366/397 (92%)	364 (100%)	2 (0%)	81	84
1	B	370/397 (93%)	366 (99%)	4 (1%)	65	67
All	All	736/794 (93%)	730 (99%)	6 (1%)	73	75

All (6) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	202	VAL
1	A	275	ASP
1	B	276	SER
1	B	280	ASN
1	B	301	LYS
1	B	304	VAL

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (6) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	86	ASN
1	A	174	ASN
1	A	311	GLN
1	A	391	ASN
1	B	29	GLN
1	B	86	ASN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

5.4 Non-standard residues in protein, DNA, RNA chains ⓘ

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 5 ligands modelled in this entry, 2 are monoatomic - leaving 3 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
4	GB5	B	600	2	12,13,13	2.93	1 (8%)	16,16,16	1.54	4 (25%)
3	PO4	A	501	-	4,4,4	1.00	0	6,6,6	0.62	0
4	GB5	A	600	2	12,13,13	2.90	1 (8%)	16,16,16	1.26	1 (6%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	GB5	B	600	2	-	0/7/7/7	0/1/1/1
4	GB5	A	600	2	-	0/7/7/7	0/1/1/1

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	A	600	GB5	C4-CL1	-9.73	1.51	1.74
4	B	600	GB5	C4-CL1	-9.65	1.51	1.74

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	B	600	GB5	C10-C11-N13	3.31	120.26	114.41
4	B	600	GB5	C5-C4-C3	-2.76	117.82	121.24
4	A	600	GB5	C10-C11-N13	2.69	119.15	114.41
4	B	600	GB5	C2-C3-C4	2.24	121.49	119.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	B	600	GB5	O12-C11-N13	-2.13	119.14	122.87

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

1 monomer is involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	A	600	GB5	1	0

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	407/444 (91%)	0.72	39 (9%) 13 14	15, 32, 44, 56	1 (0%)
1	B	407/444 (91%)	0.69	36 (8%) 15 16	14, 31, 46, 53	5 (1%)
All	All	814/888 (91%)	0.71	75 (9%) 14 15	14, 32, 47, 56	6 (0%)

All (75) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	202	VAL	7.7
1	B	144	TYR	6.2
1	B	28	GLY	4.9
1	B	277	LEU	4.8
1	A	124	ASP	4.0
1	B	256	LEU	4.0
1	A	418	ASN	4.0
1	B	327	THR	3.9
1	A	208	LEU	3.8
1	B	62	PRO	3.7
1	B	124	ASP	3.7
1	B	54	PRO	3.5
1	A	411	MET	3.4
1	B	269[A]	HIS	3.4
1	B	273	PHE	3.4
1	A	62	PRO	3.3
1	A	172	VAL	3.3
1	A	69	PRO	3.2
1	A	305	GLY	3.2
1	B	123	ILE	3.2
1	B	69	PRO	3.2
1	A	387	TYR	3.1
1	B	131	ASP	3.1
1	B	60	ASN	3.0

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Mol	Chain	Res	Type	RSRZ
1	B	339	ASP	3.0
1	A	205	ASN	3.0
1	A	25	PRO	2.9
1	A	207	LEU	2.8
1	A	68	VAL	2.8
1	A	295	SER	2.8
1	A	327	THR	2.8
1	A	201	GLU	2.7
1	B	55	GLU	2.7
1	B	171	GLU	2.7
1	A	275	ASP	2.7
1	A	417	LYS	2.7
1	A	370	ASP	2.7
1	A	29	GLN	2.7
1	A	59	LEU	2.7
1	A	58	ASP	2.6
1	B	311	GLN	2.6
1	B	295[A]	SER	2.6
1	B	282	PHE	2.6
1	A	70	VAL	2.6
1	B	70	VAL	2.6
1	A	419	PHE	2.5
1	A	301	LYS	2.5
1	B	143	SER	2.5
1	B	271	ALA	2.5
1	A	122	THR	2.4
1	B	301	LYS	2.4
1	B	203	ASP	2.4
1	B	121	SER	2.4
1	B	140	PRO	2.4
1	A	209	GLY	2.3
1	A	276	SER	2.3
1	A	200	LEU	2.3
1	B	51	PHE	2.3
1	B	25	PRO	2.2
1	A	31	GLN	2.2
1	B	29	GLN	2.2
1	A	54	PRO	2.2
1	A	302	SER	2.2
1	B	260	PHE	2.2
1	B	274	ILE	2.2
1	A	60	ASN	2.2

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Mol	Chain	Res	Type	RSRZ
1	A	307	THR	2.2
1	B	58	ASP	2.2
1	B	396	ASN	2.1
1	A	11	LYS	2.1
1	B	299	LYS	2.1
1	A	171	GLU	2.1
1	A	326	ASP	2.1
1	B	278	GLN	2.1
1	A	123	ILE	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(Å ²)	Q<0.9
3	PO4	A	501	5/5	0.78	0.19	35,35,36,37	5
4	GB5	A	600	13/13	0.79	0.15	41,46,47,47	0
4	GB5	B	600	13/13	0.89	0.11	39,43,45,45	0
2	ZN	B	500	1/1	0.99	0.03	33,33,33,33	0
2	ZN	A	500	1/1	1.00	0.06	32,32,32,32	0

6.5 Other polymers [i](#)

There are no such residues in this entry.