WORLDWIDE wwPDB PROTEIN DATA BANK

Full wwPDB X-ray Structure Validation Report ⓘ

Sep 28, 2024 – 08:11 pm BST

PDB ID	:	6H3S
Title	:	Schmallenberg Virus Glycoprotein Gc Head/Stalk Domains
Authors	:	Hellert, J.; Aebischer, A.; Wernike, K.; Haouz, A.; Brocchi, E.; Reiche, S.; Guardado-Calvo, P.; Beer, M.; Rey, F.A.
Deposited on	:	2018-07-19
Resolution	:	2.02 Å(reported)

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

|		
MolProbity	:	4.02b-467
Mogul	:	1.8.4, CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	3.0
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)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.39

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 2.02 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	Percentile Ranks	Value
Rfree		0.240
Clashscore		6
Ramachandran outliers		0
Sidechain outliers		1.9%
RSRZ outliers		6.2%

Worse ... *Better*

▮ Percentile relative to all X-ray structures

▯ Percentile relative to X-ray structures of similar resolution
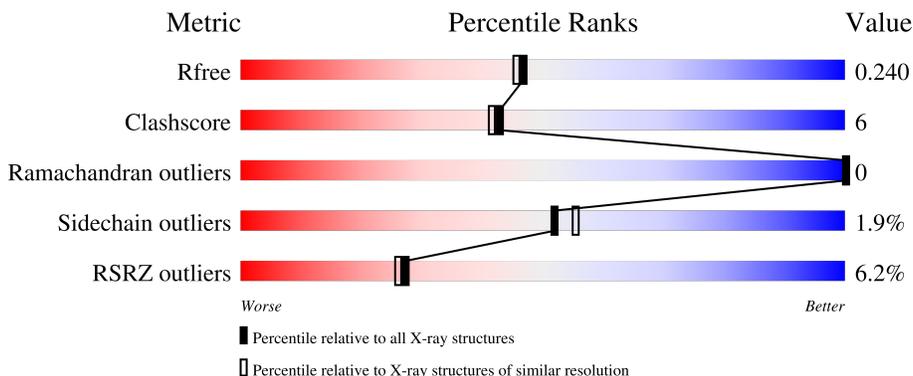
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R$_{free}$	164625	12358 (2.04-2.00)
Clashscore	180529	13897 (2.04-2.00)
Ramachandran outliers	177936	13770 (2.04-2.00)
Sidechain outliers	177891	13769 (2.04-2.00)
RSRZ outliers	164620	12358 (2.04-2.00)

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	421	9% / 83% 14% ·
1	B	421	3% / 83% 13% ··

2 Entry composition ⓘ

There are 5 unique types of molecules in this entry. The entry contains 6896 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 Envelopment polyprotein.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	B	408	Total	C	N	O	S	0	0	0
			3237	2033	560	615	29			
1	A	408	Total	C	N	O	S	0	0	0
			3237	2033	560	615	29			

There are 22 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	454	GLU	-	expression tag	UNP H2AM12
B	455	TRP	-	expression tag	UNP H2AM12
B	456	SER	-	expression tag	UNP H2AM12
B	457	HIS	-	expression tag	UNP H2AM12
B	458	PRO	-	expression tag	UNP H2AM12
B	459	GLN	-	expression tag	UNP H2AM12
B	460	PHE	-	expression tag	UNP H2AM12
B	461	GLU	-	expression tag	UNP H2AM12
B	462	LYS	-	expression tag	UNP H2AM12
B	463	GLY	-	expression tag	UNP H2AM12
B	464	GLY	-	expression tag	UNP H2AM12
A	454	GLU	-	expression tag	UNP H2AM12
A	455	TRP	-	expression tag	UNP H2AM12
A	456	SER	-	expression tag	UNP H2AM12
A	457	HIS	-	expression tag	UNP H2AM12
A	458	PRO	-	expression tag	UNP H2AM12
A	459	GLN	-	expression tag	UNP H2AM12
A	460	PHE	-	expression tag	UNP H2AM12
A	461	GLU	-	expression tag	UNP H2AM12
A	462	LYS	-	expression tag	UNP H2AM12
A	463	GLY	-	expression tag	UNP H2AM12
A	464	GLY	-	expression tag	UNP H2AM12

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

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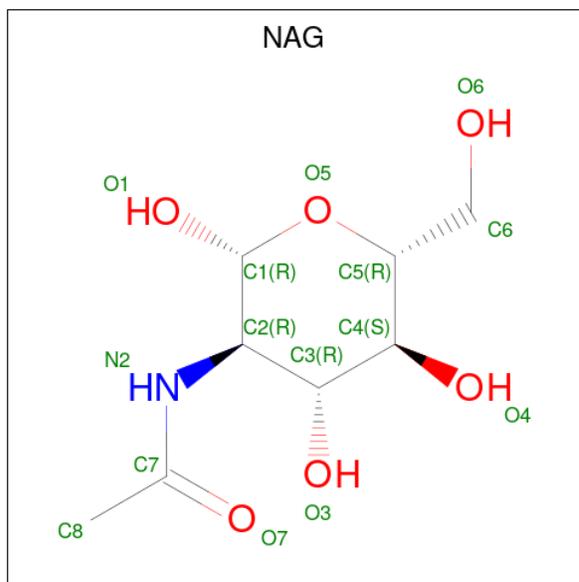
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
2	B	1	Total 14	C 8	N 1	O 5	0	0
2	B	1	Total 14	C 8	N 1	O 5	0	0
2	A	1	Total 14	C 8	N 1	O 5	0	0
2	A	1	Total 14	C 8	N 1	O 5	0	0

- Molecule 3 is SULFATE ION (three-letter code: SO4) (formula: O_4S).

SO4
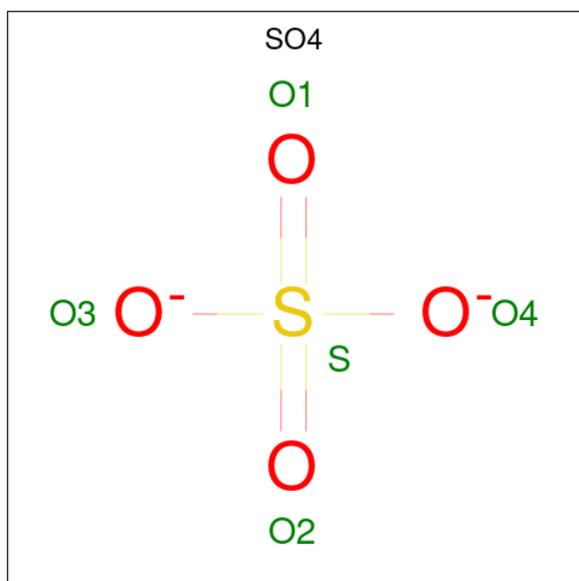
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
3	B	1	Total 5	O 4	S 1	0	0
3	B	1	Total 5	O 4	S 1	0	0
3	B	1	Total 5	O 4	S 1	0	0
3	B	1	Total 5	O 4	S 1	0	0
3	B	1	Total 5	O 4	S 1	0	0
3	A	1	Total 5	O 4	S 1	0	0
3	A	1	Total 5	O 4	S 1	0	0
3	A	1	Total 5	O 4	S 1	0	0
3	A	1	Total 5	O 4	S 1	0	0
3	A	1	Total 5	O 4	S 1	0	0
3	A	1	Total 5	O 4	S 1	0	0

- Molecule 4 is CHLORIDE ION (three-letter code: CL) (formula: Cl).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	B	4	Total 4	Cl 4	0	0
4	A	1	Total 1	Cl 1	0	0

- Molecule 5 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	B	165	Total 165	O 165	0	0
5	A	141	Total 141	O 141	0	0

3 Residue-property plots ⓘ

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: Envelopment polyprotein

Chain B:

• Molecule 1: Envelopment polyprotein

Chain A:
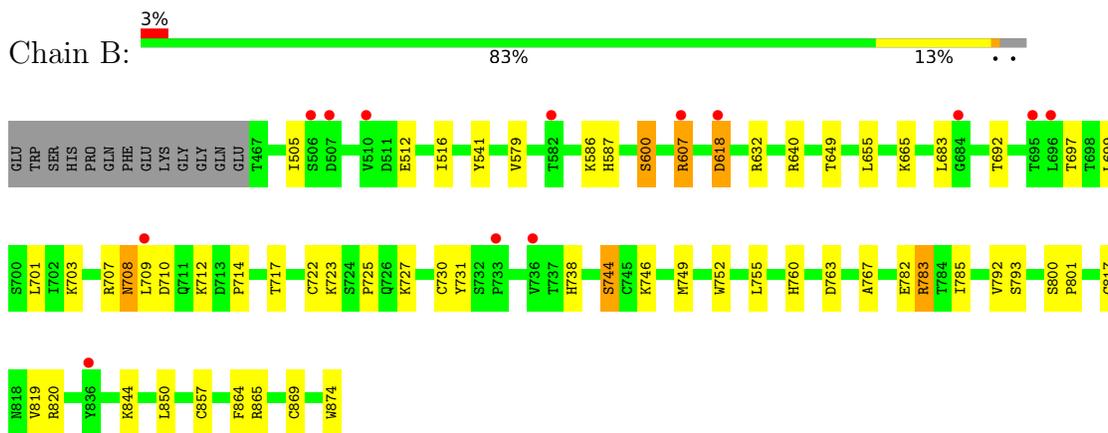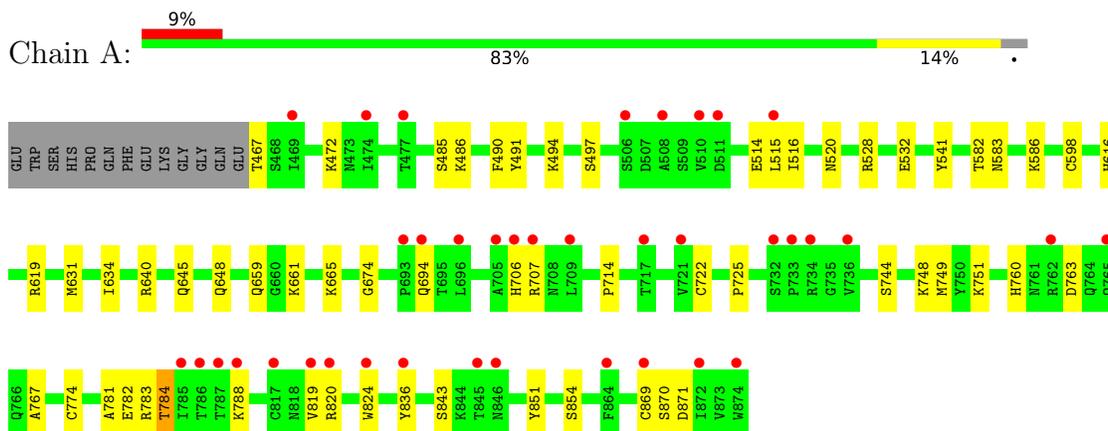
4 Data and refinement statistics ⓘ

Property	Value	Source
Space group	P 41 21 2	Depositor
Cell constants a, b, c, α, β, γ	95.23Å 95.23Å 204.74Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	47.61 – 2.02 47.61 – 2.02	Depositor EDS
% Data completeness (in resolution range)	62.2 (47.61-2.02) 62.3 (47.61-2.02)	Depositor EDS
R_{merge}	0.10	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.03 (at 2.01Å)	Xtriage
Refinement program	PHENIX 1.10.1_2155	Depositor
R, R_{free}	0.209 , 0.240 0.209 , 0.240	Depositor DCC
R_{free} test set	60011 reflections (5.89%)	wwPDB-VP
Wilson B-factor (Å^2)	45.6	Xtriage
Anisotropy	0.041	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.34 , 55.4	EDS
L-test for twinning[2]	$< \|L\| > = 0.48$, $< L^2 > = 0.31$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.95	EDS
Total number of atoms	6896	wwPDB-VP
Average B, all atoms (Å^2)	64.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.85% of the height of the origin peak. No significant pseudotranslation is detected.*

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[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: CL, NAG, SO4

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	0/3305	0.42	0/4473
1	B	0.27	0/3305	0.43	0/4473
All	All	0.26	0/6610	0.43	0/8946

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	3237	0	3194	36	0
1	B	3237	0	3194	41	0
2	A	28	0	26	2	0
2	B	28	0	26	1	0
3	A	30	0	0	1	0
3	B	25	0	0	1	0
4	A	1	0	0	0	0
4	B	4	0	0	0	0
5	A	141	0	0	5	0
5	B	165	0	0	4	0
All	All	6896	0	6440	80	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 (80) 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:727:LYS:HB3	1:B:793:SER:O	1.55	1.04
1:A:467:THR:O	1:A:486:LYS:NZ	2.06	0.88
1:A:640:ARG:NH1	5:A:1001:HOH:O	2.10	0.83
1:B:618:ASP:OD1	1:B:618:ASP:N	2.21	0.73
1:B:727:LYS:NZ	5:B:1003:HOH:O	2.25	0.69
1:B:512:GLU:OE2	1:B:738:HIS:ND1	2.27	0.65
1:A:520:ASN:ND2	5:A:1012:HOH:O	2.31	0.63
1:A:485:SER:OG	1:A:661:LYS:NZ	2.25	0.62
1:B:874:TRP:OXT	1:A:528:ARG:NH2	2.34	0.61
1:B:516:ILE:HD11	1:B:541:TYR:CE2	2.36	0.61
1:A:616:HIS:HB3	1:A:619:ARG:HG3	1.84	0.60
2:B:902:NAG:H83	2:B:902:NAG:H3	1.85	0.59
1:B:579:VAL:HG22	1:B:586:LYS:NZ	2.17	0.59
1:A:514:GLU:HG2	1:A:784:THR:HG21	1.84	0.58
1:A:706:HIS:CD2	1:A:707:ARG:HG2	2.39	0.57
1:B:579:VAL:HG22	1:B:586:LYS:HZ2	1.70	0.56
1:B:516:ILE:HD11	1:B:541:TYR:HE2	1.70	0.55
1:A:648:GLN:NE2	5:A:1018:HOH:O	2.38	0.55
1:B:727:LYS:HG2	1:B:793:SER:HB3	1.88	0.55
1:B:783:ARG:H	1:B:783:ARG:HD2	1.71	0.55
1:A:494:LYS:NZ	1:A:497:SER:O	2.35	0.55
1:A:582:THR:O	1:A:586:LYS:NZ	2.40	0.55
1:B:717:THR:O	5:B:1002:HOH:O	2.18	0.54
1:B:819:VAL:HG12	1:B:820:ARG:HG3	1.88	0.54
1:A:751:LYS:NZ	1:A:782:GLU:OE1	2.41	0.54
1:B:709:LEU:O	1:B:712:LYS:NZ	2.31	0.54
1:A:645:GLN:NE2	1:A:694:GLN:O	2.38	0.54
1:A:725:PRO:HA	1:A:744:SER:O	2.08	0.54
1:B:655:LEU:HB3	1:B:683:LEU:HD11	1.90	0.54
1:B:665:LYS:NZ	5:B:1020:HOH:O	2.41	0.53
1:A:714:PRO:HB3	1:A:781:ALA:HB3	1.91	0.53
1:B:722:CYS:HB3	1:B:767:ALA:HB3	1.89	0.53
2:A:902:NAG:H83	2:A:902:NAG:H3	1.91	0.53
3:B:907:SO4:O4	5:B:1001:HOH:O	2.18	0.53
1:A:516:ILE:HD11	1:A:541:TYR:HE2	1.73	0.53
1:A:744:SER:HA	1:A:748:LYS:O	2.10	0.51
1:B:760:HIS:HB3	1:B:763:ASP:O	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:723:LYS:HD2	1:B:746:LYS:HE3	1.92	0.51
1:A:515:LEU:HD22	1:A:788:LYS:NZ	2.26	0.51
1:B:607:ARG:HD3	1:B:607:ARG:H	1.78	0.49
1:A:528:ARG:O	1:A:532:GLU:HB2	2.12	0.49
1:A:760:HIS:HD2	1:A:774:CYS:SG	2.36	0.49
1:A:824:TRP:HE3	1:A:836:TYR:CE1	2.31	0.48
1:A:819:VAL:HG12	1:A:820:ARG:HG2	1.95	0.48
1:B:699:LEU:HD11	1:B:703:LYS:HE3	1.96	0.47
1:A:486:LYS:HG2	1:A:661:LYS:HZ1	1.79	0.47
1:B:730:CYS:SG	1:B:785:ILE:HD11	2.56	0.46
1:A:583:ASN:O	1:A:586:LYS:NZ	2.48	0.46
1:B:632:ARG:NH2	1:B:640:ARG:HD3	2.31	0.46
1:B:707:ARG:HD3	1:B:792:VAL:O	2.15	0.46
1:A:722:CYS:HB3	1:A:767:ALA:HB3	1.98	0.46
1:B:697:THR:HG23	1:B:701:LEU:HD23	1.98	0.46
1:B:864:PHE:HE1	1:B:869:CYS:SG	2.38	0.46
1:A:843:SER:HA	1:A:851:TYR:HA	1.98	0.45
1:B:587:HIS:ND1	1:B:600:SER:HB2	2.32	0.45
1:B:844:LYS:HD2	1:B:850:LEU:HG	1.99	0.45
1:A:491:TYR:CZ	2:A:901:NAG:H3	2.52	0.44
1:A:870:SER:HA	1:A:871:ASP:HA	1.53	0.43
1:B:683:LEU:HD23	1:B:683:LEU:HA	1.90	0.42
1:B:727:LYS:HD2	1:B:752:TRP:CZ3	2.55	0.42
1:B:727:LYS:HB3	1:B:793:SER:C	2.34	0.42
1:A:631:MET:HA	1:A:634:ILE:HD12	2.02	0.42
1:B:649:THR:HA	1:B:692:THR:HB	2.01	0.42
1:A:490:PHE:HD1	1:A:665:LYS:HD2	1.84	0.42
1:A:659:GLN:NE2	5:A:1015:HOH:O	2.33	0.42
1:B:755:LEU:HD22	1:B:865:ARG:NH2	2.35	0.42
1:B:725:PRO:HA	1:B:744:SER:O	2.20	0.41
1:B:708:ASN:OD1	1:B:708:ASN:N	2.53	0.41
1:B:707:ARG:HB3	1:B:792:VAL:HB	2.02	0.41
1:B:714:PRO:HA	1:B:749:MET:HB2	2.02	0.41
1:B:800:SER:HB2	1:B:801:PRO:HD2	2.01	0.41
1:A:714:PRO:HA	1:A:749:MET:HB2	2.03	0.41
1:A:722:CYS:SG	1:A:725:PRO:HB3	2.61	0.41
1:A:598:CYS:O	1:A:674:GLY:HA3	2.21	0.41
1:B:703:LYS:HG2	1:B:731:TYR:CE2	2.55	0.41
1:A:472:LYS:HA	1:A:541:TYR:HD1	1.85	0.41
3:A:908:SO4:O3	5:A:1002:HOH:O	2.20	0.41
1:B:505:ILE:HG21	1:B:516:ILE:HG21	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:782:GLU:H	1:B:782:GLU:CD	2.25	0.40
1:A:748:LYS:HD3	1:A:748:LYS:HA	1.93	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	406/421 (96%)	401 (99%)	5 (1%)	0	100	100
1	B	406/421 (96%)	400 (98%)	6 (2%)	0	100	100
All	All	812/842 (96%)	801 (99%)	11 (1%)	0	100	100

There are no Ramachandran outliers to report.

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	376/387 (97%)	371 (99%)	5 (1%)	65	70
1	B	376/387 (97%)	367 (98%)	9 (2%)	44	46
All	All	752/774 (97%)	738 (98%)	14 (2%)	52	55

All (14) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	B	600	SER
1	B	607	ARG
1	B	618	ASP
1	B	708	ASN
1	B	710	ASP
1	B	744	SER
1	B	783	ARG
1	B	817	CYS
1	B	857	CYS
1	A	763	ASP
1	A	783	ARG
1	A	784	THR
1	A	854	SER
1	A	869	CYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. There are no such sidechains identified.

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 ⓘ

There are no oligosaccharides in this entry.

5.6 Ligand geometry ⓘ

Of 20 ligands modelled in this entry, 5 are monoatomic - leaving 15 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
3	SO4	B	905	-	4,4,4	0.16	0	6,6,6	0.15	0
3	SO4	B	906	-	4,4,4	0.14	0	6,6,6	0.10	0
3	SO4	B	907	-	4,4,4	0.15	0	6,6,6	0.07	0
3	SO4	A	904	-	4,4,4	0.14	0	6,6,6	0.14	0
3	SO4	B	903	-	4,4,4	0.15	0	6,6,6	0.11	0
3	SO4	A	905	-	4,4,4	0.14	0	6,6,6	0.10	0
3	SO4	A	908	-	4,4,4	0.15	0	6,6,6	0.08	0
3	SO4	A	903	-	4,4,4	0.15	0	6,6,6	0.11	0
2	NAG	B	901	1	14,14,15	0.25	0	17,19,21	0.45	0
3	SO4	A	906	-	4,4,4	0.14	0	6,6,6	0.09	0
2	NAG	A	902	1	14,14,15	0.39	0	17,19,21	1.37	2 (11%)
3	SO4	B	904	-	4,4,4	0.15	0	6,6,6	0.07	0
2	NAG	B	902	1	14,14,15	0.60	0	17,19,21	1.25	1 (5%)
2	NAG	A	901	1	14,14,15	0.24	0	17,19,21	0.45	0
3	SO4	A	907	-	4,4,4	0.14	0	6,6,6	0.08	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
2	NAG	A	901	1	-	0/6/23/26	0/1/1/1
2	NAG	B	902	1	-	3/6/23/26	0/1/1/1
2	NAG	A	902	1	-	3/6/23/26	0/1/1/1
2	NAG	B	901	1	-	2/6/23/26	0/1/1/1

There are no bond length outliers.

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A	902	NAG	C2-N2-C7	4.39	129.15	122.90
2	B	902	NAG	C2-N2-C7	4.25	128.96	122.90
2	A	902	NAG	C1-C2-N2	2.23	114.30	110.49

There are no chirality outliers.

All (8) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	B	901	NAG	C8-C7-N2-C2

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Mol	Chain	Res	Type	Atoms
2	B	901	NAG	O7-C7-N2-C2
2	B	902	NAG	C8-C7-N2-C2
2	B	902	NAG	O7-C7-N2-C2
2	A	902	NAG	C8-C7-N2-C2
2	A	902	NAG	O7-C7-N2-C2
2	B	902	NAG	C3-C2-N2-C7
2	A	902	NAG	C3-C2-N2-C7

There are no ring outliers.

5 monomers are involved in 5 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	B	907	SO4	1	0
3	A	908	SO4	1	0
2	A	902	NAG	1	0
2	B	902	NAG	1	0
2	A	901	NAG	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(Å²)	Q<0.9
1	A	408/421 (96%)	0.64	38 (9%)	16	15	31, 63, 116, 159	0
1	B	408/421 (96%)	0.36	13 (3%)	50	49	33, 55, 97, 136	0
All	All	816/842 (96%)	0.50	51 (6%)	27	26	31, 59, 108, 159	0

All (51) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	717	THR	3.3
1	A	508	ALA	3.3
1	A	824	TRP	3.2
1	B	510	VAL	2.9
1	B	736	VAL	2.9
1	A	515	LEU	2.8
1	A	864	PHE	2.8
1	A	477	THR	2.8
1	A	510	VAL	2.8
1	A	696	LEU	2.7
1	A	817	CYS	2.7
1	A	705	ALA	2.7
1	A	511	ASP	2.7
1	A	721	VAL	2.7
1	B	684	GLY	2.7
1	A	736	VAL	2.6
1	B	836	TYR	2.6
1	A	836	TYR	2.6
1	A	788	LYS	2.6
1	A	846	ASN	2.6
1	A	733	PRO	2.6
1	B	695	THR	2.5
1	A	786	THR	2.5
1	A	845	THR	2.5

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Mol	Chain	Res	Type	RSRZ
1	A	693	PRO	2.4
1	B	709	LEU	2.4
1	B	696	LEU	2.3
1	A	706	HIS	2.3
1	A	732	SER	2.3
1	A	819	VAL	2.3
1	A	785	ILE	2.2
1	B	506	SER	2.2
1	A	787	THR	2.2
1	B	507	ASP	2.2
1	A	762	ARG	2.2
1	A	765	GLN	2.2
1	A	872	ILE	2.1
1	A	874	TRP	2.1
1	B	733	PRO	2.1
1	A	506	SER	2.1
1	B	618	ASP	2.1
1	A	474	ILE	2.1
1	A	709	LEU	2.1
1	A	694	GLN	2.1
1	A	869	CYS	2.1
1	A	469	ILE	2.1
1	A	734	ARG	2.0
1	B	582	THR	2.0
1	B	607	ARG	2.0
1	A	707	ARG	2.0
1	A	820	ARG	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(Å^2)	Q<0.9
2	NAG	B	902	14/15	0.41	0.14	75,88,91,93	0
2	NAG	A	902	14/15	0.64	0.15	69,81,84,84	0
3	SO4	A	908	5/5	0.75	0.16	96,96,101,103	0
2	NAG	B	901	14/15	0.77	0.12	58,69,74,77	0
3	SO4	A	906	5/5	0.78	0.12	108,110,111,112	0
3	SO4	B	907	5/5	0.81	0.10	104,105,106,107	0
4	CL	A	909	1/1	0.81	0.14	101,101,101,101	0
2	NAG	A	901	14/15	0.82	0.10	62,70,73,75	0
4	CL	B	909	1/1	0.84	0.12	64,64,64,64	0
3	SO4	A	907	5/5	0.86	0.10	93,96,96,100	0
3	SO4	B	904	5/5	0.86	0.10	78,79,80,82	0
3	SO4	B	906	5/5	0.88	0.08	78,80,82,83	0
4	CL	B	908	1/1	0.90	0.11	72,72,72,72	0
3	SO4	A	903	5/5	0.90	0.10	74,78,80,81	0
4	CL	B	911	1/1	0.90	0.09	97,97,97,97	0
3	SO4	B	903	5/5	0.90	0.11	63,67,73,74	0
3	SO4	A	905	5/5	0.92	0.08	74,77,78,81	0
4	CL	B	910	1/1	0.93	0.09	79,79,79,79	0
3	SO4	A	904	5/5	0.96	0.06	54,55,59,62	0
3	SO4	B	905	5/5	0.96	0.08	49,50,54,58	0

6.5 Other polymers (i)

There are no such residues in this entry.