



Full wwPDB X-ray Structure Validation Report ⓘ

Jun 17, 2024 – 12:05 PM EDT

PDB ID : 8TY7
Title : Crystal structure of 05.GC.w2.3C10 Fab in complex with H1 HA from A/California/04/2009(H1N1)
Authors : Lin, T.H.; Moore, N.; Wilson, I.A.
Deposited on : 2023-08-24
Resolution : 3.21 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 : 1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix) : 1.13
EDS : 2.37.1
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac : 5.8.0158
CCP4 : 7.0.044 (Gargrove)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.37.1

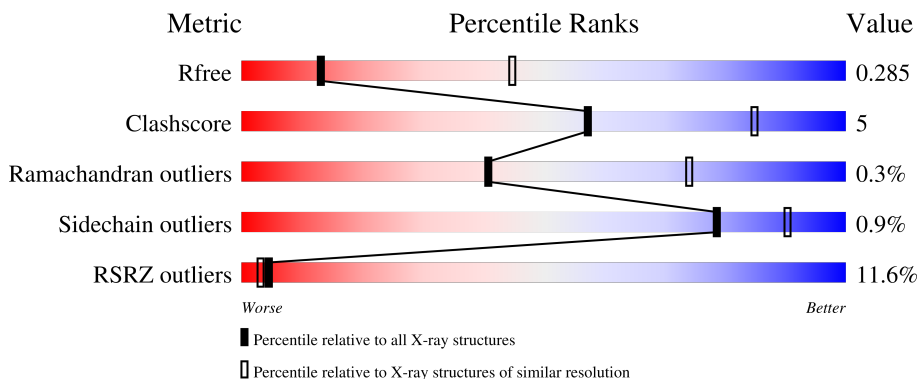
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION



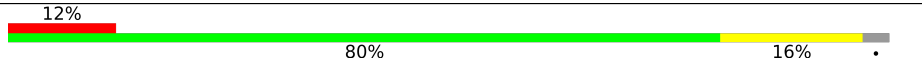
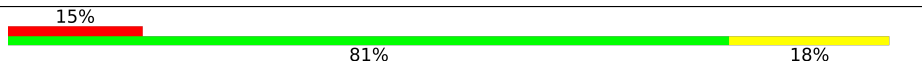
The reported resolution of this entry is 3.21 Å.

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}	130704	1335 (3.24-3.20)
Clashscore	141614	1460 (3.24-3.20)
Ramachandran outliers	138981	1437 (3.24-3.20)
Sidechain outliers	138945	1436 (3.24-3.20)
RSRZ outliers	127900	1291 (3.24-3.20)

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	331	
2	B	177	
3	H	225	
4	L	214	

2 Entry composition

There are 5 unique types of molecules in this entry. The entry contains 7219 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 Hemagglutinin.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	328	2557	1617	440	489	11	0	0	0

There are 6 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	7	ALA	-	expression tag	UNP G8EHJ9
A	8	ASP	-	expression tag	UNP G8EHJ9
A	9	PRO	-	expression tag	UNP G8EHJ9
A	10	GLY	-	expression tag	UNP G8EHJ9
A	186	SER	PRO	conflict	UNP G8EHJ9
A	327	ALA	GLN	conflict	UNP G8EHJ9

- Molecule 2 is a protein called Hemagglutinin.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	B	175	1406	881	238	281	6	0	0	0

There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	175	SER	-	expression tag	UNP I1ZFF9
B	176	GLY	-	expression tag	UNP I1ZFF9
B	177	ARG	-	expression tag	UNP I1ZFF9

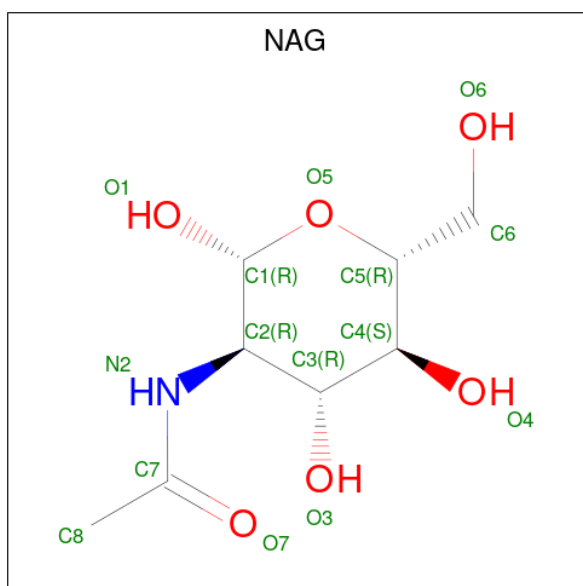
- Molecule 3 is a protein called GC_w2_3C10, heavy chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
3	H	218	1582	996	265	312	9	0	0	0

- Molecule 4 is a protein called GC_w2_3C10, light chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
4	L	213	1632	1019	277	331	5	0	0	0

- Molecule 5 is 2-acetamido-2-deoxy-beta-D-glucopyranose (three-letter code: NAG) (formula: $C_8H_{15}NO_6$).

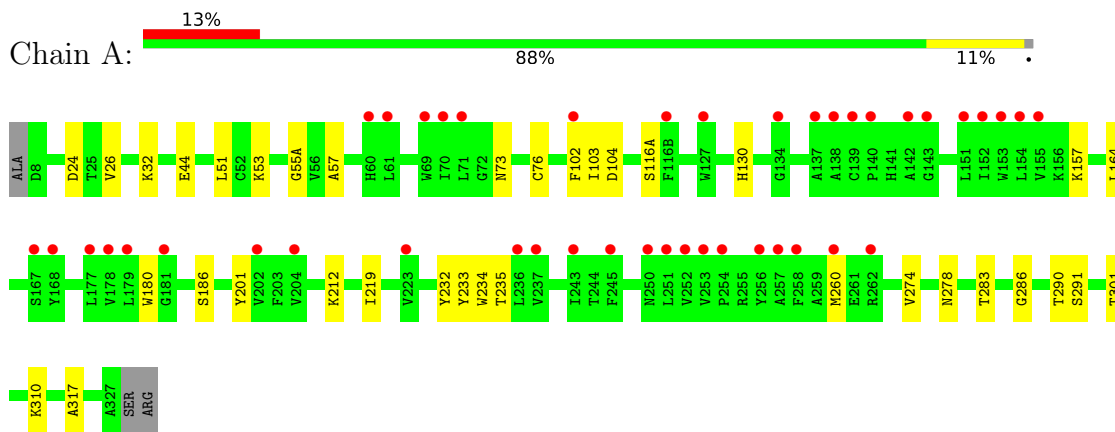


Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
			Total	C	N	O		
5	A	1	14	8	1	5	0	0
5	A	1	14	8	1	5	0	0
5	B	1	14	8	1	5	0	0

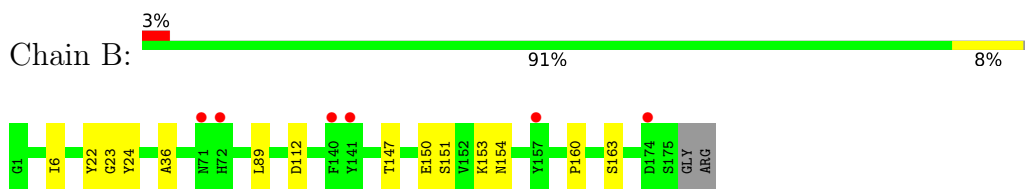
3 Residue-property plots [i](#)

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.

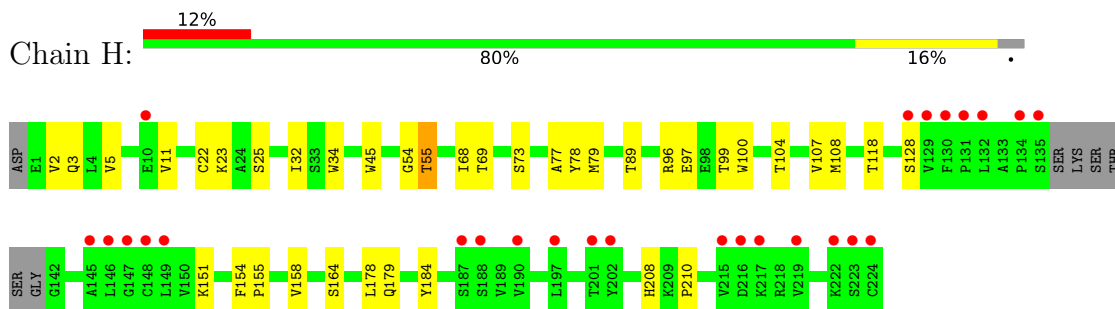
- Molecule 1: Hemagglutinin



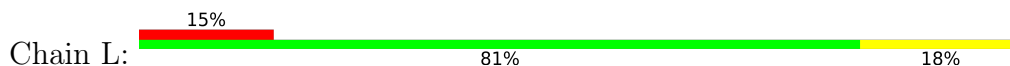
- Molecule 2: Hemagglutinin

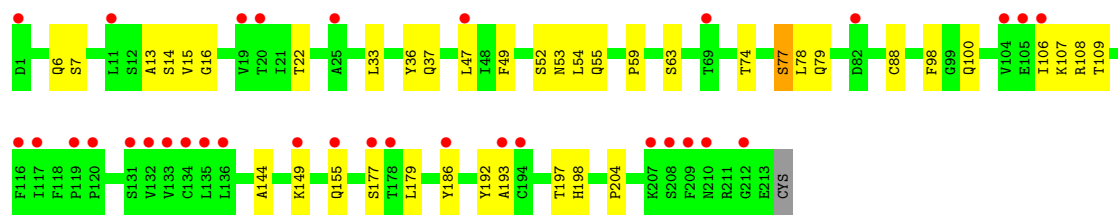


- Molecule 3: GC_w2_3C10, heavy chain



- Molecule 4: GC_w2_3C10, light chain





4 Data and refinement statistics

Property	Value	Source
Space group	I 21 3	Depositor
Cell constants a, b, c, α , β , γ	201.01Å 201.01Å 201.01Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	41.03 – 3.21 47.38 – 3.21	Depositor EDS
% Data completeness (in resolution range)	100.0 (41.03-3.21) 100.0 (47.38-3.21)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	0.20	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.16 (at 3.19Å)	Xtrriage
Refinement program	PHENIX (1.19.2_4158: ???)	Depositor
R, R_{free}	0.244 , 0.288 0.244 , 0.285	Depositor DCC
R_{free} test set	1171 reflections (5.27%)	wwPDB-VP
Wilson B-factor (Å ²)	130.3	Xtrriage
Anisotropy	0.000	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.29 , 81.5	EDS
L-test for twinning ²	$\langle L \rangle = 0.47$, $\langle L^2 \rangle = 0.30$	Xtrriage
Estimated twinning fraction	0.037 for -l,-k,-h	Xtrriage
F_o, F_c correlation	0.93	EDS
Total number of atoms	7219	wwPDB-VP
Average B, all atoms (Å ²)	146.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.93% 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: 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	0.24	0/2622	0.47	0/3565
2	B	0.24	0/1434	0.40	0/1932
3	H	0.24	0/1616	0.46	0/2203
4	L	0.25	0/1667	0.47	0/2262
All	All	0.24	0/7339	0.46	0/9962

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 [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	2557	0	2507	23	0
2	B	1406	0	1326	8	0
3	H	1582	0	1538	22	0
4	L	1632	0	1587	23	0
5	A	28	0	26	1	0
5	B	14	0	13	1	0
All	All	7219	0	6997	70	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 5.

All (70) 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)
2:B:147:THR:HA	5:B:201:NAG:H61	1.52	0.91
1:A:104:ASP:HB2	1:A:234:TRP:HE1	1.55	0.70
2:B:150:GLU:HA	2:B:153:LYS:HE2	1.75	0.68
3:H:89:THR:HG23	3:H:118:THR:HA	1.75	0.68
4:L:37:GLN:HB2	4:L:47:LEU:HD11	1.74	0.68
1:A:51:LEU:HB2	1:A:274:VAL:HG22	1.76	0.67
1:A:186:SER:HB2	1:A:219:ILE:HG22	1.81	0.62
1:A:283:THR:OG1	1:A:286:GLY:O	2.18	0.58
4:L:33:LEU:HD21	4:L:88:CYS:HB2	1.85	0.57
4:L:108:ARG:HE	4:L:109:THR:H	1.53	0.57
4:L:144:ALA:HB2	4:L:198:HIS:HD2	1.70	0.56
3:H:100:TRP:HZ3	4:L:55:GLN:HA	1.72	0.55
1:A:283:THR:HG22	1:A:301:THR:HG22	1.88	0.54
3:H:99:THR:HG23	3:H:104:THR:HG21	1.89	0.54
3:H:69:THR:HG23	3:H:78:TYR:HB2	1.90	0.54
4:L:6:GLN:O	4:L:100:GLN:NE2	2.42	0.53
3:H:107:VAL:HG11	4:L:49:PHE:HB2	1.90	0.53
1:A:291:SER:N	3:H:73:SER:O	2.40	0.52
3:H:34:TRP:CE2	3:H:79:MET:HB2	2.45	0.52
1:A:73:ASN:HB3	1:A:76:CYS:SG	2.49	0.51
3:H:5:VAL:HG23	3:H:23:LYS:HB2	1.92	0.51
3:H:3:GLN:HB2	3:H:25:SER:HB3	1.93	0.51
1:A:32:LYS:HB3	5:A:401:NAG:H82	1.93	0.51
4:L:77:SER:O	4:L:79:GLN:NE2	2.43	0.50
2:B:24:TYR:CE2	2:B:153:LYS:HG3	2.46	0.50
4:L:16:GLY:N	4:L:78:LEU:O	2.41	0.50
4:L:186:TYR:O	4:L:192:TYR:OH	2.27	0.50
4:L:149:LYS:HB2	4:L:193:ALA:HB3	1.92	0.50
3:H:158:VAL:HG12	3:H:208:HIS:HB2	1.93	0.49
1:A:53:LYS:HG2	1:A:57:ALA:HA	1.95	0.49
3:H:32:ILE:HD13	3:H:96:ARG:HG2	1.93	0.49
2:B:23:GLY:HA3	2:B:36:ALA:HA	1.94	0.48
2:B:160:PRO:HA	2:B:163:SER:HB2	1.96	0.48
3:H:34:TRP:CD1	3:H:68:ILE:HD13	2.48	0.48
4:L:7:SER:OG	4:L:22:THR:OG1	2.29	0.47
1:A:102:PHE:HD1	1:A:232:TYR:HB2	1.80	0.47
1:A:310:LYS:HG2	2:B:89:LEU:HD11	1.97	0.47
3:H:54:GLY:O	3:H:55:THR:HG22	2.15	0.47
3:H:97:GLU:HG3	3:H:107:VAL:O	2.15	0.47
1:A:26:VAL:HG21	1:A:317:ALA:HB2	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:44:GLU:HG2	1:A:290:THR:HG21	1.97	0.46
4:L:63:SER:OG	4:L:74:THR:OG1	2.30	0.46
3:H:151:LYS:NZ	3:H:179:GLN:OE1	2.49	0.45
1:A:201:TYR:HB2	1:A:212:LYS:HE3	1.97	0.45
3:H:11:VAL:HG13	3:H:118:THR:HB	1.99	0.44
1:A:130:HIS:HA	1:A:157:LYS:HB2	2.01	0.43
4:L:52:SER:OG	4:L:53:ASN:OD1	2.23	0.43
1:A:53:LYS:HB2	1:A:53:LYS:HE3	1.89	0.43
1:A:102:PHE:CD1	1:A:232:TYR:HB2	2.53	0.43
3:H:22:CYS:HB3	3:H:77:ALA:HB3	2.00	0.43
3:H:208:HIS:CE1	3:H:210:PRO:HB2	2.54	0.43
4:L:54:LEU:HD21	4:L:59:PRO:O	2.18	0.43
3:H:178:LEU:HG	3:H:184:TYR:CE1	2.55	0.42
1:A:104:ASP:HB2	1:A:234:TRP:NE1	2.28	0.42
3:H:154:PHE:HA	3:H:155:PRO:HA	1.85	0.41
4:L:13:ALA:O	4:L:107:LYS:N	2.45	0.41
1:A:103:ILE:HG13	1:A:233:TYR:CE2	2.55	0.41
1:A:116(A):SER:O	1:A:260:MET:HA	2.20	0.41
4:L:108:ARG:NE	4:L:108:ARG:HA	2.35	0.41
4:L:197:THR:HG22	4:L:204:PRO:HB3	2.01	0.41
1:A:55(A):GLY:HA2	1:A:278:ASN:OD1	2.20	0.41
4:L:14:SER:HA	4:L:106:ILE:HD12	2.02	0.41
3:H:45:TRP:HB2	4:L:98:PHE:HE1	1.86	0.41
1:A:130:HIS:CE1	1:A:164:LEU:HD12	2.55	0.41
2:B:6:ILE:HG13	2:B:112:ASP:HA	2.03	0.41
2:B:150:GLU:O	2:B:154:ASN:N	2.34	0.41
1:A:180:TRP:HZ3	1:A:235:THR:HG22	1.86	0.40
4:L:6:GLN:HG3	4:L:100:GLN:HG2	2.03	0.40
4:L:155:GLN:HG2	4:L:179:LEU:HD11	2.02	0.40
3:H:108:MET:HB2	4:L:36:TYR:HE2	1.85	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	326/331 (98%)	316 (97%)	10 (3%)	0	100	100
2	B	173/177 (98%)	170 (98%)	3 (2%)	0	100	100
3	H	214/225 (95%)	205 (96%)	7 (3%)	2 (1%)	17	55
4	L	211/214 (99%)	202 (96%)	8 (4%)	1 (0%)	29	66
All	All	924/947 (98%)	893 (97%)	28 (3%)	3 (0%)	41	74

All (3) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	H	2	VAL
4	L	15	VAL
3	H	55	THR

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	287/289 (99%)	286 (100%)	1 (0%)	92	96
2	B	150/151 (99%)	148 (99%)	2 (1%)	69	86
3	H	172/185 (93%)	170 (99%)	2 (1%)	71	87
4	L	187/189 (99%)	185 (99%)	2 (1%)	73	88
All	All	796/814 (98%)	789 (99%)	7 (1%)	78	90

All (7) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	24	ASP
2	B	22	TYR
2	B	151	SER
3	H	128	SER
3	H	164	SER

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Mol	Chain	Res	Type
4	L	77	SER
4	L	177	SER

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (1) such sidechains are listed below:

Mol	Chain	Res	Type
4	L	100	GLN

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 monosaccharides 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	$\# Z > 2$
5	NAG	B	201	2	14,14,15	0.70	0	17,19,21	0.83	1 (5%)
5	NAG	A	401	1	14,14,15	0.28	0	17,19,21	0.55	0
5	NAG	A	402	1	14,14,15	0.22	0	17,19,21	0.44	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
5	NAG	B	201	2	-	4/6/23/26	0/1/1/1
5	NAG	A	401	1	-	0/6/23/26	0/1/1/1
5	NAG	A	402	1	-	4/6/23/26	0/1/1/1

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	B	201	NAG	C3-C4-C5	2.09	113.96	110.24

There are no chirality outliers.

All (8) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
5	B	201	NAG	C4-C5-C6-O6
5	A	402	NAG	O5-C5-C6-O6
5	B	201	NAG	O5-C5-C6-O6
5	A	402	NAG	C8-C7-N2-C2
5	A	402	NAG	O7-C7-N2-C2
5	B	201	NAG	C8-C7-N2-C2
5	B	201	NAG	O7-C7-N2-C2
5	A	402	NAG	C4-C5-C6-O6

There are no ring outliers.

2 monomers are involved in 2 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	B	201	NAG	1	0
5	A	401	NAG	1	0

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	328/331 (99%)	0.76	43 (13%) 3 2	86, 168, 205, 223	0
2	B	175/177 (98%)	0.56	6 (3%) 45 31	78, 116, 163, 240	0
3	H	218/225 (96%)	0.60	26 (11%) 4 3	91, 135, 175, 207	0
4	L	213/214 (99%)	0.66	33 (15%) 2 1	96, 156, 191, 211	0
All	All	934/947 (98%)	0.67	108 (11%) 4 3	78, 146, 196, 240	0

All (108) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
3	H	146	LEU	9.2
1	A	154	LEU	7.7
1	A	153	TRP	7.2
2	B	174	ASP	7.0
1	A	152	ILE	6.4
1	A	245	PHE	6.4
1	A	252	VAL	6.4
1	A	251	LEU	5.8
4	L	210	ASN	5.6
1	A	138	ALA	5.6
3	H	129	VAL	5.4
1	A	179	LEU	5.1
3	H	223	SER	5.1
1	A	253	VAL	5.0
3	H	135	SER	5.0
1	A	178	VAL	4.6
4	L	119	PRO	4.6
3	H	217	LYS	4.5
1	A	181	GLY	4.5
4	L	209	PHE	4.5
3	H	134	PRO	4.4

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Mol	Chain	Res	Type	RSRZ
3	H	215	VAL	4.2
4	L	1	ASP	4.1
1	A	243	ILE	4.1
1	A	69	TRP	4.1
1	A	257	ALA	4.0
4	L	131	SER	3.9
3	H	131	PRO	3.9
4	L	105	GLU	3.8
3	H	224	CYS	3.7
1	A	102	PHE	3.6
4	L	193	ALA	3.6
1	A	167	SER	3.5
4	L	212	GLY	3.5
4	L	135	LEU	3.5
1	A	61	LEU	3.5
1	A	70	ILE	3.5
4	L	194	CYS	3.4
4	L	133	VAL	3.3
3	H	147	GLY	3.3
1	A	258	PHE	3.3
3	H	190	VAL	3.3
1	A	250	ASN	3.3
1	A	254	PRO	3.3
4	L	106	ILE	3.2
3	H	130	PHE	3.2
4	L	120	PRO	3.2
4	L	104	VAL	3.2
1	A	204	VAL	3.2
1	A	155	VAL	3.1
4	L	19	VAL	3.1
1	A	236	LEU	3.1
4	L	177	SER	3.1
4	L	132	VAL	3.0
1	A	151	LEU	3.0
3	H	145	ALA	3.0
3	H	128	SER	3.0
3	H	219	VAL	2.9
1	A	60	HIS	2.9
4	L	155	GLN	2.9
4	L	20	THR	2.9
2	B	72	HIS	2.9
4	L	149	LYS	2.8

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Mol	Chain	Res	Type	RSRZ
3	H	188	SER	2.7
4	L	11	LEU	2.7
4	L	208	SER	2.6
1	A	134	GLY	2.6
1	A	223	VAL	2.6
1	A	256	TYR	2.6
4	L	207	LYS	2.6
4	L	47	LEU	2.6
3	H	132	LEU	2.6
3	H	201	THR	2.6
3	H	216	ASP	2.6
2	B	71	ASN	2.6
3	H	187	SER	2.5
4	L	178	THR	2.5
1	A	140	PRO	2.5
2	B	141	TYR	2.5
4	L	69	THR	2.5
1	A	142	ALA	2.5
3	H	197	LEU	2.5
3	H	149	LEU	2.5
4	L	117	ILE	2.5
4	L	134	CYS	2.4
1	A	260	MET	2.4
3	H	148	CYS	2.4
1	A	116(B)	PHE	2.4
1	A	262	ARG	2.3
1	A	139	CYS	2.3
3	H	222	LYS	2.3
4	L	136	LEU	2.2
1	A	143	GLY	2.2
2	B	140	PHE	2.2
2	B	157	TYR	2.2
1	A	202	VAL	2.2
1	A	237	VAL	2.2
4	L	186	TYR	2.2
3	H	10	GLU	2.2
3	H	202	TYR	2.2
1	A	71	LEU	2.2
1	A	127	TRP	2.1
1	A	177	LEU	2.1
1	A	168	TYR	2.1
4	L	25	ALA	2.1

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Mol	Chain	Res	Type	RSRZ
4	L	82	ASP	2.1
1	A	137	ALA	2.0
4	L	116	PHE	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
5	NAG	B	201	14/15	0.74	0.23	159,168,176,182	0
5	NAG	A	401	14/15	0.76	0.38	114,141,165,173	0
5	NAG	A	402	14/15	0.77	0.13	121,164,171,177	0

6.5 Other polymers [i](#)

There are no such residues in this entry.