Full wwPDB X-ray Structure Validation Report ⓘ

May 7, 2025 – 12:19 AM JST

PDB ID	:	8X29 / pdb_00008x29
Title	:	Crystal structure of H5 hemagglutinin from swan-infecting H5N8 influenza virus in complex with LSTa
Authors	:	Jin, X.Y.; Han, P.; Song, H.; Qi, J.X.
Deposited on	:	2023-11-09
Resolution	:	2.61 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:

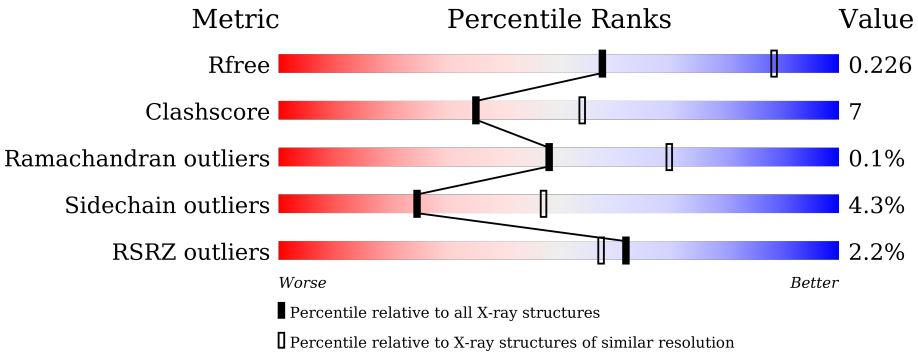
MolProbity	:	4-5-2 with Phenix2.0rc1
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	2.0rc1
EDS	:	3.0
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4	:	9.0.006 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.43.1

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
X-RAY DIFFRACTION

The reported resolution of this entry is 2.61 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	4623 (2.64-2.60)
Clashscore	180529	5071 (2.64-2.60)
Ramachandran outliers	177936	5006 (2.64-2.60)
Sidechain outliers	177891	5006 (2.64-2.60)
RSRZ outliers	164620	4622 (2.64-2.60)

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	506	78% 17%
1	B	506	81% 15%
1	C	506	5% 76% 19%

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:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
2	NAG	A	601	-	-	X	-

2 Entry composition (i)

There are 5 unique types of molecules in this entry. The entry contains 12385 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.

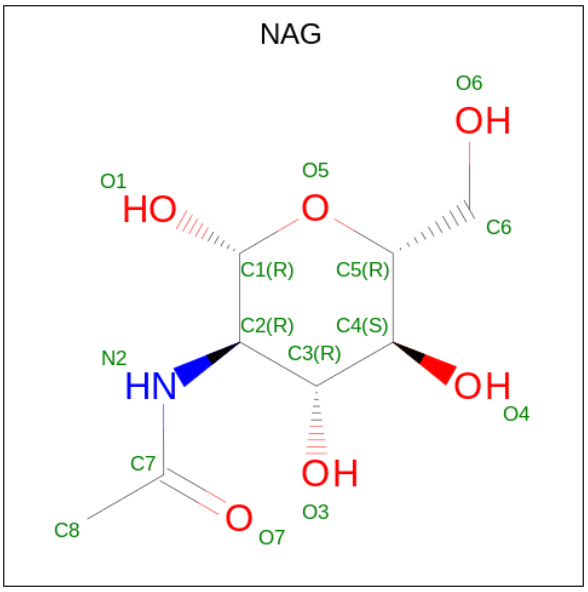
- Molecule 1 is a protein called Hemagglutinin.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	491	Total	C	N	O	S	0	0	0
			3928	2475	681	750	22			
1	B	491	Total	C	N	O	S	0	0	0
			3928	2475	681	750	22			
1	C	491	Total	C	N	O	S	0	0	0
			3928	2475	681	750	22			

There are 9 discrepancies between the modelled and reference sequences:

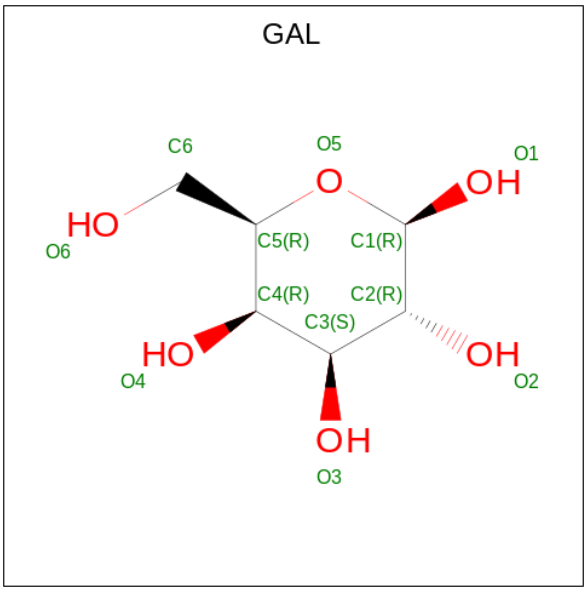
Chain	Residue	Modelled	Actual	Comment	Reference
A	86	VAL	ALA	engineered mutation	UNP A0A8E4ZAK5
A	188	ILE	THR	engineered mutation	UNP A0A8E4ZAK5
A	273	ASN	HIS	engineered mutation	UNP A0A8E4ZAK5
B	86	VAL	ALA	engineered mutation	UNP A0A8E4ZAK5
B	188	ILE	THR	engineered mutation	UNP A0A8E4ZAK5
B	273	ASN	HIS	engineered mutation	UNP A0A8E4ZAK5
C	86	VAL	ALA	engineered mutation	UNP A0A8E4ZAK5
C	188	ILE	THR	engineered mutation	UNP A0A8E4ZAK5
C	273	ASN	HIS	engineered mutation	UNP A0A8E4ZAK5

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



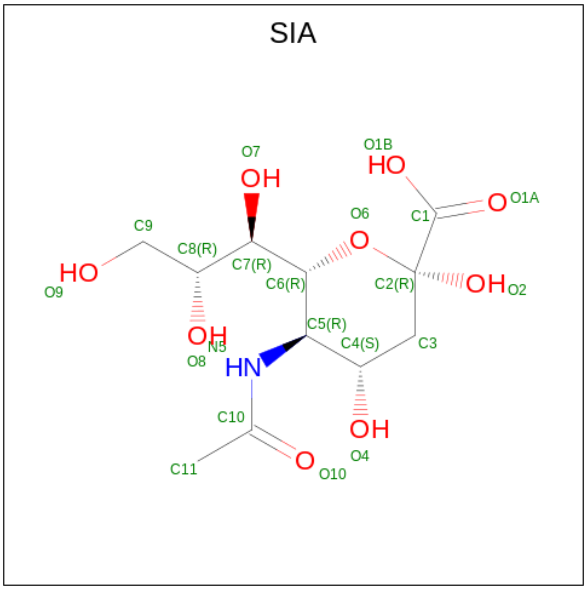
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	A	1	Total C N O 14 8 1 5	0	0
2	A	1	Total C N O 14 8 1 5	0	0
2	A	1	Total C N O 14 8 1 5	0	0
2	A	1	Total C N O 14 8 1 5	0	0
2	B	1	Total C N O 14 8 1 5	0	0
2	B	1	Total C N O 14 8 1 5	0	0
2	B	1	Total C N O 14 8 1 5	0	0
2	B	1	Total C N O 14 8 1 5	0	0
2	C	1	Total C N O 14 8 1 5	0	0
2	C	1	Total C N O 14 8 1 5	0	0
2	C	1	Total C N O 14 8 1 5	0	0
2	C	1	Total C N O 15 8 1 6	0	0

- Molecule 3 is beta-D-galactopyranose (CCD ID: GAL) (formula: $C_6H_{12}O_6$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	C	1	Total C O 11 6 5	0	0

- Molecule 4 is N-acetyl-alpha-neuraminic acid (CCD ID: SIA) (formula: $C_{11}H_{19}NO_9$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	C	1	Total C N O 20 11 1 8	0	0

- Molecule 5 is water.

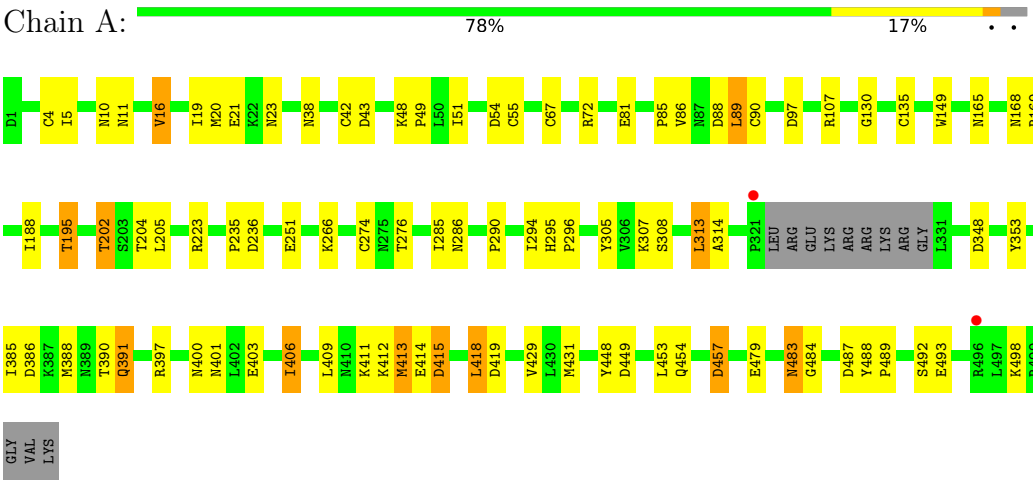
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	A	179	Total O 179 179	0	0
5	B	131	Total O 131 131	0	0
5	C	91	Total O 91 91	0	0

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.

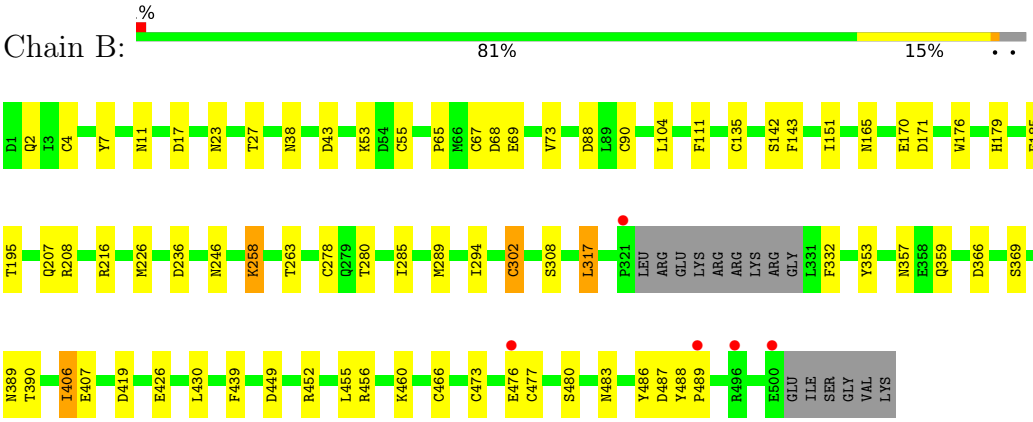
• Molecule 1: Hemagglutinin

Chain A:



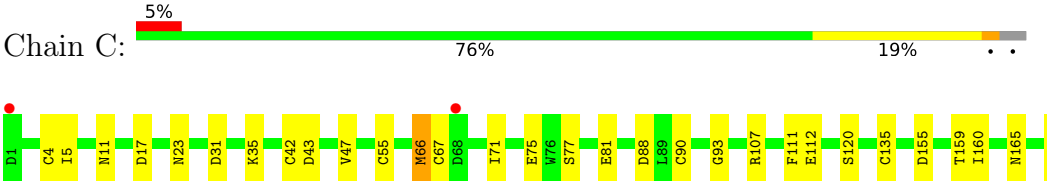
• Molecule 1: Hemagglutinin

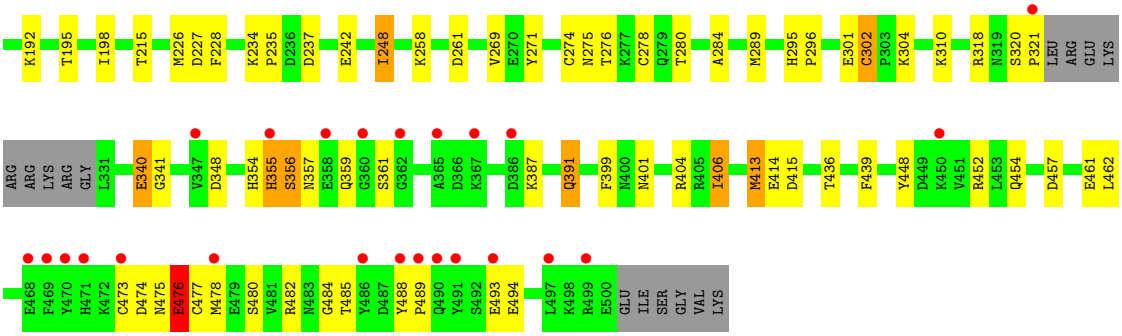
Chain B:



• Molecule 1: Hemagglutinin

Chain C:




K192 T195 I198 T215 M226 D227 F228 K234 P235 D236 D237 E242 I248 K258 D261 V269 E270 Y271 C274 N275 T276 K277 C278 Q279 T280 A284 M289 H295 P296 E301 C302 P303 K304 K310 R318 N319 S320 P321 LEU ARG GLU LYS
ARG ARG LYS ARG GLY L331 E340 G341 V347 D348 H354 H355 S356 N357 E358 Q359 Q360 S361 G362 A365 D366 K367 D386 K387 Q391 F399 N400 N401 R404 R405 I406 M413 E414 D415 T436 F439 Y448 D449 K450 V451 R452 L453 Q454 D457 E461 L462
E468 F469 Y470 H471 K472 C473 D474 N475 E476 C477 M478 E479 S480 V481 R482 N483 G484 T485 Y486 D487 Y488 P489 Q490 Y491 S492 E493 E494 L497 K498 R499 E500 GLU ILE SER GLY VAL LYS

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	80.15Å 108.50Å 133.19Å 90.00° 99.79° 90.00°	Depositor
Resolution (Å)	26.33 – 2.61 26.33 – 2.61	Depositor EDS
% Data completeness (in resolution range)	92.7 (26.33-2.61) 92.7 (26.33-2.61)	Depositor EDS
R_{merge}	0.17	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	2.43 (at 2.60Å)	Xtriage
Refinement program	REFMAC 5.8.0419	Depositor
R, R_{free}	0.184 , 0.231 0.189 , 0.226	Depositor DCC
R_{free} test set	64507 reflections (3.01%)	wwPDB-VP
Wilson B-factor (Å^2)	31.1	Xtriage
Anisotropy	0.568	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.33 , 35.9	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	0.93	EDS
Total number of atoms	12385	wwPDB-VP
Average B, all atoms (Å^2)	37.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.48% of the height of the origin peak. No significant pseudotranslation is detected.*

[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: GAL, SIA, 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	0.70	0/4018	1.23	18/5443 (0.3%)
1	B	0.69	0/4018	1.23	22/5443 (0.4%)
1	C	0.66	0/4018	1.22	23/5443 (0.4%)
All	All	0.68	0/12054	1.23	63/16329 (0.4%)

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	3
1	B	0	2
1	C	0	1
All	All	0	6

There are no bond length outliers.

All (63) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	195	THR	CA-CB-OG1	-7.57	98.25	109.60
1	B	487	ASP	CA-CB-CG	7.20	119.80	112.60
1	C	155	ASP	CA-CB-CG	6.85	119.45	112.60
1	A	251	GLU	CB-CG-CD	6.80	124.16	112.60
1	C	302	CYS	CB-CA-C	-6.79	98.70	109.08
1	B	195	THR	CA-CB-OG1	-6.76	99.46	109.60
1	C	159	THR	CA-CB-OG1	-6.58	99.72	109.60
1	B	185	GLU	CB-CG-CD	6.50	123.66	112.60
1	A	457	ASP	CA-CB-CG	6.49	119.09	112.60
1	C	195	THR	CA-CB-OG1	-6.30	100.14	109.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	85	PRO	N-CA-C	-6.25	101.45	111.38
1	A	479	GLU	CB-CG-CD	6.22	123.18	112.60
1	C	171	ASP	CA-CB-CG	6.21	118.81	112.60
1	A	391	GLN	CB-CA-C	-6.08	98.33	110.42
1	C	31	ASP	CA-CB-CG	6.05	118.65	112.60
1	B	191	TYR	CA-C-N	-6.04	111.13	120.31
1	B	191	TYR	C-N-CA	-6.04	111.13	120.31
1	B	111	PHE	CB-CA-C	-6.03	98.85	109.71
1	A	97	ASP	CA-CB-CG	6.03	118.63	112.60
1	A	386	ASP	CB-CA-C	6.01	121.07	110.85
1	B	88	ASP	CA-CB-CG	5.99	118.59	112.60
1	C	88	ASP	CA-CB-CG	5.97	118.57	112.60
1	A	236	ASP	CB-CA-C	5.96	115.73	109.83
1	B	332	PHE	CA-CB-CG	-5.96	107.84	113.80
1	B	419	ASP	CA-CB-CG	5.96	118.56	112.60
1	B	17	ASP	CA-CB-CG	5.95	118.55	112.60
1	A	390	THR	CA-CB-OG1	-5.88	100.77	109.60
1	A	348	ASP	CA-CB-CG	5.84	118.44	112.60
1	B	449	ASP	CA-CB-CG	5.83	118.43	112.60
1	C	81	GLU	N-CA-CB	-5.83	101.31	110.69
1	A	375	ASP	CA-CB-CG	5.78	118.38	112.60
1	C	215	THR	CA-CB-OG1	-5.75	100.97	109.60
1	C	81	GLU	CB-CA-C	5.74	119.70	109.38
1	C	227	ASP	CA-CB-CG	5.73	118.33	112.60
1	C	17	ASP	CA-CB-CG	5.67	118.27	112.60
1	B	43	ASP	CA-CB-CG	5.65	118.25	112.60
1	C	476	GLU	CB-CG-CD	5.65	122.20	112.60
1	A	21	GLU	CB-CG-CD	5.62	122.16	112.60
1	B	302	CYS	CB-CA-C	-5.56	100.77	109.22
1	B	390	THR	CA-CB-OG1	-5.53	101.31	109.60
1	B	68	ASP	CA-CB-CG	5.48	118.08	112.60
1	B	263	THR	CA-CB-OG1	-5.47	101.40	109.60
1	C	457	ASP	CA-CB-CG	5.45	118.05	112.60
1	C	391	GLN	CB-CA-C	-5.42	99.63	111.71
1	C	111	PHE	CB-CA-C	-5.40	99.49	109.37
1	A	386	ASP	CA-CB-CG	5.38	117.98	112.60
1	A	419	ASP	CA-CB-CG	5.37	117.97	112.60
1	C	348	ASP	CA-CB-CG	5.37	117.97	112.60
1	B	258	LYS	CB-CA-C	5.33	118.35	110.14
1	B	372	LYS	N-CA-CB	5.30	118.01	110.06
1	A	168	ASN	N-CA-C	-5.30	103.04	110.35
1	B	236	ASP	CA-CB-CG	5.23	117.83	112.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	C	271	TYR	CB-CA-C	5.23	120.17	109.76
1	A	172	LEU	N-CA-CB	-5.22	102.57	110.77
1	B	73	VAL	N-CA-CB	-5.21	106.84	112.37
1	C	192	LYS	N-CA-C	-5.16	106.14	112.90
1	C	43	ASP	CA-CB-CG	5.13	117.73	112.60
1	A	251	GLU	N-CA-C	-5.11	105.28	112.12
1	C	237	ASP	CA-CB-CG	5.10	117.70	112.60
1	B	171	ASP	CA-CB-CG	5.08	117.68	112.60
1	C	261	ASP	CB-CA-C	5.07	118.89	110.78
1	B	460	LYS	N-CA-CB	-5.04	102.65	110.57
1	C	340	GLU	CB-CG-CD	5.03	121.16	112.60

There are no chirality outliers.

All (6) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	107	ARG	Sidechain
1	A	223	ARG	Sidechain
1	A	397	ARG	Sidechain
1	B	216	ARG	Sidechain
1	B	452	ARG	Sidechain
1	C	318	ARG	Sidechain

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	3928	0	3809	59	0
1	B	3928	0	3809	42	0
1	C	3928	0	3809	52	0
2	A	56	0	52	14	0
2	B	56	0	52	7	0
2	C	57	0	54	9	0
3	C	11	0	10	3	0
4	C	20	0	17	2	0
5	A	179	0	0	6	0
5	B	131	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
5	C	91	0	0	2	0
All	All	12385	0	11612	157	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 7.

All (157) 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:165:ASN:HD21	2:A:601:NAG:C1	1.33	1.38
1:B:165:ASN:HD21	2:B:601:NAG:C1	1.54	1.20
1:A:165:ASN:ND2	2:A:601:NAG:C1	2.15	1.09
3:C:605:GAL:O3	4:C:606:SIA:C2	2.05	1.04
1:A:23:ASN:HD21	2:A:603:NAG:C1	1.77	0.97
2:A:601:NAG:O4	2:C:601:NAG:C1	2.16	0.94
1:B:278:CYS:HG	1:B:302:CYS:HG	0.94	0.94
1:A:90:CYS:HG	1:A:135:CYS:HG	1.12	0.94
3:C:605:GAL:HO3	4:C:606:SIA:C2	1.82	0.90
1:C:90:CYS:HG	1:C:135:CYS:HG	0.88	0.88
1:C:42:CYS:HG	1:C:274:CYS:HG	0.88	0.88
1:C:165:ASN:HD21	2:C:602:NAG:C1	1.88	0.87
1:B:165:ASN:ND2	2:B:601:NAG:C1	2.40	0.81
1:B:90:CYS:HG	1:B:135:CYS:HG	1.24	0.80
1:A:11:ASN:HD21	2:A:602:NAG:C1	1.96	0.79
1:A:202:THR:HG22	1:A:204:THR:H	1.48	0.78
1:B:23:ASN:ND2	2:B:603:NAG:C1	2.47	0.77
1:B:4:CYS:HG	1:B:466:CYS:HG	0.78	0.77
1:A:202:THR:HB	1:A:205:LEU:HB3	1.66	0.76
1:A:42:CYS:HG	1:A:274:CYS:HG	1.32	0.76
1:B:473:CYS:HG	1:B:477:CYS:HG	0.77	0.75
1:C:23:ASN:HD21	2:C:603:NAG:C1	2.00	0.73
1:C:278:CYS:HG	1:C:302:CYS:HG	1.34	0.73
1:B:55:CYS:HG	1:B:67:CYS:HG	0.74	0.72
1:B:11:ASN:HD21	2:B:602:NAG:C1	2.03	0.72
1:C:120:SER:HB2	5:C:771:HOH:O	1.91	0.70
1:B:406:ILE:H	1:B:406:ILE:HD12	1.55	0.70
2:C:604:NAG:O4	3:C:605:GAL:C1	2.40	0.70
1:A:406:ILE:H	1:A:406:ILE:HD12	1.55	0.69
1:A:88:ASP:O	1:A:89:LEU:HB2	1.92	0.68
1:A:55:CYS:CB	1:A:67:CYS:HG	2.07	0.67
1:C:165:ASN:HD21	2:C:602:NAG:C2	2.09	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:23:ASN:HD21	2:B:603:NAG:C1	2.08	0.64
1:B:38:ASN:OD1	1:B:38:ASN:C	2.42	0.62
1:B:477:CYS:O	1:B:480:SER:HB2	2.02	0.60
1:A:81:GLU:OE1	1:A:266:LYS:NZ	2.27	0.60
1:A:23:ASN:ND2	2:A:603:NAG:C1	2.59	0.59
1:B:406:ILE:HD12	1:B:406:ILE:N	2.18	0.59
1:C:454:GLN:NE2	1:C:484:GLY:O	2.36	0.59
1:C:355:HIS:O	1:C:356:SER:HB2	2.03	0.59
1:A:19:ILE:HD11	1:A:431:MET:HA	1.85	0.59
1:A:388:MET:HE3	1:A:391:GLN:HE21	1.68	0.58
1:A:169:ARG:HG2	1:A:169:ARG:HH11	1.67	0.57
1:A:313:LEU:HD13	1:A:429:VAL:HG22	1.86	0.57
1:B:55:CYS:CB	1:B:67:CYS:HG	2.16	0.57
1:C:413:MET:HG3	1:C:414:GLU:N	2.20	0.57
1:A:290:PRO:HG3	1:A:385:ILE:HD12	1.87	0.57
1:A:409:LEU:C	1:A:409:LEU:HD23	2.30	0.57
1:A:406:ILE:HD12	1:A:406:ILE:N	2.20	0.56
1:B:278:CYS:HG	1:B:302:CYS:CB	2.17	0.56
1:B:308:SER:HB3	1:B:426:GLU:OE2	2.05	0.56
1:A:454:GLN:NE2	1:A:484:GLY:HA2	2.21	0.56
1:C:355:HIS:HB3	1:C:478:MET:HE1	1.89	0.55
1:A:5:ILE:HG13	1:A:448:TYR:HA	1.89	0.55
1:A:406:ILE:H	1:A:406:ILE:CD1	2.20	0.55
1:C:75:GLU:OE1	1:C:258:LYS:NZ	2.37	0.54
1:C:23:ASN:HD21	2:C:603:NAG:C2	2.21	0.54
1:B:285:ILE:HD11	1:B:294:ILE:HG13	1.90	0.53
1:C:295:HIS:ND1	1:C:296:PRO:HD2	2.23	0.53
1:C:359:GLN:N	1:C:359:GLN:OE1	2.41	0.52
1:B:476:GLU:OE2	1:B:476:GLU:HA	2.09	0.52
1:C:340:GLU:CG	1:C:341:GLY:N	2.73	0.52
1:A:403:GLU:HA	1:A:406:ILE:HD13	1.91	0.52
1:C:304:LYS:HB3	1:C:391:GLN:NE2	2.25	0.51
1:B:473:CYS:HG	1:B:477:CYS:CB	2.21	0.51
1:B:176:TRP:HE1	1:B:207:GLN:HE22	1.57	0.51
1:A:483:ASN:OD1	2:A:604:NAG:C1	2.59	0.51
1:C:11:ASN:OD1	1:C:11:ASN:N	2.44	0.51
1:C:276:THR:HG21	1:C:284:ALA:HB1	1.93	0.51
1:A:72:ARG:N	5:A:704:HOH:O	2.31	0.51
1:C:35:LYS:HD3	5:C:770:HOH:O	2.11	0.51
1:A:454:GLN:HE22	1:A:484:GLY:HA2	1.75	0.50
1:B:4:CYS:CB	1:B:466:CYS:HG	2.22	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:483:ASN:C	1:A:483:ASN:HD22	2.20	0.50
1:C:66:MET:HA	1:C:66:MET:HE2	1.93	0.50
1:A:235:PRO:HD2	5:A:833:HOH:O	2.11	0.50
1:A:295:HIS:CG	1:A:296:PRO:HD2	2.47	0.50
1:B:480:SER:HB3	1:B:486:TYR:HA	1.94	0.50
1:A:16:VAL:HG11	1:A:314:ALA:HB2	1.94	0.49
1:C:401:ASN:ND2	1:C:404:ARG:HH22	2.10	0.49
1:C:473:CYS:SG	1:C:477:CYS:SG	3.10	0.49
1:A:4:CYS:O	1:A:353:TYR:HA	2.13	0.49
1:C:47:VAL:HB	1:C:77:SER:HB3	1.94	0.49
1:C:165:ASN:ND2	2:C:602:NAG:C1	2.69	0.49
1:B:353:TYR:OH	1:B:366:ASP:OD1	2.26	0.48
2:A:601:NAG:O4	2:C:601:NAG:O5	2.16	0.48
1:C:93:GLY:HA3	1:C:226:MET:O	2.14	0.48
1:A:23:ASN:HD21	2:A:603:NAG:C2	2.24	0.48
1:A:11:ASN:HD21	2:A:602:NAG:C2	2.27	0.48
1:C:160:ILE:O	1:C:242:GLU:HA	2.13	0.48
1:A:38:ASN:OD1	1:A:38:ASN:C	2.56	0.47
1:A:488:TYR:N	1:A:489:PRO:HD2	2.29	0.47
1:B:53:LYS:NZ	1:B:69:GLU:OE1	2.32	0.47
1:B:289:MET:HA	1:B:289:MET:HE2	1.96	0.47
1:C:401:ASN:ND2	1:C:404:ARG:NH2	2.62	0.47
1:A:285:ILE:HD11	1:A:294:ILE:HG13	1.96	0.47
1:C:42:CYS:CB	1:C:274:CYS:HG	2.27	0.47
1:C:399:PHE:CE1	1:C:406:ILE:HG22	2.50	0.47
1:C:480:SER:HB2	1:C:485:THR:O	2.14	0.47
1:B:165:ASN:HD21	2:B:601:NAG:C2	2.19	0.47
1:B:357:ASN:OD1	1:B:357:ASN:C	2.56	0.47
1:C:452:ARG:HD2	1:C:461:GLU:OE2	2.14	0.47
1:A:165:ASN:HD21	2:A:601:NAG:C2	2.18	0.46
1:C:55:CYS:HG	1:C:67:CYS:CB	2.24	0.46
1:B:27:THR:HG23	1:B:317:LEU:O	2.15	0.46
1:A:19:ILE:HD12	1:A:19:ILE:H	1.81	0.46
1:A:48:LYS:HG3	1:A:49:PRO:HD2	1.98	0.46
1:B:135:CYS:O	1:B:142:SER:HB3	2.16	0.45
1:C:493:GLU:HG2	1:C:494:GLU:N	2.32	0.45
1:B:406:ILE:H	1:B:406:ILE:CD1	2.26	0.45
1:B:55:CYS:HB3	1:B:67:CYS:SG	2.57	0.45
1:A:413:MET:SD	1:C:413:MET:HB3	2.57	0.45
1:A:307:LYS:HG3	1:A:418:LEU:HD23	1.99	0.45
1:C:320:SER:O	1:C:321:PRO:C	2.59	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:55:CYS:CB	1:B:67:CYS:SG	3.05	0.44
1:A:184:ALA:O	1:A:188:ILE:HD12	2.17	0.44
1:A:305:TYR:HE2	1:A:418:LEU:HD21	1.82	0.44
1:A:449:ASP:OD1	5:A:701:HOH:O	2.21	0.44
5:A:719:HOH:O	1:C:406:ILE:HD13	2.18	0.44
1:C:340:GLU:HG3	1:C:341:GLY:N	2.32	0.44
1:A:165:ASN:CG	2:A:601:NAG:C1	2.88	0.43
1:A:487:ASP:OD1	1:A:489:PRO:HG2	2.18	0.43
1:C:357:ASN:HD21	1:C:475:ASN:ND2	2.16	0.43
1:B:488:TYR:N	1:B:489:PRO:HD2	2.33	0.43
1:C:477:CYS:O	1:C:480:SER:N	2.47	0.43
1:B:179:HIS:O	1:B:246:ASN:HB3	2.19	0.43
1:A:10:ASN:OD1	1:A:10:ASN:C	2.63	0.42
1:B:455:LEU:O	1:B:456:ARG:C	2.61	0.42
1:A:400:ASN:OD1	1:A:400:ASN:C	2.62	0.42
1:A:488:TYR:N	1:A:489:PRO:CD	2.83	0.42
1:B:7:TYR:CD2	1:B:317:LEU:HD12	2.55	0.42
1:B:406:ILE:O	1:B:407:GLU:C	2.63	0.42
1:C:178:ILE:HB	1:C:198:ILE:HD12	2.02	0.42
1:C:234:LYS:HB3	1:C:235:PRO:CD	2.50	0.42
1:C:355:HIS:CE1	1:C:482:ARG:NH2	2.88	0.42
1:A:43:ASP:O	1:A:276:THR:HG22	2.19	0.42
1:A:55:CYS:HB3	1:A:67:CYS:HG	1.85	0.41
1:B:483:ASN:ND2	2:B:604:NAG:C1	2.83	0.41
1:C:228:PHE:HE1	1:C:248:ILE:HG21	1.85	0.41
1:C:278:CYS:HG	1:C:302:CYS:CB	2.34	0.41
1:C:488:TYR:HB3	1:C:489:PRO:HD3	2.02	0.41
1:C:4:CYS:HB2	1:C:354:HIS:HB3	2.01	0.41
1:C:5:ILE:HD13	1:C:448:TYR:HA	2.03	0.41
1:A:20:MET:HE1	1:B:439:PHE:CD2	2.55	0.41
1:A:130:GLY:HA3	1:A:149:TRP:HB3	2.03	0.41
1:A:11:ASN:ND2	2:A:602:NAG:C1	2.75	0.41
1:A:415:ASP:HB3	5:A:858:HOH:O	2.21	0.41
1:A:403:GLU:CA	1:A:406:ILE:HD13	2.50	0.40
2:A:601:NAG:O3	2:C:601:NAG:H82	2.21	0.40
1:B:65:PRO:HG3	1:B:143:PHE:O	2.21	0.40
1:B:191:TYR:O	1:B:192:LYS:C	2.59	0.40
1:C:474:ASP:HB3	1:C:476:GLU:HG3	2.03	0.40
1:C:474:ASP:O	1:C:477:CYS:N	2.51	0.40
1:A:286:ASN:ND2	5:A:730:HOH:O	2.54	0.40
1:A:413:MET:CE	1:A:414:GLU:HG2	2.51	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:355:HIS:HB2	1:C:361:SER:HA	2.04	0.40
1:C:436:THR:O	1:C:439:PHE:HB3	2.22	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	487/506 (96%)	467 (96%)	19 (4%)	1 (0%)	44 65
1	B	487/506 (96%)	469 (96%)	18 (4%)	0	100 100
1	C	487/506 (96%)	457 (94%)	29 (6%)	1 (0%)	44 65
All	All	1461/1518 (96%)	1393 (95%)	66 (4%)	2 (0%)	48 70

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	C	356	SER
1	A	89	LEU

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	433/446 (97%)	411 (95%)	22 (5%)	20 40

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	B	433/446 (97%)	418 (96%)	15 (4%)	31 55
1	C	433/446 (97%)	414 (96%)	19 (4%)	24 46
All	All	1299/1338 (97%)	1243 (96%)	56 (4%)	25 47

All (56) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	16	VAL
1	A	51	ILE
1	A	54	ASP
1	A	86	VAL
1	A	195	THR
1	A	202	THR
1	A	308	SER
1	A	313	LEU
1	A	368	GLU
1	A	401	ASN
1	A	406	ILE
1	A	411	LYS
1	A	412	LYS
1	A	413	MET
1	A	415	ASP
1	A	418	LEU
1	A	453	LEU
1	A	457	ASP
1	A	483	ASN
1	A	492	SER
1	A	493	GLU
1	A	498	LYS
1	B	2	GLN
1	B	104	LEU
1	B	151	ILE
1	B	170	GLU
1	B	208	ARG
1	B	226	MET
1	B	258	LYS
1	B	280	THR
1	B	317	LEU
1	B	359	GLN
1	B	369	SER
1	B	387	LYS

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Mol	Chain	Res	Type
1	B	389	ASN
1	B	406	ILE
1	B	430	LEU
1	C	66	MET
1	C	71	ILE
1	C	107	ARG
1	C	112	GLU
1	C	172	LEU
1	C	248	ILE
1	C	269	VAL
1	C	275	ASN
1	C	280	THR
1	C	289	MET
1	C	301	GLU
1	C	310	LYS
1	C	355	HIS
1	C	387	LYS
1	C	406	ILE
1	C	413	MET
1	C	415	ASP
1	C	462	LEU
1	C	476	GLU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (33) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	23	ASN
1	A	109	ASN
1	A	138	GLN
1	A	146	ASN
1	A	154	ASN
1	A	165	ASN
1	A	193	ASN
1	A	218	GLN
1	A	220	ASN
1	A	391	GLN
1	A	408	ASN
1	A	454	GLN
1	A	483	ASN
1	B	11	ASN
1	B	15	GLN
1	B	23	ASN

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Mol	Chain	Res	Type
1	B	87	ASN
1	B	165	ASN
1	B	189	ASN
1	B	207	GLN
1	B	389	ASN
1	B	391	GLN
1	B	401	ASN
1	B	483	ASN
1	C	2	GLN
1	C	23	ASN
1	C	165	ASN
1	C	168	ASN
1	C	355	HIS
1	C	391	GLN
1	C	401	ASN
1	C	454	GLN
1	C	475	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

There are no oligosaccharides in this entry.

5.6 Ligand geometry

14 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	$\#\|Z\|>2$
3	GAL	C	605	-	11,11,12	0.68	0	15,15,17	1.51	2 (13%)
2	NAG	B	601	-	14,14,15	0.66	0	17,19,21	1.48	2 (11%)
2	NAG	A	602	-	14,14,15	0.55	0	17,19,21	0.79	1 (5%)
2	NAG	A	603	-	14,14,15	0.41	0	17,19,21	1.63	4 (23%)
2	NAG	B	603	-	14,14,15	0.51	0	17,19,21	2.39	3 (17%)
4	SIA	C	606	-	20,20,21	0.89	2 (10%)	24,28,31	1.04	2 (8%)
2	NAG	B	604	-	14,14,15	0.43	0	17,19,21	2.37	3 (17%)
2	NAG	C	601	-	14,14,15	0.39	0	17,19,21	2.03	5 (29%)
2	NAG	B	602	-	14,14,15	0.46	0	17,19,21	1.57	4 (23%)
2	NAG	A	601	-	14,14,15	0.58	0	17,19,21	1.47	3 (17%)
2	NAG	C	602	-	14,14,15	0.54	0	17,19,21	1.46	3 (17%)
2	NAG	C	603	-	14,14,15	0.42	0	17,19,21	1.34	1 (5%)
2	NAG	C	604	-	15,15,15	0.23	0	21,21,21	1.21	3 (14%)
2	NAG	A	604	-	14,14,15	0.42	0	17,19,21	0.85	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
3	GAL	C	605	-	-	2/2/19/22	0/1/1/1
2	NAG	B	601	-	-	0/6/23/26	0/1/1/1
2	NAG	A	602	-	-	3/6/23/26	0/1/1/1
2	NAG	A	603	-	-	4/6/23/26	0/1/1/1
2	NAG	B	603	-	-	0/6/23/26	0/1/1/1
4	SIA	C	606	-	-	0/18/34/38	0/1/1/1
2	NAG	B	604	-	-	5/6/23/26	0/1/1/1
2	NAG	C	601	-	-	3/6/23/26	0/1/1/1
2	NAG	B	602	-	-	4/6/23/26	0/1/1/1
2	NAG	A	601	-	-	2/6/23/26	0/1/1/1
2	NAG	C	602	-	-	4/6/23/26	0/1/1/1
2	NAG	C	603	-	-	2/6/23/26	0/1/1/1
2	NAG	C	604	-	-	4/6/26/26	0/1/1/1
2	NAG	A	604	-	-	4/6/23/26	0/1/1/1

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	C	606	SIA	C2-C1	2.55	1.54	1.52
4	C	606	SIA	O1B-C1	-2.26	1.23	1.30

All (36) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	B	604	NAG	O5-C1-C2	8.25	124.31	111.29
2	B	603	NAG	O5-C1-C2	8.21	124.25	111.29
2	C	601	NAG	O5-C1-C2	-6.37	101.23	111.29
2	B	602	NAG	O5-C1-C2	-4.67	103.91	111.29
3	C	605	GAL	C1-C2-C3	4.26	114.91	109.67
2	B	604	NAG	C1-O5-C5	4.11	117.75	112.19
2	A	603	NAG	O5-C1-C2	-4.09	104.84	111.29
2	B	601	NAG	O5-C1-C2	-3.92	105.10	111.29
2	C	603	NAG	C1-C2-N2	3.83	117.02	110.49
2	C	602	NAG	C2-N2-C7	3.42	127.77	122.90
2	A	601	NAG	C1-O5-C5	-3.28	107.75	112.19
2	B	603	NAG	C1-O5-C5	3.17	116.49	112.19
2	C	604	NAG	C1-C2-N2	3.07	114.28	110.73
2	A	603	NAG	C4-C3-C2	-2.94	106.70	111.02
2	A	603	NAG	O3-C3-C2	2.88	115.44	109.47
2	A	601	NAG	O5-C1-C2	-2.82	106.84	111.29
2	B	603	NAG	C1-C2-N2	2.68	115.06	110.49
4	C	606	SIA	C6-O6-C2	2.66	117.03	111.34
3	C	605	GAL	C2-C3-C4	2.50	115.22	110.89
2	C	602	NAG	C1-O5-C5	2.47	115.54	112.19
2	C	601	NAG	C1-C2-N2	2.42	114.63	110.49
2	C	601	NAG	O3-C3-C2	2.42	114.47	109.47
2	C	602	NAG	O5-C1-C2	-2.29	107.67	111.29
2	A	603	NAG	C1-C2-N2	2.28	114.39	110.49
2	B	604	NAG	C1-C2-N2	2.27	114.36	110.49
2	C	601	NAG	C1-O5-C5	2.26	115.26	112.19
2	A	601	NAG	O5-C5-C6	2.21	110.67	107.20
2	B	602	NAG	O3-C3-C2	2.19	113.99	109.47
2	C	601	NAG	C4-C3-C2	-2.17	107.84	111.02
2	C	604	NAG	C1-C2-C3	-2.14	107.63	110.54
2	B	602	NAG	C4-C3-C2	-2.12	107.91	111.02
4	C	606	SIA	O1B-C1-C2	2.11	119.06	113.03
2	C	604	NAG	O1-C1-C2	2.10	113.58	109.22
2	B	602	NAG	C1-C2-N2	2.10	114.07	110.49
2	B	601	NAG	C6-C5-C4	2.06	117.84	113.00
2	A	602	NAG	C1-C2-N2	2.04	113.98	110.49

There are no chirality outliers.

All (37) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	604	NAG	C8-C7-N2-C2
2	A	604	NAG	O7-C7-N2-C2
2	C	601	NAG	C8-C7-N2-C2
2	C	601	NAG	O7-C7-N2-C2
2	C	602	NAG	C8-C7-N2-C2
2	C	602	NAG	O7-C7-N2-C2
2	C	604	NAG	C8-C7-N2-C2
2	C	604	NAG	O7-C7-N2-C2
2	A	603	NAG	C4-C5-C6-O6
2	A	601	NAG	O5-C5-C6-O6
3	C	605	GAL	O5-C5-C6-O6
2	A	604	NAG	O5-C5-C6-O6
2	C	604	NAG	O5-C5-C6-O6
2	A	603	NAG	O5-C5-C6-O6
2	B	602	NAG	C4-C5-C6-O6
2	B	604	NAG	C4-C5-C6-O6
2	A	604	NAG	C4-C5-C6-O6
2	A	603	NAG	C8-C7-N2-C2
2	A	603	NAG	O7-C7-N2-C2
2	B	604	NAG	C8-C7-N2-C2
2	C	604	NAG	C4-C5-C6-O6
2	C	603	NAG	O5-C5-C6-O6
2	A	601	NAG	C4-C5-C6-O6
2	A	602	NAG	O5-C5-C6-O6
2	B	602	NAG	O5-C5-C6-O6
2	B	604	NAG	O5-C5-C6-O6
2	C	602	NAG	O5-C5-C6-O6
2	B	604	NAG	O7-C7-N2-C2
3	C	605	GAL	C4-C5-C6-O6
2	C	603	NAG	C4-C5-C6-O6
2	A	602	NAG	C8-C7-N2-C2
2	B	602	NAG	C8-C7-N2-C2
2	B	604	NAG	C3-C2-N2-C7
2	B	602	NAG	O7-C7-N2-C2
2	C	602	NAG	C4-C5-C6-O6
2	A	602	NAG	O7-C7-N2-C2
2	C	601	NAG	O5-C5-C6-O6

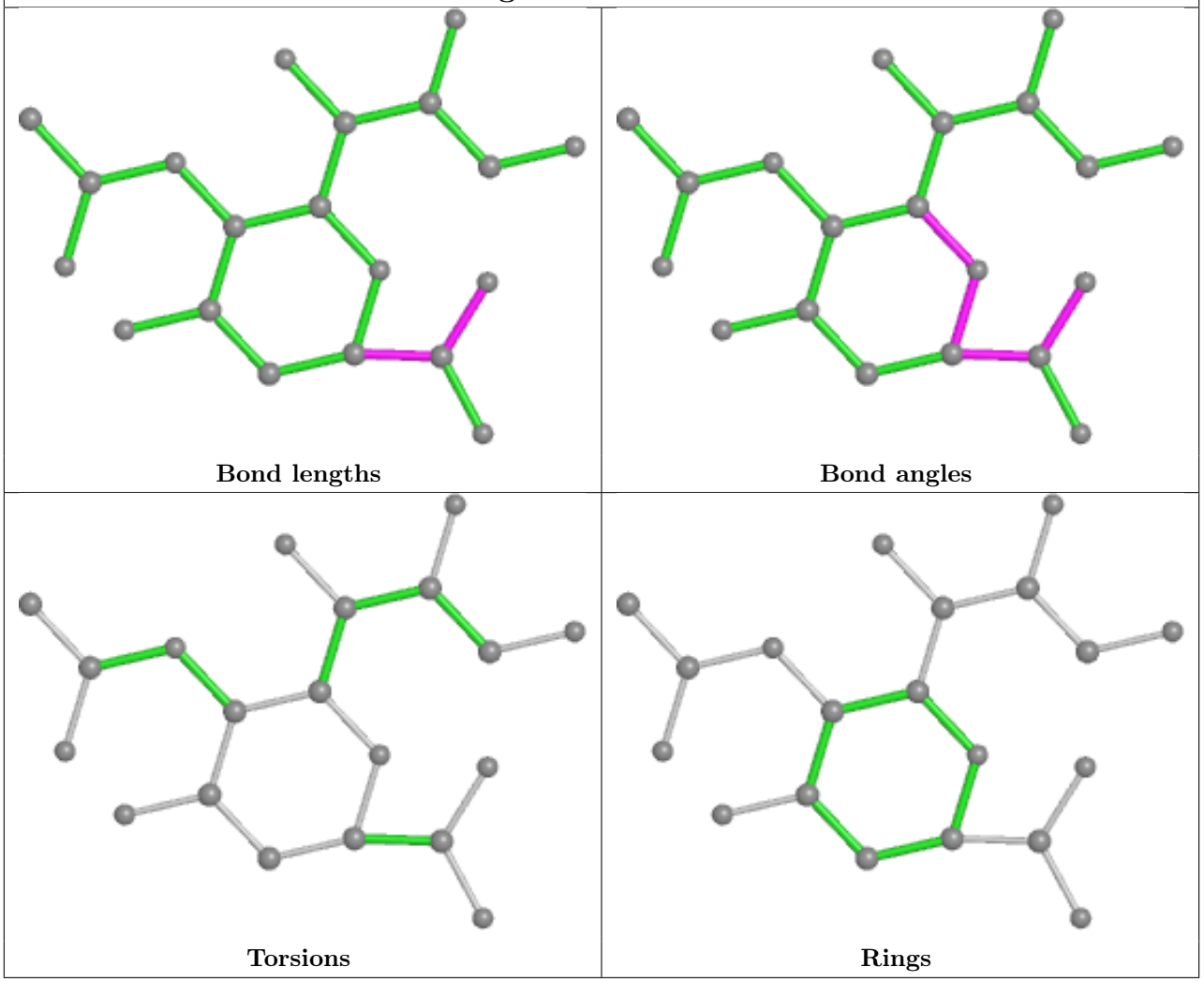
There are no ring outliers.

14 monomers are involved in 29 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	C	605	GAL	3	0
2	B	601	NAG	3	0
2	A	602	NAG	3	0
2	A	603	NAG	3	0
2	B	603	NAG	2	0
4	C	606	SIA	2	0
2	B	604	NAG	1	0
2	C	601	NAG	3	0
2	B	602	NAG	1	0
2	A	601	NAG	7	0
2	C	602	NAG	3	0
2	C	603	NAG	2	0
2	C	604	NAG	1	0
2	A	604	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 then 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.

Ligand SIA C 606



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, 95^{th} 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	491/506 (97%)	-0.47	2 (0%) 89 86	10, 28, 60, 99	0
1	B	491/506 (97%)	-0.40	5 (1%) 79 76	12, 32, 62, 90	0
1	C	491/506 (97%)	-0.06	26 (5%) 33 28	13, 39, 99, 140	0
All	All	1473/1518 (97%)	-0.31	33 (2%) 62 57	10, 33, 75, 140	0

All (33) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	321	PRO	4.4
1	C	473	CYS	4.2
1	C	497	LEU	3.4
1	C	489	PRO	3.3
1	C	491	TYR	3.3
1	C	471	HIS	3.0
1	A	321	PRO	2.9
1	C	469	PHE	2.9
1	B	489	PRO	2.8
1	C	362	GLY	2.8
1	C	358	GLU	2.7
1	C	1	ASP	2.7
1	C	355	HIS	2.7
1	C	347	VAL	2.5
1	A	496	ARG	2.3
1	C	470	TYR	2.3
1	C	360	GLY	2.3
1	C	478	MET	2.2
1	C	499	ARG	2.2
1	B	476	GLU	2.2
1	C	490	GLN	2.2
1	C	365	ALA	2.2
1	B	500	GLU	2.1

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Mol	Chain	Res	Type	RSRZ
1	C	386	ASP	2.1
1	C	468	GLU	2.1
1	C	486	TYR	2.1
1	C	321	PRO	2.1
1	C	493	GLU	2.1
1	C	367	LYS	2.1
1	C	450	LYS	2.1
1	B	496	ARG	2.1
1	C	68	ASP	2.0
1	C	488	TYR	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, 95^{th} 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	C	604	15/15	0.54	0.20	90,115,139,140	0
2	NAG	C	601	14/15	0.71	0.16	72,107,118,120	0
2	NAG	B	604	14/15	0.73	0.18	76,91,102,105	0
2	NAG	A	604	14/15	0.74	0.22	82,112,127,132	0
2	NAG	C	603	14/15	0.74	0.16	72,86,101,109	0
2	NAG	A	603	14/15	0.74	0.15	61,86,90,94	0
2	NAG	A	602	14/15	0.76	0.15	68,75,85,87	0
2	NAG	B	602	14/15	0.76	0.17	81,88,98,98	0
2	NAG	B	603	14/15	0.82	0.12	59,73,86,101	0
2	NAG	C	602	14/15	0.82	0.13	42,58,74,78	0
2	NAG	B	601	14/15	0.86	0.13	44,48,58,63	0
3	GAL	C	605	11/12	0.86	0.12	50,64,69,73	0
2	NAG	A	601	14/15	0.91	0.10	37,42,51,53	0

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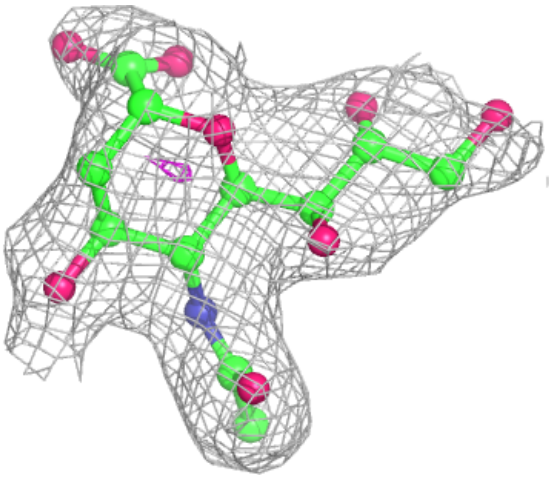
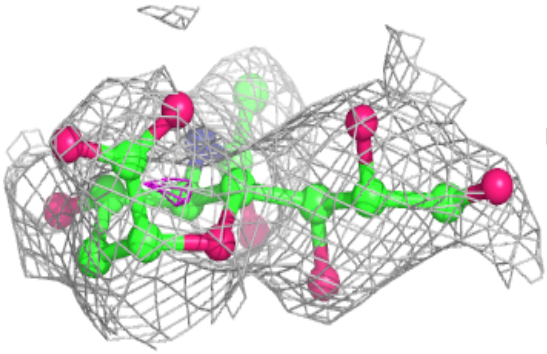
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
4	SIA	C	606	20/21	0.92	0.09	32,40,53,55	0

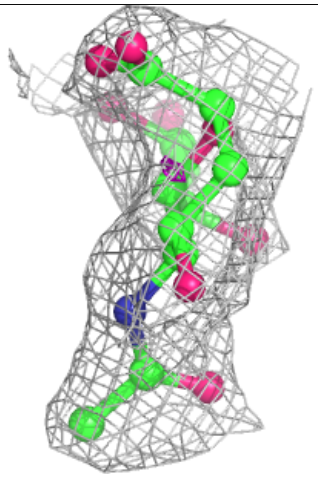
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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

Electron density around SIA C 606:

$2mF_o$-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.