



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 5, 2026 – 01:35 AM UTC

PDB ID : 3MME / pdb_00003mme
Title : Structure and functional dissection of PG16, an antibody with broad and potent neutralization of HIV-1
Authors : Pancera, M.; McLellan, J.; Zhou, T.; Zhu, J.; Kwong, P.
Deposited on : 2010-04-19
Resolution : 3.97 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

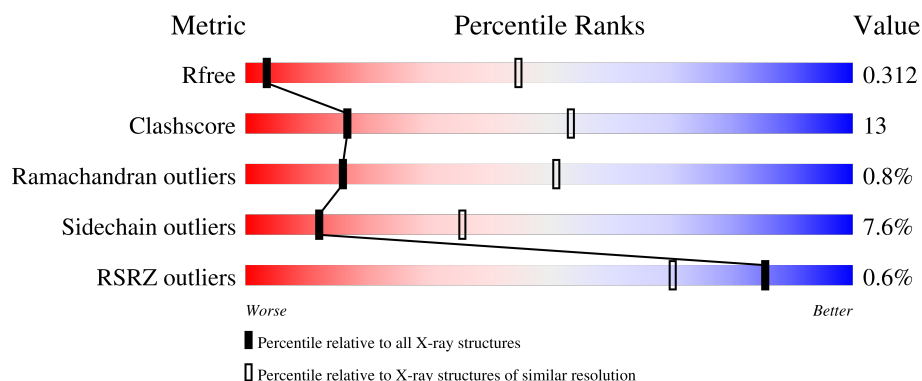
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.97 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	1016 (4.18-3.78)
Clashscore	190562	1007 (4.16-3.80)
Ramachandran outliers	187476	1000 (4.18-3.78)
Sidechain outliers	187428	1131 (4.20-3.76)
RSRZ outliers	180081	1016 (4.18-3.78)

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	238	73%18%7%.
1	C	238	% 67%26%. 7%
1	H	238	67%25%7%.
2	B	216	69%25%. .
2	D	216	% 75%20%. .

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Mol	Chain	Length	Quality of chain
2	L	216	
3	E	3	
4	F	2	

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
4	NAG	F	1	-	-	X	-

2 Entry composition [i](#)

There are 5 unique types of molecules in this entry. The entry contains 10040 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.

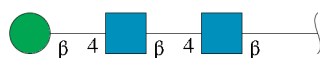
- Molecule 1 is a protein called PG16 HEAVY CHAIN FAB.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	H	235	Total	C	N	O	S	0	0	0
			1802	1143	304	346	9			
1	A	235	Total	C	N	O	S	0	0	0
			1802	1143	304	346	9			
1	C	222	Total	C	N	O	S	0	0	0
			1684	1066	287	322	9			

- Molecule 2 is a protein called PG16 LIGHT CHAIN FAB.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	L	211	Total	C	N	O	S	0	0	0
			1557	969	264	319	5			
2	B	211	Total	C	N	O	S	0	0	0
			1557	969	264	319	5			
2	D	211	Total	C	N	O	S	0	0	0
			1557	969	264	319	5			

- Molecule 3 is an oligosaccharide called beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose.



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	E	3	Total	C	N	O		0	0	0
			39	22	2	15				

- Molecule 4 is an oligosaccharide called 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose.



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
4	F	2	Total	C	N	O	0	0	0
			28	16	2	10			

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

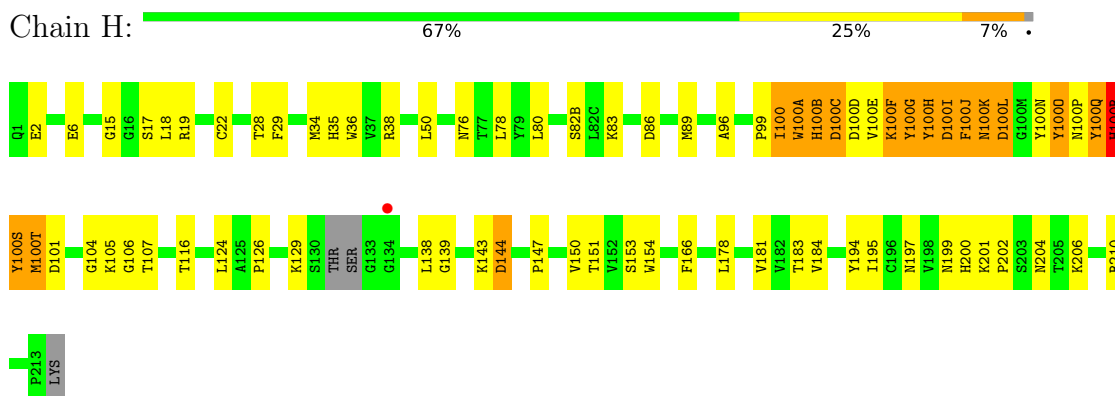


Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
5	B	1	Total	C	N	O	0	0
			14	8	1	5		

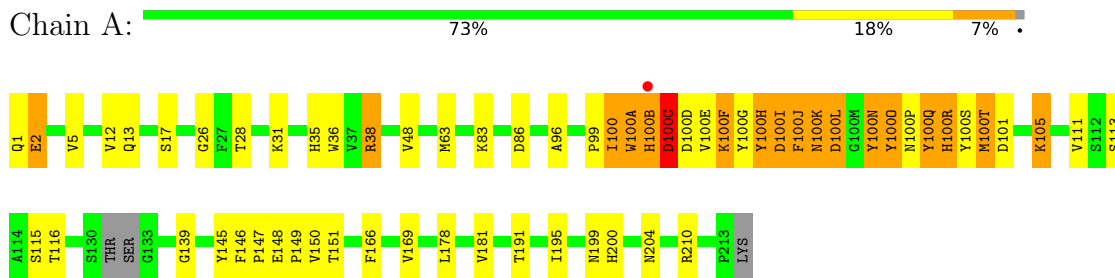
3 Residue-property plots [i](#)

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.

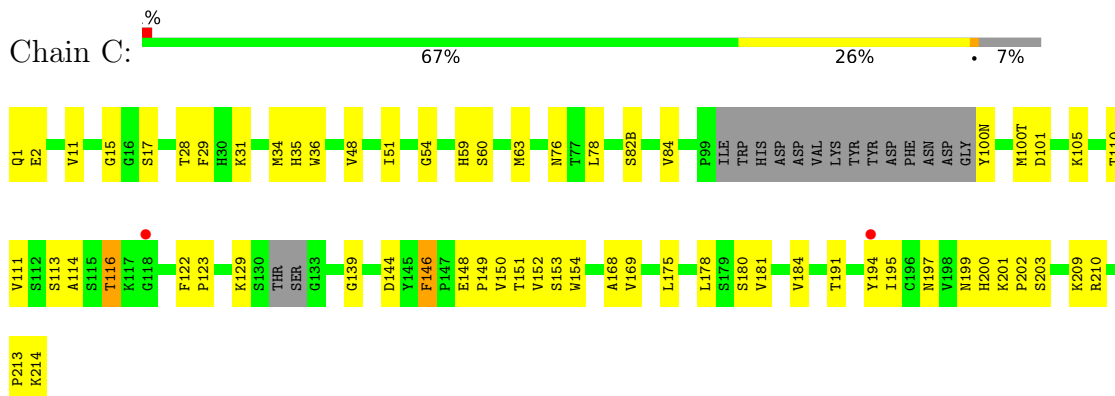
• Molecule 1: PG16 HEAVY CHAIN FAB



• Molecule 1: PG16 HEAVY CHAIN FAB

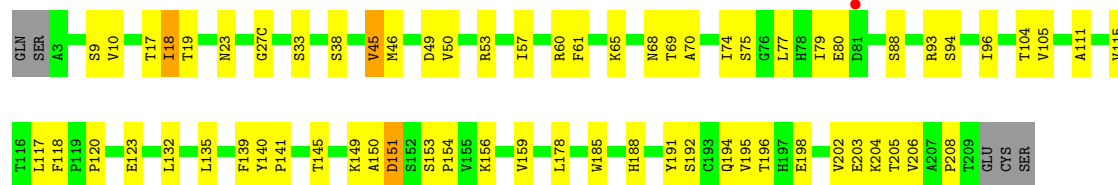


• Molecule 1: PG16 HEAVY CHAIN FAB



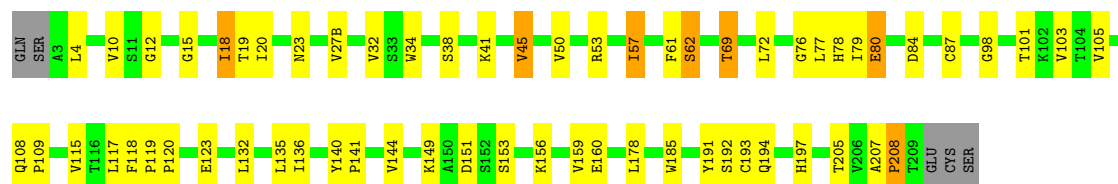
• Molecule 2: PG16 LIGHT CHAIN FAB

Chain L:  67% 29% ..



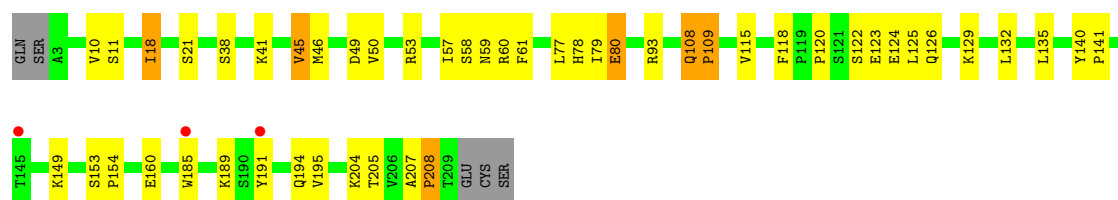
• Molecule 2: PG16 LIGHT CHAIN FAB

Chain B:  69% 25% ..



• Molecule 2: PG16 LIGHT CHAIN FAB

Chain D:  % 75% 20% ..



• Molecule 3: beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain E:  33% 67%



• Molecule 4: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain F:  50% 50%



4 Data and refinement statistics

Property	Value	Source
Space group	C 2 2 2	Depositor
Cell constants a, b, c, α , β , γ	191.96Å 230.80Å 82.10Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	49.45 – 3.97 49.45 – 3.97	Depositor EDS
% Data completeness (in resolution range)	91.1 (49.45-3.97) 91.1 (49.45-3.97)	Depositor EDS
R_{merge}	0.24	Depositor
R_{sym}	0.20	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.73 (at 4.00Å)	Xtriage
Refinement program	PHENIX (phenix.refine: 1.5_2)	Depositor
R, R_{free}	0.256 , 0.317 0.246 , 0.312	Depositor DCC
R_{free} test set	739 reflections (4.56%)	wwPDB-VP
Wilson B-factor (Å ²)	112.9	Xtriage
Anisotropy	0.270	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.33 , 181.4	EDS
L-test for twinning ²	$\langle L \rangle = 0.46$, $\langle L^2 \rangle = 0.28$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.87	EDS
Total number of atoms	10040	wwPDB-VP
Average B, all atoms (Å ²)	176.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.75% 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, BMA

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	A	0.34	1/1852 (0.1%)	0.71	1/2517 (0.0%)
1	C	0.34	1/1727 (0.1%)	0.77	2/2343 (0.1%)
1	H	0.34	1/1852 (0.1%)	0.73	0/2517
2	B	0.34	0/1594	0.76	4/2171 (0.2%)
2	D	0.33	1/1594 (0.1%)	0.76	2/2171 (0.1%)
2	L	0.35	1/1594 (0.1%)	0.80	4/2171 (0.2%)
All	All	0.34	5/10213 (0.0%)	0.76	13/13890 (0.1%)

All (5) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	C	59	HIS	ND1-CE1	5.37	1.38	1.32
1	A	204	ASN	CG-OD1	5.26	1.33	1.23
2	L	188	HIS	ND1-CE1	5.24	1.37	1.32
1	H	204	ASN	CG-OD1	5.23	1.33	1.23
2	D	108	GLN	CD-OE1	5.07	1.33	1.23

All (13) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	L	188	HIS	CB-CG-CD2	-6.56	122.68	131.20
1	C	59	HIS	CB-CG-CD2	-6.48	122.78	131.20
2	L	188	HIS	CB-CG-ND1	5.65	131.18	122.70
1	C	59	HIS	CB-CG-ND1	5.58	131.07	122.70
1	A	100(C)	ASP	CB-CA-C	-5.52	109.73	117.23
2	B	153	SER	CA-C-N	5.16	125.14	120.03
2	B	153	SER	C-N-CA	5.16	125.14	120.03
2	B	207	ALA	CA-C-N	5.16	126.29	119.84
2	B	207	ALA	C-N-CA	5.16	126.29	119.84
2	L	38	SER	CA-C-N	5.05	126.15	119.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	L	38	SER	C-N-CA	5.05	126.15	119.84
2	D	108	GLN	CA-C-N	5.03	126.13	119.84
2	D	108	GLN	C-N-CA	5.03	126.13	119.84

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	1802	0	1730	52	0
1	C	1684	0	1640	44	0
1	H	1802	0	1730	53	0
2	B	1557	0	1507	38	0
2	D	1557	0	1507	41	0
2	L	1557	0	1507	43	0
3	E	39	0	34	8	0
4	F	28	0	25	8	0
5	B	14	0	13	1	0
All	All	10040	0	9693	253	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 13.

All (253) 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:L:104:THR:HG21	2:L:141:PRO:HB3	1.46	0.97
1:H:181:VAL:HG11	2:L:135:LEU:HD13	1.53	0.90
2:D:38:SER:HB2	2:D:41:LYS:HD2	1.53	0.88
1:A:1:GLN:HG3	1:A:2:GLU:H	1.39	0.88
1:H:116:THR:HG22	1:H:147:PRO:HD3	1.58	0.83
1:A:1:GLN:HG3	1:A:2:GLU:HG2	1.61	0.81
1:H:195:ILE:HG12	1:H:210:ARG:HG2	1.63	0.80
1:C:181:VAL:HG11	2:D:135:LEU:HD13	1.63	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:21:SER:CB	4:F:1:NAG:HN2	1.96	0.78
1:H:150:VAL:HG22	1:H:200:HIS:HD2	1.50	0.77
2:L:18:ILE:HD12	2:L:77:LEU:HD11	1.69	0.75
1:A:100(I):ASP:HA	1:A:100(O):TYR:CZ	2.22	0.74
3:E:2:NAG:H3	3:E:3:BMA:H2	1.71	0.72
1:H:101:ASP:HA	2:L:45:VAL:HG21	1.74	0.69
1:A:101:ASP:HA	2:B:45:VAL:HG21	1.72	0.69
1:C:213:PRO:CB	1:C:214:LYS:HG3	2.22	0.69
2:D:21:SER:OG	4:F:1:NAG:N2	2.27	0.68
2:D:21:SER:CB	4:F:1:NAG:N2	2.57	0.67
1:A:100(A):TRP:HB3	1:A:100(F):LYS:HG2	1.77	0.66
2:L:156:LYS:NZ	2:D:189:LYS:HG3	2.10	0.66
1:A:169:VAL:HG21	2:B:160:GLU:HB3	1.78	0.66
2:D:21:SER:HB2	4:F:1:NAG:HN2	1.62	0.65
2:B:38:SER:HB2	2:B:41:LYS:HD2	1.77	0.65
2:D:21:SER:CB	4:F:1:NAG:C7	2.75	0.64
1:H:100(J):PHE:O	1:H:100(K):ASN:HB2	1.96	0.64
1:C:116:THR:HG22	1:C:203:SER:HB3	1.79	0.64
1:C:15:GLY:HA2	1:C:82(B):SER:HA	1.80	0.64
1:H:150:VAL:HG22	1:H:200:HIS:CD2	2.31	0.63
1:A:139:GLY:HA3	1:A:181:VAL:HG12	1.80	0.63
1:C:101:ASP:HA	2:D:45:VAL:HG21	1.81	0.62
1:A:195:ILE:HG12	1:A:210:ARG:HG2	1.82	0.61
1:C:1:GLN:HG2	1:C:2:GLU:H	1.64	0.61
2:L:77:LEU:HD13	2:L:105:VAL:HG22	1.81	0.61
1:H:6:GLU:HG3	1:H:107:THR:HB	1.83	0.61
1:H:153:SER:OG	1:H:197:ASN:HB2	2.00	0.61
2:D:53:ARG:HD3	2:D:61:PHE:O	2.02	0.60
1:H:184:VAL:HG11	1:H:194:TYR:CE1	2.36	0.60
2:B:144:VAL:HG12	2:B:197:HIS:HB2	1.83	0.60
2:L:117:LEU:HG	2:L:206:VAL:HG13	1.83	0.59
1:C:36:TRP:O	1:C:48:VAL:HB	2.03	0.59
1:C:144:ASP:HA	1:C:175:LEU:HB3	1.84	0.59
1:C:181:VAL:HG11	2:D:135:LEU:CD1	2.31	0.59
2:B:53:ARG:HD3	2:B:61:PHE:O	2.03	0.58
2:D:21:SER:HB3	4:F:1:NAG:C7	2.33	0.58
2:L:159:VAL:HG22	2:L:178:LEU:HD13	1.85	0.58
1:H:151:THR:OG1	1:H:199:ASN:HB3	2.04	0.57
2:L:140:TYR:HA	2:L:141:PRO:C	2.29	0.57
1:A:96:ALA:O	1:A:100(Q):TYR:HB2	2.03	0.57
1:A:151:THR:OG1	1:A:199:ASN:HB3	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:35:HIS:CG	1:H:100(T):MET:HE2	2.40	0.57
1:A:100(A):TRP:HD1	1:A:100(A):TRP:H	1.53	0.57
2:D:21:SER:OG	4:F:1:NAG:C7	2.53	0.56
1:H:36:TRP:CE2	1:H:80:LEU:HB2	2.40	0.56
1:H:126:PRO:HG3	1:H:138:LEU:HD23	1.87	0.56
1:C:34:MET:HB3	1:C:78:LEU:HD22	1.86	0.56
1:C:213:PRO:HB2	1:C:214:LYS:HG3	1.87	0.56
1:H:100(K):ASN:O	1:H:100(L):ASP:HB2	2.05	0.56
2:L:53:ARG:HD3	2:L:61:PHE:O	2.06	0.55
1:C:84:VAL:HA	1:C:111:VAL:HG13	1.87	0.55
1:C:123:PRO:HG3	1:C:209:LYS:HD2	1.89	0.55
1:A:150:VAL:HG22	1:A:200:HIS:HD2	1.72	0.55
2:L:145:THR:HB	2:L:196:THR:HB	1.88	0.55
1:H:38:ARG:HA	1:H:89:MET:O	2.06	0.54
1:C:184:VAL:HG11	1:C:194:TYR:CE1	2.42	0.54
1:A:178:LEU:HD12	1:A:178:LEU:C	2.33	0.54
1:H:6:GLU:HG2	1:H:107:THR:H	1.72	0.54
1:A:12:VAL:HG23	1:A:111:VAL:HG22	1.89	0.54
1:A:150:VAL:HG22	1:A:200:HIS:CD2	2.44	0.53
1:C:213:PRO:HB3	1:C:214:LYS:HG3	1.90	0.53
1:A:99:PRO:HG3	1:A:100(H):TYR:CE1	2.43	0.53
2:B:18:ILE:HD12	2:B:77:LEU:HD11	1.91	0.53
2:B:120:PRO:HD3	2:B:132:LEU:CD2	2.39	0.53
2:B:156:LYS:H	2:D:93:ARG:HH12	1.57	0.53
1:A:36:TRP:O	1:A:48:VAL:HB	2.09	0.53
2:B:4:LEU:HB2	2:B:98:GLY:HA2	1.90	0.53
1:C:200:HIS:CE1	1:C:202:PRO:HB2	2.44	0.53
1:H:18:LEU:HD12	1:H:19:ARG:H	1.74	0.53
1:A:151:THR:HG1	1:A:199:ASN:HB3	1.73	0.53
1:A:166:PHE:CE1	2:B:135:LEU:HD22	2.44	0.52
2:B:149:LYS:HB2	2:B:192:SER:HB2	1.92	0.52
1:H:15:GLY:HA2	1:H:82(B):SER:HA	1.92	0.52
1:C:150:VAL:HG22	1:C:200:HIS:HD2	1.74	0.52
1:H:151:THR:HG1	1:H:199:ASN:HB3	1.74	0.52
2:L:120:PRO:HD3	2:L:132:LEU:CD2	2.39	0.52
1:C:150:VAL:HG22	1:C:200:HIS:CD2	2.44	0.52
2:L:17:THR:HG23	2:L:75:SER:HA	1.90	0.52
1:A:100(A):TRP:CB	1:A:100(F):LYS:HG2	2.39	0.52
1:C:195:ILE:HG12	1:C:210:ARG:HG2	1.91	0.52
1:H:166:PHE:CE1	2:L:135:LEU:HD22	2.45	0.52
1:H:34:MET:HB3	1:H:78:LEU:HD22	1.90	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:100:ILE:HD13	1:H:100(A):TRP:N	2.25	0.51
1:H:100(I):ASP:HB3	1:H:100(O):TYR:HE1	1.75	0.51
2:B:18:ILE:HG23	2:B:19:THR:N	2.26	0.51
1:C:169:VAL:HG21	2:D:160:GLU:HB3	1.93	0.51
2:L:104:THR:HG21	2:L:141:PRO:CB	2.29	0.51
2:L:149:LYS:HB2	2:L:192:SER:HB2	1.93	0.51
1:A:100(A):TRP:H	1:A:100(A):TRP:CD1	2.29	0.51
2:D:118:PHE:HE2	2:D:135:LEU:HD12	1.74	0.51
1:C:148:GLU:HB3	1:C:149:PRO:HA	1.92	0.51
1:H:199:ASN:ND2	1:H:206:LYS:HE2	2.25	0.50
1:H:143:LYS:O	1:H:144:ASP:HB2	2.11	0.50
1:H:96:ALA:C	1:H:100(Q):TYR:HB2	2.37	0.50
2:L:46:MET:HA	2:L:57:ILE:HD13	1.93	0.50
1:A:100(I):ASP:HA	1:A:100(O):TYR:CE1	2.45	0.50
1:A:38:ARG:HH12	1:A:86:ASP:HA	1.77	0.50
2:B:159:VAL:HG22	2:B:178:LEU:HD13	1.92	0.50
2:D:58:SER:OG	2:D:60:ARG:HG3	2.12	0.49
1:A:5:VAL:HG23	1:A:5:VAL:O	2.12	0.49
1:C:153:SER:OG	1:C:197:ASN:HB2	2.12	0.49
1:A:100(J):PHE:O	1:A:100(K):ASN:HB2	2.13	0.49
2:D:78:HIS:HB3	2:D:80:GLU:OE2	2.13	0.49
1:H:100(S):TYR:CD1	2:L:45:VAL:HG11	2.48	0.49
2:L:185:TRP:CZ2	2:L:208:PRO:HA	2.47	0.49
3:E:2:NAG:C3	3:E:3:BMA:H2	2.39	0.49
2:B:120:PRO:HD3	2:B:132:LEU:HD23	1.93	0.49
2:D:140:TYR:HA	2:D:141:PRO:C	2.36	0.49
1:H:89:MET:HE1	1:H:106:GLY:O	2.13	0.49
1:H:22:CYS:HB3	1:H:78:LEU:HB3	1.95	0.49
1:A:1:GLN:HG3	1:A:2:GLU:N	2.17	0.49
2:B:4:LEU:HB2	2:B:98:GLY:CA	2.43	0.49
2:L:117:LEU:HG	2:L:206:VAL:CG1	2.43	0.49
1:A:100:ILE:C	1:A:100:ILE:HD13	2.38	0.49
1:C:152:VAL:HG11	1:C:180:SER:CB	2.43	0.49
1:C:29:PHE:CD2	1:C:76:ASN:HA	2.48	0.48
2:D:78:HIS:HB2	2:D:80:GLU:HG2	1.95	0.48
1:H:29:PHE:CD2	1:H:76:ASN:HA	2.48	0.48
1:A:100(A):TRP:HB3	1:A:100(F):LYS:HA	1.94	0.48
1:C:168:ALA:HB2	1:C:178:LEU:HD23	1.95	0.48
2:L:18:ILE:HG23	2:L:19:THR:N	2.28	0.48
2:D:149:LYS:NZ	3:E:2:NAG:H81	2.28	0.48
1:H:100(B):HIS:HB2	1:H:100(G):TYR:HE2	1.79	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:38:ARG:NH1	1:A:86:ASP:HA	2.28	0.48
1:A:148:GLU:HB3	1:A:149:PRO:HA	1.96	0.48
2:B:15:GLY:C	2:B:76:GLY:HA2	2.38	0.48
2:D:18:ILE:HD12	2:D:77:LEU:HD11	1.95	0.48
2:L:65:LYS:HA	2:L:70:ALA:HA	1.96	0.47
1:A:100(A):TRP:CD1	1:A:100(A):TRP:N	2.82	0.47
2:D:149:LYS:NZ	3:E:2:NAG:O7	2.41	0.47
2:D:125:LEU:HD23	2:D:129:LYS:O	2.14	0.47
1:H:126:PRO:HG3	1:H:138:LEU:CD2	2.45	0.47
1:C:146:PHE:C	1:C:146:PHE:CD2	2.93	0.47
1:H:96:ALA:O	1:H:100(Q):TYR:HB2	2.14	0.47
1:C:1:GLN:HG2	1:C:2:GLU:HG3	1.97	0.47
2:L:60:ARG:HB3	2:L:75:SER:O	2.15	0.47
1:A:100:ILE:HG22	1:A:100(O):TYR:CE2	2.49	0.47
1:C:129:LYS:NZ	2:D:204:LYS:HE2	2.30	0.47
2:D:46:MET:HA	2:D:57:ILE:HD13	1.97	0.47
1:A:1:GLN:C	1:A:26:GLY:HA3	2.39	0.46
1:A:35:HIS:CG	1:A:100(T):MET:HE2	2.49	0.46
2:B:34:TRP:CZ3	2:B:87:CYS:HB3	2.50	0.46
2:L:23:ASN:OD1	3:E:1:NAG:N2	2.48	0.46
2:D:11:SER:C	2:D:18:ILE:HD11	2.40	0.46
1:A:31:LYS:HD3	1:A:100(N):TYR:CE2	2.50	0.46
1:A:48:VAL:HG22	1:A:63:MET:HE3	1.96	0.46
2:D:122:SER:O	2:D:126:GLN:HG2	2.16	0.46
2:B:62:SER:O	2:B:72:LEU:HD12	2.15	0.46
1:H:100(Q):TYR:O	1:H:100(R):HIS:HB2	2.16	0.46
2:B:185:TRP:CZ2	2:B:208:PRO:HA	2.51	0.46
2:L:45:VAL:O	2:L:57:ILE:HD11	2.16	0.46
2:D:153:SER:HA	2:D:154:PRO:HD3	1.80	0.46
2:L:150:ALA:O	2:L:151:ASP:HB2	2.16	0.45
2:D:132:LEU:HD21	2:D:185:TRP:CZ3	2.51	0.45
1:H:35:HIS:CE1	1:H:50:LEU:HD13	2.52	0.45
1:C:51:ILE:HG12	1:C:54:GLY:HA2	1.98	0.45
2:L:93:ARG:O	2:L:94:SER:HB2	2.17	0.45
2:L:120:PRO:HD3	2:L:132:LEU:HD23	1.99	0.45
2:L:153:SER:HA	2:L:154:PRO:HD3	1.85	0.45
1:C:201:LYS:N	1:C:202:PRO:CD	2.79	0.45
2:D:120:PRO:HD3	2:D:132:LEU:CD2	2.47	0.45
1:C:35:HIS:CG	1:C:100(T):MET:HE2	2.52	0.45
2:B:78:HIS:HB2	2:B:80:GLU:HG2	1.99	0.45
2:B:140:TYR:HA	2:B:141:PRO:C	2.41	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:6:GLU:CG	1:H:107:THR:H	2.30	0.44
1:H:100(A):TRP:HB3	1:H:100(F):LYS:HG2	2.00	0.44
1:H:150:VAL:CG2	1:H:200:HIS:HD2	2.26	0.44
1:A:100(Q):TYR:HD2	1:A:100(Q):TYR:HA	1.68	0.44
1:C:122:PHE:CE1	2:D:124:GLU:HA	2.52	0.44
2:B:18:ILE:CG2	2:B:19:THR:N	2.80	0.44
1:C:178:LEU:HD12	1:C:178:LEU:C	2.43	0.44
2:L:191:TYR:O	2:L:205:THR:HG23	2.17	0.44
1:A:146:PHE:HA	1:A:147:PRO:HA	1.83	0.44
2:B:118:PHE:HA	2:B:119:PRO:HD3	1.78	0.44
1:C:105:LYS:HE2	1:C:105:LYS:HB3	1.85	0.44
1:C:113:SER:HA	1:C:114:ALA:HA	1.54	0.44
1:A:105:LYS:HB3	1:A:105:LYS:HE2	1.79	0.43
1:A:100(A):TRP:CG	1:A:100(F):LYS:HG2	2.54	0.43
1:H:178:LEU:HD12	1:H:178:LEU:C	2.43	0.43
2:L:104:THR:CG2	2:L:141:PRO:HB3	2.32	0.43
1:H:129:LYS:NZ	2:L:204:LYS:HE2	2.33	0.43
1:A:101:ASP:HA	2:B:45:VAL:CG2	2.42	0.43
2:B:84:ASP:HA	2:B:101:THR:O	2.18	0.43
4:F:1:NAG:H83	4:F:1:NAG:H3	1.99	0.43
1:H:129:LYS:HZ3	2:L:204:LYS:HE2	1.83	0.43
1:A:115:SER:O	1:A:116:THR:C	2.61	0.43
2:B:23:ASN:HA	2:B:69:THR:HG23	2.01	0.43
1:H:100(J):PHE:O	1:H:100(K):ASN:CB	2.66	0.43
2:B:191:TYR:O	2:B:205:THR:HG23	2.19	0.43
1:H:99:PRO:HG3	1:H:100(H):TYR:CZ	2.54	0.42
2:L:141:PRO:HG2	2:L:198:GLU:OE2	2.19	0.42
1:A:145:TYR:CE1	1:A:150:VAL:HG23	2.54	0.42
1:C:60:SER:HB3	1:C:63:MET:HG2	2.01	0.42
2:B:23:ASN:OD1	5:B:570:NAG:O5	2.35	0.42
3:E:2:NAG:H83	3:E:2:NAG:H2	1.77	0.42
1:A:181:VAL:HG11	2:B:135:LEU:CD1	2.50	0.42
2:B:20:ILE:HD11	2:B:103:VAL:CG2	2.50	0.42
2:D:108:GLN:HA	2:D:109:PRO:HD3	1.87	0.42
2:L:27(C):GLY:HA3	2:L:68:ASN:OD1	2.19	0.42
1:A:1:GLN:CG	1:A:2:GLU:N	2.81	0.42
1:C:151:THR:OG1	1:C:199:ASN:HB3	2.19	0.42
2:D:149:LYS:HD3	2:D:194:GLN:NE2	2.34	0.42
1:C:11:VAL:HA	1:C:110:THR:O	2.19	0.42
1:C:122:PHE:HA	1:C:123:PRO:HD3	1.83	0.42
2:D:191:TYR:O	2:D:205:THR:HG23	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:201:LYS:HB2	1:H:202:PRO:HD3	2.02	0.42
1:A:13:GLN:OE1	1:A:113:SER:HA	2.19	0.42
1:C:101:ASP:HA	2:D:45:VAL:CG2	2.50	0.42
1:C:139:GLY:HA2	1:C:154:TRP:CH2	2.54	0.42
1:H:35:HIS:CE1	1:H:50:LEU:HB2	2.56	0.41
2:L:194:GLN:HG2	2:L:203:GLU:HG3	2.02	0.41
2:B:27(B):VAL:HG13	2:B:32:VAL:HG21	2.03	0.41
2:B:45:VAL:O	2:B:57:ILE:HD11	2.20	0.41
2:D:207:ALA:HA	2:D:208:PRO:HD3	1.90	0.41
2:L:74:ILE:HG21	2:L:77:LEU:HD23	2.02	0.41
2:L:202:VAL:HG12	2:L:203:GLU:N	2.36	0.41
1:H:100(H):TYR:N	1:H:100(H):TYR:CD1	2.88	0.41
1:A:100(H):TYR:HD2	1:A:100(L):ASP:O	2.04	0.41
2:B:12:GLY:O	2:B:105:VAL:HA	2.21	0.41
1:C:1:GLN:HG2	1:C:2:GLU:N	2.33	0.41
2:D:49:ASP:O	2:D:50:VAL:HB	2.20	0.41
2:L:88:SER:HA	2:L:96:ILE:O	2.20	0.41
2:B:108:GLN:HB3	2:B:109:PRO:HD2	2.03	0.41
2:B:149:LYS:HD3	2:B:194:GLN:NE2	2.35	0.41
1:H:100(Q):TYR:O	1:H:100(R):HIS:CB	2.68	0.41
1:H:104:GLY:O	1:H:105:LYS:C	2.62	0.41
1:H:139:GLY:HA2	1:H:154:TRP:CH2	2.55	0.41
1:A:83:LYS:O	1:A:86:ASP:HB2	2.21	0.41
1:C:48:VAL:HG22	1:C:63:MET:HE3	2.03	0.41
3:E:1:NAG:O7	3:E:1:NAG:C3	2.69	0.41
1:H:100(G):TYR:C	1:H:100(H):TYR:HD1	2.28	0.41
2:B:78:HIS:HB3	2:B:80:GLU:OE2	2.20	0.41
1:C:31:LYS:HD3	1:C:100(N):TYR:CZ	2.56	0.41
1:H:83:LYS:O	1:H:86:ASP:HB2	2.20	0.41
2:B:117:LEU:HD22	2:B:193:CYS:HB2	2.03	0.40
1:A:100(B):HIS:O	1:A:100(C):ASP:HB2	2.21	0.40
1:A:100(T):MET:O	2:B:45:VAL:HG22	2.21	0.40
1:H:124:LEU:HB3	2:L:118:PHE:CD1	2.56	0.40
2:D:149:LYS:NZ	3:E:2:NAG:C8	2.85	0.40
2:L:156:LYS:HZ3	2:D:189:LYS:HG3	1.85	0.40
1:A:96:ALA:C	1:A:100(Q):TYR:HB2	2.46	0.40
2:L:49:ASP:O	2:L:50:VAL:HB	2.21	0.40
2:L:111:ALA:O	2:L:139:PHE:HA	2.21	0.40
1:A:100:ILE:HD13	1:A:100(A):TRP:N	2.37	0.40
2:D:60:ARG:CZ	2:D:78:HIS:CD2	3.05	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	231/238 (97%)	214 (93%)	16 (7%)	1 (0%)	30	65
1	C	216/238 (91%)	202 (94%)	13 (6%)	1 (0%)	24	60
1	H	231/238 (97%)	209 (90%)	19 (8%)	3 (1%)	9	41
2	B	209/216 (97%)	196 (94%)	10 (5%)	3 (1%)	9	39
2	D	209/216 (97%)	196 (94%)	11 (5%)	2 (1%)	12	45
2	L	209/216 (97%)	197 (94%)	11 (5%)	1 (0%)	24	60
All	All	1305/1362 (96%)	1214 (93%)	80 (6%)	11 (1%)	16	51

All (11) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	H	100(R)	HIS
1	A	100(R)	HIS
1	H	100(C)	ASP
1	H	144	ASP
2	D	208	PRO
2	B	151	ASP
2	D	109	PRO
2	L	151	ASP
1	C	146	PHE
2	B	208	PRO
2	B	50	VAL

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	199/202 (98%)	173 (87%)	26 (13%)	4	18
1	C	187/202 (93%)	183 (98%)	4 (2%)	47	65
1	H	199/202 (98%)	175 (88%)	24 (12%)	5	21
2	B	178/183 (97%)	167 (94%)	11 (6%)	16	41
2	D	178/183 (97%)	169 (95%)	9 (5%)	21	44
2	L	178/183 (97%)	167 (94%)	11 (6%)	16	41
All	All	1119/1155 (97%)	1034 (92%)	85 (8%)	12	36

All (85) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	H	2	GLU
1	H	17	SER
1	H	28	THR
1	H	100	ILE
1	H	100(A)	TRP
1	H	100(B)	HIS
1	H	100(C)	ASP
1	H	100(D)	ASP
1	H	100(E)	VAL
1	H	100(F)	LYS
1	H	100(G)	TYR
1	H	100(H)	TYR
1	H	100(I)	ASP
1	H	100(J)	PHE
1	H	100(K)	ASN
1	H	100(L)	ASP
1	H	100(N)	TYR
1	H	100(O)	TYR
1	H	100(P)	ASN
1	H	100(Q)	TYR
1	H	100(R)	HIS
1	H	100(S)	TYR
1	H	100(T)	MET
1	H	183	THR
2	L	9	SER
2	L	10	VAL
2	L	18	ILE
2	L	33	SER
2	L	45	VAL
2	L	69	THR

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Mol	Chain	Res	Type
2	L	79	ILE
2	L	80	GLU
2	L	115	VAL
2	L	123	GLU
2	L	195	VAL
1	A	2	GLU
1	A	17	SER
1	A	28	THR
1	A	38	ARG
1	A	100	ILE
1	A	100(A)	TRP
1	A	100(B)	HIS
1	A	100(C)	ASP
1	A	100(D)	ASP
1	A	100(E)	VAL
1	A	100(F)	LYS
1	A	100(G)	TYR
1	A	100(H)	TYR
1	A	100(I)	ASP
1	A	100(J)	PHE
1	A	100(K)	ASN
1	A	100(L)	ASP
1	A	100(N)	TYR
1	A	100(O)	TYR
1	A	100(P)	ASN
1	A	100(Q)	TYR
1	A	100(R)	HIS
1	A	100(S)	TYR
1	A	100(T)	MET
1	A	105	LYS
1	A	191	THR
2	B	10	VAL
2	B	18	ILE
2	B	45	VAL
2	B	57	ILE
2	B	62	SER
2	B	69	THR
2	B	79	ILE
2	B	80	GLU
2	B	115	VAL
2	B	123	GLU
2	B	136	ILE

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Mol	Chain	Res	Type
1	C	17	SER
1	C	28	THR
1	C	116	THR
1	C	191	THR
2	D	10	VAL
2	D	18	ILE
2	D	45	VAL
2	D	59	ASN
2	D	79	ILE
2	D	80	GLU
2	D	115	VAL
2	D	123	GLU
2	D	195	VAL

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (7) such sidechains are listed below:

Mol	Chain	Res	Type
1	H	76	ASN
2	L	52	HIS
2	L	194	GLN
2	B	78	HIS
2	B	194	GLN
2	D	78	HIS
2	D	95	HIS

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 ⓘ

5 monosaccharides 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	NAG	E	1	3,2	14,14,15	0.99	1 (7%)	17,19,21	1.45	2 (11%)
3	NAG	E	2	3	14,14,15	0.42	0	17,19,21	1.43	3 (17%)
3	BMA	E	3	3	11,11,12	0.61	0	15,15,17	0.61	0
4	NAG	F	1	4,2	14,14,15	0.69	0	17,19,21	1.27	2 (11%)
4	NAG	F	2	4	14,14,15	0.51	0	17,19,21	0.68	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	NAG	E	1	3,2	-	1/6/23/26	0/1/1/1
3	NAG	E	2	3	-	2/6/23/26	0/1/1/1
3	BMA	E	3	3	-	0/2/19/22	0/1/1/1
4	NAG	F	1	4,2	-	3/6/23/26	0/1/1/1
4	NAG	F	2	4	-	3/6/23/26	0/1/1/1

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	E	1	NAG	C1-C2	2.83	1.56	1.52

All (7) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	E	1	NAG	C4-C3-C2	3.46	116.08	111.02
4	F	1	NAG	C1-O5-C5	3.45	116.81	112.19
3	E	2	NAG	C1-O5-C5	3.38	116.72	112.19
3	E	2	NAG	C2-N2-C7	-2.94	118.96	122.90
4	F	1	NAG	C4-C3-C2	2.86	115.21	111.02
3	E	2	NAG	C4-C3-C2	-2.73	107.02	111.02
3	E	1	NAG	C2-N2-C7	2.15	125.78	122.90

There are no chirality outliers.

All (9) torsion outliers are listed below:

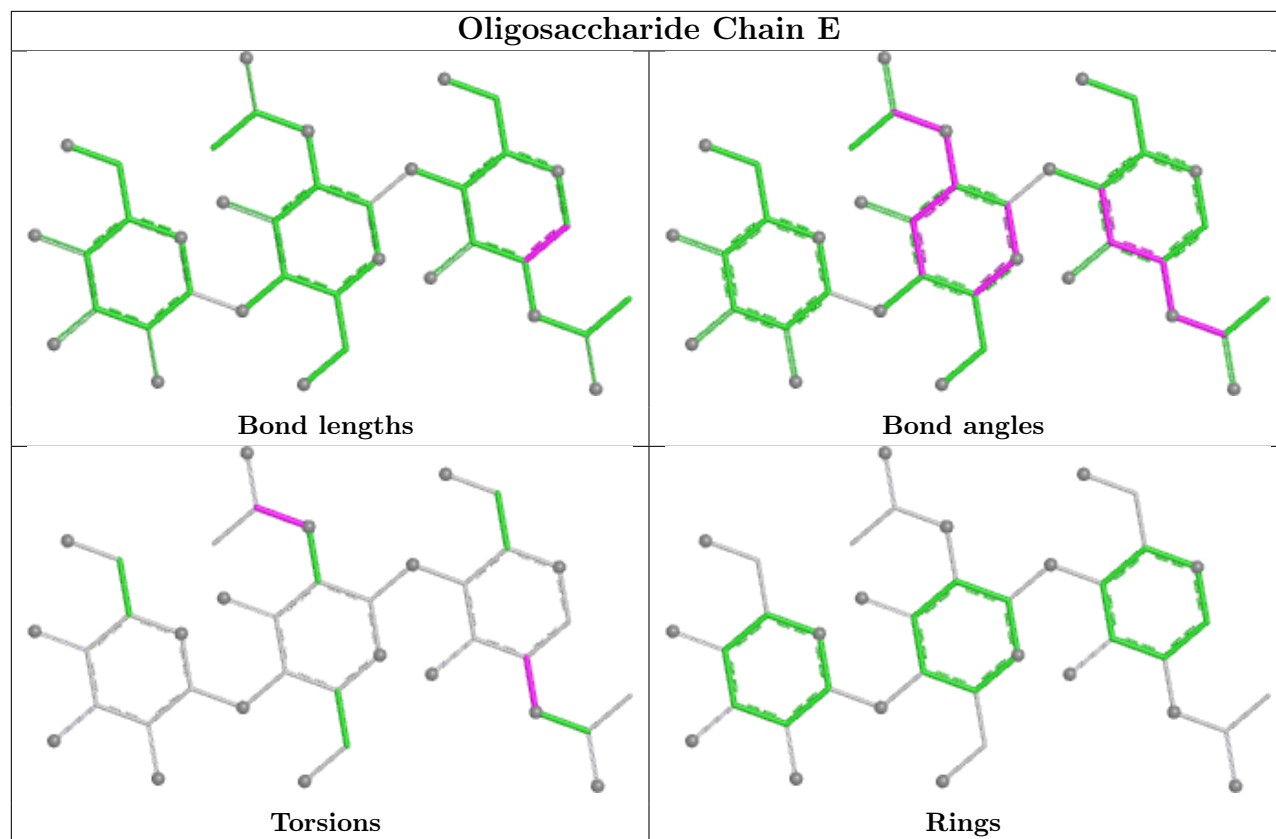
Mol	Chain	Res	Type	Atoms
3	E	1	NAG	C3-C2-N2-C7
3	E	2	NAG	C8-C7-N2-C2
3	E	2	NAG	O7-C7-N2-C2
4	F	1	NAG	C8-C7-N2-C2
4	F	1	NAG	O7-C7-N2-C2
4	F	2	NAG	C8-C7-N2-C2
4	F	2	NAG	O7-C7-N2-C2
4	F	1	NAG	C3-C2-N2-C7
4	F	2	NAG	O5-C5-C6-O6

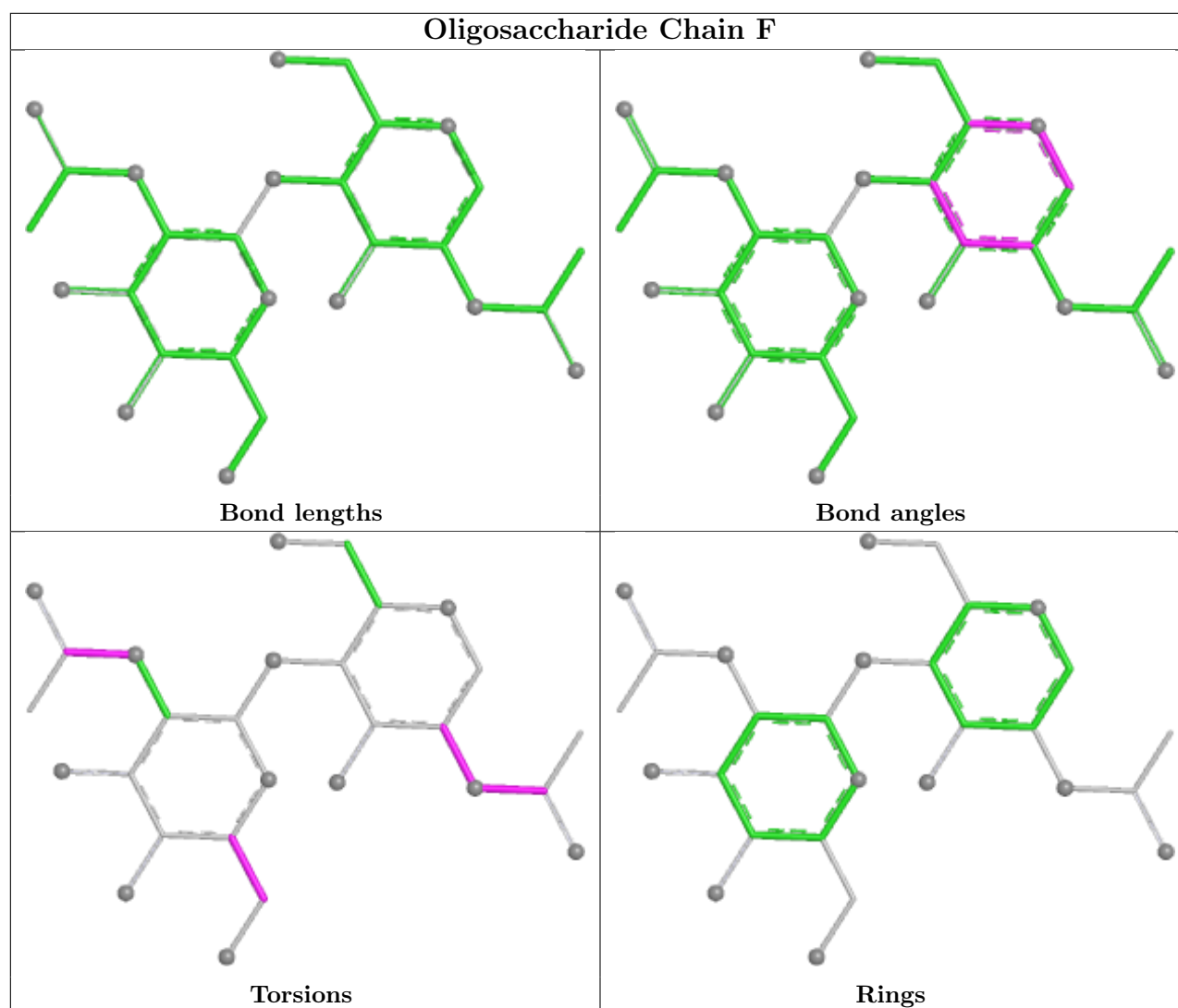
There are no ring outliers.

4 monomers are involved in 16 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	F	1	NAG	8	0
3	E	2	NAG	6	0
3	E	1	NAG	2	0
3	E	3	BMA	2	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for oligosaccharide.





5.6 Ligand geometry [i](#)

1 ligand is 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	570	2	14,14,15	0.45	0	17,19,21	1.37	2 (11%)

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	570	2	-	4/6/23/26	0/1/1/1

There are no bond length outliers.

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	B	570	NAG	C1-O5-C5	4.03	117.59	112.19
5	B	570	NAG	C4-C3-C2	-2.23	107.75	111.02

There are no chirality outliers.

All (4) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
5	B	570	NAG	C8-C7-N2-C2
5	B	570	NAG	O7-C7-N2-C2
5	B	570	NAG	O5-C5-C6-O6
5	B	570	NAG	C4-C5-C6-O6

There are no ring outliers.

1 monomer is involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	B	570	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 [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	235/238 (98%)	-0.11	1 (0%) 88 75	98, 149, 242, 366	0
1	C	222/238 (93%)	-0.02	2 (0%) 81 63	133, 209, 279, 350	0
1	H	235/238 (98%)	-0.14	1 (0%) 88 75	98, 154, 238, 327	0
2	B	211/216 (97%)	-0.27	0 100 100	90, 138, 188, 222	0
2	D	211/216 (97%)	-0.03	3 (1%) 73 54	149, 231, 314, 375	0
2	L	211/216 (97%)	-0.14	1 (0%) 87 73	94, 140, 190, 235	0
All	All	1325/1362 (97%)	-0.12	8 (0%) 85 70	90, 164, 271, 375	0

All (8) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
2	D	185	TRP	2.9
1	H	134	GLY	2.6
2	D	191	TYR	2.5
1	A	100(B)	HIS	2.1
2	L	81	ASP	2.1
1	C	118	GLY	2.1
2	D	145	THR	2.1
1	C	194	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.

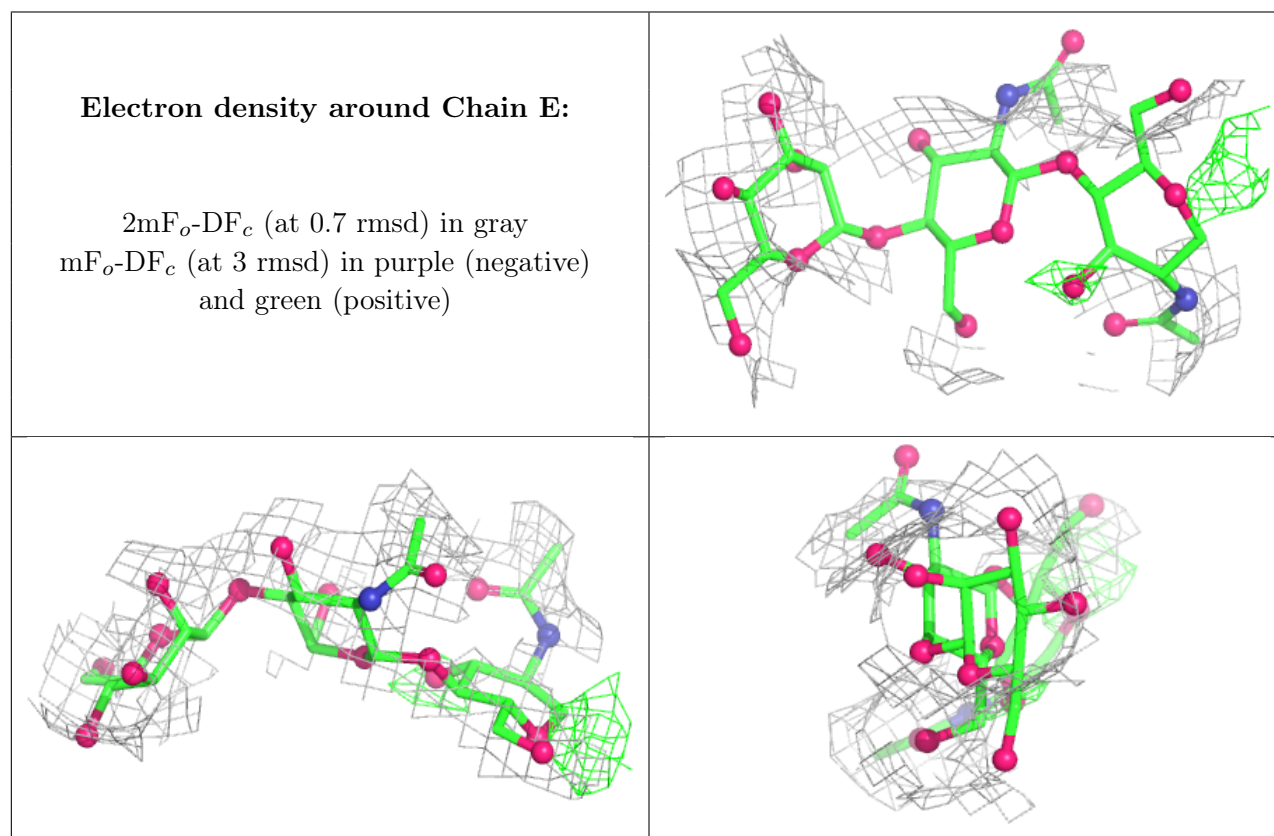
6.3 Carbohydrates [i](#)

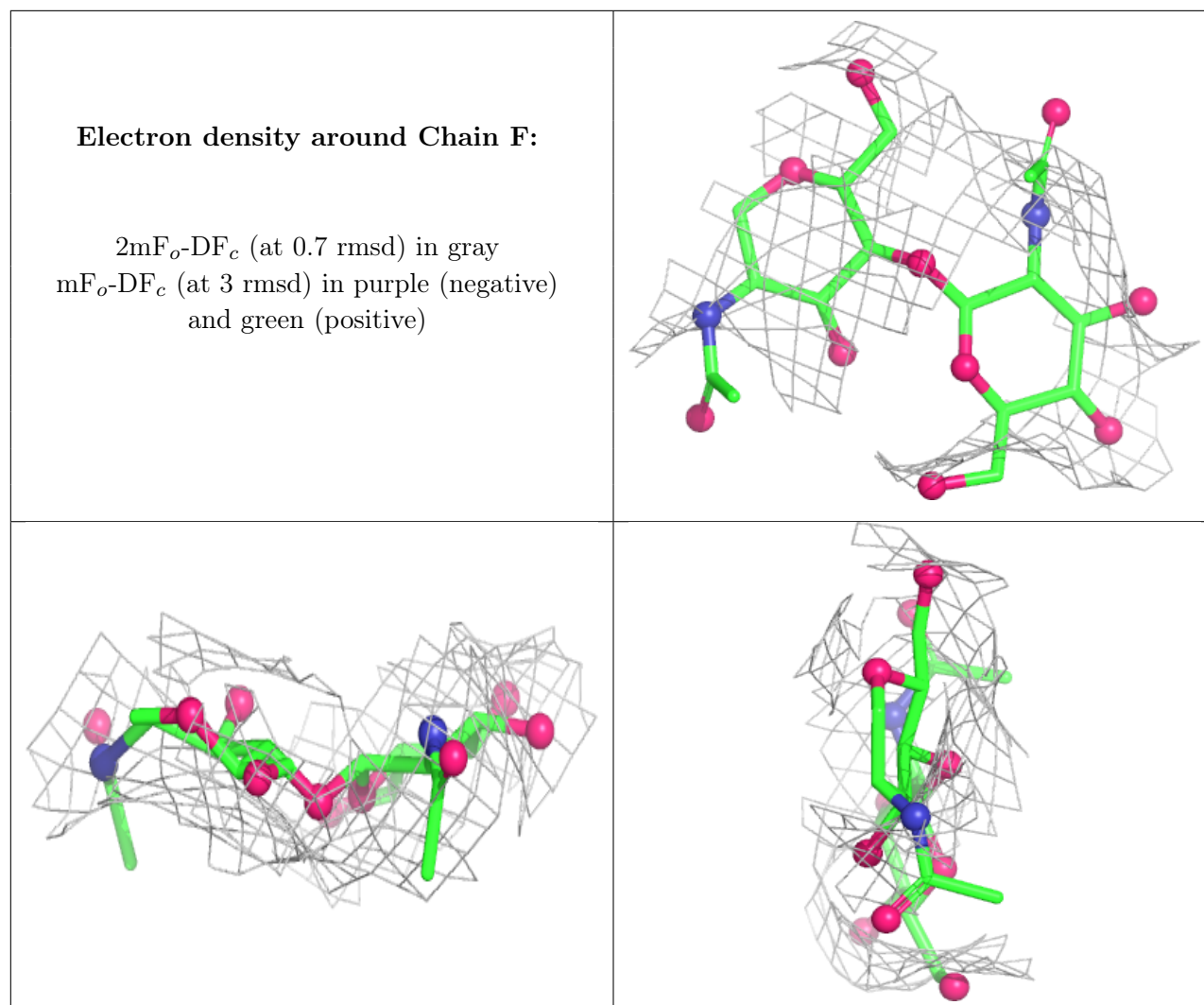
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum,

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	NAG	E	1	14/15	-	-	207,252,286,298	0
3	NAG	E	2	14/15	-	-	173,280,307,318	0
3	BMA	E	3	11/12	-	-	271,315,341,345	0
4	NAG	F	1	14/15	-	-	312,354,392,414	0
4	NAG	F	2	14/15	-	-	262,355,376,399	0

The following is a graphical depiction of the model fit to experimental electron density for oligosaccharide. Each fit is shown from different orientation to approximate a three-dimensional view.





6.4 Ligands [i](#)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
5	NAG	B	570	14/15	0.51	0.13	310,347,360,360	0

6.5 Other polymers [i](#)

There are no such residues in this entry.