WORLDWIDE wwPDB
PROTEIN DATA BANK

Full wwPDB X-ray Structure Validation Report (i)

Sep 20, 2023 – 07:07 PM EDT

PDB ID	:	5HRO
Title	:	STRUCTURE OF HIV-1 REVERSE TRANSCRIPTASE In COMPLEX WITH A DNA aptamer and an Alpha-carboxy nucleoside phosphonate inhibitor (alpha-CNP)
Authors	:	Das, K.; Arnold, E.
Deposited on	:	2016-01-23
Resolution	:	2.75 Å(reported)

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

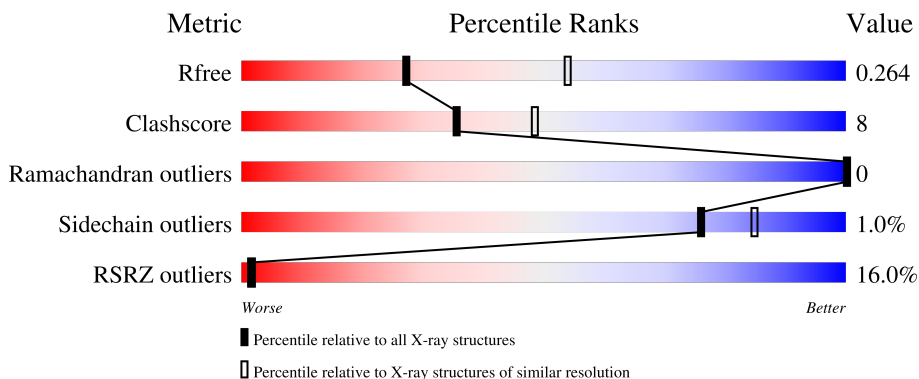|		
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.35.1
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.35.1

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 2.75 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.
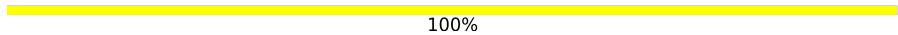
Metric	Percentile Ranks	Value
Rfree		0.264
Clashscore		8
Ramachandran outliers		0
Sidechain outliers		1.0%
RSRZ outliers		16.0%

Worse   *Better*

▮ Percentile relative to all X-ray structures

▯ Percentile relative to X-ray structures of similar resolution

Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R$_{free}$	130704	1235 (2.78-2.74)
Clashscore	141614	1277 (2.78-2.74)
Ramachandran outliers	138981	1257 (2.78-2.74)
Sidechain outliers	138945	1257 (2.78-2.74)
RSRZ outliers	127900	1207 (2.78-2.74)

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	555	17% · 76% · 23% ·
1	C	555	24% · 75% · 24% ··
2	B	444	7% · 78% · 14% · 7%
2	D	444	12% · 75% · 18% · 7%

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Mol	Chain	Length	Quality of chain
3	E	38	58% 32% 8%
3	F	38	5% 55% 29% 8% 8%
4	G	2	50% 50%
4	H	2	100%

2 Entry composition ⓘ

There are 8 unique types of molecules in this entry. The entry contains 17349 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 HIV-1 REVERSE TRANSCRIPTASE P66 SUBUNIT.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	551	Total 4488	C 2905	N 747	O 829	S 7	0	0	0
1	C	551	Total 4488	C 2905	N 747	O 829	S 7	0	0	0

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	280	SER	CYS	engineered mutation	UNP P03366
C	280	SER	CYS	engineered mutation	UNP P03366

- Molecule 2 is a protein called HIV-1 REVERSE TRANSCRIPTASE P51 SUBUNIT.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	412	Total 3400	C 2212	N 563	O 619	S 6	0	0	0
2	D	412	Total 3400	C 2212	N 563	O 619	S 6	0	0	0

There are 34 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	-15	MET	-	initiating methionine	UNP P03366
B	-14	ALA	-	expression tag	UNP P03366
B	-13	HIS	-	expression tag	UNP P03366
B	-12	HIS	-	expression tag	UNP P03366
B	-11	HIS	-	expression tag	UNP P03366
B	-10	HIS	-	expression tag	UNP P03366
B	-9	HIS	-	expression tag	UNP P03366
B	-8	HIS	-	expression tag	UNP P03366
B	-7	ALA	-	expression tag	UNP P03366
B	-6	LEU	-	expression tag	UNP P03366

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Chain	Residue	Modelled	Actual	Comment	Reference
B	-5	GLU	-	expression tag	UNP P03366
B	-4	VAL	-	expression tag	UNP P03366
B	-3	LEU	-	expression tag	UNP P03366
B	-2	PHE	-	expression tag	UNP P03366
B	-1	GLN	-	expression tag	UNP P03366
B	0	GLY	-	expression tag	UNP P03366
B	280	SER	CYS	engineered mutation	UNP P03366
D	-15	MET	-	initiating methionine	UNP P03366
D	-14	ALA	-	expression tag	UNP P03366
D	-13	HIS	-	expression tag	UNP P03366
D	-12	HIS	-	expression tag	UNP P03366
D	-11	HIS	-	expression tag	UNP P03366
D	-10	HIS	-	expression tag	UNP P03366
D	-9	HIS	-	expression tag	UNP P03366
D	-8	HIS	-	expression tag	UNP P03366
D	-7	ALA	-	expression tag	UNP P03366
D	-6	LEU	-	expression tag	UNP P03366
D	-5	GLU	-	expression tag	UNP P03366
D	-4	VAL	-	expression tag	UNP P03366
D	-3	LEU	-	expression tag	UNP P03366
D	-2	PHE	-	expression tag	UNP P03366
D	-1	GLN	-	expression tag	UNP P03366
D	0	GLY	-	expression tag	UNP P03366
D	280	SER	CYS	engineered mutation	UNP P03366

- Molecule 3 is a DNA chain called DNA (38-MER).

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	E	35	Total 720	C 340	N 130	O 215	P 35	0	0	0
3	F	35	Total 720	C 340	N 130	O 215	P 35	0	0	0

- Molecule 4 is an oligosaccharide called beta-D-fructofuranose-(2-1)-alpha-D-glucopyranose.
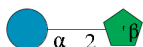
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf	Trace
4	G	2	Total 23	C 12	O 11	0	0	0

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Mol	Chain	Residues	Atoms			ZeroOcc	AltConf	Trace
4	H	2	Total 23	C 12	O 11	0	0	0

- Molecule 5 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	A	3	Total 3	Mg 3	0	0
5	C	3	Total 3	Mg 3	0	0

- Molecule 6 is [(1R)-2-methoxy-1-{[(1S,3R)-3-(5-methyl-2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)cyclopentyl]oxy}-2-oxoethyl]phosphonic acid (three-letter code: 3JY) (formula: $C_{13}H_{19}N_2O_8P$).
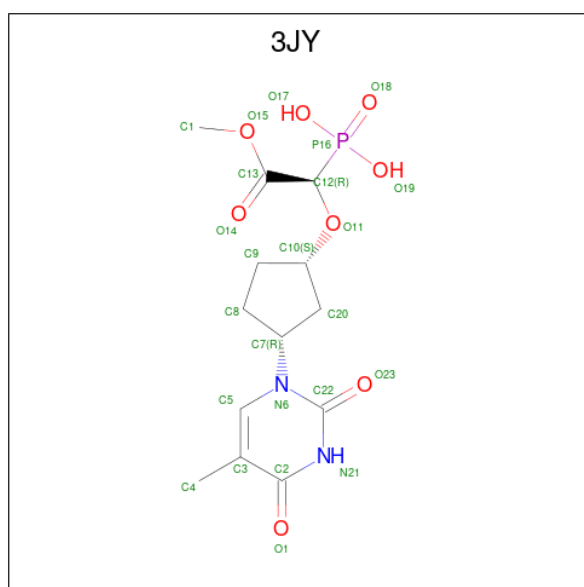
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
6	A	1	Total 23	C 12	N 2	O 8	P 1	0	0
6	C	1	Total 23	C 12	N 2	O 8	P 1	0	0

- Molecule 7 is SULFATE ION (three-letter code: SO4) (formula: O_4S).

Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
7	A	1	Total 5	O 4	S 1	0	0
7	B	1	Total 5	O 4	S 1	0	0
7	B	1	Total 5	O 4	S 1	0	0
7	B	1	Total 5	O 4	S 1	0	0
7	B	1	Total 5	O 4	S 1	0	0
7	C	1	Total 5	O 4	S 1	0	0

- Molecule 8 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
8	A	1	Total 1	O 1	0	0
8	B	1	Total 1	O 1	0	0
8	C	3	Total 3	O 3	0	0

3 Residue-property plots ⓘ

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red dot above a residue indicates a poor fit to the electron density (RSRZ > 2). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

• Molecule 1: HIV-1 REVERSE TRANSCRIPTASE P66 SUBUNIT

• Molecule 1: HIV-1 REVERSE TRANSCRIPTASE P66 SUBUNIT

L301 E302 L303 A304 E305 E308 I309 L310 P313 Y318 Y319 D320 P321 S322 L325 E328 I329 Q330 T338 F346 K350 T351 G352 K353 P387 K388 F389 K390 L391 P392 I393 W406 N418 T419 P420 V435 D443 G444 R448 E449 T450 K451 L452 E492 V493

N494 T497 L503 K530 L533 K540 G541 I542 A554 GLY

• Molecule 2: HIV-1 REVERSE TRANSCRIPTASE P51 SUBUNIT

Chain B:

7%

78%   14%   7%

MET ALA HIS HIS HIS HIS HIS ALA LEU GLU VAL LEU PHE GLN GLY PRO ILE SER P4 I5 E6 V10 K11 L12 K13 P14 G15 M16 D17 V21 C38 E42 K49 P59 K66 R83 T84 Q85 D86 F87 W88 E89 K101 K104 G112 D113 A114 Y115

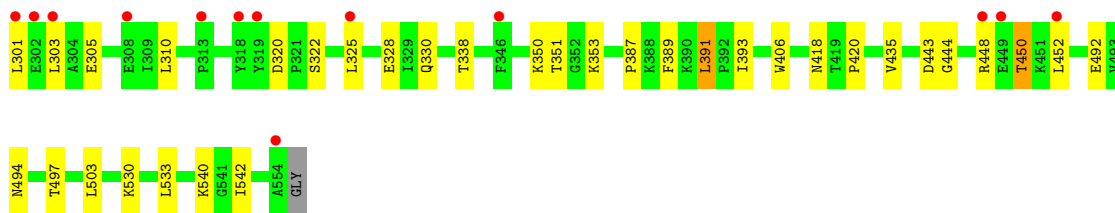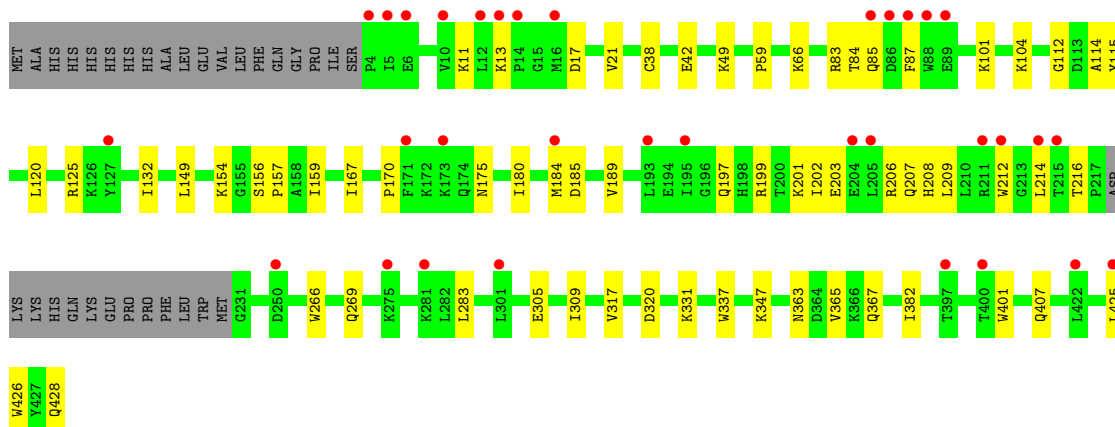L120 R125 K126 Y127 I132 L149 K154 G155 S156 P157 A158 I159 I167 P170 F171 K172 K173 Q174 N175 I180 M184 D185 V189 L193 E194 I195 G196 Q197 H198 T200 K201 I202 E203 E204 L205 R206 Q207 H208 L209 L210 R211 W212 G213 L214 T215 T216 P217 ASP

LYS LYS HIS GLN LYS GLU PRO PRO PHE LEU TRP MET G231 D250 W266 Q269 K275 K281 L282 L283 L301 E305 I309 V317 D320 K331 W337 K347 N363 D364 V365 K366 Q367 I382 T397 T400 W401 Q407 L422 L425

W426 Y427 Q428

• Molecule 2: HIV-1 REVERSE TRANSCRIPTASE P51 SUBUNIT

Chain D:

12%

75%   18%   7%

MET ALA HIS HIS HIS HIS HIS ALA LEU GLU VAL LEU PHE GLN GLY PRO ILE SER P4 V10 K11 L12 K13 P14 G15 M16 D17 V21 K32 E40 M41 E42 K43 I47 S48 K49 N54 P55 P59 K64 K65 K66 K70 W71 R72 K73 E79 R83

T84 Q85 D86 F87 W88 E89 V90 Q91 L92 P95 L100 K101 T107 G112 D113 A114 Y115 F116 L120 F124 R125 K126 Y127 F130 R143 Y144 Q145 Y146 W153 S156 P157 A158 I159 S163 I167 L168 E169 P170 F171 P176 D177 I180 M184 D185

V189 I195 G196 Q197 H198 R199 T200 K201 I202 L205 H208 L209 L210 R211 W212 G213 L214 T215 T216 P217 ASP LYS LYS HIS GLN LYS GLU PRO PRO PHE LEU TRP MET G231 Y232 E233 K238 W239 T240 L246 P247 E248 K263 L264 N265 W266 R277 L283 L289 T290

L303 R307 V317 Y318 K323 K331 W337 K347 N348 L349 Y354 A355 R356 M357 R358 G359 A360 H361 K374 V381 I382 K385 P420 P421 L422 V423 K424 L425 W426 Y427 Q428

• Molecule 3: DNA (38-MER)

Chain E:

58%   32%   •   8%

DT DA DA T0 C6 C7 C8 T12 T13 T22 C23 C24 C27 C28 G33 G34 G35 G36 G37

• Molecule 3: DNA (38-MER)

Chain F:

- Molecule 4: beta-D-fructofuranose-(2-1)-alpha-D-glucopyranose

Chain G:

- Molecule 4: beta-D-fructofuranose-(2-1)-alpha-D-glucopyranose

Chain H:

4 Data and refinement statistics ⓘ

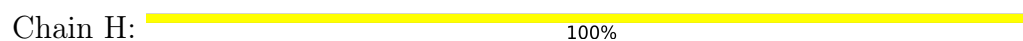| Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	90.25Å 128.96Å 131.05Å 90.00° 101.47° 90.00°	Depositor
Resolution (Å)	38.52 – 2.75 38.52 – 2.73	Depositor EDS
% Data completeness (in resolution range)	95.8 (38.52-2.75) 94.7 (38.52-2.73)	Depositor EDS
R_{merge}	0.08	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.84 (at 2.72Å)	Xtriage
Refinement program	PHENIX (1.10_2155: ???)	Depositor
R, R_{free}	0.235 , 0.265 0.235 , 0.264	Depositor DCC
R_{free} test set	2960 reflections (3.98%)	wwPDB-VP
Wilson B-factor (Å^2)	73.1	Xtriage
Anisotropy	0.348	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.34 , 62.3	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	17349	wwPDB-VP
Average B, all atoms (Å^2)	96.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.21% of the height of the origin peak. No significant pseudotranslation is detected.*

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[1]Intensities estimated from amplitudes.
[2]Theoretical values of $< |L| >$, $< L^2 >$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5   Model quality ⓘ

5.1   Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: MG, SO4, OMC, GLC, 3JY, FRU

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	0.28	0/4605	0.49	0/6255
1	C	0.28	0/4605	0.49	1/6255 (0.0%)
2	B	0.27	0/3497	0.47	0/4751
2	D	0.29	0/3497	0.49	0/4751
3	E	0.64	1/759 (0.1%)	1.01	0/1170
3	F	0.72	3/759 (0.4%)	1.01	2/1170 (0.2%)
All	All	0.33	4/17722 (0.0%)	0.56	3/24352 (0.0%)

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	F	26	DC	C4'-O4'	7.28	1.52	1.45
3	F	19	DC	C4'-O4'	5.75	1.50	1.45
3	E	24	DC	C4'-O4'	5.24	1.50	1.45
3	F	24	DC	C4'-O4'	5.10	1.50	1.45

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	F	7	DC	O4'-C4'-C3'	-6.52	101.89	104.50
3	F	19	DC	O4'-C4'-C3'	-6.06	102.08	104.50
1	C	55	PRO	N-CA-C	5.21	125.65	112.10

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	4488	0	4545	86	0
1	C	4488	0	4545	95	0
2	B	3400	0	3431	41	0
2	D	3400	0	3430	54	0
3	E	720	0	396	13	0
3	F	720	0	396	12	0
4	G	23	0	21	0	0
4	H	23	0	21	0	0
5	A	3	0	0	0	0
5	C	3	0	0	0	0
6	A	23	0	14	0	0
6	C	23	0	14	4	0
7	A	5	0	0	0	0
7	B	20	0	0	0	0
7	C	5	0	0	0	0
8	A	1	0	0	0	0
8	B	1	0	0	0	0
8	C	3	0	0	0	0
All	All	17349	0	16813	277	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 8.

All (277) 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:255:ASN:HB2	1:A:289:LEU:HD21	1.27	1.09
1:A:255:ASN:HB2	1:A:289:LEU:CD2	1.98	0.92
1:C:221:HIS:HE1	1:C:223:LYS:HG3	1.39	0.88
1:A:255:ASN:CB	1:A:289:LEU:HD21	2.11	0.80
1:C:255:ASN:HB2	1:C:289:LEU:CD2	2.10	0.80
2:D:248:GLU:OE1	2:D:307:ARG:NH2	2.15	0.80
1:C:56:TYR:HB2	1:C:129:ALA:HB3	1.65	0.78
1:C:221:HIS:CE1	1:C:223:LYS:HG3	2.20	0.76
1:A:110:ASP:HB3	1:A:220:LYS:HB3	1.70	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:255:ASN:HB2	1:C:289:LEU:HD21	1.71	0.71
6:C:605:3JY:H11	6:C:605:3JY:H6	1.73	0.70
1:C:261:VAL:HG13	1:C:276:VAL:HG11	1.72	0.70
1:C:172:LYS:HE2	1:C:180:ILE:HB	1.75	0.69
1:A:56:TYR:HB2	1:A:129:ALA:HB3	1.74	0.69
2:D:115:TYR:CD2	2:D:156:SER:HB3	2.28	0.69
1:C:72:ARG:NH1	6:C:605:3JY:O19	2.26	0.68
1:C:111:VAL:HB	1:C:185:ASP:HB2	1.75	0.67
1:A:207:GLN:O	1:A:211:ARG:N	2.26	0.67
1:A:261:VAL:HG13	1:A:276:VAL:HG11	1.76	0.66
2:D:180:ILE:HG12	2:D:189:VAL:HG22	1.78	0.66
1:A:255:ASN:HD22	1:A:289:LEU:HD11	1.62	0.63
1:A:183:TYR:OH	3:E:36:DG:N3	2.29	0.63
1:C:60:VAL:HG22	1:C:75:VAL:HG13	1.79	0.63
1:C:41:MET:HB3	1:C:46:LYS:HB2	1.81	0.62
1:C:19:PRO:HB2	1:C:58:THR:HG23	1.79	0.62
1:A:94:ILE:HD11	3:E:35:DG:H21	1.65	0.62
3:E:27:DC:H2"	3:E:28:DG:C8	2.35	0.61
1:C:5:ILE:HG22	1:C:212:TRP:HD1	1.64	0.61
2:B:13:LYS:HD2	2:B:85:GLN:HB3	1.83	0.61
2:B:206:ARG:NH2	2:B:216:THR:O	2.33	0.61
1:A:64:LYS:HA	1:A:71:TRP:HA	1.83	0.61
1:A:21:VAL:HG23	1:A:59:PRO:HD3	1.82	0.60
1:A:448:ARG:HH21	3:E:22:DT:H5"	1.65	0.60
2:D:199:ARG:HA	2:D:202:ILE:HD12	1.84	0.60
1:C:184:MET:HG2	3:F:37:DG:H2"	1.83	0.59
2:B:180:ILE:HG12	2:B:189:VAL:HG22	1.84	0.59
1:A:253:THR:HA	1:A:292:VAL:HA	1.85	0.59
1:C:118:VAL:HG21	1:C:160:PHE:HD1	1.68	0.59
2:D:246:LEU:HD11	2:D:264:LEU:HD21	1.84	0.59
2:D:266:TRP:NE1	2:D:425:LEU:HD22	2.17	0.59
2:D:170:PRO:HB2	2:D:208:HIS:CE1	2.37	0.58
1:C:257:ILE:HB	1:C:283:LEU:HD21	1.85	0.58
2:B:157:PRO:HG3	2:B:184:MET:HA	1.85	0.58
2:B:115:TYR:CD2	2:B:156:SER:HB3	2.38	0.58
1:A:70:LYS:HG2	1:A:71:TRP:H	1.69	0.58
1:A:209:LEU:HB3	1:A:214:LEU:HB2	1.86	0.57
1:A:542:ILE:HG23	2:B:283:LEU:HD13	1.87	0.57
1:C:180:ILE:HG23	1:C:189:VAL:HG22	1.87	0.57
1:C:125:ARG:HE	1:C:147:ASN:HA	1.68	0.57
2:B:170:PRO:HB2	2:B:208:HIS:CE1	2.40	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:202:ILE:O	1:C:206:ARG:HG3	2.06	0.56
2:D:21:VAL:HB	2:D:59:PRO:HD3	1.87	0.56
2:D:114:ALA:HB2	2:D:214:LEU:HD22	1.88	0.56
2:B:199:ARG:HA	2:B:202:ILE:HD12	1.87	0.56
1:C:23:GLN:NE2	1:C:131:THR:O	2.38	0.56
1:C:219:LYS:HE2	1:C:220:LYS:HE2	1.88	0.56
1:C:5:ILE:HG22	1:C:212:TRP:CD1	2.40	0.55
1:C:23:GLN:HG3	1:C:131:THR:HG23	1.89	0.55
1:C:181:TYR:HB2	1:C:188:TYR:HB3	1.87	0.55
2:D:198:HIS:CD2	2:D:202:ILE:HD11	2.42	0.55
1:C:279:LEU:HD23	1:C:299:ALA:HB1	1.88	0.55
1:A:181:TYR:HB2	1:A:188:TYR:HB3	1.89	0.54
1:A:34:LEU:HD21	1:A:132:ILE:HD12	1.88	0.54
2:B:114:ALA:HB2	2:B:214:LEU:HD22	1.88	0.54
3:E:12:DT:H2'	3:E:13:DT:H71	1.89	0.54
1:C:123:ASP:N	1:C:123:ASP:OD1	2.40	0.54
1:A:395:LYS:NZ	1:A:414:TRP:O	2.40	0.54
2:B:363:ASN:O	2:B:367:GLN:HG3	2.08	0.54
2:B:17:ASP:O	2:B:83:ARG:NH1	2.40	0.54
1:C:253:THR:HA	1:C:292:VAL:HA	1.90	0.54
1:A:252:TRP:O	1:A:292:VAL:HG23	2.09	0.53
1:A:442:VAL:HB	1:A:481:ALA:HB1	1.91	0.53
2:B:331:LYS:HB2	2:B:337:TRP:CZ3	2.43	0.53
1:C:72:ARG:NH2	6:C:605:3JY:O19	2.42	0.53
1:C:255:ASN:HB2	1:C:289:LEU:HD23	1.89	0.53
1:C:258:GLN:CD	3:F:32:DG:H2"	2.28	0.53
1:A:281:LYS:O	1:A:284:ARG:HG2	2.07	0.53
1:C:281:LYS:O	1:C:284:ARG:HG2	2.09	0.53
2:B:87:PHE:HZ	2:B:159:ILE:HG13	1.73	0.53
1:C:60:VAL:HG21	1:C:130:PHE:CD2	2.44	0.53
1:A:180:ILE:HG23	1:A:189:VAL:HG22	1.89	0.53
1:C:255:ASN:CB	1:C:289:LEU:HD21	2.38	0.53
2:D:54:ASN:HB3	2:D:143:ARG:HH21	1.74	0.52
1:C:202:ILE:HG22	1:C:206:ARG:HD2	1.90	0.52
2:B:167:ILE:HG23	2:B:212:TRP:CD1	2.44	0.52
2:D:64:LYS:HE3	2:D:71:TRP:CE2	2.45	0.52
1:A:273:GLY:HA2	1:A:338:THR:HG21	1.91	0.52
1:A:94:ILE:HD11	3:E:35:DG:N2	2.25	0.52
1:C:448:ARG:HH21	3:F:22:DT:H5"	1.73	0.52
1:A:503:LEU:HD22	1:A:535:TRP:HB2	1.90	0.52
2:B:203:GLU:O	2:B:207:GLN:HG2	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:94:ILE:HD12	3:F:8:OMC:HM23	1.91	0.51
2:D:263:LYS:HA	2:D:423:VAL:HG21	1.92	0.51
2:B:365:VAL:HG11	2:B:401:TRP:HB2	1.93	0.51
1:A:27:THR:O	1:A:31:ILE:HG13	2.10	0.51
1:A:111:VAL:HB	1:A:185:ASP:HB2	1.93	0.51
2:D:115:TYR:HD2	2:D:156:SER:HB3	1.75	0.51
2:D:266:TRP:CD1	2:D:425:LEU:HD13	2.46	0.51
2:D:13:LYS:HD2	2:D:85:GLN:HB3	1.93	0.51
1:A:47:ILE:HG13	1:A:144:TYR:HB3	1.94	0.50
1:A:260:LEU:HD21	1:A:303:LEU:HD13	1.93	0.50
1:A:503:LEU:HD11	1:A:533:LEU:HB3	1.92	0.50
2:B:197:GLN:O	2:B:201:LYS:HG2	2.12	0.50
3:E:7:DC:H2'	3:E:8:OMC:C6	2.47	0.50
2:D:84:THR:HG21	2:D:153:TRP:HZ2	1.77	0.50
2:D:425:LEU:HD23	2:D:426:TRP:CE2	2.47	0.50
3:E:7:DC:H2'	3:E:8:OMC:H6	1.77	0.49
1:C:492:GLU:HG2	1:C:530:LYS:HB2	1.94	0.49
2:B:167:ILE:HG12	2:B:212:TRP:CD2	2.47	0.49
2:B:209:LEU:HD13	2:B:214:LEU:HD23	1.94	0.49
2:D:209:LEU:HD13	2:D:214:LEU:HD23	1.94	0.49
1:A:293:ILE:HG13	1:A:294:PRO:HD2	1.95	0.49
1:C:260:LEU:HD21	1:C:303:LEU:HD13	1.94	0.49
1:A:47:ILE:HD12	1:A:146:TYR:HA	1.95	0.49
2:B:320:ASP:OD2	1:C:418:ASN:ND2	2.39	0.49
2:D:42:GLU:OE2	2:D:49:LYS:HG3	2.12	0.49
2:B:21:VAL:HB	2:B:59:PRO:HD3	1.94	0.48
1:C:28:GLU:HB2	1:C:135:ILE:HD12	1.95	0.48
2:D:120:LEU:HD23	2:D:125:ARG:HG2	1.94	0.48
1:A:443:ASP:OD1	1:A:444:GLY:N	2.46	0.48
2:D:177:ASP:OD1	2:D:177:ASP:N	2.37	0.48
2:D:356:ARG:HG3	2:D:356:ARG:O	2.13	0.48
1:A:548:VAL:O	1:A:552:VAL:HG22	2.14	0.48
3:F:17:DT:H4'	3:F:18:DG:OP1	2.14	0.48
1:C:542:ILE:HG23	2:D:283:LEU:HD13	1.94	0.48
1:C:205:LEU:O	1:C:209:LEU:HG	2.14	0.48
2:D:167:ILE:HG23	2:D:212:TRP:CD1	2.49	0.48
1:A:110:ASP:HB3	1:A:220:LYS:CB	2.43	0.47
1:C:70:LYS:HG2	1:C:71:TRP:H	1.79	0.47
1:A:301:LEU:O	1:A:305:GLU:HG2	2.14	0.47
1:A:5:ILE:HD11	1:A:163:SER:HB3	1.96	0.47
2:B:317:VAL:HG12	2:B:347:LYS:HB3	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:255:ASN:ND2	1:C:289:LEU:HD21	2.29	0.47
2:D:17:ASP:O	2:D:83:ARG:HD3	2.14	0.47
1:A:30:LYS:HG2	1:A:71:TRP:CZ3	2.50	0.47
1:C:254:VAL:HG13	1:C:283:LEU:HD22	1.94	0.47
1:C:391:LEU:HB3	1:C:393:ILE:HG22	1.97	0.47
2:D:428:GLN:HE21	2:D:428:GLN:HA	1.80	0.47
1:A:317:VAL:HG11	1:A:347:LYS:HB3	1.97	0.47
1:C:389:PHE:HB3	1:C:391:LEU:HD13	1.97	0.47
1:C:494:ASN:HB3	2:D:289:LEU:HD12	1.96	0.47
1:C:540:LYS:HA	1:C:540:LYS:HD3	1.68	0.47
2:D:100:LEU:HG	2:D:381:VAL:HG13	1.96	0.47
2:D:163:SER:O	2:D:167:ILE:HG13	2.15	0.47
1:A:167:ILE:O	1:A:170:PRO:HD2	2.14	0.47
1:C:263:LYS:HD2	3:F:34:DG:H4'	1.97	0.47
1:A:266:TRP:O	1:A:269:GLN:HG2	2.15	0.47
1:C:114:ALA:HB1	1:C:160:PHE:CE1	2.50	0.47
6:C:605:3JY:H6	6:C:605:3JY:H3	1.58	0.47
1:C:120:LEU:HD12	1:C:121:ASP:H	1.80	0.46
2:D:266:TRP:CD1	2:D:266:TRP:C	2.89	0.46
2:D:79:GLU:HG3	2:D:83:ARG:HE	1.80	0.46
2:D:112:GLY:HA2	2:D:115:TYR:CD1	2.51	0.46
3:F:17:DT:H2"	3:F:18:DG:C8	2.50	0.46
1:A:31:ILE:O	1:A:35:VAL:HG23	2.14	0.46
1:A:263:LYS:HD2	3:E:34:DG:H4'	1.97	0.46
2:B:115:TYR:O	2:B:149:LEU:HB2	2.16	0.46
1:A:121:ASP:O	1:A:125:ARG:HG3	2.15	0.46
2:B:66:LYS:NZ	2:B:407:GLN:OE1	2.39	0.46
1:C:29:GLU:HG3	1:C:30:LYS:N	2.31	0.46
1:C:125:ARG:NE	1:C:147:ASN:HA	2.30	0.46
1:C:131:THR:HB	1:C:143:ARG:HG2	1.98	0.46
1:C:167:ILE:O	1:C:170:PRO:HD2	2.16	0.46
1:C:200:THR:O	1:C:204:GLU:HG3	2.16	0.46
1:A:376:THR:HG21	2:B:401:TRP:CH2	2.51	0.46
1:C:198:HIS:O	1:C:202:ILE:HG12	2.16	0.46
2:B:428:GLN:HE21	2:B:428:GLN:HA	1.80	0.45
1:C:34:LEU:HD21	1:C:132:ILE:HD12	1.98	0.45
2:D:12:LEU:HD11	2:D:127:TYR:CE1	2.50	0.45
1:A:7:THR:OG1	1:A:121:ASP:HA	2.16	0.45
1:A:60:VAL:HG22	1:A:75:VAL:HG13	1.98	0.45
2:B:38:CYS:SG	2:B:132:ILE:HD11	2.56	0.45
1:C:273:GLY:HA2	1:C:338:THR:HG21	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:54:ASN:O	1:A:143:ARG:NH2	2.49	0.45
2:B:154:LYS:HG2	2:B:184:MET:SD	2.57	0.45
1:A:5:ILE:HD12	1:A:167:ILE:HD11	1.99	0.45
1:A:340:GLN:HG3	1:A:351:THR:HG22	1.98	0.45
1:C:211:ARG:HB2	1:C:212:TRP:CE3	2.52	0.45
1:C:184:MET:HA	1:C:184:MET:HE3	1.97	0.45
1:C:227:PHE:CD2	1:C:227:PHE:N	2.84	0.45
2:D:171:PHE:CD2	2:D:205:LEU:HD13	2.51	0.45
1:C:80:LEU:O	1:C:84:THR:OG1	2.33	0.45
1:A:116:PHE:O	1:A:148:VAL:HG11	2.17	0.45
1:A:295:LEU:HB3	1:A:300:GLU:HG2	1.99	0.45
2:D:40:GLU:HA	2:D:43:LYS:HG2	1.98	0.45
1:A:395:LYS:HD2	1:A:414:TRP:CH2	2.52	0.44
1:C:246:LEU:HD11	1:C:310:LEU:HD22	1.99	0.44
1:C:320:ASP:OD1	1:C:322:SER:OG	2.29	0.44
1:A:153:TRP:HB3	1:A:156:SER:OG	2.17	0.44
2:D:88:TRP:CE3	2:D:89:GLU:HG3	2.52	0.44
1:C:54:ASN:O	1:C:143:ARG:NH2	2.50	0.44
2:B:112:GLY:HA2	2:B:115:TYR:CD1	2.53	0.44
1:C:338:THR:HG22	1:C:353:LYS:HB3	2.00	0.44
2:D:303:LEU:HG	2:D:307:ARG:NH1	2.33	0.44
2:D:331:LYS:HB2	2:D:337:TRP:CZ3	2.53	0.44
1:A:171:PHE:CD2	1:A:205:LEU:HD13	2.53	0.44
1:C:36:GLU:O	1:C:40:GLU:HG3	2.18	0.44
1:C:258:GLN:NE2	3:F:32:DG:H2"	2.33	0.44
1:A:60:VAL:HG21	1:A:130:PHE:CD2	2.53	0.44
2:B:425:LEU:HD23	2:B:426:TRP:CE2	2.52	0.43
1:C:21:VAL:HG23	1:C:59:PRO:HD3	2.00	0.43
2:D:317:VAL:HG12	2:D:347:LYS:HB3	1.98	0.43
1:A:325:LEU:HD12	1:A:385:LYS:HG3	2.00	0.43
2:B:101:LYS:HD3	2:B:382:ILE:HG23	2.01	0.43
2:D:323:LYS:O	2:D:385:LYS:NZ	2.50	0.43
1:A:320:ASP:OD1	1:A:322:SER:OG	2.25	0.43
1:C:418:ASN:O	1:C:420:PRO:HD3	2.18	0.43
1:A:532:TYR:CE2	1:A:534:ALA:HB2	2.53	0.43
1:C:435:VAL:HG22	2:D:290:THR:HG21	2.00	0.43
2:D:47:ILE:HD12	2:D:144:TYR:CD2	2.53	0.43
1:A:70:LYS:HG2	1:A:71:TRP:N	2.32	0.43
1:C:91:GLN:O	3:F:7:DC:H4'	2.19	0.43
1:C:157:PRO:HG2	3:F:6:OMC:H1'	2.00	0.43
1:A:208:HIS:O	1:A:211:ARG:HB2	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:354:TYR:HD2	2:D:374:LYS:HD3	1.83	0.43
1:C:115:TYR:CD2	1:C:151:GLN:HG2	2.53	0.43
1:C:443:ASP:OD1	1:C:444:GLY:N	2.47	0.43
2:B:305:GLU:O	2:B:309:ILE:HG13	2.19	0.42
1:C:295:LEU:HB3	1:C:300:GLU:HG2	2.00	0.42
2:D:101:LYS:HD3	2:D:382:ILE:HG23	2.01	0.42
1:A:198:HIS:O	1:A:202:ILE:HG12	2.19	0.42
1:C:88:TRP:CD1	2:D:143:ARG:NH1	2.88	0.42
2:D:107:THR:HA	2:D:232:TYR:O	2.20	0.42
1:A:442:VAL:HG12	1:A:457:TYR:HB3	2.01	0.42
1:C:450:THR:HG22	1:C:452:LEU:HG	2.00	0.42
2:D:112:GLY:HA2	2:D:115:TYR:CE1	2.55	0.42
2:D:422:LEU:HG	2:D:423:VAL:HG12	2.00	0.42
3:F:8:OMC:HM23	3:F:8:OMC:H1'	1.83	0.42
1:A:115:TYR:HB3	1:A:149:LEU:O	2.18	0.42
2:D:185:ASP:OD1	2:D:185:ASP:N	2.50	0.42
1:C:39:THR:O	1:C:42:GLU:HG3	2.20	0.42
1:C:254:VAL:HG21	1:C:286:THR:HG21	2.02	0.42
1:A:457:TYR:HA	1:A:548:VAL:HG21	2.02	0.42
2:B:120:LEU:HD23	2:B:125:ARG:HG2	2.02	0.42
1:C:84:THR:HB	1:C:154:LYS:HE2	2.02	0.42
1:A:91:GLN:O	3:E:7:DC:H4'	2.19	0.42
1:A:410:TRP:CH2	1:A:412:PRO:HA	2.55	0.42
2:B:115:TYR:HE2	2:B:157:PRO:HA	1.85	0.42
1:A:258:GLN:HB3	3:E:33:DG:H4'	2.02	0.42
1:A:22:LYS:HD3	1:A:22:LYS:HA	1.79	0.41
1:A:33:ALA:O	1:A:37:ILE:HG12	2.21	0.41
1:A:266:TRP:CE2	3:E:35:DG:H4'	2.55	0.41
1:A:5:ILE:CG2	1:A:119:PRO:HD2	2.50	0.41
2:B:42:GLU:OE2	2:B:49:LYS:HG3	2.20	0.41
2:B:104:LYS:HB3	2:B:104:LYS:HE2	1.77	0.41
3:F:27:DC:H2"	3:F:28:DG:C8	2.54	0.41
1:A:26:LEU:HD21	1:A:34:LEU:HD13	2.01	0.41
1:A:412:PRO:HD3	2:B:401:TRP:CZ2	2.55	0.41
1:C:22:LYS:HD3	1:C:22:LYS:HA	1.88	0.41
1:A:21:VAL:HG23	1:A:58:THR:HA	2.02	0.41
1:C:47:ILE:HD12	1:C:146:TYR:HA	2.02	0.41
2:D:157:PRO:HG3	2:D:184:MET:HA	2.03	0.41
2:B:185:ASP:N	2:B:185:ASP:OD1	2.54	0.41
1:A:94:ILE:CD1	3:E:35:DG:H21	2.33	0.41
1:A:5:ILE:CD1	1:A:163:SER:HB3	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:343:GLN:HG3	1:A:349:LEU:HD11	2.01	0.41
1:A:401:TRP:HB2	1:A:425:LEU:HD11	2.02	0.41
2:B:84:THR:HG22	2:B:87:PHE:HB3	2.03	0.41
1:C:325:LEU:HB3	1:C:387:PRO:HB3	2.03	0.41
1:C:195:ILE:O	1:C:199:ARG:HG3	2.20	0.41
2:D:422:LEU:HG	2:D:423:VAL:N	2.36	0.41
2:B:266:TRP:O	2:B:269:GLN:HG3	2.21	0.40
1:C:28:GLU:CB	1:C:135:ILE:HD12	2.51	0.40
1:C:350:LYS:NZ	1:C:351:THR:O	2.48	0.40
1:C:406:TRP:CZ2	2:D:420:PRO:HG3	2.57	0.40
2:D:214:LEU:HD12	2:D:215:THR:H	1.87	0.40
1:A:80:LEU:O	1:A:84:THR:OG1	2.32	0.40
1:A:131:THR:HB	1:A:143:ARG:HG2	2.03	0.40
2:B:175:ASN:OD1	2:B:201:LYS:HE2	2.22	0.40
1:C:255:ASN:CG	1:C:289:LEU:HD21	2.42	0.40
1:C:301:LEU:O	1:C:305:GLU:HG2	2.20	0.40
1:C:503:LEU:HD11	1:C:533:LEU:HB3	2.02	0.40
1:A:42:GLU:OE1	1:A:49:LYS:HE3	2.22	0.40
1:A:363:ASN:HA	1:A:511:ASP:OD1	2.22	0.40
1:A:540:LYS:HA	1:A:540:LYS:HD3	1.88	0.40
1:C:215:THR:O	1:C:217:PRO:HD3	2.22	0.40
1:C:328:GLU:HG2	1:C:330:GLN:NE2	2.36	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	549/555 (99%)	536 (98%)	13 (2%)	0	100	100
1	C	549/555 (99%)	533 (97%)	16 (3%)	0	100	100
2	B	408/444 (92%)	396 (97%)	12 (3%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	D	408/444 (92%)	396 (97%)	12 (3%)	0	100	100
All	All	1914/1998 (96%)	1861 (97%)	53 (3%)	0	100	100

There are no Ramachandran outliers to report.

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	492/495 (99%)	486 (99%)	6 (1%)	71	82
1	C	492/495 (99%)	483 (98%)	9 (2%)	59	75
2	B	374/403 (93%)	373 (100%)	1 (0%)	92	95
2	D	374/403 (93%)	372 (100%)	2 (0%)	88	92
All	All	1732/1796 (96%)	1714 (99%)	18 (1%)	76	85

All (18) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	42	GLU
1	A	109	LEU
1	A	277	ARG
1	A	391	LEU
1	A	450	THR
1	A	497	THR
2	B	11	LYS
1	C	5	ILE
1	C	42	GLU
1	C	109	LEU
1	C	123	ASP
1	C	208	HIS
1	C	277	ARG
1	C	391	LEU
1	C	450	THR
1	C	497	THR

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Mol	Chain	Res	Type
2	D	11	LYS
2	D	185	ASP

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

Mol	Chain	Res	Type
1	A	373	GLN
2	B	428	GLN
1	C	221	HIS
1	C	255	ASN
1	C	487	GLN
1	C	507	GLN
2	D	208	HIS

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

4 non-standard protein/DNA/RNA residues 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	OMC	F	6	3	19,22,23	0.97	1 (5%)	26,31,34	0.79	0
3	OMC	E	8	3,2	19,22,23	0.97	1 (5%)	26,31,34	0.87	0
3	OMC	E	6	3	19,22,23	0.97	1 (5%)	26,31,34	0.75	0
3	OMC	F	8	3,2	19,22,23	0.96	1 (5%)	26,31,34	0.82	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	OMC	F	6	3	-	0/9/27/28	0/2/2/2
3	OMC	E	8	3,2	-	0/9/27/28	0/2/2/2
3	OMC	E	6	3	-	1/9/27/28	0/2/2/2
3	OMC	F	8	3,2	-	1/9/27/28	0/2/2/2

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	E	8	OMC	C4-N4	3.95	1.43	1.33
3	E	6	OMC	C4-N4	3.92	1.43	1.33
3	F	6	OMC	C4-N4	3.92	1.43	1.33
3	F	8	OMC	C4-N4	3.89	1.43	1.33

There are no bond angle outliers.

There are no chirality outliers.

All (2) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	E	6	OMC	C1'-C2'-O2'-CM2
3	F	8	OMC	C1'-C2'-O2'-CM2

There are no ring outliers.

3 monomers are involved in 5 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	F	6	OMC	1	0
3	E	8	OMC	2	0
3	F	8	OMC	2	0

5.5 Carbohydrates ⓘ

4 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
4	GLC	G	1	4	11,11,12	0.61	0	15,15,17	0.83	1 (6%)
4	FRU	G	2	4	11,12,12	0.63	0	10,18,18	0.92	0
4	GLC	H	1	4	11,11,12	0.55	0	15,15,17	1.13	2 (13%)
4	FRU	H	2	4	11,12,12	0.67	0	10,18,18	1.16	1 (10%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	GLC	G	1	4	-	0/2/19/22	0/1/1/1
4	FRU	G	2	4	-	3/5/24/24	0/1/1/1
4	GLC	H	1	4	-	0/2/19/22	0/1/1/1
4	FRU	H	2	4	-	3/5/24/24	0/1/1/1

There are no bond length outliers.

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	H	1	GLC	C1-C2-C3	2.51	112.75	109.67
4	G	1	GLC	C1-O5-C5	2.25	115.24	112.19
4	H	1	GLC	C1-O5-C5	2.22	115.20	112.19
4	H	2	FRU	C6-C5-C4	-2.17	109.85	115.09

There are no chirality outliers.

All (6) torsion outliers are listed below:

| Mol	Chain	Res	Type	Atoms
4	G	2	FRU	O1-C1-C2-C3
4	G	2	FRU	O1-C1-C2-O2
4	G	2	FRU	O1-C1-C2-O5
4	H	2	FRU	O1-C1-C2-O2
4	H	2	FRU	O1-C1-C2-O5
4	H	2	FRU	O1-C1-C2-C3

There are no ring outliers.

No monomer is involved in short contacts.

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths,

bond angles, torsion angles, and ring geometry for oligosaccharide.

Oligosaccharide Chain G	
Bond lengths	Bond angles
Torsions	Rings

Oligosaccharide Chain H

Bond lengths　　　　　Bond angles

Torsions　　　　　Rings
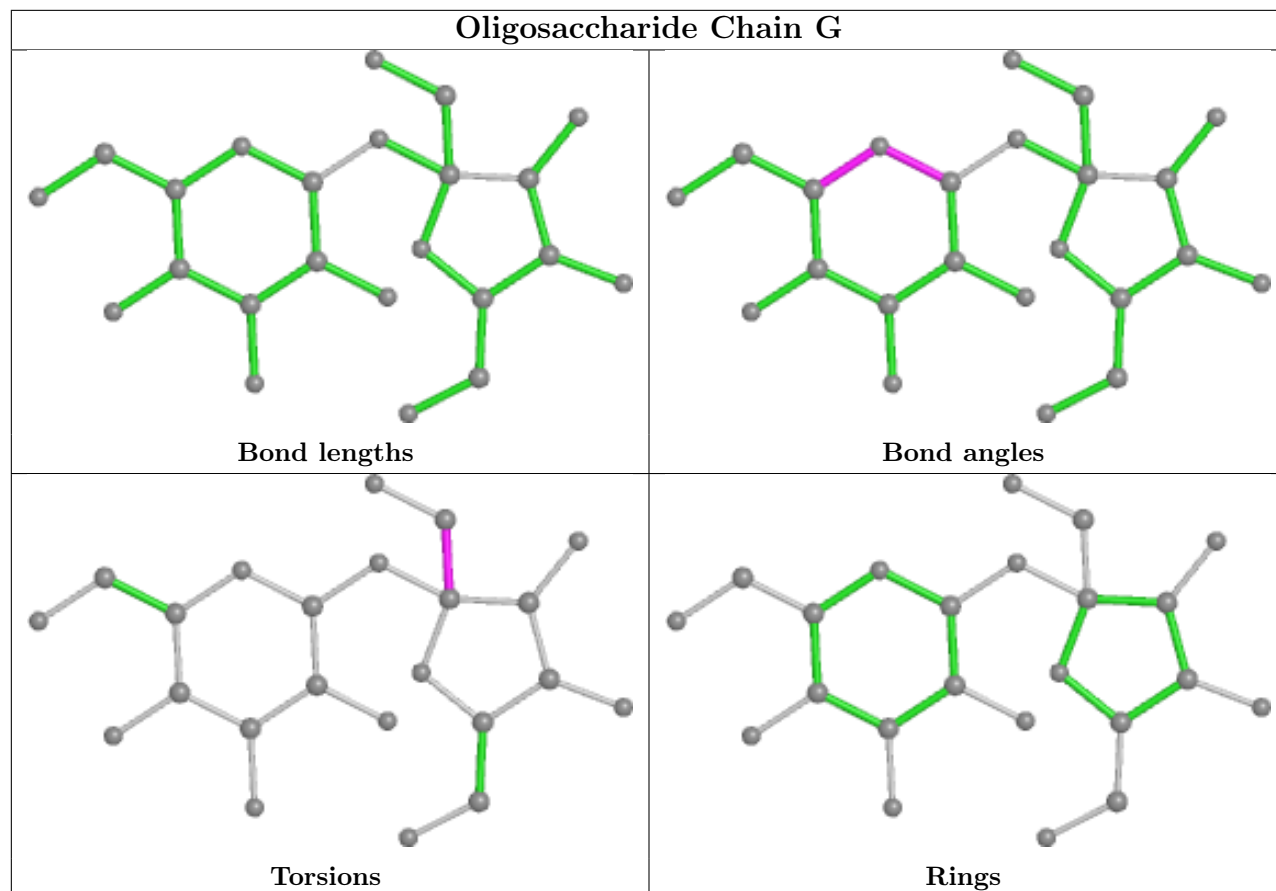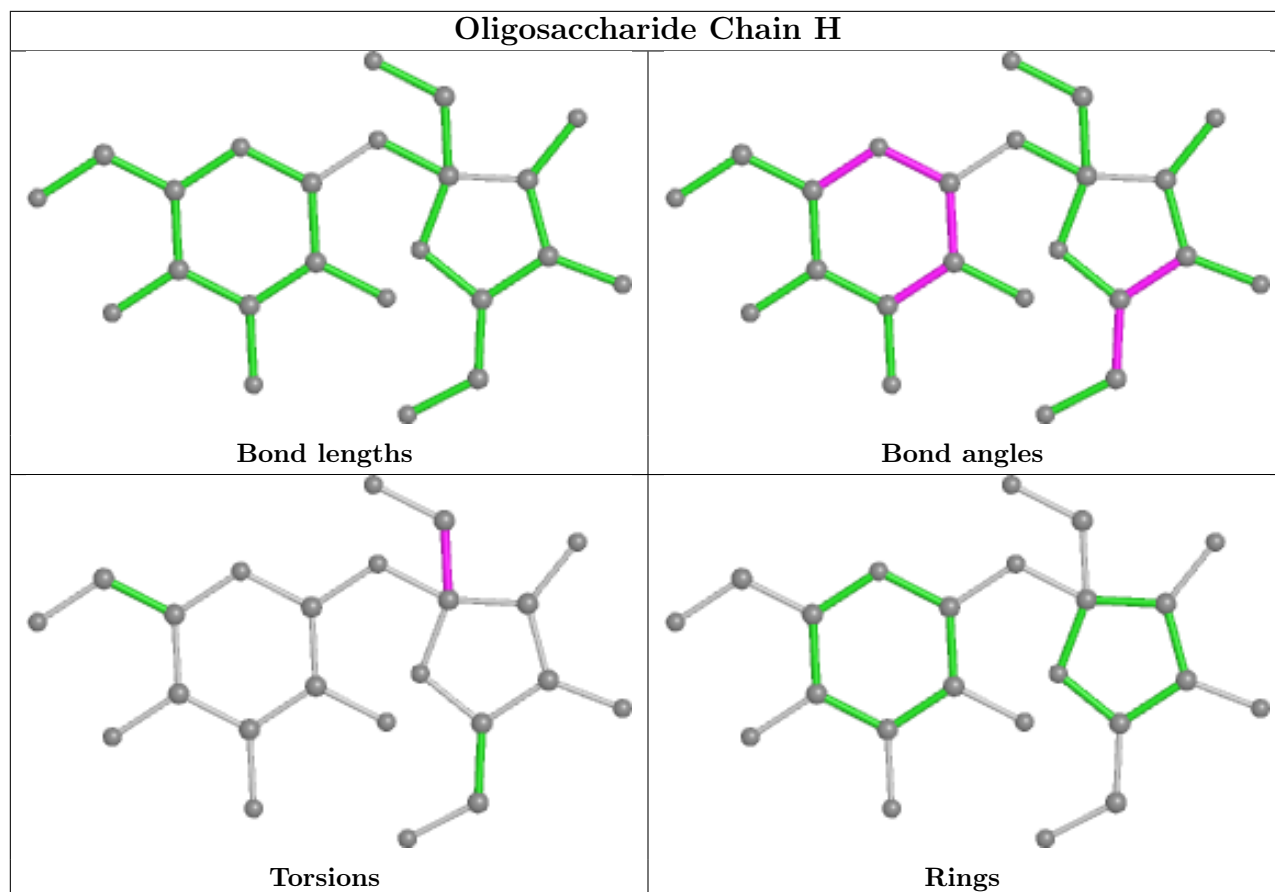
5.6 Ligand geometry ⓘ

Of 14 ligands modelled in this entry, 6 are monoatomic - leaving 8 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	#$|Z| > 2$	Counts	RMSZ	#$|Z| > 2$
7	SO4	B	502	-	4,4,4	0.18	0	6,6,6	0.36	0
7	SO4	B	503	-	4,4,4	0.12	0	6,6,6	0.12	0
6	3JY	A	603	5	21,24,25	2.76	11 (52%)	30,36,37	2.51	13 (43%)
7	SO4	C	604	-	4,4,4	0.13	0	6,6,6	0.17	0
6	3JY	C	605	5	21,24,25	2.82	11 (52%)	30,36,37	2.34	13 (43%)
7	SO4	B	505	-	4,4,4	0.14	0	6,6,6	0.21	0
7	SO4	A	605	-	4,4,4	0.13	0	6,6,6	0.11	0
7	SO4	B	504	-	4,4,4	0.13	0	6,6,6	0.21	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
6	3JY	C	605	5	-	7/12/27/29	0/2/2/2
6	3JY	A	603	5	-	8/12/27/29	0/2/2/2

All (22) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	C	605	3JY	O11-C10	-7.50	1.34	1.44
6	A	603	3JY	O11-C10	-7.47	1.34	1.44
6	C	605	3JY	O1-C2	5.69	1.34	1.23
6	A	603	3JY	O1-C2	5.67	1.34	1.23
6	A	603	3JY	C2-C3	-3.45	1.39	1.44
6	C	605	3JY	C2-C3	-3.37	1.39	1.44
6	C	605	3JY	C22-N6	-3.06	1.33	1.38
6	C	605	3JY	C5-C3	2.96	1.39	1.34
6	A	603	3JY	C22-N6	-2.96	1.33	1.38
6	A	603	3JY	O15-C13	-2.94	1.20	1.30
6	A	603	3JY	C5-C3	2.94	1.39	1.34
6	C	605	3JY	O15-C13	-2.91	1.21	1.30
6	A	603	3JY	O23-C22	-2.60	1.18	1.23
6	C	605	3JY	O23-C22	-2.55	1.18	1.23
6	A	603	3JY	C22-N21	-2.53	1.33	1.38
6	C	605	3JY	P16-O18	2.51	1.53	1.49
6	C	605	3JY	C22-N21	-2.41	1.33	1.38
6	A	603	3JY	C2-N21	-2.21	1.34	1.38
6	C	605	3JY	C20-C7	-2.18	1.50	1.53
6	C	605	3JY	C2-N21	-2.18	1.34	1.38
6	A	603	3JY	C20-C7	-2.17	1.50	1.53
6	A	603	3JY	C5-N6	-2.00	1.34	1.38

All (26) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	A	603	3JY	C12-O11-C10	5.61	135.79	115.39
6	A	603	3JY	C3-C2-N21	4.99	119.57	115.31
6	C	605	3JY	C3-C2-N21	4.97	119.55	115.31
6	C	605	3JY	P16-C12-C13	-4.54	100.94	110.87
6	A	603	3JY	C2-N21-C22	-4.53	121.49	127.35
6	C	605	3JY	C2-N21-C22	-4.46	121.58	127.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
6	A	603	3JY	N21-C22-N6	4.13	120.37	114.89
6	C	605	3JY	N21-C22-N6	4.06	120.28	114.89
6	A	603	3JY	O1-C2-C3	-3.91	120.37	124.90
6	C	605	3JY	O1-C2-C3	-3.88	120.41	124.90
6	A	603	3JY	P16-C12-C13	-3.55	103.10	110.87
6	A	603	3JY	C3-C5-N6	-3.19	120.06	123.34
6	C	605	3JY	C3-C5-N6	-2.98	120.27	123.34
6	C	605	3JY	C12-O11-C10	2.82	125.66	115.39
6	A	603	3JY	C7-N6-C22	2.66	120.43	117.13
6	C	605	3JY	C10-C20-C7	2.60	108.66	102.44
6	A	603	3JY	O18-P16-C12	-2.59	108.20	113.35
6	A	603	3JY	C10-C20-C7	2.53	108.49	102.44
6	A	603	3JY	C20-C7-C8	2.44	106.53	102.82
6	A	603	3JY	C8-C9-C10	2.29	107.02	102.72
6	C	605	3JY	O23-C22-N6	-2.22	119.83	122.79
6	C	605	3JY	C7-N6-C22	2.21	119.87	117.13
6	C	605	3JY	C8-C9-C10	2.21	106.86	102.72
6	C	605	3JY	C20-C7-C8	2.14	106.08	102.82
6	C	605	3JY	C4-C3-C2	2.10	121.08	118.77
6	A	603	3JY	O23-C22-N6	-2.04	120.07	122.79

There are no chirality outliers.

All (15) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
6	A	603	3JY	C20-C10-O11-C12
6	A	603	3JY	O11-C12-C13-O14
6	A	603	3JY	C13-C12-P16-O18
6	A	603	3JY	C13-C12-P16-O19
6	A	603	3JY	C13-C12-P16-O17
6	A	603	3JY	O11-C12-P16-O18
6	C	605	3JY	C20-C10-O11-C12
6	C	605	3JY	C13-C12-P16-O18
6	C	605	3JY	C13-C12-P16-O19
6	C	605	3JY	C13-C12-P16-O17
6	C	605	3JY	O11-C12-P16-O18
6	C	605	3JY	O11-C12-C13-O14
6	A	603	3JY	O11-C12-C13-O15
6	C	605	3JY	O11-C12-C13-O15
6	A	603	3JY	C9-C10-O11-C12

There are no ring outliers.

1 monomer is involved in 4 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
6	C	605	3JY	4	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 3JY A 603

Bond lengths

Bond angles

Torsions

Rings

Ligand 3JY C 605

Bond lengths

Bond angles

Torsions

Rings
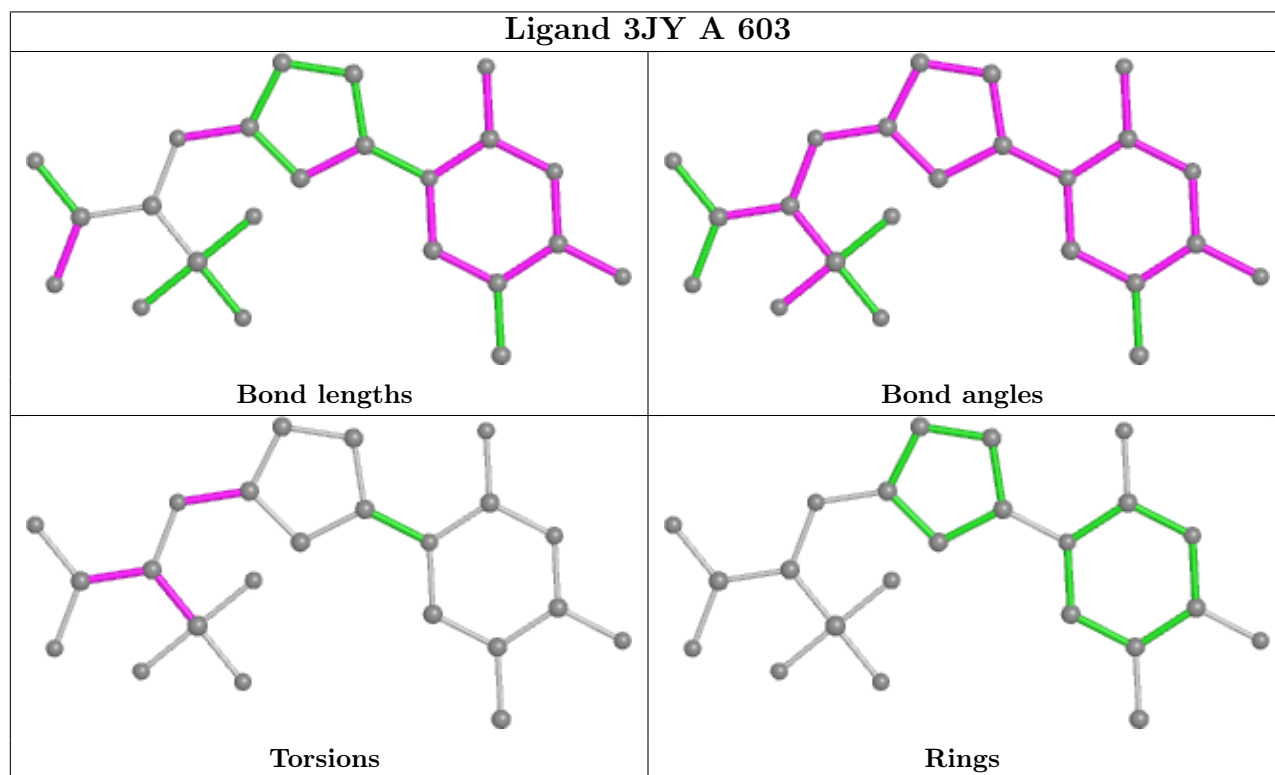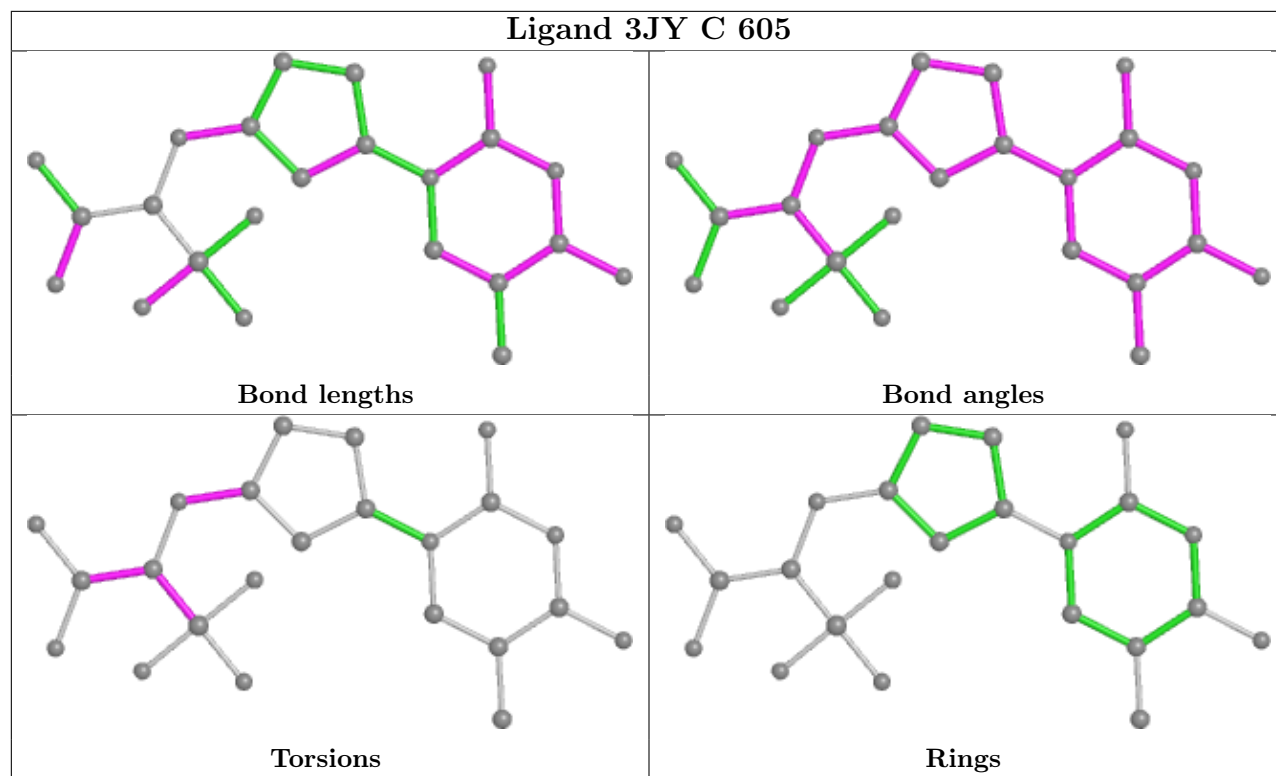
5.7 Other polymers ⓘ

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 ⓘ

6.1 Protein, DNA and RNA chains ⓘ

In the following table, the column labelled '#RSRZ> 2' contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95th percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled 'Q< 0.9' lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å²)	Q<0.9
1	A	551/555 (99%)	1.08	93 (16%)	1	1	41, 96, 151, 190	0
1	C	551/555 (99%)	1.34	135 (24%)	0	0	43, 113, 162, 182	0
2	B	412/444 (92%)	0.61	33 (8%)	12	15	41, 81, 127, 142	0
2	D	412/444 (92%)	0.85	55 (13%)	3	4	44, 92, 136, 160	0
3	E	33/38 (86%)	0.12	0	100	100	70, 97, 113, 152	0
3	F	33/38 (86%)	0.79	2 (6%)	21	26	82, 112, 131, 169	0
All	All	1992/2074 (96%)	0.98	318 (15%)	1	2	41, 93, 152, 190	0

All (318) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	C	134	SER	14.5
1	C	60	VAL	12.0
1	C	132	ILE	11.7
1	A	131	THR	11.3
1	C	135	ILE	10.9
1	C	142	ILE	9.6
1	C	133	PRO	9.5
1	C	50	ILE	9.2
2	D	10	VAL	8.9
1	A	142	ILE	8.6
1	A	134	SER	7.9
1	C	67	ASP	7.9
1	A	133	PRO	7.5
1	A	136	ASN	7.3
2	B	214	LEU	7.2
1	C	26	LEU	7.1
1	A	135	ILE	7.1
1	A	26	LEU	7.0
1	A	137	ASN	6.6

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Mol	Chain	Res	Type	RSRZ
1	C	28	GLU	6.4
1	C	25	PRO	6.3
1	C	24	TRP	6.2
1	C	138	GLU	6.1
1	A	138	GLU	5.9
1	C	17	ASP	5.8
1	A	28	GLU	5.7
1	C	131	THR	5.7
1	C	47	ILE	5.7
1	A	132	ILE	5.6
1	A	49	LYS	5.6
2	D	360	ALA	5.6
1	A	287	LYS	5.5
2	D	214	LEU	5.5
1	C	293	ILE	5.5
1	A	61	PHE	5.5
1	C	49	LYS	5.4
1	C	55	PRO	5.4
1	C	136	ASN	5.4
1	C	174	GLN	5.3
1	C	287	LYS	5.3
1	C	257	ILE	5.3
2	B	211	ARG	5.3
1	C	21	VAL	5.2
1	A	20	LYS	5.2
2	B	89	GLU	5.1
1	C	5	ILE	5.1
1	C	145	GLN	5.1
1	A	50	ILE	5.1
1	C	290	THR	5.0
1	C	288	ALA	5.0
1	A	27	THR	5.0
2	D	232	TYR	4.9
1	C	254	VAL	4.9
1	C	285	GLY	4.9
1	C	74	LEU	4.9
1	C	140	PRO	4.9
2	D	88	TRP	4.8
2	D	124	PHE	4.8
2	D	85	GLN	4.8
2	D	116	PHE	4.7
1	A	25	PRO	4.7

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Mol	Chain	Res	Type	RSRZ
2	D	91	GLN	4.7
2	D	11	LYS	4.6
1	A	251	SER	4.6
1	C	43	LYS	4.6
2	B	301	LEU	4.6
1	C	16	MET	4.6
1	A	47	ILE	4.5
1	C	23	GLN	4.5
2	B	4	PRO	4.5
2	B	212	TRP	4.5
1	C	66	LYS	4.4
1	A	286	THR	4.4
1	A	139	THR	4.3
2	B	215	THR	4.3
1	A	21	VAL	4.3
1	A	193	LEU	4.3
1	C	228	LEU	4.3
2	D	357	MET	4.2
1	C	58	THR	4.2
1	A	143	ARG	4.2
1	A	288	ALA	4.2
1	C	124	PHE	4.2
1	C	14	PRO	4.1
1	C	193	LEU	4.1
1	C	295	LEU	4.1
1	A	75	VAL	4.1
2	D	89	GLU	4.1
1	C	139	THR	4.1
2	D	277	ARG	4.1
1	C	15	GLY	4.0
1	A	62	ALA	4.0
1	C	210	LEU	4.0
1	C	141	GLY	4.0
1	A	73	LYS	4.0
1	C	61	PHE	4.0
1	C	73	LYS	3.9
2	B	250	ASP	3.9
1	A	144	TYR	3.9
1	C	22	LYS	3.9
1	C	346	PHE	3.9
1	C	144	TYR	3.9
1	C	59	PRO	3.9

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Mol	Chain	Res	Type	RSRZ
1	C	102	LYS	3.8
1	C	63	ILE	3.8
1	C	18	GLY	3.8
2	D	359	GLY	3.8
1	C	151	GLN	3.7
1	A	448	ARG	3.7
2	D	318	TYR	3.7
2	D	146	TYR	3.7
1	C	286	THR	3.7
2	D	361	HIS	3.7
2	D	358	ARG	3.6
1	A	252	TRP	3.6
1	C	13	LYS	3.6
1	A	59	PRO	3.6
1	A	293	ILE	3.6
2	B	88	TRP	3.6
1	A	71	TRP	3.6
1	C	20	LYS	3.6
1	C	211	ARG	3.6
2	B	16	MET	3.5
1	C	449	GLU	3.5
1	C	448	ARG	3.5
2	D	215	THR	3.5
1	C	109	LEU	3.5
1	A	250	ASP	3.5
1	C	143	ARG	3.5
2	D	87	PHE	3.5
1	A	247	PRO	3.4
1	C	250	ASP	3.4
1	C	173	LYS	3.4
1	C	289	LEU	3.4
2	B	12	LEU	3.4
1	A	290	THR	3.4
1	A	191	SER	3.3
1	C	114	ALA	3.3
1	C	75	VAL	3.3
2	D	86	ASP	3.3
1	C	56	TYR	3.3
1	A	228	LEU	3.3
1	C	251	SER	3.3
1	A	151	GLN	3.3
1	C	229	TRP	3.3

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Mol	Chain	Res	Type	RSRZ
1	C	33	ALA	3.2
2	B	6	GLU	3.2
2	D	159	ILE	3.2
1	C	12	LEU	3.2
2	D	16	MET	3.2
1	A	30	LYS	3.2
1	C	319	TYR	3.2
2	D	195	ILE	3.2
1	C	104	LYS	3.1
1	A	295	LEU	3.1
2	B	87	PHE	3.1
2	D	4	PRO	3.1
2	D	212	TRP	3.1
1	C	260	LEU	3.0
1	A	19	PRO	3.0
1	C	32	LYS	3.0
1	C	283	LEU	3.0
1	A	16	MET	3.0
1	A	145	GLN	3.0
2	B	86	ASP	3.0
2	D	176	PRO	3.0
2	B	5	ILE	2.9
2	D	238	LYS	2.9
1	C	137	ASN	2.9
2	D	233	GLU	2.9
2	B	14	PRO	2.9
1	C	223	LYS	2.9
1	C	11	LYS	2.9
1	C	259	LYS	2.9
2	D	422	LEU	2.9
1	C	195	ILE	2.9
1	A	37	ILE	2.9
1	A	130	PHE	2.9
2	B	425	LEU	2.9
1	A	289	LEU	2.9
1	C	188	TYR	2.8
2	D	92	LEU	2.8
1	C	4	PRO	2.8
1	C	207	GLN	2.8
1	C	554	ALA	2.8
2	D	354	TYR	2.8
1	A	51	GLY	2.8

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Mol	Chain	Res	Type	RSRZ
1	C	252	TRP	2.8
1	A	56	TYR	2.8
1	A	452	LEU	2.8
1	A	554	ALA	2.7
2	D	90	VAL	2.7
1	A	238	LYS	2.7
1	A	271	TYR	2.7
2	B	195	ILE	2.7
2	D	240	THR	2.7
1	A	226	PRO	2.7
1	C	52	PRO	2.7
1	C	160	PHE	2.7
2	D	426	TRP	2.7
1	C	77	PHE	2.7
1	C	146	TYR	2.7
1	A	17	ASP	2.6
1	C	27	THR	2.6
1	C	19	PRO	2.6
2	D	169	GLU	2.6
1	C	294	PRO	2.6
1	A	141	GLY	2.6
1	A	128	THR	2.6
1	C	292	VAL	2.6
1	A	279	LEU	2.6
3	F	0	DT	2.6
2	D	95	PRO	2.6
1	A	60	VAL	2.6
1	C	303	LEU	2.6
1	C	130	PHE	2.6
2	D	15	GLY	2.6
1	A	120	LEU	2.5
1	A	127	TYR	2.5
1	A	256	ASP	2.5
1	C	78	ARG	2.5
1	A	52	PRO	2.5
1	C	232	TYR	2.5
2	B	10	VAL	2.5
1	A	200	THR	2.5
1	C	115	TYR	2.5
1	C	44	GLU	2.5
2	B	205	LEU	2.5
2	D	177	ASP	2.5

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Mol	Chain	Res	Type	RSRZ
1	A	146	TYR	2.5
1	A	285	GLY	2.5
2	B	173	LYS	2.4
2	B	127	TYR	2.4
1	C	301	LEU	2.4
1	C	184	MET	2.4
1	A	140	PRO	2.4
1	A	233	GLU	2.4
1	C	187	LEU	2.4
2	B	193	LEU	2.4
2	B	184	MET	2.4
1	A	254	VAL	2.4
1	C	29	GLU	2.3
1	C	318	TYR	2.3
1	C	156	SER	2.3
1	A	449	GLU	2.3
2	B	400	THR	2.3
1	A	195	ILE	2.3
1	C	108	VAL	2.3
2	B	13	LYS	2.3
2	D	201	LYS	2.3
1	A	283	LEU	2.3
1	C	30	LYS	2.3
1	C	51	GLY	2.3
2	B	281	LYS	2.3
2	D	73	LYS	2.3
1	C	291	GLU	2.3
1	A	211	ARG	2.3
1	A	46	LYS	2.3
1	A	124	PHE	2.3
1	A	76	ASP	2.3
1	A	249	LYS	2.3
2	D	130	PHE	2.2
1	A	102	LYS	2.2
1	C	238	LYS	2.2
2	D	211	ARG	2.2
2	D	144	TYR	2.2
1	C	226	PRO	2.2
2	D	55	PRO	2.2
2	D	202	ILE	2.2
1	C	199	ARG	2.2
2	B	422	LEU	2.2

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Mol	Chain	Res	Type	RSRZ
2	D	127	TYR	2.2
1	A	34	LEU	2.2
2	D	349	LEU	2.2
1	C	230	MET	2.2
1	A	32	LYS	2.1
1	C	10	VAL	2.1
1	C	106	VAL	2.1
1	C	277	ARG	2.1
1	C	183	TYR	2.1
1	A	192	ASP	2.1
1	A	453	GLY	2.1
1	A	29	GLU	2.1
2	B	171	PHE	2.1
2	D	32	LYS	2.1
1	C	284	ARG	2.1
1	A	241	VAL	2.1
1	C	120	LEU	2.1
1	C	178	ILE	2.1
1	C	279	LEU	2.1
1	C	325	LEU	2.1
2	B	204	GLU	2.1
1	C	111	VAL	2.1
2	D	70	LYS	2.1
1	A	67	ASP	2.1
1	A	248	GLU	2.1
1	C	224	GLU	2.1
1	C	302	GLU	2.1
1	A	292	VAL	2.1
2	B	85	GLN	2.1
1	C	255	ASN	2.1
1	A	291	GLU	2.1
1	C	153	TRP	2.1
1	C	209	LEU	2.0
2	D	12	LEU	2.0
2	D	66	LYS	2.0
3	F	37	DG	2.0
1	C	308	GLU	2.0
1	A	323	LYS	2.0
2	D	198	HIS	2.0
2	D	47	ILE	2.0
1	A	42	GLU	2.0
2	B	275	LYS	2.0

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Mol	Chain	Res	Type	RSRZ
1	A	87	PHE	2.0
1	C	313	PRO	2.0
2	B	397	THR	2.0
2	D	197	GLN	2.0
1	C	452	LEU	2.0

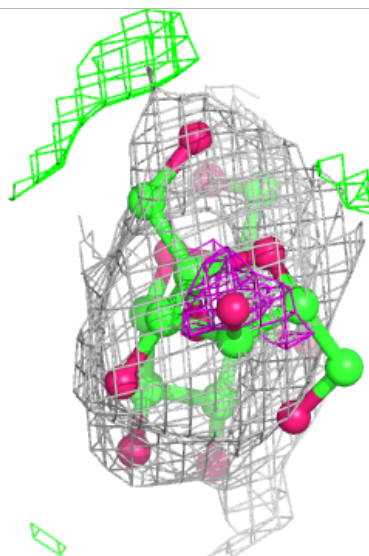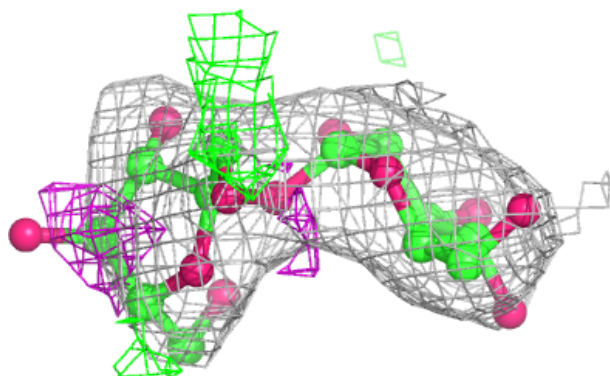## 6.2 Non-standard residues in protein, DNA, RNA chains ⓘ

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.

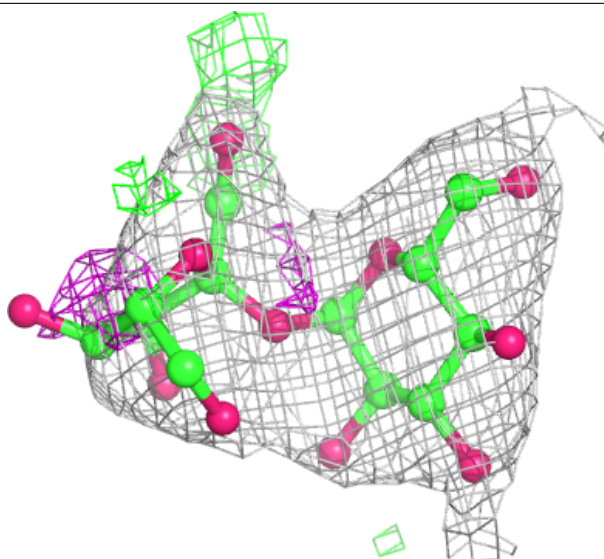| Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
3	OMC	F	6	21/22	0.90	0.24	85,98,111,120	0
3	OMC	F	8	21/22	0.92	0.25	95,103,106,118	0
3	OMC	E	8	21/22	0.94	0.23	67,73,76,90	0
3	OMC	E	6	21/22	0.97	0.20	82,91,95,98	0

6.3 Carbohydrates ⓘ

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.

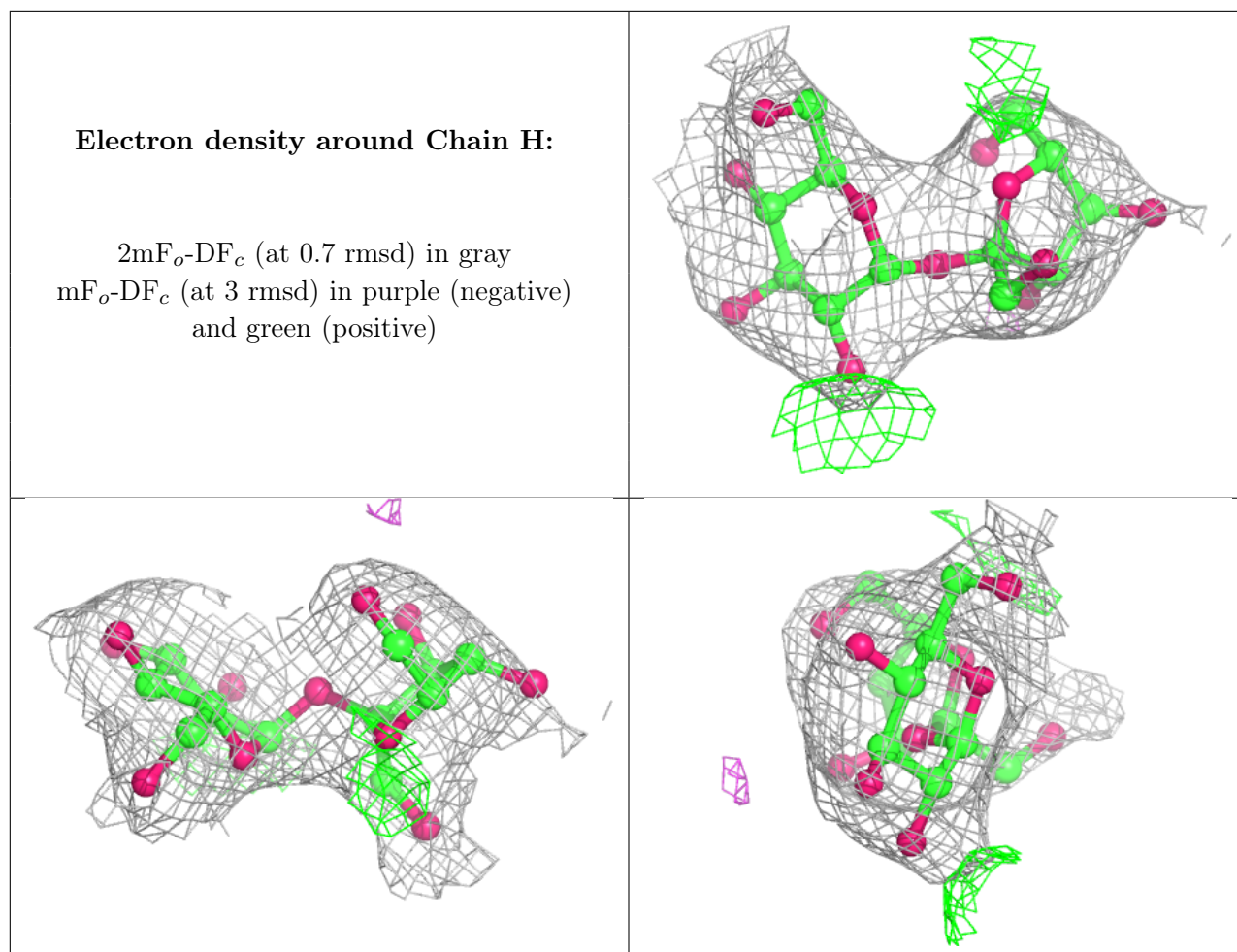| Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
4	FRU	G	2	12/12	0.86	0.21	82,97,108,109	0
4	GLC	H	1	11/12	0.93	0.13	82,92,96,101	0
4	FRU	H	2	12/12	0.93	0.17	93,101,102,104	0
4	GLC	G	1	11/12	0.95	0.15	67,77,86,87	0

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.

Electron density around Chain G:

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)

Electron density around Chain H:

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)

6.4 Ligands ⓘ

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.
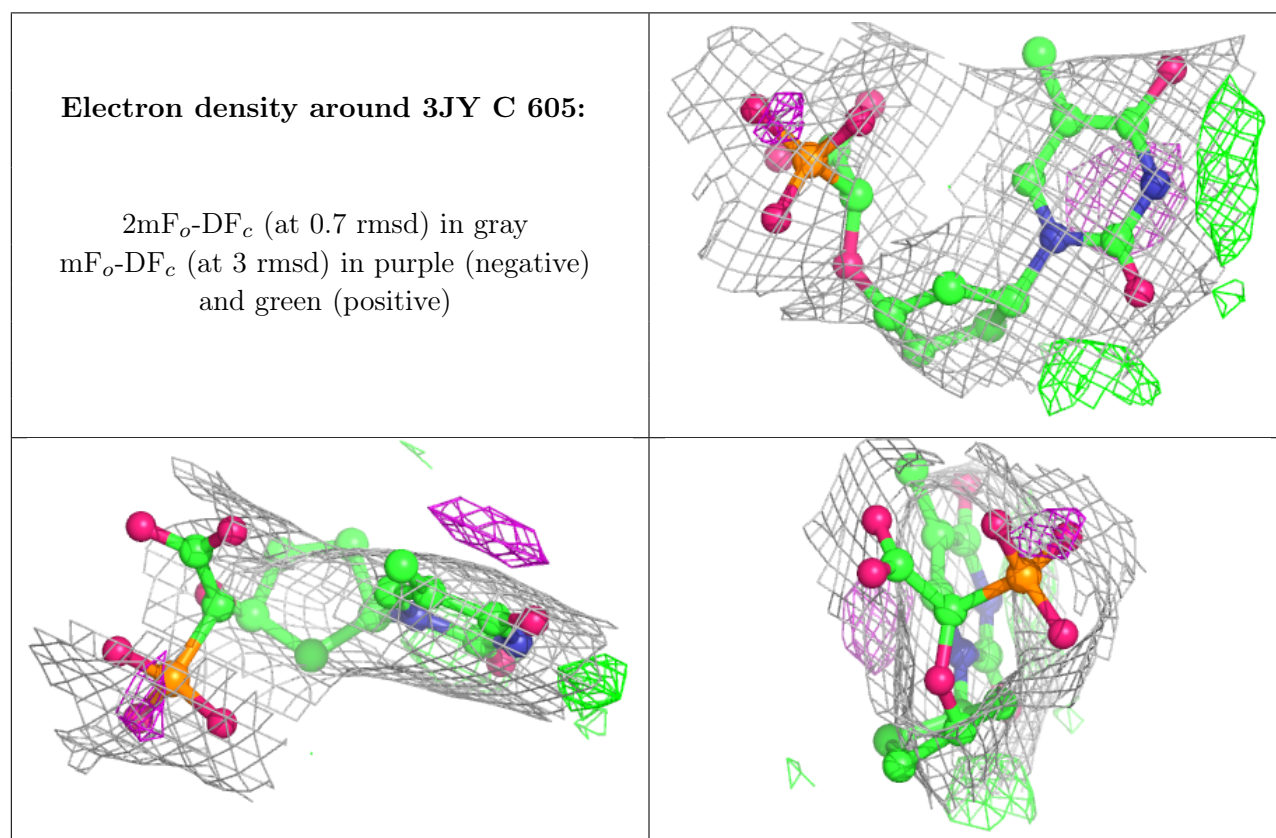
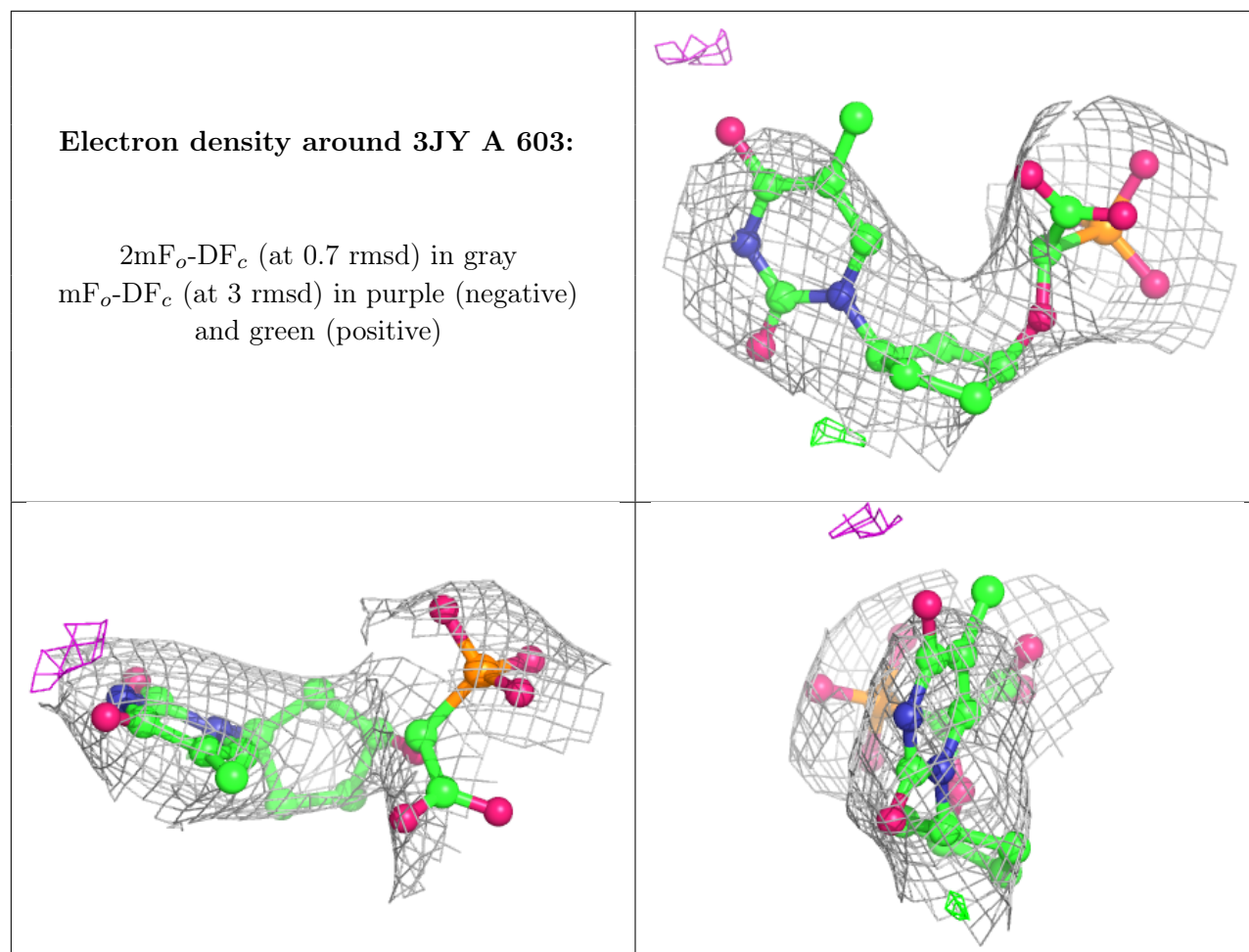| Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
5	MG	C	603	1/1	0.56	0.14	172,172,172,172	0
7	SO4	B	505	5/5	0.81	0.40	78,78,84,111	0
6	3JY	C	605	23/24	0.84	0.24	98,119,137,145	0
7	SO4	B	502	5/5	0.85	0.21	78,79,85,101	0
7	SO4	B	503	5/5	0.85	0.17	94,100,109,113	0
7	SO4	B	504	5/5	0.85	0.40	87,98,102,121	0
5	MG	A	602	1/1	0.85	0.15	114,114,114,114	0
7	SO4	C	604	5/5	0.88	0.24	84,92,112,112	0
5	MG	A	604	1/1	0.92	0.14	70,70,70,70	0
6	3JY	A	603	23/24	0.94	0.20	103,107,123,129	0
7	SO4	A	605	5/5	0.95	0.12	98,102,110,116	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
5	MG	C	602	1/1	0.95	0.19	70,70,70,70	0
5	MG	C	601	1/1	0.96	0.28	122,122,122,122	0
5	MG	A	601	1/1	0.97	0.20	114,114,114,114	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 3JY C 605:

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

Electron density around 3JY A 603:

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)

6.5 Other polymers ⓘ

There are no such residues in this entry.