WORLDWIDE wwPDB PROTEIN DATA BANK

wwPDB X-ray Structure Validation Summary Report ⓘ

Aug 19, 2023 – 10:27 PM EDT

PDB ID	:	2FT3
Title	:	Crystal structure of the biglycan dimer core protein
Authors	:	Scott, P.G.; Dodd, C.M.; Bergmann, E.M.
Deposited on	:	2006-01-23
Resolution	:	3.40 Å(reported)

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

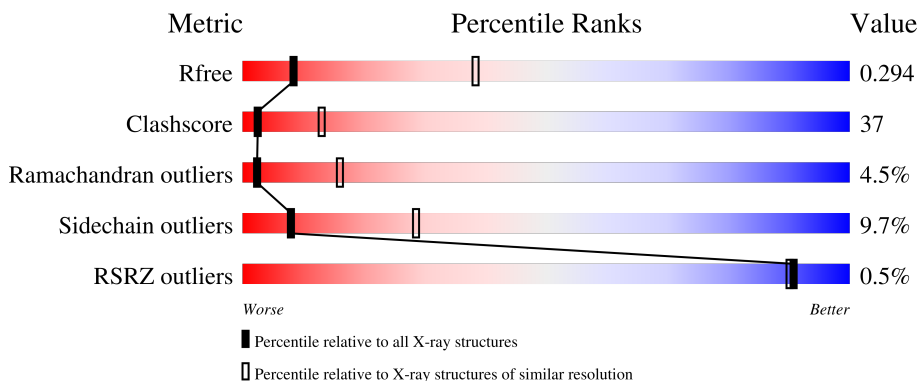|		
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.35
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.35

1   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 3.40 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		0.294
Clashscore		37
Ramachandran outliers		4.5%
Sidechain outliers		9.7%
RSRZ outliers		0.5%

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	1026 (3.48-3.32)
Clashscore	141614	1055 (3.48-3.32)
Ramachandran outliers	138981	1038 (3.48-3.32)
Sidechain outliers	138945	1038 (3.48-3.32)
RSRZ outliers	127900	2173 (3.50-3.30)

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	332	32% · 46% · 13% · 9%
1	B	332	% · 39% · 45% · 6% · 9%
1	C	332	% · 36% · 48% · 6% · 9%
1	D	332	38% · 42% · 10% · 8%
1	E	332	% · 39% · 40% · 10% · 9%

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PROTEIN DATA BANK

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Mol	Chain	Length	Quality of chain
1	F	332	34% 47% 9% 8%

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:

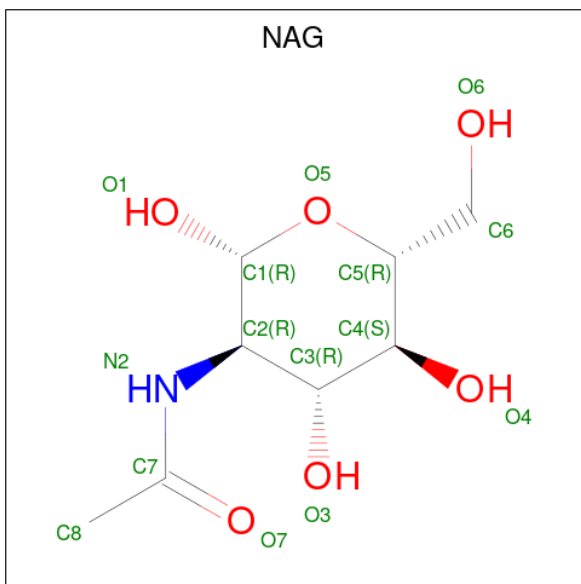| Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
3	FLC	C	2192	-	X	-	-
3	FLC	D	2193	-	-	X	-

2   Entry composition ⓘ

There are 3 unique types of molecules in this entry. The entry contains 14674 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.
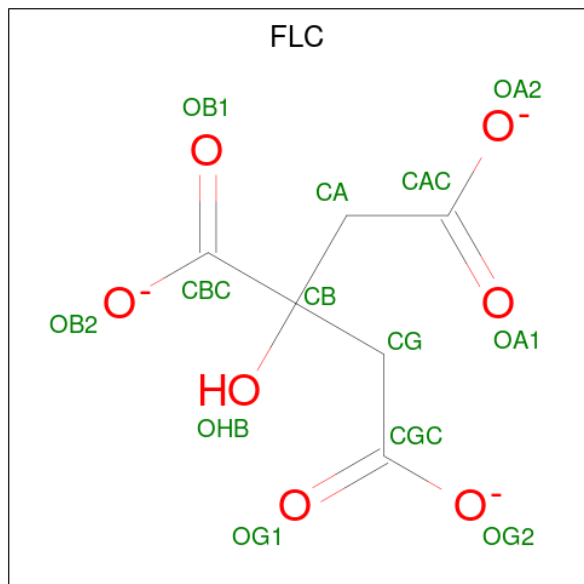
- Molecule 1 is a protein called Biglycan.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	303	Total 2416	C 1545	N 428	O 432	S 11	0	0	0
1	B	303	Total 2416	C 1545	N 428	O 432	S 11	0	0	0
1	C	303	Total 2416	C 1545	N 428	O 432	S 11	0	0	0
1	D	304	Total 2420	C 1547	N 429	O 433	S 11	0	0	0
1	E	303	Total 2416	C 1545	N 428	O 432	S 11	0	0	0
1	F	305	Total 2428	C 1551	N 431	O 435	S 11	0	0	0

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

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

- Molecule 3 is CITRATE ANION (three-letter code: FLC) (formula: $C_6H_5O_7$).

Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
3	A	1	Total 13	C 6	O 7	0	0
3	B	1	Total 13	C 6	O 7	0	0
3	C	1	Total 13	C 6	O 7	0	0
3	D	1	Total 13	C 6	O 7	0	0
3	E	1	Total 13	C 6	O 7	0	0
3	F	1	Total 13	C 6	O 7	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.
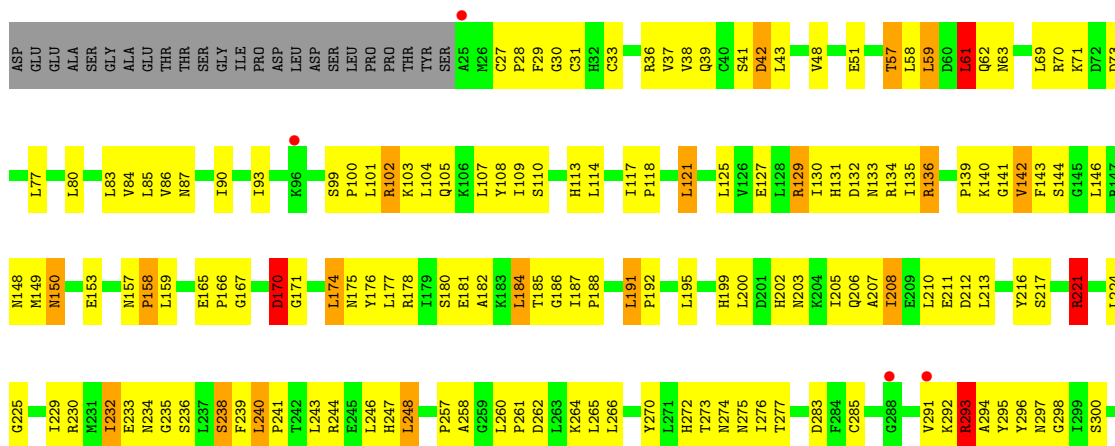
- Molecule 1: Biglycan

Chain A:
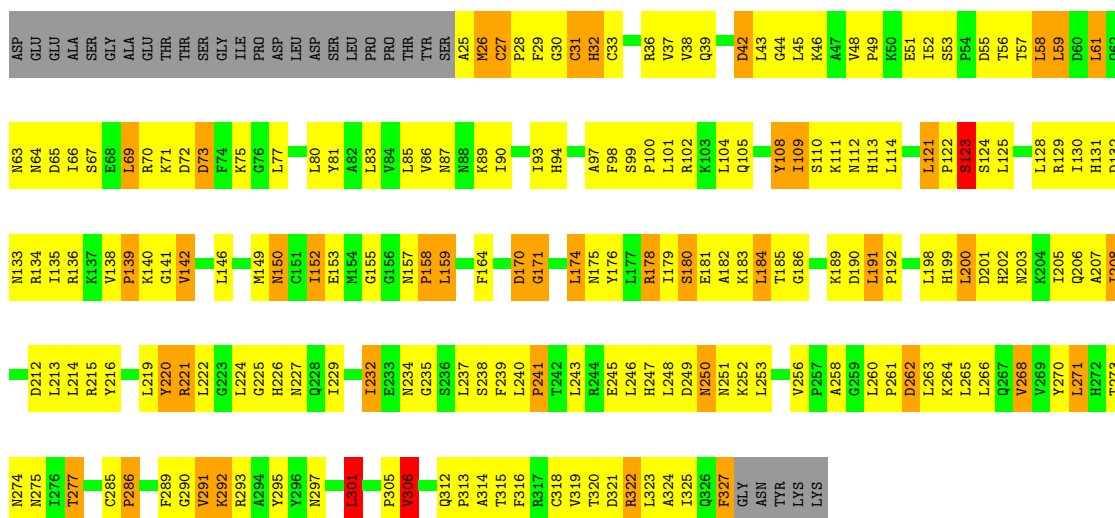
- Molecule 1: Biglycan

Chain B:

N303 N304 P305 V306 P307 Y308 W309 E310 V311 Q312 P313 A314 T315 F316 R317 C318 V319 T320 D321 R322 L323 A324 I325 Q326 F327 GLY ASN TYR LYS LYS

• Molecule 1: Biglycan

Chain C:

ASP GLU GLU ALA SER GLY ALA GLU THR THR SER GLY ILE PRO ASP LEU ASP SER LEU PRO PRO THR TYR SER A25 M26 C27 P28 F29 G30 C31 H32 C33 R36 V37 V38 Q39 C40 S41 D42 L43 K46 P49 K50 E51 I52 S53 P54 D55 T56 T57 L58 L59 D60 L61 Q62 N63

S67 E68 L69 R70 K71 D72 D73 L77 L80 Y81 V84 L85 V86 N87 I90 S91 K92 I93 S99 P100 L101 L104 Q105 K106 L107 Y108 I109 S110 K111 N112 H113 L114 I117 P118 P119 N120 L121 L125 V126 E127 L128 R129 I130 H131 D132 N133 R134 I135 R136 K137 V138

P139 K140 G141 V142 L146 R147 N148 M149 N150 C151 I152 E153 N157 P158 L159 E160 N161 F164 E165 P166 G167 A168 F169 D170 G171 L172 K173 L174 N175 Y176 L177 R178 I179 S180 E181 A182 K183 L184 T185 G186 P188 K189 D190 L191 P192 L195 H199 L200 D201 H202 I205 I208

E211 D212 L213 L214 R215 Y216 S217 R221 L224 G225 R230 M231 I232 E233 N234 G235 S238 F239 L240 P241 T242 L243 R244 E245 L246 H247 L248 D249 L253 V256 P257 A258 G259 L260 P261 D262 L263 K264 L265 V268 V269 Y270 T273 N274 N275 I276 T277 N282 D283 F284

V287 G288 F289 G290 V291 K292 R293 A294 N297 N303 N304 P305 V306 P307 Y308 W309 E310 V311 Q312 P313 A314 T315 F316 V319 T320 D321 R322 L323 A324 I325 Q326 F327 GLY ASN TYR LYS LYS
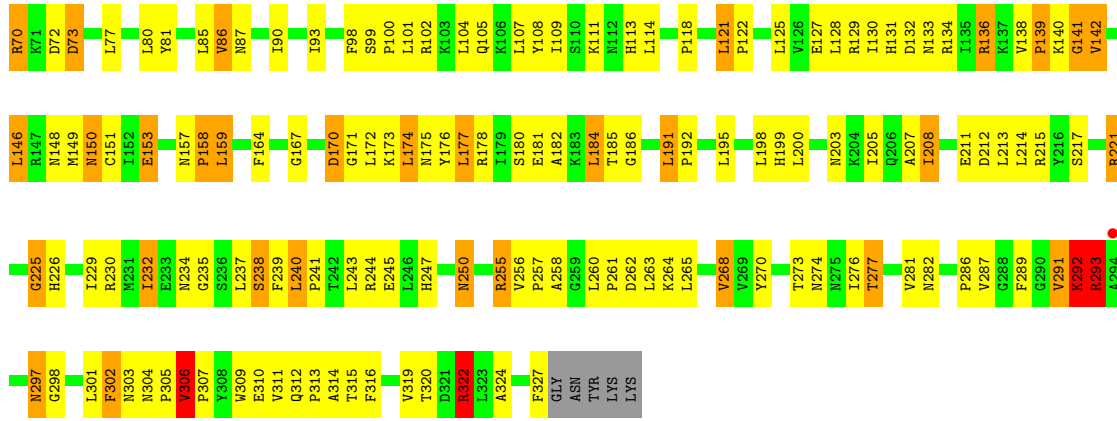
• Molecule 1: Biglycan

Chain D:

ASP GLU GLU ALA SER GLY ALA GLU THR THR SER GLY ILE PRO ASP LEU ASP SER LEU PRO PRO THR TYR SER A25 M26 C27 P28 F29 G30 C31 H32 C33 R36 V37 V38 Q39 C40 S41 D42 L43 G44 P49 K50 E51 D55 T56 T57 L58 L59 D60 L61 Q62 N63 N64 S67

E68 L69 R70 K71 D72 D73 L77 L80 Y81 A82 L83 V84 L85 V86 N87 I90 I93 S99 P100 L101 L104 Q105 K106 L107 Y108 I109 N112 H113 L114 I117 P118 L121 P122 S123 S124 L125 L128 R129 N133 R134 I135 R136 K137 V138 P139 K140 G141 V142

L146 R147 N148 M149 N150 E153 N157 P158 L159 F164 G167 D170 G171 L172 K173 L174 N175 Y176 L177 R178 I179 S180 E181 A182 K183 L184 T185 G186 L191 P192 L195 L198 H199 L200 I205 Q206 A207 I208 E211 D212 L213 L214 R215 Y216 S217 K218 L219 Y220 R221 L222

G223 L224 G225 H226 I229 R230 M231 I232 E233 N234 F239 L240 P241 T242 L243 R244 E245 L246 H247 L248 D249 N250 R255 V256 P257 A258 G259 L260 P261 D262 L263 K264 L265 L266 Q267 V268 V269 Y270 L271 H272 T273 N274 N275 I276 T277 G280 P286 F289 G290 V291 K292 R293 Y296

N297 G298 L301 F302 N303 N304 P305 V306 P307 Y308 W309 E310 V311 A314 T315 F316 R317 C318 V319 T320 D321 R322 A324 I325 Q326 F327 G328 ASN TYR LYS LYS
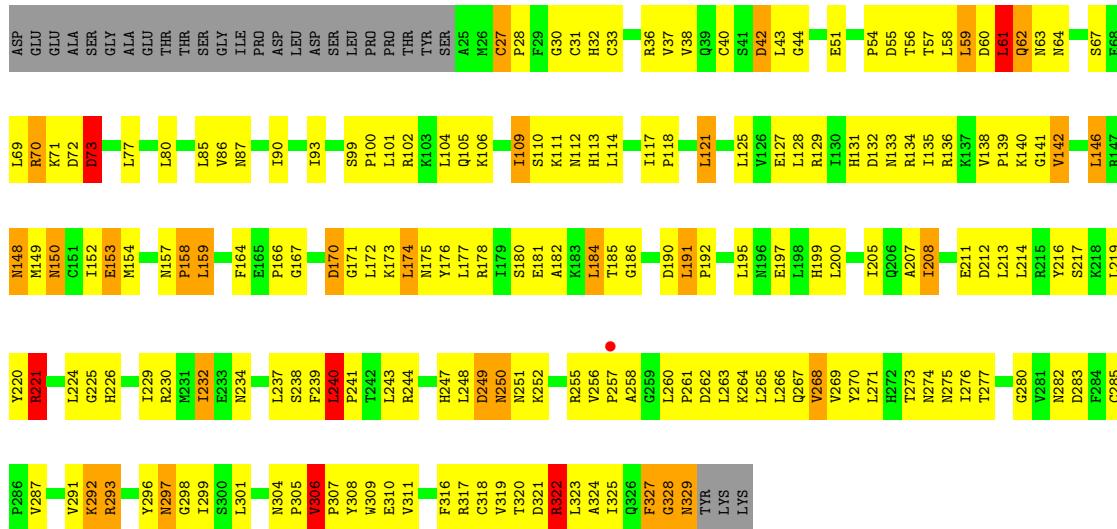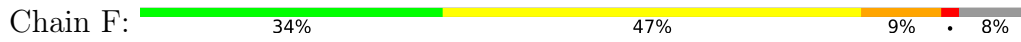
• Molecule 1: Biglycan

Chain E:

ASP GLU GLU ALA SER GLY ALA GLU THR THR SER GLY ILE PRO ASP LEU ASP SER LEU PRO PRO THR TYR SER A25 M26 C27 P28 F29 G30 C31 H32 C33 R36 V37 V38 Q39 C40 S41 D42 L43 E51 D55 T56 T57 L58 L59 D60 L61 Q62 N63 N64 D65 I66 S67 E68 L69

- Molecule 1: Biglycan

Chain F:

4 Data and refinement statistics ⓘ

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, α, β, γ	206.51Å 119.22Å 140.62Å 90.00° 116.61° 90.00°	Depositor
Resolution (Å)	23.00 – 3.40 22.86 – 3.40	Depositor EDS
% Data completeness (in resolution range)	96.5 (23.00-3.40) 96.5 (22.86-3.40)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.77 (at 3.37Å)	Xtriage
Refinement program	REFMAC	Depositor
R, R_{free}	0.258 , 0.291 0.255 , 0.294	Depositor DCC
R_{free} test set	2040 reflections (5.04%)	wwPDB-VP
Wilson B-factor (Å^2)	47.1	Xtriage
Anisotropy	0.316	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.38 , 29.3	EDS
L-test for twinning[2]	$< \|L\| > = 0.42, < L^2 > = 0.24$	Xtriage
Estimated twinning fraction	0.098 for 1/2*h-3/2*k,-1/2*h-1/2*k,-1/2*h +1/2*k-l 0.090 for 1/2*h+3/2*k,1/2*h-1/2*k,-1/2*h- 1/2*k-l	Xtriage
F_o,F_c correlation	0.84	EDS
Total number of atoms	14674	wwPDB-VP
Average B, all atoms (Å^2)	38.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.31% 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: NAG, FLC

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	1.07	3/2468 (0.1%)	1.23	17/3342 (0.5%)
1	B	1.05	1/2468 (0.0%)	1.23	23/3342 (0.7%)
1	C	1.01	1/2468 (0.0%)	1.28	24/3342 (0.7%)
1	D	1.05	2/2472 (0.1%)	1.29	24/3347 (0.7%)
1	E	1.06	1/2468 (0.0%)	1.36	26/3342 (0.8%)
1	F	1.05	2/2480 (0.1%)	1.25	30/3358 (0.9%)
All	All	1.05	10/14824 (0.1%)	1.27	144/20073 (0.7%)

The worst 5 of 10 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	F	62	GLN	CD-NE2	-7.44	1.14	1.32
1	E	151	CYS	CB-SG	-6.55	1.71	1.82
1	F	62	GLN	CD-OE1	-6.31	1.10	1.24
1	A	108	TYR	CE1-CZ	-5.78	1.31	1.38
1	B	291	VAL	CA-CB	5.62	1.66	1.54

The worst 5 of 144 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	C	221	ARG	NE-CZ-NH2	-20.38	110.11	120.30
1	E	244	ARG	NE-CZ-NH2	18.19	129.40	120.30
1	D	317	ARG	NE-CZ-NH2	17.19	128.90	120.30
1	E	244	ARG	NE-CZ-NH1	-15.47	112.56	120.30
1	E	136	ARG	NE-CZ-NH2	-15.26	112.67	120.30

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	2416	0	2466	222	0
1	B	2416	0	2466	163	0
1	C	2416	0	2466	188	0
1	D	2420	0	2469	167	0
1	E	2416	0	2466	173	0
1	F	2428	0	2475	191	0
2	A	14	0	13	5	0
2	B	14	0	13	0	0
2	C	14	0	13	0	0
2	D	14	0	13	1	0
2	E	14	0	13	0	0
2	F	14	0	13	0	0
3	A	13	0	5	0	0
3	B	13	0	5	3	0
3	C	13	0	5	3	0
3	D	13	0	5	6	0
3	E	13	0	5	2	0
3	F	13	0	5	2	0
All	All	14674	0	14916	1104	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 37.

The worst 5 of 1104 close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:153:GLU:OE1	1:B:178:ARG:HD3	1.39	1.21
1:D:225:GLY:HA3	3:D:2193:FLC:OB2	1.00	1.15
1:E:27:CYS:HB2	1:E:28:PRO:HD2	1.33	1.10
1:C:121:LEU:HD12	1:C:121:LEU:H	1.15	1.09
1:A:93:ILE:HD11	1:A:114:LEU:HD21	1.32	1.09

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	301/332 (91%)	216 (72%)	70 (23%)	15 (5%)	2	14
1	B	301/332 (91%)	225 (75%)	68 (23%)	8 (3%)	5	26
1	C	301/332 (91%)	219 (73%)	68 (23%)	14 (5%)	2	15
1	D	302/332 (91%)	230 (76%)	59 (20%)	13 (4%)	2	17
1	E	301/332 (91%)	229 (76%)	53 (18%)	19 (6%)	1	9
1	F	303/332 (91%)	223 (74%)	67 (22%)	13 (4%)	2	17
All	All	1809/1992 (91%)	1342 (74%)	385 (21%)	82 (4%)	2	16

5 of 82 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	26	MET
1	A	291	VAL
1	B	150	ASN
1	C	150	ASN
1	C	291	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	273/297 (92%)	244 (89%)	29 (11%)	6	24
1	B	273/297 (92%)	253 (93%)	20 (7%)	14	43
1	C	273/297 (92%)	249 (91%)	24 (9%)	10	33

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles		
1	D	273/297 (92%)	243 (89%)	30 (11%)	6	23	
1	E	273/297 (92%)	245 (90%)	28 (10%)	7	26	
1	F	274/297 (92%)	246 (90%)	28 (10%)	7	26	
All	All	1639/1782 (92%)	1480 (90%)	159 (10%)	8	28	

5 of 159 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	E	184	LEU
1	F	174	LEU
1	E	221	ARG
1	E	322	ARG
1	F	238	SER

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 60 such sidechains are listed below:

Mol	Chain	Res	Type
1	D	63	ASN
1	F	175	ASN
1	D	206	GLN
1	F	161	ASN
1	F	329	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 monosaccharides in this entry.

5.6 Ligand geometry ⓘ

12 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	$\#|Z| > 2$
2	NAG	E	809	1	14,14,15	1.29	2 (14%)	17,19,21	2.18	4 (23%)
3	FLC	B	2191	-	12,12,12	1.28	1 (8%)	17,17,17	2.02	4 (23%)
2	NAG	D	807	1	14,14,15	0.96	0	17,19,21	1.86	5 (29%)
3	FLC	F	2195	-	12,12,12	1.80	3 (25%)	17,17,17	3.41	9 (52%)
3	FLC	C	2192	-	12,12,12	1.67	2 (16%)	17,17,17	3.04	8 (47%)
3	FLC	E	2194	-	12,12,12	2.21	1 (8%)	17,17,17	3.09	7 (41%)
2	NAG	C	805	1	14,14,15	1.32	3 (21%)	17,19,21	1.86	5 (29%)
3	FLC	D	2193	1	12,12,12	1.21	0	17,17,17	2.46	7 (41%)
2	NAG	F	811	1	14,14,15	1.06	1 (7%)	17,19,21	2.01	6 (35%)
3	FLC	A	2190	-	12,12,12	1.09	1 (8%)	17,17,17	1.70	4 (23%)
2	NAG	A	801	1	14,14,15	1.18	1 (7%)	17,19,21	1.85	5 (29%)
2	NAG	B	803	1	14,14,15	1.04	1 (7%)	17,19,21	1.71	4 (23%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	NAG	E	809	1	-	3/6/23/26	0/1/1/1
3	FLC	B	2191	-	-	9/16/16/16	-
2	NAG	D	807	1	-	6/6/23/26	0/1/1/1
3	FLC	F	2195	-	-	4/16/16/16	-
3	FLC	C	2192	-	-	8/16/16/16	-
3	FLC	E	2194	-	-	6/16/16/16	-
2	NAG	C	805	1	-	3/6/23/26	0/1/1/1
3	FLC	D	2193	1	-	9/16/16/16	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	NAG	F	811	1	-	3/6/23/26	0/1/1/1
3	FLC	A	2190	-	-	7/16/16/16	-
2	NAG	A	801	1	-	4/6/23/26	0/1/1/1
2	NAG	B	803	1	-	3/6/23/26	0/1/1/1

The worst 5 of 16 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	E	2194	FLC	CB-CBC	6.61	1.60	1.53
3	C	2192	FLC	CB-CBC	4.38	1.58	1.53
3	F	2195	FLC	CG-CB	4.21	1.59	1.53
2	C	805	NAG	C3-C2	3.06	1.59	1.52
2	E	809	NAG	C1-C2	2.73	1.56	1.52

The worst 5 of 68 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	F	2195	FLC	OB1-CBC-CB	-7.09	112.22	122.25
3	F	2195	FLC	CB-CG-CGC	6.95	130.64	113.81
3	F	2195	FLC	OB2-CBC-CB	6.54	124.40	113.05
3	C	2192	FLC	OHB-CB-CG	-6.21	94.86	109.40
3	C	2192	FLC	OHB-CB-CBC	6.11	117.44	108.86

There are no chirality outliers.

5 of 65 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	801	NAG	C8-C7-N2-C2
2	A	801	NAG	O7-C7-N2-C2
2	B	803	NAG	C8-C7-N2-C2
2	B	803	NAG	O7-C7-N2-C2
2	C	805	NAG	C8-C7-N2-C2

There are no ring outliers.

7 monomers are involved in 22 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	B	2191	FLC	3	0
2	D	807	NAG	1	0
3	F	2195	FLC	2	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	C	2192	FLC	3	0
3	E	2194	FLC	2	0
3	D	2193	FLC	6	0
2	A	801	NAG	5	0

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	303/332 (91%)	0.19	0 100	100	8, 38, 52, 57	0
1	B	303/332 (91%)	0.30	4 (1%) 77	76	8, 38, 53, 70	0
1	C	303/332 (91%)	0.23	2 (0%) 87	87	8, 38, 53, 67	0
1	D	304/332 (91%)	0.18	0 100	100	8, 38, 52, 57	0
1	E	303/332 (91%)	0.21	2 (0%) 87	87	8, 37, 53, 64	0
1	F	305/332 (91%)	0.22	1 (0%) 94	93	6, 38, 52, 58	0
All	All	1821/1992 (91%)	0.22	9 (0%) 91	90	6, 38, 53, 70	0

The worst 5 of 9 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	C	290	GLY	3.6
1	B	288	GLY	3.1
1	B	25	ALA	3.0
1	E	25	ALA	2.7
1	E	294	ALA	2.6

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

There are no non-standard protein/DNA/RNA residues in this entry.

6.3 Carbohydrates ⓘ

There are no monosaccharides in this entry.

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
2	NAG	E	809	14/15	0.72	0.40	59,61,62,62	0
2	NAG	C	805	14/15	0.79	0.30	53,56,57,58	0
2	NAG	B	803	14/15	0.80	0.27	46,50,51,51	0
3	FLC	F	2195	13/13	0.87	0.21	38,42,42,43	0
2	NAG	A	801	14/15	0.89	0.24	51,53,55,55	0
2	NAG	F	811	14/15	0.89	0.16	49,50,51,51	0
2	NAG	D	807	14/15	0.89	0.27	58,59,61,62	0
3	FLC	B	2191	13/13	0.90	0.30	49,53,56,57	0
3	FLC	E	2194	13/13	0.92	0.21	36,44,47,48	0
3	FLC	A	2190	13/13	0.94	0.20	47,50,53,53	0
3	FLC	C	2192	13/13	0.94	0.18	38,43,46,46	0
3	FLC	D	2193	13/13	0.95	0.17	38,40,44,45	0

6.5 Other polymers ⓘ

There are no such residues in this entry.