



# wwPDB X-ray Structure Validation Summary Report ⓘ

Feb 12, 2024 – 05:01 AM EST

PDB ID : 3GW6  
Title : Intramolecular Chaperone  
Authors : Schulz, E.C.; Dickmanns, A.; Ficner, R.  
Deposited on : 2009-03-31  
Resolution : 2.60 Å(reported)

This is a wwPDB X-ray Structure Validation Summary Report for a publicly released PDB entry.

We welcome your comments at [validation@mail.wwpdb.org](mailto: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>.

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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 : 2.36  
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) : 2.36

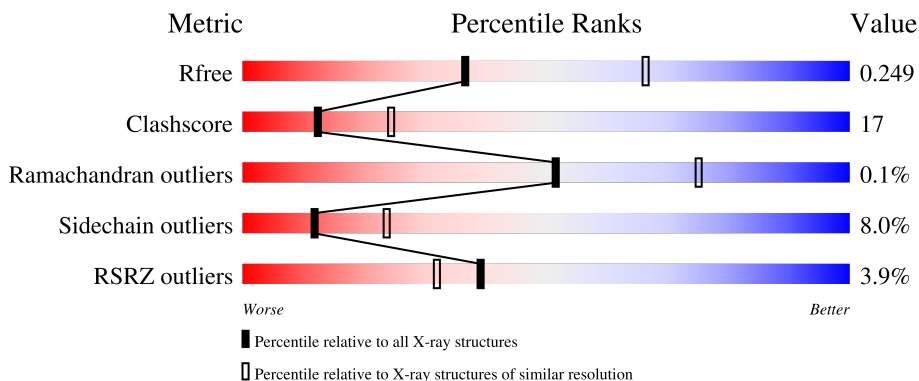
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 2.60 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
$R_{free}$	130704	3163 (2.60-2.60)
Clashscore	141614	3518 (2.60-2.60)
Ramachandran outliers	138981	3455 (2.60-2.60)
Sidechain outliers	138945	3455 (2.60-2.60)
RSRZ outliers	127900	3104 (2.60-2.60)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for  $\geq 3$ , 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	275	 4% 67% 21% 5% 7%
1	B	275	 4% 60% 29% • 7%
1	C	275	 3% 65% 24% • 8%
1	D	275	 5% 61% 27% • 8%
1	E	275	 4% 66% 23% • 7%

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Mol	Chain	Length	Quality of chain
1	F	275	

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
2	PEG	A	2	-	-	X	-
2	PEG	C	29	-	-	X	-
2	PEG	E	21	-	-	X	-
2	PEG	F	30	-	-	X	-
2	PEG	F	34	-	-	X	-

## 2 Entry composition

There are 7 unique types of molecules in this entry. The entry contains 12617 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 Endo-N-acetylneuraminidase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	256	2028	1270	351	400	7	16	0	0
1	B	255	2020	1267	349	397	7	24	0	0
1	E	257	2032	1272	351	402	7	27	0	0
1	C	254	2011	1262	349	393	7	11	0	0
1	D	252	1996	1253	346	390	7	34	0	0
1	F	257	2035	1274	352	402	7	24	0	0

There are 6 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	911	ALA	SER	conflict	UNP Q858B1
B	911	ALA	SER	conflict	UNP Q858B1
E	911	ALA	SER	conflict	UNP Q858B1
C	911	ALA	SER	conflict	UNP Q858B1
D	911	ALA	SER	conflict	UNP Q858B1
F	911	ALA	SER	conflict	UNP Q858B1

- Molecule 2 is DI(HYDROXYETHYL)ETHER (three-letter code: PEG) (formula: C<sub>4</sub>H<sub>10</sub>O<sub>3</sub>).



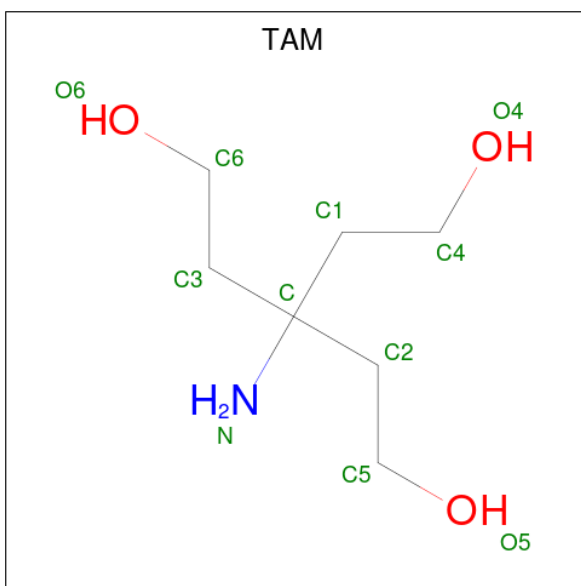
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
2	A	1	Total	C	O	0	0
			7	4	3		
2	A	1	Total	C	O	0	0
			7	4	3		
2	B	1	Total	C	O	0	0
			7	4	3		
2	E	1	Total	C	O	0	0
			7	4	3		
2	E	1	Total	C	O	0	0
			7	4	3		
2	E	1	Total	C	O	0	0
			7	4	3		
2	E	1	Total	C	O	0	0
			7	4	3		
2	E	1	Total	C	O	0	0
			7	4	3		
2	E	1	Total	C	O	0	0
			7	4	3		
2	C	1	Total	C	O	0	0
			7	4	3		
2	C	1	Total	C	O	0	0
			7	4	3		
2	C	1	Total	C	O	0	0
			7	4	3		
2	D	1	Total	C	O	0	0
			7	4	3		

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Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
2	F	1	Total	C	O	0	0
			7	4	3		
2	F	1	Total	C	O	0	0
			7	4	3		
2	F	1	Total	C	O	0	0
			7	4	3		
2	F	1	Total	C	O	0	0
			7	4	3		

- Molecule 3 is TRIS(HYDROXYETHYL)AMINOMETHANE (three-letter code: TAM) (formula: C<sub>7</sub>H<sub>17</sub>NO<sub>3</sub>).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
3	A	1	Total	C	N	O	1	0
			11	7	1	3		
3	A	1	Total	C	N	O	0	0
			11	7	1	3		
3	C	1	Total	C	N	O	0	0
			11	7	1	3		

- Molecule 4 is CHLORIDE ION (three-letter code: CL) (formula: Cl).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	1	Total	Cl	0	0
			1	1		
4	E	1	Total	Cl	0	0
			1	1		

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	C	2	Total Cl 2 2	0	0
4	D	2	Total Cl 2 2	0	0

- Molecule 5 is BROMIDE ION (three-letter code: BR) (formula: Br).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	B	3	Total Br 3 3	0	0
5	E	1	Total Br 1 1	0	0
5	C	1	Total Br 1 1	0	0
5	F	1	Total Br 1 1	0	0

- Molecule 6 is CALCIUM ION (three-letter code: CA) (formula: Ca).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
6	F	1	Total Ca 1 1	0	0

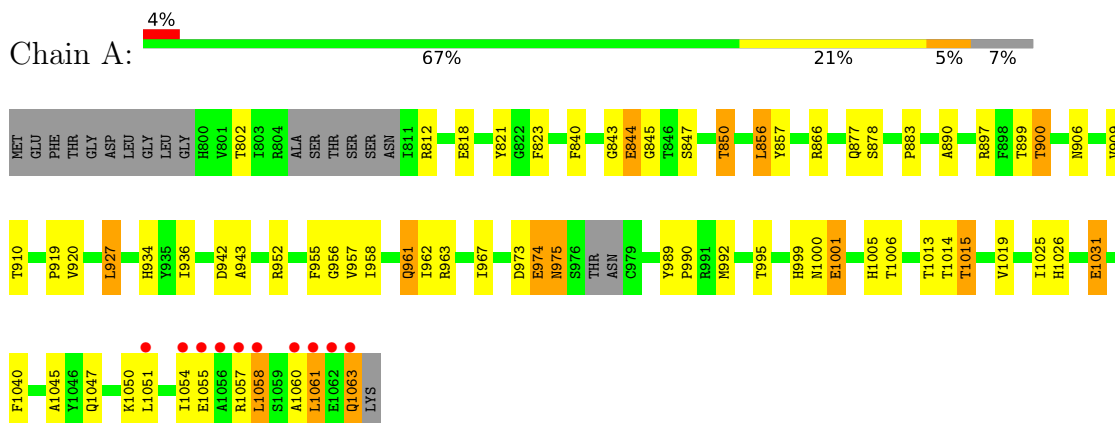
- Molecule 7 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
7	A	63	Total O 63 63	0	0
7	B	47	Total O 47 47	0	0
7	E	45	Total O 45 45	0	0
7	C	61	Total O 61 61	0	0
7	D	52	Total O 52 52	0	0
7	F	55	Total O 55 55	0	0

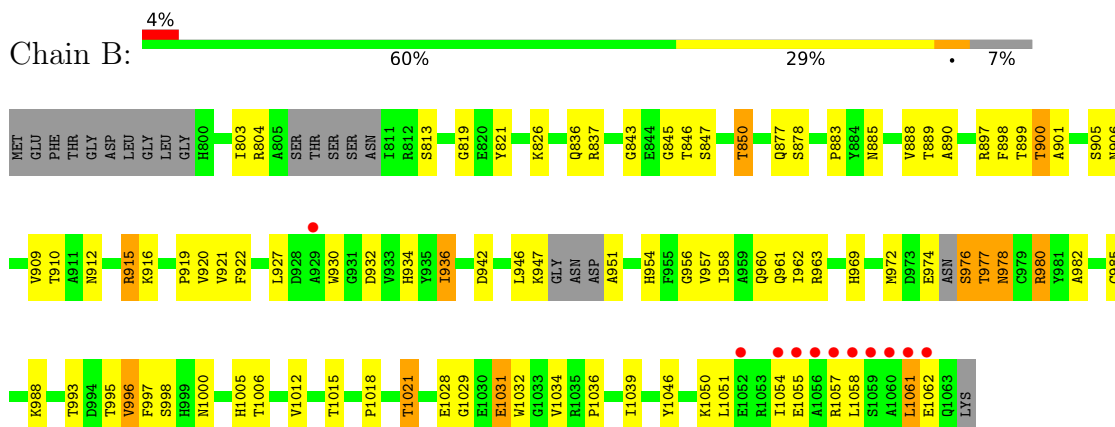
### 3 Residue-property plots [i](#)

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

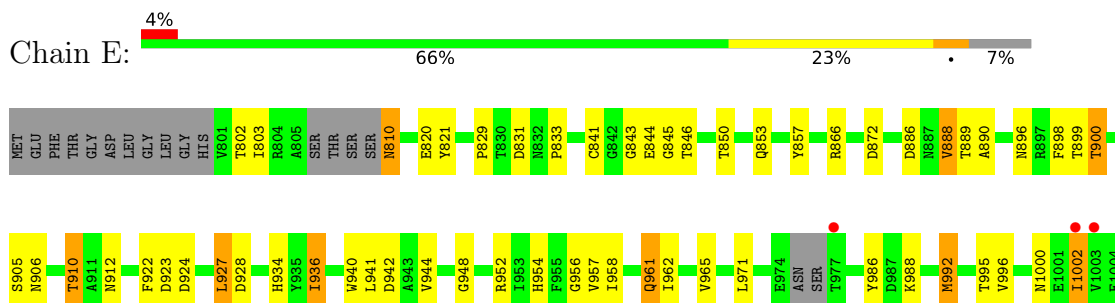
- Molecule 1: Endo-N-acetylneuraminidase



- Molecule 1: Endo-N-acetylneuraminidase



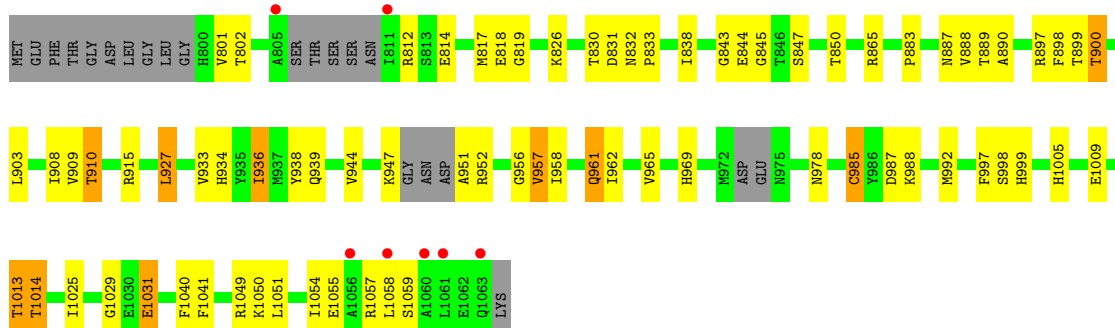
- Molecule 1: Endo-N-acetylneuraminidase



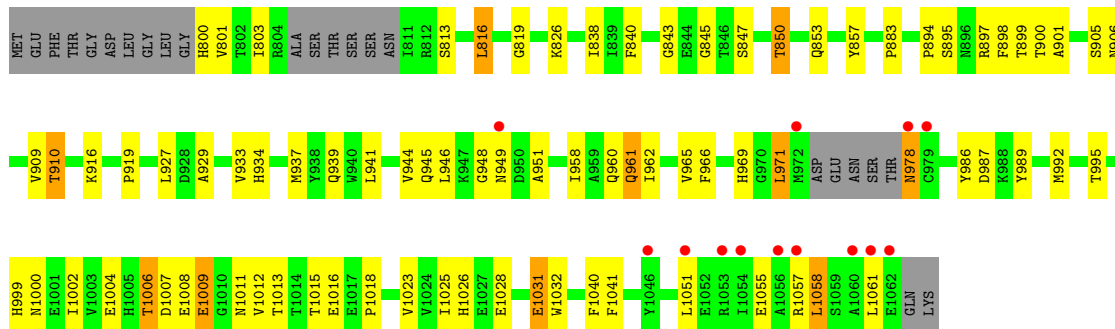




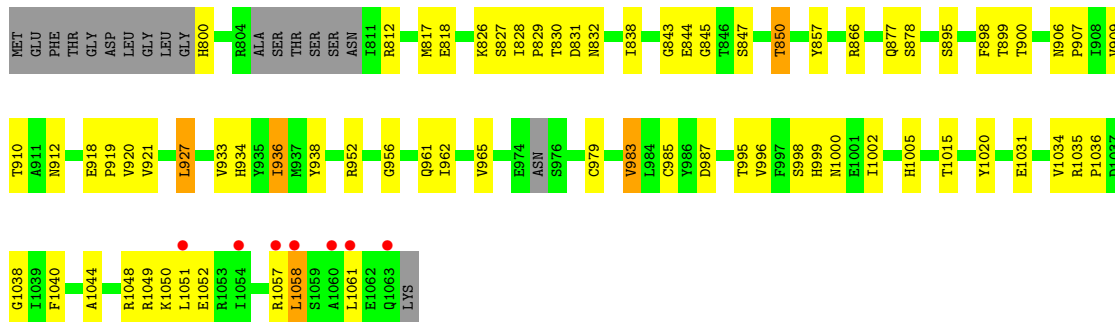
- Molecule 1: Endo-N-acetylneuraminidase



- Molecule 1: Endo-N-acetylneuraminidase



- Molecule 1: Endo-N-acetylneuraminidase



## 4 Data and refinement statistics

Property	Value	Source
Space group	P 1	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	62.65Å 79.95Å 109.58Å 81.71° 76.53° 87.11°	Depositor
Resolution (Å)	27.63 – 2.60 48.21 – 2.60	Depositor EDS
% Data completeness (in resolution range)	95.4 (27.63-2.60) 95.4 (48.21-2.60)	Depositor EDS
$R_{merge}$	0.04	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	2.43 (at 2.61Å)	Xtrriage
Refinement program	PHENIX	Depositor
R, $R_{free}$	0.209 , 0.255 0.204 , 0.249	Depositor DCC
$R_{free}$ test set	3000 reflections (5.00%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	46.7	Xtrriage
Anisotropy	0.521	Xtrriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.29 , 52.3	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.50$ , $\langle L^2 \rangle = 0.33$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
$F_o, F_c$ correlation	0.93	EDS
Total number of atoms	12617	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	54.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 6.00% of the height of the origin peak. No significant pseudotranslation is detected.*

<sup>1</sup>Intensities estimated from amplitudes.

<sup>2</sup>Theoretical 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

### 5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: BR, TAM, CL, CA, PEG

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
1	A	0.24	0/2071	0.43	0/2810
1	B	0.24	0/2062	0.44	0/2797
1	C	0.24	0/2053	0.43	0/2785
1	D	0.25	0/2039	0.47	0/2767
1	E	0.23	0/2074	0.45	0/2815
1	F	0.23	0/2078	0.43	0/2820
All	All	0.24	0/12377	0.44	0/16794

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

### 5.2 Too-close contacts

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	2028	0	1916	82	0
1	B	2020	0	1914	100	0
1	C	2011	0	1910	78	0
1	D	1996	0	1893	81	0
1	E	2032	0	1922	72	0
1	F	2035	0	1923	88	0
2	A	14	0	20	5	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	B	7	0	10	0	0
2	C	21	0	30	5	0
2	D	7	0	10	0	0
2	E	49	0	70	13	0
2	F	28	0	40	19	0
3	A	22	0	34	3	0
3	C	11	0	17	1	0
4	A	1	0	0	0	0
4	C	2	0	0	0	0
4	D	2	0	0	0	0
4	E	1	0	0	0	0
5	B	3	0	0	0	0
5	C	1	0	0	0	0
5	E	1	0	0	0	0
5	F	1	0	0	0	0
6	F	1	0	0	0	0
7	A	63	0	0	4	0
7	B	47	0	0	1	0
7	C	61	0	0	4	0
7	D	52	0	0	2	0
7	E	45	0	0	1	0
7	F	55	0	0	4	0
All	All	12617	0	11709	402	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 17.

The worst 5 of 402 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:845:GLY:H	1:B:850:THR:HG21	1.10	1.13
1:A:845:GLY:H	1:A:850:THR:HG21	1.18	1.06
1:F:845:GLY:H	1:F:850:THR:HG21	1.18	1.04
1:D:845:GLY:H	1:D:850:THR:HG21	1.23	1.04
1:F:934:HIS:H	1:F:961:GLN:NE2	1.66	0.93

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	250/275 (91%)	237 (95%)	12 (5%)	1 (0%)	34	57
1	B	247/275 (90%)	237 (96%)	10 (4%)	0	100	100
1	C	246/275 (90%)	237 (96%)	9 (4%)	0	100	100
1	D	246/275 (90%)	238 (97%)	8 (3%)	0	100	100
1	E	251/275 (91%)	241 (96%)	10 (4%)	0	100	100
1	F	251/275 (91%)	244 (97%)	7 (3%)	0	100	100
All	All	1491/1650 (90%)	1434 (96%)	56 (4%)	1 (0%)	51	75

All (1) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	975	ASN

### 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	215/230 (94%)	194 (90%)	21 (10%)	8	15
1	B	214/230 (93%)	194 (91%)	20 (9%)	9	17
1	C	213/230 (93%)	199 (93%)	14 (7%)	16	33
1	D	211/230 (92%)	192 (91%)	19 (9%)	9	18
1	E	215/230 (94%)	196 (91%)	19 (9%)	10	19
1	F	216/230 (94%)	206 (95%)	10 (5%)	27	51

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
All	All	1284/1380 (93%)	1181 (92%)	103 (8%)	12 24

5 of 103 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	E	1051	LEU
1	C	1013	THR
1	F	995	THR
1	E	1063	GLN
1	C	936	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 38 such sidechains are listed below:

Mol	Chain	Res	Type
1	D	961	GLN
1	F	961	GLN
1	D	978	ASN
1	F	853	GLN
1	F	1026	HIS

### 5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

### 5.4 Non-standard residues in protein, DNA, RNA chains [i](#)

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

### 5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

### 5.6 Ligand geometry [i](#)

Of 34 ligands modelled in this entry, 13 are monoatomic - leaving 21 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
2	PEG	C	29	-	6,6,6	0.49	0	5,5,5	1.43	0
2	PEG	A	2	-	6,6,6	0.50	0	5,5,5	1.40	0
3	TAM	A	35	-	7,10,10	0.65	0	9,12,12	1.66	3 (33%)
3	TAM	C	28	-	7,10,10	0.60	0	9,12,12	1.68	2 (22%)
3	TAM	A	32	-	7,10,10	0.61	0	9,12,12	1.41	3 (33%)
2	PEG	A	17	-	6,6,6	0.48	0	5,5,5	1.50	0
2	PEG	F	24	-	6,6,6	0.49	0	5,5,5	1.55	0
2	PEG	E	6	-	6,6,6	0.50	0	5,5,5	1.50	0
2	PEG	E	27	-	6,6,6	0.49	0	5,5,5	1.39	0
2	PEG	E	21	-	6,6,6	0.51	0	5,5,5	1.44	0
2	PEG	E	18	-	6,6,6	0.49	0	5,5,5	1.39	0
2	PEG	F	5	-	6,6,6	0.51	0	5,5,5	1.50	0
2	PEG	E	33	-	6,6,6	0.49	0	5,5,5	1.44	0
2	PEG	C	14	-	6,6,6	0.48	0	5,5,5	1.41	0
2	PEG	F	30	-	6,6,6	0.49	0	5,5,5	1.48	0
2	PEG	B	13	-	6,6,6	0.49	0	5,5,5	1.48	0
2	PEG	E	22	-	6,6,6	0.50	0	5,5,5	1.39	0
2	PEG	D	15	-	6,6,6	0.49	0	5,5,5	1.43	0
2	PEG	F	34	-	6,6,6	0.49	0	5,5,5	1.54	1 (20%)
2	PEG	C	3	-	6,6,6	0.50	0	5,5,5	1.45	0
2	PEG	E	16	-	6,6,6	0.50	0	5,5,5	1.41	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
2	PEG	C	29	-	-	2/4/4/4	-
2	PEG	A	2	-	-	2/4/4/4	-
3	TAM	A	35	-	-	7/12/12/12	-
3	TAM	C	28	-	-	4/12/12/12	-
3	TAM	A	32	-	-	6/12/12/12	-
2	PEG	A	17	-	-	2/4/4/4	-
2	PEG	F	24	-	-	2/4/4/4	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	PEG	E	6	-	-	2/4/4/4	-
2	PEG	E	27	-	-	2/4/4/4	-
2	PEG	E	21	-	-	1/4/4/4	-
2	PEG	E	18	-	-	1/4/4/4	-
2	PEG	F	5	-	-	2/4/4/4	-
2	PEG	E	33	-	-	3/4/4/4	-
2	PEG	C	14	-	-	2/4/4/4	-
2	PEG	F	30	-	-	1/4/4/4	-
2	PEG	B	13	-	-	2/4/4/4	-
2	PEG	E	22	-	-	0/4/4/4	-
2	PEG	D	15	-	-	2/4/4/4	-
2	PEG	F	34	-	-	3/4/4/4	-
2	PEG	C	3	-	-	4/4/4/4	-
2	PEG	E	16	-	-	2/4/4/4	-

There are no bond length outliers.

The worst 5 of 9 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	C	28	TAM	O5-C5-C2	3.17	119.86	111.39
3	A	35	TAM	O6-C6-C3	2.82	118.91	111.39
3	C	28	TAM	O6-C6-C3	2.71	118.63	111.39
3	A	35	TAM	O5-C5-C2	2.40	117.81	111.39
3	A	32	TAM	O6-C6-C3	2.34	117.63	111.39

There are no chirality outliers.

5 of 52 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	A	32	TAM	N-C-C1-C4
3	A	32	TAM	C1-C-C2-C5
3	A	32	TAM	C3-C-C2-C5
3	A	32	TAM	N-C-C2-C5
3	A	32	TAM	C-C3-C6-O6

There are no ring outliers.

12 monomers are involved in 46 short contacts:



Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	C	29	PEG	5	0
2	A	2	PEG	4	0
3	A	35	TAM	3	0
3	C	28	TAM	1	0
2	A	17	PEG	1	0
2	E	6	PEG	1	0
2	E	21	PEG	8	0
2	E	18	PEG	1	0
2	F	5	PEG	2	0
2	F	30	PEG	6	0
2	E	22	PEG	3	0
2	F	34	PEG	11	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, 95<sup>th</sup> 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 <sup>2</sup> )	Q<0.9
1	A	256/275 (93%)	0.07	10 (3%) 39 32	24, 49, 81, 147	26 (10%)
1	B	255/275 (92%)	0.18	11 (4%) 35 28	25, 50, 95, 143	41 (16%)
1	C	254/275 (92%)	-0.06	7 (2%) 53 46	26, 47, 79, 123	14 (5%)
1	D	252/275 (91%)	0.18	13 (5%) 27 21	23, 55, 90, 116	44 (17%)
1	E	257/275 (93%)	0.08	11 (4%) 35 28	24, 53, 93, 131	44 (17%)
1	F	257/275 (93%)	0.04	7 (2%) 54 48	26, 52, 82, 127	34 (13%)
All	All	1531/1650 (92%)	0.08	59 (3%) 39 32	23, 51, 88, 147	203 (13%)

The worst 5 of 59 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	1056	ALA	7.8
1	D	1061	LEU	7.3
1	A	1058	LEU	5.1
1	E	1061	LEU	4.9
1	F	1061	LEU	4.6

### 6.2 Non-standard residues in protein, DNA, RNA chains [i](#)

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

### 6.3 Carbohydrates [i](#)

There are no monosaccharides in this entry.

## 6.4 Ligands [i](#)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95<sup>th</sup> 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 <sup>2</sup> )	Q<0.9
2	PEG	E	16	7/7	0.49	0.22	94,97,98,99	0
3	TAM	A	32	11/11	0.69	0.24	71,74,75,76	2
2	PEG	C	3	7/7	0.70	0.33	71,75,79,80	0
2	PEG	F	24	7/7	0.74	0.22	86,87,88,88	0
2	PEG	D	15	7/7	0.74	0.30	63,67,68,68	0
2	PEG	E	33	7/7	0.76	0.36	80,81,83,83	3
2	PEG	B	13	7/7	0.78	0.25	75,78,80,80	2
2	PEG	A	17	7/7	0.81	0.38	52,60,71,72	0
2	PEG	E	27	7/7	0.82	0.42	78,78,79,79	5
3	TAM	A	35	11/11	0.82	0.26	56,61,64,66	0
2	PEG	F	30	7/7	0.83	0.29	29,47,55,57	0
3	TAM	C	28	11/11	0.83	0.24	59,64,66,66	0
2	PEG	C	29	7/7	0.86	0.37	66,73,78,79	0
2	PEG	C	14	7/7	0.87	0.16	66,69,72,73	0
2	PEG	E	6	7/7	0.89	0.23	73,73,75,75	5
2	PEG	A	2	7/7	0.90	0.18	42,48,57,60	0
2	PEG	E	21	7/7	0.91	0.20	43,48,56,59	0
2	PEG	F	5	7/7	0.92	0.41	50,57,58,58	0
2	PEG	E	22	7/7	0.92	0.31	59,60,62,63	0
4	CL	C	12	1/1	0.93	0.20	66,66,66,66	0
2	PEG	E	18	7/7	0.94	0.41	45,48,52,52	0
4	CL	D	41	1/1	0.94	0.11	45,45,45,45	0
2	PEG	F	34	7/7	0.96	0.21	51,52,60,62	0
5	BR	B	39	1/1	0.96	0.07	77,77,77,77	1
4	CL	E	42	1/1	0.97	0.07	61,61,61,61	0
5	BR	B	11	1/1	0.98	0.06	78,78,78,78	0
4	CL	A	40	1/1	0.98	0.13	44,44,44,44	0
5	BR	C	8	1/1	0.98	0.06	64,64,64,64	0
5	BR	F	37	1/1	0.98	0.11	68,68,68,68	0
5	BR	E	36	1/1	0.99	0.09	61,61,61,61	0
5	BR	B	38	1/1	0.99	0.06	66,66,66,66	0
4	CL	D	10	1/1	0.99	0.17	42,42,42,42	0
6	CA	F	1	1/1	0.99	0.21	44,44,44,44	0
4	CL	C	9	1/1	1.00	0.11	41,41,41,41	0

## 6.5 Other polymers [i](#)

There are no such residues in this entry.