Full wwPDB X-ray Structure Validation Report (i)

Dec 2, 2024 – 06:19 PM EST

PDB ID	:	3ZH5
Title	:	The structure of Haemophilus influenzae protein E
Authors	:	Singh, B.; Al-Jubair, T.; Riesbeck, K.; Thunnissen, M.M.G.M.
Deposited on	:	2012-12-20
Resolution	:	1.80 Å(reported)

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

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/XrayValidationReportHelp
with specific help available everywhere you see the (i) symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

The following versions of software and data (see references (1)) were used in the production of this report:

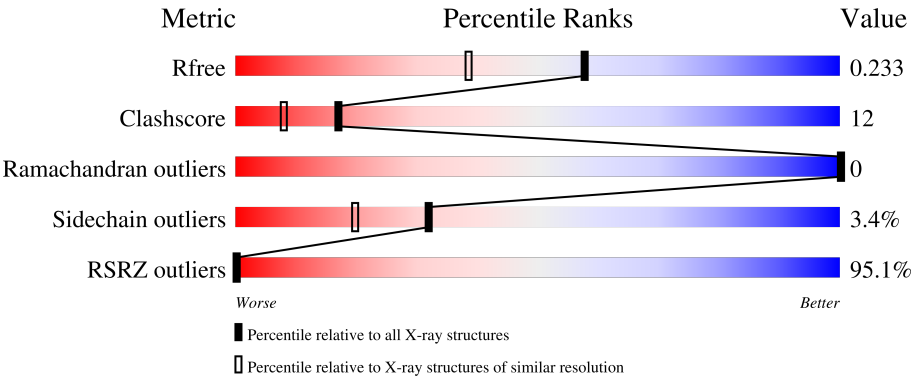
MolProbity	:	4.02b-467
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	1.21
EDS	:	3.0
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4	:	9.0.004 (Gargrove)
Density-Fitness	:	1.0.11
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.40

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 1.80 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	164625	7108 (1.80-1.80)
Clashscore	180529	8162 (1.80-1.80)
Ramachandran outliers	177936	8077 (1.80-1.80)
Sidechain outliers	177891	8076 (1.80-1.80)
RSRZ outliers	164620	7108 (1.80-1.80)

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%

Mol	Chain	Length	Quality of chain
1	A	134	95% 81% 17%
1	B	134	93% 81% 16%

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	EDO	B	1157	-	-	X	-
3	GOL	A	1160	-	-	X	-

2 Entry composition

There are 4 unique types of molecules in this entry. The entry contains 4466 atoms, of which 2155 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.

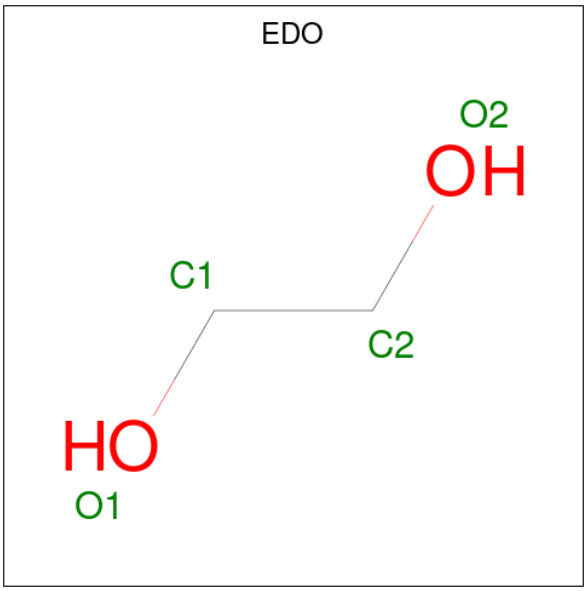
- Molecule 1 is a protein called PROTEIN E.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
1	A	132	Total	C	H	N	O	S	0	0	0
			2138	691	1059	187	198	3			
1	B	132	Total	C	H	N	O	S	0	0	0
			2139	691	1060	187	198	3			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	25	ASN	-	expression tag	UNP C4F5U7
B	25	ASN	-	expression tag	UNP C4F5U7

- Molecule 2 is 1,2-ETHANEDIOL (three-letter code: EDO) (formula: $C_2H_6O_2$).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
2	A	1	Total	C	H	O	0	0
			10	2	6	2		

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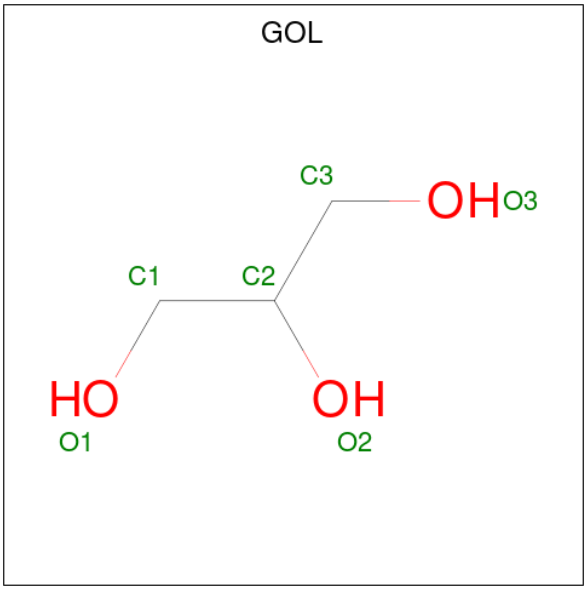
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	B	1	Total C H O 10 2 6 2	0	0

- Molecule 3 is GLYCEROL (three-letter code: GOL) (formula: $C_3H_8O_3$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	1	Total C H O 14 3 8 3	0	0
3	B	1	Total C H O 14 3 8 3	0	0
3	B	1	Total C H O 14 3 8 3	0	0

- Molecule 4 is water.

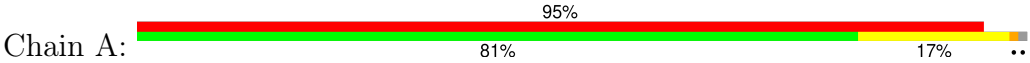
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	61	Total O 61 61	0	0
4	B	66	Total O 66 66	0	0

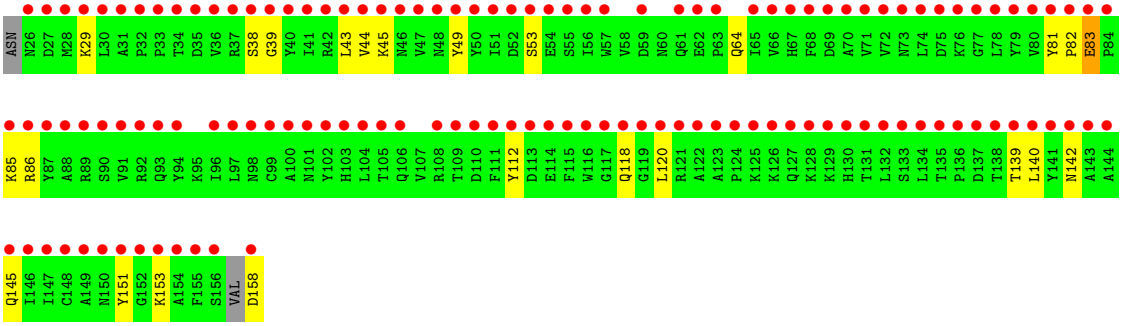
3 Residue-property plots (i)

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. 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. 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: PROTEIN E

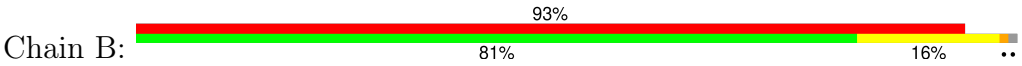
Chain A:

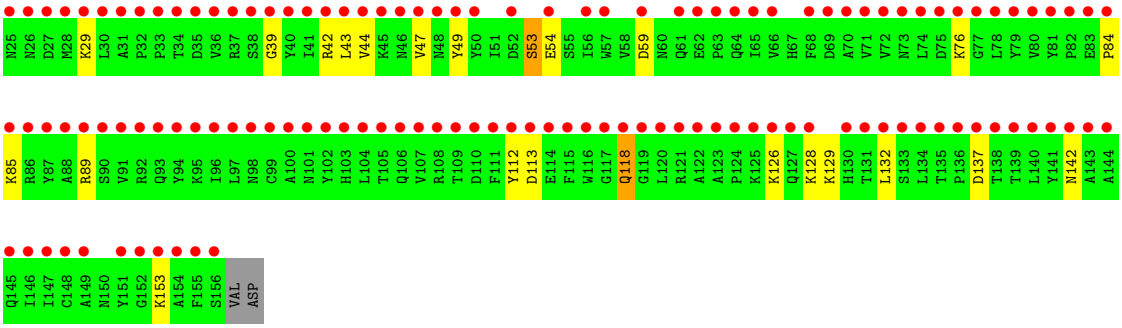




- Molecule 1: PROTEIN E

Chain B:





4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	44.19Å 57.26Å 61.37Å 90.00° 96.05° 90.00°	Depositor
Resolution (Å)	26.93 – 1.80 26.93 – 1.80	Depositor EDS
% Data completeness (in resolution range)	99.5 (26.93-1.80) 99.6 (26.93-1.80)	Depositor EDS
R_{merge}	0.06	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	2.62 (at 1.80Å)	Xtriage
Refinement program	PHENIX (PHENIX.REFINE)	Depositor
R, R_{free}	0.201 , 0.231 0.203 , 0.233	Depositor DCC
R_{free} test set	1428 reflections (5.05%)	wwPDB-VP
Wilson B-factor (Å^2)	24.7	Xtriage
Anisotropy	0.954	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.36 , 40.5	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	0.73	EDS
Total number of atoms	4466	wwPDB-VP
Average B, all atoms (Å^2)	52.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 9.36% of the height of the origin peak. No significant pseudotranslation is detected.*

[1] Intensities estimated from amplitudes.

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

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: EDO, GOL

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	0.60	0/1106	0.69	0/1502
1	B	0.60	0/1107	0.71	0/1505
All	All	0.60	0/2213	0.70	0/3007

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	1079	1059	1054	26	0
1	B	1079	1060	1055	27	0
2	A	4	6	6	0	0
2	B	4	6	6	5	0
3	A	6	8	8	4	0
3	B	12	16	16	3	0
4	A	61	0	0	9	2
4	B	66	0	0	10	2
All	All	2311	2155	2145	54	2

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 12.

All (54) 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:139:THR:HA	4:A:2005:HOH:O	1.57	1.05
1:B:42:ARG:NE	4:B:2006:HOH:O	1.95	0.99
1:A:139:THR:O	4:A:2005:HOH:O	1.90	0.89
1:B:42:ARG:NH1	1:B:47:VAL:O	2.12	0.83
1:A:139:THR:CA	4:A:2005:HOH:O	2.19	0.81
1:B:59:ASP:OD2	2:B:1157:EDO:C1	2.30	0.80
1:B:39:GLY:O	1:B:53:SER:HB2	1.82	0.79
1:B:44:VAL:O	4:B:2008:HOH:O	2.00	0.78
1:B:59:ASP:OD2	2:B:1157:EDO:H11	1.86	0.76
1:B:42:ARG:CZ	4:B:2006:HOH:O	2.30	0.75
1:A:81:TYR:HB3	1:A:82:PRO:HD2	1.70	0.73
1:B:59:ASP:CG	2:B:1157:EDO:H11	2.09	0.73
4:A:2039:HOH:O	2:B:1157:EDO:O1	2.06	0.73
1:B:43:LEU:HD12	1:B:49:TYR:CD1	2.24	0.73
1:B:42:ARG:NH2	4:B:2006:HOH:O	2.22	0.72
1:A:151:TYR:O	4:A:2058:HOH:O	2.08	0.72
1:A:139:THR:C	4:A:2005:HOH:O	2.28	0.69
1:A:39:GLY:O	1:A:53:SER:HB2	1.92	0.69
1:A:86:ARG:CZ	1:A:120:LEU:HD22	2.26	0.66
1:A:142:ASN:HB2	3:A:1160:GOL:C3	2.29	0.60
1:A:44:VAL:HG12	1:A:45:LYS:HG3	1.86	0.58
1:B:153:LYS:NZ	4:B:2066:HOH:O	2.34	0.57
1:B:29:LYS:HG2	1:B:76:LYS:HD2	1.86	0.57
1:B:142:ASN:HB2	3:B:1159:GOL:H31	1.87	0.56
1:B:59:ASP:OD2	2:B:1157:EDO:H12	2.03	0.56
1:B:84:PRO:HG2	1:B:85:LYS:HD3	1.89	0.55
1:A:39:GLY:O	1:A:53:SER:CB	2.56	0.54
1:B:137:ASP:HA	3:B:1159:GOL:H11	1.91	0.53
1:B:126:LYS:HB3	4:B:2052:HOH:O	2.07	0.53
1:A:81:TYR:CB	1:A:82:PRO:HD2	2.38	0.53
1:A:83:GLU:OE1	1:A:85:LYS:HG2	2.09	0.52
1:A:142:ASN:HB3	4:A:2005:HOH:O	2.10	0.52
1:A:43:LEU:HD12	1:A:49:TYR:CD1	2.46	0.51
1:A:83:GLU:OE1	1:A:85:LYS:HE2	2.10	0.51
1:B:129:LYS:HE2	4:B:2053:HOH:O	2.12	0.48
1:B:126:LYS:N	4:B:2052:HOH:O	2.37	0.48
1:A:158:ASP:O	4:A:2060:HOH:O	2.20	0.48
1:A:64:GLN:NE2	4:A:2028:HOH:O	2.46	0.47
1:B:142:ASN:HB2	3:B:1159:GOL:O1	2.14	0.47
1:B:54:GLU:HB3	4:B:2024:HOH:O	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:142:ASN:HB2	3:A:1160:GOL:H32	1.95	0.47
1:A:140:LEU:HD23	1:A:140:LEU:HA	1.80	0.45
1:A:86:ARG:CZ	1:A:120:LEU:CD2	2.94	0.45
1:A:142:ASN:HB2	3:A:1160:GOL:H31	1.99	0.45
1:A:145:GLN:HG3	3:A:1160:GOL:H11	1.99	0.44
1:B:89:ARG:HD3	1:B:113:ASP:O	2.17	0.44
1:A:44:VAL:O	1:A:45:LYS:HB2	2.17	0.44
1:A:112:TYR:HB3	1:A:118:GLN:O	2.17	0.44
1:B:42:ARG:HH11	1:B:47:VAL:HB	1.83	0.44
1:B:112:TYR:HB3	1:B:118:GLN:O	2.18	0.43
1:B:85:LYS:HD3	1:B:85:LYS:N	2.34	0.42
1:B:42:ARG:NH1	1:B:47:VAL:HB	2.35	0.41
1:A:81:TYR:HB3	1:A:82:PRO:CD	2.47	0.41
1:B:54:GLU:C	4:B:2024:HOH:O	2.58	0.41

All (2) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A:2059:HOH:O	4:B:2057:HOH:O[2_545]	1.94	0.26
4:A:2050:HOH:O	4:B:2023:HOH:O[2_645]	2.02	0.18

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	129/134 (96%)	128 (99%)	1 (1%)	0	100	100
1	B	130/134 (97%)	128 (98%)	2 (2%)	0	100	100
All	All	259/268 (97%)	256 (99%)	3 (1%)	0	100	100

There are no Ramachandran outliers to report.

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	116/119 (98%)	112 (97%)	4 (3%)	32 20
1	B	116/119 (98%)	112 (97%)	4 (3%)	32 20
All	All	232/238 (98%)	224 (97%)	8 (3%)	32 20

All (8) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	29	LYS
1	A	38	SER
1	A	83	GLU
1	A	153	LYS
1	B	53	SER
1	B	118	GLN
1	B	128	LYS
1	B	132	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. There are no such sidechains identified.

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 oligosaccharides in this entry.

5.6 Ligand geometry (i)

5 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	EDO	B	1157	-	3,3,3	0.89	0	2,2,2	0.78	0
3	GOL	B	1159	-	5,5,5	0.26	0	5,5,5	0.54	0
3	GOL	B	1158	-	5,5,5	0.46	0	5,5,5	0.14	0
3	GOL	A	1160	-	5,5,5	0.25	0	5,5,5	0.45	0
2	EDO	A	1159	-	3,3,3	0.58	0	2,2,2	0.18	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	EDO	B	1157	-	-	0/1/1/1	-
3	GOL	B	1159	-	-	4/4/4/4	-
3	GOL	B	1158	-	-	2/4/4/4	-
3	GOL	A	1160	-	-	2/4/4/4	-
2	EDO	A	1159	-	-	1/1/1/1	-

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (9) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	A	1160	GOL	C1-C2-C3-O3
3	B	1158	GOL	C1-C2-C3-O3
3	B	1159	GOL	C1-C2-C3-O3
3	B	1159	GOL	O2-C2-C3-O3
3	B	1159	GOL	O1-C1-C2-C3

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Mol	Chain	Res	Type	Atoms
3	B	1158	GOL	O2-C2-C3-O3
3	A	1160	GOL	O2-C2-C3-O3
2	A	1159	EDO	O1-C1-C2-O2
3	B	1159	GOL	O1-C1-C2-O2

There are no ring outliers.

3 monomers are involved in 12 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	B	1157	EDO	5	0
3	B	1159	GOL	3	0
3	A	1160	GOL	4	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

6.1 Protein, DNA and RNA chains

Warning: The R factor obtained from EDS is 0.4134, which does not match the depositor's R factor of 0.2007. Please interpret the results in this section carefully.

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å^2)	Q<0.9
1	A	132/134 (98%)	4.91	127 (96%)	0	0	23, 44, 99, 127	0
1	B	132/134 (98%)	5.02	124 (93%)	0	0	25, 46, 98, 130	0
All	All	264/268 (98%)	4.97	251 (95%)	0	0	23, 46, 99, 130	0

All (251) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	44	VAL	15.8
1	A	137	ASP	13.7
1	B	44	VAL	11.2
1	B	26	ASN	10.8
1	B	139	THR	10.5
1	A	79	TYR	10.3
1	B	126	LYS	10.2
1	B	79	TYR	10.1
1	B	122	ALA	9.9
1	B	128	LYS	9.7
1	B	84	PRO	9.5
1	A	122	ALA	9.4
1	A	158	ASP	9.3
1	B	138	THR	9.2
1	B	137	ASP	8.8
1	A	154	ALA	8.7
1	A	118	GLN	8.4
1	B	82	PRO	8.4
1	B	63	PRO	8.3
1	B	76	LYS	8.2
1	B	120	LEU	8.1
1	B	36	VAL	8.0

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Mol	Chain	Res	Type	RSRZ
1	B	85	LYS	7.9
1	A	36	VAL	7.8
1	A	26	ASN	7.8
1	A	155	PHE	7.7
1	A	138	THR	7.6
1	A	87	TYR	7.5
1	B	154	ALA	7.5
1	A	32	PRO	7.5
1	A	151	TYR	7.4
1	B	81	TYR	7.4
1	A	139	THR	7.4
1	B	32	PRO	7.3
1	A	29	LYS	7.3
1	B	43	LEU	7.3
1	B	29	LYS	7.2
1	B	75	ASP	7.2
1	B	25	ASN	7.2
1	A	43	LEU	7.1
1	B	48	ASN	7.1
1	B	31	ALA	7.0
1	A	50	TYR	6.9
1	B	30	LEU	6.9
1	B	45	LYS	6.9
1	A	74	LEU	6.8
1	B	125	LYS	6.8
1	A	62	GLU	6.7
1	B	153	LYS	6.7
1	A	35	ASP	6.5
1	A	80	VAL	6.5
1	B	155	PHE	6.5
1	A	112	TYR	6.5
1	A	72	VAL	6.5
1	B	132	LEU	6.5
1	B	72	VAL	6.4
1	B	113	ASP	6.4
1	A	123	ALA	6.3
1	A	144	ALA	6.3
1	A	81	TYR	6.3
1	A	102	TYR	6.3
1	A	146	ILE	6.3
1	A	132	LEU	6.3
1	A	125	LYS	6.3

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Mol	Chain	Res	Type	RSRZ
1	B	151	TYR	6.3
1	A	34	THR	6.3
1	A	116	TRP	6.2
1	B	33	PRO	6.2
1	B	112	TYR	6.2
1	A	156	SER	6.2
1	B	144	ALA	6.1
1	A	49	TYR	6.1
1	B	80	VAL	6.1
1	B	135	THR	6.0
1	A	101	ASN	5.9
1	B	28	MET	5.9
1	B	35	ASP	5.9
1	A	56	ILE	5.9
1	B	146	ILE	5.9
1	B	27	ASP	5.8
1	B	78	LEU	5.8
1	B	123	ALA	5.7
1	A	86	ARG	5.7
1	B	37	ARG	5.7
1	B	111	PHE	5.7
1	A	75	ASP	5.7
1	A	45	LYS	5.7
1	B	152	GLY	5.6
1	B	87	TYR	5.6
1	A	136	PRO	5.6
1	A	120	LEU	5.6
1	A	73	ASN	5.5
1	A	30	LEU	5.5
1	A	76	LYS	5.5
1	A	82	PRO	5.5
1	B	56	ILE	5.5
1	A	88	ALA	5.4
1	A	78	LEU	5.4
1	A	38	SER	5.4
1	B	116	TRP	5.4
1	A	37	ARG	5.4
1	A	28	MET	5.4
1	B	119	GLY	5.4
1	A	141	TYR	5.3
1	B	46	ASN	5.3
1	A	145	GLN	5.3

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Mol	Chain	Res	Type	RSRZ
1	B	49	TYR	5.3
1	B	130	HIS	5.3
1	B	136	PRO	5.2
1	A	31	ALA	5.2
1	A	124	PRO	5.2
1	B	54	GLU	5.1
1	A	143	ALA	5.1
1	B	141	TYR	5.0
1	B	140	LEU	5.0
1	A	100	ALA	5.0
1	A	63	PRO	5.0
1	A	128	LYS	5.0
1	A	111	PHE	5.0
1	A	117	GLY	4.9
1	B	101	ASN	4.9
1	B	38	SER	4.9
1	B	47	VAL	4.9
1	A	48	ASN	4.9
1	A	33	PRO	4.9
1	A	47	VAL	4.9
1	B	118	GLN	4.9
1	B	97	LEU	4.8
1	A	46	ASN	4.8
1	B	131	THR	4.8
1	B	117	GLY	4.8
1	A	85	LYS	4.8
1	A	152	GLY	4.7
1	B	115	PHE	4.7
1	B	121	ARG	4.7
1	B	145	GLN	4.7
1	A	114	GLU	4.6
1	A	52	ASP	4.6
1	A	135	THR	4.5
1	B	143	ALA	4.5
1	A	66	VAL	4.5
1	A	153	LYS	4.4
1	B	142	ASN	4.4
1	A	134	LEU	4.4
1	B	83	GLU	4.4
1	B	91	VAL	4.4
1	A	126	LYS	4.4
1	B	50	TYR	4.3

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Mol	Chain	Res	Type	RSRZ
1	B	102	TYR	4.3
1	B	74	LEU	4.3
1	A	113	ASP	4.3
1	A	131	THR	4.3
1	B	103	HIS	4.3
1	B	133	SER	4.2
1	B	156	SER	4.2
1	A	130	HIS	4.2
1	A	57	TRP	4.2
1	A	121	ARG	4.1
1	A	91	VAL	4.1
1	A	42	ARG	4.1
1	B	86	ARG	4.1
1	B	40	TYR	4.1
1	B	124	PRO	4.1
1	B	77	GLY	4.1
1	B	68	PHE	4.1
1	A	97	LEU	4.0
1	B	39	GLY	4.0
1	A	40	TYR	4.0
1	A	71	VAL	4.0
1	B	147	ILE	4.0
1	A	27	ASP	3.9
1	B	34	THR	3.9
1	B	73	ASN	3.9
1	B	104	LEU	3.9
1	A	115	PHE	3.9
1	A	147	ILE	3.9
1	B	114	GLU	3.9
1	B	90	SER	3.8
1	B	89	ARG	3.8
1	A	149	ALA	3.8
1	A	103	HIS	3.8
1	A	98	ASN	3.8
1	A	140	LEU	3.7
1	A	142	ASN	3.7
1	B	69	ASP	3.6
1	B	42	ARG	3.6
1	B	109	THR	3.6
1	A	84	PRO	3.6
1	A	119	GLY	3.6
1	A	90	SER	3.6

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Mol	Chain	Res	Type	RSRZ
1	A	104	LEU	3.5
1	A	133	SER	3.5
1	A	89	ARG	3.5
1	A	70	ALA	3.4
1	B	88	ALA	3.4
1	B	105	THR	3.3
1	A	65	ILE	3.3
1	A	109	THR	3.3
1	B	57	TRP	3.3
1	B	127	GLN	3.3
1	B	70	ALA	3.2
1	B	134	LEU	3.2
1	A	68	PHE	3.2
1	B	94	TYR	3.2
1	A	108	ARG	3.2
1	B	96	ILE	3.2
1	B	108	ARG	3.2
1	A	106	GLN	3.2
1	A	148	CYS	3.1
1	A	54	GLU	3.1
1	B	100	ALA	3.1
1	A	61	GLN	3.0
1	B	64	GLN	3.0
1	B	59	ASP	3.0
1	A	41	ILE	3.0
1	B	66	VAL	3.0
1	A	99	CYS	3.0
1	A	77	GLY	2.9
1	B	41	ILE	2.9
1	A	127	GLN	2.9
1	B	93	GLN	2.9
1	B	71	VAL	2.9
1	A	51	ILE	2.9
1	B	106	GLN	2.9
1	B	62	GLU	2.9
1	B	65	ILE	2.9
1	A	92	ARG	2.9
1	A	67	HIS	2.8
1	A	39	GLY	2.8
1	A	53	SER	2.8
1	B	98	ASN	2.7
1	B	107	VAL	2.7

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Mol	Chain	Res	Type	RSRZ
1	A	96	ILE	2.7
1	B	149	ALA	2.7
1	B	95	LYS	2.7
1	B	99	CYS	2.6
1	A	105	THR	2.6
1	A	94	TYR	2.6
1	A	69	ASP	2.6
1	B	148	CYS	2.5
1	A	93	GLN	2.5
1	B	52	ASP	2.4
1	A	59	ASP	2.4
1	B	61	GLN	2.4
1	A	150	ASN	2.3
1	A	129	LYS	2.3
1	A	110	ASP	2.1
1	A	83	GLU	2.1
1	A	55	SER	2.1
1	B	110	ASP	2.0
1	B	92	ARG	2.0

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

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

6.3 Carbohydrates (i)

There are no monosaccharides in this entry.

6.4 Ligands (i)

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
3	GOL	A	1160	6/6	0.46	0.38	49,61,74,78	0
3	GOL	B	1158	6/6	0.54	0.50	77,93,97,97	0
3	GOL	B	1159	6/6	0.58	0.31	43,52,70,75	0
2	EDO	A	1159	4/4	0.65	0.28	30,50,66,72	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
2	EDO	B	1157	4/4	0.78	0.25	31,50,60,60	0

6.5 Other polymers (i)

There are no such residues in this entry.