



# Full wwPDB X-ray Structure Validation Report ⓘ

Aug 8, 2023 – 04:35 AM EDT

PDB ID : 1PJX  
Title : 0.85 ANGSTROM STRUCTURE OF SQUID GANGLION DFPASE  
Authors : Koepke, J.; Rueterjans, H.; Luecke, C.; Fritzsich, G.  
Deposited on : 2003-06-04  
Resolution : 0.85 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](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)  
Xtrriage (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

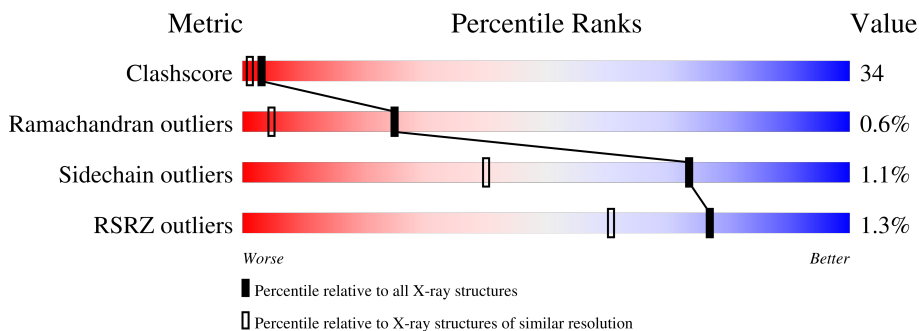
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 0.85 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))
Clashscore	141614	1143 (1.04-0.68)
Ramachandran outliers	138981	1065 (1.04-0.68)
Sidechain outliers	138945	1066 (1.04-0.68)
RSRZ outliers	127900	1038 (1.04-0.70)

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	314	

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
10	PEG	A	461	-	X	X	-
3	ME2	A	471	-	-	X	-
4	MES	A	411	-	-	X	-

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
4	MES	A	412	-	-	X	-
5	EDO	A	423	-	-	X	-
5	EDO	A	425	-	-	X	-
5	EDO	A	427	-	-	X	-
5	EDO	A	428	-	-	X	-
6	PGE	A	433	-	-	X	-
6	PGE	A	434	-	X	X	-
7	DXE	A	441	-	-	X	-
7	DXE	A	443	-	-	X	-
8	MXE	A	451	-	X	X	-
8	MXE	A	452	-	-	X	-
9	GOL	A	401	-	X	-	-

## 2 Entry composition [i](#)

There are 11 unique types of molecules in this entry. The entry contains 3295 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.

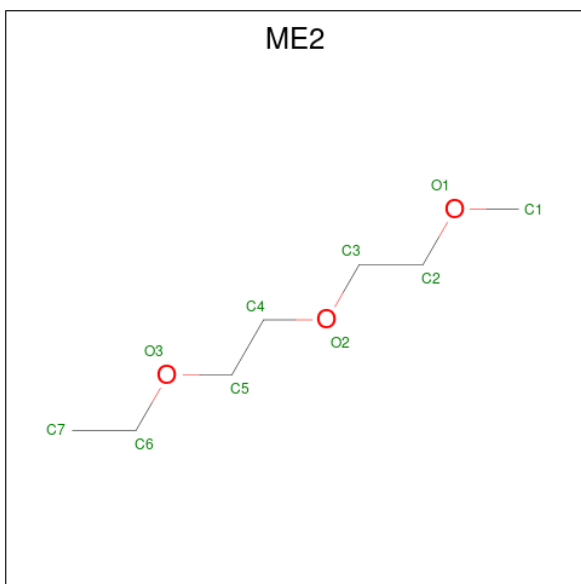
- Molecule 1 is a protein called DIISOPROPYLFLUOROPHOSPHATASE.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	314	2657	1688	456	495	18	0	46	0

- Molecule 2 is CALCIUM ION (three-letter code: CA) (formula: Ca).

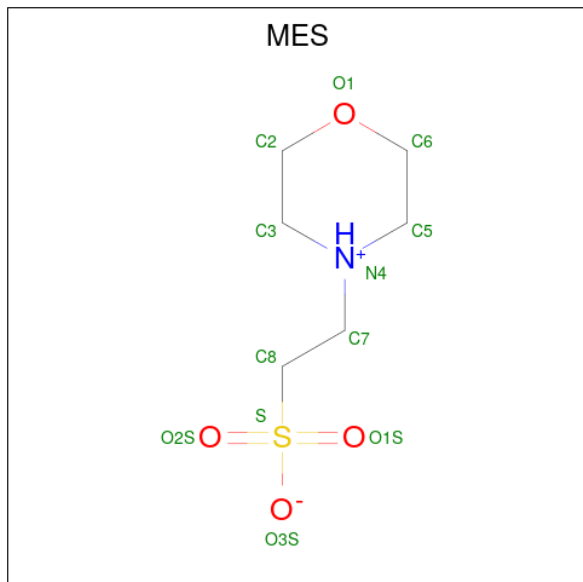
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	A	2	Total	Ca	0	0
			2	2		

- Molecule 3 is 1-ETHOXY-2-(2-METHOXYETHOXY)ETHANE (three-letter code: ME2) (formula: C<sub>7</sub>H<sub>16</sub>O<sub>3</sub>).



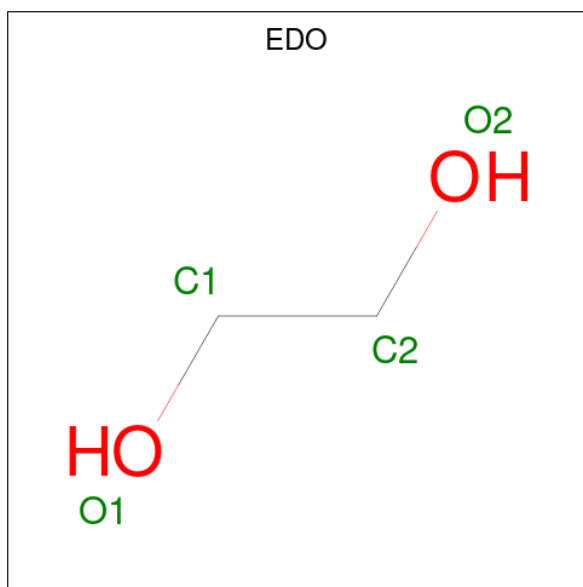
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
3	A	1	Total	C	O	0	0
			10	7	3		

- Molecule 4 is 2-(N-MORPHOLINO)-ETHANESULFONIC ACID (three-letter code: MES) (formula:  $C_6H_{13}NO_4S$ ).



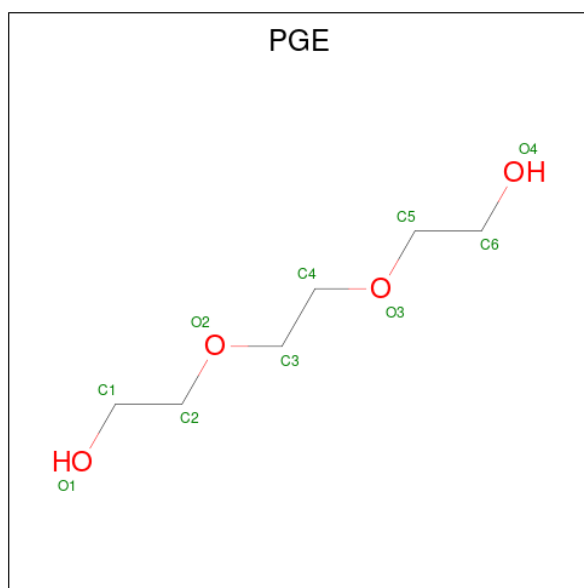
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	
			Total	C	N	O	S			
4	A	1	Total	12	6	1	4	1	0	0
4	A	1	Total	12	6	1	4	1	0	0

- Molecule 5 is 1,2-ETHANEDIOL (three-letter code: EDO) (formula:  $C_2H_6O_2$ ).



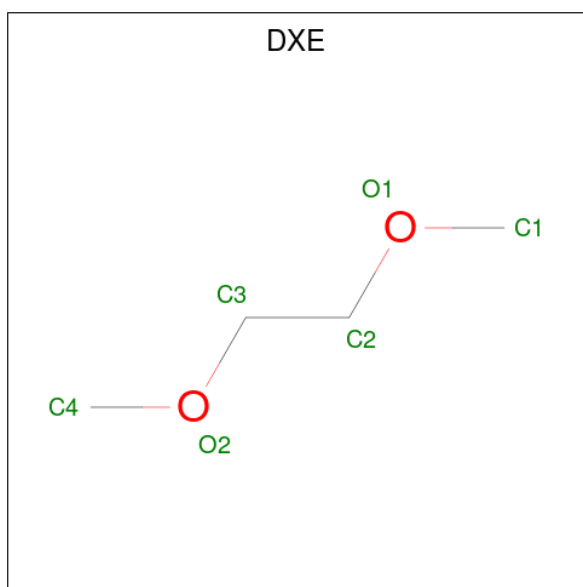
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	A	1	Total C O 4 2 2	0	0
5	A	1	Total C O 4 2 2	0	0
5	A	1	Total C O 4 2 2	0	0
5	A	1	Total C O 4 2 2	0	0
5	A	1	Total C O 4 2 2	0	0
5	A	1	Total C O 4 2 2	0	0
5	A	1	Total C O 4 2 2	0	0
5	A	1	Total C O 4 2 2	0	0

- Molecule 6 is TRIETHYLENE GLYCOL (three-letter code: PGE) (formula: C<sub>6</sub>H<sub>14</sub>O<sub>4</sub>).



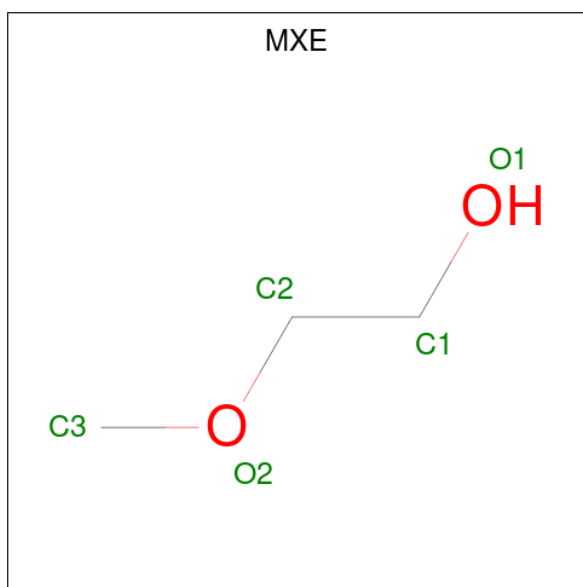
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
6	A	1	Total C O 10 6 4	0	0
6	A	1	Total C O 10 6 4	0	0

- Molecule 7 is 1,2-DIMETHOXYETHANE (three-letter code: DXE) (formula: C<sub>4</sub>H<sub>10</sub>O<sub>2</sub>).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
7	A	1	Total	C	O	0	0
			6	4	2		
7	A	1	Total	C	O	0	0
			6	4	2		
7	A	1	Total	C	O	0	0
			6	4	2		

- Molecule 8 is 2-METHOXYETHANOL (three-letter code: MXE) (formula: C<sub>3</sub>H<sub>8</sub>O<sub>2</sub>).



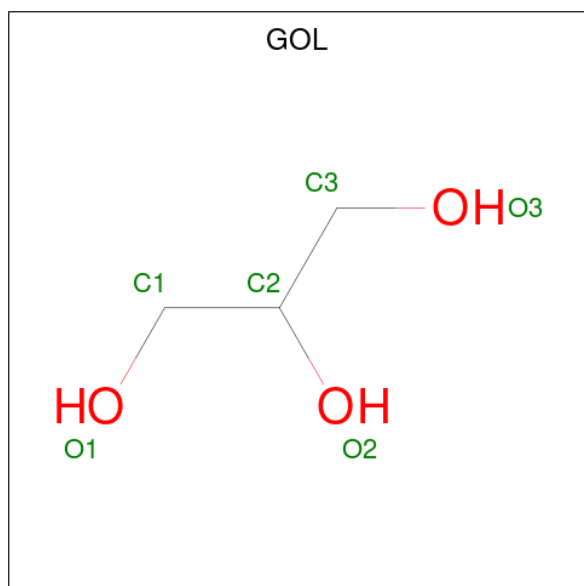
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
8	A	1	Total	C	O	0	0
			5	3	2		

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Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
			Total	C	O		
8	A	1	5	3	2	0	0

- Molecule 9 is GLYCEROL (three-letter code: GOL) (formula:  $C_3H_8O_3$ ).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
			Total	C	O		
9	A	1	6	3	3	0	0
9	A	1	6	3	3	0	0

- Molecule 10 is DI(HYDROXYETHYL)ETHER (three-letter code: PEG) (formula:  $C_4H_{10}O_3$ ).





Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
10	A	1	Total C O 7 4 3	0	0
10	A	1	Total C O 7 4 3	0	0

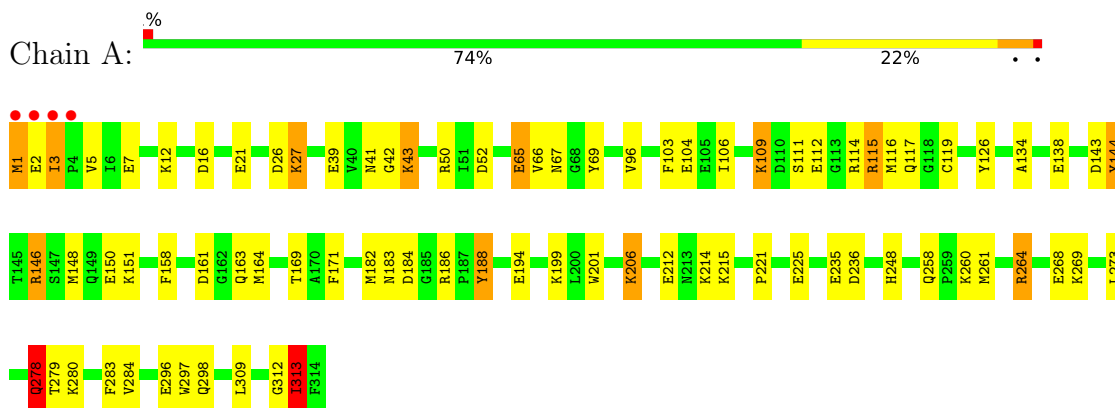
- Molecule 11 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
11	A	479	Total O 496 496	0	17

### 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: DIISOPROPYLFLUOROPHOSPHATASE



## 4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	43.11Å 81.85Å 86.47Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	10.00 – 0.85 10.00 – 0.85	Depositor EDS
% Data completeness (in resolution range)	90.8 (10.00-0.85) 87.0 (10.00-0.85)	Depositor EDS
$R_{merge}$	0.07	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	1.45 (at 0.85Å)	Xtrriage
Refinement program	SHELXL-97	Depositor
R, $R_{free}$	0.111 , 0.128 0.161 , (Not available)	Depositor DCC
$R_{free}$ test set	No test flags present.	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	6.3	Xtrriage
Anisotropy	0.013	Xtrriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.36 , 91.5	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.48$ , $\langle L^2 \rangle = 0.31$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
$F_o, F_c$ correlation	0.98	EDS
Total number of atoms	3295	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	12.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 5.91% 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 i

### 5.1 Standard geometry i

Bond lengths and bond angles in the following residue types are not validated in this section: GOL, DXE, MES, EDO, PGE, PEG, ME2, MXE, CA

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	1.53	33/2949 (1.1%)	1.67	55/3975 (1.4%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	2

All (33) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	264	ARG	NE-CZ	-23.31	1.02	1.33
1	A	278	GLN	CD-OE1	21.50	1.71	1.24
1	A	39	GLU	CD-OE1	20.33	1.48	1.25
1	A	150	GLU	CD-OE2	15.97	1.43	1.25
1	A	112	GLU	CD-OE2	-15.57	1.08	1.25
1	A	264	ARG	CZ-NH2	14.11	1.51	1.33
1	A	109	LYS	CD-CE	12.91	1.83	1.51
1	A	109	LYS	CE-NZ	12.57	1.80	1.49
1	A	27	LYS	CE-NZ	-11.46	1.20	1.49
1	A	150	GLU	CG-CD	-10.68	1.35	1.51
1	A	298	GLN	CD-OE1	-10.18	1.01	1.24
1	A	65	GLU	CD-OE2	10.08	1.36	1.25
1	A	183	ASN	CG-ND2	9.07	1.55	1.32
1	A	264	ARG	CD-NE	8.73	1.61	1.46
1	A	112	GLU	CB-CG	7.18	1.65	1.52
1	A	42	GLY	C-O	-7.12	1.12	1.23
1	A	104	GLU	CD-OE1	6.78	1.33	1.25
1	A	39	GLU	CD-OE2	-6.61	1.18	1.25

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	235	GLU	CG-CD	6.59	1.61	1.51
1	A	278	GLN	CG-CD	-6.56	1.35	1.51
1	A	104	GLU	CG-CD	-6.50	1.42	1.51
1	A	183	ASN	CG-OD1	-6.44	1.09	1.24
1	A	199	LYS	CE-NZ	-6.08	1.33	1.49
1	A	52	ASP	CG-OD1	-5.89	1.11	1.25
1	A	183	ASN	CB-CG	5.58	1.63	1.51
1	A	112	GLU	CA-CB	5.57	1.66	1.53
1	A	111	SER	CA-CB	5.44	1.61	1.52
1	A	41	ASN	C-N	5.40	1.42	1.33
1	A	67	ASN	CG-ND2	5.39	1.46	1.32
1	A	16	ASP	CG-OD2	5.27	1.37	1.25
1	A	161	ASP	CB-CG	-5.10	1.41	1.51
1	A	43	LYS	CG-CD	-5.00	1.35	1.52
1	A	39	GLU	CG-CD	-5.00	1.44	1.51

All (55) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	264	ARG	NE-CZ-NH1	25.43	133.02	120.30
1	A	43	LYS	CG-CD-CE	19.11	169.22	111.90
1	A	186[A]	ARG	NE-CZ-NH2	17.94	129.27	120.30
1	A	186[B]	ARG	NE-CZ-NH2	17.94	129.27	120.30
1	A	115[A]	ARG	CD-NE-CZ	16.26	146.36	123.60
1	A	115[B]	ARG	CD-NE-CZ	16.26	146.36	123.60
1	A	186[A]	ARG	CD-NE-CZ	15.45	145.23	123.60
1	A	186[B]	ARG	CD-NE-CZ	15.45	145.23	123.60
1	A	115[A]	ARG	NE-CZ-NH2	15.15	127.88	120.30
1	A	115[B]	ARG	NE-CZ-NH2	15.15	127.88	120.30
1	A	43	LYS	CD-CE-NZ	14.61	145.29	111.70
1	A	264	ARG	NH1-CZ-NH2	-10.47	107.88	119.40
1	A	112	GLU	CG-CD-OE1	-10.47	97.36	118.30
1	A	114[A]	ARG	CD-NE-CZ	9.77	137.28	123.60
1	A	114[B]	ARG	CD-NE-CZ	9.77	137.28	123.60
1	A	1[A]	MET	C-N-CA	8.59	143.19	121.70
1	A	1[B]	MET	C-N-CA	8.59	143.19	121.70
1	A	143[A]	ASP	CB-CG-OD1	-8.43	110.72	118.30
1	A	143[B]	ASP	CB-CG-OD1	-8.43	110.72	118.30
1	A	186[A]	ARG	NE-CZ-NH1	-8.41	116.09	120.30
1	A	186[B]	ARG	NE-CZ-NH1	-8.41	116.09	120.30
1	A	236	ASP	CB-CG-OD2	-7.96	111.13	118.30
1	A	169[A]	THR	CA-CB-CG2	-7.86	101.40	112.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	169[B]	THR	CA-CB-CG2	-7.86	101.40	112.40
1	A	150	GLU	OE1-CD-OE2	-7.83	113.90	123.30
1	A	112	GLU	OE1-CD-OE2	7.76	132.61	123.30
1	A	182	MET	CG-SD-CE	-7.60	88.03	100.20
1	A	146[A]	ARG	CB-CA-C	-7.53	95.33	110.40
1	A	146[B]	ARG	CB-CA-C	-7.53	95.33	110.40
1	A	150	GLU	CG-CD-OE1	6.70	131.69	118.30
1	A	235	GLU	OE1-CD-OE2	6.46	131.06	123.30
1	A	126	TYR	CB-CG-CD2	6.46	124.87	121.00
1	A	184	ASP	CB-CG-OD2	-6.41	112.53	118.30
1	A	115[A]	ARG	NH1-CZ-NH2	-6.39	112.37	119.40
1	A	115[B]	ARG	NH1-CZ-NH2	-6.39	112.37	119.40
1	A	114[A]	ARG	NE-CZ-NH1	6.19	123.39	120.30
1	A	114[B]	ARG	NE-CZ-NH1	6.19	123.39	120.30
1	A	188	TYR	CB-CG-CD1	-6.13	117.33	121.00
1	A	52	ASP	CB-CG-OD1	5.80	123.52	118.30
1	A	309	LEU	CB-CG-CD2	5.79	120.84	111.00
1	A	27	LYS	CD-CE-NZ	5.74	124.91	111.70
1	A	188	TYR	CD1-CG-CD2	5.70	124.17	117.90
1	A	114[A]	ARG	NE-CZ-NH2	-5.64	117.48	120.30
1	A	114[B]	ARG	NE-CZ-NH2	-5.64	117.48	120.30
1	A	184	ASP	CB-CG-OD1	5.51	123.26	118.30
1	A	111	SER	O-C-N	-5.36	114.12	122.70
1	A	26	ASP	CB-CG-OD2	-5.13	113.68	118.30
1	A	225	GLU	OE1-CD-OE2	-5.09	117.19	123.30
1	A	284[A]	VAL	CG1-CB-CG2	-5.07	102.80	110.90
1	A	284[B]	VAL	CG1-CB-CG2	-5.07	102.80	110.90
1	A	188	TYR	CG-CD2-CE2	-5.06	117.25	121.30
1	A	143[A]	ASP	CB-CG-OD2	5.06	122.85	118.30
1	A	143[B]	ASP	CB-CG-OD2	5.06	122.85	118.30
1	A	12	LYS	CB-CG-CD	5.06	124.75	111.60
1	A	144	TYR	CB-CG-CD1	-5.02	117.99	121.00

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	188	TYR	Sidechain
1	A	278	GLN	Sidechain

## 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	2657	0	2566	139	0
2	A	2	0	0	0	0
3	A	10	0	16	11	0
4	A	24	0	26	17	0
5	A	32	0	48	33	0
6	A	20	0	28	16	0
7	A	18	0	30	28	0
8	A	10	0	16	37	0
9	A	12	0	9	0	0
10	A	14	0	20	7	0
11	A	496	0	0	57	0
All	All	3295	0	2759	191	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 34.

All (191) 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:109:LYS:CD	1:A:109:LYS:CE	1.83	1.57
1:A:109:LYS:CE	1:A:109:LYS:NZ	1.80	1.41
1:A:43:LYS:NZ	4:A:411:MES:H31	1.34	1.37
1:A:278:GLN:OE1	1:A:278:GLN:CD	1.71	1.28
1:A:264:ARG:HG2	11:A:1047:HOH:O	1.19	1.26
1:A:50[C]:ARG:CZ	11:A:1039:HOH:O	1.80	1.25
1:A:146[B]:ARG:NH2	11:A:948:HOH:O	1.70	1.23
8:A:452:MXE:H11	11:A:694:HOH:O	1.06	1.23
1:A:264:ARG:CG	11:A:1047:HOH:O	1.77	1.21
1:A:2[B]:GLU:CA	11:A:861:HOH:O	1.90	1.19
1:A:214[B]:LYS:CE	11:A:694:HOH:O	1.87	1.18
1:A:115[B]:ARG:HD3	5:A:423:EDO:O2	1.39	1.17
1:A:96[A]:VAL:HG23	1:A:106[A]:ILE:HD11	1.16	1.16
1:A:296:GLU:HB2	7:A:443:DXE:H42	1.27	1.13
7:A:441:DXE:C4	8:A:451:MXE:H31	1.81	1.11
1:A:50[A]:ARG:NH1	11:A:1114:HOH:O	1.81	1.10

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:151[A]:LYS:HZ3	8:A:452:MXE:H31	1.13	1.10
1:A:2[B]:GLU:CA	1:A:3[B]:ILE:HB	1.82	1.09
1:A:260[B]:LYS:NZ	5:A:427:EDO:H22	1.64	1.09
1:A:215[C]:LYS:HE2	11:A:1046:HOH:O	0.90	1.08
8:A:452:MXE:C1	11:A:694:HOH:O	1.68	1.08
7:A:441:DXE:H41	8:A:451:MXE:H31	1.33	1.05
1:A:151[B]:LYS:HE3	8:A:452:MXE:H32	1.36	1.05
1:A:312[B]:GLY:C	1:A:313[B]:ILE:HG13	1.74	1.03
1:A:280[B]:LYS:HE2	6:A:434:PGE:O3	1.60	1.01
1:A:264:ARG:HH11	3:A:471:ME2:H51	1.21	1.01
1:A:296:GLU:O	7:A:443:DXE:H41	1.58	1.00
1:A:214[B]:LYS:HE2	11:A:694:HOH:O	1.50	0.98
1:A:296:GLU:O	7:A:443:DXE:C4	2.09	0.98
1:A:43:LYS:HZ3	4:A:411:MES:H31	1.18	0.98
1:A:50[A]:ARG:NH2	11:A:1040:HOH:O	1.94	0.97
1:A:43:LYS:NZ	4:A:411:MES:C3	2.27	0.96
5:A:425:EDO:H21	11:A:876:HOH:O	1.63	0.96
1:A:50[C]:ARG:NH2	11:A:1039:HOH:O	1.84	0.96
1:A:264:ARG:CD	11:A:1047:HOH:O	2.02	0.95
1:A:312[B]:GLY:O	1:A:313[B]:ILE:HG13	1.64	0.95
1:A:96[A]:VAL:CG2	1:A:106[A]:ILE:HD11	1.98	0.94
1:A:50[A]:ARG:CZ	11:A:1040:HOH:O	2.19	0.90
1:A:43:LYS:HZ2	4:A:411:MES:H31	1.08	0.89
1:A:151[B]:LYS:HE3	8:A:452:MXE:C3	2.02	0.88
1:A:151[A]:LYS:NZ	8:A:452:MXE:H31	1.86	0.88
1:A:115[B]:ARG:CD	5:A:423:EDO:O2	2.22	0.88
3:A:471:ME2:O2	3:A:471:ME2:H62	1.74	0.86
1:A:65:GLU:O	4:A:412:MES:H61	1.76	0.85
1:A:214[B]:LYS:NZ	11:A:694:HOH:O	2.03	0.84
1:A:116[A]:MET:HE3	1:A:164:MET:HG2	1.59	0.84
1:A:260[B]:LYS:HZ2	5:A:427:EDO:H22	1.43	0.84
1:A:215[C]:LYS:CE	11:A:1046:HOH:O	1.65	0.83
1:A:296:GLU:CB	7:A:443:DXE:H42	2.07	0.82
1:A:43:LYS:HZ2	4:A:411:MES:C3	1.88	0.82
5:A:428:EDO:C1	11:A:1082:HOH:O	2.28	0.82
1:A:214[A]:LYS:HE3	11:A:670:HOH:O	1.77	0.82
1:A:171[B]:PHE:CD2	8:A:452:MXE:H21	2.15	0.81
1:A:312[B]:GLY:O	1:A:313[B]:ILE:CG1	2.29	0.80
1:A:264:ARG:NH1	3:A:471:ME2:H51	1.96	0.80
7:A:443:DXE:H43	11:A:770:HOH:O	1.80	0.79
6:A:434:PGE:C6	11:A:544:HOH:O	2.29	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:A:423:EDO:O1	11:A:959:HOH:O	1.53	0.78
1:A:116[A]:MET:CE	1:A:164:MET:HG2	2.13	0.78
1:A:151[B]:LYS:CE	8:A:452:MXE:C3	2.62	0.78
1:A:106[B]:ILE:HD12	10:A:461:PEG:C4	2.15	0.77
1:A:109:LYS:CE	1:A:109:LYS:CG	2.61	0.77
1:A:312[B]:GLY:C	1:A:313[B]:ILE:CG1	2.52	0.77
1:A:103:PHE:CZ	4:A:412:MES:H52	2.20	0.77
7:A:441:DXE:C1	8:A:452:MXE:H31	2.15	0.77
1:A:260[B]:LYS:HZ3	5:A:427:EDO:H22	1.46	0.77
7:A:441:DXE:H41	8:A:451:MXE:C3	2.12	0.77
5:A:428:EDO:H12	11:A:1082:HOH:O	1.84	0.76
1:A:43:LYS:HZ3	4:A:411:MES:C3	1.94	0.76
1:A:163[B]:GLN:NE2	11:A:978:HOH:O	2.19	0.75
1:A:268[A]:GLU:OE1	11:A:1014:HOH:O	2.04	0.74
5:A:424:EDO:H11	6:A:433:PGE:H42	1.70	0.74
1:A:151[B]:LYS:HE2	8:A:452:MXE:H31	1.69	0.74
7:A:441:DXE:H11	8:A:452:MXE:H31	1.72	0.72
6:A:434:PGE:H62	11:A:544:HOH:O	1.89	0.72
1:A:50[A]:ARG:NE	11:A:1040:HOH:O	2.22	0.72
1:A:151[A]:LYS:HZ3	7:A:441:DXE:H11	1.54	0.72
1:A:103:PHE:CE1	4:A:412:MES:H52	2.24	0.71
8:A:452:MXE:O1	11:A:670:HOH:O	2.07	0.71
8:A:452:MXE:H33	11:A:531:HOH:O	1.89	0.71
1:A:260[A]:LYS:HE3	11:A:942:HOH:O	1.88	0.71
5:A:428:EDO:H11	11:A:1082:HOH:O	1.90	0.70
7:A:441:DXE:O1	8:A:452:MXE:C3	2.40	0.69
5:A:421:EDO:H22	11:A:859:HOH:O	1.90	0.69
1:A:221:PRO:HA	5:A:425:EDO:H11	1.74	0.69
6:A:433:PGE:H5	11:A:644:HOH:O	1.92	0.68
1:A:260[B]:LYS:CE	5:A:427:EDO:H22	2.24	0.68
1:A:151[B]:LYS:CE	8:A:452:MXE:H32	2.19	0.67
1:A:171[B]:PHE:CD2	8:A:452:MXE:C2	2.78	0.67
1:A:151[B]:LYS:CE	8:A:452:MXE:H31	2.23	0.67
1:A:65:GLU:HG3	10:A:462:PEG:H42	1.76	0.66
1:A:214[A]:LYS:NZ	8:A:452:MXE:H11	2.09	0.66
1:A:258:GLN:NE2	5:A:425:EDO:O1	2.27	0.66
1:A:248:HIS:NE2	3:A:471:ME2:H52	2.10	0.66
1:A:151[A]:LYS:HZ3	8:A:452:MXE:C3	2.01	0.66
1:A:260[B]:LYS:NZ	5:A:427:EDO:C2	2.53	0.66
1:A:115[B]:ARG:HD2	1:A:138[B]:GLU:OE2	1.95	0.66
1:A:106[B]:ILE:CD1	10:A:461:PEG:C4	2.75	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:258:GLN:H	5:A:427:EDO:H11	1.61	0.65
5:A:426:EDO:H11	6:A:433:PGE:O4	1.97	0.64
7:A:441:DXE:C1	8:A:452:MXE:C3	2.76	0.64
5:A:424:EDO:H11	6:A:433:PGE:C4	2.29	0.63
1:A:69:TYR:CD1	4:A:411:MES:H81	2.33	0.62
6:A:434:PGE:H42	11:A:735:HOH:O	1.98	0.62
1:A:260[B]:LYS:HZ2	5:A:427:EDO:C2	2.11	0.62
1:A:215[C]:LYS:NZ	11:A:1046:HOH:O	2.10	0.61
7:A:441:DXE:H11	8:A:452:MXE:C3	2.31	0.60
1:A:151[A]:LYS:HZ3	7:A:441:DXE:C1	2.14	0.59
7:A:441:DXE:H43	8:A:451:MXE:H31	1.82	0.59
1:A:279:THR:HB	6:A:434:PGE:H2	1.84	0.58
5:A:422:EDO:H21	11:A:517:HOH:O	2.03	0.58
1:A:66:VAL:HG22	4:A:412:MES:H22	1.84	0.58
1:A:264:ARG:NH1	11:A:1047:HOH:O	2.37	0.57
1:A:115[B]:ARG:HD3	5:A:423:EDO:C2	2.33	0.57
8:A:451:MXE:H33	11:A:859:HOH:O	2.05	0.57
1:A:106[B]:ILE:CD1	10:A:461:PEG:H41	2.36	0.56
5:A:428:EDO:O2	11:A:1126:HOH:O	1.86	0.56
4:A:412:MES:O2S	11:A:1129:HOH:O	2.17	0.56
5:A:425:EDO:C2	11:A:876:HOH:O	2.37	0.56
1:A:258:GLN:N	5:A:427:EDO:H11	2.21	0.55
8:A:452:MXE:H12	11:A:694:HOH:O	1.67	0.55
1:A:264:ARG:HH11	3:A:471:ME2:C5	2.08	0.55
1:A:214[B]:LYS:HZ3	7:A:441:DXE:H41	1.72	0.54
7:A:443:DXE:H43	11:A:532:HOH:O	2.08	0.54
1:A:296:GLU:O	7:A:443:DXE:H42	2.03	0.54
1:A:214[B]:LYS:HZ3	7:A:441:DXE:C4	2.21	0.54
1:A:69:TYR:CE1	4:A:411:MES:H81	2.44	0.53
5:A:421:EDO:C2	11:A:859:HOH:O	2.53	0.53
7:A:441:DXE:C1	8:A:452:MXE:O2	2.56	0.53
1:A:214[B]:LYS:HZ1	8:A:452:MXE:C1	2.22	0.53
1:A:258:GLN:HE22	5:A:425:EDO:C1	2.23	0.52
3:A:471:ME2:O2	3:A:471:ME2:C6	2.52	0.52
1:A:7[B]:GLU:OE1	3:A:471:ME2:H21	2.09	0.52
1:A:106[B]:ILE:HD12	10:A:461:PEG:H42	1.90	0.52
1:A:248:HIS:NE2	3:A:471:ME2:C5	2.72	0.52
1:A:2[B]:GLU:N	11:A:861:HOH:O	2.28	0.51
1:A:214[A]:LYS:HZ1	8:A:452:MXE:H11	1.75	0.51
1:A:264:ARG:CZ	11:A:1047:HOH:O	2.59	0.50
1:A:148[A]:MET:HG3	6:A:433:PGE:O4	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:451:MXE:C3	11:A:859:HOH:O	2.61	0.49
1:A:27:LYS:NZ	11:A:862[B]:HOH:O	2.45	0.49
7:A:441:DXE:H13	11:A:977:HOH:O	2.12	0.49
1:A:206[B]:LYS:HE3	1:A:212[B]:GLU:OE1	2.13	0.49
1:A:151[A]:LYS:NZ	8:A:452:MXE:C3	2.68	0.48
1:A:5:VAL:O	3:A:471:ME2:H13	2.12	0.48
1:A:43:LYS:CE	4:A:411:MES:H71	2.44	0.47
1:A:296:GLU:CA	7:A:443:DXE:H42	2.45	0.47
1:A:258:GLN:H	5:A:427:EDO:C1	2.25	0.47
1:A:116[A]:MET:HE1	1:A:164:MET:HG2	1.94	0.47
1:A:116[A]:MET:HE2	1:A:116[A]:MET:HB2	1.73	0.46
5:A:422:EDO:C1	11:A:517:HOH:O	2.63	0.46
1:A:297:TRP:O	7:A:443:DXE:H13	2.16	0.46
7:A:443:DXE:H32	11:A:770:HOH:O	2.15	0.46
1:A:65:GLU:HG3	10:A:462:PEG:C4	2.45	0.45
1:A:258:GLN:O	5:A:427:EDO:H21	2.16	0.45
1:A:269:LYS:HZ3	7:A:442:DXE:C1	2.29	0.44
7:A:441:DXE:C1	11:A:977:HOH:O	2.64	0.44
1:A:50[C]:ARG:NH1	11:A:1042:HOH:O	1.87	0.44
1:A:7[B]:GLU:HG3	3:A:471:ME2:H12	1.98	0.44
1:A:106[B]:ILE:CD1	10:A:461:PEG:H42	2.45	0.44
6:A:434:PGE:H62	6:A:434:PGE:H4	1.68	0.44
1:A:144:TYR:OH	1:A:146[A]:ARG:HD3	2.18	0.44
1:A:69:TYR:CE1	4:A:411:MES:H51	2.53	0.43
1:A:296:GLU:OE2	6:A:434:PGE:H22	2.19	0.43
1:A:201:TRP:CH2	7:A:441:DXE:H21	2.54	0.43
1:A:194:GLU:OE1	8:A:452:MXE:C3	2.68	0.42
1:A:194:GLU:OE1	8:A:452:MXE:H32	2.19	0.42
1:A:158:PHE:CE2	5:A:422:EDO:H12	2.54	0.42
1:A:163[B]:GLN:CD	11:A:978:HOH:O	2.55	0.42
1:A:171[B]:PHE:CE2	8:A:452:MXE:C2	3.03	0.42
1:A:261[B]:MET:HB2	1:A:261[B]:MET:HE2	1.65	0.41
1:A:212[A]:GLU:HG3	11:A:997:HOH:O	2.19	0.41
1:A:260[B]:LYS:HD3	5:A:427:EDO:C2	2.51	0.41
1:A:103:PHE:O	4:A:412:MES:H72	2.21	0.41
3:A:471:ME2:C5	11:A:1047:HOH:O	2.68	0.41
1:A:116[A]:MET:HG3	1:A:117:GLN:N	2.36	0.40
1:A:119:CYS:HA	1:A:134:ALA:HA	2.03	0.40
4:A:412:MES:H81	4:A:412:MES:H51	1.27	0.40
5:A:426:EDO:C1	6:A:433:PGE:O4	2.67	0.40

There are no symmetry-related clashes.

## 5.3 Torsion angles [i](#)

### 5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	A	360/314 (115%)	343 (95%)	13 (4%)	4 (1%)	14 2

All (4) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	3[A]	ILE
1	A	3[B]	ILE
1	A	313[A]	ILE
1	A	313[B]	ILE

### 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	307/263 (117%)	302 (98%)	5 (2%)	62 27

All (5) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	21	GLU
1	A	206[A]	LYS
1	A	206[B]	LYS
1	A	313[A]	ILE
1	A	313[B]	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (2) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	28	ASN
1	A	258	GLN

### 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 24 ligands modelled in this entry, 2 are monoatomic - leaving 22 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$
9	GOL	A	403	1	5,5,5	3.65	3 (60%)	5,5,5	1.09	1 (20%)
5	EDO	A	421	-	3,3,3	0.54	0	2,2,2	0.61	0
3	ME2	A	471	-	9,9,9	0.95	0	8,8,8	1.09	1 (12%)
5	EDO	A	423	-	3,3,3	0.92	0	2,2,2	1.80	1 (50%)
4	MES	A	411	-	12,12,12	2.32	5 (41%)	14,16,16	4.37	9 (64%)
7	DXE	A	442	-	5,5,5	0.56	0	4,4,4	2.93	3 (75%)
5	EDO	A	426	-	3,3,3	1.20	0	2,2,2	0.64	0
10	PEG	A	462	-	6,6,6	1.19	0	5,5,5	2.17	2 (40%)
5	EDO	A	424	-	3,3,3	0.94	0	2,2,2	0.03	0
7	DXE	A	443	-	5,5,5	0.68	0	4,4,4	1.82	1 (25%)
6	PGE	A	434	-	9,9,9	1.06	0	8,8,8	2.20	5 (62%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
8	MXE	A	452	7	4,4,4	0.47	0	3,3,3	3.47	2 (66%)
5	EDO	A	427	-	3,3,3	0.52	0	2,2,2	1.95	1 (50%)
6	PGE	A	433	-	9,9,9	1.00	0	8,8,8	1.76	2 (25%)
7	DXE	A	441	8	5,5,5	0.94	0	4,4,4	1.13	0
4	MES	A	412	-	12,12,12	1.74	4 (33%)	14,16,16	2.58	7 (50%)
9	GOL	A	401	-	5,5,5	4.01	3 (60%)	5,5,5	2.45	2 (40%)
10	PEG	A	461	-	6,6,6	0.69	0	5,5,5	3.04	3 (60%)
5	EDO	A	422	-	3,3,3	0.64	0	2,2,2	2.34	2 (100%)
8	MXE	A	451	-	4,4,4	0.93	0	3,3,3	4.67	2 (66%)
5	EDO	A	428	-	3,3,3	0.90	0	2,2,2	0.51	0
5	EDO	A	425	-	3,3,3	0.73	0	2,2,2	0.78	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
9	GOL	A	403	1	-	0/4/4/4	-
5	EDO	A	421	-	-	0/1/1/1	-
3	ME2	A	471	-	-	6/7/7/7	-
5	EDO	A	423	-	-	1/1/1/1	-
4	MES	A	411	-	-	0/6/14/14	0/1/1/1
7	DXE	A	442	-	-	1/3/3/3	-
5	EDO	A	426	-	-	0/1/1/1	-
10	PEG	A	462	-	-	3/4/4/4	-
5	EDO	A	424	-	-	0/1/1/1	-
7	DXE	A	443	-	-	2/3/3/3	-
6	PGE	A	434	-	-	7/7/7/7	-
8	MXE	A	452	7	-	1/2/2/2	-
5	EDO	A	427	-	-	1/1/1/1	-
6	PGE	A	433	-	-	5/7/7/7	-
7	DXE	A	441	8	-	2/3/3/3	-
4	MES	A	412	-	-	0/6/14/14	0/1/1/1
9	GOL	A	401	-	-	2/4/4/4	-
10	PEG	A	461	-	-	3/4/4/4	-
5	EDO	A	422	-	-	0/1/1/1	-
8	MXE	A	451	-	-	2/2/2/2	-
5	EDO	A	428	-	-	0/1/1/1	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
5	EDO	A	425	-	-	1/1/1/1	-

All (15) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
9	A	401	GOL	C3-C2	-7.52	1.20	1.51
9	A	403	GOL	C3-C2	-6.41	1.25	1.51
4	A	411	MES	O2S-S	4.32	1.57	1.45
4	A	411	MES	C8-S	3.96	1.83	1.77
4	A	412	MES	C5-N4	3.61	1.56	1.46
9	A	403	GOL	O3-C3	3.54	1.57	1.42
4	A	412	MES	O1S-S	-3.31	1.35	1.45
9	A	401	GOL	O1-C1	3.26	1.56	1.42
4	A	411	MES	C7-N4	3.07	1.54	1.47
4	A	411	MES	O3S-S	-2.90	1.37	1.47
9	A	403	GOL	O1-C1	2.90	1.54	1.42
9	A	401	GOL	O3-C3	2.89	1.54	1.42
4	A	412	MES	C3-N4	2.23	1.53	1.46
4	A	412	MES	C7-N4	2.16	1.52	1.47
4	A	411	MES	C3-N4	2.07	1.52	1.46

All (44) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	A	411	MES	O1S-S-C8	-8.87	96.24	106.92
4	A	411	MES	O3S-S-O1S	8.24	131.41	111.27
4	A	411	MES	O3S-S-C8	-6.75	94.85	105.77
8	A	451	MXE	C3-O2-C2	6.59	153.96	112.96
4	A	412	MES	C2-C3-N4	-5.78	101.34	110.10
4	A	411	MES	O2S-S-C8	-5.14	100.72	106.92
8	A	452	MXE	C3-O2-C2	4.84	143.07	112.96
10	A	461	PEG	O2-C2-C1	4.81	131.21	110.07
10	A	462	PEG	O2-C3-C4	4.40	129.42	110.07
8	A	451	MXE	O1-C1-C2	4.35	137.04	111.81
4	A	412	MES	C7-N4-C5	-4.29	100.27	111.23
4	A	411	MES	C2-C3-N4	-4.08	103.91	110.10
6	A	434	PGE	O2-C2-C1	3.98	127.56	110.07
9	A	401	GOL	O2-C2-C3	3.83	126.00	109.12
7	A	442	DXE	O1-C2-C3	3.76	139.72	111.07
6	A	433	PGE	C5-O3-C4	3.75	129.52	113.29
8	A	452	MXE	O1-C1-C2	3.50	132.13	111.81
7	A	442	DXE	C1-O1-C2	3.49	134.69	112.96

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
10	A	461	PEG	C3-O2-C2	3.16	126.97	113.29
9	A	401	GOL	O3-C3-C2	3.05	124.84	110.20
10	A	461	PEG	O2-C3-C4	2.91	122.86	110.07
4	A	411	MES	C7-N4-C5	-2.89	103.86	111.23
4	A	411	MES	C7-N4-C3	-2.86	103.92	111.23
7	A	442	DXE	O2-C3-C2	2.78	132.24	111.07
7	A	443	DXE	O1-C2-C3	2.71	131.76	111.07
4	A	411	MES	C6-C5-N4	2.71	114.22	110.10
4	A	412	MES	C5-N4-C3	-2.65	102.86	108.83
4	A	412	MES	O2S-S-C8	-2.65	103.73	106.92
3	A	471	ME2	O1-C2-C3	2.50	130.16	111.07
6	A	434	PGE	O3-C4-C3	2.49	121.63	110.39
4	A	412	MES	O3S-S-C8	2.43	109.70	105.77
5	A	422	EDO	O1-C1-C2	2.43	129.36	111.91
6	A	433	PGE	O2-C2-C1	2.42	120.69	110.07
5	A	427	EDO	O1-C1-C2	2.33	128.70	111.91
6	A	434	PGE	O3-C5-C6	2.28	120.09	110.07
4	A	412	MES	O1-C6-C5	-2.28	106.78	111.80
4	A	412	MES	O1S-S-C8	2.27	109.65	106.92
5	A	423	EDO	O1-C1-C2	2.25	128.12	111.91
5	A	422	EDO	O2-C2-C1	2.25	128.09	111.91
6	A	434	PGE	O1-C1-C2	2.22	124.67	111.81
6	A	434	PGE	O2-C3-C4	2.17	120.19	110.39
4	A	411	MES	O3S-S-O2S	-2.17	105.97	111.27
9	A	403	GOL	O2-C2-C3	2.13	118.51	109.12
10	A	462	PEG	C3-O2-C2	-2.03	104.50	113.29

There are no chirality outliers.

All (37) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
9	A	401	GOL	O1-C1-C2-C3
10	A	462	PEG	C1-C2-O2-C3
3	A	471	ME2	C2-C3-O2-C4
6	A	434	PGE	C6-C5-O3-C4
7	A	442	DXE	O1-C2-C3-O2
6	A	433	PGE	O2-C3-C4-O3
9	A	401	GOL	O2-C2-C3-O3
6	A	434	PGE	C1-C2-O2-C3
6	A	433	PGE	O1-C1-C2-O2
6	A	434	PGE	O3-C5-C6-O4
8	A	452	MXE	O1-C1-C2-O2

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Mol	Chain	Res	Type	Atoms
10	A	461	PEG	O2-C3-C4-O4
6	A	434	PGE	O2-C3-C4-O3
5	A	423	EDO	O1-C1-C2-O2
5	A	427	EDO	O1-C1-C2-O2
7	A	441	DXE	O1-C2-C3-O2
3	A	471	ME2	O2-C4-C5-O3
7	A	443	DXE	O1-C2-C3-O2
6	A	434	PGE	O1-C1-C2-O2
10	A	461	PEG	O1-C1-C2-O2
6	A	434	PGE	C4-C3-O2-C2
10	A	462	PEG	O1-C1-C2-O2
6	A	433	PGE	C4-C3-O2-C2
6	A	434	PGE	C3-C4-O3-C5
6	A	433	PGE	C6-C5-O3-C4
10	A	462	PEG	O2-C3-C4-O4
7	A	441	DXE	C3-C2-O1-C1
7	A	443	DXE	C2-C3-O2-C4
3	A	471	ME2	C3-C2-O1-C1
3	A	471	ME2	C4-C5-O3-C6
10	A	461	PEG	C1-C2-O2-C3
8	A	451	MXE	C1-C2-O2-C3
5	A	425	EDO	O1-C1-C2-O2
3	A	471	ME2	C7-C6-O3-C5
6	A	433	PGE	C3-C4-O3-C5
3	A	471	ME2	O1-C2-C3-O2
8	A	451	MXE	O1-C1-C2-O2

There are no ring outliers.

20 monomers are involved in 135 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	A	421	EDO	2	0
3	A	471	ME2	11	0
5	A	423	EDO	4	0
4	A	411	MES	10	0
7	A	442	DXE	1	0
5	A	426	EDO	2	0
10	A	462	PEG	2	0
5	A	424	EDO	2	0
7	A	443	DXE	10	0
6	A	434	PGE	10	0
8	A	452	MXE	29	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	A	427	EDO	11	0
6	A	433	PGE	6	0
7	A	441	DXE	17	0
4	A	412	MES	7	0
10	A	461	PEG	5	0
5	A	422	EDO	3	0
8	A	451	MXE	8	0
5	A	428	EDO	4	0
5	A	425	EDO	5	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	314/314 (100%)	-0.17	4 (1%) 77 61	4, 8, 18, 42	21 (6%)

All (4) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	1[A]	MET	7.4
1	A	2[A]	GLU	7.1
1	A	3[A]	ILE	4.0
1	A	4	PRO	2.1

### 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
10	PEG	A	462	7/7	0.35	0.36	39,42,50,53	7
5	EDO	A	428	4/4	0.55	0.22	56,67,75,78	0
7	DXE	A	442	6/6	0.68	0.20	15,30,31,34	6

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
10	PEG	A	461	7/7	0.70	0.15	24,37,50,53	7
7	DXE	A	443	6/6	0.70	0.34	22,42,50,51	5
5	EDO	A	421	4/4	0.72	0.13	24,26,33,35	4
3	ME2	A	471	10/10	0.74	0.23	23,34,40,41	10
5	EDO	A	426	4/4	0.76	0.15	23,23,29,56	4
6	PGE	A	433	10/10	0.77	0.18	16,25,29,30	10
5	EDO	A	423	4/4	0.80	0.16	18,30,30,40	4
9	GOL	A	401	6/6	0.81	0.13	12,18,22,24	0
4	MES	A	412	12/12	0.81	0.22	16,34,44,45	12
7	DXE	A	441	6/6	0.81	0.14	14,24,26,29	6
4	MES	A	411	12/12	0.82	0.18	10,24,31,32	12
8	MXE	A	451	5/5	0.85	0.14	13,16,24,25	5
5	EDO	A	425	4/4	0.85	0.10	22,24,29,41	4
5	EDO	A	427	4/4	0.86	0.15	22,27,32,37	4
9	GOL	A	403	6/6	0.86	0.14	10,13,16,19	6
6	PGE	A	434	10/10	0.88	0.17	12,22,34,36	10
8	MXE	A	452	5/5	0.90	0.13	13,15,22,25	5
5	EDO	A	424	4/4	0.93	0.13	14,16,22,25	0
5	EDO	A	422	4/4	0.95	0.11	8,11,16,24	4
2	CA	A	491	1/1	1.00	0.02	4,4,4,4	0
2	CA	A	492	1/1	1.00	0.02	4,4,4,4	0

## 6.5 Other polymers [i](#)

There are no such residues in this entry.