



wwPDB X-ray Structure Validation Summary Report ⓘ

Mar 10, 2026 – 12:59 PM UTC

PDB ID : 6BZI / pdb_00006bzi
Title : Crystal structure of halogenase PltM in complex with ethyl mercury and mercury
Authors : Pang, A.H.; Garneau-Tsodikova, S.; Tsodikov, O.V.
Deposited on : 2017-12-24
Resolution : 2.40 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

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>.

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

MolProbity	:	4-5-2 with Phenix2.0
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	2.0
EDS	:	3.0
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4	:	9.0.010 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.49

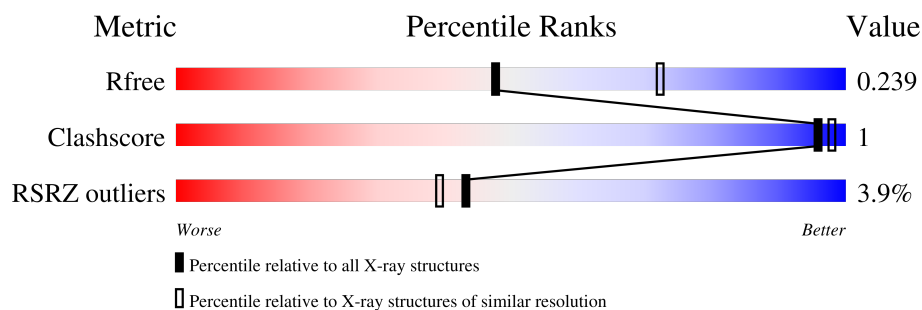
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.40 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	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	180053	4912 (2.40-2.40)
Clashscore	190562	5391 (2.40-2.40)
RSRZ outliers	180081	4916 (2.40-2.40)

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 $\leq 5\%$. 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	522	3% 90% 7%
1	B	522	4% 93% 5%
1	C	522	2% 92% 5%
1	D	522	4% 91% 6%

2 Entry composition

There are 6 unique types of molecules in this entry. The entry contains 16117 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 Halogenase PltM.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	487	Total	C	N	O	S	0	0	0
			3844	2455	677	701	11			
1	B	495	Total	C	N	O	S	0	2	0
			3925	2505	694	713	13			
1	C	496	Total	C	N	O	S	0	1	0
			3922	2504	694	712	12			
1	D	493	Total	C	N	O	S	0	2	0
			3904	2491	691	709	13			

There are 80 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-19	MET	-	initiating methionine	UNP Q4KCZ3
A	-18	GLY	-	expression tag	UNP Q4KCZ3
A	-17	SER	-	expression tag	UNP Q4KCZ3
A	-16	SER	-	expression tag	UNP Q4KCZ3
A	-15	HIS	-	expression tag	UNP Q4KCZ3
A	-14	HIS	-	expression tag	UNP Q4KCZ3
A	-13	HIS	-	expression tag	UNP Q4KCZ3
A	-12	HIS	-	expression tag	UNP Q4KCZ3
A	-11	HIS	-	expression tag	UNP Q4KCZ3
A	-10	HIS	-	expression tag	UNP Q4KCZ3
A	-9	SER	-	expression tag	UNP Q4KCZ3
A	-8	SER	-	expression tag	UNP Q4KCZ3
A	-7	GLY	-	expression tag	UNP Q4KCZ3
A	-6	LEU	-	expression tag	UNP Q4KCZ3
A	-5	VAL	-	expression tag	UNP Q4KCZ3
A	-4	PRO	-	expression tag	UNP Q4KCZ3
A	-3	ARG	-	expression tag	UNP Q4KCZ3
A	-2	GLY	-	expression tag	UNP Q4KCZ3
A	-1	SER	-	expression tag	UNP Q4KCZ3
A	0	HIS	-	expression tag	UNP Q4KCZ3
B	-19	MET	-	initiating methionine	UNP Q4KCZ3

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Chain	Residue	Modelled	Actual	Comment	Reference
B	-18	GLY	-	expression tag	UNP Q4KCZ3
B	-17	SER	-	expression tag	UNP Q4KCZ3
B	-16	SER	-	expression tag	UNP Q4KCZ3
B	-15	HIS	-	expression tag	UNP Q4KCZ3
B	-14	HIS	-	expression tag	UNP Q4KCZ3
B	-13	HIS	-	expression tag	UNP Q4KCZ3
B	-12	HIS	-	expression tag	UNP Q4KCZ3
B	-11	HIS	-	expression tag	UNP Q4KCZ3
B	-10	HIS	-	expression tag	UNP Q4KCZ3
B	-9	SER	-	expression tag	UNP Q4KCZ3
B	-8	SER	-	expression tag	UNP Q4KCZ3
B	-7	GLY	-	expression tag	UNP Q4KCZ3
B	-6	LEU	-	expression tag	UNP Q4KCZ3
B	-5	VAL	-	expression tag	UNP Q4KCZ3
B	-4	PRO	-	expression tag	UNP Q4KCZ3
B	-3	ARG	-	expression tag	UNP Q4KCZ3
B	-2	GLY	-	expression tag	UNP Q4KCZ3
B	-1	SER	-	expression tag	UNP Q4KCZ3
B	0	HIS	-	expression tag	UNP Q4KCZ3
C	-19	MET	-	initiating methionine	UNP Q4KCZ3
C	-18	GLY	-	expression tag	UNP Q4KCZ3
C	-17	SER	-	expression tag	UNP Q4KCZ3
C	-16	SER	-	expression tag	UNP Q4KCZ3
C	-15	HIS	-	expression tag	UNP Q4KCZ3
C	-14	HIS	-	expression tag	UNP Q4KCZ3
C	-13	HIS	-	expression tag	UNP Q4KCZ3
C	-12	HIS	-	expression tag	UNP Q4KCZ3
C	-11	HIS	-	expression tag	UNP Q4KCZ3
C	-10	HIS	-	expression tag	UNP Q4KCZ3
C	-9	SER	-	expression tag	UNP Q4KCZ3
C	-8	SER	-	expression tag	UNP Q4KCZ3
C	-7	GLY	-	expression tag	UNP Q4KCZ3
C	-6	LEU	-	expression tag	UNP Q4KCZ3
C	-5	VAL	-	expression tag	UNP Q4KCZ3
C	-4	PRO	-	expression tag	UNP Q4KCZ3
C	-3	ARG	-	expression tag	UNP Q4KCZ3
C	-2	GLY	-	expression tag	UNP Q4KCZ3
C	-1	SER	-	expression tag	UNP Q4KCZ3
C	0	HIS	-	expression tag	UNP Q4KCZ3
D	-19	MET	-	initiating methionine	UNP Q4KCZ3
D	-18	GLY	-	expression tag	UNP Q4KCZ3
D	-17	SER	-	expression tag	UNP Q4KCZ3

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Chain	Residue	Modelled	Actual	Comment	Reference
D	-16	SER	-	expression tag	UNP Q4KCZ3
D	-15	HIS	-	expression tag	UNP Q4KCZ3
D	-14	HIS	-	expression tag	UNP Q4KCZ3
D	-13	HIS	-	expression tag	UNP Q4KCZ3
D	-12	HIS	-	expression tag	UNP Q4KCZ3
D	-11	HIS	-	expression tag	UNP Q4KCZ3
D	-10	HIS	-	expression tag	UNP Q4KCZ3
D	-9	SER	-	expression tag	UNP Q4KCZ3
D	-8	SER	-	expression tag	UNP Q4KCZ3
D	-7	GLY	-	expression tag	UNP Q4KCZ3
D	-6	LEU	-	expression tag	UNP Q4KCZ3
D	-5	VAL	-	expression tag	UNP Q4KCZ3
D	-4	PRO	-	expression tag	UNP Q4KCZ3
D	-3	ARG	-	expression tag	UNP Q4KCZ3
D	-2	GLY	-	expression tag	UNP Q4KCZ3
D	-1	SER	-	expression tag	UNP Q4KCZ3
D	0	HIS	-	expression tag	UNP Q4KCZ3

- Molecule 2 is CALCIUM ION (CCD ID: CA) (formula: Ca).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	A	1	Total Ca 1 1	0	0
2	B	1	Total Ca 1 1	0	0
2	C	1	Total Ca 1 1	0	0
2	D	1	Total Ca 1 1	0	0

- Molecule 3 is MERCURY (II) ION (CCD ID: HG) (formula: Hg).

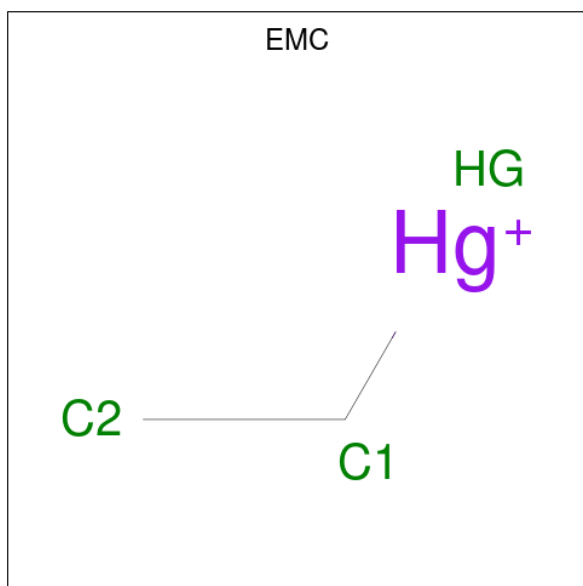
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	7	Total Hg 7 7	0	0
3	B	8	Total Hg 8 8	0	0
3	C	4	Total Hg 4 4	0	0
3	D	6	Total Hg 6 6	0	0

- Molecule 4 is GLYCEROL (CCD ID: GOL) (formula: $C_3H_8O_3$).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
4	A	1	Total	C	O	0	0
			6	3	3		
4	B	1	Total	C	O	0	0
			6	3	3		
4	D	1	Total	C	O	0	0
			6	3	3		

- Molecule 5 is ETHYL MERCURY ION (CCD ID: EMC) (formula: C_2H_5Hg).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	A	1	Total C Hg 3 2 1	0	0
5	B	1	Total C Hg 3 2 1	0	0
5	B	1	Total C Hg 3 2 1	0	0
5	C	1	Total C Hg 3 2 1	0	0
5	C	1	Total C Hg 3 2 1	0	0
5	C	1	Total C Hg 3 2 1	0	0
5	D	1	Total C Hg 3 2 1	0	0
5	D	1	Total C Hg 3 2 1	0	0

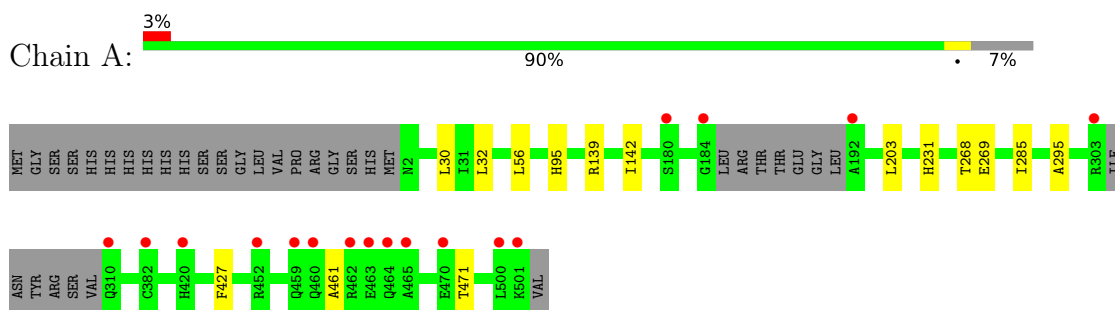
- Molecule 6 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
6	A	134	Total O 134 134	0	0
6	B	112	Total O 112 112	0	0
6	C	111	Total O 111 111	0	0
6	D	94	Total O 94 94	0	0

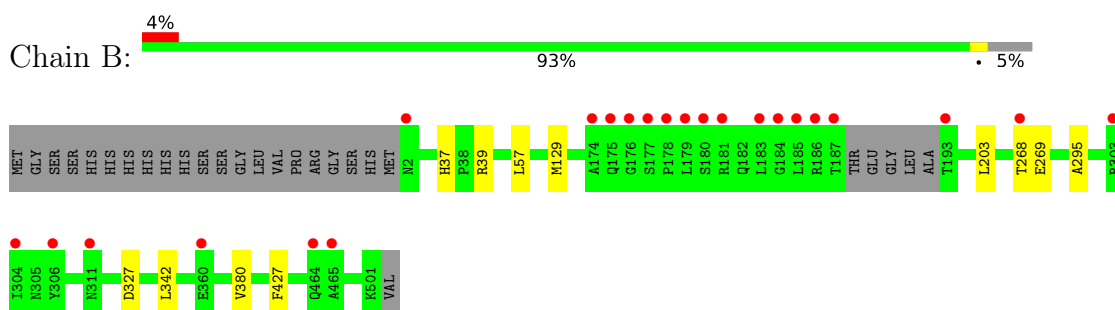
3 Residue-property plots [i](#)

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.

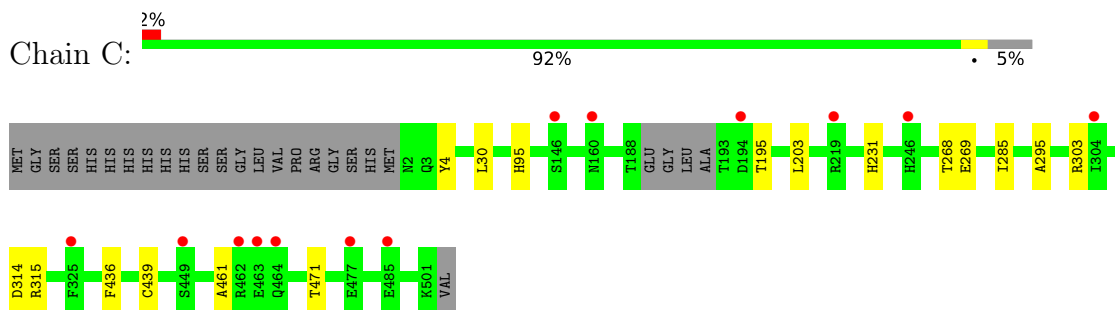
• Molecule 1: Halogenase PltM



• Molecule 1: Halogenase PltM

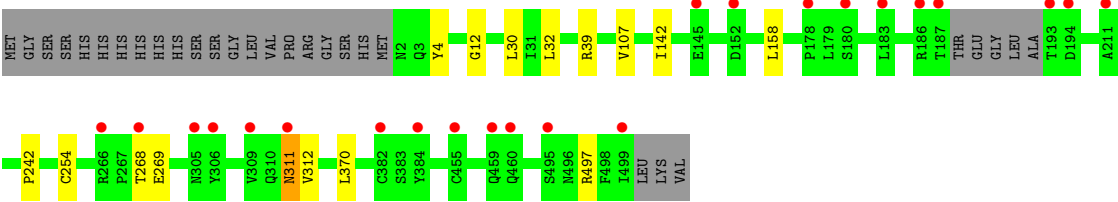


• Molecule 1: Halogenase PltM



• Molecule 1: Halogenase PltM





4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	63.72Å 156.34Å 216.13Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	45.00 – 2.40 45.00 – 2.40	Depositor EDS
% Data completeness (in resolution range)	96.3 (45.00-2.40) 96.3 (45.00-2.40)	Depositor EDS
R_{merge}	0.16	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	2.80 (at 2.39Å)	Xtriage
Refinement program	REFMAC 5.8.0107	Depositor
R, R_{free}	0.209 , 0.256 (Not available) , 0.239	Depositor DCC
R_{free} test set	4092 reflections (4.79%)	wwPDB-VP
Wilson B-factor (Å ²)	24.3	Xtriage
Anisotropy	0.175	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.32 , 19.4	EDS
L-test for twinning ²	$\langle L \rangle = 0.49$, $\langle L^2 \rangle = 0.33$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.92	EDS
Total number of atoms	16117	wwPDB-VP
Average B, all atoms (Å ²)	27.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 5.43% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical 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: CA, EMC, HG, 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	0.56	0/3941	0.82	0/5348
1	B	0.57	0/4024	0.84	0/5462
1	C	0.57	0/4021	0.81	0/5459
1	D	0.57	0/4003	0.83	1/5435 (0.0%)
All	All	0.57	0/15989	0.82	1/21704 (0.0%)

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	D	311	ASN	N-CA-C	-5.18	105.03	112.13

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [i](#)

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	3844	0	3773	10	0
1	B	3925	0	3855	7	0
1	C	3922	0	3857	10	0
1	D	3904	0	3829	9	0
2	A	1	0	0	0	0
2	B	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	C	1	0	0	0	0
2	D	1	0	0	0	0
3	A	7	0	0	0	0
3	B	8	0	0	0	0
3	C	4	0	0	0	0
3	D	6	0	0	0	0
4	A	6	0	8	0	0
4	B	6	0	8	0	0
4	D	6	0	8	0	0
5	A	3	0	0	0	0
5	B	6	0	0	0	0
5	C	9	0	0	0	0
5	D	6	0	0	1	0
6	A	134	0	0	0	0
6	B	112	0	0	0	0
6	C	111	0	0	0	0
6	D	94	0	0	0	0
All	All	16117	0	15338	35	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 1.

The worst 5 of 35 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:C:203:LEU:HD22	1:C:295:ALA:HB2	1.87	0.56
1:C:195:THR:O	1:C:303:ARG:HB3	2.06	0.55
1:B:327:ASP:HB3	1:B:380:VAL:HG21	1.88	0.55
1:A:203:LEU:HD22	1:A:295:ALA:HB2	1.90	0.53
1:C:4:TYR:CE2	1:C:30:LEU:HD22	2.45	0.52

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

There are no protein backbone outliers to report in this entry.

5.3.2 Protein sidechains [i](#)

There are no protein residues with a non-rotameric sidechain to report in this entry.

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](#)

Of 40 ligands modelled in this entry, 29 are monoatomic - leaving 11 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	$\# Z > 2$
5	EMC	C	606	1	1,2,2	0.41	0	-		
5	EMC	C	607	1	1,2,2	0.46	0	-		
5	EMC	D	609	1	1,2,2	0.17	0	-		
5	EMC	B	612	1	1,2,2	0.45	0	-		
5	EMC	A	610	1	1,2,2	0.42	0	-		
4	GOL	B	610	-	5,5,5	0.23	0	5,5,5	0.33	0
4	GOL	D	608	-	5,5,5	0.44	0	5,5,5	0.25	0
5	EMC	D	610	1	1,2,2	0.08	0	-		
5	EMC	C	608	1	1,2,2	0.50	0	-		
5	EMC	B	611	1	1,2,2	0.44	0	-		
4	GOL	A	609	-	5,5,5	0.41	0	5,5,5	0.44	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
4	GOL	D	608	-	-	4/4/4/4	-
4	GOL	B	610	-	-	2/4/4/4	-
4	GOL	A	609	-	-	0/4/4/4	-

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

5 of 6 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	B	610	GOL	C1-C2-C3-O3
4	D	608	GOL	O1-C1-C2-C3
4	D	608	GOL	C1-C2-C3-O3
4	D	608	GOL	O1-C1-C2-O2
4	D	608	GOL	O2-C2-C3-O3

There are no ring outliers.

1 monomer is involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	D	610	EMC	1	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, 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(Å ²)	Q<0.9
1	A	487/522 (93%)	0.11	17 (3%) 47 43	11, 24, 46, 86	0
1	B	495/522 (94%)	0.18	23 (4%) 37 33	11, 24, 56, 93	2 (0%)
1	C	496/522 (95%)	0.21	13 (2%) 57 53	9, 26, 46, 81	1 (0%)
1	D	493/522 (94%)	0.27	23 (4%) 36 32	11, 26, 53, 82	2 (0%)
All	All	1971/2088 (94%)	0.19	76 (3%) 43 39	9, 25, 50, 93	5 (0%)

The worst 5 of 76 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	192	ALA	6.1
1	B	180	SER	4.8
1	D	187	THR	4.4
1	B	185	LEU	4.3
1	A	184	GLY	4.3

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 oligosaccharides 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, 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($\text{\AA}^2$)	Q<0.9
4	GOL	A	609	6/6	0.70	0.16	25,27,28,28	0
3	HG	A	608	1/1	0.78	0.22	104,104,104,104	0
4	GOL	D	608	6/6	0.78	0.16	27,28,29,30	0
3	HG	B	609	1/1	0.88	0.14	42,42,42,42	1
4	GOL	B	610	6/6	0.90	0.11	36,37,37,37	0
3	HG	A	604	1/1	0.92	0.21	77,77,77,77	1
3	HG	D	607	1/1	0.93	0.07	53,53,53,53	1
3	HG	B	608	1/1	0.93	0.18	72,72,72,72	1
3	HG	C	605	1/1	0.94	0.13	64,64,64,64	1
3	HG	B	605	1/1	0.95	0.05	36,36,36,36	1
3	HG	D	604	1/1	0.95	0.09	41,41,41,41	1
3	HG	B	607	1/1	0.95	0.06	50,50,50,50	1
3	HG	A	607	1/1	0.95	0.05	29,29,29,29	1
2	CA	B	601	1/1	0.95	0.04	25,25,25,25	0
3	HG	C	604	1/1	0.95	0.06	42,42,42,42	1
2	CA	D	601	1/1	0.96	0.06	26,26,26,26	0
3	HG	D	606	1/1	0.96	0.09	39,39,39,39	1
2	CA	C	601	1/1	0.96	0.03	23,23,23,23	0
3	HG	D	605	1/1	0.97	0.07	39,39,39,39	1
2	CA	A	601	1/1	0.97	0.04	24,24,24,24	0
3	HG	C	603	1/1	0.98	0.03	23,23,23,23	1
3	HG	D	603	1/1	0.98	0.04	24,24,24,24	1
3	HG	B	606	1/1	0.98	0.09	42,42,42,42	1
3	HG	A	606	1/1	0.99	0.04	20,20,20,20	1
3	HG	B	603	1/1	0.99	0.02	22,22,22,22	1
3	HG	B	604	1/1	0.99	0.02	32,32,32,32	1
3	HG	D	602	1/1	0.99	0.06	18,18,18,18	1
3	HG	A	603	1/1	0.99	0.04	31,31,31,31	1
3	HG	C	602	1/1	0.99	0.02	33,33,33,33	1
5	EMC	A	610	3/3	0.99	0.14	25,25,25,25	3
5	EMC	B	612	3/3	0.99	0.12	15,15,15,16	3
5	EMC	C	606	3/3	0.99	0.16	10,10,11,11	3
3	HG	B	602	1/1	1.00	0.06	19,19,19,19	1
5	EMC	B	611	3/3	1.00	0.15	10,10,11,11	3
3	HG	A	605	1/1	1.00	0.06	10,10,10,10	1
3	HG	A	602	1/1	1.00	0.06	18,18,18,18	1
5	EMC	C	607	3/3	1.00	0.13	18,18,19,19	3
5	EMC	C	608	3/3	1.00	0.14	13,13,13,13	3
5	EMC	D	609	3/3	1.00	0.10	12,12,13,13	3
5	EMC	D	610	3/3	1.00	0.13	18,18,20,20	3

6.5 Other polymers [i](#)

There are no such residues in this entry.