WORLDWIDE PDB PROTEIN DATA BANK

wwPDB X-ray Structure Validation Summary Report (i)

Nov 1, 2023 – 02:04 AM EDT

PDB ID	:	3HPH
Title	:	Closed tetramer of Visna virus integrase (residues 1-219) in complex with LEDGF IBD
Authors	:	Hare, S.; Wang, J.; Cherepanov, P.
Deposited on	:	2009-06-04
Resolution	:	2.64 Å(reported)

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

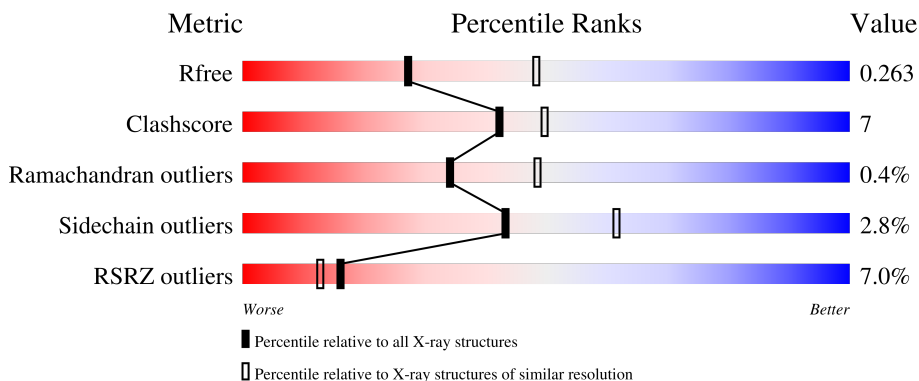|		
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.36
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (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 2.64 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.
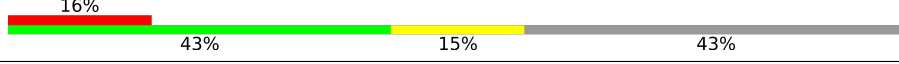
Metric	Percentile Ranks	Value
Rfree		0.263
Clashscore		7
Ramachandran outliers		0.4%
Sidechain outliers		2.8%
RSRZ outliers		7.0%

Worse   *Better*

▌ Percentile relative to all X-ray structures

▯ Percentile relative to X-ray structures of similar resolution

Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	1426 (2.66-2.62)
Clashscore	141614	1472 (2.66-2.62)
Ramachandran outliers	138981	1446 (2.66-2.62)
Sidechain outliers	138945	1446 (2.66-2.62)
RSRZ outliers	127900	1408 (2.66-2.62)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	219	4% — 78% 11% 11%
1	B	219	2% — 79% 12% • 9%
1	C	219	3% — 75% 16% • 8%
1	D	219	8% — 75% 15% 11%
2	E	94	4% — 83% 12% 5%

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Mol	Chain	Length	Quality of chain
2	F	94	13% 47% 17% 36%
2	G	94	16% 43% 15% 43%
2	H	94	7% 82% 13%

2 Entity composition ⓘ

There are 6 unique types of molecules in this entry. The entry contains 8778 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 Integrase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	194	Total	C	N	O	S	0	0	0
			1539	982	259	291	7			
1	B	200	Total	C	N	O	S	0	0	0
			1569	995	271	296	7			
1	C	202	Total	C	N	O	S	0	0	0
			1583	1003	274	299	7			
1	D	196	Total	C	N	O	S	0	0	0
			1554	990	262	295	7			

There are 8 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	1	MET	-	expression tag	UNP P35956
A	2	VAL	-	expression tag	UNP P35956
B	1	MET	-	expression tag	UNP P35956
B	2	VAL	-	expression tag	UNP P35956
C	1	MET	-	expression tag	UNP P35956
C	2	VAL	-	expression tag	UNP P35956
D	1	MET	-	expression tag	UNP P35956
D	2	VAL	-	expression tag	UNP P35956

- Molecule 2 is a protein called PC4 and SFRS1-interacting protein.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	E	89	Total	C	N	O	S	0	0	0
			730	463	128	132	7			
2	F	60	Total	C	N	O	S	0	0	0
			482	306	87	86	3			
2	G	54	Total	C	N	O	S	0	0	0
			429	272	75	79	3			
2	H	91	Total	C	N	O	S	0	0	0
			739	468	130	134	7			

There are 24 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
E	436	LEU	-	expression tag	UNP O75475
E	437	GLU	-	expression tag	UNP O75475
E	438	VAL	-	expression tag	UNP O75475
E	439	LEU	-	expression tag	UNP O75475
E	440	PHE	-	expression tag	UNP O75475
E	441	GLN	-	expression tag	UNP O75475
F	436	LEU	-	expression tag	UNP O75475
F	437	GLU	-	expression tag	UNP O75475
F	438	VAL	-	expression tag	UNP O75475
F	439	LEU	-	expression tag	UNP O75475
F	440	PHE	-	expression tag	UNP O75475
F	441	GLN	-	expression tag	UNP O75475
G	436	LEU	-	expression tag	UNP O75475
G	437	GLU	-	expression tag	UNP O75475
G	438	VAL	-	expression tag	UNP O75475
G	439	LEU	-	expression tag	UNP O75475
G	440	PHE	-	expression tag	UNP O75475
G	441	GLN	-	expression tag	UNP O75475
H	436	LEU	-	expression tag	UNP O75475
H	437	GLU	-	expression tag	UNP O75475
H	438	VAL	-	expression tag	UNP O75475
H	439	LEU	-	expression tag	UNP O75475
H	440	PHE	-	expression tag	UNP O75475
H	441	GLN	-	expression tag	UNP O75475

- Molecule 3 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	1	Total 1	Zn 1	0	0
3	B	1	Total 1	Zn 1	0	0
3	C	1	Total 1	Zn 1	0	0
3	D	1	Total 1	Zn 1	0	0

- Molecule 4 is GLYCEROL (three-letter code: GOL) (formula: $C_3H_8O_3$).

GOL

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

- Molecule 5 is PHOSPHATE ION (three-letter code: PO4) (formula: O_4P).

PO4
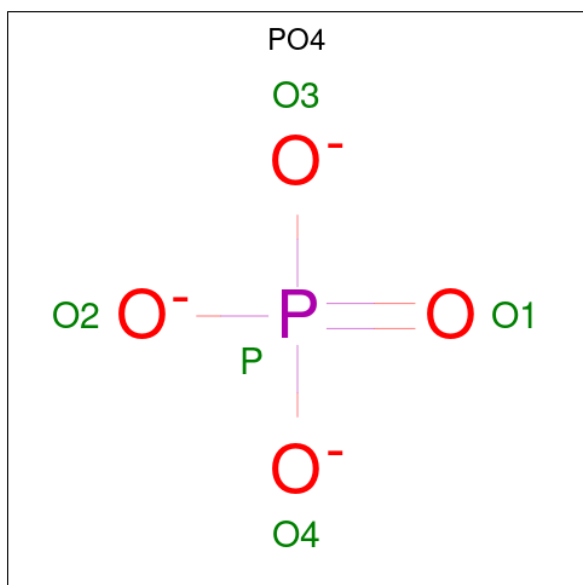
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
5	B	1	Total 5	O 4	P 1	0	0
5	E	1	Total 5	O 4	P 1	0	0
5	H	1	Total 5	O 4	P 1	0	0

- Molecule 6 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	A	18	Total 18	O 18	0	0
6	B	28	Total 28	O 28	0	0
6	C	34	Total 34	O 34	0	0
6	D	14	Total 14	O 14	0	0
6	E	6	Total 6	O 6	0	0
6	F	1	Total 1	O 1	0	0
6	G	2	Total 2	O 2	0	0
6	H	7	Total 7	O 7	0	0

3 Residue-property plots ⓘ

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

- Molecule 1: Integrase

Chain A:

- Molecule 1: Integrase

Chain B:

- Molecule 1: Integrase

Chain C:

- Molecule 1: Integrase

Chain D:

MET VAL E3 N4 I5 P6 K14 H23 L24 E25 F26 G27 I28 P29 R30 T31 A32 A33 E34 D35 D41 V42 C43 GLN GLU ASN LYS MET PRO SER THR LEU ARG GLY SER ASN LYS ARG GLY I60 D61 V91 K92 G93 Q97 E98 F99 R100 Y107 A108 M109 F110 A111 P112

A122 F123 V124 S127 T128 Y134 I137 H157 L164 I168 F171 E175 G192 L193 G194 M198 I202 E206 I210 S214 LYS SER LYS GLN GLU

● Molecule 2: PC4 and SFRS1-interacting protein

Chain E:

M348 R354 K364 Q388 K401 K402 I403 R404 R405 S416 K424 V429 GLY GLU GLY ASP S434 V438 L439 F440 GLN

● Molecule 2: PC4 and SFRS1-interacting protein

Chain F:

MET ASP SER ARG L352 I355 H356 I359 K360 L363 K364 I365 D366 N367 L368 D369 V370 D378 E379 L380 ALA SER LEU GLN VAL THR MET GLN ALA GLN LYS HIS THR GLU M396 I397 T398 K401 R404 K407 V408 S409 Q410 V411 Y420 N421 K422 F423 K424 N425 M426

PHE LEU VAL GLY GLY ASP SER VAL LEU GLU VAL LEU PHE GLN

● Molecule 2: PC4 and SFRS1-interacting protein

Chain G:

MET ASP SER ARG LEU Q353 R354 I355 H356 A357 E358 I359 K360 I365 D366 N367 L368 D369 V370 E375 L380 A381 SER LEU GLN VAL THR MET GLN ALA GLN LYS HIS THR GLU M396 I397 L400 K401 R404 R405 F406 K407 V408 S409 Q410 V411 T417 M418 L419 Y420 ASN LYS

PHE LYS ASN MET PHE LEU VAL GLY GLU GLY ASP SER VAL LEU GLU VAL LEU PHE GLN

● Molecule 2: PC4 and SFRS1-interacting protein

Chain H:

M348 I365 Q384 V385 T386 M387 Q388 E395 K401 K402 I403 R404 Q410 S416 K424 V429 G430 E431 GLY ASP S434 V438 L439 F440 GLN

4 Data and refinement statistics ⓘ

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	102.87Å 83.15Å 115.30Å 90.00° 101.96° 90.00°	Depositor
Resolution (Å)	39.01 – 2.64 39.01 – 2.64	Depositor EDS
% Data completeness (in resolution range)	99.5 (39.01-2.64) 99.5 (39.01-2.64)	Depositor EDS
R_{merge}	0.10	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	2.40 (at 2.65Å)	Xtriage
Refinement program	REFMAC	Depositor
R, R_{free}	0.226 , 0.253 0.237 , 0.263	Depositor DCC
R_{free} test set	2827 reflections (5.06%)	wwPDB-VP
Wilson B-factor (Å^2)	44.7	Xtriage
Anisotropy	0.235	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.33 , 59.9	EDS
L-test for twinning[2]	$< |L| > = 0.49, < L^2 > = 0.32$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.92	EDS
Total number of atoms	8778	wwPDB-VP
Average B, all atoms (Å^2)	26.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 6.20% of the height of the origin peak. No significant pseudotranslation is detected.*

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

5 Model quality ⓘ

5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: ZN, PO4, 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	0.61	0/1575	0.67	0/2140
1	B	0.74	0/1600	0.79	2/2166 (0.1%)
1	C	0.72	0/1614	0.79	1/2185 (0.0%)
1	D	0.62	0/1590	0.66	0/2160
2	E	0.58	0/735	0.65	0/980
2	F	0.45	0/484	0.54	0/644
2	G	0.45	0/430	0.55	0/574
2	H	0.54	0/744	0.63	0/992
All	All	0.64	0/8772	0.70	3/11841 (0.0%)

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	C	0	1

There are no bond length outliers.

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B	193	LEU	CA-CB-CG	5.87	128.79	115.30
1	C	193	LEU	CA-CB-CG	5.31	127.51	115.30
1	B	90	ARG	NE-CZ-NH2	-5.09	117.75	120.30

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	C	141	THR	Peptide

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	1539	0	1476	22	0
1	B	1569	0	1507	19	0
1	C	1583	0	1517	28	0
1	D	1554	0	1489	30	0
2	E	730	0	774	7	0
2	F	482	0	505	11	0
2	G	429	0	452	10	0
2	H	739	0	779	11	0
3	A	1	0	0	0	0
3	B	1	0	0	0	0
3	C	1	0	0	0	0
3	D	1	0	0	0	0
4	A	12	0	16	0	0
4	C	6	0	8	0	0
4	D	6	0	8	0	0
5	B	5	0	0	0	0
5	E	5	0	0	0	0
5	H	5	0	0	1	0
6	A	18	0	0	1	0
6	B	28	0	0	1	0
6	C	34	0	0	2	0
6	D	14	0	0	1	0
6	E	6	0	0	1	0
6	F	1	0	0	0	0
6	G	2	0	0	0	0
6	H	7	0	0	1	0
All	All	8778	0	8531	119	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 7.

The worst 5 of 119 close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

W O R L D W I D E
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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:30:ARG:NH2	1:C:59:GLY:HA2	1.78	0.97
1:D:193:LEU:N	1:D:194:GLY:HA2	1.88	0.89
1:B:30:ARG:NH2	1:B:59:GLY:HA2	1.91	0.85
1:B:90:ARG:HD2	6:B:245:HOH:O	1.76	0.85
1:A:193:LEU:N	1:A:194:GLY:HA2	1.92	0.84

There are no symmetry-related clashes.

5.3   Torsion angles ⓘ

5.3.1   Protein backbone ⓘ

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	190/219 (87%)	184 (97%)	5 (3%)	1 (0%)	29	43
1	B	194/219 (89%)	188 (97%)	6 (3%)	0	100	100
1	C	196/219 (90%)	190 (97%)	6 (3%)	0	100	100
1	D	192/219 (88%)	186 (97%)	5 (3%)	1 (0%)	29	43
2	E	85/94 (90%)	82 (96%)	3 (4%)	0	100	100
2	F	56/94 (60%)	51 (91%)	5 (9%)	0	100	100
2	G	50/94 (53%)	45 (90%)	4 (8%)	1 (2%)	7	10
2	H	87/94 (93%)	80 (92%)	6 (7%)	1 (1%)	14	20
All	All	1050/1252 (84%)	1006 (96%)	40 (4%)	4 (0%)	34	48

All (4) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	192	GLY
1	D	192	GLY
2	G	375	GLU
2	H	429	VAL

5.3.2 Protein sidechains ⓘ

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	163/193 (84%)	161 (99%)	2 (1%)	71	83
1	B	163/193 (84%)	158 (97%)	5 (3%)	40	58
1	C	164/193 (85%)	157 (96%)	7 (4%)	29	45
1	D	165/193 (86%)	163 (99%)	2 (1%)	71	83
2	E	85/88 (97%)	82 (96%)	3 (4%)	36	53
2	F	53/88 (60%)	51 (96%)	2 (4%)	33	50
2	G	48/88 (54%)	46 (96%)	2 (4%)	30	45
2	H	85/88 (97%)	82 (96%)	3 (4%)	36	53
All	All	926/1124 (82%)	900 (97%)	26 (3%)	43	61

5 of 26 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	D	61	ASP
2	E	424	LYS
2	H	424	LYS
2	E	354	ARG
2	E	439	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 9 such sidechains are listed below:

Mol	Chain	Res	Type
2	G	367	ASN
2	H	367	ASN
1	C	102	GLN
1	C	204	ASN
2	E	367	ASN

5.3.3 RNA ⓘ

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 11 ligands modelled in this entry, 4 are monoatomic - leaving 7 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	PO4	E	1	-	4,4,4	0.82	0	6,6,6	0.63	0
5	PO4	B	221	-	4,4,4	0.87	0	6,6,6	0.41	0
4	GOL	C	221	-	5,5,5	0.41	0	5,5,5	0.51	0
5	PO4	H	2	-	4,4,4	0.73	0	6,6,6	0.66	0
4	GOL	A	222	-	5,5,5	0.36	0	5,5,5	0.34	0
4	GOL	A	221	-	5,5,5	0.45	0	5,5,5	0.49	0
4	GOL	D	221	-	5,5,5	0.35	0	5,5,5	0.55	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	221	-	-	4/4/4/4	-
4	GOL	A	222	-	-	4/4/4/4	-
4	GOL	A	221	-	-	0/4/4/4	-
4	GOL	C	221	-	-	2/4/4/4	-

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

5 of 10 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	A	222	GOL	O1-C1-C2-C3
4	A	222	GOL	C1-C2-C3-O3
4	C	221	GOL	C1-C2-C3-O3
4	A	222	GOL	O1-C1-C2-O2
4	A	222	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	H	2	PO4	1	0

5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

There are no chain breaks in this entry.

6 Fit of model and data ⓘ

6.1 Protein, DNA and RNA chains ⓘ

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å^2)	Q<0.9
1	A	194/219 (88%)	0.26	9 (4%)	32	28	6, 21, 45, 53	0
1	B	200/219 (91%)	0.13	5 (2%)	57	53	3, 13, 47, 55	0
1	C	202/219 (92%)	0.11	7 (3%)	44	40	3, 13, 47, 56	0
1	D	196/219 (89%)	0.38	17 (8%)	10	8	6, 21, 47, 53	0
2	E	89/94 (94%)	0.24	4 (4%)	33	30	12, 38, 89, 98	0
2	F	60/94 (63%)	1.05	12 (20%)	1	1	17, 44, 57, 62	0
2	G	54/94 (57%)	1.44	15 (27%)	0	0	16, 45, 57, 62	0
2	H	91/94 (96%)	0.50	7 (7%)	13	10	12, 38, 89, 98	0
All	All	1086/1252 (86%)	0.35	76 (6%)	16	13	3, 24, 54, 98	0

The worst 5 of 76 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	D	27	GLY	6.2
2	G	397	ILE	5.5
2	F	426	MET	5.4
1	D	31	THR	4.9
1	A	31	THR	4.9

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

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

6.3 Carbohydrates ⓘ

There are no monosaccharides in this entry.

6.4 Ligands ⓘ

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
4	GOL	D	221	6/6	0.51	0.29	87,89,89,89	0
5	PO4	H	2	5/5	0.81	0.18	111,111,111,112	0
4	GOL	A	222	6/6	0.83	0.18	87,88,88,88	0
5	PO4	B	221	5/5	0.88	0.37	102,103,103,104	0
5	PO4	E	1	5/5	0.90	0.18	105,105,105,106	0
4	GOL	A	221	6/6	0.93	0.40	81,83,84,84	0
4	GOL	C	221	6/6	0.94	0.45	60,61,62,62	0
3	ZN	D	220	1/1	0.98	0.06	34,34,34,34	0
3	ZN	C	220	1/1	0.99	0.08	20,20,20,20	0
3	ZN	A	220	1/1	0.99	0.06	30,30,30,30	0
3	ZN	B	220	1/1	0.99	0.10	18,18,18,18	0

6.5 Other polymers ⓘ

There are no such residues in this entry.