Full wwPDB X-ray Structure Validation Report (i)

Oct 10, 2023 – 03:12 AM EDT

PDB ID	:	7MOV
Title	:	PTP1B 1-301 F225Y-R199N mutations
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Deposited on	:	2021-05-03
Resolution	:	1.65 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 (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	:	2.35.1
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

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 1.65 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		0.194
Clashscore		5
Ramachandran outliers		0.7%
Sidechain outliers		1.7%
RSRZ outliers		5.2%

Worse   *Better*

▌ Percentile relative to all X-ray structures

▯ Percentile relative to X-ray structures of similar resolution
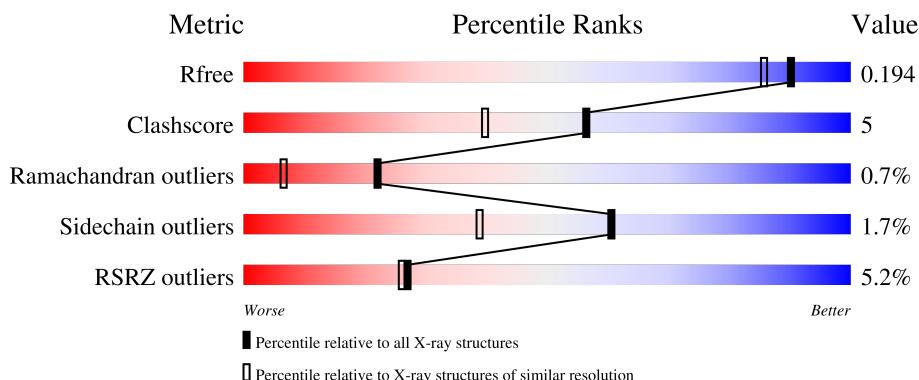
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	1827 (1.66-1.66)
Clashscore	141614	1931 (1.66-1.66)
Ramachandran outliers	138981	1891 (1.66-1.66)
Sidechain outliers	138945	1891 (1.66-1.66)
RSRZ outliers	127900	1791 (1.66-1.66)

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	308	3% 81% 8% · 9%
1	B	308	6% 79% 10% · 10%
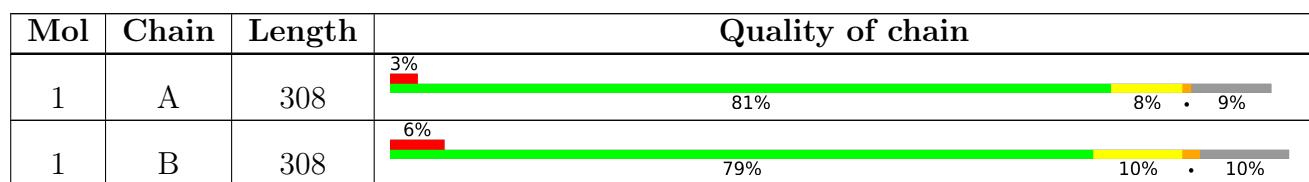
2 Entry composition ⓘ

There are 5 unique types of molecules in this entry. The entry contains 5176 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 Tyrosine-protein phosphatase non-receptor type 1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	280	Total 2316	C 1467	N 398	O 432	S 19	0	13	0
1	B	278	Total 2298	C 1463	N 394	O 425	S 16	0	12	0

There are 18 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-4	GLY	-	expression tag	UNP P18031
A	-3	HIS	-	expression tag	UNP P18031
A	-2	MET	-	expression tag	UNP P18031
A	-1	ALA	-	expression tag	UNP P18031
A	0	SER	-	expression tag	UNP P18031
A	199	ASN	ARG	engineered mutation	UNP P18031
A	225	TYR	PHE	engineered mutation	UNP P18031
A	302	HIS	-	expression tag	UNP P18031
A	303	ASN	-	expression tag	UNP P18031
B	-4	GLY	-	expression tag	UNP P18031
B	-3	HIS	-	expression tag	UNP P18031
B	-2	MET	-	expression tag	UNP P18031
B	-1	ALA	-	expression tag	UNP P18031
B	0	SER	-	expression tag	UNP P18031
B	199	ASN	ARG	engineered mutation	UNP P18031
B	225	TYR	PHE	engineered mutation	UNP P18031
B	302	HIS	-	expression tag	UNP P18031
B	303	ASN	-	expression tag	UNP P18031

- Molecule 2 is GLYCEROL (three-letter code: GOL) (formula: $C_3H_8O_3$).

GOL

C3
OH O3
C1　　C2
HO
O1
OH
O2
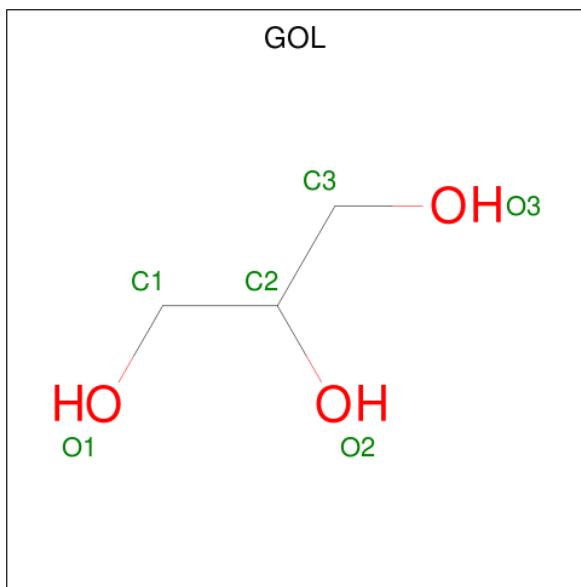
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
2	A	1	Total 6	C 3	O 3	0	0
2	A	1	Total 6	C 3	O 3	0	0
2	A	1	Total 6	C 3	O 3	0	0
2	B	1	Total 6	C 3	O 3	0	0
2	B	1	Total 6	C 3	O 3	0	0
2	B	1	Total 6	C 3	O 3	0	0
2	B	1	Total 6	C 3	O 3	0	0
2	B	1	Total 6	C 3	O 3	0	0
2	B	1	Total 6	C 3	O 3	0	0
2	B	1	Total 6	C 3	O 3	0	0

- Molecule 3 is CHLORIDE ION (three-letter code: CL) (formula: Cl).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	3	Total 3	Cl 3	0	0

- Molecule 4 is 2-AMINO-2-HYDROXYMETHYL-PROPANE-1,3-DIOL (three-letter code:

TRS) (formula: $C_4H_{12}NO_3$).
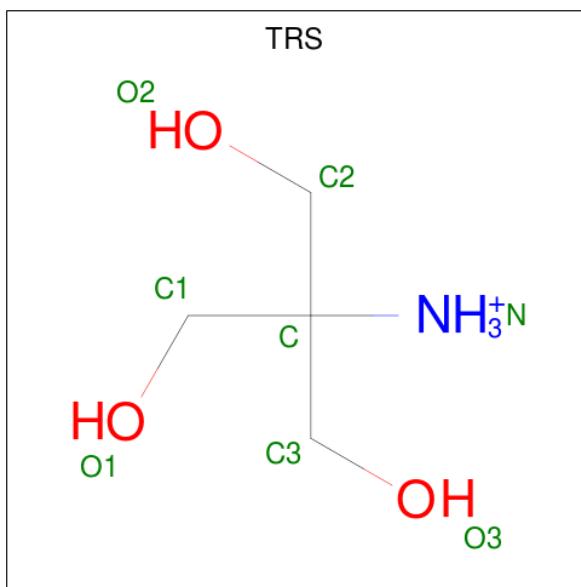
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
			Total	C	N	O		
4	B	1	8	4	1	3	0	0

- Molecule 5 is water.

| Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
			Total	O		
5	A	268	268	268	0	0
5	B	223	Total 223	O 223	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: Tyrosine-protein phosphatase non-receptor type 1

Chain A:

• Molecule 1: Tyrosine-protein phosphatase non-receptor type 1

Chain B:
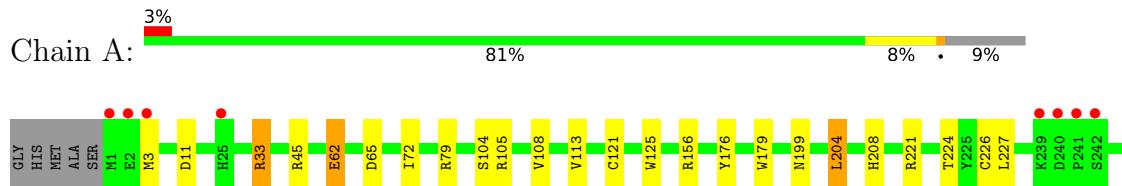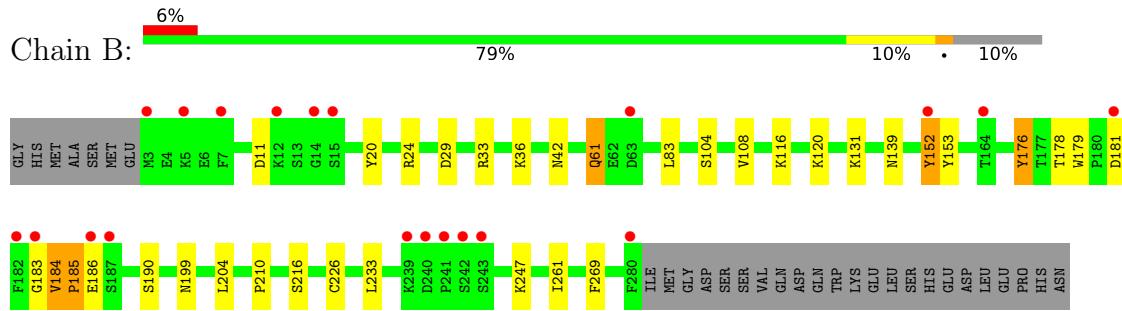
4 Data and refinement statistics ⓘ

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, α, β, γ	114.36Å 90.10Å 74.49Å 90.00° 110.93° 90.00°	Depositor
Resolution (Å)	37.82 – 1.65 37.82 – 1.65	Depositor EDS
% Data completeness (in resolution range)	95.2 (37.82-1.65) 95.2 (37.82-1.65)	Depositor EDS
R_{merge}	0.06	Depositor
R_{sym}	(Not available)	Depositor
$<I/\sigma(I)>$ [1]	1.85 (at 1.65Å)	Xtriage
Refinement program	PHENIX 1.19.1_4122	Depositor
R, R_{free}	0.165 , 0.193 0.167 , 0.194	Depositor DCC
R_{free} test set	4058 reflections (5.02%)	wwPDB-VP
Wilson B-factor (Å^2)	22.1	Xtriage
Anisotropy	0.469	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.37 , 55.4	EDS
L-test for twinning [2]	$<|L|> = 0.50$, $<L^2> = 0.34$	Xtriage
Estimated twinning fraction	0.013 for -1/2*h+1/2*k+l,1/2*h-1/2*k+l,1/2*h+1/2*k 0.019 for -1/2*h-1/2*k+l,-1/2*h-1/2*k-l,1/2*h-1/2*k	Xtriage
F_o,F_c correlation	0.97	EDS
Total number of atoms	5176	wwPDB-VP
Average B, all atoms (Å^2)	30.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 6.23% 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: GOL, TRS, CL

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	0.90	6/2386 (0.3%)	0.87	3/3226 (0.1%)
1	B	0.85	3/2369 (0.1%)	0.82	0/3207
All	All	0.87	9/4755 (0.2%)	0.85	3/6433 (0.0%)

All (9) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	62	GLU	CG-CD	7.56	1.63	1.51
1	A	226[A]	CYS	CB-SG	-6.62	1.71	1.82
1	A	226[B]	CYS	CB-SG	-6.62	1.71	1.82
1	B	152	TYR	CB-CG	-5.48	1.43	1.51
1	B	108	VAL	CB-CG1	5.42	1.64	1.52
1	A	108	VAL	CB-CG1	5.42	1.64	1.52
1	A	125	TRP	CG-CD1	5.29	1.44	1.36
1	A	176	TYR	CD2-CE2	5.15	1.47	1.39
1	B	176	TYR	CE2-CZ	-5.02	1.32	1.38

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	253[A]	MET	CG-SD-CE	-5.88	90.79	100.20
1	A	253[B]	MET	CG-SD-CE	-5.88	90.79	100.20
1	A	156	ARG	NE-CZ-NH1	5.22	122.91	120.30

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	2316	0	2250	17	1
1	B	2298	0	2234	27	0
2	A	18	0	22	2	0
2	B	42	0	54	4	0
3	A	3	0	0	0	0
4	B	8	0	12	0	0
5	A	268	0	0	1	2
5	B	223	0	0	10	3
All	All	5176	0	4572	46	3

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 5.

All (46) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:42:ASN:OD1	5:B:501:HOH:O	1.86	0.93
1:A:33:ARG:NH1	5:A:501:HOH:O	2.15	0.79
1:A:221:ARG:O	1:A:224[B]:THR:HG22	1.84	0.77
1:B:29:ASP:OD1	5:B:502:HOH:O	2.05	0.74
1:B:216[B]:SER:OG	5:B:503:HOH:O	2.07	0.72
1:B:61:GLN:OE1	5:B:505:HOH:O	2.12	0.66
1:B:204:LEU:O	5:B:506:HOH:O	2.15	0.64
1:B:176:TYR:CD1	1:B:179[A]:TRP:HB2	2.33	0.63
1:B:199:ASN:ND2	2:B:406:GOL:H12	2.14	0.63
1:A:79:ARG:NH1	1:A:204:LEU:HD23	2.18	0.58
1:A:249:VAL:O	1:A:253[A]:MET:HG3	2.05	0.56
1:B:152:TYR:HB2	1:B:178:THR:OG1	2.06	0.56
1:B:152:TYR:CE2	1:B:153:TYR:HD2	2.27	0.53
1:B:247:LYS:NZ	5:B:508:HOH:O	2.28	0.52
1:B:183[B]:GLY:O	1:B:184[B]:VAL:HG13	2.10	0.52
1:A:179:TRP:CH2	1:A:224[B]:THR:HG21	2.47	0.50
1:A:3:MET:SD	1:A:246:ILE:HD11	2.52	0.50
1:B:185:PRO:HD2	1:B:269:PHE:CZ	2.48	0.49
1:B:83:LEU:HD11	1:B:226[B]:CYS:SG	2.52	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:152:TYR:CE2	1:B:190[A]:SER:HB3	2.47	0.49
1:A:105[B]:ARG:HG2	1:A:208:HIS:CD2	2.46	0.49
1:A:179:TRP:HH2	1:A:224[B]:THR:HG21	1.78	0.48
1:B:152:TYR:CZ	1:B:190[B]:SER:HB2	2.49	0.48
1:B:233:LEU:CD2	2:B:406:GOL:H11	2.44	0.48
1:B:120:LYS:NZ	1:B:181[A]:ASP:OD2	2.42	0.47
1:B:36:LYS:HA	1:B:36:LYS:HD2	1.75	0.46
1:A:104:SER:O	1:A:105[B]:ARG:HD3	2.16	0.46
2:B:407:GOL:H12	5:B:636:HOH:O	2.16	0.45
1:A:62:GLU:O	2:A:401:GOL:H31	2.16	0.45
1:A:65:ASP:HB3	2:A:401:GOL:H11	1.99	0.45
1:B:131:LYS:HE2	5:B:705:HOH:O	2.17	0.45
1:B:33:ARG:NH2	5:B:521:HOH:O	2.50	0.44
1:A:72:ILE:HD12	1:A:256:PHE:HB2	1.99	0.44
1:B:183[B]:GLY:O	1:B:184[B]:VAL:HG22	2.18	0.43
1:B:116:LYS:HD3	1:B:181[B]:ASP:HB3	2.00	0.43
1:B:176:TYR:HD1	1:B:179[A]:TRP:HB2	1.81	0.42
1:A:227:LEU:HA	1:A:253[A]:MET:CE	2.50	0.42
1:A:199:ASN:HA	1:A:204:LEU:HD22	2.02	0.41
1:A:3:MET:HE3	1:A:3:MET:HB3	1.89	0.41
1:A:45:ARG:NH2	1:A:121[B]:CYS:HA	2.36	0.41
1:B:20:TYR:CE2	1:B:24:ARG:HD2	2.56	0.41
1:B:176:TYR:OH	1:B:185:PRO:HB3	2.20	0.41
1:B:152:TYR:CE2	1:B:190[B]:SER:HB2	2.55	0.41
1:B:104[B]:SER:HB3	1:B:210:PRO:O	2.21	0.40
2:B:407:GOL:H32	5:B:636:HOH:O	2.21	0.40

All (3) 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)
5:A:682:HOH:O	5:B:710:HOH:O[2_555]	1.93	0.27
1:A:62:GLU:OE2	5:B:651:HOH:O[3_555]	1.96	0.24
5:A:679:HOH:O	5:B:708:HOH:O[3_555]	2.13	0.07

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	291/308 (94%)	284 (98%)	6 (2%)	1 (0%)	41	22
1	B	288/308 (94%)	277 (96%)	7 (2%)	4 (1%)	11	1
All	All	579/616 (94%)	561 (97%)	13 (2%)	5 (1%)	22	4

All (5) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	184[A]	VAL
1	B	184[B]	VAL
1	A	261	ILE
1	B	261	ILE
1	B	185	PRO

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	255/279 (91%)	251 (98%)	4 (2%)	62	41
1	B	252/279 (90%)	248 (98%)	4 (2%)	62	41
All	All	507/558 (91%)	499 (98%)	8 (2%)	60	41

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

Mol	Chain	Res	Type
1	A	11	ASP

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Mol	Chain	Res	Type
1	A	33	ARG
1	A	204	LEU
1	A	265	ASP
1	B	11	ASP
1	B	61	GLN
1	B	139	ASN
1	B	186	GLU

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	208	HIS
1	B	139	ASN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates ⓘ

There are no monosaccharides in this entry.

5.6 Ligand geometry ⓘ

Of 14 ligands modelled in this entry, 3 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	$\#\|Z\|>2$
2	GOL	B	407	-	5,5,5	1.96	2 (40%)	5,5,5	1.64	1 (20%)
2	GOL	B	404	-	5,5,5	1.47	1 (20%)	5,5,5	0.69	0
2	GOL	A	402	-	5,5,5	1.30	1 (20%)	5,5,5	0.90	0
2	GOL	B	406	-	5,5,5	1.70	1 (20%)	5,5,5	0.81	0
4	TRS	B	401	-	7,7,7	0.91	0	9,9,9	1.85	2 (22%)
2	GOL	B	402	-	5,5,5	0.64	0	5,5,5	1.12	0
2	GOL	A	403	-	5,5,5	1.08	0	5,5,5	0.98	0
2	GOL	B	408	-	5,5,5	1.31	0	5,5,5	1.66	2 (40%)
2	GOL	B	403	-	5,5,5	0.80	0	5,5,5	0.93	0
2	GOL	B	405	-	5,5,5	1.12	1 (20%)	5,5,5	1.30	0
2	GOL	A	401	-	5,5,5	1.14	0	5,5,5	1.32	1 (20%)

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	GOL	B	407	-	-	0/4/4/4	-
2	GOL	B	404	-	-	2/4/4/4	-
2	GOL	A	402	-	-	3/4/4/4	-
2	GOL	B	406	-	-	0/4/4/4	-
4	TRS	B	401	-	-	3/9/9/9	-
2	GOL	B	402	-	-	0/4/4/4	-
2	GOL	A	403	-	-	0/4/4/4	-
2	GOL	B	408	-	-	1/4/4/4	-
2	GOL	B	403	-	-	2/4/4/4	-
2	GOL	B	405	-	-	4/4/4/4	-
2	GOL	A	401	-	-	2/4/4/4	-

All (6) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	407	GOL	O2-C2	3.19	1.52	1.43
2	A	402	GOL	O2-C2	-2.59	1.35	1.43
2	B	406	GOL	C1-C2	2.12	1.60	1.51
2	B	407	GOL	O3-C3	-2.11	1.33	1.42
2	B	405	GOL	O2-C2	-2.04	1.37	1.43
2	B	404	GOL	O2-C2	-2.02	1.37	1.43

All (6) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	B	401	TRS	O3-C3-C	-4.27	97.46	111.00
2	B	407	GOL	C3-C2-C1	-3.22	99.17	111.70
2	A	401	GOL	C3-C2-C1	-2.78	100.91	111.70
2	B	408	GOL	C3-C2-C1	-2.43	102.25	111.70
2	B	408	GOL	O2-C2-C3	2.38	119.63	109.12
4	B	401	TRS	O2-C2-C	-2.30	103.70	111.00

There are no chirality outliers.

All (17) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	401	GOL	O1-C1-C2-C3
2	A	402	GOL	O1-C1-C2-C3
2	B	403	GOL	C1-C2-C3-O3
2	B	405	GOL	O1-C1-C2-C3
2	B	405	GOL	C1-C2-C3-O3
4	B	401	TRS	C2-C-C1-O1
4	B	401	TRS	C3-C-C1-O1
4	B	401	TRS	N-C-C1-O1
2	B	405	GOL	O2-C2-C3-O3
2	B	404	GOL	C1-C2-C3-O3
2	A	401	GOL	O1-C1-C2-O2
2	B	404	GOL	O2-C2-C3-O3
2	B	405	GOL	O1-C1-C2-O2
2	A	402	GOL	O1-C1-C2-O2
2	A	402	GOL	O2-C2-C3-O3
2	B	408	GOL	O1-C1-C2-O2
2	B	403	GOL	O2-C2-C3-O3

There are no ring outliers.

3 monomers are involved in 6 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	B	407	GOL	2	0
2	B	406	GOL	2	0
2	A	401	GOL	2	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(Å²)	Q<0.9
1	A	280/308 (90%)	-0.08	9 (3%) 47	48	16, 26, 53, 80	0
1	B	278/308 (90%)	0.13	20 (7%) 15	14	17, 27, 53, 77	0
All	All	558/616 (90%)	0.02	29 (5%) 27	26	16, 27, 53, 80	0

All (29) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	239	LYS	6.7
1	B	182[A]	PHE	6.5
1	B	7	PHE	4.4
1	B	5	LYS	4.1
1	B	242	SER	4.0
1	B	240	ASP	3.9
1	A	280	PHE	3.8
1	B	239	LYS	3.8
1	A	242	SER	3.7
1	B	3	MET	3.7
1	A	241	PRO	3.6
1	B	241	PRO	3.6
1	A	240	ASP	3.6
1	A	2	GLU	3.4
1	B	280	PHE	3.3
1	B	63	ASP	3.3
1	A	3	MET	3.1
1	B	183[A]	GLY	3.1
1	A	1	MET	3.0
1	B	14	GLY	3.0
1	B	15	SER	2.9
1	B	181[A]	ASP	2.8
1	B	12	LYS	2.8
1	B	243	SER	2.6

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Mol	Chain	Res	Type	RSRZ
1	B	186	GLU	2.4
1	B	152	TYR	2.2
1	A	25	HIS	2.1
1	B	187	SER	2.1
1	B	164	THR	2.0

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
2	GOL	B	407	6/6	0.82	0.16	33,44,51,56	0
2	GOL	B	405	6/6	0.84	0.20	46,52,62,71	0
4	TRS	B	401	8/8	0.84	0.16	23,44,51,54	0
2	GOL	B	404	6/6	0.85	0.11	37,45,56,58	0
2	GOL	B	406	6/6	0.85	0.10	34,37,43,50	0
2	GOL	B	403	6/6	0.86	0.12	50,58,64,72	0
2	GOL	A	403	6/6	0.89	0.25	57,58,63,75	0
2	GOL	A	401	6/6	0.91	0.23	27,36,45,54	0
2	GOL	B	408	6/6	0.92	0.12	31,36,45,60	0
2	GOL	A	402	6/6	0.94	0.10	35,44,45,48	0
2	GOL	B	402	6/6	0.95	0.08	31,35,36,40	0
3	CL	A	404	1/1	0.98	0.06	45,45,45,45	0
3	CL	A	406	1/1	0.99	0.05	29,29,29,29	0
3	CL	A	405	1/1	0.99	0.03	29,29,29,29	0

6.5 Other polymers ⓘ

There are no such residues in this entry.