Full wwPDB X-ray Structure Validation Report ⓘ

Nov 7, 2023 – 10:17 AM EST

PDB ID	:	5BWD
Title	:	Benzylsuccinate alpha-gamma bound to fumarate
Authors	:	Funk, M.A.; Drennan, C.L.
Deposited on	:	2015-06-07
Resolution	:	2.00 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 ⓘ 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	:	4.02b-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 2.00 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.
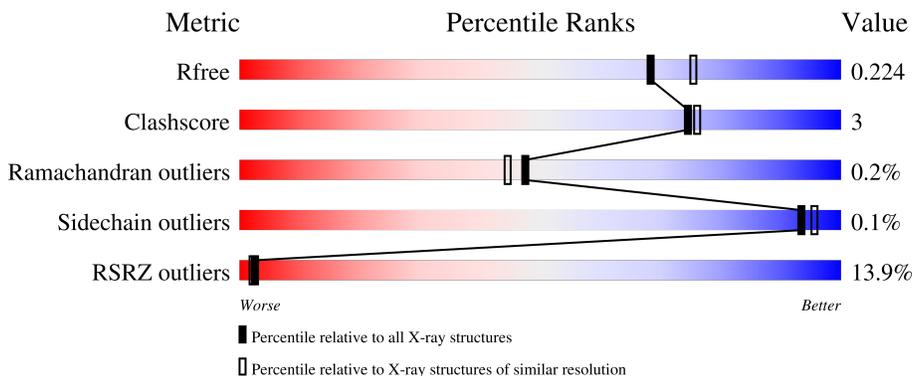
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	8085 (2.00-2.00)
Clashscore	141614	9178 (2.00-2.00)
Ramachandran outliers	138981	9054 (2.00-2.00)
Sidechain outliers	138945	9053 (2.00-2.00)
RSRZ outliers	127900	7900 (2.00-2.00)

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	878	14% / 89% / 8% ·
2	C	60	5% / 60% / 5% / 35%

2　Entry composition ⓘ

There are 7 unique types of molecules in this entry. The entry contains 7559 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 benzylsuccinate synthase alpha chain.

| Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	853	Total 6756	C 4265	N 1173	O 1282	S 36	0	1	0

There are 15 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	789	ILE	MET	engineered mutation	UNP O68395
A	866	SER	-	expression tag	UNP O68395
A	867	GLY	-	expression tag	UNP O68395
A	868	THR	-	expression tag	UNP O68395
A	869	GLY	-	expression tag	UNP O68395
A	870	SER	-	expression tag	UNP O68395
A	871	GLY	-	expression tag	UNP O68395
A	872	SER	-	expression tag	UNP O68395
A	873	SER	-	expression tag	UNP O68395
A	874	HIS	-	expression tag	UNP O68395
A	875	HIS	-	expression tag	UNP O68395
A	876	HIS	-	expression tag	UNP O68395
A	877	HIS	-	expression tag	UNP O68395
A	878	HIS	-	expression tag	UNP O68395
A	879	HIS	-	expression tag	UNP O68395

- Molecule 2 is a protein called benzylsuccinate synthase gamma chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	C	39	Total 310	C 198	N 50	O 61	S 1	0	0	0

- Molecule 3 is FUMARIC ACID (three-letter code: FUM) (formula: $C_4H_4O_4$).
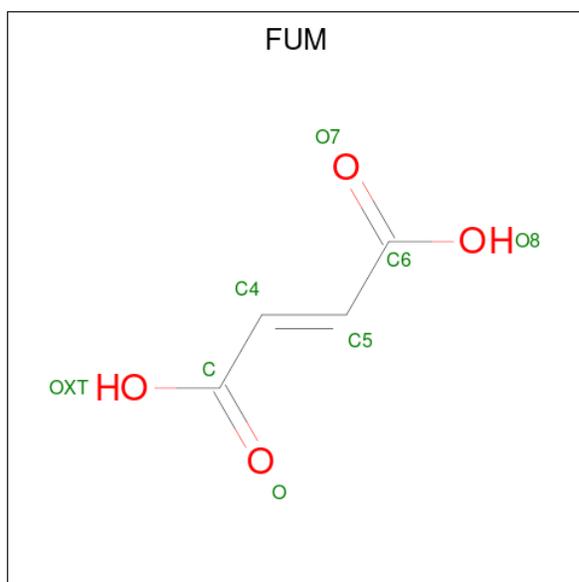
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
3	A	1	Total 8	C 4	O 4	0	0

- Molecule 4 is 2-AMINO-2-HYDROXYMETHYL-PROPANE-1,3-DIOL (three-letter code: TRS) (formula: $C_4H_{12}NO_3$).
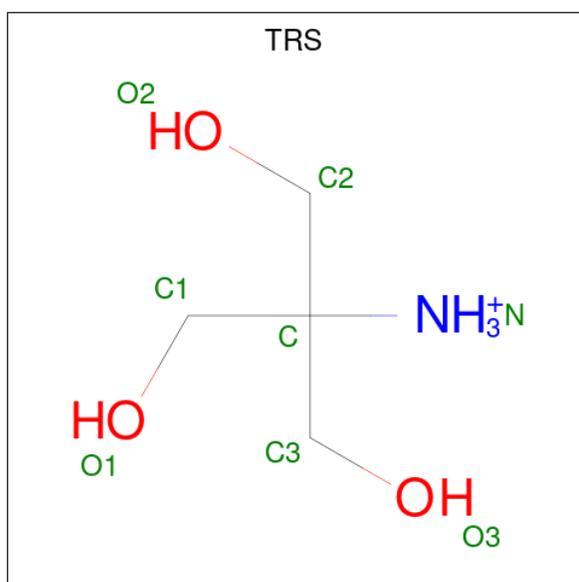
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
4	A	1	Total 8	C 4	N 1	O 3	0	0

- Molecule 5 is TRIETHYLENE GLYCOL (three-letter code: PGE) (formula: $C_6H_{14}O_4$).

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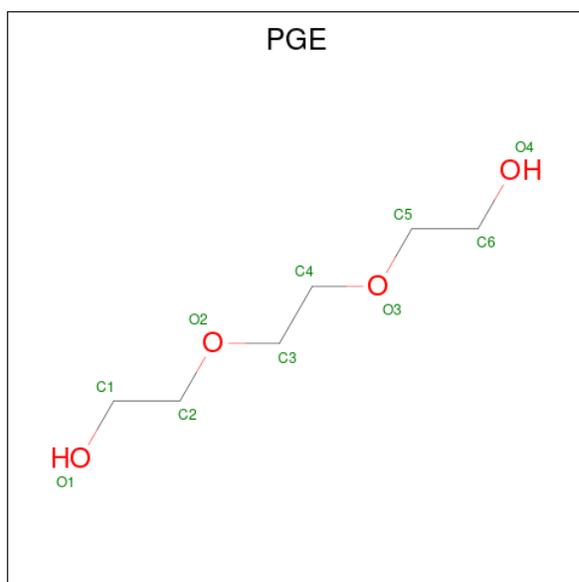
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
5	A	1	Total 10	C 6	O 4	0	0
5	A	1	Total 10	C 6	O 4	0	0
5	A	1	Total 10	C 6	O 4	0	0
5	A	1	Total 10	C 6	O 4	0	0
5	A	1	Total 10	C 6	O 4	0	0

- Molecule 6 is TETRAETHYLENE GLYCOL (three-letter code: PG4) (formula: $C_8H_{18}O_5$).

PG4
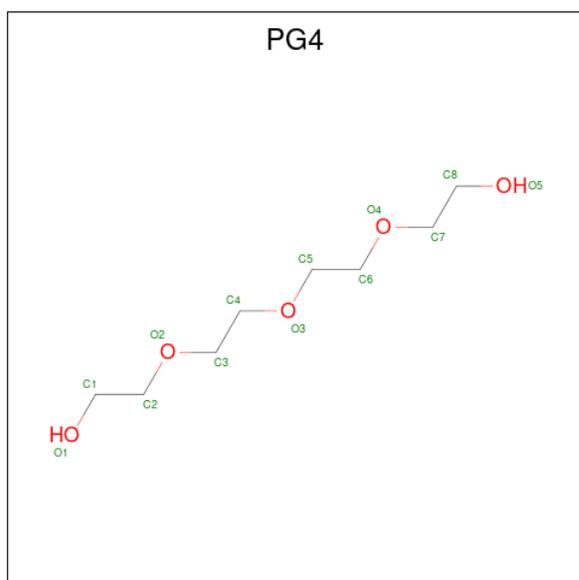
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
6	A	1	Total 13	C 8	O 5	0	0

- Molecule 7 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
7	A	394	Total 394	O 394	0	0
7	C	20	Total 20	O 20	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: benzylsuccinate synthase alpha chain
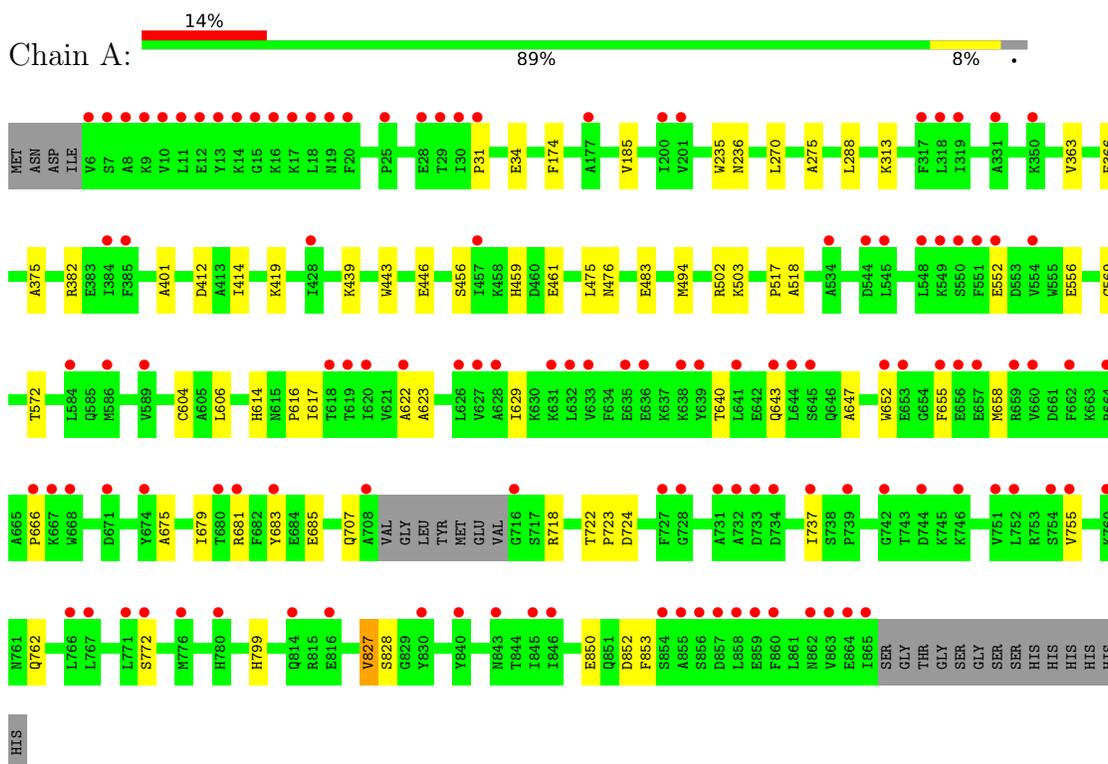
Chain A:

• Molecule 2: benzylsuccinate synthase gamma chain

Chain C:
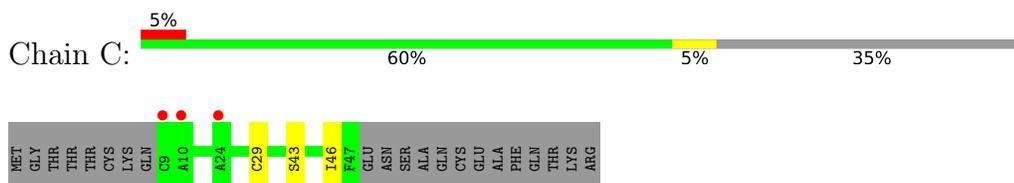
4 Data and refinement statistics ⓘ

Property	Value	Source
Space group	P 43 21 2	Depositor
Cell constants a, b, c, α, β, γ	154.86Å 154.86Å 82.12Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	34.63 – 2.00 34.63 – 2.00	Depositor EDS
% Data completeness (in resolution range)	96.9 (34.63-2.00) 83.9 (34.63-2.00)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	0.09	Depositor
$< I/\sigma(I) >$ [1]	1.00 (at 2.00Å)	Xtriage
Refinement program	PHENIX dev_1951	Depositor
R, R_{free}	0.195 , 0.223 0.196 , 0.224	Depositor DCC
R_{free} test set	3273 reflections (4.98%)	wwPDB-VP
Wilson B-factor (Å^2)	28.4	Xtriage
Anisotropy	0.837	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.34 , 50.6	EDS
L-test for twinning[2]	$< |L| > = 0.50, < L^2 > = 0.33$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.96	EDS
Total number of atoms	7559	wwPDB-VP
Average B, all atoms (Å^2)	53.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.28% 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: PGE, PG4, FUM, TRS

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	0.23	0/6911	0.37	0/9339
2	C	0.21	0/318	0.35	0/428
All	All	0.23	0/7229	0.37	0/9767

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts ⓘ

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	6756	0	6590	43	0
2	C	310	0	287	2	0
3	A	8	0	1	0	0
4	A	8	0	12	0	0
5	A	50	0	70	9	0
6	A	13	0	18	0	0
7	A	394	0	0	1	0
7	C	20	0	0	0	0
All	All	7559	0	6978	45	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 3.

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All (45) 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:606:LEU:HD12	5:A:905:PGE:H42	1.62	0.81
1:A:666:PRO:HB2	1:A:675:ALA:HB2	1.66	0.77
1:A:235:TRP:CE3	5:A:904:PGE:H6	2.33	0.63
1:A:412:ASP:OD2	1:A:439:LYS:NZ	2.30	0.63
1:A:652:TRP:HD1	1:A:655:PHE:HB2	1.64	0.62
1:A:737:ILE:HD13	1:A:755:VAL:HG13	1.84	0.58
1:A:443:TRP:HE1	5:A:908:PGE:H1	1.71	0.55
1:A:270:LEU:HD13	2:C:43:SER:HB2	1.89	0.54
1:A:683:TYR:O	1:A:762:GLN:NE2	2.41	0.52
1:A:494:MET:HG3	1:A:707:GLN:HB3	1.92	0.52
1:A:236:ASN:H	5:A:904:PGE:H5	1.73	0.52
1:A:31:PRO:HB2	1:A:34:GLU:HG2	1.91	0.52
1:A:502:ARG:HG2	1:A:503:LYS:HG3	1.92	0.52
1:A:439:LYS:HE2	5:A:908:PGE:H22	1.92	0.52
1:A:640:THR:HG23	1:A:643:GLN:H	1.76	0.51
1:A:476:ASN:HB3	5:A:905:PGE:H2	1.92	0.50
1:A:772:SER:HA	1:A:850:GLU:OE2	2.13	0.48
1:A:604:CYS:SG	7:A:1237:HOH:O	2.59	0.48
1:A:475:LEU:HD12	5:A:905:PGE:H52	1.96	0.47
1:A:614:HIS:O	1:A:616:PRO:HD3	2.15	0.47
1:A:313:LYS:NZ	1:A:366:GLU:OE2	2.36	0.46
2:C:29:CYS:HB2	2:C:46:ILE:HD13	1.98	0.46
1:A:623:ALA:HB1	1:A:679:ILE:HG12	1.97	0.46
1:A:419:LYS:HD2	1:A:446:GLU:HB3	1.97	0.46
1:A:552:GLU:O	1:A:556:GLU:N	2.49	0.46
1:A:852:ASP:OD1	1:A:853:PHE:N	2.49	0.46
1:A:655:PHE:HB3	1:A:658:MET:HB3	1.97	0.46
1:A:439:LYS:HG3	5:A:908:PGE:H32	1.98	0.45
1:A:456:SER:HB2	1:A:799:HIS:HE2	1.82	0.45
5:A:905:PGE:H32	5:A:905:PGE:H5	1.79	0.44
1:A:401:ALA:HB1	1:A:483:GLU:HB3	2.00	0.44
1:A:681:ARG:NE	1:A:685:GLU:OE2	2.31	0.44
1:A:569:CYS:HB3	1:A:614:HIS:CE1	2.52	0.44
1:A:517:PRO:HD2	1:A:617:ILE:O	2.17	0.43
1:A:647:ALA:HB1	1:A:652:TRP:CD1	2.53	0.43
1:A:722:THR:OG1	1:A:724:ASP:OD1	2.27	0.43
1:A:174:PHE:CZ	1:A:572:THR:HA	2.56	0.41
1:A:629:ILE:HD11	1:A:723:PRO:HG2	2.01	0.41
1:A:275:ALA:HB2	1:A:288:LEU:HB2	2.02	0.41
1:A:363:VAL:HG11	1:A:414:ILE:HA	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:185:VAL:HB	1:A:718:ARG:NH2	2.35	0.41
1:A:185:VAL:HB	1:A:718:ARG:HH22	1.85	0.41
1:A:459:HIS:HE1	1:A:461:GLU:HB2	1.86	0.40
1:A:518:ALA:HA	1:A:622:ALA:HB2	2.02	0.40
1:A:375:ALA:O	1:A:382:ARG:NH1	2.53	0.40

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	850/878 (97%)	825 (97%)	23 (3%)	2 (0%)	47	44
2	C	37/60 (62%)	36 (97%)	1 (3%)	0	100	100
All	All	887/938 (95%)	861 (97%)	24 (3%)	2 (0%)	47	44

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	827	VAL
1	A	828	SER

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	714/741 (96%)	713 (100%)	1 (0%)	93	95
2	C	31/51 (61%)	31 (100%)	0	100	100
All	All	745/792 (94%)	744 (100%)	1 (0%)	93	95

All (1) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	827	VAL

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

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 ⓘ

8 ligands are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#|Z| > 2$	Counts	RMSZ	$\#|Z| > 2$
3	FUM	A	901	-	7,7,7	1.09	0	8,8,8	0.87	0
5	PGE	A	908	-	9,9,9	0.45	0	8,8,8	0.32	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	#|Z| > 2	Counts	RMSZ	#|Z| > 2
5	PGE	A	903	-	9,9,9	0.44	0	8,8,8	0.30	0
5	PGE	A	906	-	9,9,9	0.45	0	8,8,8	0.25	0
5	PGE	A	905	-	9,9,9	0.43	0	8,8,8	0.39	0
4	TRS	A	902	-	7,7,7	0.30	0	9,9,9	0.35	0
6	PG4	A	907	-	12,12,12	0.45	0	11,11,11	0.33	0
5	PGE	A	904	-	9,9,9	0.40	0	8,8,8	0.54	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
3	FUM	A	901	-	-	0/5/5/5	-
5	PGE	A	908	-	-	1/7/7/7	-
5	PGE	A	903	-	-	0/7/7/7	-
5	PGE	A	906	-	-	0/7/7/7	-
5	PGE	A	905	-	-	3/7/7/7	-
4	TRS	A	902	-	-	2/9/9/9	-
6	PG4	A	907	-	-	0/10/10/10	-
5	PGE	A	904	-	-	1/7/7/7	-

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (7) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	A	902	TRS	N-C-C2-O2
5	A	905	PGE	O2-C3-C4-O3
5	A	908	PGE	O3-C5-C6-O4
5	A	904	PGE	C3-C4-O3-C5
4	A	902	TRS	C1-C-C2-O2
5	A	905	PGE	C3-C4-O3-C5
5	A	905	PGE	O1-C1-C2-O2

There are no ring outliers.

3 monomers are involved in 9 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	A	908	PGE	3	0
5	A	905	PGE	4	0
5	A	904	PGE	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(Å^2)	Q<0.9
1	A	853/878 (97%)	0.69	121 (14%)	2	2	25, 42, 110, 177	0
2	C	39/60 (65%)	0.47	3 (7%)	13	12	37, 51, 81, 84	0
All	All	892/938 (95%)	0.68	124 (13%)	2	2	25, 43, 110, 177	0

All (124) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
2	C	9	CYS	7.5
1	A	708	ALA	6.1
1	A	16	LYS	6.1
1	A	840	TYR	5.8
1	A	18	LEU	5.8
1	A	548	LEU	5.7
1	A	680	THR	5.6
1	A	856	SER	5.3
1	A	15	GLY	5.3
1	A	29	THR	5.3
1	A	6	VAL	5.2
1	A	25	PRO	5.2
1	A	627	VAL	5.1
1	A	660	VAL	5.0
1	A	855	ALA	5.0
1	A	727	PHE	4.9
1	A	13	TYR	4.8
1	A	732	ALA	4.7
1	A	652	TRP	4.7
1	A	639	TYR	4.5
1	A	14	LYS	4.4
1	A	636	GLU	4.3
1	A	864	GLU	4.3
1	A	626	LEU	4.3

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Mol	Chain	Res	Type	RSRZ
1	A	653	GLU	4.2
1	A	30	ILE	4.1
2	C	10	ALA	4.0
1	A	11	LEU	4.0
1	A	638	LYS	3.9
1	A	28	GLU	3.8
1	A	860	PHE	3.8
1	A	19	ASN	3.8
1	A	631	LYS	3.8
1	A	771	LEU	3.7
1	A	12	GLU	3.7
1	A	863	VAL	3.7
1	A	554	VAL	3.6
1	A	17	LYS	3.6
1	A	551	PHE	3.5
1	A	854	SER	3.5
1	A	549	LYS	3.5
1	A	742	GLY	3.5
1	A	545	LEU	3.4
1	A	655	PHE	3.4
1	A	668	TRP	3.4
1	A	746	LYS	3.3
1	A	845	ILE	3.3
1	A	716	GLY	3.2
1	A	641	LEU	3.2
1	A	752	LEU	3.2
1	A	766	LEU	3.2
1	A	858	LEU	3.2
1	A	622	ALA	3.1
1	A	620	ILE	3.1
1	A	733	ASP	3.1
1	A	657	GLU	3.1
1	A	666	PRO	3.1
1	A	767	LEU	3.1
1	A	10	VAL	3.0
1	A	776	MET	3.0
1	A	628	ALA	3.0
1	A	632	LEU	2.9
1	A	664	ARG	2.9
1	A	7	SER	2.9
1	A	674	TYR	2.9
1	A	755	VAL	2.9

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Mol	Chain	Res	Type	RSRZ
1	A	857	ASP	2.9
1	A	662	PHE	2.8
1	A	586	MET	2.8
1	A	385	PHE	2.8
1	A	772	SER	2.8
1	A	331	ALA	2.7
1	A	319	ILE	2.7
1	A	728	GLY	2.7
1	A	656	GLU	2.7
1	A	846	ILE	2.6
1	A	862	ASN	2.6
1	A	318	LEU	2.5
1	A	780	HIS	2.5
1	A	737	ILE	2.5
1	A	865	ILE	2.5
1	A	667	LYS	2.5
1	A	31	PRO	2.5
1	A	734	ASP	2.5
1	A	635	GLU	2.5
1	A	744	ASP	2.5
1	A	644	LEU	2.5
1	A	534	ALA	2.5
1	A	843	ASN	2.4
1	A	760	LYS	2.4
1	A	384	ILE	2.4
1	A	550	SER	2.4
1	A	584	LEU	2.4
1	A	177	ALA	2.4
1	A	681	ARG	2.3
1	A	633	VAL	2.3
1	A	9	LYS	2.3
1	A	20	PHE	2.3
1	A	643	GLN	2.3
1	A	645	SER	2.2
1	A	671	ASP	2.2
1	A	619	THR	2.2
1	A	830	TYR	2.2
1	A	8	ALA	2.2
1	A	457	ILE	2.2
1	A	317	PHE	2.2
1	A	589	VAL	2.2
1	A	683	TYR	2.2

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Mol	Chain	Res	Type	RSRZ
1	A	731	ALA	2.2
1	A	751	VAL	2.1
1	A	814	GLN	2.1
1	A	552	GLU	2.1
2	C	24	ALA	2.1
1	A	816	GLU	2.1
1	A	350	LYS	2.1
1	A	754	SER	2.1
1	A	859	GLU	2.1
1	A	618	THR	2.1
1	A	739	PRO	2.0
1	A	200	ILE	2.0
1	A	428	ILE	2.0
1	A	201	VAL	2.0
1	A	659	ARG	2.0
1	A	544	ASP	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
5	PGE	A	908	10/10	0.66	0.35	63,67,71,72	0
5	PGE	A	904	10/10	0.71	0.37	56,74,81,81	0
4	TRS	A	902	8/8	0.72	0.23	57,59,62,65	0
5	PGE	A	906	10/10	0.82	0.37	57,61,63,64	0
6	PG4	A	907	13/13	0.85	0.22	46,53,57,58	0
5	PGE	A	905	10/10	0.87	0.23	47,52,63,65	0
5	PGE	A	903	10/10	0.90	0.22	50,56,60,61	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($Å^2$)	Q<0.9
3	FUM	A	901	8/8	0.90	0.14	33,41,44,45	0

6.5 Other polymers ⓘ

There are no such residues in this entry.