Full wwPDB X-ray Structure Validation Report (i)

Dec 16, 2024 – 12:53 AM EST

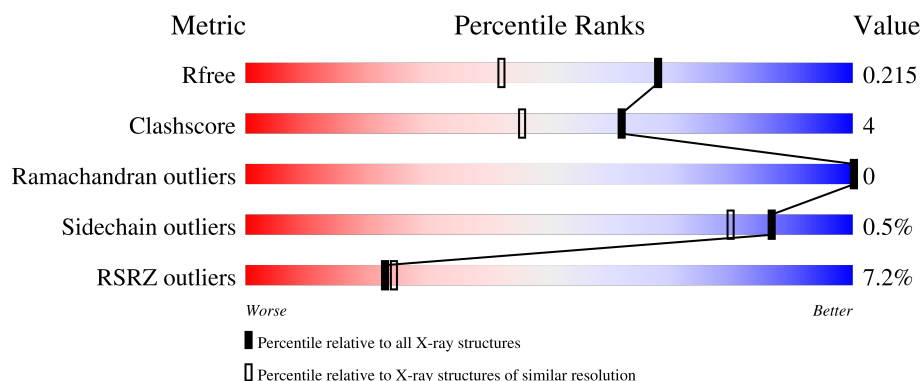|		
PDB ID	:	6DAY
Title	:	Xanthomonas albilineans Dihydropteroate synthase with 4-aminobenzoic acid at 1.65 A
Authors	:	Oliveira, A.A.; Guido, R.V.C.; Lima, G.M.A.; Bueno, R.V.; Maluf, F.V.
Deposited on	:	2018-05-02
Resolution	:	1.65 Å(reported)

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		0.215
Clashscore		4
Ramachandran outliers		0
Sidechain outliers		0.5%
RSRZ outliers		7.2%

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}	164625	2328 (1.66-1.66)
Clashscore	180529	2515 (1.66-1.66)
Ramachandran outliers	177936	2475 (1.66-1.66)
Sidechain outliers	177891	2475 (1.66-1.66)
RSRZ outliers	164620	2328 (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	300	3% / 83% · 14%
1	B	300	15% / 75% 14% 10%
1	C	300	3% / 80% 8% 12%
1	D	300	5% / 89% · 9%

2 Entry composition ⓘ

There are 5 unique types of molecules in this entry. The entry contains 8469 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 Dihydropteroate synthase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	259	Total	C	N	O	S	0	0	0
			1882	1195	338	341	8			
1	B	269	Total	C	N	O	S	0	1	0
			1893	1197	346	343	7			
1	C	264	Total	C	N	O	S	0	1	0
			1927	1219	349	351	8			
1	D	273	Total	C	N	O	S	0	0	0
			1983	1251	360	364	8			

- Molecule 2 is 4-AMINOBENZOIC ACID (three-letter code: PAB) (formula: $C_7H_7NO_2$).
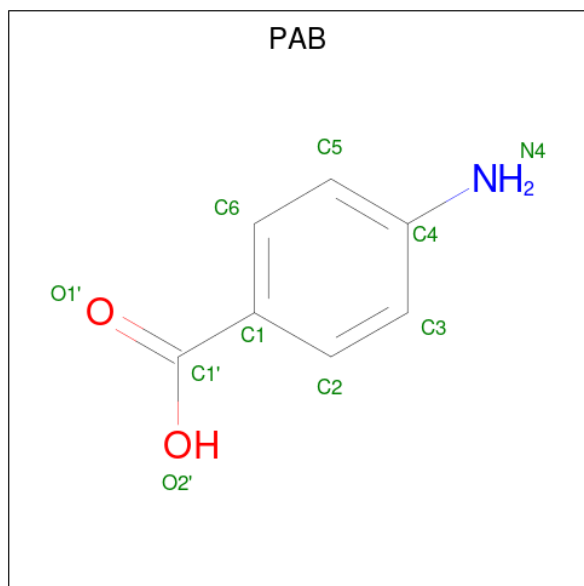
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
2	A	1	Total	C	N	O	0	0
			10	7	1	2		
2	A	1	Total	C	N	O	0	0
			10	7	1	2		

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Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
2	B	1	Total 10	C 7	N 1	O 2	0	0
2	B	1	Total 10	C 7	N 1	O 2	0	0
2	B	1	Total 10	C 7	N 1	O 2	0	0
2	C	1	Total 10	C 7	N 1	O 2	0	0
2	D	1	Total 10	C 7	N 1	O 2	0	0
2	D	1	Total 10	C 7	N 1	O 2	0	0

- Molecule 3 is SULFATE ION (three-letter code: SO4) (formula: O_4S).

Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
3	A	1	Total 5	O 4	S 1	0	0
3	A	1	Total 5	O 4	S 1	0	0
3	B	1	Total 5	O 4	S 1	0	0
3	B	1	Total 5	O 4	S 1	0	0
3	C	1	Total 5	O 4	S 1	0	0

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Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
3	D	1	Total 5	O 4	S 1	0	0

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

Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
4	C	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 water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	A	167	Total 167	O 167	0	0
5	B	95	Total 95	O 95	0	0
5	C	201	Total 201	O 201	0	0
5	D	193	Total 193	O 193	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: Dihydropteroate synthase
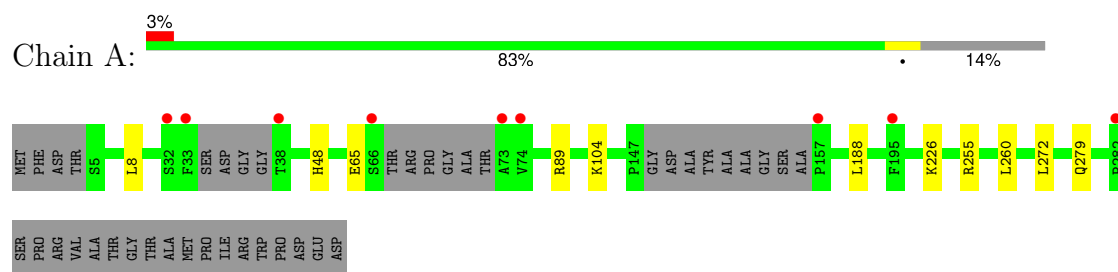
- Molecule 1: Dihydropteroate synthase
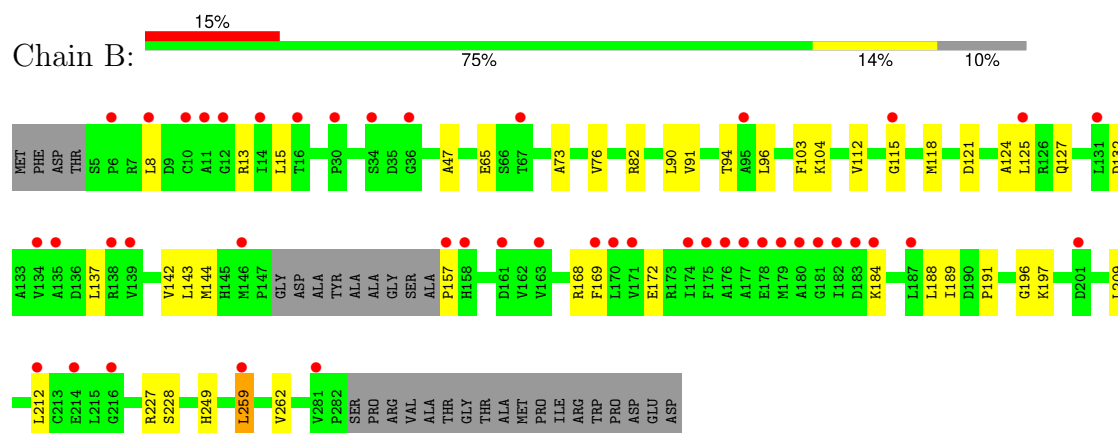
- Molecule 1: Dihydropteroate synthase

- Molecule 1: Dihydropteroate synthase

4 Data and refinement statistics ⓘ

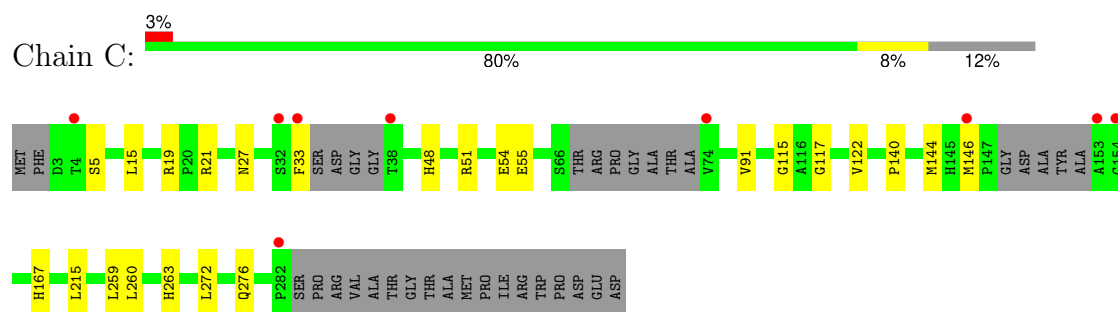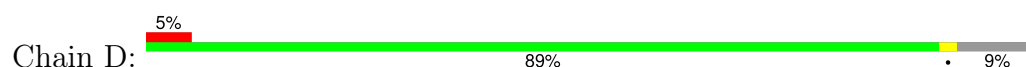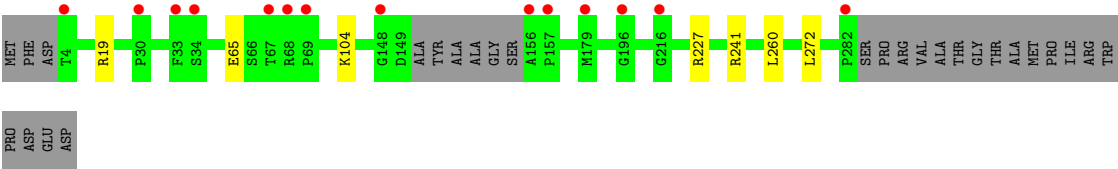| Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	82.59Å 75.39Å 89.11Å 90.00° 101.10° 90.00°	Depositor
Resolution (Å)	32.75 – 1.65 32.75 – 1.65	Depositor EDS
% Data completeness (in resolution range)	99.0 (32.75-1.65) 91.5 (32.75-1.65)	Depositor EDS
R_{merge}	0.02	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	2.19 (at 1.65Å)	Xtriage
Refinement program	PHENIX 1.13_2998	Depositor
R, R_{free}	0.177 , 0.216 0.178 , 0.215	Depositor DCC
R_{free} test set	6433 reflections (5.01%)	wwPDB-VP
Wilson B-factor (Å^2)	21.5	Xtriage
Anisotropy	0.753	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.38 , 55.8	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	0.97	EDS
Total number of atoms	8469	wwPDB-VP
Average B, all atoms (Å^2)	39.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The analyses of the Patterson function reveals a significant off-origin peak that is 58.80 % of the origin peak, indicating pseudo-translational symmetry. The chance of finding a peak of this or larger height randomly in a structure without pseudo-translational symmetry is equal to 1.9403e-05. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

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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: SO4, PAB, 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	0.49	0/1911	0.68	0/2609
1	B	0.46	0/1923	0.68	1/2631 (0.0%)
1	C	0.55	0/1956	0.69	0/2668
1	D	0.49	0/2014	0.66	0/2749
All	All	0.50	0/7804	0.68	1/10657 (0.0%)

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B	259	LEU	CB-CG-CD1	-8.23	97.00	111.00

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	1882	0	1898	6	0
1	B	1893	0	1877	34	0
1	C	1927	0	1944	18	0
1	D	1983	0	2016	5	0
2	A	20	0	12	1	0
2	B	30	0	18	5	0

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WORLDWIDE
PDB
PROTEIN DATA BANK

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	C	10	0	6	0	0
2	D	20	0	12	0	0
3	A	10	0	0	0	0
3	B	10	0	0	0	0
3	C	5	0	0	0	0
3	D	5	0	0	0	0
4	C	12	0	16	2	0
4	D	6	0	8	0	0
5	A	167	0	0	1	0
5	B	95	0	0	5	0
5	C	201	0	0	4	0
5	D	193	0	0	1	0
All	All	8469	0	7807	63	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 4.

All (63) 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:191:PRO:O	1:B:197:LYS:NZ	2.00	0.94
1:B:91:VAL:HG11	1:B:115:GLY:HA3	1.67	0.75
1:C:54:GLU:OE1	5:C:501:HOH:O	2.04	0.74
1:C:19:ARG:HB2	1:C:276:GLN:HE22	1.50	0.74
1:D:19:ARG:NH1	5:D:501:HOH:O	2.22	0.72
1:B:132:ASP:OD2	5:B:501:HOH:O	2.06	0.72
1:B:228:SER:OG	5:B:502:HOH:O	2.10	0.70
1:C:5:SER:OG	5:C:502:HOH:O	2.11	0.68
1:B:76:VAL:HG22	1:B:104:LYS:HD3	1.74	0.67
1:B:112:VAL:HG21	1:B:137:LEU:HD13	1.77	0.66
1:C:19:ARG:HB2	1:C:276:GLN:NE2	2.13	0.62
1:B:168:ARG:O	1:B:172:GLU:HG3	2.00	0.62
1:D:227:ARG:NH1	1:D:241:ARG:HH12	1.97	0.62
1:C:51:ARG:NH1	1:C:54:GLU:OE2	2.34	0.61
1:C:55:GLU:OE1	5:C:503:HOH:O	2.16	0.60
1:B:121:ASP:OD1	1:B:125:LEU:HD23	2.02	0.60
1:A:8:LEU:HD11	1:A:188:LEU:HD21	1.85	0.59
1:B:127:GLN:HB2	5:B:528:HOH:O	2.04	0.57
1:B:65:GLU:OE2	1:B:104:LYS:NZ	2.37	0.56
1:B:188:LEU:CD2	1:B:259:LEU:HD11	2.36	0.56
1:C:122:VAL:HA	1:C:144:MET:HE3	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:51:ARG:HD2	5:C:617:HOH:O	2.07	0.54
1:B:8:LEU:HD12	1:B:15:LEU:HD23	1.90	0.54
1:B:103:PHE:HD1	1:B:127:GLN:HG3	1.73	0.53
1:D:260:LEU:HD12	1:D:272:LEU:HD11	1.91	0.53
1:A:65:GLU:OE2	1:A:104:LYS:NZ	2.42	0.52
1:D:65:GLU:OE2	1:D:104:LYS:NZ	2.43	0.52
1:C:91:VAL:HG21	1:C:115:GLY:HA3	1.92	0.51
1:A:255:ARG:NE	5:A:502:HOH:O	2.20	0.51
1:A:260:LEU:HD12	1:A:272:LEU:HD11	1.91	0.51
1:B:124:ALA:HB2	1:B:144:MET:O	2.10	0.51
1:B:249:HIS:CE1	1:B:262:VAL:HG12	2.45	0.51
1:B:188:LEU:CD2	1:B:259:LEU:CD1	2.89	0.50
1:B:227:ARG:NH2	5:B:502:HOH:O	2.43	0.50
1:B:73:ALA:O	2:B:402:PAB:N4	2.45	0.50
1:A:89:ARG:HH11	1:A:89:ARG:HG3	1.77	0.50
1:B:143:LEU:O	1:B:189:ILE:HA	2.13	0.49
1:B:47:ALA:HB1	2:B:403:PAB:H3	1.95	0.49
1:B:227:ARG:NH2	5:B:505:HOH:O	2.30	0.49
1:B:82:ARG:NH2	2:B:402:PAB:H2	2.29	0.48
1:C:117:GLY:O	1:C:140:PRO:HD2	2.14	0.47
1:B:90:LEU:O	1:B:94:THR:HG22	2.15	0.46
1:C:167:HIS:NE2	1:C:215:LEU:HD21	2.30	0.46
1:B:47:ALA:HB1	2:B:403:PAB:C3	2.47	0.45
2:B:402:PAB:O2'	1:C:48:HIS:ND1	2.45	0.44
1:B:157:PRO:HG2	1:B:196:GLY:O	2.17	0.44
1:C:260:LEU:HD12	1:C:272:LEU:HD11	1.99	0.44
1:B:142:VAL:HA	1:B:188:LEU:HB2	2.00	0.44
1:B:209:LEU:HA	1:B:212:LEU:HD12	1.98	0.44
1:B:8:LEU:HB2	1:B:15:LEU:HB3	2.01	0.43
1:D:227:ARG:HG2	1:D:227:ARG:HH11	1.83	0.43
1:B:169:PHE:HA	1:B:172:GLU:OE2	2.19	0.43
1:C:263:HIS:NE2	4:C:402:GOL:H11	2.34	0.43
1:A:48:HIS:ND1	2:A:402:PAB:O1'	2.48	0.42
1:B:137:LEU:HD23	1:B:137:LEU:HA	1.81	0.42
1:B:188:LEU:HD21	1:B:259:LEU:HD11	2.01	0.42
1:C:21:ARG:HB2	1:C:259:LEU:HD23	2.00	0.42
1:C:27[A]:ASN:OD1	4:C:402:GOL:H12	2.20	0.42
1:B:76:VAL:HG22	1:B:104:LYS:CD	2.46	0.41
1:C:122:VAL:O	1:C:146:MET:HE2	2.20	0.41
1:B:13:ARG:NH1	1:B:96:LEU:O	2.45	0.41
1:B:118:MET:HE3	1:B:142:VAL:HG23	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:15:LEU:HD21	1:C:259:LEU:HD21	2.03	0.41

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	251/300 (84%)	246 (98%)	5 (2%)	0	100	100
1	B	266/300 (89%)	260 (98%)	6 (2%)	0	100	100
1	C	257/300 (86%)	253 (98%)	4 (2%)	0	100	100
1	D	269/300 (90%)	265 (98%)	4 (2%)	0	100	100
All	All	1043/1200 (87%)	1024 (98%)	19 (2%)	0	100	100

There are no Ramachandran outliers to report.

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	189/232 (82%)	187 (99%)	2 (1%)	70	54
1	B	180/232 (78%)	178 (99%)	2 (1%)	70	54
1	C	194/232 (84%)	193 (100%)	1 (0%)	86	80
1	D	201/232 (87%)	201 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
All	All	764/928 (82%)	759 (99%)	5 (1%)	86 71

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

Mol	Chain	Res	Type
1	A	226	LYS
1	A	279	GLN
1	B	184[A]	LYS
1	B	184[B]	LYS
1	C	33	PHE

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 oligosaccharides in this entry.

5.6 Ligand geometry ⓘ

17 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	SO4	D	404	-	4,4,4	0.27	0	6,6,6	0.28	0
3	SO4	A	404	-	4,4,4	0.27	0	6,6,6	0.09	0
2	PAB	A	402	-	10,10,10	1.00	1 (10%)	13,13,13	1.11	1 (7%)
2	PAB	B	403	-	10,10,10	1.05	1 (10%)	13,13,13	1.02	0
3	SO4	B	405	-	4,4,4	0.24	0	6,6,6	0.09	0
4	GOL	C	403	-	5,5,5	0.71	0	5,5,5	1.16	1 (20%)
3	SO4	C	404	-	4,4,4	0.27	0	6,6,6	0.16	0
2	PAB	A	401	-	10,10,10	1.06	1 (10%)	13,13,13	1.05	0
2	PAB	C	401	-	10,10,10	1.07	1 (10%)	13,13,13	1.21	1 (7%)
4	GOL	D	402	-	5,5,5	1.09	1 (20%)	5,5,5	1.13	0
2	PAB	D	401	-	10,10,10	1.10	1 (10%)	13,13,13	1.19	0
3	SO4	A	403	-	4,4,4	0.23	0	6,6,6	0.10	0
4	GOL	C	402	-	5,5,5	0.62	0	5,5,5	1.05	1 (20%)
2	PAB	B	402	-	10,10,10	1.09	0	13,13,13	1.12	1 (7%)
3	SO4	B	404	-	4,4,4	0.28	0	6,6,6	0.08	0
2	PAB	D	403	-	10,10,10	1.49	3 (30%)	13,13,13	0.96	1 (7%)
2	PAB	B	401	-	10,10,10	1.11	1 (10%)	13,13,13	1.29	1 (7%)

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	PAB	A	402	-	-	0/4/4/4	0/1/1/1
2	PAB	B	403	-	-	0/4/4/4	0/1/1/1
4	GOL	C	403	-	-	2/4/4/4	-
2	PAB	A	401	-	-	0/4/4/4	0/1/1/1
2	PAB	C	401	-	-	0/4/4/4	0/1/1/1
4	GOL	D	402	-	-	4/4/4/4	-
2	PAB	D	401	-	-	0/4/4/4	0/1/1/1
4	GOL	C	402	-	-	2/4/4/4	-
2	PAB	B	402	-	-	0/4/4/4	0/1/1/1
2	PAB	D	403	-	-	0/4/4/4	0/1/1/1
2	PAB	B	401	-	-	0/4/4/4	0/1/1/1

All (10) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	D	403	PAB	C1-C1'	2.93	1.55	1.49
2	D	403	PAB	O1'-C1'	2.33	1.29	1.22
2	D	403	PAB	C4-N4	2.31	1.46	1.38
2	D	401	PAB	C4-N4	2.27	1.46	1.38
2	B	401	PAB	C4-N4	2.24	1.46	1.38
2	A	401	PAB	C4-N4	2.22	1.46	1.38
2	B	403	PAB	C4-N4	2.11	1.45	1.38
2	C	401	PAB	C4-N4	2.05	1.45	1.38
4	D	402	GOL	C1-C2	2.03	1.59	1.51
2	A	402	PAB	C4-N4	2.01	1.45	1.38

All (7) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	B	401	PAB	O2'-C1'-C1	2.37	120.91	114.84
2	A	402	PAB	O2'-C1'-C1	2.28	120.70	114.84
2	D	403	PAB	O2'-C1'-O1'	-2.15	118.74	123.35
4	C	402	GOL	C3-C2-C1	-2.13	104.00	111.80
2	B	402	PAB	O2'-C1'-C1	2.13	120.29	114.84
2	C	401	PAB	O2'-C1'-C1	2.08	120.16	114.84
4	C	403	GOL	C3-C2-C1	-2.00	104.45	111.80

There are no chirality outliers.

All (8) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	C	402	GOL	O1-C1-C2-C3
4	C	403	GOL	O1-C1-C2-C3
4	D	402	GOL	O1-C1-C2-C3
4	C	402	GOL	O1-C1-C2-O2
4	C	403	GOL	O1-C1-C2-O2
4	D	402	GOL	O1-C1-C2-O2
4	D	402	GOL	C1-C2-C3-O3
4	D	402	GOL	O2-C2-C3-O3

There are no ring outliers.

4 monomers are involved in 8 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	A	402	PAB	1	0
2	B	403	PAB	2	0
4	C	402	GOL	2	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	B	402	PAB	3	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	259/300 (86%)	0.15	9 (3%)	47	51	19, 33, 63, 94	0
1	B	269/300 (89%)	0.89	45 (16%)	5	5	24, 47, 76, 101	1 (0%)
1	C	264/300 (88%)	-0.02	9 (3%)	48	52	17, 28, 62, 97	1 (0%)
1	D	273/300 (91%)	0.06	14 (5%)	34	37	20, 30, 59, 89	0
All	All	1065/1200 (88%)	0.27	77 (7%)	23	24	17, 33, 70, 101	2 (0%)

All (77) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	184[A]	LYS	6.8
1	B	180	ALA	5.3
1	B	182	ILE	5.2
1	B	176	ALA	4.6
1	A	66	SER	4.4
1	C	38	THR	4.3
1	B	177	ALA	4.3
1	C	33	PHE	4.1
1	B	179	MET	3.9
1	A	33	PHE	3.9
1	A	38	THR	3.8
1	D	67	THR	3.7
1	B	174	ILE	3.6
1	D	148	GLY	3.6
1	C	74	VAL	3.5
1	B	135	ALA	3.4
1	B	6	PRO	3.3
1	B	170	LEU	3.3
1	B	212	LEU	3.3
1	B	216	GLY	3.2
1	B	183	ASP	3.2

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Mol	Chain	Res	Type	RSRZ
1	A	74	VAL	3.1
1	A	282	PRO	3.1
1	D	69	PRO	3.1
1	A	32	SER	3.0
1	D	156	ALA	3.0
1	B	175	PHE	3.0
1	B	34	SER	2.9
1	D	30	PRO	2.8
1	B	12	GLY	2.8
1	A	157	PRO	2.8
1	B	67	THR	2.8
1	A	195	PHE	2.8
1	D	179	MET	2.8
1	B	131	LEU	2.7
1	B	281	VAL	2.7
1	B	95	ALA	2.7
1	C	153	ALA	2.7
1	D	34	SER	2.7
1	A	73	ALA	2.6
1	B	157	PRO	2.6
1	B	181	GLY	2.6
1	B	169	PHE	2.5
1	B	161	ASP	2.5
1	B	134	VAL	2.5
1	B	171	VAL	2.5
1	D	216	GLY	2.5
1	B	201	ASP	2.5
1	D	4	THR	2.5
1	B	11	ALA	2.5
1	B	14	ILE	2.4
1	C	32	SER	2.4
1	B	178	GLU	2.4
1	D	33	PHE	2.3
1	C	4	THR	2.3
1	D	282	PRO	2.3
1	B	187	LEU	2.3
1	B	259	LEU	2.3
1	B	30	PRO	2.3
1	C	146	MET	2.3
1	B	16	THR	2.3
1	B	8	LEU	2.3
1	B	125	LEU	2.3

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Mol	Chain	Res	Type	RSRZ
1	D	68	ARG	2.2
1	B	158	HIS	2.2
1	B	139	VAL	2.2
1	B	36	GLY	2.2
1	D	157	PRO	2.2
1	C	154	GLY	2.2
1	D	196	GLY	2.2
1	C	282	PRO	2.1
1	B	10	CYS	2.1
1	B	138	ARG	2.1
1	B	115	GLY	2.1
1	B	146	MET	2.0
1	B	163	VAL	2.0
1	B	214	GLU	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	PAB	D	403	10/10	0.66	0.19	45,65,69,69	0
3	SO4	B	405	5/5	0.72	0.13	107,107,108,108	0
4	GOL	D	402	6/6	0.73	0.19	57,61,62,63	0
2	PAB	B	403	10/10	0.79	0.16	81,82,83,83	0
3	SO4	A	403	5/5	0.83	0.14	100,100,100,100	0
4	GOL	C	402	6/6	0.84	0.14	59,59,60,62	0
4	GOL	C	403	6/6	0.84	0.15	65,66,66,66	0
2	PAB	B	402	10/10	0.84	0.16	69,70,70,70	0
2	PAB	C	401	10/10	0.85	0.17	55,55,58,58	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
2	PAB	B	401	10/10	0.87	0.14	48,56,59,59	0
2	PAB	A	401	10/10	0.87	0.15	55,55,56,56	0
2	PAB	A	402	10/10	0.89	0.14	63,64,66,66	0
2	PAB	D	401	10/10	0.90	0.12	37,45,47,48	0
3	SO4	B	404	5/5	0.91	0.09	72,72,73,73	0
3	SO4	D	404	5/5	0.93	0.09	63,65,66,66	0
3	SO4	A	404	5/5	0.95	0.09	58,58,59,59	0
3	SO4	C	404	5/5	0.96	0.08	54,55,56,56	0

6.5 Other polymers ⓘ

There are no such residues in this entry.