



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 9, 2026 – 09:50 AM UTC

PDB ID : 1JN1 / pdb_00001jn1
Title : Structure of 2C-methyl-D-erythritol 2,4-cyclodiphosphate synthase from Haemophilus influenzae (HI0671)
Authors : Lehmann, C.; Lim, K.; Toedt, J.; Krajewski, W.; Howard, A.; Eisenstein, E.; Herzberg, O.; Structure 2 Function Project (S2F)
Deposited on : 2001-07-21
Resolution : 2.90 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 : 4-5-2 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

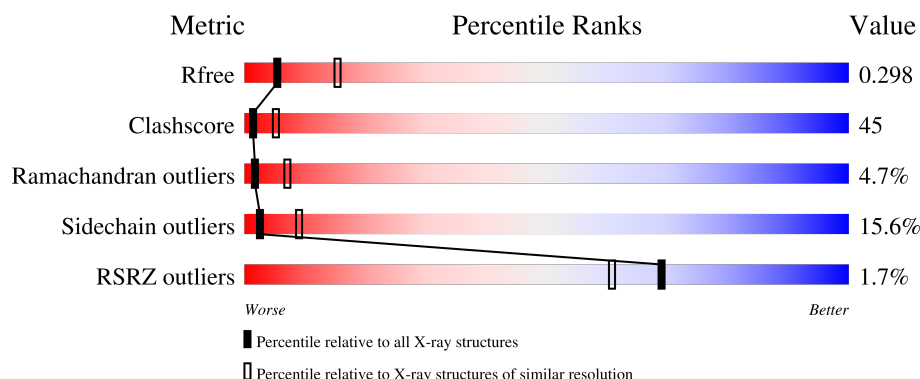
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.90 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	2481 (2.90-2.90)
Clashscore	190562	2690 (2.90-2.90)
Ramachandran outliers	187476	2623 (2.90-2.90)
Sidechain outliers	187428	2625 (2.90-2.90)
RSRZ outliers	180081	2481 (2.90-2.90)

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	158	35% 42% 21% ..
1	B	158	43% 41% 15% ..
1	C	158	4% 29% 50% 18% ..

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
3	SO4	A	301	-	-	X	-

2 Entry composition

There are 3 unique types of molecules in this entry. The entry contains 3603 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.

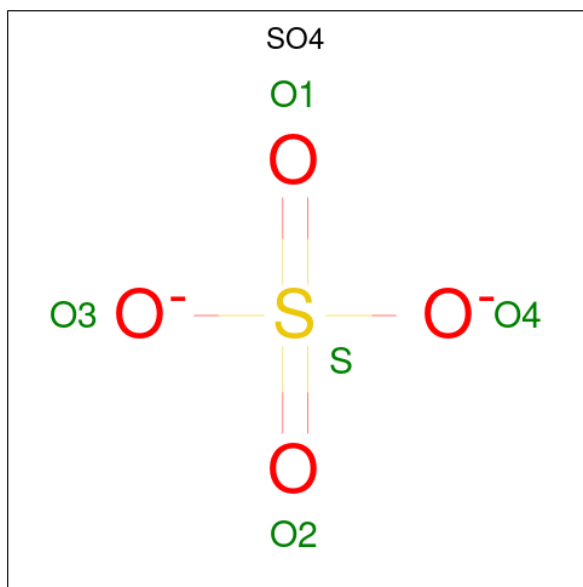
- Molecule 1 is a protein called 2C-METHYL-D-ERYTHRITOL 2,4-CYCLODIPHOSPHATE SYNTHASE.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	157	Total	C	N	O	S	0	0	0
			1198	754	214	224	6			
1	B	157	Total	C	N	O	S	0	0	0
			1198	754	214	224	6			
1	C	157	Total	C	N	O	S	0	0	0
			1198	754	214	224	6			

- Molecule 2 is COBALT (II) ION (CCD ID: CO) (formula: Co).

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

- Molecule 3 is SULFATE ION (CCD ID: SO4) (formula: O₄S).

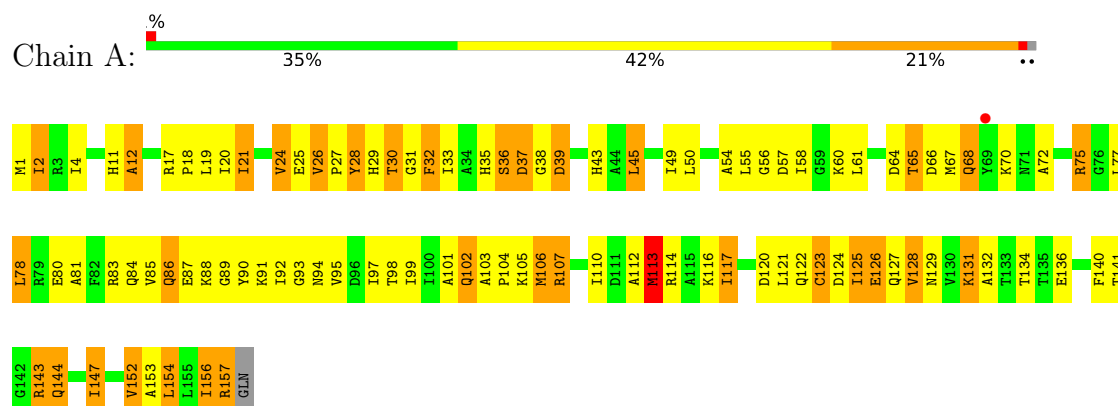


Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
3	A	1	Total	O	S	0	0
			5	4	1		

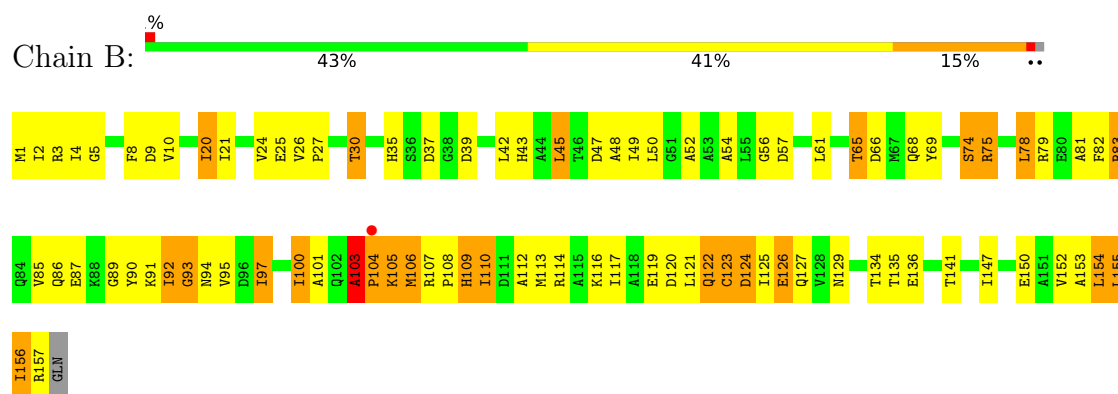
3 Residue-property plots

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.

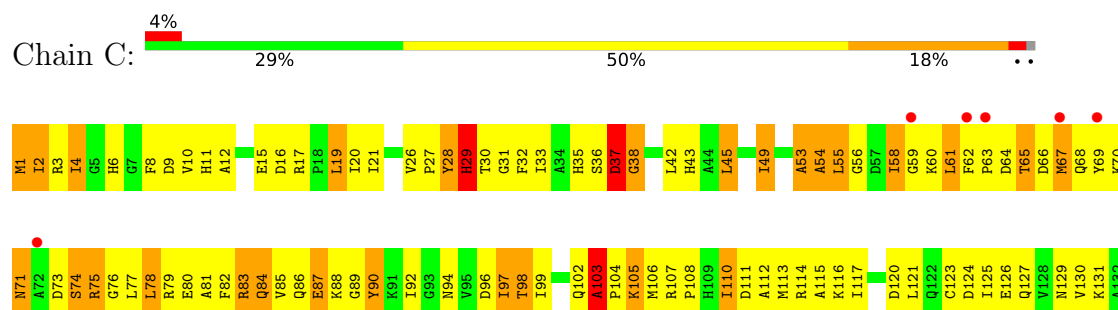
• Molecule 1: 2C-METHYL-D-ERYTHRITOL 2,4-CYCLODIPHOSPHATE SYNTHASE

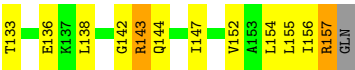


• Molecule 1: 2C-METHYL-D-ERYTHRITOL 2,4-CYCLODIPHOSPHATE SYNTHASE



• Molecule 1: 2C-METHYL-D-ERYTHRITOL 2,4-CYCLODIPHOSPHATE SYNTHASE





4 Data and refinement statistics

Property	Value	Source
Space group	I 41 2 2	Depositor
Cell constants a, b, c, α , β , γ	112.30Å 112.30Å 187.60Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	20.00 – 2.90 20.00 – 2.90	Depositor EDS
% Data completeness (in resolution range)	(Not available) (20.00-2.90) 97.3 (20.00-2.90)	Depositor EDS
R_{merge}	0.05	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	5.87 (at 2.90Å)	Xtriage
Refinement program	CNS	Depositor
R, R_{free}	0.198 , 0.290 0.208 , 0.298	Depositor DCC
R_{free} test set	1137 reflections (8.51%)	wwPDB-VP
Wilson B-factor (Å ²)	67.9	Xtriage
Anisotropy	0.190	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.29 , 44.1	EDS
L-test for twinning ²	$\langle L \rangle = 0.50$, $\langle L^2 \rangle = 0.33$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.94	EDS
Total number of atoms	3603	wwPDB-VP
Average B, all atoms (Å ²)	57.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 6.46% 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

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: CO, SO4

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	1.07	1/1217 (0.1%)	1.42	21/1642 (1.3%)
1	B	1.01	1/1217 (0.1%)	1.34	12/1642 (0.7%)
1	C	1.05	2/1217 (0.2%)	1.31	13/1642 (0.8%)
All	All	1.04	4/3651 (0.1%)	1.36	46/4926 (0.9%)

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	C	1	MET	SD-CE	7.61	1.98	1.79
1	C	28	TYR	CA-C	6.15	1.61	1.52
1	B	1	MET	SD-CE	5.61	1.93	1.79
1	A	12	ALA	CA-CB	-5.29	1.44	1.53

All (46) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	C	19	LEU	N-CA-C	8.04	122.17	110.28
1	B	30	THR	N-CA-C	8.01	120.79	111.02
1	C	71	ASN	N-CA-C	7.83	121.22	109.25
1	A	83	ARG	N-CA-C	-7.65	102.88	111.14
1	C	103	ALA	CA-C-N	-7.63	111.77	119.93
1	C	103	ALA	C-N-CA	-7.63	111.77	119.93
1	B	97	ILE	N-CA-C	7.58	119.04	108.12
1	B	110	ILE	N-CA-C	7.56	117.64	110.53
1	A	131	LYS	N-CA-C	7.40	120.31	109.07
1	A	32	PHE	N-CA-C	7.09	118.66	111.07
1	C	53	ALA	N-CA-C	-6.87	103.86	111.82
1	B	83	ARG	N-CA-C	-6.69	103.68	110.97
1	B	156	ILE	N-CA-C	6.57	117.36	108.17
1	C	133	THR	CB-CA-C	-6.51	97.41	110.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	143	ARG	N-CA-C	-6.48	105.44	113.15
1	C	143	ARG	N-CA-C	-6.37	105.26	113.16
1	A	113	MET	N-CA-C	-6.32	104.31	111.14
1	A	30	THR	N-CA-C	6.18	120.61	111.04
1	A	37	ASP	N-CA-CB	-6.12	101.14	110.01
1	A	106	MET	N-CA-C	6.05	120.73	113.23
1	A	39	ASP	N-CA-CB	-6.01	102.45	110.57
1	A	86	GLN	N-CA-C	-5.91	104.24	112.45
1	B	24	VAL	N-CA-C	5.84	117.00	108.53
1	B	123	CYS	N-CA-C	-5.84	100.93	109.63
1	C	102	GLN	N-CA-C	5.71	119.43	112.23
1	A	58	ILE	N-CA-C	5.66	118.13	111.05
1	C	90	TYR	N-CA-C	5.63	118.58	109.40
1	A	36	SER	CA-C-N	5.58	127.70	120.44
1	A	36	SER	C-N-CA	5.58	127.70	120.44
1	B	119	GLU	CB-CA-C	-5.56	102.16	110.88
1	C	76	GLY	N-CA-C	-5.42	105.94	112.49
1	A	37	ASP	N-CA-C	-5.41	105.28	111.07
1	B	155	LEU	N-CA-C	5.35	117.63	108.90
1	C	112	ALA	N-CA-C	-5.34	105.45	111.28
1	B	103	ALA	N-CA-C	5.29	121.50	109.81
1	B	141	THR	N-CA-C	-5.29	105.59	111.36
1	B	48	ALA	N-CA-C	-5.28	105.17	111.03
1	A	93	GLY	N-CA-C	-5.24	100.77	113.18
1	A	123	CYS	CA-C-N	-5.14	115.90	123.00
1	A	123	CYS	C-N-CA	-5.14	115.90	123.00
1	A	21	ILE	N-CA-C	5.14	115.26	107.75
1	C	29	HIS	CA-CB-CG	5.14	118.94	113.80
1	A	29	HIS	N-CA-C	-5.07	102.06	108.45
1	C	97	ILE	N-CA-C	5.07	115.42	108.12
1	A	26	VAL	CA-C-N	5.05	126.15	119.84
1	A	26	VAL	C-N-CA	5.05	126.15	119.84

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	1198	0	1205	115	0
1	B	1198	0	1205	108	0
1	C	1198	0	1205	137	0
2	A	1	0	0	0	0
2	B	1	0	0	0	0
2	C	2	0	0	0	0
3	A	5	0	0	3	0
All	All	3603	0	3615	322	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 45.

All (322) 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:45:LEU:HG	1:C:97:ILE:HD11	1.27	1.15
1:C:67:MET:HA	1:C:70:LYS:HG2	1.35	1.09
1:A:156:ILE:O	1:A:157:ARG:HB2	1.57	1.02
1:C:63:PRO:HB2	1:C:65:THR:HG23	1.41	1.01
1:C:123:CYS:HB2	1:C:127:GLN:NE2	1.79	0.96
1:A:107:ARG:NH1	1:B:30:THR:HG21	1.83	0.94
1:B:81:ALA:O	1:B:85:VAL:HG23	1.68	0.93
1:B:89:GLY:O	1:B:157:ARG:HB3	1.72	0.90
1:A:4:ILE:HD12	1:A:153:ALA:O	1.73	0.89
1:A:124:ASP:H	1:A:127:GLN:HE21	1.17	0.87
1:A:33:ILE:HG13	1:A:64:ASP:OD1	1.76	0.86
1:A:54:ALA:HA	1:C:129:ASN:HD22	1.42	0.84
1:C:156:ILE:O	1:C:157:ARG:HB2	1.74	0.84
1:B:83:ARG:O	1:B:87:GLU:HG2	1.77	0.84
1:C:124:ASP:H	1:C:127:GLN:HE21	1.25	0.84
1:B:90:TYR:HA	1:B:157:ARG:HB2	1.58	0.83
1:B:91:LYS:HE3	1:B:157:ARG:NH1	1.94	0.83
1:A:45:LEU:HG	1:A:97:ILE:HD11	1.61	0.81
1:C:78:LEU:HD21	1:C:121:LEU:HD21	1.64	0.79
1:C:85:VAL:O	1:C:90:TYR:HB2	1.81	0.79
1:B:45:LEU:HG	1:B:97:ILE:HD11	1.65	0.77
1:B:129:ASN:HD21	1:C:56:GLY:H	1.31	0.76
1:C:45:LEU:CG	1:C:97:ILE:HD11	2.12	0.75
1:B:3:ARG:HB2	1:B:155:LEU:HB2	1.68	0.75
1:A:106:MET:HE3	1:A:113:MET:HE1	1.69	0.73
1:C:84:GLN:HA	1:C:87:GLU:HG2	1.69	0.73
1:C:67:MET:HA	1:C:70:LYS:CG	2.17	0.72

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:42:LEU:HD22	1:C:78:LEU:HD12	1.72	0.71
1:C:89:GLY:O	1:C:157:ARG:HB3	1.90	0.71
1:A:50:LEU:HD21	1:A:81:ALA:HB1	1.73	0.70
1:A:94:ASN:HD21	1:B:4:ILE:H	1.38	0.70
1:B:78:LEU:HD13	1:B:120:ASP:HB3	1.74	0.69
1:C:68:GLN:HG3	1:C:69:TYR:CE2	2.27	0.69
1:B:123:CYS:HB2	1:B:127:GLN:NE2	2.08	0.69
1:C:71:ASN:ND2	1:C:73:ASP:HB2	2.07	0.69
1:A:106:MET:CE	1:A:113:MET:HE1	2.22	0.68
1:A:107:ARG:HH11	1:B:30:THR:HG21	1.55	0.68
1:C:55:LEU:HD11	1:C:88:LYS:HE3	1.76	0.68
1:C:99:ILE:HG21	1:C:106:MET:HE3	1.74	0.68
1:B:94:ASN:HD22	1:C:4:ILE:H	1.42	0.68
1:A:65:THR:OG1	1:A:66:ASP:N	2.27	0.67
1:A:131:LYS:HD2	1:B:57:ASP:HB3	1.75	0.67
1:C:156:ILE:HG22	1:C:157:ARG:H	1.59	0.67
1:A:101:ALA:O	1:A:134:THR:HG22	1.94	0.67
1:A:113:MET:O	1:A:117:ILE:HD12	1.93	0.67
1:B:156:ILE:O	1:B:157:ARG:HB2	1.95	0.67
1:C:110:ILE:HG22	1:C:111:ASP:N	2.09	0.66
1:C:2:ILE:HG23	1:C:154:LEU:HD11	1.78	0.66
1:B:45:LEU:CG	1:B:97:ILE:HD11	2.26	0.65
1:B:75:ARG:NH1	1:B:120:ASP:OD2	2.28	0.65
1:A:107:ARG:H	1:A:107:ARG:HD2	1.62	0.65
1:C:103:ALA:O	1:C:104:PRO:C	2.35	0.65
1:B:154:LEU:CD1	1:C:4:ILE:HD13	2.26	0.65
1:B:152:VAL:HG12	1:B:153:ALA:N	2.12	0.65
1:A:128:VAL:O	1:A:128:VAL:HG12	1.96	0.64
1:C:49:ILE:HG23	1:C:85:VAL:HG21	1.79	0.64
1:C:11:His:CD2	1:C:38:GLY:HA2	2.32	0.63
1:C:110:ILE:O	1:C:113:MET:HB2	1.99	0.63
1:B:68:GLN:HG3	1:B:69:TYR:CE2	2.34	0.63
1:A:17:ARG:HB2	1:A:18:PRO:HD2	1.79	0.63
1:C:110:ILE:O	1:C:113:MET:N	2.32	0.62
1:A:19:LEU:CD2	1:A:21:ILE:HG12	2.29	0.62
1:B:129:ASN:ND2	1:C:56:GLY:H	1.97	0.62
1:C:63:PRO:C	1:C:65:THR:H	2.08	0.62
1:C:156:ILE:HG22	1:C:157:ARG:N	2.14	0.62
1:B:129:ASN:HD21	1:C:56:GLY:N	1.97	0.62
1:C:33:ILE:HD12	1:C:64:ASP:OD1	2.00	0.61
1:B:136:GLU:OE1	1:C:12:ALA:HB3	2.01	0.61

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:63:PRO:C	1:C:65:THR:N	2.59	0.61
1:A:129:ASN:HD21	1:B:56:GLY:H	1.47	0.60
1:B:103:ALA:HB3	1:B:104:PRO:HD3	1.83	0.60
1:C:86:GLN:O	1:C:89:GLY:N	2.30	0.60
1:B:103:ALA:O	1:B:105:LYS:N	2.33	0.60
1:A:1:MET:HE3	1:A:90:TYR:OH	2.01	0.60
1:C:107:ARG:HB3	1:C:108:PRO:HD3	1.83	0.60
1:B:112:ALA:O	1:B:116:LYS:HG3	2.01	0.60
1:A:54:ALA:HA	1:C:129:ASN:ND2	2.15	0.60
1:A:126:GLU:OE2	1:A:126:GLU:HA	2.01	0.60
1:C:81:ALA:O	1:C:85:VAL:HG23	2.01	0.60
1:C:154:LEU:O	1:C:155:LEU:HD23	2.03	0.59
1:B:68:GLN:OE1	1:B:68:GLN:HA	2.02	0.59
1:B:107:ARG:HB3	1:B:108:PRO:HD3	1.83	0.59
1:B:3:ARG:HB3	1:B:52:ALA:HB1	1.83	0.59
1:A:107:ARG:HD2	1:A:107:ARG:N	2.18	0.58
1:B:103:ALA:O	1:B:104:PRO:C	2.46	0.58
1:B:124:ASP:H	1:B:127:GLN:NE2	2.00	0.58
1:C:37:ASP:CG	1:C:37:ASP:O	2.47	0.58
1:C:67:MET:HE1	1:C:77:LEU:HD21	1.86	0.58
1:A:4:ILE:HD11	1:B:4:ILE:CD1	2.34	0.58
1:A:127:GLN:HA	1:B:3:ARG:HH22	1.68	0.57
1:C:61:LEU:HD12	1:C:62:PHE:CE1	2.39	0.57
1:A:156:ILE:O	1:A:157:ARG:CB	2.42	0.57
1:A:85:VAL:O	1:A:90:TYR:HB2	2.04	0.57
1:A:4:ILE:CD1	1:B:4:ILE:HD13	2.35	0.57
1:C:68:GLN:HG3	1:C:69:TYR:CZ	2.40	0.57
1:A:37:ASP:OD1	1:A:39:ASP:HB2	2.05	0.56
1:C:66:ASP:O	1:C:70:LYS:HE2	2.05	0.56
1:A:129:ASN:ND2	1:B:56:GLY:H	2.04	0.56
1:C:58:ILE:O	1:C:60:LYS:N	2.38	0.56
1:A:103:ALA:O	1:A:104:PRO:C	2.48	0.56
1:B:91:LYS:HE3	1:B:157:ARG:CZ	2.36	0.56
1:C:36:SER:C	1:C:38:GLY:H	2.13	0.56
1:A:65:THR:O	1:A:68:GLN:HB2	2.06	0.56
1:C:124:ASP:O	1:C:127:GLN:HB2	2.06	0.56
1:C:11:HIS:HE1	1:C:35:HIS:HB3	1.71	0.55
1:B:75:ARG:HG3	1:B:120:ASP:OD2	2.07	0.55
1:C:55:LEU:HD21	1:C:84:GLN:HB2	1.87	0.55
1:A:86:GLN:C	1:A:88:LYS:H	2.15	0.55
1:A:2:ILE:CG1	1:A:156:ILE:HG13	2.37	0.55

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:43:HIS:HE2	1:C:74:SER:HB3	1.71	0.55
1:C:45:LEU:HD12	1:C:117:ILE:HD12	1.88	0.55
1:C:67:MET:HG3	1:C:70:LYS:HB2	1.89	0.55
1:C:75:ARG:HD2	1:C:120:ASP:OD2	2.06	0.54
1:B:156:ILE:O	1:B:157:ARG:CB	2.55	0.54
1:A:24:VAL:HG12	1:A:25:GLU:N	2.22	0.54
1:A:49:ILE:CG2	1:A:85:VAL:HG21	2.37	0.54
1:A:89:GLY:O	1:A:157:ARG:HB3	2.07	0.54
1:C:9:ASP:OD1	1:C:43:HIS:HB2	2.08	0.54
1:C:37:ASP:OD2	1:C:74:SER:OG	2.21	0.54
1:A:75:ARG:HH11	1:A:120:ASP:CG	2.15	0.54
1:A:61:LEU:HD13	1:A:84:GLN:NE2	2.22	0.54
1:A:101:ALA:HB2	1:A:147:ILE:HG13	1.88	0.54
1:A:19:LEU:HD12	1:A:28:TYR:CE2	2.43	0.53
1:A:105:LYS:NZ	1:A:107:ARG:HD3	2.23	0.53
1:C:35:HIS:HA	1:C:43:HIS:CE1	2.44	0.53
1:C:3:ARG:O	1:C:154:LEU:HD12	2.08	0.53
1:C:98:THR:HG23	1:C:131:LYS:HG3	1.89	0.53
1:C:65:THR:O	1:C:68:GLN:HB2	2.09	0.53
1:C:53:ALA:O	1:C:54:ALA:HB3	2.09	0.53
1:A:30:THR:C	1:A:32:PHE:H	2.16	0.53
1:B:92:ILE:HG22	1:B:92:ILE:O	2.09	0.52
1:C:79:ARG:HG3	1:C:120:ASP:HB3	1.91	0.52
1:C:43:HIS:NE2	1:C:74:SER:HB3	2.24	0.52
1:B:78:LEU:HD13	1:B:120:ASP:CB	2.38	0.52
1:C:67:MET:CA	1:C:70:LYS:HG2	2.23	0.52
1:A:75:ARG:NH1	1:A:120:ASP:OD2	2.38	0.52
1:B:49:ILE:CG2	1:B:85:VAL:HG21	2.39	0.52
1:B:105:LYS:NZ	1:B:107:ARG:HE	2.07	0.52
1:B:106:MET:O	1:B:107:ARG:C	2.53	0.52
1:A:124:ASP:O	1:A:125:ILE:C	2.51	0.52
1:A:32:PHE:C	1:A:32:PHE:CD2	2.88	0.52
1:A:157:ARG:HG3	1:A:157:ARG:HH11	1.73	0.52
1:B:8:PHE:HD1	1:B:150:GLU:HG2	1.74	0.52
1:B:5:GLY:O	1:B:152:VAL:HG13	2.10	0.52
1:C:33:ILE:HD12	1:C:64:ASP:CG	2.35	0.52
1:B:82:PHE:HE2	1:B:122:GLN:HB2	1.75	0.51
1:C:71:ASN:HD21	1:C:73:ASP:HB2	1.72	0.51
1:A:80:GLU:OE2	1:A:84:GLN:HG3	2.10	0.51
1:A:91:LYS:HE3	1:A:157:ARG:NH1	2.24	0.51
1:C:1:MET:HG3	1:C:2:ILE:N	2.25	0.51

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:113:MET:O	1:B:117:ILE:HG13	2.11	0.51
1:C:157:ARG:HG3	1:C:157:ARG:HH11	1.75	0.51
1:A:78:LEU:HD21	1:A:121:LEU:HD21	1.93	0.51
1:A:66:ASP:O	1:A:70:LYS:HG2	2.11	0.51
1:B:95:VAL:HG22	1:B:153:ALA:CB	2.40	0.51
1:A:66:ASP:O	1:A:70:LYS:CG	2.59	0.50
1:A:86:GLN:C	1:A:88:LYS:N	2.69	0.50
1:C:82:PHE:CE1	1:C:92:ILE:HG12	2.46	0.50
1:C:126:GLU:O	1:C:126:GLU:HG2	2.10	0.50
1:B:109:HIS:O	1:B:113:MET:HG3	2.11	0.50
1:A:140:PHE:CE2	1:A:141:THR:HG22	2.47	0.50
1:A:4:ILE:H	1:C:94:ASN:HD22	1.60	0.50
1:C:61:LEU:HD12	1:C:62:PHE:HE1	1.76	0.50
1:B:92:ILE:HG13	1:B:121:LEU:HD13	1.94	0.49
1:C:86:GLN:O	1:C:87:GLU:C	2.55	0.49
1:A:67:MET:HE2	1:A:77:LEU:HD21	1.93	0.49
1:A:131:LYS:HE3	1:B:47:ASP:HB3	1.95	0.49
1:C:78:LEU:HD21	1:C:121:LEU:CD2	2.38	0.49
1:C:90:TYR:HD1	1:C:156:ILE:O	1.94	0.49
1:C:80:GLU:OE2	1:C:84:GLN:NE2	2.44	0.49
1:C:83:ARG:O	1:C:86:GLN:HB2	2.12	0.49
1:C:125:ILE:C	1:C:127:GLN:H	2.20	0.49
1:B:82:PHE:CE1	1:B:86:GLN:HG3	2.48	0.49
1:C:117:ILE:HG22	1:C:121:LEU:HD12	1.95	0.49
1:A:116:LYS:O	1:A:117:ILE:C	2.54	0.49
1:B:45:LEU:HD11	1:B:117:ILE:CG2	2.43	0.49
1:B:154:LEU:HD13	1:C:4:ILE:HD13	1.92	0.49
1:C:20:ILE:O	1:C:21:ILE:HD13	2.13	0.49
1:A:31:GLY:O	1:A:35:HIS:HD2	1.96	0.49
1:A:2:ILE:HG13	1:A:156:ILE:HG13	1.95	0.48
1:A:11:HIS:ND1	1:C:136:GLU:OE2	2.45	0.48
1:C:42:LEU:CD2	1:C:78:LEU:HD12	2.41	0.48
1:A:56:GLY:H	1:C:129:ASN:HD21	1.61	0.48
3:A:301:SO4:O3	1:C:143:ARG:NH2	2.39	0.48
1:B:136:GLU:HG2	1:C:12:ALA:HB2	1.95	0.48
1:C:67:MET:CG	1:C:70:LYS:HB2	2.44	0.48
1:A:105:LYS:HE3	1:A:107:ARG:HD3	1.95	0.48
1:B:4:ILE:CD1	1:C:4:ILE:HG12	2.43	0.48
1:A:121:LEU:O	1:A:122:GLN:C	2.57	0.48
1:A:157:ARG:HH11	1:A:157:ARG:CG	2.27	0.48
1:B:136:GLU:CD	1:C:12:ALA:H	2.22	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:112:ALA:O	1:A:116:LYS:HG3	2.14	0.48
1:B:93:GLY:CA	1:B:156:ILE:HG13	2.44	0.47
1:B:152:VAL:HG12	1:B:153:ALA:H	1.79	0.47
1:C:49:ILE:CG2	1:C:85:VAL:HG21	2.44	0.47
1:A:65:THR:O	1:A:66:ASP:C	2.58	0.47
1:A:124:ASP:O	1:A:127:GLN:HG2	2.14	0.47
1:A:114:ARG:NH2	1:A:125:ILE:HG22	2.30	0.47
1:C:89:GLY:O	1:C:157:ARG:CB	2.58	0.47
1:A:54:ALA:CA	1:C:129:ASN:HD22	2.21	0.47
1:B:92:ILE:HD13	1:B:155:LEU:CD2	2.45	0.47
1:C:58:ILE:O	1:C:62:PHE:HD1	1.98	0.47
1:A:4:ILE:HD13	1:B:4:ILE:HD13	1.96	0.47
1:A:86:GLN:O	1:A:88:LYS:N	2.48	0.47
1:C:33:ILE:HB	1:C:64:ASP:OD1	2.14	0.47
1:C:103:ALA:HB3	1:C:144:GLN:NE2	2.30	0.46
1:A:102:GLN:HA	1:A:134:THR:HG22	1.97	0.46
1:A:152:VAL:HG13	1:B:4:ILE:HG12	1.97	0.46
1:C:19:LEU:HD23	1:C:19:LEU:HA	1.61	0.46
1:C:33:ILE:HG22	1:C:67:MET:HG2	1.97	0.46
1:B:136:GLU:O	1:B:136:GLU:CG	2.63	0.46
1:A:154:LEU:HD13	1:B:4:ILE:HB	1.96	0.46
1:C:58:ILE:C	1:C:60:LYS:H	2.24	0.46
1:B:101:ALA:HB2	1:B:147:ILE:HG13	1.96	0.46
1:B:65:THR:O	1:B:68:GLN:HB2	2.15	0.46
1:A:19:LEU:HD23	1:A:21:ILE:HG12	1.98	0.46
1:B:8:PHE:CD1	1:B:150:GLU:HG2	2.49	0.46
1:B:86:GLN:O	1:B:89:GLY:N	2.45	0.46
1:B:75:ARG:HH11	1:B:75:ARG:CG	2.29	0.45
1:B:92:ILE:O	1:B:93:GLY:C	2.58	0.45
1:B:124:ASP:O	1:B:126:GLU:N	2.50	0.45
1:B:135:THR:HA	1:C:10:VAL:HB	1.98	0.45
1:C:16:ASP:O	1:C:17:ARG:C	2.57	0.45
1:A:17:ARG:CB	1:A:18:PRO:HD2	2.46	0.45
1:B:90:TYR:HA	1:B:157:ARG:CB	2.39	0.45
1:C:65:THR:O	1:C:68:GLN:CB	2.64	0.45
1:A:129:ASN:HD21	1:B:56:GLY:N	2.14	0.45
1:B:104:PRO:O	1:B:106:MET:HG2	2.16	0.45
1:B:68:GLN:HG3	1:B:69:TYR:CD2	2.51	0.45
1:B:124:ASP:H	1:B:127:GLN:HE21	1.64	0.45
1:A:11:HIS:CD2	1:A:38:GLY:HA2	2.51	0.45
1:B:45:LEU:HB2	1:B:97:ILE:HD11	1.98	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:55:LEU:CD2	1:C:84:GLN:HB2	2.46	0.45
1:C:96:ASP:OD2	1:C:131:LYS:NZ	2.49	0.45
1:C:58:ILE:C	1:C:60:LYS:N	2.75	0.45
1:C:63:PRO:O	1:C:65:THR:N	2.49	0.45
1:A:75:ARG:NH1	1:A:120:ASP:CG	2.74	0.45
1:A:106:MET:O	1:A:110:ILE:HG13	2.17	0.45
1:C:114:ARG:HG2	1:C:130:VAL:HG23	1.98	0.44
1:C:105:LYS:HD3	1:C:105:LYS:HA	1.79	0.44
1:B:9:ASP:OD2	1:B:10:VAL:N	2.51	0.44
1:B:79:ARG:CG	1:B:120:ASP:OD1	2.65	0.44
1:C:33:ILE:CG2	1:C:67:MET:HG2	2.47	0.44
1:C:71:ASN:ND2	1:C:73:ASP:CB	2.77	0.44
1:A:50:LEU:HD21	1:A:81:ALA:CB	2.43	0.44
1:A:123:CYS:HB2	1:A:127:GLN:NE2	2.33	0.44
1:B:123:CYS:HB2	1:B:127:GLN:HE22	1.82	0.44
1:C:70:LYS:N	1:C:70:LYS:HD3	2.33	0.44
1:B:50:LEU:HD21	1:B:61:LEU:HD11	1.99	0.43
1:A:50:LEU:CD2	1:A:81:ALA:HB1	2.43	0.43
1:A:12:ALA:HB2	1:C:138:LEU:HD11	2.00	0.43
1:B:152:VAL:HG21	1:C:6:HIS:HB2	2.01	0.43
1:C:125:ILE:HD13	1:C:125:ILE:HA	1.69	0.43
1:A:105:LYS:CE	1:A:107:ARG:HD3	2.47	0.43
1:A:126:GLU:OE2	1:A:126:GLU:CA	2.67	0.43
1:C:84:GLN:H	1:C:84:GLN:HG2	1.38	0.43
1:A:91:LYS:H	1:A:157:ARG:HB2	1.83	0.43
1:A:124:ASP:O	1:A:126:GLU:N	2.51	0.43
1:B:20:ILE:O	1:B:21:ILE:HD13	2.19	0.43
1:B:152:VAL:CG1	1:B:153:ALA:N	2.82	0.43
1:C:4:ILE:HD12	1:C:4:ILE:HA	1.69	0.43
1:A:88:LYS:NZ	1:C:126:GLU:OE1	2.39	0.43
1:B:35:HIS:HA	1:B:43:HIS:CE1	2.54	0.43
1:B:83:ARG:C	1:B:87:GLU:HG2	2.42	0.43
1:C:106:MET:CE	1:C:147:ILE:HD11	2.49	0.43
1:A:80:GLU:O	1:A:81:ALA:C	2.62	0.43
1:A:102:GLN:HB3	1:A:103:ALA:H	1.54	0.43
1:C:20:ILE:C	1:C:21:ILE:HD13	2.44	0.43
1:B:92:ILE:HD13	1:B:155:LEU:HD21	2.00	0.43
1:C:115:ALA:O	1:C:116:LYS:C	2.62	0.43
1:A:78:LEU:HD21	1:A:121:LEU:CD2	2.48	0.42
1:B:100:ILE:HD13	1:C:8:PHE:CD2	2.54	0.42
1:B:105:LYS:HZ2	1:B:107:ARG:HE	1.67	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:79:ARG:CG	1:C:120:ASP:HB3	2.49	0.42
1:A:26:VAL:HA	1:A:27:PRO:HD3	1.63	0.42
1:C:125:ILE:C	1:C:127:GLN:N	2.77	0.42
1:C:31:GLY:O	1:C:35:HIS:HD2	2.02	0.42
1:A:99:ILE:O	1:A:132:ALA:HA	2.20	0.42
1:C:29:HIS:HD2	1:C:32:PHE:HB2	1.83	0.42
1:B:26:VAL:HA	1:B:27:PRO:HD3	1.78	0.42
1:B:47:ASP:OD1	1:B:57:ASP:HB2	2.20	0.42
1:A:129:ASN:HB2	1:B:54:ALA:HA	2.01	0.42
1:B:65:THR:CG2	1:B:66:ASP:N	2.83	0.42
1:B:68:GLN:OE1	1:B:68:GLN:CA	2.68	0.42
1:C:157:ARG:HH11	1:C:157:ARG:CG	2.33	0.42
1:A:90:TYR:HA	1:A:157:ARG:HB3	2.01	0.42
1:A:110:ILE:O	1:A:113:MET:HB2	2.20	0.42
1:B:92:ILE:O	1:B:93:GLY:O	2.38	0.42
1:B:110:ILE:O	1:B:114:ARG:HG3	2.20	0.42
1:C:65:THR:OG1	1:C:66:ASP:N	2.52	0.42
1:B:91:LYS:HE3	1:B:157:ARG:HH12	1.80	0.42
1:C:142:GLY:C	1:C:144:GLN:H	2.28	0.42
1:A:157:ARG:HD3	1:A:157:ARG:O	2.20	0.41
1:B:3:ARG:O	1:B:154:LEU:HA	2.20	0.41
1:A:101:ALA:HB2	1:A:147:ILE:CG1	2.50	0.41
1:A:143:ARG:O	1:A:144:GLN:HB2	2.19	0.41
1:A:157:ARG:NH1	1:A:157:ARG:CG	2.82	0.41
1:A:66:ASP:O	1:A:70:LYS:HG3	2.20	0.41
1:B:107:ARG:N	1:B:108:PRO:CD	2.83	0.41
1:A:56:GLY:O	1:A:57:ASP:HB3	2.20	0.41
1:A:92:ILE:HG13	1:A:121:LEU:HB3	2.02	0.41
1:B:39:ASP:OD2	1:B:42:LEU:HG	2.21	0.41
1:C:62:PHE:CE2	1:C:77:LEU:HD22	2.55	0.41
1:A:35:HIS:HA	1:A:43:HIS:CE1	2.55	0.41
1:A:35:HIS:O	1:A:38:GLY:N	2.46	0.41
1:A:50:LEU:HD13	1:A:61:LEU:HG	2.02	0.41
1:A:143:ARG:NH2	3:A:301:SO4:O1	2.53	0.41
1:B:52:ALA:C	1:B:54:ALA:H	2.29	0.41
1:C:92:ILE:O	1:C:92:ILE:HG22	2.21	0.41
1:A:4:ILE:HG13	1:C:152:VAL:HG11	2.03	0.41
1:C:71:ASN:HD22	1:C:73:ASP:CB	2.33	0.41
1:B:95:VAL:HG22	1:B:153:ALA:HB2	2.03	0.40
1:C:42:LEU:HD23	1:C:42:LEU:HA	1.66	0.40
1:A:24:VAL:CG1	1:A:25:GLU:N	2.84	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:143:ARG:NH2	3:A:301:SO4:S	2.94	0.40
1:B:37:ASP:OD2	1:B:74:SER:OG	2.39	0.40
1:C:111:ASP:HA	1:C:114:ARG:HD3	2.04	0.40
1:A:56:GLY:HA3	1:A:60:LYS:HD3	2.02	0.40
1:B:134:THR:C	1:B:136:GLU:H	2.29	0.40
1:B:129:ASN:HD22	1:C:54:ALA:HA	1.86	0.40
1:C:26:VAL:HA	1:C:27:PRO:HD3	1.85	0.40
1:C:156:ILE:CG2	1:C:157:ARG:H	2.32	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	155/158 (98%)	130 (84%)	16 (10%)	9 (6%)	1	4
1	B	155/158 (98%)	140 (90%)	11 (7%)	4 (3%)	4	17
1	C	155/158 (98%)	124 (80%)	22 (14%)	9 (6%)	1	4
All	All	465/474 (98%)	394 (85%)	49 (10%)	22 (5%)	2	7

All (22) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	68	GLN
1	A	125	ILE
1	A	24	VAL
1	A	36	SER
1	A	102	GLN
1	B	103	ALA
1	B	104	PRO
1	B	125	ILE
1	C	30	THR

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	C	37	ASP
1	C	38	GLY
1	C	54	ALA
1	C	59	GLY
1	A	87	GLU
1	C	103	ALA
1	A	28	TYR
1	C	28	TYR
1	A	72	ALA
1	A	126	GLU
1	C	110	ILE
1	B	93	GLY
1	C	58	ILE

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	122/123 (99%)	102 (84%)	20 (16%)	2	8
1	B	122/123 (99%)	105 (86%)	17 (14%)	3	11
1	C	122/123 (99%)	102 (84%)	20 (16%)	2	8
All	All	366/369 (99%)	309 (84%)	57 (16%)	2	9

All (57) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	2	ILE
1	A	20	ILE
1	A	45	LEU
1	A	55	LEU
1	A	65	THR
1	A	75	ARG
1	A	78	LEU
1	A	95	VAL
1	A	98	THR

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	107	ARG
1	A	113	MET
1	A	117	ILE
1	A	128	VAL
1	A	136	GLU
1	A	144	GLN
1	A	147	ILE
1	A	152	VAL
1	A	154	LEU
1	A	156	ILE
1	A	157	ARG
1	B	2	ILE
1	B	20	ILE
1	B	25	GLU
1	B	45	LEU
1	B	65	THR
1	B	74	SER
1	B	75	ARG
1	B	78	LEU
1	B	92	ILE
1	B	100	ILE
1	B	105	LYS
1	B	106	MET
1	B	109	HIS
1	B	122	GLN
1	B	124	ASP
1	B	126	GLU
1	B	154	LEU
1	C	2	ILE
1	C	4	ILE
1	C	15	GLU
1	C	29	HIS
1	C	37	ASP
1	C	45	LEU
1	C	49	ILE
1	C	55	LEU
1	C	61	LEU
1	C	65	THR
1	C	67	MET
1	C	74	SER
1	C	75	ARG
1	C	78	LEU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	C	83	ARG
1	C	84	GLN
1	C	87	GLU
1	C	98	THR
1	C	105	LYS
1	C	157	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (17) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	94	ASN
1	A	122	GLN
1	A	127	GLN
1	A	129	ASN
1	B	94	ASN
1	B	109	HIS
1	B	127	GLN
1	B	129	ASN
1	B	144	GLN
1	C	11	HIS
1	C	29	HIS
1	C	71	ASN
1	C	84	GLN
1	C	94	ASN
1	C	127	GLN
1	C	129	ASN
1	C	144	GLN

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 [i](#)

Of 5 ligands modelled in this entry, 4 are monoatomic - leaving 1 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	$\# Z > 2$
3	SO4	A	301	-	4,4,4	0.50	0	6,6,6	0.66	0

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

1 monomer is involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	A	301	SO4	3	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	157/158 (99%)	-0.35	1 (0%) 85 81	27, 53, 77, 92	0
1	B	157/158 (99%)	-0.36	1 (0%) 85 81	36, 53, 74, 85	0
1	C	157/158 (99%)	-0.11	6 (3%) 44 36	36, 58, 89, 100	0
All	All	471/474 (99%)	-0.27	8 (1%) 69 61	27, 54, 81, 100	0

All (8) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	C	62	PHE	3.7
1	C	63	PRO	2.8
1	C	67	MET	2.6
1	C	72	ALA	2.5
1	A	69	TYR	2.5
1	C	69	TYR	2.3
1	C	59	GLY	2.3
1	B	104	PRO	2.0

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(Å ²)	Q<0.9
2	CO	C	204	1/1	0.93	0.06	76,76,76,76	0
3	SO4	A	301	5/5	0.93	0.09	49,49,62,66	0
2	CO	B	202	1/1	0.99	0.08	55,55,55,55	0
2	CO	A	201	1/1	1.00	0.04	46,46,46,46	0
2	CO	C	203	1/1	1.00	0.01	44,44,44,44	0

6.5 Other polymers [i](#)

There are no such residues in this entry.