



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 8, 2026 – 04:52 AM UTC

PDB ID : 3T0A / pdb_00003t0a
Title : E. coli (LacZ) beta-galactosidase (S796T)
Authors : Jancewicz, L.J.; Wheatley, R.W.; Sutendra, G.; Lee, M.; Fraser, M.; Huber, R.E.
Deposited on : 2011-07-19
Resolution : 1.90 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

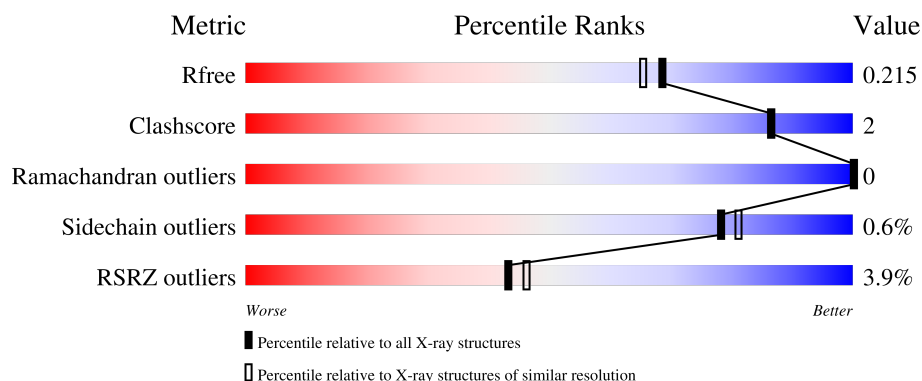
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 1.90 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	7789 (1.90-1.90)
Clashscore	190562	8410 (1.90-1.90)
Ramachandran outliers	187476	8333 (1.90-1.90)
Sidechain outliers	187428	8333 (1.90-1.90)
RSRZ outliers	180081	7790 (1.90-1.90)

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	1052	4% 89% 7% .
1	B	1052	3% 92% 5% .
1	C	1052	4% 91% 6% .
1	D	1052	4% 91% 5% .

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	NA	D	3105	-	-	-	X
4	DMS	D	8010	-	-	X	-

2 Entry composition

There are 5 unique types of molecules in this entry. The entry contains 36814 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 Beta-galactosidase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	1015	Total	C	N	O	S	0	0	0
			8158	5160	1445	1515	38			
1	B	1015	Total	C	N	O	S	0	0	0
			8158	5160	1445	1515	38			
1	C	1015	Total	C	N	O	S	0	0	0
			8158	5160	1445	1515	38			
1	D	1015	Total	C	N	O	S	0	0	0
			8158	5160	1445	1515	38			

There are 152 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-28	MET	-	expression tag	UNP P00722
A	-27	GLY	-	expression tag	UNP P00722
A	-26	GLY	-	expression tag	UNP P00722
A	-25	SER	-	expression tag	UNP P00722
A	-24	HIS	-	expression tag	UNP P00722
A	-23	HIS	-	expression tag	UNP P00722
A	-22	HIS	-	expression tag	UNP P00722
A	-21	HIS	-	expression tag	UNP P00722
A	-20	HIS	-	expression tag	UNP P00722
A	-19	HIS	-	expression tag	UNP P00722
A	-18	GLY	-	expression tag	UNP P00722
A	-17	MET	-	expression tag	UNP P00722
A	-16	ALA	-	expression tag	UNP P00722
A	-15	SER	-	expression tag	UNP P00722
A	-14	MET	-	expression tag	UNP P00722
A	-13	THR	-	expression tag	UNP P00722
A	-12	GLY	-	expression tag	UNP P00722
A	-11	GLY	-	expression tag	UNP P00722
A	-10	GLN	-	expression tag	UNP P00722
A	-9	GLN	-	expression tag	UNP P00722
A	-8	MET	-	expression tag	UNP P00722

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Chain	Residue	Modelled	Actual	Comment	Reference
A	-7	GLY	-	expression tag	UNP P00722
A	-6	ARG	-	expression tag	UNP P00722
A	-5	ASP	-	expression tag	UNP P00722
A	-4	LEU	-	expression tag	UNP P00722
A	-3	TYR	-	expression tag	UNP P00722
A	-2	ASP	-	expression tag	UNP P00722
A	-1	ASP	-	expression tag	UNP P00722
A	0	ASP	-	expression tag	UNP P00722
A	1	ASP	-	expression tag	UNP P00722
A	2	LYS	-	expression tag	UNP P00722
A	3	ASP	-	expression tag	UNP P00722
A	4	PRO	-	expression tag	UNP P00722
A	5	MET	-	expression tag	UNP P00722
A	6	ILE	-	expression tag	UNP P00722
A	7	ASP	-	expression tag	UNP P00722
A	8	PRO	-	expression tag	UNP P00722
A	796	THR	SER	engineered mutation	UNP P00722
B	-28	MET	-	expression tag	UNP P00722
B	-27	GLY	-	expression tag	UNP P00722
B	-26	GLY	-	expression tag	UNP P00722
B	-25	SER	-	expression tag	UNP P00722
B	-24	HIS	-	expression tag	UNP P00722
B	-23	HIS	-	expression tag	UNP P00722
B	-22	HIS	-	expression tag	UNP P00722
B	-21	HIS	-	expression tag	UNP P00722
B	-20	HIS	-	expression tag	UNP P00722
B	-19	HIS	-	expression tag	UNP P00722
B	-18	GLY	-	expression tag	UNP P00722
B	-17	MET	-	expression tag	UNP P00722
B	-16	ALA	-	expression tag	UNP P00722
B	-15	SER	-	expression tag	UNP P00722
B	-14	MET	-	expression tag	UNP P00722
B	-13	THR	-	expression tag	UNP P00722
B	-12	GLY	-	expression tag	UNP P00722
B	-11	GLY	-	expression tag	UNP P00722
B	-10	GLN	-	expression tag	UNP P00722
B	-9	GLN	-	expression tag	UNP P00722
B	-8	MET	-	expression tag	UNP P00722
B	-7	GLY	-	expression tag	UNP P00722
B	-6	ARG	-	expression tag	UNP P00722
B	-5	ASP	-	expression tag	UNP P00722
B	-4	LEU	-	expression tag	UNP P00722

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Chain	Residue	Modelled	Actual	Comment	Reference
B	-3	TYR	-	expression tag	UNP P00722
B	-2	ASP	-	expression tag	UNP P00722
B	-1	ASP	-	expression tag	UNP P00722
B	0	ASP	-	expression tag	UNP P00722
B	1	ASP	-	expression tag	UNP P00722
B	2	LYS	-	expression tag	UNP P00722
B	3	ASP	-	expression tag	UNP P00722
B	4	PRO	-	expression tag	UNP P00722
B	5	MET	-	expression tag	UNP P00722
B	6	ILE	-	expression tag	UNP P00722
B	7	ASP	-	expression tag	UNP P00722
B	8	PRO	-	expression tag	UNP P00722
B	796	THR	SER	engineered mutation	UNP P00722
C	-28	MET	-	expression tag	UNP P00722
C	-27	GLY	-	expression tag	UNP P00722
C	-26	GLY	-	expression tag	UNP P00722
C	-25	SER	-	expression tag	UNP P00722
C	-24	HIS	-	expression tag	UNP P00722
C	-23	HIS	-	expression tag	UNP P00722
C	-22	HIS	-	expression tag	UNP P00722
C	-21	HIS	-	expression tag	UNP P00722
C	-20	HIS	-	expression tag	UNP P00722
C	-19	HIS	-	expression tag	UNP P00722
C	-18	GLY	-	expression tag	UNP P00722
C	-17	MET	-	expression tag	UNP P00722
C	-16	ALA	-	expression tag	UNP P00722
C	-15	SER	-	expression tag	UNP P00722
C	-14	MET	-	expression tag	UNP P00722
C	-13	THR	-	expression tag	UNP P00722
C	-12	GLY	-	expression tag	UNP P00722
C	-11	GLY	-	expression tag	UNP P00722
C	-10	GLN	-	expression tag	UNP P00722
C	-9	GLN	-	expression tag	UNP P00722
C	-8	MET	-	expression tag	UNP P00722
C	-7	GLY	-	expression tag	UNP P00722
C	-6	ARG	-	expression tag	UNP P00722
C	-5	ASP	-	expression tag	UNP P00722
C	-4	LEU	-	expression tag	UNP P00722
C	-3	TYR	-	expression tag	UNP P00722
C	-2	ASP	-	expression tag	UNP P00722
C	-1	ASP	-	expression tag	UNP P00722
C	0	ASP	-	expression tag	UNP P00722

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Chain	Residue	Modelled	Actual	Comment	Reference
C	1	ASP	-	expression tag	UNP P00722
C	2	LYS	-	expression tag	UNP P00722
C	3	ASP	-	expression tag	UNP P00722
C	4	PRO	-	expression tag	UNP P00722
C	5	MET	-	expression tag	UNP P00722
C	6	ILE	-	expression tag	UNP P00722
C	7	ASP	-	expression tag	UNP P00722
C	8	PRO	-	expression tag	UNP P00722
C	796	THR	SER	engineered mutation	UNP P00722
D	-28	MET	-	expression tag	UNP P00722
D	-27	GLY	-	expression tag	UNP P00722
D	-26	GLY	-	expression tag	UNP P00722
D	-25	SER	-	expression tag	UNP P00722
D	-24	HIS	-	expression tag	UNP P00722
D	-23	HIS	-	expression tag	UNP P00722
D	-22	HIS	-	expression tag	UNP P00722
D	-21	HIS	-	expression tag	UNP P00722
D	-20	HIS	-	expression tag	UNP P00722
D	-19	HIS	-	expression tag	UNP P00722
D	-18	GLY	-	expression tag	UNP P00722
D	-17	MET	-	expression tag	UNP P00722
D	-16	ALA	-	expression tag	UNP P00722
D	-15	SER	-	expression tag	UNP P00722
D	-14	MET	-	expression tag	UNP P00722
D	-13	THR	-	expression tag	UNP P00722
D	-12	GLY	-	expression tag	UNP P00722
D	-11	GLY	-	expression tag	UNP P00722
D	-10	GLN	-	expression tag	UNP P00722
D	-9	GLN	-	expression tag	UNP P00722
D	-8	MET	-	expression tag	UNP P00722
D	-7	GLY	-	expression tag	UNP P00722
D	-6	ARG	-	expression tag	UNP P00722
D	-5	ASP	-	expression tag	UNP P00722
D	-4	LEU	-	expression tag	UNP P00722
D	-3	TYR	-	expression tag	UNP P00722
D	-2	ASP	-	expression tag	UNP P00722
D	-1	ASP	-	expression tag	UNP P00722
D	0	ASP	-	expression tag	UNP P00722
D	1	ASP	-	expression tag	UNP P00722
D	2	LYS	-	expression tag	UNP P00722
D	3	ASP	-	expression tag	UNP P00722
D	4	PRO	-	expression tag	UNP P00722

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Chain	Residue	Modelled	Actual	Comment	Reference
D	5	MET	-	expression tag	UNP P00722
D	6	ILE	-	expression tag	UNP P00722
D	7	ASP	-	expression tag	UNP P00722
D	8	PRO	-	expression tag	UNP P00722
D	796	THR	SER	engineered mutation	UNP P00722

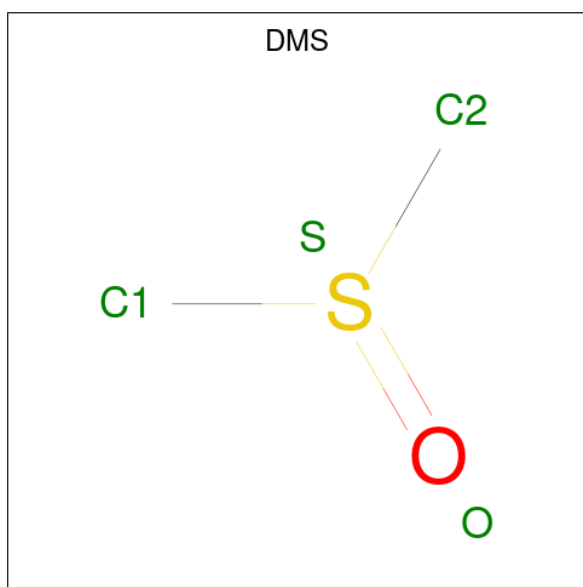
- Molecule 2 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	A	3	Total	Mg	0	0
			3	3		
2	B	3	Total	Mg	0	0
			3	3		
2	C	3	Total	Mg	0	0
			3	3		
2	D	3	Total	Mg	0	0
			3	3		

- Molecule 3 is SODIUM ION (CCD ID: NA) (formula: Na).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	4	Total	Na	0	0
			4	4		
3	B	4	Total	Na	0	0
			4	4		
3	C	4	Total	Na	0	0
			4	4		
3	D	5	Total	Na	0	0
			5	5		

- Molecule 4 is DIMETHYL SULFOXIDE (CCD ID: DMS) (formula: C₂H₆OS).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
4	A	1	Total	C	O	S	0	0
			4	2	1	1		
4	A	1	Total	C	O	S	0	0
			4	2	1	1		
4	A	1	Total	C	O	S	0	0
			4	2	1	1		
4	A	1	Total	C	O	S	0	0
			4	2	1	1		
4	A	1	Total	C	O	S	0	0
			4	2	1	1		
4	A	1	Total	C	O	S	0	0
			4	2	1	1		
4	A	1	Total	C	O	S	0	0
			4	2	1	1		
4	A	1	Total	C	O	S	0	0
			4	2	1	1		
4	A	1	Total	C	O	S	0	0
			4	2	1	1		
4	A	1	Total	C	O	S	0	0
			4	2	1	1		

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Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
4	A	1	Total 4	C 2	O 1	S 1	0	0
4	A	1	Total 4	C 2	O 1	S 1	0	0
4	A	1	Total 4	C 2	O 1	S 1	0	0
4	A	1	Total 4	C 2	O 1	S 1	0	0
4	A	1	Total 4	C 2	O 1	S 1	0	0
4	A	1	Total 4	C 2	O 1	S 1	0	0
4	A	1	Total 4	C 2	O 1	S 1	0	0
4	A	1	Total 4	C 2	O 1	S 1	0	0
4	A	1	Total 4	C 2	O 1	S 1	0	0
4	B	1	Total 4	C 2	O 1	S 1	0	0
4	B	1	Total 4	C 2	O 1	S 1	0	0
4	B	1	Total 4	C 2	O 1	S 1	0	0
4	B	1	Total 4	C 2	O 1	S 1	0	0
4	B	1	Total 4	C 2	O 1	S 1	0	0
4	B	1	Total 4	C 2	O 1	S 1	0	0
4	B	1	Total 4	C 2	O 1	S 1	0	0
4	B	1	Total 4	C 2	O 1	S 1	0	0
4	B	1	Total 4	C 2	O 1	S 1	0	0
4	B	1	Total 4	C 2	O 1	S 1	0	0
4	B	1	Total 4	C 2	O 1	S 1	0	0
4	B	1	Total 4	C 2	O 1	S 1	0	0

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Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
4	B	1	Total 4	C 2	O 1	S 1	0	0
4	B	1	Total 4	C 2	O 1	S 1	0	0
4	B	1	Total 4	C 2	O 1	S 1	0	0
4	B	1	Total 4	C 2	O 1	S 1	0	0
4	B	1	Total 4	C 2	O 1	S 1	0	0
4	B	1	Total 4	C 2	O 1	S 1	0	0
4	B	1	Total 4	C 2	O 1	S 1	0	0
4	B	1	Total 4	C 2	O 1	S 1	0	0
4	B	1	Total 4	C 2	O 1	S 1	0	0
4	B	1	Total 4	C 2	O 1	S 1	0	0
4	B	1	Total 4	C 2	O 1	S 1	0	0
4	B	1	Total 4	C 2	O 1	S 1	0	0
4	B	1	Total 4	C 2	O 1	S 1	0	0
4	B	1	Total 4	C 2	O 1	S 1	0	0
4	B	1	Total 4	C 2	O 1	S 1	0	0
4	B	1	Total 4	C 2	O 1	S 1	0	0
4	B	1	Total 4	C 2	O 1	S 1	0	0
4	B	1	Total 4	C 2	O 1	S 1	0	0
4	B	1	Total 4	C 2	O 1	S 1	0	0
4	B	1	Total 4	C 2	O 1	S 1	0	0
4	C	1	Total 4	C 2	O 1	S 1	0	0

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Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
4	C	1	Total 4	C 2	O 1	S 1	0	0
4	C	1	Total 4	C 2	O 1	S 1	0	0
4	C	1	Total 4	C 2	O 1	S 1	0	0
4	C	1	Total 4	C 2	O 1	S 1	0	0
4	C	1	Total 4	C 2	O 1	S 1	0	0
4	C	1	Total 4	C 2	O 1	S 1	0	0
4	C	1	Total 4	C 2	O 1	S 1	0	0
4	C	1	Total 4	C 2	O 1	S 1	0	0
4	C	1	Total 4	C 2	O 1	S 1	0	0
4	C	1	Total 4	C 2	O 1	S 1	0	0
4	D	1	Total 4	C 2	O 1	S 1	0	0
4	D	1	Total 4	C 2	O 1	S 1	0	0
4	D	1	Total 4	C 2	O 1	S 1	0	0
4	D	1	Total 4	C 2	O 1	S 1	0	0
4	D	1	Total 4	C 2	O 1	S 1	0	0
4	D	1	Total 4	C 2	O 1	S 1	0	0
4	D	1	Total 4	C 2	O 1	S 1	0	0
4	D	1	Total 4	C 2	O 1	S 1	0	0
4	D	1	Total 4	C 2	O 1	S 1	0	0
4	D	1	Total 4	C 2	O 1	S 1	0	0
4	D	1	Total 4	C 2	O 1	S 1	0	0

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Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
4	D	1	Total	C	O	S	0	0
			4	2	1	1		
4	D	1	Total	C	O	S	0	0
			4	2	1	1		
4	D	1	Total	C	O	S	0	0
			4	2	1	1		
4	D	1	Total	C	O	S	0	0
			4	2	1	1		
4	D	1	Total	C	O	S	0	0
			4	2	1	1		
4	D	1	Total	C	O	S	0	0
			4	2	1	1		
4	D	1	Total	C	O	S	0	0
			4	2	1	1		
4	D	1	Total	C	O	S	0	0
			4	2	1	1		
4	D	1	Total	C	O	S	0	0
			4	2	1	1		
4	D	1	Total	C	O	S	0	0
			4	2	1	1		

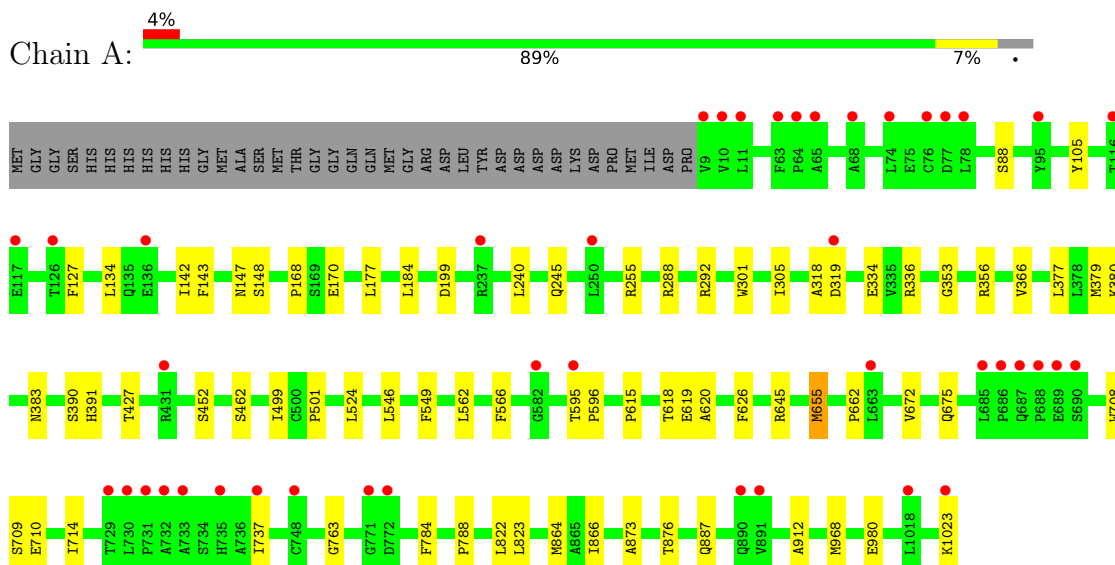
- Molecule 5 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	A	850	Total	O	0	0
			850	850		
5	B	979	Total	O	0	0
			979	979		
5	C	1009	Total	O	0	0
			1009	1009		
5	D	875	Total	O	0	0
			875	875		

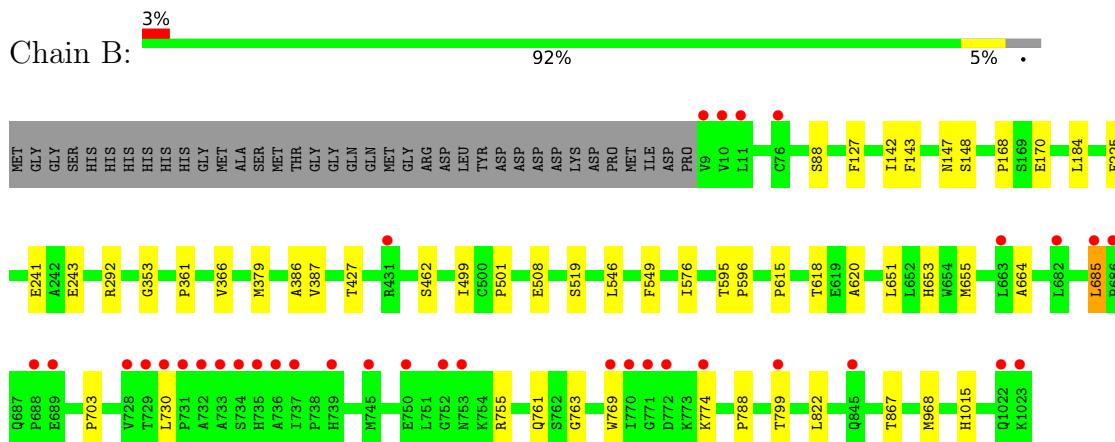
3 Residue-property plots [i](#)

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: Beta-galactosidase

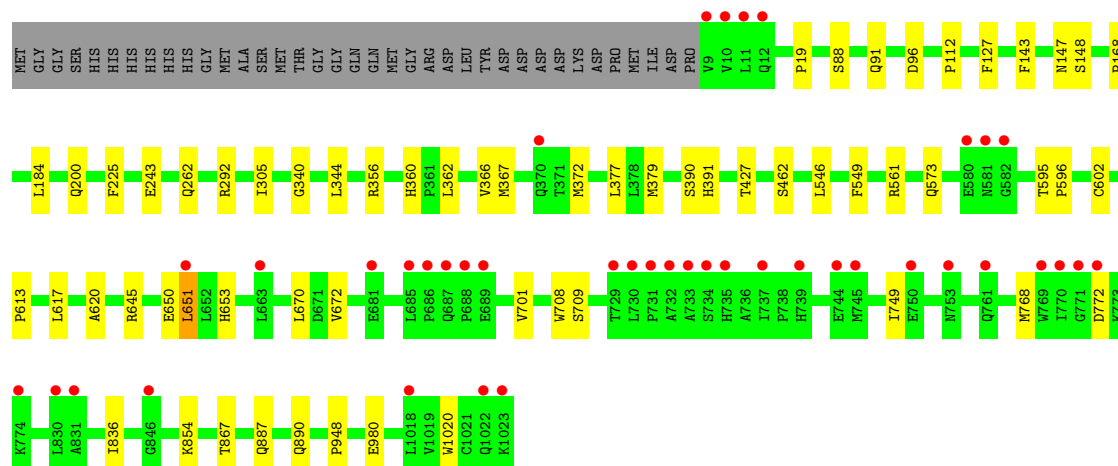


• Molecule 1: Beta-galactosidase

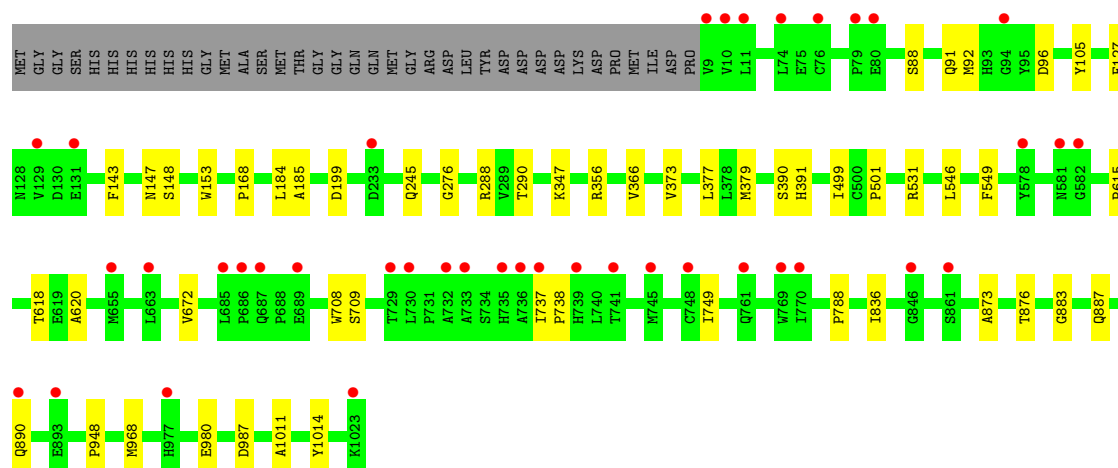


• Molecule 1: Beta-galactosidase





• Molecule 1: Beta-galactosidase



4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	150.92Å 161.22Å 202.90Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	61.72 – 1.90 61.72 – 1.90	Depositor EDS
% Data completeness (in resolution range)	100.0 (61.72-1.90) 92.7 (61.72-1.90)	Depositor EDS
R_{merge}	0.06	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.27 (at 1.90Å)	Xtrriage
Refinement program	REFMAC 5.5.0109, CNS	Depositor
R, R_{free}	0.170 , 0.214 0.172 , 0.215	Depositor DCC
R_{free} test set	5178 reflections (1.45%)	wwPDB-VP
Wilson B-factor (Å ²)	24.5	Xtrriage
Anisotropy	0.072	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.35 , 43.7	EDS
L-test for twinning ²	$\langle L \rangle = 0.49$, $\langle L^2 \rangle = 0.32$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
F_o, F_c correlation	0.97	EDS
Total number of atoms	36814	wwPDB-VP
Average B, all atoms (Å ²)	32.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The analyses of the Patterson function reveals a significant off-origin peak that is 40.74 % 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 2.6181e-04. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

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 [i](#)

5.1 Standard geometry [i](#)

Bond lengths and bond angles in the following residue types are not validated in this section: NA, DMS, MG

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	0.42	0/8400	0.67	0/11460
1	B	0.44	0/8400	0.67	0/11460
1	C	0.44	0/8400	0.67	0/11460
1	D	0.42	0/8400	0.67	0/11460
All	All	0.43	0/33600	0.67	0/45840

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 [i](#)

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	8158	0	7755	42	0
1	B	8158	0	7755	27	0
1	C	8158	0	7755	33	0
1	D	8158	0	7755	35	0
2	A	3	0	0	0	0
2	B	3	0	0	0	0
2	C	3	0	0	0	0
2	D	3	0	0	0	0
3	A	4	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	B	4	0	0	0	0
3	C	4	0	0	0	0
3	D	5	0	0	0	0
4	A	92	0	138	8	0
4	B	128	0	192	2	0
4	C	128	0	192	2	0
4	D	92	0	138	8	0
5	A	850	0	0	2	0
5	B	979	0	0	1	0
5	C	1009	0	0	0	0
5	D	875	0	0	0	0
All	All	36814	0	31680	138	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 2.

All (138) 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:356:ARG:HD2	1:C:379:MET:HE1	1.70	0.74
1:D:356:ARG:HD2	1:D:379:MET:HE1	1.74	0.69
1:B:379:MET:HE1	1:B:387:VAL:HB	1.73	0.68
1:D:788:PRO:HD2	1:D:968:MET:HG3	1.75	0.68
1:D:290:THR:H	4:D:8010:DMS:H22	1.61	0.65
1:A:887:GLN:NE2	1:A:980:GLU:O	2.30	0.62
1:C:377:LEU:HD22	1:C:708:TRP:HA	1.80	0.61
1:B:664:ALA:HB3	1:B:685:LEU:HD21	1.83	0.60
1:D:377:LEU:HD22	1:D:708:TRP:HA	1.84	0.59
1:D:887:GLN:NE2	1:D:980:GLU:O	2.34	0.59
1:A:788:PRO:HD2	1:A:968:MET:HG3	1.85	0.59
1:A:245:GLN:HG2	1:A:288:ARG:HG2	1.85	0.58
1:B:755:ARG:HB2	1:B:769:TRP:HB2	1.86	0.57
1:B:615:PRO:O	1:B:618:THR:HG22	2.05	0.57
1:B:241:GLU:HG2	1:B:292:ARG:HG2	1.87	0.57
1:C:292:ARG:HH12	4:C:8009:DMS:H13	1.70	0.57
1:D:615:PRO:O	1:D:618:THR:HG22	2.05	0.56
1:B:651:LEU:HD23	1:B:703:PRO:HG3	1.87	0.56
1:A:377:LEU:HD22	1:A:708:TRP:HA	1.86	0.56
1:A:356:ARG:HD2	1:A:379:MET:HE1	1.88	0.56
1:C:613:PRO:HB3	1:C:617:LEU:HD23	1.88	0.56
1:A:710:GLU:HG3	4:A:8018:DMS:H11	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:127:PHE:CE2	1:A:184:LEU:HG	2.43	0.54
1:A:142:ILE:HG12	1:A:170:GLU:HG2	1.90	0.54
1:B:508:GLU:OE2	4:B:8007:DMS:H21	2.08	0.53
1:C:890:GLN:OE1	1:C:948:PRO:HD3	2.08	0.53
1:D:356:ARG:HD2	1:D:379:MET:CE	2.39	0.53
1:A:864:MET:HE3	1:A:866:ILE:HD11	1.91	0.52
1:A:88:SER:HA	1:A:366:VAL:HG21	1.92	0.52
1:A:380:LYS:O	4:A:8003:DMS:H21	2.09	0.52
1:D:127:PHE:CE2	1:D:184:LEU:HG	2.45	0.51
1:A:383:ASN:HA	4:A:8003:DMS:H22	1.92	0.51
1:D:276:GLY:HA2	4:D:8010:DMS:H21	1.93	0.51
1:C:367:MET:HB3	1:C:372:MET:HE2	1.93	0.51
1:D:245:GLN:HG2	1:D:288:ARG:HG2	1.93	0.51
1:D:88:SER:HA	1:D:366:VAL:HG21	1.93	0.51
1:A:127:PHE:HE2	1:A:184:LEU:HG	1.73	0.50
1:B:788:PRO:HD2	1:B:968:MET:HG3	1.94	0.50
1:D:549:PHE:CE2	1:D:620:ALA:HA	2.46	0.49
1:A:714:ILE:HB	4:A:8022:DMS:H22	1.93	0.49
1:C:768:MET:HE1	1:C:1020:TRP:CZ2	2.47	0.49
1:C:887:GLN:NE2	1:C:980:GLU:O	2.43	0.49
1:A:655:MET:HE1	1:A:662:PRO:HG3	1.94	0.48
1:A:334:GLU:OE1	1:A:336:ARG:NH1	2.42	0.48
1:B:88:SER:HA	1:B:366:VAL:HG21	1.96	0.48
1:A:615:PRO:O	1:A:618:THR:HG22	2.14	0.48
1:B:142:ILE:HG12	1:B:170:GLU:HG2	1.95	0.48
1:C:573:GLN:HB2	1:C:602:CYS:O	2.14	0.47
1:B:147:ASN:HA	1:B:148:SER:HA	1.60	0.47
1:C:651:LEU:HD13	1:C:653:HIS:CD2	2.50	0.47
1:C:200:GLN:HG2	1:C:391:HIS:HB2	1.96	0.47
1:C:708:TRP:CE3	1:C:709:SER:HB3	2.50	0.47
1:A:873:ALA:O	1:A:876:THR:HG22	2.15	0.47
1:C:356:ARG:HD2	1:C:379:MET:CE	2.43	0.47
1:C:595:THR:HA	1:C:596:PRO:C	2.40	0.46
1:A:763:GLY:HA3	1:A:822:LEU:HD13	1.97	0.46
1:D:276:GLY:HA2	4:D:8010:DMS:C2	2.45	0.46
1:C:360:HIS:HE1	1:C:362:LEU:HD12	1.79	0.46
1:B:127:PHE:CE2	1:B:184:LEU:HG	2.52	0.45
1:A:292:ARG:HH12	4:A:8011:DMS:C1	2.29	0.45
1:D:883:GLY:HA3	1:D:987:ASP:HA	1.99	0.45
1:A:427:THR:HG21	1:A:462:SER:HB3	1.98	0.45
1:D:1011:ALA:HB3	1:D:1014:TYR:CZ	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:127:PHE:HE2	1:B:184:LEU:HG	1.81	0.45
1:A:390:SER:HA	1:A:391:HIS:HA	1.85	0.45
1:A:499:ILE:HG22	1:A:501:PRO:HD3	1.98	0.45
1:C:854:LYS:HA	1:C:867:THR:O	2.17	0.45
1:D:147:ASN:HA	1:D:148:SER:HA	1.63	0.45
1:D:708:TRP:CZ2	4:D:8003:DMS:H23	2.52	0.45
1:D:708:TRP:CE3	1:D:709:SER:HB3	2.52	0.44
1:A:823:LEU:O	1:B:730:LEU:HD11	2.17	0.44
1:B:769:TRP:NE1	1:B:774:LYS:HG2	2.32	0.44
1:D:290:THR:N	4:D:8010:DMS:H22	2.29	0.44
1:C:143:PHE:O	1:C:168:PRO:HA	2.18	0.44
1:D:390:SER:HA	1:D:391:HIS:HA	1.82	0.44
1:D:347:LYS:HE2	4:D:8020:DMS:H22	1.98	0.44
1:D:499:ILE:HG22	1:D:501:PRO:HD3	2.00	0.44
1:A:147:ASN:HA	1:A:148:SER:HA	1.61	0.44
1:C:147:ASN:HA	1:C:148:SER:HA	1.62	0.43
1:B:143:PHE:O	1:B:168:PRO:HA	2.18	0.43
1:B:499:ILE:HG22	1:B:501:PRO:HD3	2.00	0.43
1:B:867:THR:HG23	1:B:1015:HIS:HE1	1.83	0.43
1:C:768:MET:HE1	1:C:1020:TRP:CH2	2.53	0.43
1:D:105:TYR:CE2	1:D:199:ASP:HB2	2.53	0.43
1:A:675:GLN:HG3	5:A:4412:HOH:O	2.19	0.43
1:C:88:SER:HA	1:C:366:VAL:HG21	1.99	0.43
1:D:143:PHE:O	1:D:168:PRO:HA	2.17	0.43
1:C:650:GLU:HB3	1:C:670:LEU:HD12	2.01	0.43
1:D:290:THR:H	4:D:8010:DMS:C2	2.30	0.43
1:C:127:PHE:CE2	1:C:184:LEU:HG	2.54	0.43
1:A:305:ILE:HD11	1:A:645:ARG:HB3	1.99	0.42
1:B:361:PRO:HB2	1:B:576:ILE:HG12	1.99	0.42
1:C:19:PRO:HD3	1:C:112:PRO:CB	2.49	0.42
1:C:390:SER:HA	1:C:391:HIS:HA	1.79	0.42
1:B:595:THR:HA	1:B:596:PRO:C	2.44	0.42
1:C:651:LEU:HD12	1:C:701:VAL:HB	2.02	0.42
1:B:867:THR:HG23	1:B:1015:HIS:CE1	2.54	0.42
1:A:240:LEU:C	1:A:240:LEU:HD23	2.45	0.42
1:A:595:THR:HA	1:A:596:PRO:C	2.45	0.42
1:B:427:THR:HG21	1:B:462:SER:HB3	2.02	0.42
1:D:153:TRP:HB2	1:D:185:ALA:HB3	2.02	0.42
1:A:143:PHE:O	1:A:168:PRO:HA	2.20	0.41
1:A:524:LEU:HD11	1:A:562:LEU:HG	2.02	0.41
1:A:134:LEU:HD21	1:A:177:LEU:HB2	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:708:TRP:CE3	1:A:709:SER:HB3	2.55	0.41
1:C:427:THR:HG21	1:C:462:SER:HB3	2.02	0.41
1:D:91:GLN:HG3	1:D:96:ASP:OD1	2.19	0.41
1:D:127:PHE:HE2	1:D:184:LEU:HG	1.84	0.41
1:D:737:ILE:HA	1:D:738:PRO:HD3	1.95	0.41
1:D:890:GLN:OE1	1:D:948:PRO:HD3	2.19	0.41
1:C:749:ILE:HD11	1:C:836:ILE:HD11	2.02	0.41
1:D:92:MET:HA	1:D:92:MET:HE2	2.02	0.41
1:C:377:LEU:HD13	4:C:8024:DMS:H23	2.02	0.41
1:C:549:PHE:CE2	1:C:620:ALA:HA	2.56	0.41
1:D:873:ALA:O	1:D:876:THR:HG22	2.20	0.41
1:D:373:VAL:O	1:D:377:LEU:HG	2.21	0.41
1:D:531:ARG:HD3	4:D:8023:DMS:H13	2.02	0.41
1:A:356:ARG:HD2	1:A:379:MET:CE	2.49	0.41
1:B:549:PHE:CE2	1:B:620:ALA:HA	2.56	0.41
1:A:255:ARG:HG3	1:A:318:ALA:HA	2.03	0.41
1:B:763:GLY:HA3	1:B:822:LEU:HD13	2.01	0.41
4:B:8008:DMS:H22	5:B:4779:HOH:O	2.21	0.41
1:A:105:TYR:CE2	1:A:199:ASP:HB2	2.56	0.41
1:A:626:PHE:HE1	4:A:8003:DMS:H22	1.86	0.41
1:B:225:PHE:HA	1:B:243:GLU:O	2.21	0.41
1:C:340:GLY:O	1:C:561:ARG:HG2	2.21	0.41
1:A:301:TRP:CH2	1:A:452:SER:HA	2.56	0.40
1:D:749:ILE:HD11	1:D:836:ILE:HD11	2.03	0.40
4:A:8022:DMS:H21	5:A:4565:HOH:O	2.19	0.40
1:C:225:PHE:HA	1:C:243:GLU:O	2.21	0.40
1:A:549:PHE:CE2	1:A:620:ALA:HA	2.56	0.40
1:C:91:GLN:HG3	1:C:96:ASP:OD1	2.21	0.40
1:A:619:GLU:HA	1:A:912:ALA:HB2	2.03	0.40
1:A:784:PHE:HD1	4:A:8020:DMS:H22	1.86	0.40
1:B:353:GLY:HA2	1:B:386:ALA:O	2.21	0.40
1:C:305:ILE:HD11	1:C:645:ARG:HB3	2.03	0.40
1:A:353:GLY:C	1:A:566:PHE:HA	2.47	0.40
1:B:651:LEU:HD11	1:B:653:HIS:NE2	2.37	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	1013/1052 (96%)	984 (97%)	29 (3%)	0	100	100
1	B	1013/1052 (96%)	985 (97%)	28 (3%)	0	100	100
1	C	1013/1052 (96%)	983 (97%)	30 (3%)	0	100	100
1	D	1013/1052 (96%)	983 (97%)	30 (3%)	0	100	100
All	All	4052/4208 (96%)	3935 (97%)	117 (3%)	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	868/898 (97%)	862 (99%)	6 (1%)	76	78
1	B	868/898 (97%)	862 (99%)	6 (1%)	76	78
1	C	868/898 (97%)	862 (99%)	6 (1%)	76	78
1	D	868/898 (97%)	866 (100%)	2 (0%)	87	90
All	All	3472/3592 (97%)	3452 (99%)	20 (1%)	78	81

All (20) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	319	ASP
1	A	546	LEU

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Mol	Chain	Res	Type
1	A	655	MET
1	A	672	VAL
1	A	737	ILE
1	A	1023	LYS
1	B	519	SER
1	B	546	LEU
1	B	655	MET
1	B	685	LEU
1	B	761	GLN
1	B	799	THR
1	C	262	GLN
1	C	344	LEU
1	C	546	LEU
1	C	651	LEU
1	C	672	VAL
1	C	772	ASP
1	D	546	LEU
1	D	672	VAL

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (27) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	50	GLN
1	A	128	ASN
1	A	485	GLN
1	A	634	GLN
1	A	704	ASN
1	A	739	HIS
1	B	23	GLN
1	B	262	GLN
1	B	363	HIS
1	B	485	GLN
1	B	885	ASN
1	B	945	ASN
1	B	950	GLN
1	B	977	HIS
1	C	128	ASN
1	C	365	GLN
1	C	624	GLN
1	C	634	GLN
1	D	12	GLN
1	D	50	GLN

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Mol	Chain	Res	Type
1	D	266	GLN
1	D	554	GLN
1	D	558	GLN
1	D	634	GLN
1	D	653	HIS
1	D	702	GLN
1	D	977	HIS

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

5.4 Non-standard residues in protein, DNA, RNA chains [i](#)

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 139 ligands modelled in this entry, 29 are monoatomic - leaving 110 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
4	DMS	B	8018	-	3,3,3	2.71	1 (33%)	3,3,3	0.48	0
4	DMS	D	8006	-	3,3,3	2.71	1 (33%)	3,3,3	0.49	0
4	DMS	C	8032	-	3,3,3	2.70	1 (33%)	3,3,3	0.57	0
4	DMS	D	8010	-	3,3,3	2.71	1 (33%)	3,3,3	0.39	0
4	DMS	B	8025	-	3,3,3	2.70	1 (33%)	3,3,3	0.52	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
4	DMS	C	8030	-	3,3,3	2.71	1 (33%)	3,3,3	0.51	0
4	DMS	B	8024	-	3,3,3	2.70	1 (33%)	3,3,3	0.52	0
4	DMS	A	8016	-	3,3,3	2.72	1 (33%)	3,3,3	0.54	0
4	DMS	D	8015	-	3,3,3	2.74	1 (33%)	3,3,3	0.58	0
4	DMS	D	8017	-	3,3,3	2.70	1 (33%)	3,3,3	0.50	0
4	DMS	A	8001	-	3,3,3	2.64	1 (33%)	3,3,3	0.52	0
4	DMS	D	8011	-	3,3,3	2.71	1 (33%)	3,3,3	0.50	0
4	DMS	B	8016	-	3,3,3	2.73	1 (33%)	3,3,3	0.54	0
4	DMS	C	8022	-	3,3,3	2.71	1 (33%)	3,3,3	0.49	0
4	DMS	B	8002	-	3,3,3	2.59	1 (33%)	3,3,3	0.54	0
4	DMS	A	8006	-	3,3,3	2.71	1 (33%)	3,3,3	0.50	0
4	DMS	A	8008	-	3,3,3	2.75	1 (33%)	3,3,3	0.51	0
4	DMS	A	8023	-	3,3,3	2.72	1 (33%)	3,3,3	0.53	0
4	DMS	C	8009	-	3,3,3	2.69	1 (33%)	3,3,3	0.49	0
4	DMS	B	8013	-	3,3,3	2.74	1 (33%)	3,3,3	0.57	0
4	DMS	B	8007	-	3,3,3	2.71	1 (33%)	3,3,3	0.45	0
4	DMS	A	8013	-	3,3,3	2.72	1 (33%)	3,3,3	0.50	0
4	DMS	B	8001	-	3,3,3	2.62	1 (33%)	3,3,3	0.44	0
4	DMS	B	8014	-	3,3,3	2.68	1 (33%)	3,3,3	0.49	0
4	DMS	B	8011	-	3,3,3	2.69	1 (33%)	3,3,3	0.48	0
4	DMS	C	8008	-	3,3,3	2.68	1 (33%)	3,3,3	0.50	0
4	DMS	D	8005	-	3,3,3	2.64	1 (33%)	3,3,3	0.41	0
4	DMS	B	8021	-	3,3,3	2.74	1 (33%)	3,3,3	0.57	0
4	DMS	B	8026	-	3,3,3	2.69	1 (33%)	3,3,3	0.49	0
4	DMS	A	8019	-	3,3,3	2.70	1 (33%)	3,3,3	0.47	0
4	DMS	A	8015	-	3,3,3	2.74	1 (33%)	3,3,3	0.56	0
4	DMS	D	8014	-	3,3,3	2.73	1 (33%)	3,3,3	0.56	0
4	DMS	C	8011	-	3,3,3	2.72	1 (33%)	3,3,3	0.52	0
4	DMS	C	8025	-	3,3,3	2.71	1 (33%)	3,3,3	0.50	0
4	DMS	C	8026	-	3,3,3	2.73	1 (33%)	3,3,3	0.55	0
4	DMS	C	8017	-	3,3,3	2.72	1 (33%)	3,3,3	0.49	0
4	DMS	B	8004	-	3,3,3	2.71	1 (33%)	3,3,3	0.52	0
4	DMS	B	8020	-	3,3,3	2.72	1 (33%)	3,3,3	0.55	0
4	DMS	B	8029	-	3,3,3	2.72	1 (33%)	3,3,3	0.50	0
4	DMS	C	8004	-	3,3,3	2.72	1 (33%)	3,3,3	0.52	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
4	DMS	C	8013	-	3,3,3	2.72	1 (33%)	3,3,3	0.55	0
4	DMS	C	8021	-	3,3,3	2.72	1 (33%)	3,3,3	0.52	0
4	DMS	D	8004	-	3,3,3	2.71	1 (33%)	3,3,3	0.50	0
4	DMS	A	8005	-	3,3,3	2.65	1 (33%)	3,3,3	0.42	0
4	DMS	C	8006	-	3,3,3	2.74	1 (33%)	3,3,3	0.49	0
4	DMS	B	8009	-	3,3,3	2.77	1 (33%)	3,3,3	0.52	0
4	DMS	B	8017	-	3,3,3	2.75	1 (33%)	3,3,3	0.58	0
4	DMS	D	8003	-	3,3,3	2.68	1 (33%)	3,3,3	0.47	0
4	DMS	D	8012	-	3,3,3	2.71	1 (33%)	3,3,3	0.52	0
4	DMS	B	8023	-	3,3,3	2.68	1 (33%)	3,3,3	0.46	0
4	DMS	B	8010	-	3,3,3	2.72	1 (33%)	3,3,3	0.52	0
4	DMS	B	8008	-	3,3,3	2.75	1 (33%)	3,3,3	0.58	0
4	DMS	A	8010	-	3,3,3	2.72	1 (33%)	3,3,3	0.56	0
4	DMS	A	8014	-	3,3,3	2.72	1 (33%)	3,3,3	0.47	0
4	DMS	C	8001	-	3,3,3	2.62	1 (33%)	3,3,3	0.47	0
4	DMS	B	8032	-	3,3,3	2.74	1 (33%)	3,3,3	0.52	0
4	DMS	C	8002	-	3,3,3	2.63	1 (33%)	3,3,3	0.55	0
4	DMS	C	8016	3	3,3,3	2.69	1 (33%)	3,3,3	0.50	0
4	DMS	D	8009	-	3,3,3	2.69	1 (33%)	3,3,3	0.52	0
4	DMS	A	8011	-	3,3,3	2.70	1 (33%)	3,3,3	0.51	0
4	DMS	B	8031	-	3,3,3	2.71	1 (33%)	3,3,3	0.55	0
4	DMS	A	8012	-	3,3,3	2.70	1 (33%)	3,3,3	0.55	0
4	DMS	D	8002	-	3,3,3	2.64	1 (33%)	3,3,3	0.47	0
4	DMS	D	8023	-	3,3,3	2.72	1 (33%)	3,3,3	0.51	0
4	DMS	A	8018	-	3,3,3	2.69	1 (33%)	3,3,3	0.49	0
4	DMS	A	8022	-	3,3,3	2.71	1 (33%)	3,3,3	0.55	0
4	DMS	C	8023	-	3,3,3	2.71	1 (33%)	3,3,3	0.53	0
4	DMS	C	8007	-	3,3,3	2.74	1 (33%)	3,3,3	0.52	0
4	DMS	B	8019	-	3,3,3	2.71	1 (33%)	3,3,3	0.49	0
4	DMS	B	8022	-	3,3,3	2.73	1 (33%)	3,3,3	0.53	0
4	DMS	C	8003	-	3,3,3	2.69	1 (33%)	3,3,3	0.51	0
4	DMS	A	8009	-	3,3,3	2.72	1 (33%)	3,3,3	0.51	0
4	DMS	C	8027	-	3,3,3	2.71	1 (33%)	3,3,3	0.60	0
4	DMS	D	8018	-	3,3,3	2.71	1 (33%)	3,3,3	0.52	0
4	DMS	B	8003	-	3,3,3	2.71	1 (33%)	3,3,3	0.48	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
4	DMS	C	8010	-	3,3,3	2.71	1 (33%)	3,3,3	0.56	0
4	DMS	A	8003	-	3,3,3	2.63	1 (33%)	3,3,3	0.46	0
4	DMS	B	8005	-	3,3,3	2.66	1 (33%)	3,3,3	0.32	0
4	DMS	D	8021	-	3,3,3	2.72	1 (33%)	3,3,3	0.60	0
4	DMS	B	8030	-	3,3,3	2.71	1 (33%)	3,3,3	0.54	0
4	DMS	C	8015	-	3,3,3	2.74	1 (33%)	3,3,3	0.54	0
4	DMS	D	8016	-	3,3,3	2.73	1 (33%)	3,3,3	0.55	0
4	DMS	C	8014	-	3,3,3	2.71	1 (33%)	3,3,3	0.49	0
4	DMS	D	8008	-	3,3,3	2.72	1 (33%)	3,3,3	0.52	0
4	DMS	C	8012	-	3,3,3	2.72	1 (33%)	3,3,3	0.51	0
4	DMS	C	8031	-	3,3,3	2.67	1 (33%)	3,3,3	0.47	0
4	DMS	A	8020	-	3,3,3	2.71	1 (33%)	3,3,3	0.58	0
4	DMS	C	8024	-	3,3,3	2.70	1 (33%)	3,3,3	0.48	0
4	DMS	B	8012	-	3,3,3	2.69	1 (33%)	3,3,3	0.45	0
4	DMS	D	8001	-	3,3,3	2.65	1 (33%)	3,3,3	0.41	0
4	DMS	A	8002	-	3,3,3	2.66	1 (33%)	3,3,3	0.46	0
4	DMS	C	8020	-	3,3,3	2.73	1 (33%)	3,3,3	0.49	0
4	DMS	A	8017	-	3,3,3	2.71	1 (33%)	3,3,3	0.53	0
4	DMS	C	8018	-	3,3,3	2.71	1 (33%)	3,3,3	0.54	0
4	DMS	B	8027	-	3,3,3	2.73	1 (33%)	3,3,3	0.52	0
4	DMS	C	8029	-	3,3,3	2.72	1 (33%)	3,3,3	0.57	0
4	DMS	B	8006	-	3,3,3	2.72	1 (33%)	3,3,3	0.58	0
4	DMS	B	8015	-	3,3,3	2.72	1 (33%)	3,3,3	0.48	0
4	DMS	A	8007	-	3,3,3	2.72	1 (33%)	3,3,3	0.54	0
4	DMS	D	8020	-	3,3,3	2.71	1 (33%)	3,3,3	0.49	0
4	DMS	B	8028	-	3,3,3	2.71	1 (33%)	3,3,3	0.49	0
4	DMS	D	8022	-	3,3,3	2.72	1 (33%)	3,3,3	0.55	0
4	DMS	D	8019	-	3,3,3	2.72	1 (33%)	3,3,3	0.55	0
4	DMS	C	8005	-	3,3,3	2.67	1 (33%)	3,3,3	0.39	0
4	DMS	D	8013	-	3,3,3	2.72	1 (33%)	3,3,3	0.55	0
4	DMS	D	8007	-	3,3,3	2.73	1 (33%)	3,3,3	0.49	0
4	DMS	A	8004	-	3,3,3	2.72	1 (33%)	3,3,3	0.51	0
4	DMS	A	8021	-	3,3,3	2.74	1 (33%)	3,3,3	0.52	0
4	DMS	C	8028	-	3,3,3	2.73	1 (33%)	3,3,3	0.57	0
4	DMS	C	8019	-	3,3,3	2.72	1 (33%)	3,3,3	0.49	0

All (110) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	B	8008	DMS	O-S	4.65	1.80	1.50
4	B	8009	DMS	O-S	4.65	1.80	1.50
4	A	8008	DMS	O-S	4.62	1.80	1.50
4	B	8017	DMS	O-S	4.61	1.80	1.50
4	C	8006	DMS	O-S	4.61	1.80	1.50
4	D	8015	DMS	O-S	4.61	1.80	1.50
4	D	8014	DMS	O-S	4.60	1.80	1.50
4	B	8013	DMS	O-S	4.60	1.80	1.50
4	B	8021	DMS	O-S	4.60	1.80	1.50
4	C	8007	DMS	O-S	4.60	1.80	1.50
4	D	8007	DMS	O-S	4.59	1.80	1.50
4	C	8015	DMS	O-S	4.59	1.80	1.50
4	A	8015	DMS	O-S	4.59	1.80	1.50
4	A	8021	DMS	O-S	4.59	1.80	1.50
4	B	8022	DMS	O-S	4.59	1.80	1.50
4	A	8014	DMS	O-S	4.58	1.80	1.50
4	B	8016	DMS	O-S	4.58	1.80	1.50
4	B	8032	DMS	O-S	4.58	1.80	1.50
4	C	8028	DMS	O-S	4.58	1.80	1.50
4	C	8026	DMS	O-S	4.58	1.80	1.50
4	C	8020	DMS	O-S	4.58	1.80	1.50
4	A	8023	DMS	O-S	4.58	1.80	1.50
4	A	8007	DMS	O-S	4.58	1.80	1.50
4	B	8027	DMS	O-S	4.58	1.80	1.50
4	A	8004	DMS	O-S	4.58	1.80	1.50
4	C	8019	DMS	O-S	4.58	1.80	1.50
4	D	8016	DMS	O-S	4.57	1.80	1.50
4	C	8017	DMS	O-S	4.57	1.80	1.50
4	C	8021	DMS	O-S	4.57	1.80	1.50
4	D	8019	DMS	O-S	4.57	1.80	1.50
4	C	8012	DMS	O-S	4.57	1.80	1.50
4	C	8004	DMS	O-S	4.57	1.80	1.50
4	B	8006	DMS	O-S	4.57	1.80	1.50
4	D	8022	DMS	O-S	4.57	1.80	1.50
4	C	8013	DMS	O-S	4.57	1.80	1.50
4	B	8020	DMS	O-S	4.57	1.80	1.50
4	B	8029	DMS	O-S	4.57	1.80	1.50
4	D	8013	DMS	O-S	4.57	1.80	1.50
4	A	8022	DMS	O-S	4.57	1.80	1.50
4	D	8006	DMS	O-S	4.57	1.80	1.50
4	B	8015	DMS	O-S	4.57	1.80	1.50
4	D	8004	DMS	O-S	4.57	1.80	1.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	C	8029	DMS	O-S	4.56	1.80	1.50
4	C	8011	DMS	O-S	4.56	1.80	1.50
4	D	8010	DMS	O-S	4.56	1.80	1.50
4	A	8016	DMS	O-S	4.56	1.80	1.50
4	A	8006	DMS	O-S	4.56	1.80	1.50
4	D	8023	DMS	O-S	4.56	1.80	1.50
4	D	8021	DMS	O-S	4.56	1.80	1.50
4	C	8018	DMS	O-S	4.56	1.80	1.50
4	A	8013	DMS	O-S	4.56	1.80	1.50
4	C	8014	DMS	O-S	4.56	1.80	1.50
4	B	8018	DMS	O-S	4.56	1.80	1.50
4	B	8004	DMS	O-S	4.56	1.80	1.50
4	B	8010	DMS	O-S	4.56	1.80	1.50
4	B	8028	DMS	O-S	4.56	1.80	1.50
4	A	8009	DMS	O-S	4.56	1.80	1.50
4	D	8008	DMS	O-S	4.56	1.80	1.50
4	B	8031	DMS	O-S	4.56	1.80	1.50
4	B	8030	DMS	O-S	4.56	1.80	1.50
4	A	8017	DMS	O-S	4.55	1.80	1.50
4	B	8007	DMS	O-S	4.55	1.80	1.50
4	C	8010	DMS	O-S	4.55	1.80	1.50
4	C	8030	DMS	O-S	4.55	1.80	1.50
4	C	8027	DMS	O-S	4.55	1.80	1.50
4	A	8019	DMS	O-S	4.55	1.80	1.50
4	B	8019	DMS	O-S	4.55	1.80	1.50
4	C	8022	DMS	O-S	4.55	1.80	1.50
4	B	8003	DMS	O-S	4.55	1.80	1.50
4	B	8025	DMS	O-S	4.55	1.80	1.50
4	D	8020	DMS	O-S	4.55	1.80	1.50
4	A	8010	DMS	O-S	4.55	1.80	1.50
4	D	8012	DMS	O-S	4.55	1.80	1.50
4	C	8024	DMS	O-S	4.55	1.80	1.50
4	A	8020	DMS	O-S	4.55	1.80	1.50
4	C	8023	DMS	O-S	4.54	1.80	1.50
4	C	8025	DMS	O-S	4.54	1.80	1.50
4	D	8018	DMS	O-S	4.54	1.80	1.50
4	D	8011	DMS	O-S	4.53	1.80	1.50
4	D	8017	DMS	O-S	4.53	1.80	1.50
4	A	8012	DMS	O-S	4.53	1.80	1.50
4	C	8032	DMS	O-S	4.53	1.80	1.50
4	A	8018	DMS	O-S	4.53	1.80	1.50
4	A	8011	DMS	O-S	4.53	1.80	1.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	B	8024	DMS	O-S	4.53	1.80	1.50
4	C	8009	DMS	O-S	4.52	1.80	1.50
4	B	8026	DMS	O-S	4.51	1.80	1.50
4	B	8011	DMS	O-S	4.51	1.80	1.50
4	B	8012	DMS	O-S	4.51	1.80	1.50
4	C	8003	DMS	O-S	4.51	1.80	1.50
4	D	8009	DMS	O-S	4.51	1.80	1.50
4	C	8016	DMS	O-S	4.50	1.79	1.50
4	B	8023	DMS	O-S	4.50	1.79	1.50
4	D	8003	DMS	O-S	4.50	1.79	1.50
4	B	8014	DMS	O-S	4.49	1.79	1.50
4	C	8008	DMS	O-S	4.48	1.79	1.50
4	C	8005	DMS	O-S	4.48	1.79	1.50
4	A	8002	DMS	O-S	4.47	1.79	1.50
4	B	8005	DMS	O-S	4.47	1.79	1.50
4	C	8031	DMS	O-S	4.46	1.79	1.50
4	D	8001	DMS	O-S	4.45	1.79	1.50
4	A	8003	DMS	O-S	4.44	1.79	1.50
4	D	8002	DMS	O-S	4.44	1.79	1.50
4	A	8005	DMS	O-S	4.44	1.79	1.50
4	A	8001	DMS	O-S	4.44	1.79	1.50
4	D	8005	DMS	O-S	4.43	1.79	1.50
4	C	8002	DMS	O-S	4.42	1.79	1.50
4	C	8001	DMS	O-S	4.40	1.79	1.50
4	B	8001	DMS	O-S	4.39	1.79	1.50
4	B	8002	DMS	O-S	4.35	1.79	1.50

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

13 monomers are involved in 20 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	D	8010	DMS	5	0
4	C	8009	DMS	1	0
4	B	8007	DMS	1	0
4	D	8003	DMS	1	0
4	B	8008	DMS	1	0
4	A	8011	DMS	1	0
4	D	8023	DMS	1	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	A	8018	DMS	1	0
4	A	8022	DMS	2	0
4	A	8003	DMS	3	0
4	A	8020	DMS	1	0
4	C	8024	DMS	1	0
4	D	8020	DMS	1	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

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	1015/1052 (96%)	0.22	43 (4%) 40 43	17, 30, 53, 85	0
1	B	1015/1052 (96%)	-0.01	35 (3%) 48 51	15, 26, 50, 82	0
1	C	1015/1052 (96%)	-0.02	41 (4%) 42 45	16, 26, 51, 85	0
1	D	1015/1052 (96%)	0.23	40 (3%) 43 46	17, 30, 54, 89	0
All	All	4060/4208 (96%)	0.10	159 (3%) 43 46	15, 28, 53, 89	0

All (159) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	D	10	VAL	5.4
1	C	10	VAL	5.3
1	A	10	VAL	5.1
1	D	685	LEU	5.0
1	B	10	VAL	4.9
1	D	11	LEU	4.7
1	B	730	LEU	4.4
1	B	769	TRP	4.4
1	B	770	ILE	4.4
1	D	741	THR	4.4
1	C	1022	GLN	4.3
1	C	1023	LYS	4.3
1	B	753	ASN	4.3
1	B	752	GLY	4.2
1	D	129	VAL	4.1
1	A	9	VAL	4.1
1	A	11	LEU	4.1
1	B	663	LEU	4.1
1	C	9	VAL	4.0
1	C	730	LEU	4.0
1	C	11	LEU	3.9

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Mol	Chain	Res	Type	RSRZ
1	B	771	GLY	3.7
1	C	688	PRO	3.7
1	B	9	VAL	3.7
1	B	1023	LYS	3.7
1	D	730	LEU	3.6
1	D	687	GLN	3.5
1	A	685	LEU	3.5
1	A	733	ALA	3.5
1	A	732	ALA	3.5
1	A	730	LEU	3.4
1	D	737	ILE	3.4
1	D	76	CYS	3.3
1	D	9	VAL	3.3
1	B	774	LYS	3.3
1	D	686	PRO	3.3
1	A	737	ILE	3.3
1	C	753	ASN	3.2
1	D	748	CYS	3.2
1	C	689	GLU	3.2
1	A	76	CYS	3.1
1	C	686	PRO	3.1
1	C	582	GLY	3.1
1	A	687	GLN	3.1
1	B	750	GLU	3.1
1	C	1018	LEU	3.1
1	D	732	ALA	3.0
1	B	688	PRO	3.0
1	B	731	PRO	3.0
1	D	733	ALA	3.0
1	C	685	LEU	3.0
1	C	687	GLN	3.0
1	C	733	ALA	3.0
1	C	831	ALA	3.0
1	B	689	GLU	3.0
1	C	750	GLU	2.9
1	C	731	PRO	2.9
1	D	663	LEU	2.9
1	A	772	ASP	2.9
1	A	771	GLY	2.8
1	D	735	HIS	2.8
1	B	733	ALA	2.8
1	C	770	ILE	2.8

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Mol	Chain	Res	Type	RSRZ
1	A	735	HIS	2.7
1	C	663	LEU	2.7
1	B	737	ILE	2.7
1	C	370	GLN	2.7
1	A	117	GLU	2.7
1	A	748	CYS	2.7
1	D	94	GLY	2.7
1	A	1023	LYS	2.7
1	B	736	ALA	2.7
1	A	595	THR	2.7
1	B	686	PRO	2.7
1	C	735	HIS	2.7
1	A	729	THR	2.6
1	C	581	ASN	2.6
1	B	728	VAL	2.6
1	A	663	LEU	2.6
1	D	890	GLN	2.6
1	C	732	ALA	2.6
1	A	690	SER	2.6
1	B	734	SER	2.6
1	C	745	MET	2.5
1	A	74	LEU	2.5
1	C	830	LEU	2.5
1	C	744	GLU	2.5
1	A	731	PRO	2.5
1	A	689	GLU	2.4
1	C	761	GLN	2.4
1	B	1022	GLN	2.4
1	D	1023	LYS	2.4
1	C	737	ILE	2.4
1	B	11	LEU	2.4
1	B	685	LEU	2.4
1	A	237	ARG	2.4
1	C	729	THR	2.4
1	D	729	THR	2.4
1	A	65	ALA	2.4
1	D	977	HIS	2.4
1	D	769	TRP	2.4
1	C	772	ASP	2.3
1	A	63	PHE	2.3
1	A	136	GLU	2.3
1	C	12	GLN	2.3

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Mol	Chain	Res	Type	RSRZ
1	D	581	ASN	2.3
1	D	745	MET	2.3
1	C	769	TRP	2.3
1	A	250	LEU	2.3
1	C	739	HIS	2.3
1	B	732	ALA	2.3
1	A	582	GLY	2.3
1	A	319	ASP	2.3
1	B	772	ASP	2.3
1	B	76	CYS	2.3
1	C	651	LEU	2.3
1	B	799	THR	2.3
1	A	77	ASP	2.3
1	B	845	GLN	2.3
1	B	735	HIS	2.3
1	A	686	PRO	2.2
1	A	688	PRO	2.2
1	D	233	ASP	2.2
1	A	78	LEU	2.2
1	C	681	GLU	2.2
1	D	80	GLU	2.2
1	D	689	GLU	2.2
1	A	891	VAL	2.2
1	B	729	THR	2.2
1	D	74	LEU	2.2
1	C	734	SER	2.2
1	D	739	HIS	2.2
1	C	580	GLU	2.2
1	D	736	ALA	2.2
1	B	431	ARG	2.2
1	D	770	ILE	2.1
1	C	846	GLY	2.1
1	B	739	HIS	2.1
1	B	745	MET	2.1
1	A	1018	LEU	2.1
1	B	682	LEU	2.1
1	A	68	ALA	2.1
1	A	890	GLN	2.1
1	D	761	GLN	2.1
1	A	95	TYR	2.1
1	A	431	ARG	2.1
1	D	861	SER	2.1

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Mol	Chain	Res	Type	RSRZ
1	D	846	GLY	2.1
1	D	79	PRO	2.1
1	D	578	TYR	2.0
1	A	116	THR	2.0
1	D	655	MET	2.0
1	D	131	GLU	2.0
1	D	893	GLU	2.0
1	C	774	LYS	2.0
1	A	126	THR	2.0
1	C	771	GLY	2.0
1	D	582	GLY	2.0
1	A	64	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
4	DMS	D	8008	4/4	0.64	0.29	87,87,87,88	0
4	DMS	C	8030	4/4	0.67	0.23	70,73,73,74	0
2	MG	C	3003	1/1	0.75	0.18	38,38,38,38	1
4	DMS	B	8028	4/4	0.75	0.20	92,93,93,94	0
4	DMS	D	8021	4/4	0.76	0.26	92,93,93,94	0
3	NA	D	3105	1/1	0.77	0.41	47,47,47,47	1
4	DMS	B	8021	4/4	0.77	0.26	84,86,86,88	0
4	DMS	B	8030	4/4	0.79	0.26	78,78,80,80	0
3	NA	A	3104	1/1	0.79	0.18	50,50,50,50	0
4	DMS	B	8017	4/4	0.80	0.24	65,65,68,72	0
4	DMS	C	8032	4/4	0.80	0.26	72,72,72,75	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
4	DMS	A	8007	4/4	0.80	0.32	92,92,92,93	0
4	DMS	C	8013	4/4	0.80	0.22	88,90,90,91	0
3	NA	B	3104	1/1	0.81	0.16	44,44,44,44	0
4	DMS	C	8006	4/4	0.82	0.20	56,59,60,65	0
4	DMS	A	8022	4/4	0.82	0.23	67,68,68,73	0
4	DMS	B	8016	4/4	0.82	0.22	81,81,82,82	0
4	DMS	C	8026	4/4	0.83	0.25	79,79,80,83	0
4	DMS	C	8027	4/4	0.83	0.22	70,70,72,75	0
4	DMS	B	8032	4/4	0.83	0.26	67,68,69,72	0
4	DMS	A	8023	4/4	0.83	0.21	76,77,79,80	0
4	DMS	C	8011	4/4	0.83	0.23	65,67,69,71	0
4	DMS	B	8025	4/4	0.83	0.23	68,69,71,72	0
4	DMS	C	8015	4/4	0.84	0.23	74,74,75,76	0
4	DMS	C	8025	4/4	0.84	0.21	59,60,61,62	0
4	DMS	C	8004	4/4	0.84	0.21	63,64,67,70	0
4	DMS	B	8020	4/4	0.84	0.23	86,87,88,88	0
4	DMS	C	8029	4/4	0.85	0.17	56,57,58,65	0
4	DMS	A	8004	4/4	0.85	0.19	57,58,62,63	0
4	DMS	A	8009	4/4	0.85	0.18	70,72,73,73	0
4	DMS	B	8013	4/4	0.85	0.20	95,96,96,97	0
4	DMS	D	8019	4/4	0.85	0.22	77,77,78,81	0
4	DMS	B	8014	4/4	0.85	0.18	57,60,62,63	0
4	DMS	B	8031	4/4	0.86	0.21	80,81,81,82	0
4	DMS	A	8014	4/4	0.86	0.20	71,72,74,75	0
4	DMS	C	8031	4/4	0.86	0.23	58,60,60,61	0
4	DMS	C	8023	4/4	0.86	0.23	66,67,68,69	0
4	DMS	A	8020	4/4	0.86	0.23	58,60,62,64	0
4	DMS	D	8014	4/4	0.86	0.19	54,56,57,57	0
4	DMS	B	8007	4/4	0.86	0.20	57,59,60,63	0
4	DMS	A	8021	4/4	0.86	0.19	80,80,80,81	0
4	DMS	B	8010	4/4	0.87	0.16	55,57,58,59	0
4	DMS	C	8028	4/4	0.87	0.18	66,67,68,70	0
3	NA	C	3104	1/1	0.87	0.18	46,46,46,46	0
4	DMS	B	8006	4/4	0.87	0.20	69,70,70,71	0
3	NA	D	3104	1/1	0.87	0.13	49,49,49,49	0
2	MG	A	3001	1/1	0.88	0.10	29,29,29,29	0
4	DMS	B	8018	4/4	0.88	0.20	73,74,74,74	0
4	DMS	B	8019	4/4	0.88	0.20	66,68,69,69	0
4	DMS	A	8012	4/4	0.88	0.21	63,64,65,66	0
4	DMS	A	8013	4/4	0.88	0.19	65,66,67,68	0
4	DMS	B	8024	4/4	0.88	0.21	66,68,69,69	0
3	NA	D	3103	1/1	0.88	0.12	45,45,45,45	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
4	DMS	D	8004	4/4	0.88	0.14	47,52,54,55	0
4	DMS	C	8014	4/4	0.88	0.21	76,76,76,78	0
4	DMS	D	8011	4/4	0.88	0.17	49,49,51,56	0
4	DMS	B	8027	4/4	0.88	0.15	65,66,67,67	0
4	DMS	D	8015	4/4	0.88	0.19	70,71,71,74	0
4	DMS	A	8015	4/4	0.88	0.19	84,84,84,87	0
4	DMS	B	8029	4/4	0.88	0.14	86,86,86,86	0
4	DMS	D	8022	4/4	0.88	0.21	74,76,77,78	0
4	DMS	B	8022	4/4	0.89	0.15	67,67,68,68	0
4	DMS	C	8022	4/4	0.89	0.18	65,66,66,67	0
4	DMS	D	8016	4/4	0.89	0.16	69,69,70,71	0
4	DMS	C	8024	4/4	0.90	0.20	69,69,70,71	0
4	DMS	B	8004	4/4	0.90	0.16	40,43,49,53	0
4	DMS	A	8003	4/4	0.90	0.18	48,48,50,55	0
2	MG	B	3002	1/1	0.90	0.14	24,24,24,24	0
4	DMS	C	8016	4/4	0.90	0.16	55,59,60,60	0
4	DMS	C	8018	4/4	0.90	0.16	54,57,59,59	0
4	DMS	D	8017	4/4	0.90	0.16	68,68,69,69	0
4	DMS	C	8021	4/4	0.90	0.18	52,52,53,59	0
4	DMS	D	8020	4/4	0.90	0.16	67,67,68,71	0
4	DMS	C	8010	4/4	0.90	0.17	59,60,62,64	0
3	NA	A	3103	1/1	0.90	0.10	39,39,39,39	0
4	DMS	A	8006	4/4	0.91	0.16	63,66,66,67	0
4	DMS	A	8017	4/4	0.91	0.16	57,59,60,61	0
2	MG	D	3003	1/1	0.91	0.09	52,52,52,52	0
4	DMS	B	8023	4/4	0.91	0.15	54,54,55,58	0
2	MG	B	3001	1/1	0.91	0.08	23,23,23,23	0
4	DMS	C	8017	4/4	0.91	0.18	76,76,77,78	0
4	DMS	D	8006	4/4	0.92	0.16	68,69,70,71	0
4	DMS	D	8007	4/4	0.92	0.14	58,58,58,60	0
4	DMS	B	8008	4/4	0.92	0.13	38,39,41,45	0
4	DMS	B	8009	4/4	0.92	0.14	41,42,45,45	0
4	DMS	D	8012	4/4	0.92	0.15	65,67,69,69	0
4	DMS	A	8019	4/4	0.92	0.15	74,76,77,77	0
4	DMS	C	8008	4/4	0.92	0.15	45,46,47,53	0
4	DMS	A	8010	4/4	0.92	0.13	50,51,51,52	0
4	DMS	C	8019	4/4	0.92	0.20	76,77,77,78	0
4	DMS	D	8018	4/4	0.92	0.17	60,64,64,64	0
4	DMS	A	8008	4/4	0.92	0.15	52,54,55,55	0
4	DMS	B	8015	4/4	0.92	0.14	45,48,49,53	0
4	DMS	D	8003	4/4	0.92	0.17	49,51,52,52	0
4	DMS	A	8018	4/4	0.92	0.17	67,69,69,70	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
4	DMS	B	8026	4/4	0.93	0.15	50,51,53,55	0
3	NA	A	3102	1/1	0.93	0.07	22,22,22,22	0
4	DMS	D	8013	4/4	0.93	0.14	67,69,69,70	0
4	DMS	C	8012	4/4	0.93	0.14	75,76,76,76	0
4	DMS	D	8023	4/4	0.93	0.15	57,57,57,59	0
4	DMS	D	8010	4/4	0.94	0.12	36,47,47,47	0
2	MG	A	3002	1/1	0.94	0.07	31,31,31,31	0
4	DMS	C	8020	4/4	0.94	0.15	70,70,71,71	0
4	DMS	C	8003	4/4	0.94	0.13	41,42,45,46	0
2	MG	A	3003	1/1	0.94	0.09	54,54,54,54	0
3	NA	C	3103	1/1	0.94	0.08	37,37,37,37	0
4	DMS	A	8016	4/4	0.94	0.12	63,64,65,67	0
4	DMS	B	8003	4/4	0.95	0.15	41,43,45,45	0
3	NA	B	3102	1/1	0.95	0.06	22,22,22,22	0
4	DMS	D	8002	4/4	0.95	0.14	32,36,36,38	0
4	DMS	D	8009	4/4	0.95	0.12	48,49,53,53	0
4	DMS	B	8012	4/4	0.95	0.11	45,47,47,48	0
4	DMS	B	8005	4/4	0.95	0.14	40,42,44,45	0
4	DMS	B	8011	4/4	0.96	0.13	47,50,51,52	0
4	DMS	D	8001	4/4	0.96	0.09	28,31,35,37	0
4	DMS	C	8002	4/4	0.96	0.09	26,29,32,33	0
2	MG	B	3003	1/1	0.96	0.07	50,50,50,50	0
2	MG	C	3002	1/1	0.96	0.09	21,21,21,21	0
4	DMS	D	8005	4/4	0.96	0.11	38,41,43,44	0
4	DMS	C	8005	4/4	0.96	0.13	41,41,43,44	0
4	DMS	A	8005	4/4	0.96	0.12	43,44,45,46	0
4	DMS	C	8007	4/4	0.96	0.11	47,48,49,49	0
4	DMS	A	8011	4/4	0.96	0.10	48,51,52,54	0
3	NA	B	3103	1/1	0.96	0.06	41,41,41,41	0
4	DMS	A	8002	4/4	0.96	0.11	33,33,34,37	0
4	DMS	A	8001	4/4	0.97	0.07	25,31,33,34	0
4	DMS	C	8009	4/4	0.97	0.09	41,43,44,45	0
3	NA	D	3101	1/1	0.97	0.11	35,35,35,35	0
3	NA	D	3102	1/1	0.97	0.06	24,24,24,24	0
3	NA	C	3102	1/1	0.97	0.05	22,22,22,22	0
2	MG	D	3002	1/1	0.97	0.12	33,33,33,33	0
4	DMS	B	8002	4/4	0.97	0.08	27,30,30,33	0
3	NA	A	3101	1/1	0.97	0.14	33,33,33,33	0
2	MG	C	3001	1/1	0.98	0.05	23,23,23,23	0
4	DMS	C	8001	4/4	0.98	0.07	23,25,27,35	0
2	MG	D	3001	1/1	0.98	0.05	27,27,27,27	0
4	DMS	B	8001	4/4	0.98	0.07	20,27,29,33	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
3	NA	B	3105	1/1	0.99	0.08	12,12,12,12	1
3	NA	C	3101	1/1	0.99	0.10	26,26,26,26	0

6.5 Other polymers [i](#)

There are no such residues in this entry.