



wwPDB X-ray Structure Validation Summary Report ⓘ

Dec 1, 2022 – 12:28 am GMT

PDB ID : 5FT8
Title : Crystal structure of the complex between the cysteine desulfurase CsdA and the sulfur-acceptor CsdE in the persulfurated state at 2.50 Angstrom resolution
Authors : Fernandez, F.J.; Arda, A.; Lopez-Esteva, M.; Aranda, J.; Penya-Soler, E.; Garces, F.; Round, A.; Campos-Oliva, R.; Bruix, M.; Coll, M.; Tunon, I.; Jimenez-Barbero, J.; Vega, M.C.
Deposited on : 2016-01-11
Resolution : 2.50 Å(reported)

This is a wwPDB X-ray Structure Validation Summary Report for a publicly released PDB entry.

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

<https://www.wwpdb.org/validation/2017/XrayValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

The following versions of software and data (see [references ⓘ](#)) were used in the production of this report:

MolProbity : 4.02b-467
Mogul : 1.8.4, CSD as541be (2020)
Xtriage (Phenix) : 1.13
EDS : 2.31.3
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac : 5.8.0267
CCP4 : 7.1.010 (Gargrove)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)

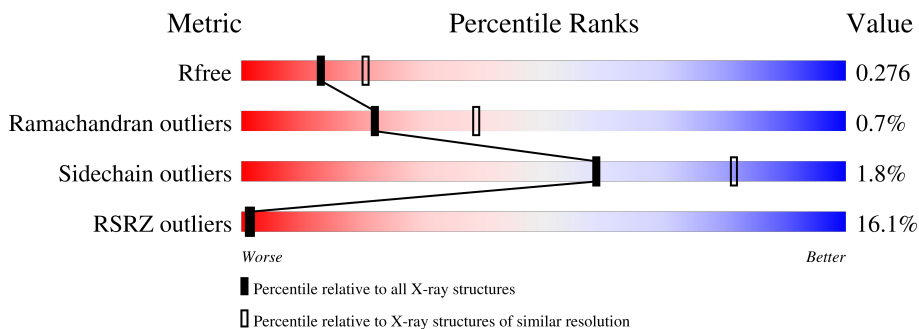
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.50 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	4661 (2.50-2.50)
Ramachandran outliers	138981	5231 (2.50-2.50)
Sidechain outliers	138945	5233 (2.50-2.50)
RSRZ outliers	127900	4559 (2.50-2.50)

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	403	
1	C	403	
1	E	403	
1	G	403	
1	I	403	

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Mol	Chain	Length	Quality of chain
1	K	403	
1	M	403	
1	O	403	
2	Q	154	
2	S	154	
2	U	154	
2	W	154	
2	Y	154	
2	a	154	
2	c	154	
2	e	154	

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
5	GOL	A	505	-	-	-	X

2 Entry composition i

There are 6 unique types of molecules in this entry. The entry contains 34325 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 Cysteine desulfurase CsdA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	401	3058	1937	532	575	14	0	2	0
1	C	401	3047	1930	529	574	14	0	0	0
1	E	401	3065	1940	533	578	14	0	2	0
1	G	401	3059	1937	530	578	14	0	2	0
1	I	401	3059	1936	531	578	14	0	2	0
1	K	401	3057	1936	532	575	14	0	1	0
1	M	399	3034	1923	526	571	14	0	1	0
1	O	399	3031	1921	526	571	13	0	0	0

There are 16 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-1	GLY	-	expression tag	UNP Q46925
A	0	ALA	-	expression tag	UNP Q46925
C	-1	GLY	-	expression tag	UNP Q46925
C	0	ALA	-	expression tag	UNP Q46925
E	-1	GLY	-	expression tag	UNP Q46925
E	0	ALA	-	expression tag	UNP Q46925
G	-1	GLY	-	expression tag	UNP Q46925
G	0	ALA	-	expression tag	UNP Q46925
I	-1	GLY	-	expression tag	UNP Q46925
I	0	ALA	-	expression tag	UNP Q46925
K	-1	GLY	-	expression tag	UNP Q46925
K	0	ALA	-	expression tag	UNP Q46925
M	-1	GLY	-	expression tag	UNP Q46925

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Chain	Residue	Modelled	Actual	Comment	Reference
M	0	ALA	-	expression tag	UNP Q46925
O	-1	GLY	-	expression tag	UNP Q46925
O	0	ALA	-	expression tag	UNP Q46925

- Molecule 2 is a protein called Sulfur acceptor protein CsdE.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	Q	148	Total	C	N	O	S	0	0	0
			1138	721	203	210	4			
2	S	144	Total	C	N	O	S	0	0	0
			1106	699	198	205	4			
2	U	136	Total	C	N	O	S	0	0	0
			1038	657	181	196	4			
2	W	145	Total	C	N	O	S	0	2	0
			1129	715	202	208	4			
2	Y	142	Total	C	N	O	S	0	0	0
			1083	687	189	203	4			
2	a	140	Total	C	N	O	S	0	0	0
			1067	675	187	201	4			
2	c	140	Total	C	N	O	S	0	0	0
			1067	675	187	201	4			
2	e	97	Total	C	N	O	S	0	0	0
			728	458	128	141	1			

There are 56 discrepancies between the modelled and reference sequences:

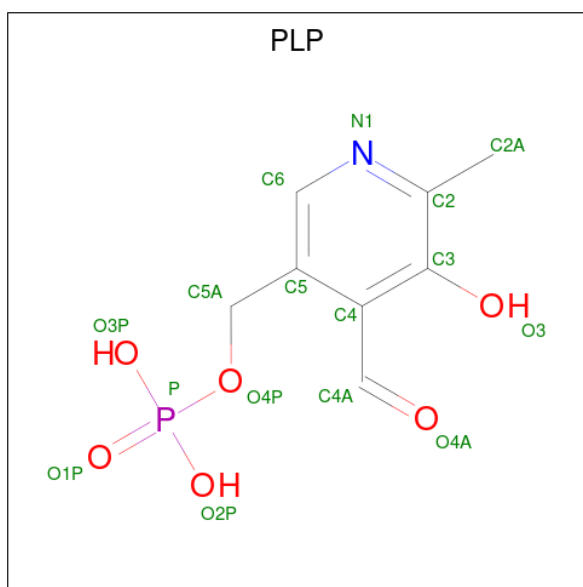
Chain	Residue	Modelled	Actual	Comment	Reference
Q	148	LYS	-	expression tag	UNP P0AGF2
Q	149	HIS	-	expression tag	UNP P0AGF2
Q	150	HIS	-	expression tag	UNP P0AGF2
Q	151	HIS	-	expression tag	UNP P0AGF2
Q	152	HIS	-	expression tag	UNP P0AGF2
Q	153	HIS	-	expression tag	UNP P0AGF2
Q	154	HIS	-	expression tag	UNP P0AGF2
S	148	LYS	-	expression tag	UNP P0AGF2
S	149	HIS	-	expression tag	UNP P0AGF2
S	150	HIS	-	expression tag	UNP P0AGF2
S	151	HIS	-	expression tag	UNP P0AGF2
S	152	HIS	-	expression tag	UNP P0AGF2
S	153	HIS	-	expression tag	UNP P0AGF2
S	154	HIS	-	expression tag	UNP P0AGF2
U	148	LYS	-	expression tag	UNP P0AGF2

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Chain	Residue	Modelled	Actual	Comment	Reference
U	149	HIS	-	expression tag	UNP P0AGF2
U	150	HIS	-	expression tag	UNP P0AGF2
U	151	HIS	-	expression tag	UNP P0AGF2
U	152	HIS	-	expression tag	UNP P0AGF2
U	153	HIS	-	expression tag	UNP P0AGF2
U	154	HIS	-	expression tag	UNP P0AGF2
W	148	LYS	-	expression tag	UNP P0AGF2
W	149	HIS	-	expression tag	UNP P0AGF2
W	150	HIS	-	expression tag	UNP P0AGF2
W	151	HIS	-	expression tag	UNP P0AGF2
W	152	HIS	-	expression tag	UNP P0AGF2
W	153	HIS	-	expression tag	UNP P0AGF2
W	154	HIS	-	expression tag	UNP P0AGF2
Y	148	LYS	-	expression tag	UNP P0AGF2
Y	149	HIS	-	expression tag	UNP P0AGF2
Y	150	HIS	-	expression tag	UNP P0AGF2
Y	151	HIS	-	expression tag	UNP P0AGF2
Y	152	HIS	-	expression tag	UNP P0AGF2
Y	153	HIS	-	expression tag	UNP P0AGF2
Y	154	HIS	-	expression tag	UNP P0AGF2
a	148	LYS	-	expression tag	UNP P0AGF2
a	149	HIS	-	expression tag	UNP P0AGF2
a	150	HIS	-	expression tag	UNP P0AGF2
a	151	HIS	-	expression tag	UNP P0AGF2
a	152	HIS	-	expression tag	UNP P0AGF2
a	153	HIS	-	expression tag	UNP P0AGF2
a	154	HIS	-	expression tag	UNP P0AGF2
c	148	LYS	-	expression tag	UNP P0AGF2
c	149	HIS	-	expression tag	UNP P0AGF2
c	150	HIS	-	expression tag	UNP P0AGF2
c	151	HIS	-	expression tag	UNP P0AGF2
c	152	HIS	-	expression tag	UNP P0AGF2
c	153	HIS	-	expression tag	UNP P0AGF2
c	154	HIS	-	expression tag	UNP P0AGF2
e	147	LYS	-	expression tag	UNP P0AGF2
e	148	HIS	-	expression tag	UNP P0AGF2
e	149	HIS	-	expression tag	UNP P0AGF2
e	150	HIS	-	expression tag	UNP P0AGF2
e	151	HIS	-	expression tag	UNP P0AGF2
e	152	HIS	-	expression tag	UNP P0AGF2
e	153	HIS	-	expression tag	UNP P0AGF2

- Molecule 3 is PYRIDOXAL-5'-PHOSPHATE (three-letter code: PLP) (formula: C₈H₁₀NO₆P).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
			Total	C	N	O	P		
3	A	1	Total	C	N	O	P	0	0
			15	8	1	5	1		
3	C	1	Total	C	N	O	P	0	0
			15	8	1	5	1		
3	E	1	Total	C	N	O	P	0	0
			15	8	1	5	1		
3	G	1	Total	C	N	O	P	0	0
			15	8	1	5	1		
3	I	1	Total	C	N	O	P	0	0
			15	8	1	5	1		
3	K	1	Total	C	N	O	P	0	0
			15	8	1	5	1		
3	M	1	Total	C	N	O	P	0	0
			15	8	1	5	1		
3	O	1	Total	C	N	O	P	0	0
			15	8	1	5	1		

- Molecule 4 is DI(HYDROXYETHYL)ETHER (three-letter code: PEG) (formula: C₄H₁₀O₃).



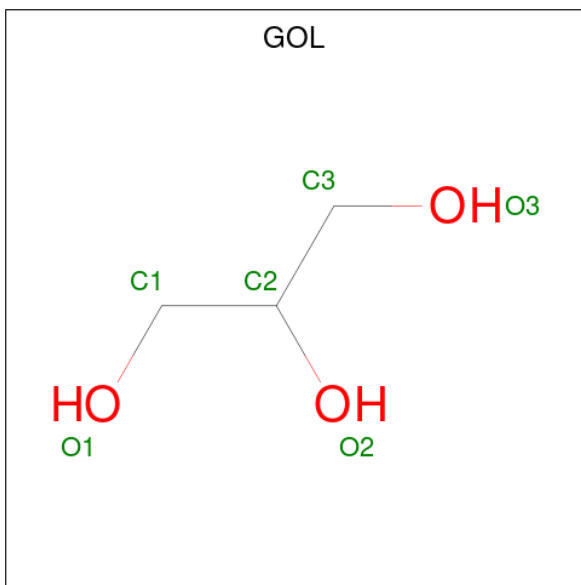
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	1	Total C O 7 4 3	0	0
4	A	1	Total C O 7 4 3	0	0
4	A	1	Total C O 7 4 3	0	0
4	Q	1	Total C O 7 4 3	0	0
4	C	1	Total C O 7 4 3	0	0
4	C	1	Total C O 7 4 3	0	0
4	C	1	Total C O 7 4 3	0	0
4	C	1	Total C O 7 4 3	0	0
4	E	1	Total C O 7 4 3	0	0
4	E	1	Total C O 7 4 3	0	0
4	E	1	Total C O 7 4 3	0	0
4	E	1	Total C O 7 4 3	0	0
4	E	1	Total C O 7 4 3	0	0
4	G	1	Total C O 7 4 3	0	0
4	W	1	Total C O 7 4 3	0	0

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Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
4	I	1	Total	C	O	0	0
			7	4	3		
4	K	1	Total	C	O	0	0
			7	4	3		

- Molecule 5 is GLYCEROL (three-letter code: GOL) (formula: C₃H₈O₃).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
5	A	1	Total	C	O	0	0
			6	3	3		
5	A	1	Total	C	O	0	0
			6	3	3		
5	A	1	Total	C	O	0	0
			6	3	3		
5	A	1	Total	C	O	0	0
			6	3	3		
5	A	1	Total	C	O	0	0
			6	3	3		
5	A	1	Total	C	O	0	0
			6	3	3		
5	A	1	Total	C	O	0	0
			6	3	3		
5	A	1	Total	C	O	0	0
			6	3	3		

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Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
5	A	1	Total 6	C 3	O 3	0	0
5	A	1	Total 6	C 3	O 3	0	0
5	A	1	Total 6	C 3	O 3	0	0
5	Q	1	Total 6	C 3	O 3	0	0
5	Q	1	Total 6	C 3	O 3	0	0
5	Q	1	Total 6	C 3	O 3	0	0
5	C	1	Total 6	C 3	O 3	0	0
5	C	1	Total 6	C 3	O 3	0	0
5	C	1	Total 6	C 3	O 3	0	0
5	C	1	Total 6	C 3	O 3	0	0
5	C	1	Total 6	C 3	O 3	0	0
5	C	1	Total 6	C 3	O 3	0	0
5	C	1	Total 6	C 3	O 3	0	0
5	C	1	Total 6	C 3	O 3	0	0
5	C	1	Total 6	C 3	O 3	0	0
5	S	1	Total 6	C 3	O 3	0	0
5	E	1	Total 6	C 3	O 3	0	0
5	E	1	Total 6	C 3	O 3	0	0
5	E	1	Total 6	C 3	O 3	0	0
5	E	1	Total 6	C 3	O 3	0	0

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Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
5	E	1	Total 6	C 3	O 3	0	0
5	E	1	Total 6	C 3	O 3	0	0
5	E	1	Total 6	C 3	O 3	0	0
5	E	1	Total 6	C 3	O 3	0	0
5	E	1	Total 6	C 3	O 3	0	0
5	E	1	Total 6	C 3	O 3	0	0
5	E	1	Total 6	C 3	O 3	0	0
5	E	1	Total 6	C 3	O 3	0	0
5	G	1	Total 6	C 3	O 3	0	0
5	G	1	Total 6	C 3	O 3	0	0
5	G	1	Total 6	C 3	O 3	0	0
5	G	1	Total 6	C 3	O 3	0	0
5	G	1	Total 6	C 3	O 3	0	0
5	G	1	Total 6	C 3	O 3	0	0
5	G	1	Total 6	C 3	O 3	0	0
5	G	1	Total 6	C 3	O 3	0	0
5	G	1	Total 6	C 3	O 3	0	0
5	W	1	Total 6	C 3	O 3	0	0
5	I	1	Total 6	C 3	O 3	0	0
5	I	1	Total 6	C 3	O 3	0	0
5	I	1	Total 6	C 3	O 3	0	0
5	I	1	Total 6	C 3	O 3	0	0
5	I	1	Total 6	C 3	O 3	0	0
5	M	1	Total 6	C 3	O 3	0	0

- Molecule 6 is water.

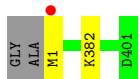
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	A	186	Total 186	O 186	0	0
6	Q	57	Total 57	O 57	0	0
6	C	138	Total 138	O 138	0	0
6	S	36	Total 36	O 36	0	0
6	E	165	Total 165	O 165	0	0
6	U	16	Total 16	O 16	0	0
6	G	182	Total 182	O 182	0	0
6	W	40	Total 40	O 40	0	0
6	I	119	Total 119	O 119	0	0
6	Y	14	Total 14	O 14	0	0
6	K	46	Total 46	O 46	0	0
6	a	5	Total 5	O 5	0	0
6	M	12	Total 12	O 12	0	0
6	c	3	Total 3	O 3	0	0
6	O	2	Total 2	O 2	0	0

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.

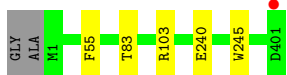
- Molecule 1: Cysteine desulfurase CsdA

Chain A:  99%



- Molecule 1: Cysteine desulfurase CsdA

Chain C:  98%



- Molecule 1: Cysteine desulfurase CsdA

Chain E:  98%



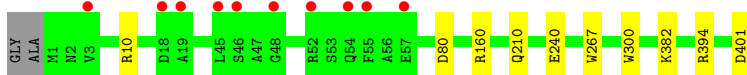
- Molecule 1: Cysteine desulfurase CsdA

Chain G:  98%

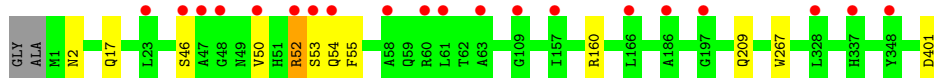


- Molecule 1: Cysteine desulfurase CsdA

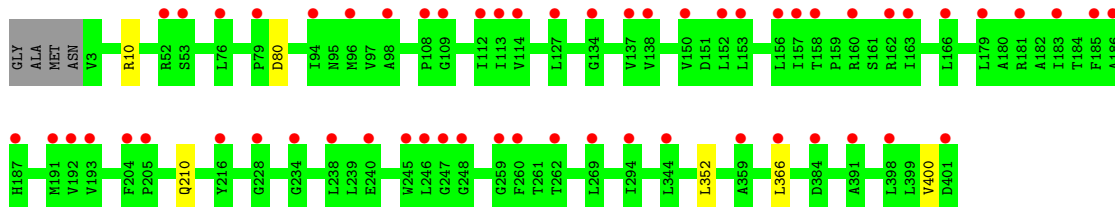
Chain I:  97%



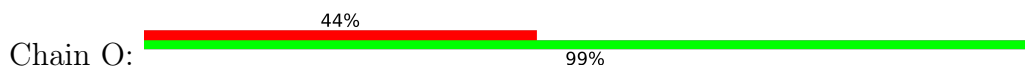
- Molecule 1: Cysteine desulfurase CsdA



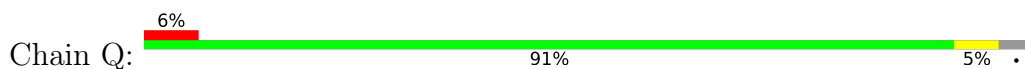
- Molecule 1: Cysteine desulfurase CsdA



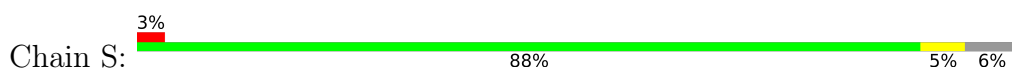
- Molecule 1: Cysteine desulfurase CsdA



- Molecule 2: Sulfur acceptor protein CsdE

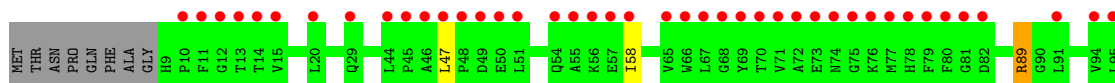
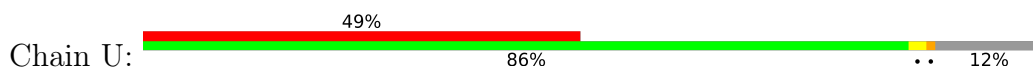


- Molecule 2: Sulfur acceptor protein CsdE

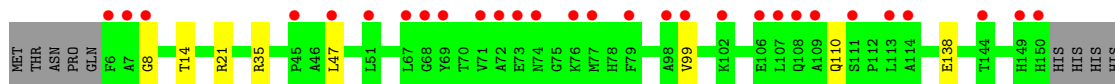
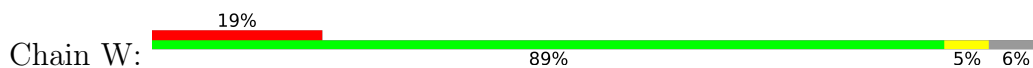




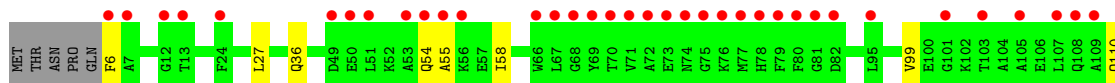
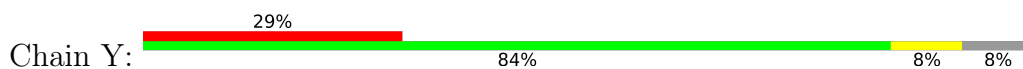
- Molecule 2: Sulfur acceptor protein CsdE



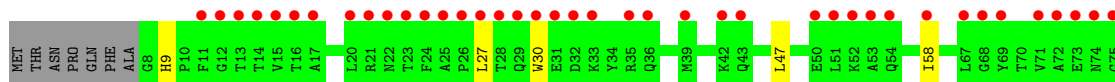
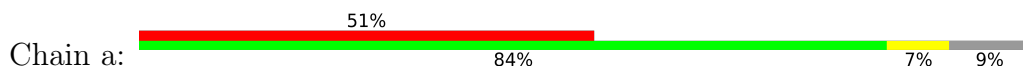
- Molecule 2: Sulfur acceptor protein CsdE



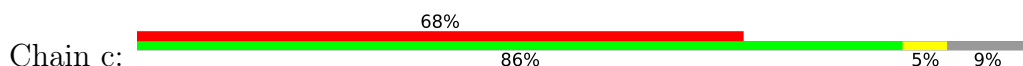
- Molecule 2: Sulfur acceptor protein CsdE

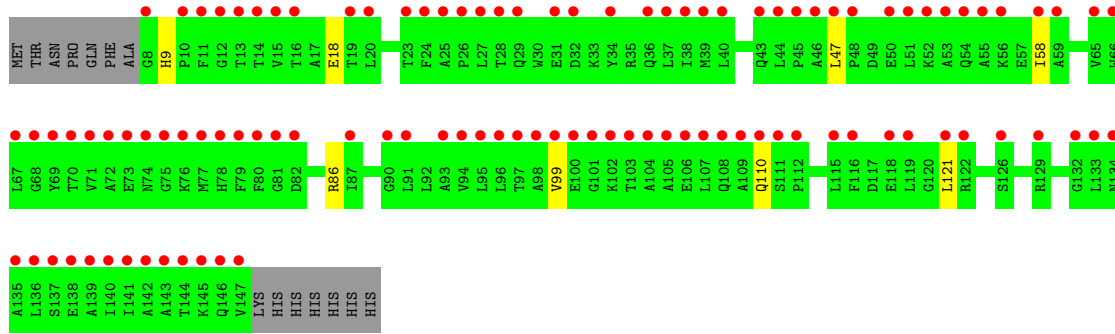


- Molecule 2: Sulfur acceptor protein CsdE

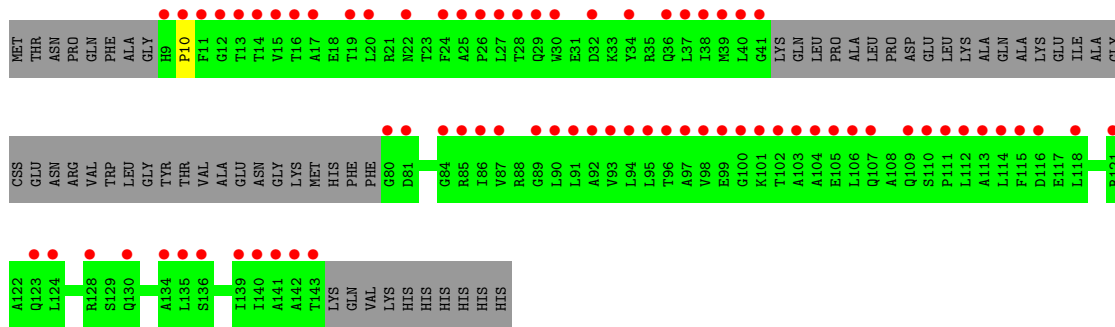


- Molecule 2: Sulfur acceptor protein CsdE





• Molecule 2: Sulfur acceptor protein CsdE



4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	74.86Å 115.14Å 604.97Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	48.30 – 2.50 48.30 – 2.50	Depositor EDS
% Data completeness (in resolution range)	97.7 (48.30-2.50) 97.8 (48.30-2.50)	Depositor EDS
R_{merge}	0.13	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.75 (at 2.51Å)	Xtriage
Refinement program	REFMAC 5.6.0117	Depositor
R, R_{free}	0.254 , 0.279 0.252 , 0.276	Depositor DCC
R_{free} test set	2000 reflections (1.12%)	wwPDB-VP
Wilson B-factor (Å ²)	48.1	Xtriage
Anisotropy	0.510	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	(Not available) , (Not available)	EDS
L-test for twinning ²	$\langle L \rangle = 0.36$, $\langle L^2 \rangle = 0.18$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.90	EDS
Total number of atoms	34325	wwPDB-VP
Average B, all atoms (Å ²)	68.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.36% 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 [i](#)

5.1 Standard geometry [i](#)

Bond lengths and bond angles in the following residue types are not validated in this section: CSS, PEG, PLP, 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	0.52	0/3123	0.64	0/4251
1	C	0.52	1/3106 (0.0%)	0.65	3/4229 (0.1%)
1	E	0.54	3/3124 (0.1%)	0.64	2/4253 (0.0%)
1	G	0.55	3/3121 (0.1%)	0.67	3/4249 (0.1%)
1	I	0.53	2/3118 (0.1%)	0.66	2/4245 (0.0%)
1	K	0.50	1/3117 (0.0%)	0.66	2/4244 (0.0%)
1	M	0.48	0/3096	0.58	2/4217 (0.0%)
1	O	0.46	0/3090	0.56	0/4208
2	Q	0.57	0/1152	0.66	0/1557
2	S	0.55	0/1118	0.71	2/1511 (0.1%)
2	U	0.55	0/1047	0.69	1/1417 (0.1%)
2	W	0.53	0/1144	0.66	0/1545
2	Y	0.52	0/1093	0.66	0/1478
2	a	0.55	1/1076 (0.1%)	0.67	1/1455 (0.1%)
2	c	0.50	0/1076	0.61	0/1455
2	e	0.41	0/736	0.51	0/997
All	All	0.52	11/33337 (0.0%)	0.64	18/45311 (0.0%)

The worst 5 of 11 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	G	126	TRP	CD2-CE2	5.68	1.48	1.41
1	E	267	TRP	CD2-CE2	5.48	1.48	1.41
1	C	245	TRP	CD2-CE2	5.47	1.48	1.41
1	G	267	TRP	CD2-CE2	5.37	1.47	1.41
1	E	126	TRP	CD2-CE2	5.34	1.47	1.41

The worst 5 of 18 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	K	160	ARG	NE-CZ-NH2	-14.29	113.16	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	K	160	ARG	NE-CZ-NH1	11.31	125.96	120.30
1	C	103	ARG	NE-CZ-NH1	8.94	124.77	120.30
1	M	10	ARG	NE-CZ-NH2	-8.21	116.20	120.30
1	I	160	ARG	NE-CZ-NH1	7.92	124.26	120.30

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [i](#)

Due to software issues we are unable to calculate clashes - this section is therefore empty.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	400/403 (99%)	387 (97%)	13 (3%)	0	100	100
1	C	398/403 (99%)	386 (97%)	12 (3%)	0	100	100
1	E	400/403 (99%)	387 (97%)	13 (3%)	0	100	100
1	G	400/403 (99%)	387 (97%)	12 (3%)	1 (0%)	41	61
1	I	400/403 (99%)	387 (97%)	13 (3%)	0	100	100
1	K	399/403 (99%)	386 (97%)	10 (2%)	3 (1%)	19	35
1	M	397/403 (98%)	385 (97%)	11 (3%)	1 (0%)	41	61
1	O	396/403 (98%)	381 (96%)	14 (4%)	1 (0%)	41	61
2	Q	145/154 (94%)	138 (95%)	4 (3%)	3 (2%)	7	11
2	S	141/154 (92%)	137 (97%)	2 (1%)	2 (1%)	11	20
2	U	133/154 (86%)	130 (98%)	1 (1%)	2 (2%)	10	18
2	W	144/154 (94%)	136 (94%)	5 (4%)	3 (2%)	7	11

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	Y	139/154 (90%)	132 (95%)	3 (2%)	4 (3%)	4	6
2	a	137/154 (89%)	129 (94%)	4 (3%)	4 (3%)	4	6
2	c	137/154 (89%)	130 (95%)	3 (2%)	4 (3%)	4	6
2	e	93/154 (60%)	84 (90%)	8 (9%)	1 (1%)	14	26
All	All	4259/4456 (96%)	4102 (96%)	128 (3%)	29 (1%)	22	39

5 of 29 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	S	149	HIS
2	Y	55	ALA
1	K	17	GLN
1	K	50	VAL
1	K	52	ARG

5.3.2 Protein sidechains [i](#)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	316/314 (101%)	314 (99%)	2 (1%)	86	95
1	C	314/314 (100%)	311 (99%)	3 (1%)	76	90
1	E	316/314 (101%)	313 (99%)	3 (1%)	78	92
1	G	316/314 (101%)	315 (100%)	1 (0%)	92	97
1	I	316/314 (101%)	310 (98%)	6 (2%)	57	80
1	K	315/314 (100%)	307 (98%)	8 (2%)	47	73
1	M	313/314 (100%)	309 (99%)	4 (1%)	69	87
1	O	312/314 (99%)	312 (100%)	0	100	100
2	Q	115/121 (95%)	110 (96%)	5 (4%)	29	53
2	S	112/121 (93%)	108 (96%)	4 (4%)	35	61
2	U	105/121 (87%)	103 (98%)	2 (2%)	57	80
2	W	114/121 (94%)	108 (95%)	6 (5%)	22	43

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
2	Y	109/121 (90%)	101 (93%)	8 (7%)	14	27
2	a	108/121 (89%)	103 (95%)	5 (5%)	27	50
2	c	108/121 (89%)	104 (96%)	4 (4%)	34	60
2	e	75/121 (62%)	75 (100%)	0	100	100
All	All	3364/3480 (97%)	3303 (98%)	61 (2%)	59	81

5 of 61 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	I	240	GLU
1	M	352	LEU
2	Y	110	GLN
1	M	210	GLN
2	c	110	GLN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 52 such sidechains are listed below:

Mol	Chain	Res	Type
2	Y	22	ASN
1	K	203	HIS
1	O	203	HIS
2	Y	63	ASN
1	K	51	HIS

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

15 non-standard protein/DNA/RNA residues 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
1	CSS	M	358	1	4,6,7	0.78	0	1,6,8	0.56	0
2	CSS	c	61	2	4,6,7	0.87	0	1,6,8	0.24	0
1	CSS	C	358	1	4,6,7	0.87	0	1,6,8	0.45	0
1	CSS	E	358	1	4,6,7	0.76	0	1,6,8	0.37	0
1	CSS	G	358	1	4,6,7	0.76	0	1,6,8	0.44	0
1	CSS	K	358	1	4,6,7	0.97	0	1,6,8	0.57	0
1	CSS	O	358	1	4,6,7	0.82	0	1,6,8	0.51	0
2	CSS	Q	61	2	4,6,7	0.85	0	1,6,8	0.17	0
1	CSS	A	358	1	4,6,7	0.79	0	1,6,8	0.54	0
2	CSS	S	61	2	4,6,7	0.77	0	1,6,8	0.21	0
1	CSS	I	358	1	4,6,7	1.07	0	1,6,8	0.43	0
2	CSS	W	61	2	4,6,7	0.75	0	1,6,8	0.38	0
2	CSS	U	61	2	4,6,7	0.78	0	1,6,8	0.26	0
2	CSS	a	61	2	4,6,7	0.83	0	1,6,8	0.17	0
2	CSS	Y	61	2	4,6,7	0.80	0	1,6,8	0.37	0

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	CSS	M	358	1	-	0/1/5/7	-
2	CSS	c	61	2	-	1/1/5/7	-
1	CSS	C	358	1	-	0/1/5/7	-
1	CSS	E	358	1	-	0/1/5/7	-
1	CSS	G	358	1	-	0/1/5/7	-
1	CSS	K	358	1	-	0/1/5/7	-
1	CSS	O	358	1	-	0/1/5/7	-
2	CSS	Q	61	2	-	1/1/5/7	-
1	CSS	A	358	1	-	0/1/5/7	-
2	CSS	S	61	2	-	1/1/5/7	-
1	CSS	I	358	1	-	0/1/5/7	-
2	CSS	W	61	2	-	1/1/5/7	-
2	CSS	U	61	2	-	1/1/5/7	-
2	CSS	a	61	2	-	1/1/5/7	-
2	CSS	Y	61	2	-	1/1/5/7	-

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

5 of 7 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	Q	61	CSS	N-CA-CB-SG
2	S	61	CSS	N-CA-CB-SG
2	U	61	CSS	N-CA-CB-SG
2	W	61	CSS	N-CA-CB-SG
2	Y	61	CSS	N-CA-CB-SG

There are no ring outliers.

No monomer is involved in short contacts.

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

75 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	$\# Z > 2$
5	GOL	E	513	-	5,5,5	0.54	0	5,5,5	0.52	0
4	PEG	C	502	-	6,6,6	0.54	0	5,5,5	0.20	0
5	GOL	C	511	-	5,5,5	0.51	0	5,5,5	0.34	0
5	GOL	Q	202	-	5,5,5	0.44	0	5,5,5	0.16	0
5	GOL	I	505	-	5,5,5	0.47	0	5,5,5	0.57	0
5	GOL	C	507	-	5,5,5	0.40	0	5,5,5	0.26	0
5	GOL	E	512	-	5,5,5	0.28	0	5,5,5	0.28	0
5	GOL	E	508	-	5,5,5	0.39	0	5,5,5	0.51	0
4	PEG	A	502	-	6,6,6	0.56	0	5,5,5	0.49	0
4	PEG	E	503	-	6,6,6	0.52	0	5,5,5	0.18	0
5	GOL	E	516	-	5,5,5	0.46	0	5,5,5	0.36	0
5	GOL	A	516	-	5,5,5	0.37	0	5,5,5	0.14	0
5	GOL	G	503	-	5,5,5	0.42	0	5,5,5	0.16	0
5	GOL	E	511	-	5,5,5	0.50	0	5,5,5	0.26	0
5	GOL	G	507	-	5,5,5	0.40	0	5,5,5	0.23	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
3	PLP	O	501	1	15,15,16	3.35	3 (20%)	20,22,23	1.34	2 (10%)
5	GOL	A	515	-	5,5,5	0.34	0	5,5,5	0.29	0
4	PEG	Q	201	-	6,6,6	0.53	0	5,5,5	0.26	0
5	GOL	C	514	-	5,5,5	0.42	0	5,5,5	0.25	0
5	GOL	G	505	-	5,5,5	0.48	0	5,5,5	0.19	0
3	PLP	E	501	1	15,15,16	2.91	3 (20%)	20,22,23	1.35	2 (10%)
5	GOL	C	512	-	5,5,5	0.48	0	5,5,5	0.55	0
5	GOL	G	509	-	5,5,5	0.36	0	5,5,5	0.09	0
5	GOL	E	509	-	5,5,5	0.51	0	5,5,5	0.26	0
5	GOL	E	510	-	5,5,5	0.45	0	5,5,5	0.40	0
4	PEG	C	505	-	6,6,6	0.52	0	5,5,5	0.30	0
3	PLP	G	501	1	15,15,16	2.68	3 (20%)	20,22,23	1.98	6 (30%)
5	GOL	A	509	-	5,5,5	0.32	0	5,5,5	0.18	0
3	PLP	I	501	1	15,15,16	3.15	3 (20%)	20,22,23	1.23	2 (10%)
5	GOL	A	511	-	5,5,5	0.47	0	5,5,5	0.32	0
3	PLP	K	501	1	15,15,16	3.09	3 (20%)	20,22,23	1.20	2 (10%)
5	GOL	C	513	-	5,5,5	0.47	0	5,5,5	0.27	0
5	GOL	E	514	-	5,5,5	0.40	0	5,5,5	0.30	0
5	GOL	E	507	-	5,5,5	0.45	0	5,5,5	0.31	0
5	GOL	C	508	-	5,5,5	0.39	0	5,5,5	0.24	0
5	GOL	G	506	-	5,5,5	0.43	0	5,5,5	0.32	0
5	GOL	C	509	-	5,5,5	0.32	0	5,5,5	0.26	0
5	GOL	M	502	-	5,5,5	0.41	0	5,5,5	0.23	0
5	GOL	A	507	-	5,5,5	0.51	0	5,5,5	0.35	0
4	PEG	E	505	-	6,6,6	0.56	0	5,5,5	0.33	0
5	GOL	C	510	-	5,5,5	0.33	0	5,5,5	0.19	0
5	GOL	A	506	-	5,5,5	0.39	0	5,5,5	0.42	0
5	GOL	S	201	-	5,5,5	0.43	0	5,5,5	0.15	0
5	GOL	A	514	-	5,5,5	0.37	0	5,5,5	0.33	0
3	PLP	M	501	1	15,15,16	3.20	3 (20%)	20,22,23	1.34	3 (15%)
5	GOL	A	513	-	5,5,5	0.53	0	5,5,5	0.31	0
5	GOL	I	506	-	5,5,5	0.34	0	5,5,5	0.18	0
4	PEG	C	504	-	6,6,6	0.56	0	5,5,5	0.29	0
5	GOL	A	510	-	5,5,5	0.30	0	5,5,5	0.39	0
5	GOL	C	515	-	5,5,5	0.40	0	5,5,5	0.37	0
4	PEG	A	503	-	6,6,6	0.61	0	5,5,5	0.32	0
4	PEG	I	502	-	6,6,6	0.57	0	5,5,5	0.17	0
3	PLP	A	501	1	15,15,16	3.46	3 (20%)	20,22,23	1.39	4 (20%)
4	PEG	K	502	-	6,6,6	0.63	0	5,5,5	0.42	0
5	GOL	C	506	-	5,5,5	0.43	0	5,5,5	0.29	0
5	GOL	I	507	-	5,5,5	0.47	0	5,5,5	0.42	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
3	PLP	C	501	1	15,15,16	3.00	3 (20%)	20,22,23	1.42	3 (15%)
5	GOL	G	508	-	5,5,5	0.43	0	5,5,5	0.44	0
4	PEG	E	504	-	6,6,6	0.60	0	5,5,5	0.21	0
4	PEG	C	503	-	6,6,6	0.60	0	5,5,5	0.37	0
4	PEG	A	504	-	6,6,6	0.56	0	5,5,5	0.32	0
4	PEG	G	502	-	6,6,6	0.56	0	5,5,5	0.36	0
5	GOL	A	508	-	5,5,5	0.41	0	5,5,5	0.17	0
5	GOL	Q	203	-	5,5,5	0.49	0	5,5,5	0.32	0
5	GOL	E	506	-	5,5,5	0.46	0	5,5,5	0.34	0
5	GOL	I	504	-	5,5,5	0.37	0	5,5,5	0.14	0
4	PEG	E	502	-	6,6,6	0.58	0	5,5,5	0.33	0
5	GOL	A	512	-	5,5,5	0.35	0	5,5,5	0.17	0
5	GOL	Q	204	-	5,5,5	0.33	0	5,5,5	0.20	0
4	PEG	W	201	-	6,6,6	0.54	0	5,5,5	0.33	0
5	GOL	W	202	-	5,5,5	0.44	0	5,5,5	0.22	0
5	GOL	G	504	-	5,5,5	0.53	0	5,5,5	0.55	0
5	GOL	E	515	-	5,5,5	0.40	0	5,5,5	0.30	0
5	GOL	I	503	-	5,5,5	0.41	0	5,5,5	0.33	0
5	GOL	A	505	-	5,5,5	0.37	0	5,5,5	0.34	0

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
5	GOL	E	513	-	-	0/4/4/4	-
4	PEG	C	502	-	-	2/4/4/4	-
5	GOL	C	511	-	-	4/4/4/4	-
5	GOL	Q	202	-	-	4/4/4/4	-
5	GOL	I	505	-	-	2/4/4/4	-
5	GOL	C	507	-	-	2/4/4/4	-
5	GOL	E	512	-	-	2/4/4/4	-
5	GOL	E	508	-	-	2/4/4/4	-
4	PEG	A	502	-	-	3/4/4/4	-
4	PEG	E	503	-	-	2/4/4/4	-
5	GOL	E	516	-	-	2/4/4/4	-
5	GOL	A	516	-	-	4/4/4/4	-
5	GOL	G	503	-	-	4/4/4/4	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
5	GOL	E	511	-	-	2/4/4/4	-
5	GOL	G	507	-	-	0/4/4/4	-
3	PLP	O	501	1	-	0/6/6/8	0/1/1/1
5	GOL	A	515	-	-	2/4/4/4	-
4	PEG	Q	201	-	-	3/4/4/4	-
5	GOL	C	514	-	-	2/4/4/4	-
5	GOL	G	505	-	-	2/4/4/4	-
3	PLP	E	501	1	-	0/6/6/8	0/1/1/1
5	GOL	C	512	-	-	4/4/4/4	-
5	GOL	G	509	-	-	0/4/4/4	-
5	GOL	E	509	-	-	2/4/4/4	-
5	GOL	E	510	-	-	0/4/4/4	-
4	PEG	C	505	-	-	2/4/4/4	-
3	PLP	G	501	1	-	0/6/6/8	0/1/1/1
5	GOL	A	509	-	-	2/4/4/4	-
3	PLP	I	501	1	-	0/6/6/8	0/1/1/1
5	GOL	A	511	-	-	4/4/4/4	-
3	PLP	K	501	1	-	0/6/6/8	0/1/1/1
5	GOL	C	513	-	-	4/4/4/4	-
5	GOL	E	514	-	-	2/4/4/4	-
5	GOL	E	507	-	-	1/4/4/4	-
5	GOL	C	508	-	-	4/4/4/4	-
5	GOL	G	506	-	-	2/4/4/4	-
5	GOL	C	509	-	-	0/4/4/4	-
5	GOL	M	502	-	-	2/4/4/4	-
5	GOL	A	507	-	-	4/4/4/4	-
4	PEG	E	505	-	-	2/4/4/4	-
5	GOL	C	510	-	-	0/4/4/4	-
5	GOL	A	506	-	-	2/4/4/4	-
5	GOL	S	201	-	-	1/4/4/4	-
5	GOL	A	514	-	-	2/4/4/4	-
3	PLP	M	501	1	-	0/6/6/8	0/1/1/1
5	GOL	A	513	-	-	4/4/4/4	-
5	GOL	I	506	-	-	0/4/4/4	-
4	PEG	C	504	-	-	2/4/4/4	-
5	GOL	A	510	-	-	2/4/4/4	-
5	GOL	C	515	-	-	2/4/4/4	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	PEG	A	503	-	-	3/4/4/4	-
4	PEG	I	502	-	-	2/4/4/4	-
3	PLP	A	501	1	-	0/6/6/8	0/1/1/1
4	PEG	K	502	-	-	3/4/4/4	-
5	GOL	C	506	-	-	2/4/4/4	-
5	GOL	I	507	-	-	2/4/4/4	-
3	PLP	C	501	1	-	0/6/6/8	0/1/1/1
5	GOL	G	508	-	-	1/4/4/4	-
4	PEG	E	504	-	-	2/4/4/4	-
4	PEG	C	503	-	-	2/4/4/4	-
4	PEG	A	504	-	-	3/4/4/4	-
4	PEG	G	502	-	-	3/4/4/4	-
5	GOL	A	508	-	-	2/4/4/4	-
5	GOL	Q	203	-	-	2/4/4/4	-
5	GOL	E	506	-	-	0/4/4/4	-
5	GOL	I	504	-	-	2/4/4/4	-
4	PEG	E	502	-	-	3/4/4/4	-
5	GOL	A	512	-	-	0/4/4/4	-
5	GOL	Q	204	-	-	2/4/4/4	-
4	PEG	W	201	-	-	2/4/4/4	-
5	GOL	W	202	-	-	2/4/4/4	-
5	GOL	G	504	-	-	4/4/4/4	-
5	GOL	E	515	-	-	2/4/4/4	-
5	GOL	I	503	-	-	4/4/4/4	-
5	GOL	A	505	-	-	2/4/4/4	-

The worst 5 of 24 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	A	501	PLP	C5-C4	8.89	1.50	1.40
3	A	501	PLP	C3-C2	8.81	1.49	1.40
3	O	501	PLP	C3-C2	8.48	1.49	1.40
3	O	501	PLP	C5-C4	8.45	1.49	1.40
3	M	501	PLP	C5-C4	8.27	1.49	1.40

The worst 5 of 24 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	G	501	PLP	C2A-C2-C3	-4.48	115.36	120.89
3	G	501	PLP	C2A-C2-N1	3.53	124.57	117.67
3	C	501	PLP	C6-N1-C2	3.29	125.26	119.17
3	G	501	PLP	C6-N1-C2	2.97	124.67	119.17
3	O	501	PLP	C6-N1-C2	2.91	124.55	119.17

There are no chirality outliers.

5 of 144 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
5	A	507	GOL	O1-C1-C2-O2
5	A	507	GOL	O1-C1-C2-C3
5	A	507	GOL	C1-C2-C3-O3
5	A	508	GOL	C1-C2-C3-O3
5	A	511	GOL	C1-C2-C3-O3

There are no ring outliers.

No monomer is involved in short contacts.

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	400/403 (99%)	0.17	1 (0%) 94 94	28, 40, 54, 74	0
1	C	400/403 (99%)	0.20	1 (0%) 94 94	27, 41, 60, 88	0
1	E	400/403 (99%)	0.31	1 (0%) 94 94	25, 38, 54, 74	0
1	G	400/403 (99%)	0.16	1 (0%) 94 94	26, 39, 60, 98	0
1	I	400/403 (99%)	0.41	10 (2%) 57 61	31, 41, 73, 109	0
1	K	400/403 (99%)	0.73	20 (5%) 28 30	47, 67, 90, 116	0
1	M	398/403 (98%)	0.98	58 (14%) 2 2	67, 86, 118, 139	0
1	O	398/403 (98%)	2.16	177 (44%) 0 0	81, 116, 149, 167	0
2	Q	147/154 (95%)	0.52	10 (6%) 17 17	29, 50, 82, 116	0
2	S	143/154 (92%)	0.39	5 (3%) 44 47	46, 61, 82, 116	0
2	U	135/154 (87%)	3.13	75 (55%) 0 0	61, 102, 173, 209	0
2	W	144/154 (93%)	1.13	29 (20%) 1 0	40, 66, 113, 155	0
2	Y	141/154 (91%)	1.60	45 (31%) 0 0	49, 87, 145, 171	0
2	a	139/154 (90%)	2.82	78 (56%) 0 0	100, 116, 142, 148	0
2	c	139/154 (90%)	4.14	105 (75%) 0 0	122, 142, 161, 178	0
2	e	97/154 (62%)	4.01	74 (76%) 0 0	147, 158, 166, 172	0
All	All	4281/4456 (96%)	1.01	690 (16%) 1 1	25, 56, 146, 209	0

The worst 5 of 690 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
2	U	72	ALA	12.2
2	c	71	VAL	11.5
2	a	28	THR	11.3
2	a	12	GLY	11.1
1	O	114	VAL	11.1

6.2 Non-standard residues in protein, DNA, RNA chains [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	CSS	c	61	7/8	0.64	0.23	141,146,147,148	0
2	CSS	W	61	7/8	0.75	0.21	94,97,107,114	0
2	CSS	U	61	7/8	0.77	0.21	97,104,108,115	0
1	CSS	M	358	7/8	0.80	0.15	85,87,88,92	0
1	CSS	O	358	7/8	0.80	0.16	113,114,116,116	0
2	CSS	S	61	7/8	0.82	0.16	86,87,98,101	0
2	CSS	a	61	7/8	0.84	0.15	105,106,109,110	0
2	CSS	Y	61	7/8	0.84	0.15	87,91,97,104	0
1	CSS	C	358	7/8	0.86	0.16	36,39,42,51	0
2	CSS	Q	61	7/8	0.89	0.14	71,73,83,95	0
1	CSS	G	358	7/8	0.92	0.15	33,34,35,42	0
1	CSS	K	358	7/8	0.92	0.13	59,61,62,64	0
1	CSS	E	358	7/8	0.93	0.17	30,32,34,48	0
1	CSS	A	358	7/8	0.93	0.15	35,35,38,46	0
1	CSS	I	358	7/8	0.93	0.14	35,38,41,49	0

6.3 Carbohydrates [i](#)

There are no monosaccharides 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
5	GOL	C	511	6/6	0.64	0.23	52,55,59,66	0
5	GOL	C	506	6/6	0.68	0.31	55,61,67,67	0
5	GOL	A	507	6/6	0.72	0.28	54,59,60,61	0
5	GOL	A	511	6/6	0.72	0.27	49,61,64,65	0
5	GOL	I	506	6/6	0.72	0.25	62,71,73,76	0
5	GOL	I	507	6/6	0.72	0.28	53,64,68,69	0
5	GOL	E	507	6/6	0.74	0.25	50,56,60,60	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
5	GOL	G	505	6/6	0.74	0.19	57,71,75,75	0
5	GOL	A	505	6/6	0.76	0.41	55,58,60,69	0
4	PEG	E	504	7/7	0.77	0.23	45,53,56,57	0
4	PEG	Q	201	7/7	0.77	0.24	50,58,67,68	0
5	GOL	E	509	6/6	0.79	0.32	46,54,62,63	0
5	GOL	E	516	6/6	0.79	0.36	44,52,58,62	0
4	PEG	E	502	7/7	0.79	0.16	50,55,60,64	0
5	GOL	G	509	6/6	0.79	0.23	54,57,67,70	0
5	GOL	I	504	6/6	0.79	0.24	59,65,70,73	0
4	PEG	A	503	7/7	0.79	0.28	43,51,55,57	0
4	PEG	G	502	7/7	0.79	0.20	54,61,68,70	0
5	GOL	W	202	6/6	0.80	0.21	64,74,75,76	0
5	GOL	E	511	6/6	0.80	0.20	50,59,64,64	0
5	GOL	A	513	6/6	0.81	0.21	50,52,55,56	0
5	GOL	A	506	6/6	0.81	0.34	47,62,64,65	0
5	GOL	E	513	6/6	0.81	0.22	52,54,59,64	0
4	PEG	K	502	7/7	0.81	0.26	57,58,64,65	0
4	PEG	C	503	7/7	0.81	0.28	56,64,70,81	0
5	GOL	M	502	6/6	0.81	0.23	57,62,69,70	0
5	GOL	C	513	6/6	0.82	0.24	57,66,69,75	0
4	PEG	C	505	7/7	0.82	0.27	40,57,74,75	0
5	GOL	G	507	6/6	0.82	0.22	57,61,66,67	0
5	GOL	G	508	6/6	0.82	0.19	48,52,53,54	0
5	GOL	E	508	6/6	0.82	0.16	40,43,54,54	0
5	GOL	Q	203	6/6	0.83	0.19	44,52,52,56	0
5	GOL	E	514	6/6	0.83	0.48	59,65,72,78	0
4	PEG	W	201	7/7	0.83	0.27	57,58,64,66	0
5	GOL	A	516	6/6	0.84	0.15	55,56,58,62	0
5	GOL	C	515	6/6	0.84	0.25	43,46,48,52	0
5	GOL	A	510	6/6	0.85	0.20	48,58,59,60	0
5	GOL	E	515	6/6	0.85	0.26	52,54,56,57	0
5	GOL	A	514	6/6	0.85	0.32	63,70,72,73	0
5	GOL	E	510	6/6	0.85	0.25	50,59,65,80	0
5	GOL	E	506	6/6	0.85	0.24	42,51,53,54	0
3	PLP	O	501	15/16	0.85	0.23	98,103,109,111	0
5	GOL	A	509	6/6	0.86	0.14	61,63,68,68	0
5	GOL	G	506	6/6	0.86	0.17	51,62,64,67	0
5	GOL	S	201	6/6	0.86	0.21	44,60,64,64	0
5	GOL	A	512	6/6	0.86	0.20	49,51,53,54	0
4	PEG	C	504	7/7	0.86	0.16	48,55,69,69	0
4	PEG	E	505	7/7	0.87	0.16	50,54,59,61	0
5	GOL	A	508	6/6	0.87	0.15	48,57,60,65	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
5	GOL	I	505	6/6	0.87	0.31	42,53,56,69	0
5	GOL	A	515	6/6	0.87	0.27	48,54,63,64	0
4	PEG	A	502	7/7	0.87	0.22	48,55,57,60	0
5	GOL	G	503	6/6	0.87	0.19	54,60,64,66	0
5	GOL	G	504	6/6	0.88	0.24	35,49,53,56	0
4	PEG	C	502	7/7	0.88	0.17	55,59,72,73	0
5	GOL	Q	204	6/6	0.88	0.37	54,62,67,71	0
5	GOL	C	507	6/6	0.89	0.26	55,67,72,73	0
4	PEG	E	503	7/7	0.89	0.18	54,60,65,65	0
5	GOL	C	510	6/6	0.90	0.24	48,65,70,73	0
5	GOL	C	514	6/6	0.90	0.20	66,71,76,77	0
5	GOL	Q	202	6/6	0.90	0.33	47,53,57,58	0
5	GOL	I	503	6/6	0.91	0.13	37,48,51,53	0
5	GOL	C	508	6/6	0.91	0.25	53,57,58,72	0
5	GOL	C	509	6/6	0.91	0.25	49,58,74,77	0
3	PLP	M	501	15/16	0.93	0.16	79,82,85,86	0
4	PEG	I	502	7/7	0.93	0.18	36,47,53,55	0
5	GOL	E	512	6/6	0.93	0.28	58,64,68,71	0
5	GOL	C	512	6/6	0.94	0.52	43,45,55,68	0
4	PEG	A	504	7/7	0.94	0.17	45,51,56,56	0
3	PLP	K	501	15/16	0.95	0.19	51,53,55,56	0
3	PLP	G	501	15/16	0.95	0.17	28,30,32,37	0
3	PLP	A	501	15/16	0.96	0.16	28,29,30,31	0
3	PLP	I	501	15/16	0.96	0.19	31,33,38,39	0
3	PLP	C	501	15/16	0.96	0.19	29,31,32,33	0
3	PLP	E	501	15/16	0.97	0.20	28,29,31,31	0

6.5 Other polymers [\(i\)](#)

There are no such residues in this entry.