



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 1, 2026 – 02:33 AM UTC

PDB ID : 5XX1 / pdb_00005xx1
Title : Crystal structure of Arginine decarboxylase (AdiA) from *Salmonella typhimurium*
Authors : Deka, G.; Bharath, S.R.; Shavithri, H.S.; Murthy, M.R.N.
Deposited on : 2017-06-30
Resolution : 3.10 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

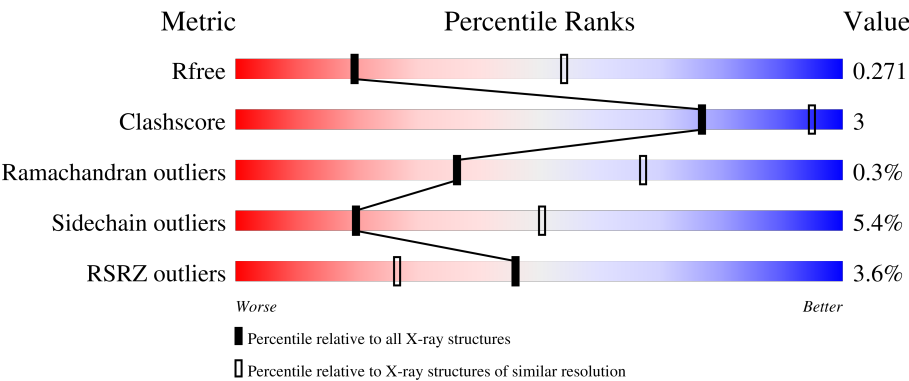
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.10 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	1456 (3.10-3.10)
Clashscore	190562	1539 (3.10-3.10)
Ramachandran outliers	187476	1467 (3.10-3.10)
Sidechain outliers	187428	1467 (3.10-3.10)
RSRZ outliers	180081	1456 (3.10-3.10)

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	756	
1	B	756	
1	C	756	
1	D	756	
1	E	756	

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Mol	Chain	Length	Quality of chain
1	F	756	4% 88% 8%
1	G	756	4% 87% 9%
1	H	756	3% 88% 8%
1	I	756	3% 88% 8%
1	J	756	4% 87% 9%

2 Entry composition

There are 3 unique types of molecules in this entry. The entry contains 57533 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 Arginine decarboxylase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	733	Total	C	N	O	S	0	0	0
			5607	3558	950	1061	38			
1	B	732	Total	C	N	O	S	0	0	0
			5543	3516	940	1049	38			
1	C	733	Total	C	N	O	S	0	0	0
			5526	3504	938	1047	37			
1	D	731	Total	C	N	O	S	0	1	0
			5531	3505	935	1055	36			
1	E	732	Total	C	N	O	S	0	0	0
			5566	3526	940	1063	37			
1	F	732	Total	C	N	O	S	0	0	0
			5597	3549	952	1058	38			
1	G	735	Total	C	N	O	S	0	0	0
			5684	3597	967	1082	38			
1	H	733	Total	C	N	O	S	0	0	0
			5697	3601	974	1084	38			
1	I	735	Total	C	N	O	S	0	0	0
			5665	3584	968	1076	37			
1	J	734	Total	C	N	O	S	0	0	0
			5682	3595	970	1079	38			

There are 10 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	174	SER	ALA	engineered mutation	UNP Q8Z1P1
B	174	SER	ALA	engineered mutation	UNP Q8Z1P1
C	174	SER	ALA	engineered mutation	UNP Q8Z1P1
D	174	SER	ALA	engineered mutation	UNP Q8Z1P1
E	174	SER	ALA	engineered mutation	UNP Q8Z1P1
F	174	SER	ALA	engineered mutation	UNP Q8Z1P1
G	174	SER	ALA	engineered mutation	UNP Q8Z1P1
H	174	SER	ALA	engineered mutation	UNP Q8Z1P1
I	174	SER	ALA	engineered mutation	UNP Q8Z1P1

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Chain	Residue	Modelled	Actual	Comment	Reference
J	174	SER	ALA	engineered mutation	UNP Q8Z1P1

- Molecule 2 is PHOSPHATE ION (CCD ID: PO4) (formula: O_4P).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
2	A	1	Total	O	P	0	0
			5	4	1		
2	B	1	Total	O	P	0	0
			5	4	1		
2	C	1	Total	O	P	0	0
			5	4	1		
2	D	1	Total	O	P	0	0
			5	4	1		
2	E	1	Total	O	P	0	0
			5	4	1		
2	F	1	Total	O	P	0	0
			5	4	1		
2	G	1	Total	O	P	0	0
			5	4	1		
2	H	1	Total	O	P	0	0
			5	4	1		
2	I	1	Total	O	P	0	0
			5	4	1		
2	J	1	Total	O	P	0	0
			5	4	1		

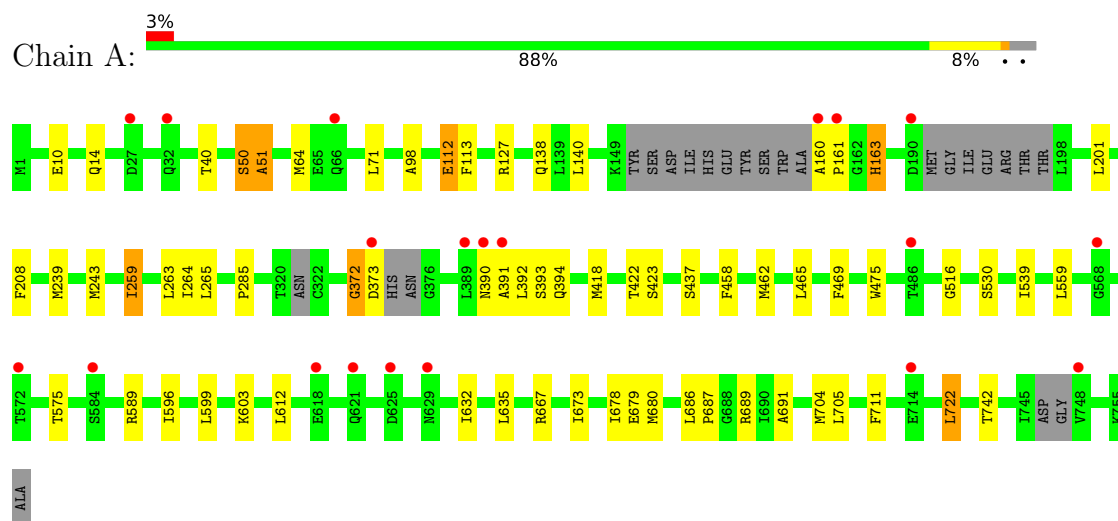
- Molecule 3 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	163	Total 163	O 163	0	0
3	B	118	Total 118	O 118	0	0
3	C	112	Total 112	O 112	0	0
3	D	137	Total 137	O 137	0	0
3	E	134	Total 134	O 134	0	0
3	F	119	Total 119	O 119	0	0
3	G	154	Total 154	O 154	0	0
3	H	160	Total 160	O 160	0	0
3	I	137	Total 137	O 137	0	0
3	J	151	Total 151	O 151	0	0

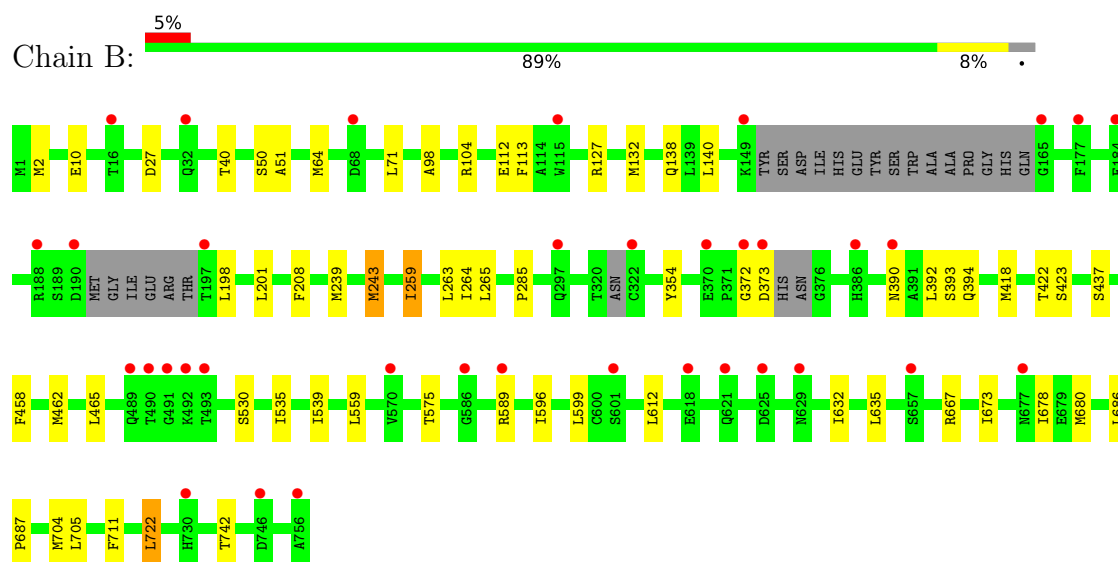
3 Residue-property plots

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red dot above a residue indicates a poor fit to the electron density ($RSRZ > 2$). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

• Molecule 1: Arginine decarboxylase

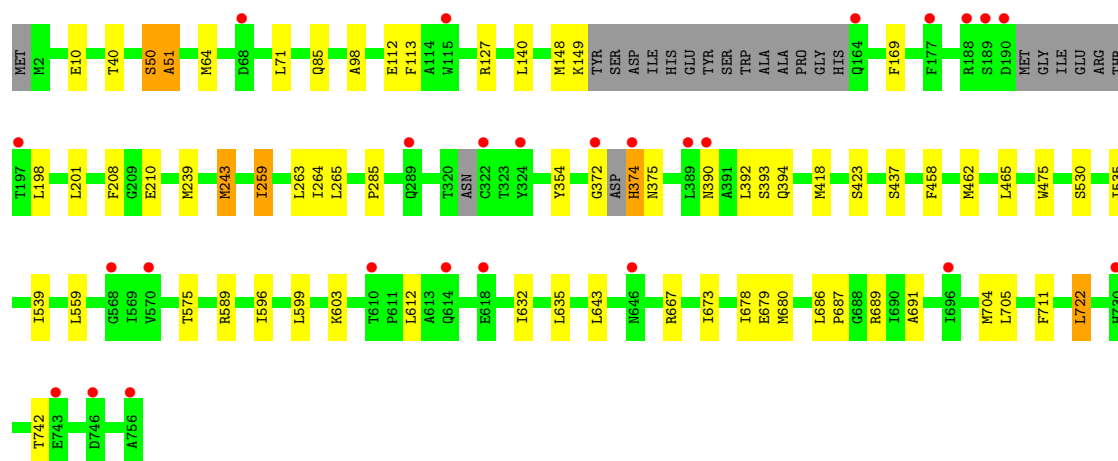


• Molecule 1: Arginine decarboxylase

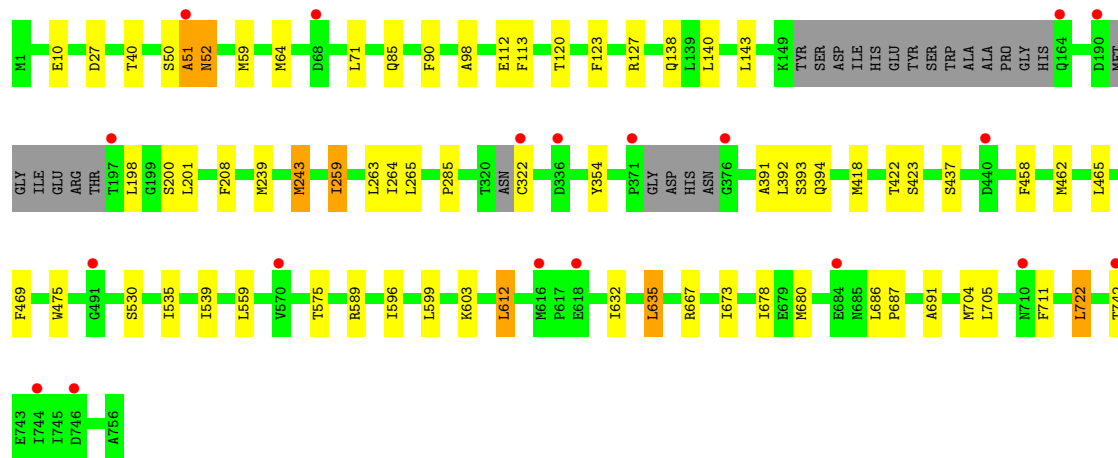
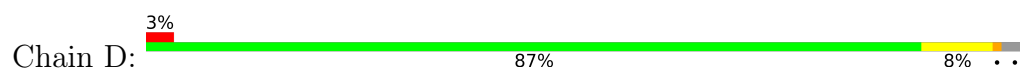


• Molecule 1: Arginine decarboxylase

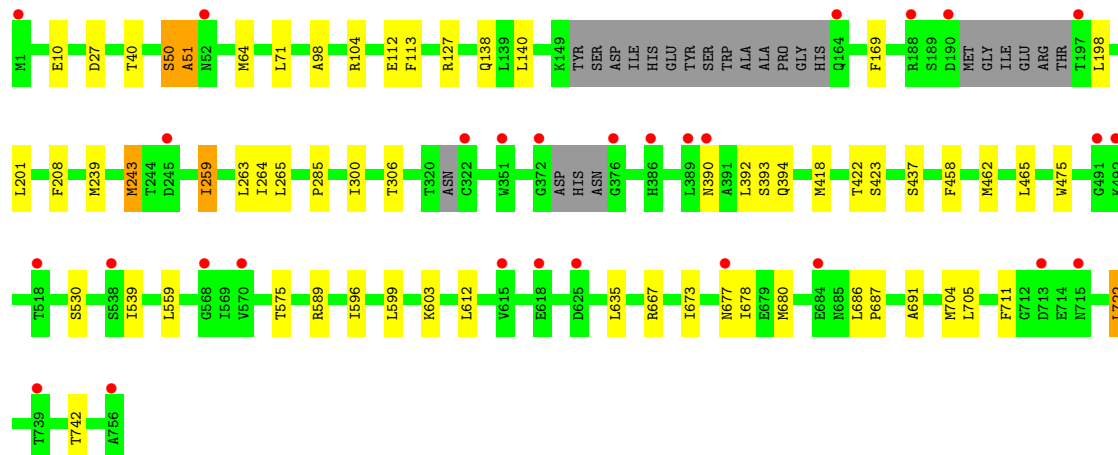
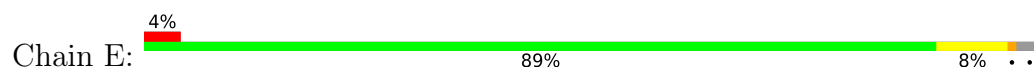




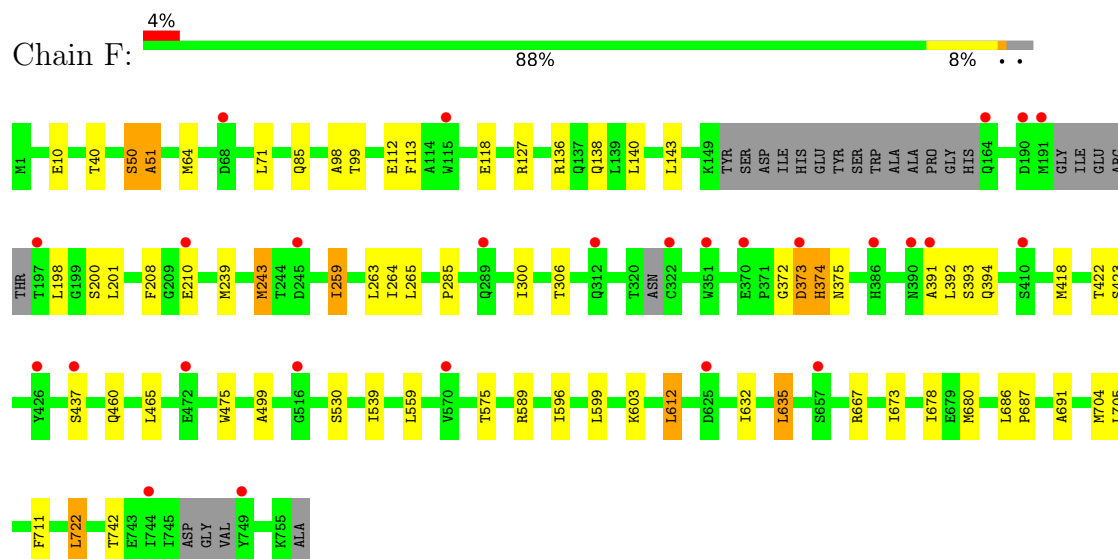
• Molecule 1: Arginine decarboxylase



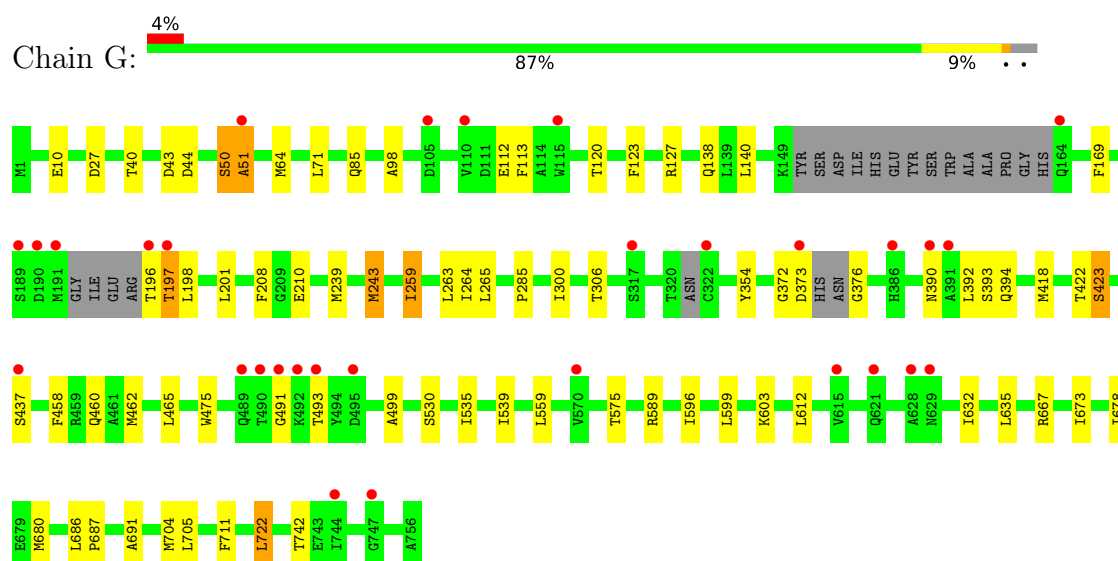
• Molecule 1: Arginine decarboxylase



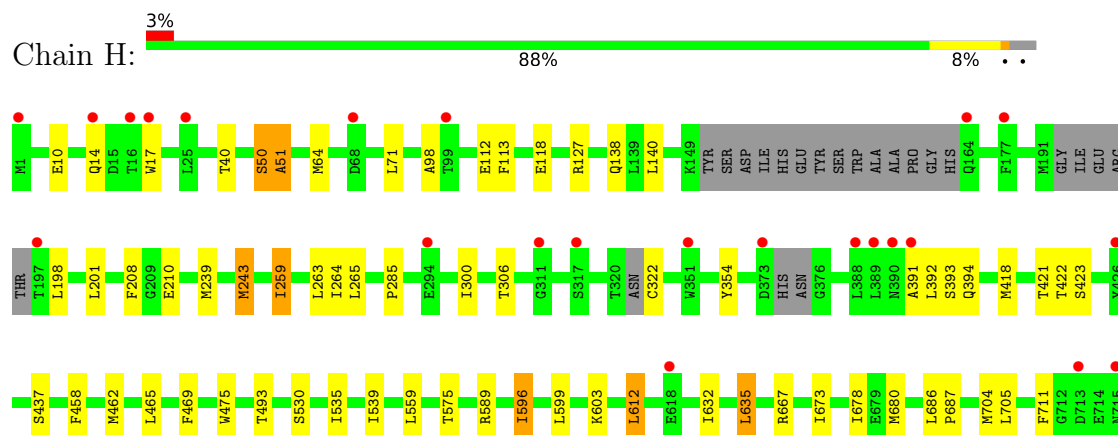
● Molecule 1: Arginine decarboxylase

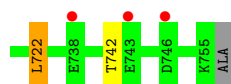


● Molecule 1: Arginine decarboxylase

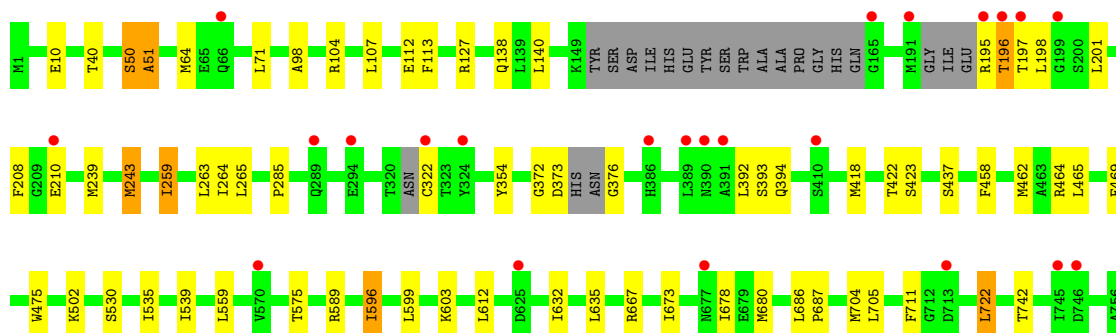
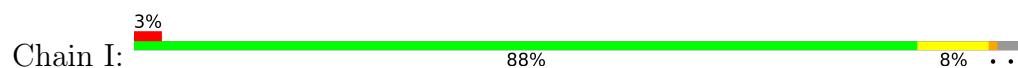


● Molecule 1: Arginine decarboxylase

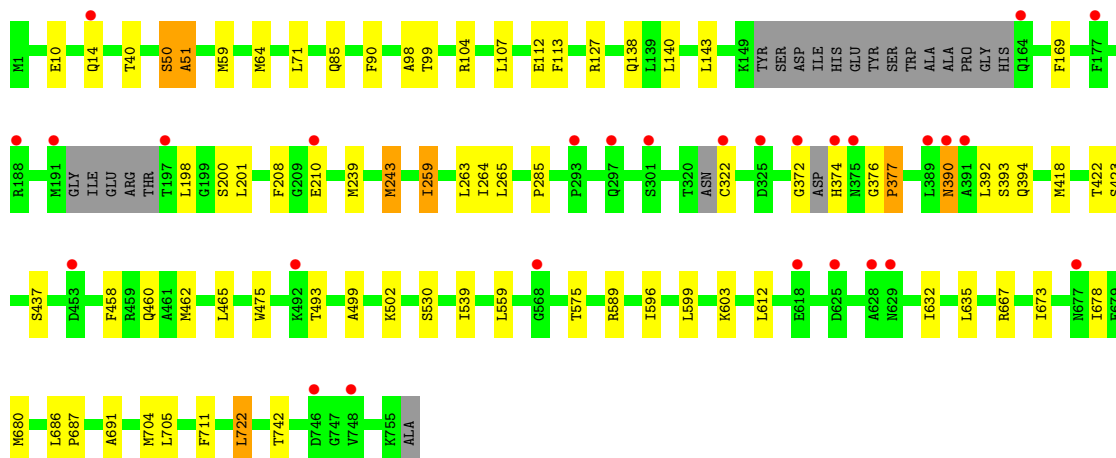
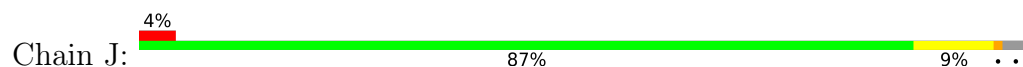




• Molecule 1: Arginine decarboxylase



• Molecule 1: Arginine decarboxylase



4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	179.36Å 193.25Å 280.16Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	57.12 – 3.10 57.12 – 3.10	Depositor EDS
% Data completeness (in resolution range)	90.8 (57.12-3.10) 90.8 (57.12-3.10)	Depositor EDS
R_{merge}	0.26	Depositor
R_{sym}	0.28	Depositor
$\langle I/\sigma(I) \rangle$ ¹	2.56 (at 3.13Å)	Xtriage
Refinement program	REFMAC 5.8.0069	Depositor
R, R_{free}	0.241 , 0.272 0.239 , 0.271	Depositor DCC
R_{free} test set	7893 reflections (4.48%)	wwPDB-VP
Wilson B-factor (Å ²)	33.7	Xtriage
Anisotropy	0.068	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.33 , 26.8	EDS
L-test for twinning ²	$\langle L \rangle = 0.51$, $\langle L^2 \rangle = 0.34$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.87	EDS
Total number of atoms	57533	wwPDB-VP
Average B, all atoms (Å ²)	28.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.34% 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: CME, PO4

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	0/5735	0.76	0/7809
1	B	0.43	0/5671	0.76	0/7730
1	C	0.44	0/5652	0.77	4/7703 (0.1%)
1	D	0.42	0/5660	0.75	1/7715 (0.0%)
1	E	0.43	0/5693	0.77	0/7757
1	F	0.43	1/5726 (0.0%)	0.76	1/7797 (0.0%)
1	G	0.42	0/5811	0.75	1/7901 (0.0%)
1	H	0.44	0/5825	0.75	0/7919
1	I	0.42	0/5792	0.75	0/7879
1	J	0.45	0/5810	0.77	4/7899 (0.1%)
All	All	0.43	1/57375 (0.0%)	0.76	11/78109 (0.0%)

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	F	373	ASP	CA-C	-5.70	1.45	1.52

All (11) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	C	375	ASN	N-CA-C	6.62	121.06	107.37
1	J	377	PRO	CA-N-CD	-5.38	104.46	112.00
1	J	376	GLY	CA-C-N	-5.31	113.20	119.84
1	J	376	GLY	C-N-CA	-5.31	113.20	119.84
1	D	85	GLN	N-CA-C	5.28	117.04	111.28
1	F	85	GLN	N-CA-C	5.24	116.99	111.28
1	C	374	HIS	CA-C-N	-5.16	114.35	122.76
1	C	374	HIS	C-N-CA	-5.16	114.35	122.76
1	G	85	GLN	N-CA-C	5.14	116.88	111.28
1	J	85	GLN	N-CA-C	5.13	116.87	111.28

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	C	85	GLN	N-CA-C	5.01	116.74	111.28

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	5607	0	5290	35	1
1	B	5543	0	5171	33	0
1	C	5526	0	5133	29	0
1	D	5531	0	5148	37	0
1	E	5566	0	5210	26	0
1	F	5597	0	5261	39	0
1	G	5684	0	5419	36	1
1	H	5697	0	5443	45	0
1	I	5665	0	5386	40	0
1	J	5682	0	5420	44	0
2	A	5	0	0	0	0
2	B	5	0	0	0	0
2	C	5	0	0	0	0
2	D	5	0	0	1	0
2	E	5	0	0	0	0
2	F	5	0	0	0	0
2	G	5	0	0	0	0
2	H	5	0	0	0	0
2	I	5	0	0	0	0
2	J	5	0	0	0	0
3	A	163	0	0	0	0
3	B	118	0	0	1	0
3	C	112	0	0	0	0
3	D	137	0	0	0	0
3	E	134	0	0	2	0
3	F	119	0	0	1	0
3	G	154	0	0	0	0
3	H	160	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	I	137	0	0	0	0
3	J	151	0	0	0	0
All	All	57533	0	52881	317	1

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 3.

All (317) 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:372:GLY:C	1:C:374:HIS:N	2.07	1.12
1:H:705:LEU:HD22	1:H:711:PHE:CE1	1.92	1.05
1:J:372:GLY:C	1:J:374:HIS:N	2.16	1.04
1:B:705:LEU:HD22	1:B:711:PHE:CE1	1.95	1.02
1:I:705:LEU:HD22	1:I:711:PHE:CE1	1.98	0.98
1:D:143:LEU:HD11	1:D:208:PHE:CE1	1.99	0.98
1:H:686:LEU:HB3	1:H:711:PHE:HD2	1.29	0.97
1:F:143:LEU:HD11	1:F:208:PHE:CE1	2.01	0.95
1:J:143:LEU:HD11	1:J:208:PHE:CE1	2.00	0.95
1:D:143:LEU:HD11	1:D:208:PHE:CD1	2.07	0.90
1:B:686:LEU:HD22	1:B:711:PHE:HE2	1.38	0.89
1:I:686:LEU:HD22	1:I:711:PHE:HE2	1.35	0.89
1:F:143:LEU:HD11	1:F:208:PHE:CD1	2.07	0.89
1:D:143:LEU:CD1	1:D:208:PHE:CD1	2.57	0.86
1:F:143:LEU:CD1	1:F:208:PHE:CD1	2.58	0.86
1:J:143:LEU:CD1	1:J:208:PHE:CD1	2.58	0.86
1:J:143:LEU:HD11	1:J:208:PHE:CD1	2.09	0.86
1:B:686:LEU:HB3	1:B:711:PHE:HD2	1.41	0.85
1:H:705:LEU:HD22	1:H:711:PHE:HE1	1.37	0.85
1:I:686:LEU:HB3	1:I:711:PHE:HD2	1.42	0.85
1:H:686:LEU:HB3	1:H:711:PHE:CD2	2.13	0.84
1:H:686:LEU:HD22	1:H:711:PHE:HE2	1.42	0.84
1:I:686:LEU:HB3	1:I:711:PHE:CD2	2.16	0.80
1:B:705:LEU:HD22	1:B:711:PHE:HE1	1.46	0.80
1:I:686:LEU:HD22	1:I:711:PHE:CE2	2.16	0.80
1:B:686:LEU:HB3	1:B:711:PHE:CD2	2.17	0.79
1:B:686:LEU:HD22	1:B:711:PHE:CE2	2.18	0.79
1:H:686:LEU:HD22	1:H:711:PHE:CE2	2.19	0.76
1:I:705:LEU:HD22	1:I:711:PHE:HE1	1.48	0.75
1:H:705:LEU:HD22	1:H:711:PHE:CD1	2.21	0.75
1:A:163:HIS:HB3	1:J:390:ASN:HD22	1.53	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:143:LEU:HD13	1:D:208:PHE:HD1	1.54	0.72
1:D:143:LEU:CD1	1:D:208:PHE:HD1	2.04	0.71
1:C:372:GLY:O	1:C:374:HIS:N	2.23	0.71
1:B:705:LEU:HD22	1:B:711:PHE:CD1	2.25	0.71
1:J:143:LEU:HD13	1:J:208:PHE:HD1	1.56	0.70
1:H:705:LEU:CD2	1:H:711:PHE:CD1	2.75	0.70
1:F:143:LEU:HD13	1:F:208:PHE:HD1	1.57	0.68
1:D:200:SER:C	1:D:208:PHE:HD2	2.02	0.68
1:F:373:ASP:C	1:F:375:ASN:N	2.50	0.67
1:B:705:LEU:CD2	1:B:711:PHE:CD1	2.78	0.67
1:J:200:SER:C	1:J:208:PHE:HD2	2.03	0.66
1:F:200:SER:C	1:F:208:PHE:HD2	2.04	0.66
1:F:143:LEU:CD1	1:F:208:PHE:HD1	2.07	0.65
1:I:705:LEU:HD22	1:I:711:PHE:CD1	2.30	0.65
1:A:160:ALA:HB3	1:A:161:PRO:CD	2.28	0.64
1:I:705:LEU:CD2	1:I:711:PHE:CD1	2.83	0.62
1:C:686:LEU:HD13	1:C:711:PHE:CE2	2.35	0.62
1:F:373:ASP:O	1:F:375:ASN:N	2.34	0.61
1:E:686:LEU:HD13	1:E:711:PHE:CE2	2.36	0.60
1:D:418:MET:HE1	1:G:264:ILE:CG2	2.32	0.60
1:C:418:MET:HE1	1:H:264:ILE:CG2	2.31	0.60
1:D:686:LEU:HD13	1:D:711:PHE:CE2	2.38	0.59
1:J:686:LEU:HD13	1:J:711:PHE:CE2	2.37	0.59
1:E:418:MET:HE1	1:F:264:ILE:CG2	2.32	0.58
1:D:264:ILE:CG2	1:G:418:MET:HE1	2.33	0.58
1:H:469:PHE:CZ	1:I:104:ARG:HD3	2.37	0.58
1:A:686:LEU:HD13	1:A:711:PHE:CE2	2.39	0.58
1:F:686:LEU:HD13	1:F:711:PHE:CE2	2.39	0.58
1:A:163:HIS:N	1:J:390:ASN:HB2	2.19	0.57
1:B:264:ILE:CG2	1:I:418:MET:HE1	2.35	0.57
1:H:705:LEU:HD21	1:H:711:PHE:HD1	1.69	0.57
1:C:265:LEU:HG	1:H:418:MET:HE3	1.87	0.56
1:F:285:PRO:HG3	1:F:530:SER:OG	2.05	0.56
1:A:264:ILE:CG2	1:J:418:MET:HE1	2.35	0.56
1:C:418:MET:HE3	1:H:265:LEU:HG	1.88	0.56
1:B:418:MET:HE1	1:I:264:ILE:CG2	2.36	0.55
1:D:285:PRO:HG3	1:D:530:SER:OG	2.06	0.55
1:A:285:PRO:HG3	1:A:530:SER:OG	2.07	0.55
1:A:418:MET:HE1	1:J:264:ILE:CG2	2.37	0.55
1:I:469:PHE:CZ	1:J:104:ARG:HD3	2.42	0.55
1:B:285:PRO:HG3	1:B:530:SER:OG	2.05	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:265:LEU:HG	1:I:418:MET:HE3	1.90	0.54
1:G:686:LEU:HD13	1:G:711:PHE:CE2	2.42	0.54
1:D:201:LEU:N	1:D:208:PHE:CD2	2.75	0.54
1:J:285:PRO:HG3	1:J:530:SER:OG	2.08	0.54
1:J:201:LEU:N	1:J:208:PHE:CD2	2.76	0.54
1:I:285:PRO:HG3	1:I:530:SER:OG	2.08	0.54
1:D:418:MET:HE3	1:G:265:LEU:HG	1.91	0.53
1:H:285:PRO:HG3	1:H:530:SER:OG	2.09	0.53
1:E:285:PRO:HG3	1:E:530:SER:OG	2.09	0.53
1:G:43:ASP:HB3	1:H:17:TRP:CD2	2.44	0.53
1:F:373:ASP:O	1:F:375:ASN:CB	2.57	0.53
1:G:113:PHE:O	1:G:127:ARG:NH2	2.42	0.53
1:D:51:ALA:O	1:D:52:ASN:CG	2.52	0.53
1:G:285:PRO:HG3	1:G:530:SER:OG	2.08	0.52
1:A:160:ALA:HB3	1:A:161:PRO:HD3	1.91	0.52
1:F:201:LEU:N	1:F:208:PHE:CD2	2.77	0.52
1:G:43:ASP:CB	1:H:17:TRP:CD2	2.93	0.52
1:H:113:PHE:O	1:H:127:ARG:NH2	2.42	0.52
1:A:163:HIS:CB	1:J:390:ASN:HD22	2.21	0.52
1:C:285:PRO:HG3	1:C:530:SER:OG	2.09	0.52
1:E:264:ILE:CG2	1:F:418:MET:HE1	2.40	0.52
1:C:264:ILE:CG2	1:H:418:MET:HE1	2.40	0.51
1:D:469:PHE:CZ	1:E:104:ARG:HD3	2.46	0.51
1:H:686:LEU:HD13	1:H:711:PHE:CE2	2.45	0.51
1:H:705:LEU:CD2	1:H:711:PHE:HD1	2.19	0.51
1:A:239:MET:HE1	1:A:259:ILE:HG23	1.93	0.50
1:J:239:MET:HE1	1:J:259:ILE:HG23	1.93	0.50
1:H:705:LEU:HD21	1:H:711:PHE:CD1	2.45	0.50
1:C:113:PHE:O	1:C:127:ARG:NH2	2.45	0.50
1:E:677:ASN:ND2	3:E:901:HOH:O	2.45	0.50
1:B:418:MET:HE3	1:I:265:LEU:HG	1.93	0.50
1:E:113:PHE:O	1:E:127:ARG:NH2	2.45	0.50
1:F:113:PHE:O	1:F:127:ARG:NH2	2.41	0.50
1:E:265:LEU:HG	1:F:418:MET:HE3	1.93	0.49
1:G:43:ASP:HB2	1:H:17:TRP:CE3	2.47	0.49
1:I:195:ARG:O	1:I:196:THR:CB	2.61	0.49
1:D:265:LEU:HG	1:G:418:MET:HE3	1.94	0.49
1:B:113:PHE:O	1:B:127:ARG:NH2	2.43	0.49
1:C:239:MET:HE1	1:C:259:ILE:HG23	1.94	0.49
1:B:239:MET:HE1	1:B:259:ILE:HG23	1.95	0.49
1:B:705:LEU:HD21	1:B:711:PHE:CD1	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:239:MET:HE1	1:I:259:ILE:HG23	1.95	0.49
1:E:239:MET:HE1	1:E:259:ILE:HG23	1.95	0.49
1:E:169:PHE:CZ	1:F:391:ALA:HA	2.48	0.48
1:H:239:MET:HE1	1:H:259:ILE:HG23	1.95	0.48
1:H:673:ILE:HA	1:H:678:ILE:HG13	1.96	0.48
1:J:113:PHE:O	1:J:127:ARG:NH2	2.46	0.48
1:D:239:MET:HE1	1:D:259:ILE:HG23	1.95	0.48
1:G:705:LEU:HD22	1:G:711:PHE:CE1	2.48	0.48
1:F:691:ALA:HB2	1:F:711:PHE:HE1	1.78	0.48
1:H:201:LEU:HB2	1:H:208:PHE:CE2	2.49	0.48
1:D:143:LEU:HD11	1:D:208:PHE:HE1	1.71	0.48
1:E:686:LEU:N	1:E:687:PRO:CD	2.77	0.48
1:F:200:SER:C	1:F:208:PHE:CD2	2.88	0.48
1:F:673:ILE:HA	1:F:678:ILE:HG13	1.95	0.48
1:J:691:ALA:HB2	1:J:711:PHE:HE1	1.78	0.48
1:J:673:ILE:HA	1:J:678:ILE:HG13	1.96	0.48
1:B:705:LEU:HD21	1:B:711:PHE:HD1	1.79	0.48
1:F:475:TRP:O	1:F:603:LYS:HE3	2.14	0.48
1:G:673:ILE:HA	1:G:678:ILE:HG13	1.96	0.48
1:C:691:ALA:HB2	1:C:711:PHE:HE1	1.79	0.47
1:I:673:ILE:HA	1:I:678:ILE:HG13	1.95	0.47
1:B:458:PHE:CE1	1:B:462:MET:HE3	2.49	0.47
1:G:196:THR:O	1:G:197:THR:CB	2.62	0.47
1:A:691:ALA:HB2	1:A:711:PHE:HE1	1.79	0.47
1:E:673:ILE:HA	1:E:678:ILE:HG13	1.95	0.47
1:G:691:ALA:HB2	1:G:711:PHE:HE1	1.78	0.47
1:F:373:ASP:O	1:F:374:HIS:C	2.57	0.47
1:G:239:MET:HE1	1:G:259:ILE:HG23	1.95	0.47
1:C:705:LEU:HD22	1:C:711:PHE:CE1	2.49	0.47
1:H:596:ILE:HG21	1:I:107:LEU:HD21	1.95	0.47
1:H:704:MET:HE1	1:H:722:LEU:HD13	1.97	0.47
1:A:201:LEU:HB2	1:A:208:PHE:CE2	2.50	0.47
1:A:686:LEU:N	1:A:687:PRO:CD	2.78	0.47
1:B:673:ILE:HA	1:B:678:ILE:HG13	1.96	0.47
1:D:673:ILE:HA	1:D:678:ILE:HG13	1.95	0.47
1:H:264:ILE:HG23	1:H:667:ARG:HA	1.96	0.47
1:I:113:PHE:O	1:I:127:ARG:NH2	2.46	0.47
1:I:201:LEU:HB2	1:I:208:PHE:CE2	2.49	0.47
1:B:127:ARG:NH1	3:B:902:HOH:O	2.47	0.47
1:G:201:LEU:HB2	1:G:208:PHE:CE2	2.50	0.47
1:A:113:PHE:O	1:A:127:ARG:NH2	2.46	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:169:PHE:CZ	1:H:391:ALA:HA	2.50	0.47
1:D:691:ALA:HB2	1:D:711:PHE:HE1	1.79	0.47
1:E:691:ALA:HB2	1:E:711:PHE:HE1	1.79	0.46
1:H:475:TRP:O	1:H:603:LYS:HE3	2.16	0.46
1:B:201:LEU:HB2	1:B:208:PHE:CE2	2.50	0.46
1:F:239:MET:HE1	1:F:259:ILE:HG23	1.97	0.46
1:E:264:ILE:HG23	1:E:667:ARG:HA	1.97	0.46
1:J:264:ILE:HG23	1:J:667:ARG:HA	1.97	0.46
1:J:705:LEU:HD22	1:J:711:PHE:CE1	2.50	0.46
1:E:418:MET:HE3	1:F:265:LEU:HG	1.96	0.46
1:F:686:LEU:N	1:F:687:PRO:CD	2.79	0.46
1:F:705:LEU:HD22	1:F:711:PHE:CE1	2.51	0.46
1:A:163:HIS:HA	1:J:390:ASN:HD22	1.81	0.46
1:C:673:ILE:HA	1:C:678:ILE:HG13	1.98	0.46
1:F:264:ILE:HG23	1:F:667:ARG:HA	1.97	0.46
1:B:705:LEU:CD2	1:B:711:PHE:HD1	2.28	0.46
1:C:201:LEU:HB2	1:C:208:PHE:CE2	2.50	0.46
1:G:686:LEU:N	1:G:687:PRO:CD	2.79	0.46
1:A:265:LEU:HG	1:J:418:MET:HE3	1.98	0.46
1:A:705:LEU:HD22	1:A:711:PHE:CE1	2.50	0.46
1:C:686:LEU:N	1:C:687:PRO:CD	2.79	0.46
1:D:391:ALA:HA	1:G:169:PHE:CZ	2.51	0.46
1:J:200:SER:C	1:J:208:PHE:CD2	2.89	0.46
1:A:393:SER:O	1:A:394:GLN:HB2	2.16	0.46
1:B:264:ILE:HG23	1:B:667:ARG:HA	1.98	0.46
1:I:705:LEU:HD21	1:I:711:PHE:CD1	2.51	0.46
1:A:673:ILE:HA	1:A:678:ILE:HG13	1.96	0.46
1:D:705:LEU:HD22	1:D:711:PHE:CE1	2.51	0.46
1:J:475:TRP:O	1:J:603:LYS:HE3	2.16	0.46
1:J:686:LEU:N	1:J:687:PRO:CD	2.78	0.46
1:C:64:MET:HE1	1:C:98:ALA:HB2	1.99	0.45
1:D:704:MET:HE1	1:D:722:LEU:HD13	1.98	0.45
1:C:393:SER:O	1:C:394:GLN:HB2	2.16	0.45
1:G:44:ASP:HA	1:H:17:TRP:HB2	1.98	0.45
1:I:393:SER:O	1:I:394:GLN:HB2	2.16	0.45
1:D:458:PHE:CE1	1:D:462:MET:HE3	2.51	0.45
1:D:686:LEU:N	1:D:687:PRO:CD	2.79	0.45
1:G:475:TRP:O	1:G:603:LYS:HE3	2.17	0.45
1:A:112:GLU:HG3	3:E:905:HOH:O	2.16	0.45
1:A:160:ALA:CB	1:A:161:PRO:CD	2.94	0.45
1:D:113:PHE:O	1:D:127:ARG:NH2	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:704:MET:HE1	1:I:722:LEU:HD13	1.98	0.45
1:J:64:MET:HE1	1:J:98:ALA:HB2	1.98	0.45
1:D:200:SER:C	1:D:208:PHE:CD2	2.88	0.45
1:G:64:MET:HE1	1:G:98:ALA:HB2	1.99	0.45
1:I:686:LEU:N	1:I:687:PRO:CD	2.80	0.45
1:C:475:TRP:O	1:C:603:LYS:HE3	2.17	0.45
1:E:50:SER:C	1:E:51:ALA:O	2.60	0.45
1:H:393:SER:O	1:H:394:GLN:HB2	2.17	0.45
1:J:390:ASN:O	1:J:390:ASN:CG	2.60	0.45
1:H:469:PHE:CE1	1:I:104:ARG:HD3	2.52	0.45
1:I:475:TRP:O	1:I:603:LYS:HE3	2.16	0.45
1:E:458:PHE:CE1	1:E:462:MET:HE3	2.52	0.45
1:B:393:SER:O	1:B:394:GLN:HB2	2.17	0.45
1:J:704:MET:HE1	1:J:722:LEU:HD13	1.98	0.45
1:A:264:ILE:HG23	1:A:667:ARG:HA	1.99	0.44
1:D:264:ILE:HG23	1:D:667:ARG:HA	1.99	0.44
1:E:393:SER:O	1:E:394:GLN:HB2	2.18	0.44
1:A:163:HIS:HB3	1:J:390:ASN:ND2	2.27	0.44
1:B:64:MET:HE1	1:B:98:ALA:HB2	2.00	0.44
1:G:373:ASP:OD1	1:G:376:GLY:N	2.50	0.44
1:B:686:LEU:N	1:B:687:PRO:CD	2.79	0.44
1:E:704:MET:HE1	1:E:722:LEU:HD13	1.99	0.44
1:F:393:SER:O	1:F:394:GLN:HB2	2.17	0.44
1:H:686:LEU:N	1:H:687:PRO:CD	2.80	0.44
1:I:264:ILE:HG23	1:I:667:ARG:HA	1.99	0.44
1:H:50:SER:C	1:H:51:ALA:O	2.60	0.44
1:A:163:HIS:CA	1:J:390:ASN:HD22	2.31	0.44
1:E:705:LEU:HD22	1:E:711:PHE:CE1	2.51	0.44
1:I:469:PHE:CE1	1:J:104:ARG:HD3	2.53	0.44
1:D:393:SER:O	1:D:394:GLN:HB2	2.18	0.44
1:I:596:ILE:HG21	1:J:107:LEU:HD21	2.00	0.44
1:J:460:GLN:NE2	1:J:499:ALA:O	2.51	0.44
1:F:64:MET:HE1	1:F:98:ALA:HB2	1.99	0.43
1:F:673:ILE:HA	1:F:678:ILE:CG1	2.48	0.43
1:B:686:LEU:HD13	1:B:711:PHE:CE2	2.54	0.43
1:F:239:MET:HE2	1:F:243:MET:HE1	2.00	0.43
1:G:354:TYR:CZ	1:G:535:ILE:HD11	2.53	0.43
1:G:50:SER:C	1:G:51:ALA:O	2.61	0.43
1:G:704:MET:HE1	1:G:722:LEU:HD13	2.01	0.43
1:I:50:SER:C	1:I:51:ALA:O	2.61	0.43
1:G:264:ILE:HG23	1:G:667:ARG:HA	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:64:MET:HE1	1:H:98:ALA:HB2	2.00	0.43
1:H:354:TYR:CZ	1:H:535:ILE:HD11	2.54	0.43
1:H:300:ILE:HG23	1:H:306:THR:HB	2.01	0.43
1:A:704:MET:HE1	1:A:722:LEU:HD13	2.00	0.43
1:H:239:MET:HE2	1:H:243:MET:HE1	2.01	0.43
1:F:704:MET:HE1	1:F:722:LEU:HD13	2.01	0.43
1:B:704:MET:HE1	1:B:722:LEU:HD13	2.01	0.42
1:E:673:ILE:HA	1:E:678:ILE:CG1	2.49	0.42
1:I:64:MET:HE1	1:I:98:ALA:HB2	2.00	0.42
1:A:64:MET:HE1	1:A:98:ALA:HB2	2.00	0.42
1:A:418:MET:HE3	1:J:265:LEU:HG	2.01	0.42
1:G:393:SER:O	1:G:394:GLN:HB2	2.18	0.42
1:J:393:SER:O	1:J:394:GLN:HB2	2.18	0.42
1:I:705:LEU:HD21	1:I:711:PHE:HD1	1.85	0.42
1:E:201:LEU:HB2	1:E:208:PHE:CE2	2.54	0.42
1:C:394:GLN:HG2	1:H:421:THR:HG21	2.02	0.42
1:D:354:TYR:CZ	1:D:535:ILE:HD11	2.54	0.42
1:F:143:LEU:HD13	1:F:208:PHE:CD1	2.35	0.42
1:I:373:ASP:OD1	1:I:376:GLY:N	2.52	0.42
1:A:391:ALA:HA	1:J:169:PHE:CZ	2.55	0.42
1:C:264:ILE:HG23	1:C:667:ARG:HA	1.99	0.42
1:G:460:GLN:NE2	1:G:499:ALA:O	2.52	0.42
1:I:239:MET:HE2	1:I:243:MET:HE1	2.02	0.42
1:B:673:ILE:HA	1:B:678:ILE:CG1	2.50	0.42
1:A:50:SER:C	1:A:51:ALA:O	2.61	0.42
1:C:50:SER:C	1:C:51:ALA:O	2.61	0.42
1:E:64:MET:HE1	1:E:98:ALA:HB2	2.00	0.42
1:G:673:ILE:HA	1:G:678:ILE:CG1	2.49	0.42
1:H:612:LEU:HD21	1:H:635:LEU:HD12	2.02	0.42
1:A:458:PHE:CE1	1:A:462:MET:HE3	2.55	0.42
1:A:475:TRP:O	1:A:603:LYS:HE3	2.20	0.42
1:E:475:TRP:O	1:E:603:LYS:HE3	2.20	0.42
1:I:458:PHE:CE1	1:I:462:MET:HE3	2.55	0.42
1:J:673:ILE:HA	1:J:678:ILE:CG1	2.50	0.42
1:B:354:TYR:CZ	1:B:535:ILE:HD11	2.54	0.41
1:C:148:MET:O	1:C:149:LYS:HG3	2.20	0.41
1:E:239:MET:HE2	1:E:243:MET:HE1	2.01	0.41
1:C:704:MET:HE1	1:C:722:LEU:HD13	2.02	0.41
1:I:673:ILE:HA	1:I:678:ILE:CG1	2.50	0.41
1:A:372:GLY:O	1:A:373:ASP:CB	2.68	0.41
1:A:679:GLU:OE1	1:A:689:ARG:NH2	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:475:TRP:O	1:D:603:LYS:HE3	2.20	0.41
1:A:673:ILE:HA	1:A:678:ILE:CG1	2.51	0.41
1:D:120:THR:HB	1:D:123:PHE:CD2	2.56	0.41
1:D:673:ILE:HA	1:D:678:ILE:CG1	2.50	0.41
1:F:136:ARG:NE	3:F:901:HOH:O	2.54	0.41
1:C:458:PHE:CE1	1:C:462:MET:HE3	2.55	0.41
1:D:239:MET:HE2	1:D:243:MET:HE1	2.02	0.41
1:H:458:PHE:CE1	1:H:462:MET:HE3	2.55	0.41
1:J:458:PHE:CE1	1:J:462:MET:HE3	2.55	0.41
1:F:300:ILE:HG23	1:F:306:THR:HB	2.03	0.41
1:D:64:MET:HE1	1:D:98:ALA:HB2	2.01	0.41
2:D:801:PO4:O2	1:G:423:SER:OG	2.38	0.41
1:G:458:PHE:CE1	1:G:462:MET:HE3	2.55	0.41
1:H:705:LEU:CD2	1:H:711:PHE:CE1	2.81	0.41
1:J:239:MET:HE2	1:J:243:MET:HE1	2.02	0.41
1:A:469:PHE:CZ	1:B:104:ARG:HD3	2.56	0.41
1:B:2:MET:HB3	1:B:132:MET:HE2	2.03	0.41
1:H:673:ILE:HA	1:H:678:ILE:CG1	2.50	0.41
1:D:612:LEU:HD21	1:D:635:LEU:HD12	2.03	0.41
1:I:686:LEU:HD13	1:I:711:PHE:CE2	2.56	0.41
1:F:50:SER:C	1:F:51:ALA:O	2.63	0.40
1:F:118:GLU:HA	1:J:50:SER:HB3	2.03	0.40
1:G:120:THR:HB	1:G:123:PHE:CD2	2.56	0.40
1:I:354:TYR:CZ	1:I:535:ILE:HD11	2.55	0.40
1:J:59:MET:HG2	1:J:90:PHE:HB2	2.02	0.40
1:C:372:GLY:CA	1:C:374:HIS:N	2.80	0.40
1:C:679:GLU:OE1	1:C:689:ARG:NH2	2.55	0.40
1:F:460:GLN:NE2	1:F:499:ALA:O	2.54	0.40
1:F:612:LEU:HD21	1:F:635:LEU:HD12	2.03	0.40
1:D:59:MET:HG2	1:D:90:PHE:HB2	2.02	0.40
1:D:264:ILE:HG21	1:G:418:MET:HE1	2.04	0.40
1:J:50:SER:C	1:J:51:ALA:O	2.60	0.40
1:B:239:MET:HE2	1:B:243:MET:HE1	2.03	0.40
1:G:50:SER:HB3	1:H:118:GLU:HA	2.04	0.40
1:G:300:ILE:HG23	1:G:306:THR:HB	2.02	0.40
1:C:239:MET:HE2	1:C:243:MET:HE1	2.03	0.40
1:C:354:TYR:CZ	1:C:535:ILE:HD11	2.56	0.40
1:E:300:ILE:HG23	1:E:306:THR:HB	2.04	0.40
1:G:239:MET:HE2	1:G:243:MET:HE1	2.03	0.40
1:I:464:ARG:NH1	1:J:99:THR:O	2.55	0.40

All (1) symmetry-related close contacts are listed below. The label for Atom-2 includes the sym-

metry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:516:GLY:O	1:G:491:GLY:O[3_545]	2.17	0.03

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	720/756 (95%)	695 (96%)	23 (3%)	2 (0%)	36	67
1	B	721/756 (95%)	695 (96%)	24 (3%)	2 (0%)	36	67
1	C	722/756 (96%)	699 (97%)	22 (3%)	1 (0%)	48	78
1	D	721/756 (95%)	698 (97%)	21 (3%)	2 (0%)	36	67
1	E	721/756 (95%)	697 (97%)	23 (3%)	1 (0%)	48	78
1	F	721/756 (95%)	692 (96%)	26 (4%)	3 (0%)	30	61
1	G	724/756 (96%)	698 (96%)	23 (3%)	3 (0%)	30	61
1	H	722/756 (96%)	696 (96%)	25 (4%)	1 (0%)	48	78
1	I	724/756 (96%)	695 (96%)	25 (4%)	4 (1%)	21	52
1	J	723/756 (96%)	693 (96%)	29 (4%)	1 (0%)	48	78
All	All	7219/7560 (96%)	6958 (96%)	241 (3%)	20 (0%)	36	67

All (20) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	D	51	ALA
1	D	52	ASN
1	F	374	HIS
1	I	196	THR
1	I	197	THR
1	A	51	ALA
1	G	197	THR
1	H	51	ALA

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Mol	Chain	Res	Type
1	J	51	ALA
1	B	51	ALA
1	C	51	ALA
1	E	51	ALA
1	F	51	ALA
1	G	51	ALA
1	I	51	ALA
1	A	372	GLY
1	B	372	GLY
1	G	372	GLY
1	I	372	GLY
1	F	372	GLY

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	575/633 (91%)	545 (95%)	30 (5%)	21	51
1	B	559/633 (88%)	528 (94%)	31 (6%)	19	50
1	C	554/633 (88%)	525 (95%)	29 (5%)	21	51
1	D	558/633 (88%)	528 (95%)	30 (5%)	20	50
1	E	569/633 (90%)	540 (95%)	29 (5%)	21	52
1	F	571/633 (90%)	541 (95%)	30 (5%)	20	51
1	G	595/633 (94%)	563 (95%)	32 (5%)	20	50
1	H	601/633 (95%)	569 (95%)	32 (5%)	20	51
1	I	589/633 (93%)	558 (95%)	31 (5%)	20	51
1	J	596/633 (94%)	561 (94%)	35 (6%)	18	48
All	All	5767/6330 (91%)	5458 (95%)	309 (5%)	20	50

All (309) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	10	GLU

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Mol	Chain	Res	Type
1	A	14	GLN
1	A	40	THR
1	A	50	SER
1	A	71	LEU
1	A	112	GLU
1	A	138	GLN
1	A	140	LEU
1	A	163	HIS
1	A	243	MET
1	A	259	ILE
1	A	263	LEU
1	A	390	ASN
1	A	392	LEU
1	A	422	THR
1	A	423	SER
1	A	437	SER
1	A	465	LEU
1	A	539	ILE
1	A	559	LEU
1	A	575	THR
1	A	589	ARG
1	A	596	ILE
1	A	599	LEU
1	A	612	LEU
1	A	632	ILE
1	A	635	LEU
1	A	680	MET
1	A	722	LEU
1	A	742	THR
1	B	10	GLU
1	B	27	ASP
1	B	40	THR
1	B	50	SER
1	B	71	LEU
1	B	112	GLU
1	B	138	GLN
1	B	140	LEU
1	B	198	LEU
1	B	243	MET
1	B	259	ILE
1	B	263	LEU
1	B	373	ASP

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Mol	Chain	Res	Type
1	B	390	ASN
1	B	392	LEU
1	B	422	THR
1	B	423	SER
1	B	437	SER
1	B	465	LEU
1	B	539	ILE
1	B	559	LEU
1	B	575	THR
1	B	589	ARG
1	B	596	ILE
1	B	599	LEU
1	B	612	LEU
1	B	632	ILE
1	B	635	LEU
1	B	680	MET
1	B	722	LEU
1	B	742	THR
1	C	10	GLU
1	C	40	THR
1	C	50	SER
1	C	71	LEU
1	C	112	GLU
1	C	140	LEU
1	C	198	LEU
1	C	210	GLU
1	C	243	MET
1	C	259	ILE
1	C	263	LEU
1	C	390	ASN
1	C	392	LEU
1	C	423	SER
1	C	437	SER
1	C	465	LEU
1	C	539	ILE
1	C	559	LEU
1	C	575	THR
1	C	589	ARG
1	C	596	ILE
1	C	599	LEU
1	C	612	LEU
1	C	632	ILE

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Mol	Chain	Res	Type
1	C	635	LEU
1	C	643	LEU
1	C	680	MET
1	C	722	LEU
1	C	742	THR
1	D	10	GLU
1	D	27	ASP
1	D	40	THR
1	D	50	SER
1	D	71	LEU
1	D	112	GLU
1	D	138	GLN
1	D	140	LEU
1	D	198	LEU
1	D	243	MET
1	D	259	ILE
1	D	263	LEU
1	D	322	CYS
1	D	392	LEU
1	D	422	THR
1	D	423	SER
1	D	437	SER
1	D	465	LEU
1	D	539	ILE
1	D	559	LEU
1	D	575	THR
1	D	589	ARG
1	D	596	ILE
1	D	599	LEU
1	D	612	LEU
1	D	632	ILE
1	D	635	LEU
1	D	680	MET
1	D	722	LEU
1	D	742	THR
1	E	10	GLU
1	E	27	ASP
1	E	40	THR
1	E	50	SER
1	E	71	LEU
1	E	112	GLU
1	E	138	GLN

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Mol	Chain	Res	Type
1	E	140	LEU
1	E	198	LEU
1	E	243	MET
1	E	259	ILE
1	E	263	LEU
1	E	390	ASN
1	E	392	LEU
1	E	422	THR
1	E	423	SER
1	E	437	SER
1	E	465	LEU
1	E	539	ILE
1	E	559	LEU
1	E	575	THR
1	E	589	ARG
1	E	596	ILE
1	E	599	LEU
1	E	612	LEU
1	E	635	LEU
1	E	680	MET
1	E	722	LEU
1	E	742	THR
1	F	10	GLU
1	F	40	THR
1	F	50	SER
1	F	71	LEU
1	F	99	THR
1	F	112	GLU
1	F	138	GLN
1	F	140	LEU
1	F	198	LEU
1	F	210	GLU
1	F	243	MET
1	F	259	ILE
1	F	263	LEU
1	F	392	LEU
1	F	422	THR
1	F	423	SER
1	F	437	SER
1	F	465	LEU
1	F	539	ILE
1	F	559	LEU

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Mol	Chain	Res	Type
1	F	575	THR
1	F	589	ARG
1	F	596	ILE
1	F	599	LEU
1	F	612	LEU
1	F	632	ILE
1	F	635	LEU
1	F	680	MET
1	F	722	LEU
1	F	742	THR
1	G	10	GLU
1	G	27	ASP
1	G	40	THR
1	G	50	SER
1	G	71	LEU
1	G	112	GLU
1	G	138	GLN
1	G	140	LEU
1	G	198	LEU
1	G	210	GLU
1	G	243	MET
1	G	259	ILE
1	G	263	LEU
1	G	390	ASN
1	G	392	LEU
1	G	422	THR
1	G	423	SER
1	G	437	SER
1	G	465	LEU
1	G	493	THR
1	G	539	ILE
1	G	559	LEU
1	G	575	THR
1	G	589	ARG
1	G	596	ILE
1	G	599	LEU
1	G	612	LEU
1	G	632	ILE
1	G	635	LEU
1	G	680	MET
1	G	722	LEU
1	G	742	THR

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Mol	Chain	Res	Type
1	H	10	GLU
1	H	14	GLN
1	H	40	THR
1	H	50	SER
1	H	71	LEU
1	H	112	GLU
1	H	138	GLN
1	H	140	LEU
1	H	198	LEU
1	H	210	GLU
1	H	243	MET
1	H	259	ILE
1	H	263	LEU
1	H	322	CYS
1	H	392	LEU
1	H	422	THR
1	H	423	SER
1	H	437	SER
1	H	465	LEU
1	H	493	THR
1	H	539	ILE
1	H	559	LEU
1	H	575	THR
1	H	589	ARG
1	H	596	ILE
1	H	599	LEU
1	H	612	LEU
1	H	632	ILE
1	H	635	LEU
1	H	680	MET
1	H	722	LEU
1	H	742	THR
1	I	10	GLU
1	I	40	THR
1	I	50	SER
1	I	71	LEU
1	I	112	GLU
1	I	138	GLN
1	I	140	LEU
1	I	198	LEU
1	I	210	GLU
1	I	243	MET

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Mol	Chain	Res	Type
1	I	259	ILE
1	I	263	LEU
1	I	322	CYS
1	I	392	LEU
1	I	422	THR
1	I	423	SER
1	I	437	SER
1	I	465	LEU
1	I	502	LYS
1	I	539	ILE
1	I	559	LEU
1	I	575	THR
1	I	589	ARG
1	I	596	ILE
1	I	599	LEU
1	I	612	LEU
1	I	632	ILE
1	I	635	LEU
1	I	680	MET
1	I	722	LEU
1	I	742	THR
1	J	10	GLU
1	J	14	GLN
1	J	40	THR
1	J	50	SER
1	J	71	LEU
1	J	112	GLU
1	J	138	GLN
1	J	140	LEU
1	J	198	LEU
1	J	210	GLU
1	J	243	MET
1	J	259	ILE
1	J	263	LEU
1	J	322	CYS
1	J	377	PRO
1	J	390	ASN
1	J	392	LEU
1	J	422	THR
1	J	423	SER
1	J	437	SER
1	J	465	LEU

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Mol	Chain	Res	Type
1	J	493	THR
1	J	502	LYS
1	J	539	ILE
1	J	559	LEU
1	J	575	THR
1	J	589	ARG
1	J	596	ILE
1	J	599	LEU
1	J	612	LEU
1	J	632	ILE
1	J	635	LEU
1	J	680	MET
1	J	722	LEU
1	J	742	THR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (113) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	13	HIS
1	A	14	GLN
1	A	20	ASN
1	A	63	GLN
1	A	70	HIS
1	A	84	GLN
1	A	86	ASN
1	A	137	GLN
1	A	164	GLN
1	A	240	GLN
1	A	383	HIS
1	A	386	HIS
1	A	647	ASN
1	B	13	HIS
1	B	20	ASN
1	B	63	GLN
1	B	70	HIS
1	B	86	ASN
1	B	240	GLN
1	B	256	HIS
1	B	383	HIS
1	B	750	HIS
1	C	13	HIS
1	C	20	ASN

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Mol	Chain	Res	Type
1	C	63	GLN
1	C	70	HIS
1	C	137	GLN
1	C	240	GLN
1	C	386	HIS
1	C	647	ASN
1	D	13	HIS
1	D	20	ASN
1	D	70	HIS
1	D	86	ASN
1	D	138	GLN
1	D	240	GLN
1	D	383	HIS
1	D	386	HIS
1	D	508	GLN
1	D	629	ASN
1	D	647	ASN
1	D	750	HIS
1	E	13	HIS
1	E	20	ASN
1	E	63	GLN
1	E	70	HIS
1	E	86	ASN
1	E	138	GLN
1	E	240	GLN
1	E	629	ASN
1	E	677	ASN
1	F	13	HIS
1	F	20	ASN
1	F	63	GLN
1	F	70	HIS
1	F	86	ASN
1	F	137	GLN
1	F	138	GLN
1	F	240	GLN
1	F	374	HIS
1	F	629	ASN
1	F	647	ASN
1	F	750	HIS
1	G	13	HIS
1	G	20	ASN
1	G	70	HIS

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Mol	Chain	Res	Type
1	G	86	ASN
1	G	137	GLN
1	G	138	GLN
1	G	240	GLN
1	G	413	ASN
1	G	567	HIS
1	G	647	ASN
1	G	750	HIS
1	H	13	HIS
1	H	14	GLN
1	H	20	ASN
1	H	63	GLN
1	H	70	HIS
1	H	86	ASN
1	H	137	GLN
1	H	138	GLN
1	H	240	GLN
1	H	383	HIS
1	H	386	HIS
1	H	629	ASN
1	H	647	ASN
1	H	750	HIS
1	I	13	HIS
1	I	20	ASN
1	I	63	GLN
1	I	70	HIS
1	I	84	GLN
1	I	86	ASN
1	I	138	GLN
1	I	240	GLN
1	I	386	HIS
1	I	629	ASN
1	I	647	ASN
1	I	750	HIS
1	J	13	HIS
1	J	14	GLN
1	J	20	ASN
1	J	63	GLN
1	J	70	HIS
1	J	86	ASN
1	J	137	GLN
1	J	138	GLN

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Mol	Chain	Res	Type
1	J	240	GLN
1	J	289	GLN
1	J	383	HIS
1	J	390	ASN
1	J	629	ASN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

10 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	CME	D	600	1	8,9,10	0.80	0	6,9,11	0.83	0
1	CME	B	600	1	8,9,10	0.83	0	6,9,11	0.80	0
1	CME	A	600	1	8,9,10	0.88	0	6,9,11	1.02	0
1	CME	G	600	1	8,9,10	0.84	0	6,9,11	0.91	0
1	CME	F	600	1	8,9,10	0.83	0	6,9,11	0.90	0
1	CME	I	600	1	8,9,10	0.80	0	6,9,11	0.95	0
1	CME	C	600	1	8,9,10	0.85	0	6,9,11	0.92	0
1	CME	E	600	1	8,9,10	0.80	0	6,9,11	0.89	0
1	CME	J	600	1	8,9,10	0.87	0	6,9,11	1.03	0
1	CME	H	600	1	8,9,10	0.76	0	6,9,11	0.88	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	CME	D	600	1	-	1/5/8/10	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	CME	B	600	1	-	1/5/8/10	-
1	CME	A	600	1	-	1/5/8/10	-
1	CME	G	600	1	-	1/5/8/10	-
1	CME	F	600	1	-	1/5/8/10	-
1	CME	I	600	1	-	1/5/8/10	-
1	CME	C	600	1	-	1/5/8/10	-
1	CME	E	600	1	-	1/5/8/10	-
1	CME	J	600	1	-	1/5/8/10	-
1	CME	H	600	1	-	1/5/8/10	-

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (10) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
1	A	600	CME	SD-CE-CZ-OH
1	B	600	CME	SD-CE-CZ-OH
1	C	600	CME	SD-CE-CZ-OH
1	D	600	CME	SD-CE-CZ-OH
1	E	600	CME	SD-CE-CZ-OH
1	F	600	CME	SD-CE-CZ-OH
1	G	600	CME	SD-CE-CZ-OH
1	H	600	CME	SD-CE-CZ-OH
1	I	600	CME	SD-CE-CZ-OH
1	J	600	CME	SD-CE-CZ-OH

There are no ring outliers.

No monomer is involved in short contacts.

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

10 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	$\# Z > 2$
2	PO4	D	801	-	4,4,4	0.99	0	6,6,6	0.40	0
2	PO4	I	801	-	4,4,4	0.95	0	6,6,6	0.60	0
2	PO4	J	801	-	4,4,4	0.97	0	6,6,6	0.53	0
2	PO4	C	801	-	4,4,4	0.95	0	6,6,6	0.49	0
2	PO4	F	801	-	4,4,4	0.94	0	6,6,6	0.46	0
2	PO4	A	801	-	4,4,4	0.99	0	6,6,6	0.42	0
2	PO4	B	801	-	4,4,4	0.91	0	6,6,6	0.54	0
2	PO4	E	801	-	4,4,4	0.93	0	6,6,6	0.35	0
2	PO4	G	801	-	4,4,4	0.92	0	6,6,6	0.50	0
2	PO4	H	801	-	4,4,4	0.96	0	6,6,6	0.47	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 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	D	801	PO4	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	732/756 (96%)	0.47	20 (2%)	56	35	15, 29, 45, 60	0
1	B	731/756 (96%)	0.56	36 (4%)	35	18	15, 29, 46, 57	0
1	C	732/756 (96%)	0.47	26 (3%)	46	26	15, 29, 48, 62	0
1	D	730/756 (96%)	0.46	19 (2%)	57	36	16, 29, 46, 65	1 (0%)
1	E	731/756 (96%)	0.45	29 (3%)	42	23	16, 28, 46, 60	0
1	F	731/756 (96%)	0.47	27 (3%)	45	25	16, 26, 42, 61	0
1	G	734/756 (97%)	0.56	30 (4%)	41	23	15, 27, 45, 62	0
1	H	732/756 (96%)	0.48	26 (3%)	46	26	13, 25, 42, 59	0
1	I	734/756 (97%)	0.45	23 (3%)	51	30	15, 28, 46, 62	0
1	J	733/756 (96%)	0.53	28 (3%)	44	25	16, 28, 48, 67	0
All	All	7320/7560 (96%)	0.49	264 (3%)	46	26	13, 28, 45, 67	1 (0%)

All (264) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	390	ASN	5.2
1	B	390	ASN	4.8
1	B	746	ASP	4.8
1	C	374	HIS	4.7
1	E	188	ARG	4.4
1	C	190	ASP	4.4
1	E	491	GLY	4.4
1	G	490	THR	4.4
1	E	389	LEU	4.2
1	J	374	HIS	4.1
1	H	389	LEU	4.0
1	G	196	THR	4.0
1	B	489	GLN	4.0

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Mol	Chain	Res	Type	RSRZ
1	I	196	THR	4.0
1	C	746	ASP	3.9
1	A	373	ASP	3.9
1	C	756	ALA	3.8
1	G	489	GLN	3.8
1	H	390	ASN	3.7
1	I	197	THR	3.6
1	E	492	LYS	3.6
1	A	748	VAL	3.6
1	G	390	ASN	3.5
1	E	739	THR	3.5
1	J	197	THR	3.5
1	B	491	GLY	3.4
1	B	197	THR	3.4
1	J	210	GLU	3.4
1	C	390	ASN	3.4
1	F	312	GLN	3.4
1	E	197	THR	3.4
1	I	195	ARG	3.3
1	I	389	LEU	3.3
1	B	190	ASP	3.3
1	E	190	ASP	3.3
1	G	164	GLN	3.3
1	H	715	ASN	3.3
1	G	491	GLY	3.3
1	H	177	PHE	3.3
1	E	618	GLU	3.3
1	I	165	GLY	3.2
1	F	164	GLN	3.2
1	D	746	ASP	3.2
1	F	197	THR	3.2
1	G	197	THR	3.2
1	F	391	ALA	3.2
1	H	294	GLU	3.1
1	B	16	THR	3.1
1	D	197	THR	3.1
1	B	586	GLY	3.1
1	I	746	ASP	3.1
1	B	730	HIS	3.0
1	I	390	ASN	3.0
1	J	164	GLN	3.0
1	F	373	ASP	3.0

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Mol	Chain	Res	Type	RSRZ
1	C	324	TYR	3.0
1	E	518	THR	3.0
1	J	677	ASN	3.0
1	G	317	SER	3.0
1	E	164	GLN	3.0
1	B	570	VAL	3.0
1	F	322	CYS	3.0
1	J	325	ASP	2.9
1	J	625	ASP	2.9
1	F	390	ASN	2.9
1	G	373	ASP	2.9
1	G	437	SER	2.9
1	C	730	HIS	2.9
1	H	164	GLN	2.9
1	B	373	ASP	2.9
1	H	373	ASP	2.9
1	E	376	GLY	2.9
1	C	164	GLN	2.8
1	F	289	GLN	2.8
1	J	492	LYS	2.8
1	A	629	ASN	2.8
1	C	646	ASN	2.8
1	H	713	ASP	2.8
1	J	628	ALA	2.8
1	B	492	LYS	2.8
1	C	618	GLU	2.8
1	D	336	ASP	2.8
1	H	14	GLN	2.8
1	A	572	THR	2.7
1	H	1	MET	2.7
1	D	190	ASP	2.7
1	J	390	ASN	2.7
1	C	696	ILE	2.7
1	I	322	CYS	2.7
1	A	714	GLU	2.7
1	H	391	ALA	2.7
1	I	713	ASP	2.7
1	J	177	PHE	2.7
1	E	386	HIS	2.7
1	C	289	GLN	2.6
1	F	190	ASP	2.6
1	G	191	MET	2.6

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Mol	Chain	Res	Type	RSRZ
1	G	629	ASN	2.6
1	B	618	GLU	2.6
1	G	493	THR	2.6
1	C	68	ASP	2.6
1	I	677	ASN	2.6
1	J	188	ARG	2.6
1	B	657	SER	2.6
1	H	317	SER	2.6
1	B	629	ASN	2.6
1	B	677	ASN	2.6
1	E	756	ALA	2.6
1	I	625	ASP	2.5
1	D	164	GLN	2.5
1	D	376	GLY	2.5
1	E	713	ASP	2.5
1	F	245	ASP	2.5
1	H	738	GLU	2.5
1	B	490	THR	2.5
1	H	197	THR	2.5
1	I	191	MET	2.5
1	A	568	GLY	2.5
1	F	437	SER	2.5
1	I	210	GLU	2.5
1	E	390	ASN	2.5
1	C	188	ARG	2.5
1	I	289	GLN	2.5
1	A	618	GLU	2.5
1	H	743	GLU	2.5
1	E	52	ASN	2.5
1	F	625	ASP	2.5
1	G	190	ASP	2.5
1	H	746	ASP	2.5
1	C	570	VAL	2.5
1	G	570	VAL	2.5
1	G	621	GLN	2.5
1	D	322	CYS	2.4
1	A	621	GLN	2.4
1	J	191	MET	2.4
1	E	538	SER	2.4
1	E	351	TRP	2.4
1	E	677	ASN	2.4
1	B	386	HIS	2.4

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Mol	Chain	Res	Type	RSRZ
1	F	115	TRP	2.4
1	H	351	TRP	2.4
1	A	625	ASP	2.4
1	B	68	ASP	2.4
1	I	199	GLY	2.4
1	J	301	SER	2.4
1	F	191	MET	2.4
1	A	389	LEU	2.4
1	F	210	GLU	2.4
1	B	493	THR	2.3
1	H	99	THR	2.3
1	D	440	ASP	2.3
1	A	66	GLN	2.3
1	C	614	GLN	2.3
1	C	372	GLY	2.3
1	E	322	CYS	2.3
1	B	625	ASP	2.3
1	G	495	ASP	2.3
1	H	68	ASP	2.3
1	A	32	GLN	2.3
1	J	372	GLY	2.3
1	B	621	GLN	2.3
1	J	297	GLN	2.3
1	D	684	GLU	2.3
1	J	748	VAL	2.3
1	C	568	GLY	2.3
1	F	744	ILE	2.3
1	I	745	ILE	2.3
1	D	51	ALA	2.3
1	H	17	TRP	2.3
1	J	389	LEU	2.3
1	H	426	TYR	2.3
1	C	322	CYS	2.3
1	G	744	ILE	2.3
1	J	568	GLY	2.3
1	B	115	TRP	2.3
1	G	115	TRP	2.3
1	A	486	THR	2.3
1	F	386	HIS	2.3
1	B	149	LYS	2.3
1	D	710	ASN	2.3
1	D	68	ASP	2.3

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Mol	Chain	Res	Type	RSRZ
1	F	370	GLU	2.2
1	C	177	PHE	2.2
1	B	297	GLN	2.2
1	E	570	VAL	2.2
1	E	625	ASP	2.2
1	J	618	GLU	2.2
1	G	386	HIS	2.2
1	C	189	SER	2.2
1	D	570	VAL	2.2
1	F	570	VAL	2.2
1	E	684	GLU	2.2
1	A	27	ASP	2.2
1	A	190	ASP	2.2
1	B	589	ARG	2.2
1	A	584	SER	2.2
1	B	32	GLN	2.2
1	B	756	ALA	2.2
1	G	747	GLY	2.2
1	G	105	ASP	2.2
1	B	177	PHE	2.2
1	G	615	VAL	2.2
1	E	1	MET	2.2
1	G	51	ALA	2.2
1	D	491	GLY	2.2
1	G	492	LYS	2.2
1	H	311	GLY	2.2
1	F	68	ASP	2.2
1	H	388	LEU	2.1
1	F	657	SER	2.1
1	F	472	GLU	2.1
1	D	371	PRO	2.1
1	F	516	GLY	2.1
1	C	197	THR	2.1
1	H	25	LEU	2.1
1	I	391	ALA	2.1
1	E	568	GLY	2.1
1	B	322	CYS	2.1
1	C	610	THR	2.1
1	G	391	ALA	2.1
1	J	14	GLN	2.1
1	C	743	GLU	2.1
1	J	293	PRO	2.1

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Mol	Chain	Res	Type	RSRZ
1	D	742	THR	2.1
1	H	16	THR	2.1
1	D	616	MET	2.1
1	I	324	TYR	2.1
1	I	66	GLN	2.1
1	B	372	GLY	2.1
1	E	372	GLY	2.1
1	D	618	GLU	2.1
1	H	618	GLU	2.1
1	B	601	SER	2.1
1	F	410	SER	2.1
1	G	189	SER	2.1
1	E	715	ASN	2.1
1	J	375	ASN	2.1
1	J	629	ASN	2.1
1	E	245	ASP	2.1
1	J	453	ASP	2.1
1	F	749	TYR	2.1
1	G	322	CYS	2.1
1	J	322	CYS	2.1
1	A	391	ALA	2.1
1	B	165	GLY	2.1
1	B	184	GLU	2.1
1	B	370	GLU	2.1
1	I	570	VAL	2.0
1	I	410	SER	2.0
1	I	386	HIS	2.0
1	G	628	ALA	2.0
1	E	615	VAL	2.0
1	C	389	LEU	2.0
1	C	115	TRP	2.0
1	F	351	TRP	2.0
1	A	160	ALA	2.0
1	J	391	ALA	2.0
1	F	426	TYR	2.0
1	J	746	ASP	2.0
1	A	161	PRO	2.0
1	B	188	ARG	2.0
1	G	110	VAL	2.0
1	I	294	GLU	2.0
1	D	744	ILE	2.0

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

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
1	CME	D	600	10/11	0.85	0.16	36,39,44,44	0
1	CME	E	600	10/11	0.88	0.16	34,36,38,38	0
1	CME	J	600	10/11	0.88	0.15	40,43,48,49	0
1	CME	H	600	10/11	0.90	0.14	22,23,25,25	0
1	CME	I	600	10/11	0.90	0.14	29,31,34,35	0
1	CME	C	600	10/11	0.90	0.13	37,40,47,47	0
1	CME	G	600	10/11	0.91	0.14	34,36,41,41	0
1	CME	A	600	10/11	0.93	0.11	32,33,36,36	0
1	CME	F	600	10/11	0.93	0.12	27,28,32,32	0
1	CME	B	600	10/11	0.96	0.08	32,33,35,35	0

6.3 Carbohydrates ⓘ

There are no oligosaccharides in this entry.

6.4 Ligands ⓘ

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
2	PO4	B	801	5/5	0.78	0.18	60,61,62,62	0
2	PO4	G	801	5/5	0.78	0.22	55,56,58,58	0
2	PO4	F	801	5/5	0.81	0.20	77,78,79,80	0
2	PO4	D	801	5/5	0.81	0.21	71,71,72,74	0
2	PO4	H	801	5/5	0.82	0.20	72,74,75,75	0
2	PO4	E	801	5/5	0.86	0.14	57,58,58,59	0
2	PO4	I	801	5/5	0.87	0.18	65,66,67,68	0
2	PO4	J	801	5/5	0.90	0.17	59,60,61,62	0
2	PO4	A	801	5/5	0.91	0.14	64,64,65,66	0
2	PO4	C	801	5/5	0.92	0.13	62,63,63,63	0

6.5 Other polymers [i](#)

There are no such residues in this entry.