



Full wwPDB X-ray Structure Validation Report ⓘ

Sep 20, 2023 – 07:48 PM EDT

PDB ID : 5HY4
Title : Structure-function analysis of functionally diverse members of the cyclic amide hydrolase family of Toblerone fold enzymes
Authors : Peat, T.S.; Balotra, S.; Wilding, M.; Newman, J.; Scott, C.
Deposited on : 2016-02-01
Resolution : 2.56 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 : 4.02b-467
Xtriage (Phenix) : 1.13
EDS : 2.35.1
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac : 5.8.0158
CCP4 : 7.0.044 (Gargrove)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.35.1

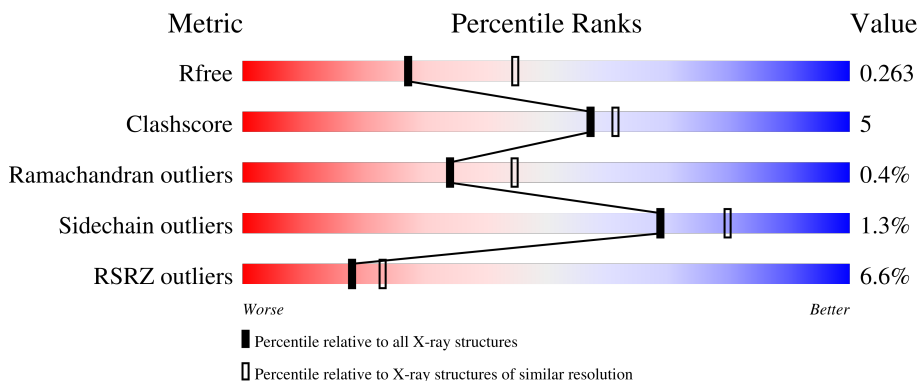
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.56 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.



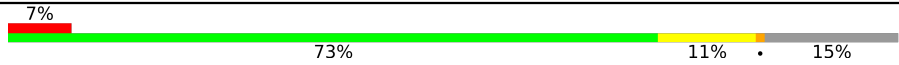

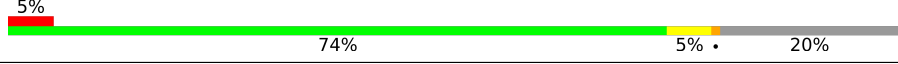
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	1279 (2.58-2.54)
Clashscore	141614	1327 (2.58-2.54)
Ramachandran outliers	138981	1312 (2.58-2.54)
Sidechain outliers	138945	1312 (2.58-2.54)
RSRZ outliers	127900	1269 (2.58-2.54)

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	410	 5% (poor fit), 80% (0-1 outliers), 8% (2 outliers), 12% (3+ outliers or not modelled)
1	B	410	 3% (poor fit), 80% (0-1 outliers), 6% (2 outliers), 12% (3+ outliers or not modelled)
1	C	410	 4% (poor fit), 74% (0-1 outliers), 9% (2 outliers), 15% (3+ outliers or not modelled)
1	D	410	 5% (poor fit), 74% (0-1 outliers), 7% (2 outliers), 19% (3+ outliers or not modelled)
1	E	410	 3% (poor fit), 80% (0-1 outliers), 5% (2 outliers), 15% (3+ outliers or not modelled)

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Mol	Chain	Length	Quality of chain
1	F	410	 <p>7% 73% 11% 15%</p>
1	G	410	 <p>12% 69% 12% 17%</p>
1	H	410	 <p>5% 74% 5% 20%</p>

2 Entry composition

There are 2 unique types of molecules in this entry. The entry contains 19841 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 Ring-opening amidohydrolase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	361	2565	1590	463	501	11	0	1	0
1	B	360	2586	1606	472	497	11	0	2	0
1	C	348	2430	1509	437	473	11	0	2	0
1	D	333	2349	1457	423	459	10	0	2	0
1	E	349	2482	1538	451	483	10	0	3	0
1	F	350	2461	1529	439	482	11	0	1	0
1	G	340	2371	1472	421	467	11	0	1	0
1	H	328	2341	1454	424	452	11	0	2	0

There are 160 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-19	MET	-	initiating methionine	UNP E3JD18
A	-18	GLY	-	expression tag	UNP E3JD18
A	-17	SER	-	expression tag	UNP E3JD18
A	-16	SER	-	expression tag	UNP E3JD18
A	-15	HIS	-	expression tag	UNP E3JD18
A	-14	HIS	-	expression tag	UNP E3JD18
A	-13	HIS	-	expression tag	UNP E3JD18
A	-12	HIS	-	expression tag	UNP E3JD18
A	-11	HIS	-	expression tag	UNP E3JD18
A	-10	HIS	-	expression tag	UNP E3JD18
A	-9	SER	-	expression tag	UNP E3JD18
A	-8	SER	-	expression tag	UNP E3JD18
A	-7	GLY	-	expression tag	UNP E3JD18

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Chain	Residue	Modelled	Actual	Comment	Reference
A	-6	LEU	-	expression tag	UNP E3JD18
A	-5	VAL	-	expression tag	UNP E3JD18
A	-4	PRO	-	expression tag	UNP E3JD18
A	-3	ARG	-	expression tag	UNP E3JD18
A	-2	GLY	-	expression tag	UNP E3JD18
A	-1	SER	-	expression tag	UNP E3JD18
A	0	HIS	-	expression tag	UNP E3JD18
B	-19	MET	-	initiating methionine	UNP E3JD18
B	-18	GLY	-	expression tag	UNP E3JD18
B	-17	SER	-	expression tag	UNP E3JD18
B	-16	SER	-	expression tag	UNP E3JD18
B	-15	HIS	-	expression tag	UNP E3JD18
B	-14	HIS	-	expression tag	UNP E3JD18
B	-13	HIS	-	expression tag	UNP E3JD18
B	-12	HIS	-	expression tag	UNP E3JD18
B	-11	HIS	-	expression tag	UNP E3JD18
B	-10	HIS	-	expression tag	UNP E3JD18
B	-9	SER	-	expression tag	UNP E3JD18
B	-8	SER	-	expression tag	UNP E3JD18
B	-7	GLY	-	expression tag	UNP E3JD18
B	-6	LEU	-	expression tag	UNP E3JD18
B	-5	VAL	-	expression tag	UNP E3JD18
B	-4	PRO	-	expression tag	UNP E3JD18
B	-3	ARG	-	expression tag	UNP E3JD18
B	-2	GLY	-	expression tag	UNP E3JD18
B	-1	SER	-	expression tag	UNP E3JD18
B	0	HIS	-	expression tag	UNP E3JD18
C	-19	MET	-	initiating methionine	UNP E3JD18
C	-18	GLY	-	expression tag	UNP E3JD18
C	-17	SER	-	expression tag	UNP E3JD18
C	-16	SER	-	expression tag	UNP E3JD18
C	-15	HIS	-	expression tag	UNP E3JD18
C	-14	HIS	-	expression tag	UNP E3JD18
C	-13	HIS	-	expression tag	UNP E3JD18
C	-12	HIS	-	expression tag	UNP E3JD18
C	-11	HIS	-	expression tag	UNP E3JD18
C	-10	HIS	-	expression tag	UNP E3JD18
C	-9	SER	-	expression tag	UNP E3JD18
C	-8	SER	-	expression tag	UNP E3JD18
C	-7	GLY	-	expression tag	UNP E3JD18
C	-6	LEU	-	expression tag	UNP E3JD18
C	-5	VAL	-	expression tag	UNP E3JD18

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Chain	Residue	Modelled	Actual	Comment	Reference
C	-4	PRO	-	expression tag	UNP E3JD18
C	-3	ARG	-	expression tag	UNP E3JD18
C	-2	GLY	-	expression tag	UNP E3JD18
C	-1	SER	-	expression tag	UNP E3JD18
C	0	HIS	-	expression tag	UNP E3JD18
D	-19	MET	-	initiating methionine	UNP E3JD18
D	-18	GLY	-	expression tag	UNP E3JD18
D	-17	SER	-	expression tag	UNP E3JD18
D	-16	SER	-	expression tag	UNP E3JD18
D	-15	HIS	-	expression tag	UNP E3JD18
D	-14	HIS	-	expression tag	UNP E3JD18
D	-13	HIS	-	expression tag	UNP E3JD18
D	-12	HIS	-	expression tag	UNP E3JD18
D	-11	HIS	-	expression tag	UNP E3JD18
D	-10	HIS	-	expression tag	UNP E3JD18
D	-9	SER	-	expression tag	UNP E3JD18
D	-8	SER	-	expression tag	UNP E3JD18
D	-7	GLY	-	expression tag	UNP E3JD18
D	-6	LEU	-	expression tag	UNP E3JD18
D	-5	VAL	-	expression tag	UNP E3JD18
D	-4	PRO	-	expression tag	UNP E3JD18
D	-3	ARG	-	expression tag	UNP E3JD18
D	-2	GLY	-	expression tag	UNP E3JD18
D	-1	SER	-	expression tag	UNP E3JD18
D	0	HIS	-	expression tag	UNP E3JD18
E	-19	MET	-	initiating methionine	UNP E3JD18
E	-18	GLY	-	expression tag	UNP E3JD18
E	-17	SER	-	expression tag	UNP E3JD18
E	-16	SER	-	expression tag	UNP E3JD18
E	-15	HIS	-	expression tag	UNP E3JD18
E	-14	HIS	-	expression tag	UNP E3JD18
E	-13	HIS	-	expression tag	UNP E3JD18
E	-12	HIS	-	expression tag	UNP E3JD18
E	-11	HIS	-	expression tag	UNP E3JD18
E	-10	HIS	-	expression tag	UNP E3JD18
E	-9	SER	-	expression tag	UNP E3JD18
E	-8	SER	-	expression tag	UNP E3JD18
E	-7	GLY	-	expression tag	UNP E3JD18
E	-6	LEU	-	expression tag	UNP E3JD18
E	-5	VAL	-	expression tag	UNP E3JD18
E	-4	PRO	-	expression tag	UNP E3JD18
E	-3	ARG	-	expression tag	UNP E3JD18

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Chain	Residue	Modelled	Actual	Comment	Reference
E	-2	GLY	-	expression tag	UNP E3JD18
E	-1	SER	-	expression tag	UNP E3JD18
E	0	HIS	-	expression tag	UNP E3JD18
F	-19	MET	-	initiating methionine	UNP E3JD18
F	-18	GLY	-	expression tag	UNP E3JD18
F	-17	SER	-	expression tag	UNP E3JD18
F	-16	SER	-	expression tag	UNP E3JD18
F	-15	HIS	-	expression tag	UNP E3JD18
F	-14	HIS	-	expression tag	UNP E3JD18
F	-13	HIS	-	expression tag	UNP E3JD18
F	-12	HIS	-	expression tag	UNP E3JD18
F	-11	HIS	-	expression tag	UNP E3JD18
F	-10	HIS	-	expression tag	UNP E3JD18
F	-9	SER	-	expression tag	UNP E3JD18
F	-8	SER	-	expression tag	UNP E3JD18
F	-7	GLY	-	expression tag	UNP E3JD18
F	-6	LEU	-	expression tag	UNP E3JD18
F	-5	VAL	-	expression tag	UNP E3JD18
F	-4	PRO	-	expression tag	UNP E3JD18
F	-3	ARG	-	expression tag	UNP E3JD18
F	-2	GLY	-	expression tag	UNP E3JD18
F	-1	SER	-	expression tag	UNP E3JD18
F	0	HIS	-	expression tag	UNP E3JD18
G	-19	MET	-	initiating methionine	UNP E3JD18
G	-18	GLY	-	expression tag	UNP E3JD18
G	-17	SER	-	expression tag	UNP E3JD18
G	-16	SER	-	expression tag	UNP E3JD18
G	-15	HIS	-	expression tag	UNP E3JD18
G	-14	HIS	-	expression tag	UNP E3JD18
G	-13	HIS	-	expression tag	UNP E3JD18
G	-12	HIS	-	expression tag	UNP E3JD18
G	-11	HIS	-	expression tag	UNP E3JD18
G	-10	HIS	-	expression tag	UNP E3JD18
G	-9	SER	-	expression tag	UNP E3JD18
G	-8	SER	-	expression tag	UNP E3JD18
G	-7	GLY	-	expression tag	UNP E3JD18
G	-6	LEU	-	expression tag	UNP E3JD18
G	-5	VAL	-	expression tag	UNP E3JD18
G	-4	PRO	-	expression tag	UNP E3JD18
G	-3	ARG	-	expression tag	UNP E3JD18
G	-2	GLY	-	expression tag	UNP E3JD18
G	-1	SER	-	expression tag	UNP E3JD18

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Chain	Residue	Modelled	Actual	Comment	Reference
G	0	HIS	-	expression tag	UNP E3JD18
H	-19	MET	-	initiating methionine	UNP E3JD18
H	-18	GLY	-	expression tag	UNP E3JD18
H	-17	SER	-	expression tag	UNP E3JD18
H	-16	SER	-	expression tag	UNP E3JD18
H	-15	HIS	-	expression tag	UNP E3JD18
H	-14	HIS	-	expression tag	UNP E3JD18
H	-13	HIS	-	expression tag	UNP E3JD18
H	-12	HIS	-	expression tag	UNP E3JD18
H	-11	HIS	-	expression tag	UNP E3JD18
H	-10	HIS	-	expression tag	UNP E3JD18
H	-9	SER	-	expression tag	UNP E3JD18
H	-8	SER	-	expression tag	UNP E3JD18
H	-7	GLY	-	expression tag	UNP E3JD18
H	-6	LEU	-	expression tag	UNP E3JD18
H	-5	VAL	-	expression tag	UNP E3JD18
H	-4	PRO	-	expression tag	UNP E3JD18
H	-3	ARG	-	expression tag	UNP E3JD18
H	-2	GLY	-	expression tag	UNP E3JD18
H	-1	SER	-	expression tag	UNP E3JD18
H	0	HIS	-	expression tag	UNP E3JD18

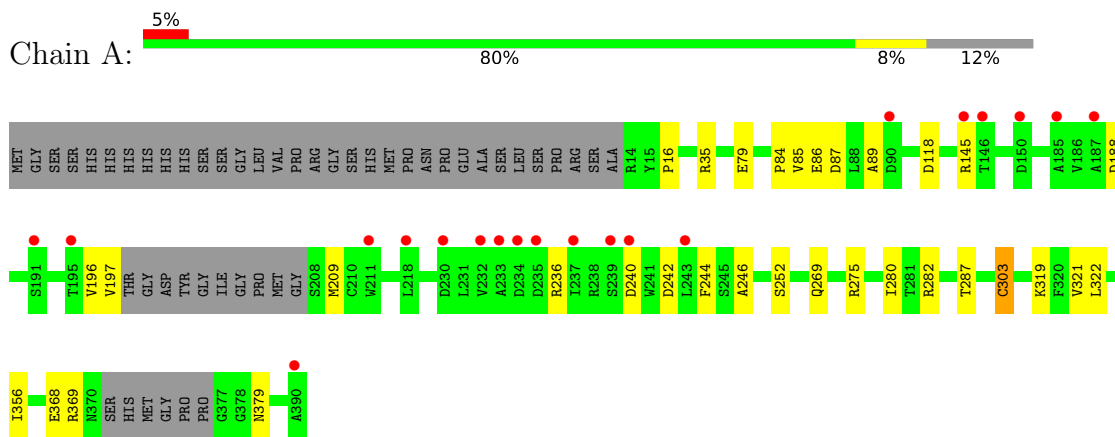
- Molecule 2 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	A	50	Total O 50 50	0	0
2	B	27	Total O 27 27	0	0
2	C	25	Total O 25 25	0	0
2	D	21	Total O 21 21	0	0
2	E	53	Total O 53 53	0	0
2	F	37	Total O 37 37	0	0
2	G	11	Total O 11 11	0	0
2	H	32	Total O 32 32	0	0

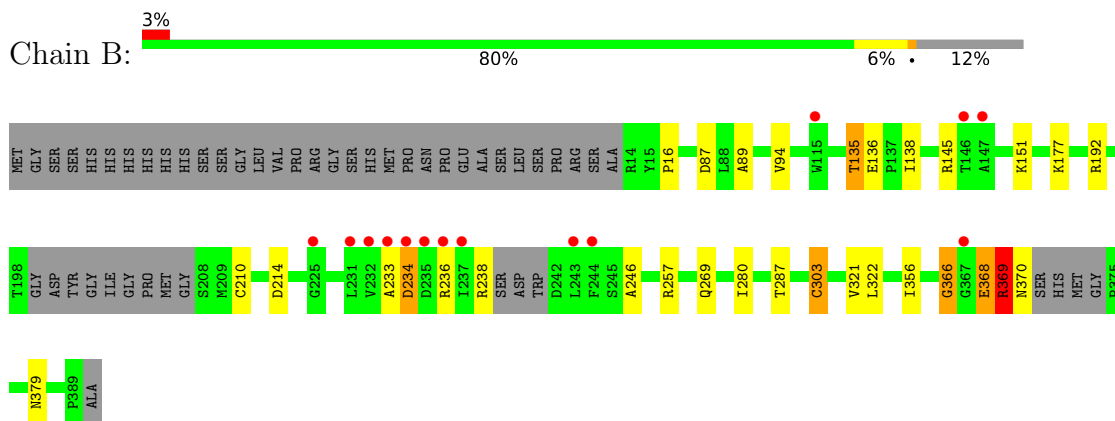
3 Residue-property plots [i](#)

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.

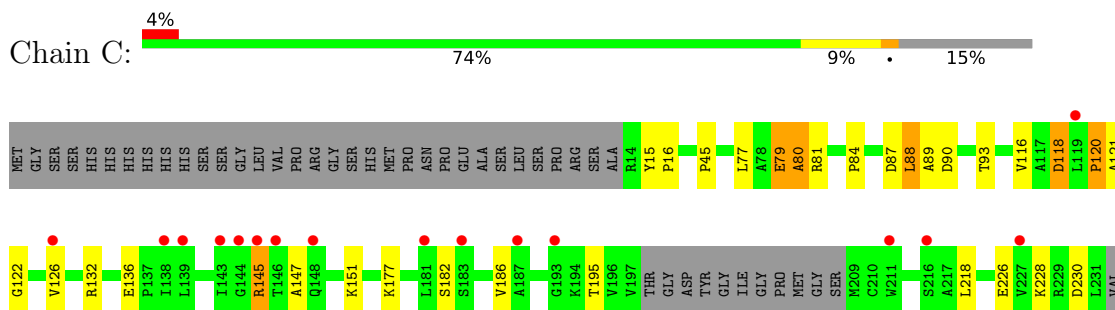
- Molecule 1: Ring-opening amidohydrolase



- Molecule 1: Ring-opening amidohydrolase

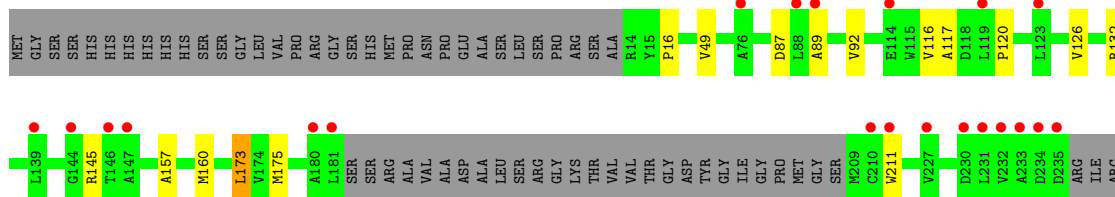
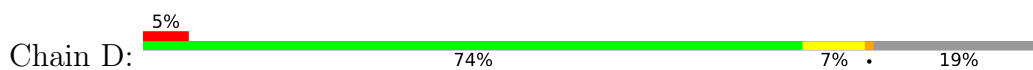


- Molecule 1: Ring-opening amidohydrolase

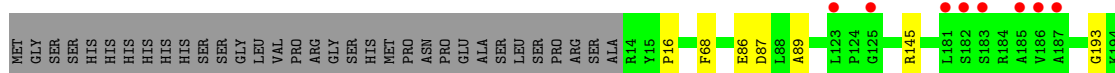
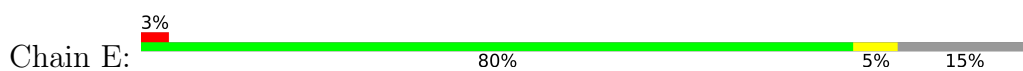




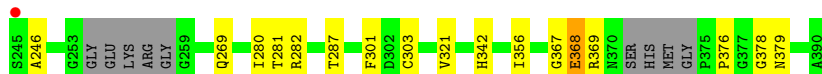
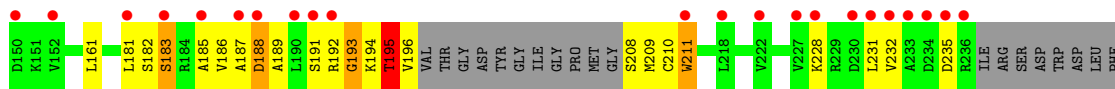
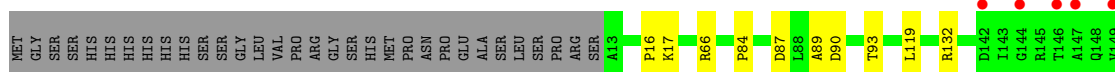
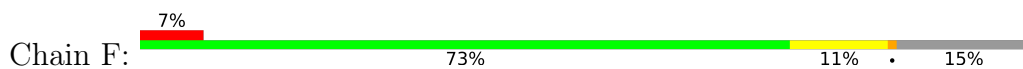
- Molecule 1: Ring-opening amidohydrolase



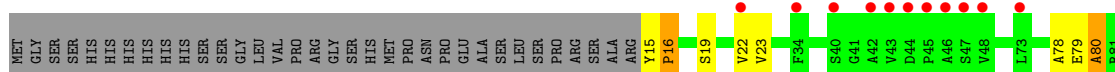
- Molecule 1: Ring-opening amidohydrolase

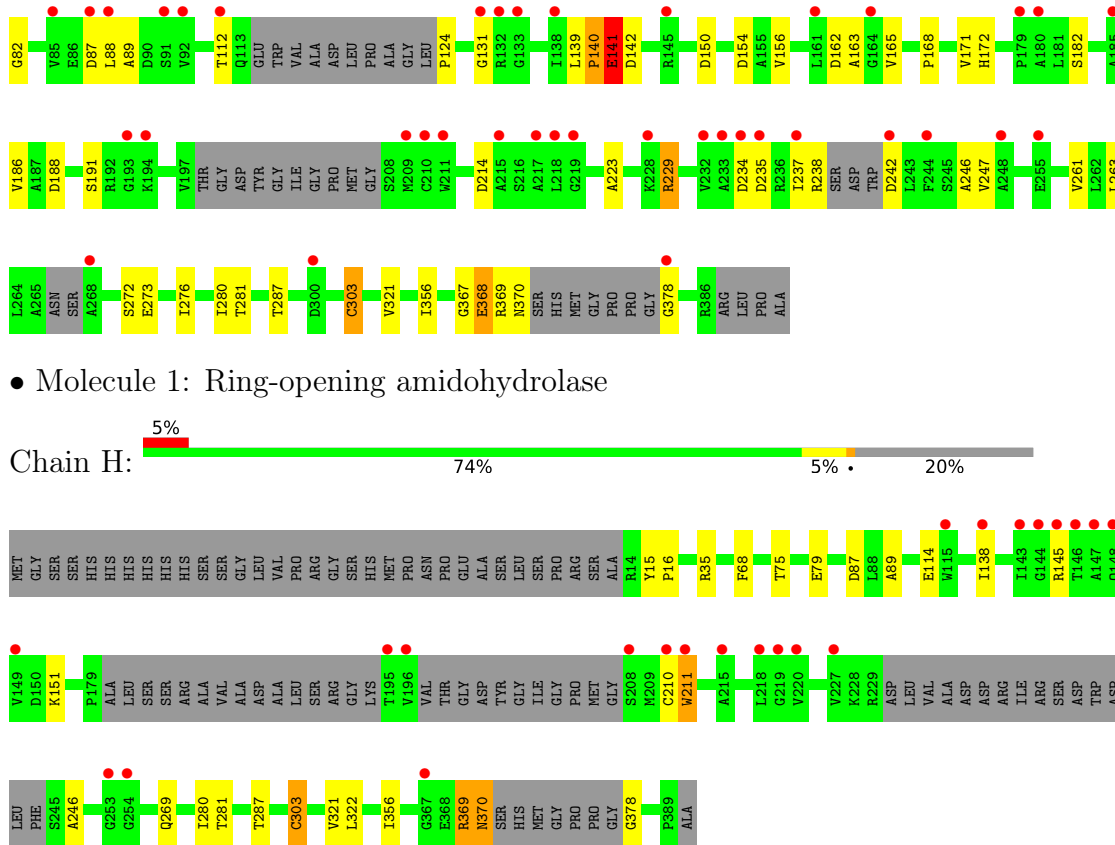


- Molecule 1: Ring-opening amidohydrolase



- Molecule 1: Ring-opening amidohydrolase





4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	92.76Å 105.80Å 299.13Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	46.70 – 2.56 45.95 – 2.56	Depositor EDS
% Data completeness (in resolution range)	99.4 (46.70-2.56) 99.4 (45.95-2.56)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.90 (at 2.54Å)	Xtrriage
Refinement program	REFMAC 5.8.0135	Depositor
R, R_{free}	0.229 , 0.263 0.232 , 0.263	Depositor DCC
R_{free} test set	4666 reflections (4.90%)	wwPDB-VP
Wilson B-factor (Å ²)	44.4	Xtrriage
Anisotropy	0.016	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.29 , 36.5	EDS
L-test for twinning ²	$\langle L \rangle = 0.49$, $\langle L^2 \rangle = 0.33$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
F_o, F_c correlation	0.93	EDS
Total number of atoms	19841	wwPDB-VP
Average B, all atoms (Å ²)	55.0	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 22.83 % 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 5.2675e-03. 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

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	0.65	0/2604	0.83	6/3550 (0.2%)
1	B	0.67	0/2627	0.83	6/3578 (0.2%)
1	C	0.68	1/2466 (0.0%)	0.85	7/3366 (0.2%)
1	D	0.63	0/2385	0.81	4/3254 (0.1%)
1	E	0.64	0/2517	0.82	2/3429 (0.1%)
1	F	0.68	0/2500	0.80	2/3413 (0.1%)
1	G	0.70	0/2402	0.86	4/3273 (0.1%)
1	H	0.66	1/2377 (0.0%)	0.79	1/3239 (0.0%)
All	All	0.66	2/19878 (0.0%)	0.82	32/27102 (0.1%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	B	0	2
1	C	0	8
1	D	0	4
1	F	0	4
1	G	0	4
All	All	0	22

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	H	211	TRP	CB-CG	-5.59	1.40	1.50
1	C	226	GLU	CD-OE1	-5.34	1.19	1.25

All (32) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	E	145	ARG	NE-CZ-NH1	9.01	124.81	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	E	145	ARG	NE-CZ-NH2	-8.87	115.86	120.30
1	G	235	ASP	CB-CG-OD1	8.14	125.63	118.30
1	G	154	ASP	CB-CG-OD2	7.80	125.32	118.30
1	G	79	GLU	CB-CA-C	7.65	125.70	110.40
1	G	235	ASP	CB-CG-OD2	-7.40	111.64	118.30
1	C	218	LEU	CB-CG-CD2	-7.33	98.54	111.00
1	A	188	ASP	CB-CG-OD1	7.28	124.85	118.30
1	A	188	ASP	CB-CG-OD2	-7.23	111.79	118.30
1	C	218	LEU	CB-CG-CD1	7.04	122.98	111.00
1	B	234	ASP	CB-CG-OD2	6.86	124.47	118.30
1	A	145	ARG	NE-CZ-NH1	6.78	123.69	120.30
1	D	173	LEU	CB-CG-CD1	6.64	122.29	111.00
1	B	145	ARG	NE-CZ-NH1	6.47	123.53	120.30
1	C	79	GLU	CB-CA-C	-6.11	98.18	110.40
1	F	161	LEU	CB-CG-CD1	6.08	121.33	111.00
1	A	145	ARG	NE-CZ-NH2	-5.91	117.34	120.30
1	C	387	ARG	NE-CZ-NH1	5.91	123.26	120.30
1	F	209	MET	CG-SD-CE	5.83	109.53	100.20
1	A	282	ARG	NE-CZ-NH1	5.78	123.19	120.30
1	D	282	ARG	NE-CZ-NH1	5.71	123.15	120.30
1	B	257	ARG	NE-CZ-NH1	5.57	123.08	120.30
1	B	135	THR	CA-CB-CG2	-5.46	104.76	112.40
1	H	145	ARG	NE-CZ-NH1	5.37	122.98	120.30
1	C	387	ARG	NE-CZ-NH2	-5.25	117.67	120.30
1	D	312	GLN	CB-CA-C	5.24	120.88	110.40
1	A	118	ASP	CB-CG-OD2	5.14	122.92	118.30
1	B	145	ARG	NE-CZ-NH2	-5.12	117.74	120.30
1	C	218	LEU	CA-CB-CG	5.12	127.07	115.30
1	C	145	ARG	NE-CZ-NH2	-5.09	117.76	120.30
1	D	145	ARG	NE-CZ-NH1	5.08	122.84	120.30
1	B	366	GLY	CA-C-N	5.02	126.23	116.20

There are no chirality outliers.

All (22) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	B	366	GLY	Peptide
1	B	369	ARG	Peptide
1	C	118	ASP	Peptide
1	C	120	PRO	Peptide
1	C	121	ALA	Peptide
1	C	122	GLY	Peptide

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Mol	Chain	Res	Type	Group
1	C	387	ARG	Peptide
1	C	79	GLU	Peptide
1	C	80	ALA	Mainchain
1	C	88	LEU	Peptide
1	D	116	VAL	Peptide
1	D	117	ALA	Peptide
1	D	120	PRO	Peptide
1	D	377	GLY	Peptide
1	F	193	GLY	Peptide
1	F	195	THR	Peptide
1	F	368	GLU	Peptide
1	F	369	ARG	Peptide
1	G	124	PRO	Peptide
1	G	140	PRO	Peptide
1	G	242	ASP	Peptide
1	G	80	ALA	Peptide

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	2565	0	2528	16	0
1	B	2586	0	2575	22	1
1	C	2430	0	2359	27	0
1	D	2349	0	2306	17	0
1	E	2482	0	2451	10	1
1	F	2461	0	2414	39	0
1	G	2371	0	2318	43	0
1	H	2341	0	2317	20	0
2	A	50	0	0	1	0
2	B	27	0	0	0	0
2	C	25	0	0	1	0
2	D	21	0	0	0	0
2	E	53	0	0	1	0
2	F	37	0	0	2	0
2	G	11	0	0	0	0
2	H	32	0	0	0	0
All	All	19841	0	19268	189	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 5.

All (189) 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:H:35[B]:ARG:NH2	1:H:79[B]:GLU:OE1	1.62	1.31
1:G:172:HIS:O	1:G:247:VAL:HG13	1.43	1.15
1:G:150:ASP:OD1	1:G:229:ARG:NH1	1.82	1.12
1:C:87:ASP:O	1:C:89:ALA:N	1.97	0.97
1:H:35[B]:ARG:HH21	1:H:79[B]:GLU:CD	1.73	0.91
1:C:90:ASP:O	1:C:132:ARG:NH2	2.05	0.89
1:H:35[B]:ARG:NH2	1:H:79[B]:GLU:CD	2.28	0.84
1:B:322:LEU:HD12	1:B:369:ARG:HD2	1.59	0.84
1:C:87:ASP:C	1:C:89:ALA:H	1.80	0.81
1:D:173:LEU:HD21	1:D:175:MET:HG3	1.67	0.77
1:F:183:SER:O	1:F:186:VAL:HG12	1.86	0.76
1:H:321:VAL:HG11	1:H:370:ASN:HB2	1.67	0.75
1:G:168:PRO:O	1:G:171:VAL:HG12	1.87	0.75
1:C:87:ASP:C	1:C:89:ALA:N	2.39	0.74
1:G:172:HIS:C	1:G:247:VAL:HG13	2.07	0.74
1:F:93:THR:OG1	1:F:132:ARG:NH1	2.21	0.74
1:F:193:GLY:HA2	1:F:194:LYS:CB	2.18	0.74
1:B:214:ASP:OD2	1:B:238:ARG:NH1	2.20	0.73
1:G:19:SER:OG	1:G:112:THR:OG1	2.06	0.73
1:G:172:HIS:CD2	1:G:276:ILE:HG23	2.24	0.72
1:F:181:LEU:HB2	1:F:208:SER:HB2	1.73	0.71
1:C:93:THR:OG1	1:C:132:ARG:NH1	2.23	0.70
1:G:156:VAL:HG23	1:G:223:ALA:CB	2.23	0.69
1:F:188:ASP:O	1:F:192:ARG:HG3	1.93	0.68
1:G:156:VAL:CG2	1:G:223:ALA:CB	2.72	0.67
1:C:136:GLU:HB2	1:C:151:LYS:HD3	1.77	0.67
1:B:94:VAL:O	1:B:177:LYS:NZ	2.28	0.66
1:C:388:LEU:HD23	1:C:388:LEU:O	1.97	0.65
1:A:319:LYS:NZ	1:A:368:GLU:OE2	2.23	0.64
1:A:236:ARG:NH2	1:A:240:ASP:OD2	2.29	0.64
1:G:150:ASP:CG	1:G:229:ARG:HH12	2.01	0.64
1:H:322:LEU:HD12	1:H:369:ARG:HG3	1.77	0.64
1:C:182:SER:O	1:C:186:VAL:HG23	1.98	0.64
1:G:156:VAL:HG21	1:G:223:ALA:HB3	1.78	0.64
1:C:282:ARG:HD3	1:C:286:ASP:OD2	1.99	0.62
1:C:321:VAL:HG22	1:C:368:GLU:HG2	1.82	0.62
1:F:192:ARG:NH1	2:F:401:HOH:O	2.27	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:189:ALA:O	1:F:194:LYS:CB	2.49	0.61
1:F:84:PRO:HD2	1:F:87:ASP:OD2	2.01	0.61
1:B:368:GLU:C	1:B:369:ARG:HD3	2.22	0.60
1:F:189:ALA:O	1:F:193:GLY:N	2.34	0.60
1:G:229:ARG:O	1:G:229:ARG:HD2	2.02	0.60
1:G:171:VAL:HG23	1:G:263:LEU:HD21	1.84	0.60
1:A:322:LEU:HD12	1:A:369:ARG:HG2	1.83	0.59
1:A:84:PRO:HD2	1:A:87:ASP:OD2	2.01	0.59
1:B:369:ARG:HB2	1:B:369:ARG:HH11	1.68	0.59
1:G:156:VAL:CG2	1:G:223:ALA:HB3	2.32	0.58
1:G:172:HIS:O	1:G:247:VAL:CG1	2.36	0.58
1:C:145:ARG:NH2	1:C:195:THR:O	2.37	0.57
1:A:303:CYS:HB3	1:C:303:CYS:SG	2.45	0.56
1:G:214:ASP:OD2	1:G:238:ARG:HG2	2.04	0.56
1:H:210:CYS:SG	1:H:211:TRP:CD1	2.98	0.56
1:C:387:ARG:N	1:C:388:LEU:HA	2.20	0.56
1:G:139:LEU:HB3	1:G:141:GLU:HG3	1.87	0.56
1:A:287:THR:HB	1:A:356:ILE:HD11	1.87	0.56
1:B:322:LEU:O	1:B:370:ASN:HB2	2.06	0.56
1:F:182:SER:O	1:F:185:ALA:HB3	2.06	0.56
1:A:35[B]:ARG:NH2	1:A:79:GLU:OE2	2.38	0.55
1:G:172:HIS:C	1:G:247:VAL:CG1	2.73	0.55
1:G:287:THR:HB	1:G:356:ILE:HD11	1.89	0.55
1:F:193:GLY:CA	1:F:194:LYS:CB	2.85	0.55
1:C:287:THR:HB	1:C:356:ILE:HD11	1.89	0.55
1:G:22:VAL:C	1:G:23:VAL:HG23	2.26	0.55
1:D:287:THR:HB	1:D:356:ILE:HD11	1.89	0.54
1:G:246:ALA:HB1	1:G:280:ILE:HD11	1.89	0.54
1:D:312:GLN:O	1:D:385:VAL:HG13	2.08	0.54
1:B:287:THR:HB	1:B:356:ILE:HD11	1.89	0.54
1:F:287:THR:HB	1:F:356:ILE:HD11	1.89	0.54
1:B:87:ASP:C	1:B:89:ALA:H	2.11	0.54
1:H:287:THR:HB	1:H:356:ILE:HD11	1.89	0.54
1:G:87:ASP:C	1:G:89:ALA:H	2.12	0.53
1:F:228:LYS:HB2	1:F:231:LEU:HD13	1.90	0.53
1:G:321:VAL:HG13	1:G:369:ARG:HA	1.90	0.53
1:C:246:ALA:HB1	1:C:280:ILE:HD11	1.91	0.53
1:E:287:THR:HB	1:E:356:ILE:HD11	1.89	0.53
1:C:77:LEU:O	1:C:81:ARG:HG3	2.09	0.53
1:B:321:VAL:HG22	1:B:379:ASN:OD1	2.09	0.52
1:D:87:ASP:C	1:D:89:ALA:H	2.13	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:246:ALA:HB1	1:E:280:ILE:HD11	1.91	0.52
1:G:87:ASP:O	1:G:89:ALA:N	2.42	0.52
1:F:182:SER:HB2	1:F:185:ALA:HB2	1.92	0.52
1:G:188:ASP:O	1:G:191:SER:HB3	2.10	0.51
1:F:194:LYS:O	1:F:195:THR:HG22	2.10	0.51
1:A:246:ALA:HB1	1:A:280:ILE:HD11	1.93	0.51
1:D:49:VAL:HG22	1:D:132:ARG:HD2	1.92	0.51
1:E:86:GLU:OE1	1:E:86:GLU:N	2.36	0.51
1:C:147:ALA:O	1:C:151:LYS:HG3	2.10	0.51
1:G:78:ALA:O	1:G:82:GLY:N	2.43	0.51
1:E:87:ASP:C	1:E:89:ALA:H	2.14	0.51
1:A:196:VAL:HG12	1:A:197:VAL:N	2.26	0.50
1:B:369:ARG:HH11	1:B:369:ARG:N	2.08	0.50
1:F:87:ASP:C	1:F:89:ALA:H	2.13	0.50
1:H:369:ARG:O	1:H:370:ASN:ND2	2.44	0.50
1:D:157:ALA:HA	1:D:160:MET:HE2	1.93	0.50
1:D:385:VAL:HG12	1:D:386:ARG:N	2.27	0.50
1:H:75:THR:O	1:H:79[B]:GLU:HG3	2.12	0.50
1:C:84:PRO:HD2	1:C:87:ASP:OD2	2.10	0.50
1:C:126:VAL:O	1:C:387:ARG:HD2	2.12	0.50
1:F:90:ASP:O	1:F:132:ARG:NH2	2.45	0.50
1:A:87:ASP:C	1:A:89:ALA:H	2.15	0.50
1:B:246:ALA:HB1	1:B:280:ILE:HD11	1.94	0.50
1:D:246:ALA:HB1	1:D:280:ILE:HD11	1.94	0.50
1:F:246:ALA:HB1	1:F:280:ILE:HD11	1.94	0.49
1:G:171:VAL:HG21	1:G:263:LEU:HD11	1.93	0.49
1:B:135:THR:CG2	1:B:151:LYS:HB3	2.41	0.49
1:H:246:ALA:HB1	1:H:280:ILE:HD11	1.94	0.49
1:G:303:CYS:SG	1:H:303:CYS:HB3	2.52	0.49
1:H:87:ASP:C	1:H:89:ALA:H	2.14	0.49
1:B:135:THR:HG22	1:B:136:GLU:O	2.12	0.49
1:C:346:LYS:NZ	2:C:402:HOH:O	2.45	0.49
1:B:369:ARG:HB2	1:B:369:ARG:NH1	2.29	0.48
1:C:270:SER:O	1:C:387:ARG:NH2	2.46	0.48
1:G:156:VAL:HG12	1:G:261:VAL:HG11	1.94	0.48
1:G:156:VAL:HG23	1:G:223:ALA:HB1	1.94	0.48
1:A:275:ARG:NH1	2:A:403:HOH:O	2.33	0.47
1:E:243:LEU:O	1:E:244:PHE:HD2	1.97	0.47
1:C:228:LYS:O	1:C:230:ASP:N	2.47	0.47
1:D:385:VAL:HG12	1:D:386:ARG:H	1.78	0.47
1:F:342[B]:HIS:CG	1:F:367:GLY:O	2.68	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:367:GLY:O	1:G:368:GLU:O	2.33	0.47
1:F:342[B]:HIS:CD2	1:F:367:GLY:O	2.67	0.47
1:G:22:VAL:C	1:G:23:VAL:CG2	2.83	0.47
1:D:49:VAL:HG22	1:D:132:ARG:CD	2.45	0.47
1:B:192:ARG:HA	1:F:301:PHE:O	2.15	0.46
1:F:188:ASP:O	1:F:191:SER:N	2.48	0.46
1:E:243:LEU:O	1:E:244:PHE:CD2	2.69	0.46
1:C:90:ASP:OD1	1:C:90:ASP:N	2.47	0.46
1:C:118:ASP:O	1:C:120:PRO:HD3	2.16	0.46
1:F:321:VAL:HG22	1:F:379:ASN:OD1	2.16	0.46
1:G:78:ALA:C	1:G:80:ALA:H	2.19	0.46
1:D:324:GLY:HA3	1:D:376:PRO:N	2.32	0.45
1:C:15:TYR:O	1:C:116:VAL:N	2.45	0.45
1:G:163:ALA:O	1:G:165:VAL:HG23	2.17	0.45
1:B:369:ARG:HH11	1:B:369:ARG:CB	2.29	0.45
1:G:131:GLY:HA2	1:G:162:ASP:OD2	2.17	0.45
1:F:16:PRO:HD2	1:F:269:GLN:O	2.16	0.45
1:A:321:VAL:HG22	1:A:379:ASN:OD1	2.17	0.44
1:G:370:ASN:HD22	1:G:370:ASN:HA	1.65	0.44
1:E:346:LYS:NZ	2:E:401:HOH:O	2.44	0.44
1:H:281:THR:O	1:H:378:GLY:HA2	2.18	0.44
1:H:369:ARG:H	1:H:369:ARG:HE	1.64	0.44
1:F:188:ASP:O	1:F:191:SER:HB2	2.17	0.44
1:G:281:THR:O	1:G:378:GLY:HA2	2.18	0.44
1:G:234:ASP:O	1:G:237:ILE:HG22	2.18	0.43
1:H:138:ILE:CD1	1:H:151:LYS:HD3	2.47	0.43
1:B:233:ALA:HB3	1:B:236:ARG:HG2	2.00	0.43
1:C:16:PRO:HD2	1:C:269:GLN:O	2.18	0.43
1:D:299:VAL:CG2	1:D:385:VAL:HG11	2.48	0.43
1:F:232:VAL:O	1:F:232:VAL:HG12	2.18	0.43
1:F:342[B]:HIS:CE1	1:F:367:GLY:O	2.71	0.43
1:F:195:THR:C	1:F:196:VAL:HG23	2.39	0.43
1:D:126:VAL:H	1:D:275:ARG:HH21	1.67	0.43
1:H:15:TYR:N	1:H:15:TYR:CD1	2.85	0.43
1:A:16:PRO:HD2	1:A:269:GLN:O	2.19	0.43
1:F:188:ASP:HA	1:F:191:SER:HB2	2.00	0.43
1:H:322:LEU:HD12	1:H:369:ARG:CG	2.47	0.43
1:H:35[B]:ARG:NH2	1:H:79[B]:GLU:OE2	2.51	0.43
1:D:16:PRO:HD2	1:D:269:GLN:O	2.19	0.42
1:F:66:ARG:NH1	2:F:406:HOH:O	2.52	0.42
1:F:194:LYS:C	1:F:195:THR:HG22	2.39	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:139:LEU:O	1:G:142:ASP:HB2	2.19	0.42
1:G:139:LEU:CB	1:G:141:GLU:HG3	2.48	0.42
1:A:85:VAL:HG12	1:A:86:GLU:OE2	2.20	0.42
1:A:209:MET:HG2	1:A:252:SER:OG	2.19	0.42
1:F:194:LYS:O	1:F:195:THR:CB	2.67	0.42
1:F:17:LYS:O	1:F:17:LYS:HG3	2.20	0.41
1:B:135:THR:HG21	1:B:138:ILE:HD11	2.02	0.41
1:F:189:ALA:O	1:F:194:LYS:CA	2.68	0.41
1:G:182:SER:O	1:G:186:VAL:HG23	2.19	0.41
1:B:369:ARG:HD3	1:B:369:ARG:N	2.35	0.41
1:E:16:PRO:HD2	1:E:269:GLN:O	2.21	0.41
1:H:16:PRO:HD2	1:H:269:GLN:O	2.20	0.41
1:G:139:LEU:HA	1:G:140:PRO:HD3	1.82	0.41
1:G:247:VAL:HG12	1:G:247:VAL:O	2.20	0.41
1:A:240:ASP:OD1	1:A:242:ASP:HB2	2.21	0.41
1:D:49:VAL:CG2	1:D:132:ARG:HD3	2.50	0.41
1:F:210:CYS:SG	1:F:211:TRP:CE3	3.10	0.41
1:E:281:THR:O	1:E:378:GLY:HA2	2.21	0.41
1:F:189:ALA:HB1	1:F:194:LYS:HA	2.02	0.41
1:D:312:GLN:HG2	1:D:385:VAL:HG12	2.03	0.41
1:F:210:CYS:SG	1:F:211:TRP:HE3	2.43	0.41
1:B:210:CYS:HB2	1:B:238:ARG:NH2	2.36	0.40
1:E:68:PHE:CD1	1:H:68:PHE:CD1	3.09	0.40
1:B:16:PRO:HD2	1:B:269:GLN:O	2.20	0.40
1:B:303:CYS:HB3	1:D:303:CYS:SG	2.61	0.40
1:F:281:THR:O	1:F:378:GLY:HA2	2.22	0.40
1:G:15:TYR:CB	1:G:16:PRO:CD	3.00	0.40
1:C:45:PRO:HB2	1:C:81:ARG:HG2	2.04	0.40
1:F:186:VAL:HG13	1:F:187:ALA:N	2.36	0.40

All (1) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:234:ASP:OD1	1:E:193:GLY:O[4_445]	2.13	0.07

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	356/410 (87%)	343 (96%)	13 (4%)	0	100	100
1	B	354/410 (86%)	343 (97%)	10 (3%)	1 (0%)	41	50
1	C	342/410 (83%)	322 (94%)	18 (5%)	2 (1%)	25	33
1	D	327/410 (80%)	316 (97%)	11 (3%)	0	100	100
1	E	344/410 (84%)	335 (97%)	9 (3%)	0	100	100
1	F	341/410 (83%)	324 (95%)	13 (4%)	4 (1%)	13	17
1	G	329/410 (80%)	310 (94%)	15 (5%)	4 (1%)	13	17
1	H	320/410 (78%)	312 (98%)	8 (2%)	0	100	100
All	All	2713/3280 (83%)	2605 (96%)	97 (4%)	11 (0%)	34	45

All (11) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	C	80	ALA
1	C	88	LEU
1	G	141	GLU
1	G	368	GLU
1	B	368	GLU
1	F	195	THR
1	F	183	SER
1	G	88	LEU
1	F	368	GLU
1	G	16	PRO
1	F	376	PRO

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	263/310 (85%)	261 (99%)	2 (1%)	81	88
1	B	268/310 (86%)	266 (99%)	2 (1%)	84	90
1	C	241/310 (78%)	239 (99%)	2 (1%)	81	88
1	D	240/310 (77%)	237 (99%)	3 (1%)	69	80
1	E	254/310 (82%)	252 (99%)	2 (1%)	81	88
1	F	252/310 (81%)	246 (98%)	6 (2%)	49	63
1	G	241/310 (78%)	236 (98%)	5 (2%)	53	67
1	H	242/310 (78%)	238 (98%)	4 (2%)	60	74
All	All	2001/2480 (81%)	1975 (99%)	26 (1%)	69	80

All (26) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	244	PHE
1	A	303	CYS
1	B	303	CYS
1	B	369	ARG
1	C	177	LYS
1	C	303	CYS
1	D	92	VAL
1	D	211	TRP
1	D	303	CYS
1	E	231	LEU
1	E	303	CYS
1	F	119	LEU
1	F	188	ASP
1	F	211	TRP
1	F	235	ASP
1	F	282	ARG
1	F	303	CYS
1	G	141	GLU
1	G	229	ARG
1	G	272	SER
1	G	273	GLU
1	G	303	CYS
1	H	114	GLU
1	H	303	CYS

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Mol	Chain	Res	Type
1	H	369	ARG
1	H	370	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (4) such sidechains are listed below:

Mol	Chain	Res	Type
1	C	134	HIS
1	G	172	HIS
1	G	370	ASN
1	H	370	ASN

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 monosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

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	361/410 (88%)	0.15	20 (5%) 25 32	19, 41, 99, 140	0
1	B	360/410 (87%)	0.14	14 (3%) 39 48	22, 47, 86, 130	0
1	C	348/410 (84%)	0.31	18 (5%) 27 34	20, 57, 107, 144	0
1	D	333/410 (81%)	0.46	21 (6%) 20 25	24, 58, 106, 134	0
1	E	349/410 (85%)	0.12	12 (3%) 45 54	20, 42, 105, 137	0
1	F	350/410 (85%)	0.38	28 (8%) 12 17	22, 48, 99, 122	0
1	G	340/410 (82%)	0.77	49 (14%) 2 3	25, 70, 111, 138	0
1	H	328/410 (80%)	0.24	22 (6%) 17 22	22, 49, 95, 139	0
All	All	2769/3280 (84%)	0.32	184 (6%) 18 23	19, 51, 104, 144	0

All (184) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	237	ILE	7.7
1	F	235	ASP	7.5
1	F	191	SER	6.9
1	D	235	ASP	6.3
1	G	233	ALA	6.2
1	H	211	TRP	6.2
1	D	232	VAL	6.0
1	F	187	ALA	6.0
1	F	233	ALA	5.9
1	F	146	THR	5.8
1	D	233	ALA	5.7
1	F	232	VAL	5.6
1	H	147	ALA	5.4
1	A	390	ALA	5.3
1	E	183	SER	5.2
1	F	230	ASP	5.0

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Mol	Chain	Res	Type	RSRZ
1	H	148	GLN	4.9
1	G	218	LEU	4.8
1	A	235	ASP	4.8
1	D	234	ASP	4.8
1	C	211	TRP	4.7
1	D	146	THR	4.5
1	G	47	SER	4.4
1	E	195	THR	4.3
1	H	195	THR	4.2
1	F	227	VAL	4.1
1	E	185	ALA	4.1
1	H	218	LEU	4.1
1	G	133	GLY	4.0
1	H	138	ILE	4.0
1	G	211	TRP	3.9
1	D	119	LEU	3.9
1	H	210	CYS	3.9
1	F	218	LEU	3.9
1	A	146	THR	3.8
1	D	211	TRP	3.8
1	B	146	THR	3.8
1	G	138	ILE	3.7
1	B	243	LEU	3.7
1	H	227	VAL	3.7
1	H	215	ALA	3.7
1	F	234	ASP	3.7
1	E	187	ALA	3.6
1	A	243	LEU	3.5
1	F	185	ALA	3.5
1	G	194	LYS	3.5
1	G	235	ASP	3.5
1	F	211	TRP	3.5
1	D	139	LEU	3.5
1	B	147	ALA	3.4
1	F	231	LEU	3.4
1	F	152	VAL	3.4
1	H	145	ARG	3.4
1	F	190	LEU	3.3
1	D	114	GLU	3.3
1	A	239	SER	3.3
1	H	146	THR	3.3
1	B	115	TRP	3.3

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Mol	Chain	Res	Type	RSRZ
1	G	180	ALA	3.2
1	C	126	VAL	3.2
1	D	88	LEU	3.2
1	A	191	SER	3.2
1	A	185	ALA	3.2
1	E	230	ASP	3.2
1	F	142	ASP	3.2
1	E	231	LEU	3.1
1	E	181	LEU	3.1
1	C	193	GLY	3.1
1	F	245	SER	3.1
1	E	209	MET	3.1
1	F	147	ALA	3.1
1	A	240	ASP	3.0
1	D	123	LEU	3.0
1	G	44	ASP	3.0
1	D	230	ASP	3.0
1	F	149	VAL	3.0
1	F	144	GLY	3.0
1	F	188	ASP	3.0
1	D	147	ALA	3.0
1	C	138	ILE	2.9
1	C	119	LEU	2.9
1	A	234	ASP	2.9
1	C	187	ALA	2.9
1	C	244	PHE	2.9
1	G	193	GLY	2.9
1	D	181	LEU	2.9
1	A	187	ALA	2.9
1	D	231	LEU	2.9
1	G	112	THR	2.9
1	E	186	VAL	2.9
1	F	181	LEU	2.9
1	G	73	LEU	2.9
1	G	234	ASP	2.8
1	B	232	VAL	2.8
1	B	236	ARG	2.8
1	B	367	GLY	2.8
1	G	210	CYS	2.8
1	B	244	PHE	2.8
1	H	253	GLY	2.8
1	G	88	LEU	2.8

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Mol	Chain	Res	Type	RSRZ
1	D	180	ALA	2.8
1	G	40	SER	2.8
1	H	208	SER	2.8
1	A	145	ARG	2.7
1	C	216	SER	2.7
1	H	220	VAL	2.7
1	E	125	GLY	2.7
1	C	144	GLY	2.7
1	H	367	GLY	2.7
1	H	219	GLY	2.7
1	G	45	PRO	2.6
1	C	145	ARG	2.6
1	D	76	ALA	2.6
1	G	161	LEU	2.6
1	G	179	PRO	2.6
1	G	85	VAL	2.6
1	H	149	VAL	2.6
1	A	218	LEU	2.6
1	C	227	VAL	2.5
1	F	222	VAL	2.5
1	G	244	PHE	2.5
1	A	233	ALA	2.5
1	G	91	SER	2.5
1	G	237	ILE	2.5
1	G	46	ALA	2.5
1	G	87	ASP	2.4
1	G	219	GLY	2.4
1	G	268	ALA	2.4
1	A	230	ASP	2.4
1	B	231	LEU	2.4
1	F	236	ARG	2.4
1	B	237	ILE	2.4
1	C	143	ILE	2.4
1	A	150	ASP	2.4
1	B	225	GLY	2.4
1	H	144	GLY	2.4
1	G	255	GLU	2.4
1	G	145	ARG	2.3
1	G	248	ALA	2.3
1	G	131	GLY	2.3
1	D	210	CYS	2.3
1	A	211	TRP	2.3

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Mol	Chain	Res	Type	RSRZ
1	B	234	ASP	2.3
1	G	164	GLY	2.3
1	H	254	GLY	2.3
1	C	181	LEU	2.3
1	C	255	GLU	2.2
1	A	232	VAL	2.2
1	G	48	VAL	2.2
1	E	182	SER	2.2
1	B	233	ALA	2.2
1	G	215	ALA	2.2
1	C	148	GLN	2.2
1	A	90	ASP	2.2
1	B	235	ASP	2.2
1	D	144	GLY	2.2
1	C	146	THR	2.2
1	E	123	LEU	2.2
1	H	115	TRP	2.1
1	A	195	THR	2.1
1	G	34	PHE	2.1
1	D	227	VAL	2.1
1	G	228	LYS	2.1
1	F	192	ARG	2.1
1	C	183	SER	2.1
1	F	183	SER	2.1
1	G	242	ASP	2.1
1	D	89	ALA	2.1
1	G	42	ALA	2.1
1	G	217	ALA	2.1
1	H	196	VAL	2.1
1	G	300	ASP	2.1
1	G	132	ARG	2.1
1	G	22	VAL	2.1
1	H	143	ILE	2.1
1	C	139	LEU	2.1
1	G	378	GLY	2.1
1	G	92	VAL	2.0
1	G	232	VAL	2.0
1	G	185	ALA	2.0
1	G	43	VAL	2.0
1	F	150	ASP	2.0
1	F	228	LYS	2.0
1	G	209	MET	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 monosaccharides in this entry.

6.4 Ligands [i](#)

There are no ligands in this entry.

6.5 Other polymers [i](#)

There are no such residues in this entry.