

# wwPDB X-ray Structure Validation Summary Report (i)

#### Dec 17, 2023 – 04:51 AM EST

PDB ID : 2NVV

Title: Crystal Structure of the Putative Acetyl-CoA hydrolase/transferase PG1013

from Porphyromonas gingivalis, Northeast Structural Genomics Target PgR16.

Authors: Forouhar, F.; Neely, H.; Seetharaman, J.; Yong, W.; Ho, C.K.; Fang, Y.;

Cunningham, K.; Ma, L.-C.; Xiao, R.; Liu, J.; Baran, M.C.; Acton, T.B.; Rost, B.; Montelione, G.T.; Hunt, J.F.; Tong, L.; Northeast Structural Genomics

Consortium (NESG)

Deposited on : 2006-11-13

Resolution : 2.70 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 (i) 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 (1)) were used in the production of this report:

MolProbity: 4.02b-467

Mogul: 1.8.5 (274361), CSD as541be (2020)

Xtriage (Phenix) : 1.13

EDS : 2.36

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)

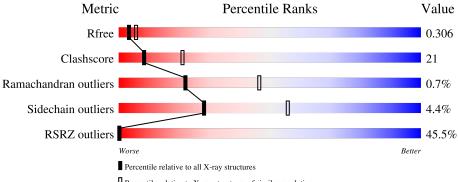
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)

## 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 2.70 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.



Percentile relative to X-ray structures of similar resolution

Metric	Whole archive $(\# \mathrm{Entries})$	$\begin{array}{c} {\rm Similar\ resolution} \\ (\#{\rm Entries},{\rm resolution\ range}(\mathring{\rm A})) \end{array}$
$R_{free}$	130704	2808 (2.70-2.70)
Clashscore	141614	3122 (2.70-2.70)
Ramachandran outliers	138981	3069 (2.70-2.70)
Sidechain outliers	138945	3069 (2.70-2.70)
RSRZ outliers	127900	2737 (2.70-2.70)

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 <=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	L	
			31%		
1	A	506	65%	30%	
			36%		
1	В	506	64%	31%	
			34%		
1	С	506	65%	30%	
	_		38%		
1	D	506	65%	30%	



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	Mol	Chain	Length	Quality of cha	in	
İ				61%		
	1	${ m E}$	506	61%	34%	• •
İ				61%		
	1	$\mathbf{F}$	506	61%	34%	



# 2 Entry composition (i)

There are 3 unique types of molecules in this entry. The entry contains 23178 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 Acetyl-CoA hydrolase/transferase family protein.

Mol	Chain	Residues		A	Atoms	S			ZeroOcc	AltConf	Trace
1	A	496	Total	С	N	О	S	Se	0	0	0
1	Λ	490	3828	2418	672	720	6	12		U	
1	В	496	Total	С	N	О	S	Se	0	0	0
1	Ъ	490	3828	2418	672	720	6	12		U	
1	С	496	Total	С	N	О	S	Se	0	0	0
1		430	3828	2418	672	720	6	12	0	0	
1	D	496	Total	С	N	О	S	Se	0	0	0
1	D	430	3828	2418	672	720	6	12	0	U	0
1	Е	496	Total	С	N	О	S	Se	0	0	0
1	ш	430	3828	2418	672	720	6	12	0	U	0
1	F	496	Total	$\mathbf{C}$	N	О	S	Se	0	0	0
	I.	430	3828	2418	672	720	6	12		U	

There are 126 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	1	MSE	MET	modified residue	UNP Q7MVN7
A	57	MSE	MET	modified residue	UNP Q7MVN7
A	168	MSE	MET	modified residue	UNP Q7MVN7
A	170	MSE	MET	modified residue	UNP Q7MVN7
A	243	MSE	MET	modified residue	UNP Q7MVN7
A	281	MSE	MET	modified residue	UNP Q7MVN7
A	294	MSE	MET	modified residue	UNP Q7MVN7
A	372	MSE	MET	modified residue	UNP Q7MVN7
A	373	MSE	MET	modified residue	UNP Q7MVN7
A	397	MSE	MET	modified residue	UNP Q7MVN7
A	408	MSE	MET	modified residue	UNP Q7MVN7
A	488	MSE	MET	modified residue	UNP Q7MVN7
A	497	MSE	MET	modified residue	UNP Q7MVN7
A	499	LEU	-	expression tag	UNP Q7MVN7
A	500	GLU	-	expression tag	UNP Q7MVN7
A	501	HIS	-	expression tag	UNP Q7MVN7
A	502	HIS	-	expression tag	UNP Q7MVN7



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Chain	Residue	Modelled	Actual	Comment	Reference
A	503	HIS	-	expression tag	UNP Q7MVN7
A	504	HIS	-	expression tag	UNP Q7MVN7
A	505	HIS	-	expression tag	UNP Q7MVN7
A	506	HIS	-	expression tag	UNP Q7MVN7
В	1	MSE	MET	modified residue	UNP Q7MVN7
В	57	MSE	MET	modified residue	UNP Q7MVN7
В	168	MSE	MET	modified residue	UNP Q7MVN7
В	170	MSE	MET	modified residue	UNP Q7MVN7
В	243	MSE	MET	modified residue	UNP Q7MVN7
В	281	MSE	MET	modified residue	UNP Q7MVN7
В	294	MSE	MET	modified residue	UNP Q7MVN7
В	372	MSE	MET	modified residue	UNP Q7MVN7
В	373	MSE	MET	modified residue	UNP Q7MVN7
В	397	MSE	MET	modified residue	UNP Q7MVN7
В	408	MSE	MET	modified residue	UNP Q7MVN7
В	488	MSE	MET	modified residue	UNP Q7MVN7
В	497	MSE	MET	modified residue	UNP Q7MVN7
В	499	LEU	-	expression tag	UNP Q7MVN7
В	500	GLU	-	expression tag	UNP Q7MVN7
В	501	HIS	_	expression tag	UNP Q7MVN7
В	502	HIS	-	expression tag	UNP Q7MVN7
В	503	HIS	-	expression tag	UNP Q7MVN7
В	504	HIS	-	expression tag	UNP Q7MVN7
В	505	HIS	-	expression tag	UNP Q7MVN7
В	506	HIS	-	expression tag	UNP Q7MVN7
С	1	MSE	MET	modified residue	UNP Q7MVN7
С	57	MSE	MET	modified residue	UNP Q7MVN7
С	168	MSE	MET	modified residue	UNP Q7MVN7
С	170	MSE	MET	modified residue	UNP Q7MVN7
С	243	MSE	MET	modified residue	UNP Q7MVN7
С	281	MSE	MET	modified residue	UNP Q7MVN7
С	294	MSE	MET	modified residue	UNP Q7MVN7
С	372	MSE	MET	modified residue	UNP Q7MVN7
С	373	MSE	MET	modified residue	UNP Q7MVN7
С	397	MSE	MET	modified residue	UNP Q7MVN7
С	408	MSE	MET	modified residue	UNP Q7MVN7
С	488	MSE	MET	modified residue	UNP Q7MVN7
С	497	MSE	MET	modified residue	UNP Q7MVN7
С	499	LEU	-	expression tag	UNP Q7MVN7
С	500	GLU	-	expression tag	UNP Q7MVN7
С	501	HIS	-	expression tag	UNP Q7MVN7
С	502	HIS	-	expression tag	UNP Q7MVN7



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Chain	Residue	Modelled	Actual	Comment	Reference
С	503	HIS	-	expression tag	UNP Q7MVN7
С	504	HIS	-	expression tag	UNP Q7MVN7
С	505	HIS	-	expression tag	UNP Q7MVN7
С	506	HIS	-	expression tag	UNP Q7MVN7
D	1	MSE	MET	modified residue	UNP Q7MVN7
D	57	MSE	MET	modified residue	UNP Q7MVN7
D	168	MSE	MET	modified residue	UNP Q7MVN7
D	170	MSE	MET	modified residue	UNP Q7MVN7
D	243	MSE	MET	modified residue	UNP Q7MVN7
D	281	MSE	MET	modified residue	UNP Q7MVN7
D	294	MSE	MET	modified residue	UNP Q7MVN7
D	372	MSE	MET	modified residue	UNP Q7MVN7
D	373	MSE	MET	modified residue	UNP Q7MVN7
D	397	MSE	MET	modified residue	UNP Q7MVN7
D	408	MSE	MET	modified residue	UNP Q7MVN7
D	488	MSE	MET	modified residue	UNP Q7MVN7
D	497	MSE	MET	modified residue	UNP Q7MVN7
D	499	LEU	-	expression tag	UNP Q7MVN7
D	500	GLU	-	expression tag	UNP Q7MVN7
D	501	HIS	-	expression tag	UNP Q7MVN7
D	502	HIS	-	expression tag	UNP Q7MVN7
D	503	HIS	-	expression tag	UNP Q7MVN7
D	504	HIS	-	expression tag	UNP Q7MVN7
D	505	HIS	-	expression tag	UNP Q7MVN7
D	506	HIS	-	expression tag	UNP Q7MVN7
Е	1	MSE	MET	modified residue	UNP Q7MVN7
Е	57	MSE	MET	modified residue	UNP Q7MVN7
Е	168	MSE	MET	modified residue	UNP Q7MVN7
Е	170	MSE	MET	modified residue	UNP Q7MVN7
Е	243	MSE	MET	modified residue	UNP Q7MVN7
Е	281	MSE	MET	modified residue	UNP Q7MVN7
Е	294	MSE	MET	modified residue	UNP Q7MVN7
Е	372	MSE	MET	modified residue	UNP Q7MVN7
Е	373	MSE	MET	modified residue	UNP Q7MVN7
Е	397	MSE	MET	modified residue	UNP Q7MVN7
Е	408	MSE	MET	modified residue	UNP Q7MVN7
Е	488	MSE	MET	modified residue	UNP Q7MVN7
Е	497	MSE	MET	modified residue	UNP Q7MVN7
Е	499	LEU	-	expression tag	UNP Q7MVN7
Е	500	GLU	-	expression tag	UNP Q7MVN7
Е	501	HIS	-	expression tag	UNP Q7MVN7
Е	502	HIS	-	expression tag	UNP Q7MVN7



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Chain	Residue	Modelled	Actual	Comment	Reference
Е	503	HIS	-	expression tag	UNP Q7MVN7
Е	504	HIS	-	expression tag	UNP Q7MVN7
Е	505	HIS	-	expression tag	UNP Q7MVN7
Е	506	HIS	-	expression tag	UNP Q7MVN7
F	1	MSE	MET	modified residue	UNP Q7MVN7
F	57	MSE	MET	modified residue	UNP Q7MVN7
F	168	MSE	MET	modified residue	UNP Q7MVN7
F	170	MSE	MET	modified residue	UNP Q7MVN7
F	243	MSE	MET	modified residue	UNP Q7MVN7
F	281	MSE	MET	modified residue	UNP Q7MVN7
F	294	MSE	MET	modified residue	UNP Q7MVN7
F	372	MSE	MET	modified residue	UNP Q7MVN7
F	373	MSE	MET	modified residue	UNP Q7MVN7
F	397	MSE	MET	modified residue	UNP Q7MVN7
F	408	MSE	MET	modified residue	UNP Q7MVN7
F	488	MSE	MET	modified residue	UNP Q7MVN7
F	497	MSE	MET	modified residue	UNP Q7MVN7
F	499	LEU	-	expression tag	UNP Q7MVN7
F	500	GLU	-	expression tag	UNP Q7MVN7
F	501	HIS	-	expression tag	UNP Q7MVN7
F	502	HIS	-	expression tag	UNP Q7MVN7
F	503	HIS	-	expression tag	UNP Q7MVN7
F	504	HIS	-	expression tag	UNP Q7MVN7
F	505	HIS	-	expression tag	UNP Q7MVN7
F	506	HIS	-	expression tag	UNP Q7MVN7

• Molecule 2 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	A	1	Total Zn 1 1	0	0
2	В	1	Total Zn 1 1	0	0
2	С	1	Total Zn 1 1	0	0
2	D	1	Total Zn 1 1	0	0
2	Ε	2	$\begin{array}{cc} \text{Total} & \text{Zn} \\ 2 & 2 \end{array}$	0	0

• Molecule 3 is water.



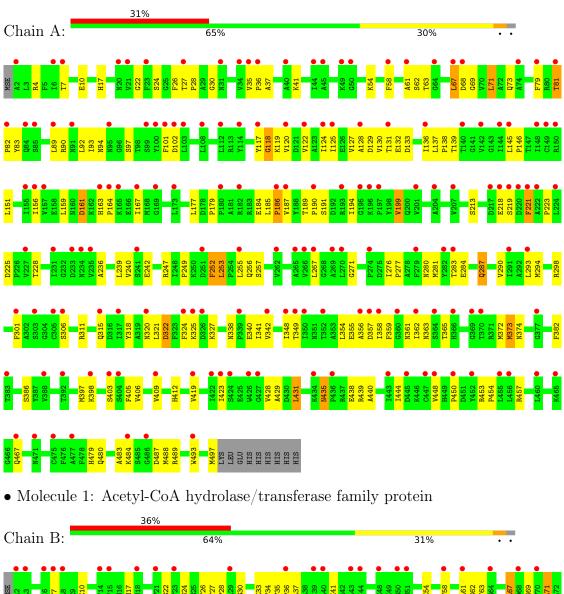
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	30	Total O 30 30	0	0
3	В	22	Total O 22 22	0	0
3	С	30	Total O 30 30	0	0
3	D	23	Total O 23 23	0	0
3	Е	52	Total O 52 52	0	0
3	F	47	Total O 47 47	0	0

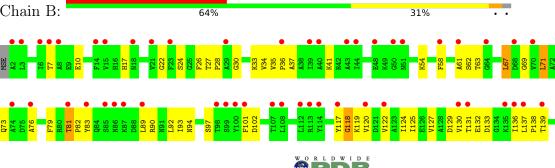


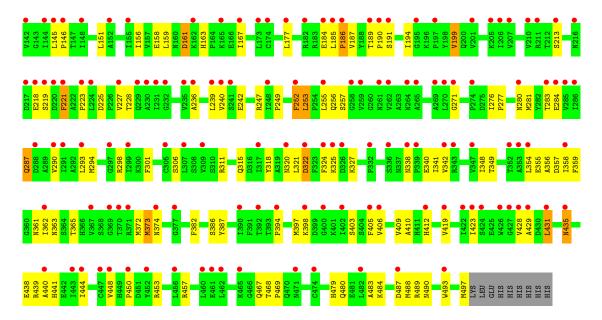
# 3 Residue-property plots (i)

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.

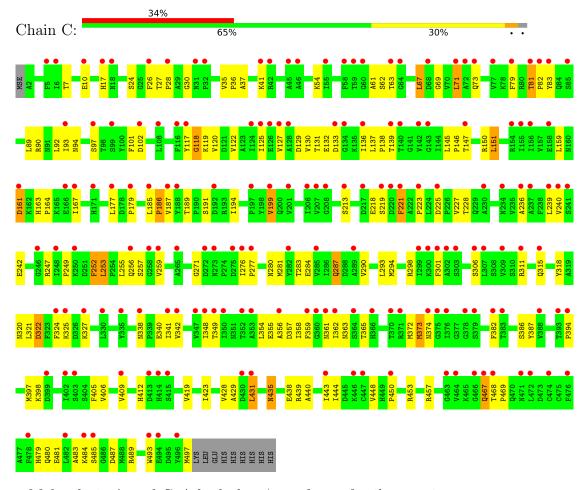
• Molecule 1: Acetyl-CoA hydrolase/transferase family protein







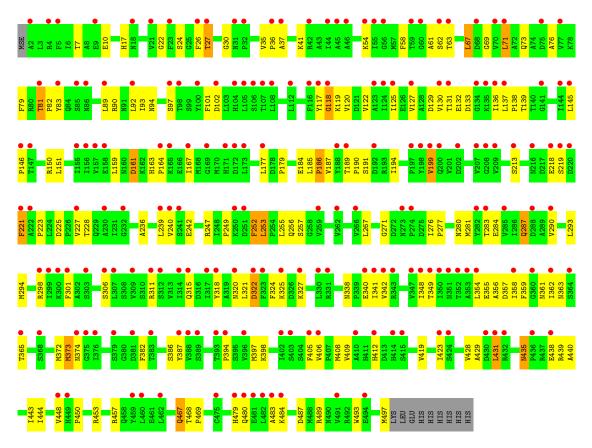
• Molecule 1: Acetyl-CoA hydrolase/transferase family protein



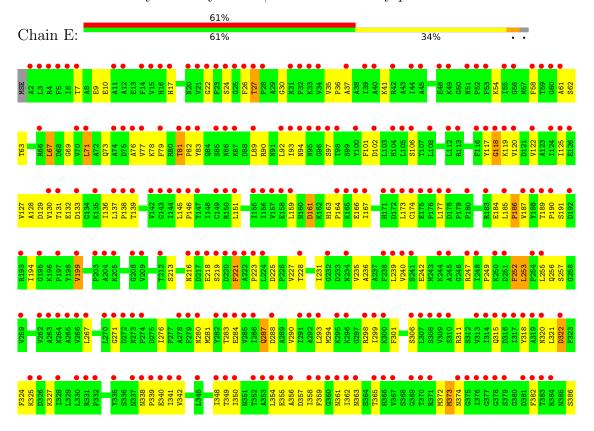
• Molecule 1: Acetyl-CoA hydrolase/transferase family protein

Chain D: 65% 30% . .





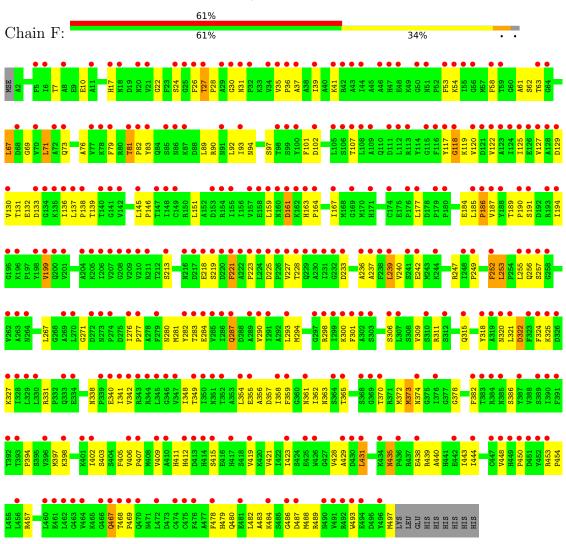
• Molecule 1: Acetyl-CoA hydrolase/transferase family protein







• Molecule 1: Acetyl-CoA hydrolase/transferase family protein





# 4 Data and refinement statistics (i)

Property	Value	Source	
Space group	P 32	Depositor	
Cell constants	131.05Å 131.05Å 162.09Å	Depositor	
a, b, c, $\alpha$ , $\beta$ , $\gamma$	$90.00^{\circ}$ $90.00^{\circ}$ $120.00^{\circ}$	Depositor	
Resolution (Å)	19.95 - 2.70	Depositor	
Resolution (A)	29.46 - 2.40	EDS	
% Data completeness	93.0 (19.95-2.70)	Depositor	
(in resolution range)	52.4 (29.46-2.40)	EDS	
$R_{merge}$	0.15	Depositor	
$R_{sym} < I/\sigma(I) > 1$	0.15	Depositor	
$< I/\sigma(I) > 1$	5.63 (at 2.39Å)	Xtriage	
Refinement program	CNS 1.1, XTALVIEW	Depositor	
D.D.	0.287 , 0.290	Depositor	
$R, R_{free}$	0.307 , $0.306$	DCC	
$R_{free}$ test set	8375 reflections (6.88%)	wwPDB-VP	
Wilson B-factor (Å <sup>2</sup> )	13.0	Xtriage	
Anisotropy	0.582	Xtriage	
Bulk solvent $k_{sol}(e/Å^3)$ , $B_{sol}(Å^2)$	0.34 , -5.5	EDS	
L-test for twinning <sup>2</sup>	$< L > = 0.49, < L^2> = 0.32$	Xtriage	
	0.025 for -h,-k,l		
Estimated twinning fraction	0.499  for h,-h-k,-l	Xtriage	
	0.000  for -k,-h,-l		
	0.012 for H, K, L		
Reported twinning fraction	0.496 for -H, H+K, -L	Depositor	
	0.492  for -h,-k,l		
Outliers	0 of 121779 reflections	Xtriage	
$F_o, F_c$ correlation	0.77	EDS	
Total number of atoms	23178	wwPDB-VP	
Average B, all atoms $(\mathring{A}^2)$	9.0	wwPDB-VP	

Xtriage's analysis on translational NCS is as follows: The largest off-origin peak in the Patterson function is 5.72% of the height of the origin peak. No significant pseudotranslation is detected.

<sup>&</sup>lt;sup>2</sup>Theoretical values of <|L|>,  $<L^2>$  for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.



<sup>&</sup>lt;sup>1</sup>Intensities estimated from amplitudes.

# 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: ZN

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	
IVIOI	Chain	RMSZ	# Z  > 5	RMSZ	# Z  > 5
1	A	0.38	0/3898	0.66	0/5269
1	В	0.38	0/3898	0.66	0/5269
1	С	0.38	0/3898	0.66	0/5269
1	D	0.38	0/3898	0.66	0/5269
1	Е	0.40	0/3898	0.65	0/5269
1	F	0.40	0/3898	0.66	0/5269
All	All	0.39	0/23388	0.66	0/31614

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

## 5.2 Too-close contacts (i)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	3828	0	3808	155	0
1	В	3828	0	3808	154	0
1	С	3828	0	3808	150	0
1	D	3828	0	3808	154	0
1	Е	3828	0	3808	173	0
1	F	3828	0	3808	191	0
2	A	1	0	0	0	0



Continued	trom	mmoninonic	maaa
COHABABACA		DIEUIUU	DUIUE
0 0 1000100000			

Mol	Chain	Non-H	H(model)	$\mathbf{H}(\mathbf{added})$	Clashes	Symm-Clashes
2	В	1	0	0	0	0
2	С	1	0	0	0	0
2	D	1	0	0	0	0
2	Е	2	0	0	0	0
3	A	30	0	0	10	0
3	В	22	0	0	9	0
3	С	30	0	0	2	0
3	D	23	0	0	2	0
3	Ε	52	0	0	20	0
3	F	47	0	0	30	0
All	All	23178	0	22848	957	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 21.

The worst 5 of 957 close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	$\begin{array}{c} {\rm Interatomic} \\ {\rm distance} \ ({\rm \AA}) \end{array}$	$egin{aligned}  ext{Clash} \  ext{overlap } ( ext{Å}) \end{aligned}$
1:A:298:ARG:HB2	3:A:516:HOH:O	1.58	1.03
1:F:419:VAL:HG12	3:F:517:HOH:O	1.67	0.94
1:E:136:ILE:HB	1:E:199:VAL:HG13	1.50	0.93
1:F:136:ILE:HB	1:F:199:VAL:HG13	1.51	0.92
1:A:94:ASN:HD21	1:A:372:MSE:H	1.18	0.91

There are no symmetry-related clashes.

## 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	Percentil	es
1	A	494/506 (98%)	458 (93%)	33 (7%)	3 (1%)	25 50	
1	В	494/506 (98%)	462 (94%)	29 (6%)	3 (1%)	25 50	



Continued	trom	mmoninonic	maaa
COHABABACA		DIEUIUU	DUIUE
0 0 1000100000			

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Perce	entiles
1	С	494/506 (98%)	460 (93%)	31 (6%)	3 (1%)	25	50
1	D	494/506 (98%)	461 (93%)	29 (6%)	4 (1%)	19	43
1	E	494/506~(98%)	461 (93%)	29 (6%)	4 (1%)	19	43
1	F	494/506 (98%)	460 (93%)	30 (6%)	4 (1%)	19	43
All	All	2964/3036 (98%)	2762 (93%)	181 (6%)	21 (1%)	22	46

5 of 21 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	118	GLY
1	A	221	PHE
1	В	118	GLY
1	В	221	PHE
1	С	118	GLY

#### 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	Perce	ntiles
1	A	416/413 (101%)	398 (96%)	18 (4%)	29	57
1	В	416/413 (101%)	398 (96%)	18 (4%)	29	57
1	С	416/413 (101%)	397 (95%)	19 (5%)	27	54
1	D	416/413 (101%)	397 (95%)	19 (5%)	27	54
1	E	416/413 (101%)	398 (96%)	18 (4%)	29	57
1	F	416/413 (101%)	398 (96%)	18 (4%)	29	57
All	All	2496/2478 (101%)	2386 (96%)	110 (4%)	28	56

5 of 110 residues with a non-rotameric sidechain are listed below:

Mol	Chain	$\operatorname{Res}$	Type
1	D	81	THR
1	D	431	LEU



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Mol	Chain	Res	Type
1	F	467	GLN
1	F	177	LEU
1	D	150	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 109 such sidechains are listed below:

Mol	Chain	Res	Type
1	D	94	ASN
1	Е	17	HIS
1	F	264	ASN
1	D	163	HIS
1	D	412	HIS

#### 5.3.3 RNA (i)

There are no RNA molecules in this entry.

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

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

## 5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

### 5.6 Ligand geometry (i)

Of 6 ligands modelled in this entry, 6 are monoatomic - leaving 0 for Mogul analysis.

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.

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,  $95^{th}$  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>	#RSRZ>2		$OWAB(A^2)$	Q < 0.9
1	A	484/506~(95%)	1.75	159 (32%) 0	0	6, 7, 18, 30	0
1	В	484/506~(95%)	1.82	184 (38%) 0	0	6, 7, 18, 30	0
1	С	484/506~(95%)	1.75	170 (35%) 0	0	6, 7, 18, 30	0
1	D	484/506~(95%)	1.91	191 (39%) 0	0	6, 7, 18, 30	0
1	E	484/506~(95%)	2.58	310 (64%) 0	0	6, 7, 18, 30	0
1	F	484/506~(95%)	2.62	307 (63%) 0	0	6, 7, 18, 30	0
All	All	2904/3036 (95%)	2.07	1321 (45%)	0	6, 7, 18, 30	0

The worst 5 of 1321 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	Е	427	GLY	8.4
1	F	134	GLY	7.5
1	F	232	GLY	7.2
1	С	85	SER	6.9
1	F	299	ILE	6.8

## 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)

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,  $95^{th}$  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	$\mathbf{B} ext{-}\mathbf{factors}(\mathbf{\mathring{A}}^2)$	Q<0.9
2	ZN	D	507	1/1	0.85	0.10	17,17,17,17	0
2	ZN	Ε	508	1/1	0.86	0.10	25,25,25,25	0
2	ZN	A	507	1/1	0.87	0.09	16,16,16,16	0
2	ZN	В	507	1/1	0.89	0.09	20,20,20,20	0
2	ZN	С	507	1/1	0.94	0.10	18,18,18,18	0
2	ZN	Ε	507	1/1	0.97	0.07	15,15,15,15	0

### 6.5 Other polymers (i)

There are no such residues in this entry.

