

Full wwPDB X-ray Structure Validation Report (i)

Jun 22, 2024 – 12:40 PM EDT

PDB ID	:	6QL7
Title	:	Structure of fatty acid synthase complex with bound gamma subunit from
		Saccharomyces cerevisiae at 4.6 angstrom
Authors	:	Singh, K.; Graf, B.; Linden, A.; Sautner, V.; Urlaub, H.; Tittmann, K.; Stark,
		H.; Chari, A.
Deposited on	:	2019-01-31
Resolution	:	4.60 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 (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
Xtriage (Phenix)	:	1.20.1
EDS	:	2.37.1
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)	:	2.37.1

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure: $X\text{-}RAY \, DIFFRACTION$

The reported resolution of this entry is 4.60 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.



Motria	Whole archive	Similar resolution
INTEGLIC	$(\# { m Entries})$	$(\# { m Entries}, { m resolution} { m range}({ m \AA}))$
R_{free}	130704	1062 (5.40-3.80)
Clashscore	141614	1130(5.40-3.80)
Ramachandran outliers	138981	1074 (5.40-3.80)

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%

Mol	Chain	Length	Quality of chain	
1	А	1887	92%	• 7%
1	В	1887	92%	• 7%
1	С	1887	92%	• 7%
1	D	1887	92%	• 7%
1	Е	1887	92%	• 7%
1	F	1887	92%	• 7%
1	a	1887	93%	7%
1	b	1887	93%	7%



Mol	Chain	Length	Quality of chain	
1	с	1887	93%	7%
1	d	1887	93%	7%
1	е	1887	93%	7%
1	f	1887	93%	7%
2	G	2051	98%	••
2	Н	2051	98%	
2	Ι	2051	98%	••
2	J	2051	98%	••
2	K	2051	98%	••
2	L	2051	98%	••
2	g	2051	99%	
2	h	2051	99%	
2	i	2051	99%	•
2	j	2051	99%	
2	k	2051	99%	
2	1	2051	99%	
3	М	150	75%	• 25%
3	Ν	150	75%	• 25%
3	О	150	74%	- 25%
3	Р	150	74%	- 25%
3	Q	150	74%	- 25%
3	R	150	74%	. 25%
3	m	150	75%	• 25%
3	n	150	75%	• 25%
3	О	150	75%	• 25%



Mol	Chain	Length	Quality of chain		
3	р	150	75%	•	25%
3	q	150	75%	•	25%
3	r	150	75%	•	25%



2 Entry composition (i)

There are 3 unique types of molecules in this entry. The entry contains 231252 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.

Mol	Chain	Residues		Ato	oms		ZeroOcc	AltConf	Trace
1	Δ	1760	Total	С	Ν	0	0	0	0
	A	1700	8667	5147	1760	1760	0	0	0
1	В	1760	Total	С	Ν	Ο	0	0	0
1	D	1700	8667	5147	1760	1760	0	0	0
1	С	1760	Total	\mathbf{C}	Ν	Ο	0	0	0
	0	1700	8667	5147	1760	1760	0	0	0
1	О	1760	Total	\mathbf{C}	Ν	Ο	0	0	0
1		1100	8667	5147	1760	1760	0	0	0
1	E	1760	Total	\mathbf{C}	Ν	Ο	0	0	0
		1100	8667	5147	1760	1760	0	0	0
1	F	1760	Total	\mathbf{C}	Ν	Ο	0	0	0
-	1	1100	8667	5147	1760	1760	0	0	0
1	a	1760	Total	\mathbf{C}	Ν	Ο	0	0	0
	a	1100	8667	5147	1760	1760	Ŭ	· · · · · ·	
1	h	1760	Total	\mathbf{C}	Ν	Ο	0	0	0
		1100	8667	5147	1760	1760	Ŭ	Ŭ	
1	C	1760	Total	\mathbf{C}	Ν	Ο	0	0	0
	Ū	1100	8667	5147	1760	1760	Ŭ	Ŭ	
1	d	1760	Total	\mathbf{C}	Ν	Ο	0	0	0
	u	1100	8667	5147	1760	1760	Ŭ	0	0
1	е	1760	Total	\mathbf{C}	Ν	Ο	0	0	0
	Č.	1100	8667	5147	1760	1760		U	0
1	f	1760	Total	\mathbf{C}	N	0	0	0	0
	L	1100	8667	5147	1760	1760		U	0

• Molecule 1 is a protein called Fatty acid synthase subunit alpha.

• Molecule 2 is a protein called Fatty acid synthase subunit beta.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
2	G	2036	Total 10046	C 5974	N 2036	O 2036	0	0	0
2	Н	2036	Total 10046	C 5974	N 2036	O 2036	0	0	0



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Mol	Chain	Residues		Ato	ms		ZeroOcc	AltConf	Trace
9	т	2026	Total	С	Ν	0	0	0	0
	1	2030	10046	5974	2036	2036	0	0	0
9	Т	2036	Total	С	Ν	Ο	0	0	0
2	J	2030	10046	5974	2036	2036	0	0	0
2	K	2036	Total	\mathbf{C}	Ν	Ο	0	0	0
	11	2000	10046	5974	2036	2036	0	0	0
2	L	2036	Total	\mathbf{C}	Ν	Ο	0	0	0
		2000	10046	5974	2036	2036	0	0	0
2	o.	2036	Total	\mathbf{C}	Ν	Ο	0	0	0
	δ	2000	10046	5974	2036	2036	Ŭ	0	0
2	h	2036	Total	\mathbf{C}	Ν	Ο	0	0	0
		2000	10046	5974	2036	2036		Ŭ	
2	i	2036	Total	С	Ν	Ο	0	0	0
			10046	5974	2036	2036			
2	i	2036	Total	С	Ν	0	0	0	0
	J		10046	5974	2036	2036		Ŭ	
2	k	2036	Total	С	Ν	0	0	0	0
			10046	5974	2036	2036		Ĭ	
2	1	2036	Total	С	Ν	Ο	0	0	0
	-	2000	10046	5974	2036	2036		Ŭ	

• Molecule 3 is a protein called Translation machinery-associated protein 17.

Mol	Chain	Residues		Ato	\mathbf{ms}		ZeroOcc	AltConf	Trace
3	М	112	Total	С	Ν	Ο	0	0	0
5	111	115	558	332	113	113	0	0	0
3	3 N	112	Total	С	Ν	Ο	0	0	0
5	11	115	558	332	113	113	0	0	0
3	0	112	Total	С	Ν	Ο	0	0	0
5	0	115	558	332	113	113	0	0	0
3	D	112	Total	С	Ν	Ο	0	0	0
J	1	115	558	332	113	113	0		0
2	0	113	Total	С	Ν	Ο	0	0	0
J	Q		558	332	113	113	0	0	0
2	D	112	Total	С	Ν	Ο	0	0	0
J	n	115	558	332	113	113	0	0	0
9		119	Total	С	Ν	Ο	0	0	0
J	111	115	558	332	113	113	0	0	0
2	n	112	Total	С	Ν	Ο	0	0	0
3	11	115	558	332	113	113	0	0	0
2	0	112	Total	С	Ν	Ο	0	0	0
	0	110	558	332	113	113	0	U	U



Mol	Chain	Residues	_	Ato	ms		ZeroOcc	AltConf	Trace
3	n	112	Total	С	Ν	Ο	0	0	Ο
5	Р	115	558	332	113	113	0	0	0
2	C	112	Total	С	Ν	Ο	0	0	0
5	Ч	115	558	332	113	113	0	0	0
2	3 r	112	Total	С	Ν	Ο	0	0	0
3		r	115	558	332	113	113	0	0

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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. 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. 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: Fatty acid synthase subunit alpha



Chain C:

• 7%

92%



Chain F:

• 7%

92%

M1 V26 V26 V26 CLU CLU CLU CLU CLU CLU CLU CLU CLU CLU	PRLA THR THR PRLA ALA ALA ALA ALA ALA ALA ALA ALA ALA
L 200 100 100 100 100 100 100 100	NEL ASP GLA ASP ALA ASP ALA ALA ALA ALA ALA ALA ALA ALA ALA AL
GLU LYS LEU TYR SER SER AET LEU CLU CLU CLU CLU CLU CLU CLU CLU CLU CL	HHK THK THK THK LEU ALA ASS G662 G670 G670 G670 G670 G670 G670 G670 G682 A880 M1121 M1121 M1121 M1121 M1121 M1303 A1306 A1306 A1306 A1306 A1306 A1306 A1405
F1576 01577 K1578 P1584 K1585 01585 01585 C1585 C1585 LYS	
• Molecule 1: Fatty acid sym	chase subunit alpha
Chain a:	93% 7%
M1 896 GUU CLUU CLUU CLUU CLUU CLUU CLUU CLUU	ALA ALA ALA ALA ALA ALA ALA ALA ALA ALA
ALA SER GLY ALA ALA ALA ALA ALA ALA ALA ALA ALA A	P5.41 THR CLU CLU CLU CLU CLU CLU CLU CLU CLU CLU
MET LTCS PHE LEU LEU LEU LEU SER SER CLU CLU CLU CLU CLU CLU CLU CLU CLU CLU	8879 A890 A1304 A1304 A1364 A1584 K1585 K1585 K1585 LYS
• Molecule 1: Fatty acid sym	thase subunit alpha
Chain b:	93% 7%
MI 896 912 912 912 912 912 912 912 912 912 912	ALA ALA ALA PRO PRO PRO ALA ALA ALA ALA ALA ALA ALA ALA ALA AL
SER GLY GLY GLY ALA GLY ALA ALA ALA ALA ALA ALA ALA ALA ALA A	THE THE THE THE THE THE THE THE THE THE
LYS PHE LEU LEU CLU CLU CLU CLU CLU CLU CLU CLU CLU CL	A800 A1004 A1004 A1004 A1577 A1586 K1586 K1586 L188
• Molecule 1: Fatty acid sym	thase subunit alpha
Chain c:	93% 7%
M1 895 GLU GLU GLU CLYS CLYS GLU GLU ALA ALA ALA ALA ALA ALA ALA ALA PRO PRO PRO	ALA ALA ALA ALA ALA ALA ALA ALA ALA ALA
SER SER ALA ALA ALA ALA ALA ALA ALA ALA ALA AL	THR THR CIU CIU CIU CIU CIU CIU CIU CIU CIU CIU

R L D W I D E PDB TEIN DATA BANK

PROTI

LYS PHE LEU GLU GLU SER SER CLV GLU THR THR THR THR ALA ALA ALA	M599 8879 A880 A1304 P1584 K1886 LYS LYS		
• Molecule 1: Fatty acid s	ynthase subunit alpha		
Chain d:	93%	7	7%
M. 836 GLU GLU GLU CLYS GLU GLU ALA ALA ALA ALA ALA ALA ALA ALA ALA	THR THR ALA ALA ALA ALA PRO PRO ALA ALA ALA ALA ALA ALA ALA ALA	ALA ALA ALA ALA ALA ALA ALA ALA ALA ALA	SER ALA ALA SER ALA SER GLY
ALA ALA ALA CLY CLY ALA ALA ALA ALA ALA ALA ALA ALA ALA A	P541 THR TILE 0LU 0LU 0LU 0LU TRR ASP TILE TRR ASP AIA ASP AIA ASP AIA ASP AIA ASP AIA ASP AIA ASP ASP ASP ASP ASP ASP ASP ASP ASP AS	ASF 111. SER SER SER SER ARG ARG VAL VAL CUU DHE CUU LEU	TYR SER ASP LEU MET LYS PHE
LEU SER SER SER SER SER ALU CLU CLU CLU CLU CLU CLU CLU CLU CLU C	8879 A880 A1304 A1304 A1304 A1584 K1585 K1585 K1585 LYS		
• Molecule 1: Fatty acid s	ynthase subunit alpha		
Chain e:	93%	7'	%
M SS C GLU GLU GLU GLU GLU GLU GLU GLU ALA ALA ALA ALA ALA ALA ALA ALA ALA A	THR ALA ALA ALA ALA ALA PRO ALA ALA ALA ALA ALA ALA ALA ALA ALA	ALA ALA ALA ALA ALA ALA ALA ALA ALA ALA	L302 SER SER ALA ALA SER ALA
SER ALA ALA ALA ALA ALA ALA ALA ALA ALA AL	1328 P541 THR THR THR THR GLU GLU GLU GLU CLU CLU CLU CLU CLU CLU CLU CLU CLU C	CLU CLU CLU CLU CLU SER SER SER SER SER SER SER ARG CLU CLU CLU	LYS LEU TYR SER ASP LEU MET
LYS PHE LLEU CLU CLU CLU CLU CLU CLU CLU CLU CLU CL	059 8879 4880 4880 41304 41304 41584 1585 1585 17 8186 17 8186		
• Molecule 1: Fatty acid s	ynthase subunit alpha		
Chain f:	93%	75	%
M1 896 600 600 600 600 711A 711A 711A 711A 711A 711A 711A 71	THR PTHR ALA ALA ALA ALA PRO PRO ALA ALA ALA ALA ALA ALA ALA ALA ALA AL	ALA ALA ALA ALA ALA ALA ALA ALA ALA 140 140 140 140 140 140 140 13180	L ³⁰² SER SER ALA ALA SER ALA ALA
SER GLY GLY GLY ALA ALA ALA ALA ALA ALA ALA ALA ALA A	L528 P541 THR THR THR CLU CLU CLU CLU CLU CLU CLU CLU CLU CLU	CLIN CLIN CLIN ASP SER SER SER SER SER SER SER ARG VAL CLU CLU	LYS LEU TYR SER ASP LEU MET
LYS PHE LLEU LLEU CLU SER SER SER ASP CLU CLU TLE CLU THR THR THR THR THR ALA ALA	08879 8879 4880 41304 41304 71585 77 71585 71585 71585 71585 71585 71585 71585 71585 71585 71585 71585		
• Molecule 2: Fatty acid s	ynthase subunit beta		
Chain G:	98%		







• Molecule 2: Fatty acid synthase subunit beta



• Molecule 2: Fatty acid synthase subunit beta



• Molecule 2: Fatty acid synthase subunit beta



• Molecule 2: Fatty acid synthase subunit beta



98%

Chain L:



• Molecule 3: Translation machinery-associated protein 17 Chain M: 75% 25% HIS GLY LYS SER GLU GLU ASP • Molecule 3: Translation machinery-associated protein 17 Chain N: 75% 25% • Molecule 3: Translation machinery-associated protein 17 Chain O: 74% 25% ASF ASF ASF LEU LEU GLU ASN ASN ASF ASF • Molecule 3: Translation machinery-associated protein 17 Chain P: 74% 25% • Molecule 3: Translation machinery-associated protein 17 Chain Q: 74% 25% HIS GLY SER LYS SER LYS GLU VAL GLU VAL LYS ASP LYS ASP LYS ASP LYS GLY PRO MEI • Molecule 3: Translation machinery-associated protein 17 Chain R: 74% 25% ARG LEU GLU GLU ASP ASP ASP ASP ASP ASP LEU LEU LEU CGLU ASN ASP ASP ASI • Molecule 3: Translation machinery-associated protein 17 Chain m: 75% 25% HIS GLY SER • Molecule 3: Translation machinery-associated protein 17

Chain n:	75% •	25%
MET MET CYS CYS CYS CYS A ASP A ASP A ASP A ASP A ASP A ASP A ASP A ASP A ASP A ASP A ASP A ASP	HILS HILS CLY CLY SER SER HILS CLV VAL VAL VAL VAL VAL VAL VAL VAL VAL V	
• Molecule 3: Translation machine	inery-associated protein 17	
Chain o:	75% •	25%
MET CYS CYS CYS A59 A59 ASP ASP ASP ASP ASP ASP ASP ASP ASP ASP	HILL HILL HILL HILL HILL HILL HILL HILL	
• Molecule 3: Translation machine	inery-associated protein 17	
Chain p:	75% •	25%
MET CYS CYS CYS A59 A59 ASP ASP ASP ASP ASP ASP ASP ASP ASP ASP	HILL HILL HILL HILL HILL HILL HILL HILL	
• Molecule 3: Translation machine	inery-associated protein 17	
Chain q:	75% ·	25%
MET CYS CYS CYS A59 A59 ASP ASP ASP ASP ASP ASP ASP ASP ASP ASP	HILL HILL LYS SER SER LYS CLV CLV CLV CLV CLV ASP CLV ASP CLV ASP CLV ASP CLV ASP CLV CLV ASP CLV CLV ASP CLV CLV ASP CLV CLV ASP CLV CLV CLV CLV CLV CLV CLV CLV CLV CLV	
• Molecule 3: Translation machine	inery-associated protein 17	
Chain r:	75% .	25%
MET SC CYS CYS CYS CYS ASP ASP ASP ASP ASP ASP ASP ASP ASP AS	HIS HIS HIS CLY SER SER SER LYS CLU CLU CLU CLU CLU CLU CLU CLU CLU CLU	



4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants	234.92Å 430.31Å 422.61Å	Depositor
a, b, c, α , β , γ	90.00° 97.01° 90.00°	Depositor
Bosolution(A)	192.50 - 4.60	Depositor
Resolution (A)	192.51 - 4.60	EDS
% Data completeness	99.6 (192.50-4.60)	Depositor
(in resolution range)	99.6 (192.51-4.60)	EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) > 1$	$1.28 (at 4.66 \text{\AA})$	Xtriage
Refinement program	REFMAC 5.8.0238	Depositor
P. P.	0.252 , 0.310	Depositor
n, n_{free}	0.328 , 0.345	DCC
R_{free} test set	22715 reflections $(4.96%)$	wwPDB-VP
Wilson B-factor $(Å^2)$	218.0	Xtriage
Anisotropy	0.044	Xtriage
Bulk solvent $k_{sol}(e/Å^3), B_{sol}(Å^2)$	0.12, 397.6	EDS
L-test for $twinning^2$	$ < L >=0.40, < L^2>=0.23$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.88	EDS
Total number of atoms	231252	wwPDB-VP
Average B, all atoms $(Å^2)$	256.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: The largest off-origin peak in the Patterson function is 1.77% of the height of the origin peak. No significant pseudotranslation is detected.

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.



¹Intensities estimated from amplitudes.

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).

Mal	Chain	Bo	ond lengths	Bond angles	
	Unam	RMSZ	# Z > 5	RMSZ	# Z > 5
1	А	0.80	1/8663~(0.0%)	0.83	0/12042
1	В	0.81	2/8663~(0.0%)	0.83	0/12042
1	С	0.81	0/8663	0.83	0/12042
1	D	0.80	1/8663~(0.0%)	0.83	0/12042
1	Е	0.81	2/8663~(0.0%)	0.83	1/12042~(0.0%)
1	F	0.81	0/8663	0.83	0/12042
1	а	0.80	0/8663	0.83	0/12042
1	b	0.81	1/8663~(0.0%)	0.83	0/12042
1	с	0.81	0/8663	0.83	0/12042
1	d	0.81	0/8663	0.83	0/12042
1	е	0.81	0/8663	0.83	0/12042
1	f	0.80	1/8663~(0.0%)	0.83	0/12042
2	G	0.81	0/10042	0.83	0/13972
2	Н	0.81	0/10042	0.82	0/13972
2	Ι	0.81	0/10041	0.83	0/13969
2	J	0.80	0/10042	0.83	0/13972
2	Κ	0.81	0/10042	0.83	0/13972
2	L	0.81	0/10042	0.83	0/13972
2	g	0.81	0/10042	0.83	0/13972
2	h	0.81	0/10042	0.83	0/13972
2	i	0.81	0/10042	0.82	0/13972
2	j	0.81	0/10042	0.83	0/13972
2	k	0.81	0/10042	0.83	0/13972
2	1	0.81	0/10042	0.83	0/13972
3	М	0.86	0/555	0.81	0/768
3	Ν	0.86	0/555	0.82	0/768
3	0	0.86	0/555	0.81	0/768
3	Р	0.86	0/555	0.82	0/768
3	Q	0.86	0/555	0.81	0/768
3	R	0.86	0/555	0.81	$0/\overline{768}$
3	m	0.86	0/555	0.81	0/768
3	n	0.86	0/555	0.81	0/768
3	0	0.86	0/555	0.81	0/768
3	р	0.86	0/555	0.81	0/768



Mol Chain	Chain	Bo	ond lengths	Bond angles		
	RMSZ	# Z > 5	RMSZ	# Z > 5		
3	q	0.86	0/555	0.81	0/768	
3	r	0.86	0/555	0.81	0/768	
All	All	0.81	8/231119~(0.0%)	0.83	$1/321381 \ (0.0\%)$	

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	А	0	3
1	В	0	3
1	С	0	3
1	D	0	3
1	Е	0	3
1	F	0	3
1	a	0	3
1	b	0	3
1	с	0	3
1	d	0	3
1	е	0	3
1	f	0	3
2	G	0	1
2	Н	0	1
2	Ι	0	1
2	J	0	1
2	Κ	0	1
2	L	0	1
2	g	0	1
2	h	0	1
2	i	0	1
2	j	0	1
2	k	0	1
2	1	0	1
All	All	0	48

All (8) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	$\mathrm{Ideal}(\mathrm{\AA})$
1	В	180	SER	C-O	5.97	1.34	1.23
1	Е	180	SER	CA-CB	5.89	1.61	1.52
1	В	180	SER	CA-CB	5.82	1.61	1.52



001000	Continued from prettods page								
Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)		
1	b	180	SER	CA-CB	5.75	1.61	1.52		
1	D	180	SER	CA-CB	5.61	1.61	1.52		
1	f	180	SER	CA-CB	5.59	1.61	1.52		
1	А	180	SER	CA-CB	5.38	1.61	1.52		
1	Ē	180	SER	C-O	5.26	1.33	1.23		

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Ζ	$Observed(^{o})$	$Ideal(^{o})$
1	Ε	178	GLY	C-N-CA	5.54	135.56	121.70

There are no chirality outliers.

All ((48)	planarity	outliers	are	listed	below:
1 T T T	(H O)	pranarity	outilities	$a_{1}c$	noucu	001010.

Mol	Chain	Res	Type	Group
1	А	1584	PRO	Peptide
1	А	237	MET	Peptide
1	А	879	SER	Peptide
1	В	1584	PRO	Peptide
1	В	237	MET	Peptide
1	В	879	SER	Peptide
1	С	1584	PRO	Peptide
1	С	237	MET	Peptide
1	С	879	SER	Peptide
1	D	1584	PRO	Peptide
1	D	237	MET	Peptide
1	D	879	SER	Peptide
1	Е	1584	PRO	Peptide
1	Е	237	MET	Peptide
1	Е	879	SER	Peptide
1	F	1584	PRO	Peptide
1	F	237	MET	Peptide
1	F	879	SER	Peptide
2	G	1316	ASP	Peptide
2	Н	1316	ASP	Peptide
2	Ι	1316	ASP	Peptide
2	J	1316	ASP	Peptide
2	К	1316	ASP	Peptide
2	L	1316	ASP	Peptide
1	a	1584	PRO	Peptide
1	a	237	MET	Peptide
1	a	879	SER	Peptide



Mol	Chain	Res	Type	Group
1	b	1584	PRO	Peptide
1	b	237	MET	Peptide
1	b	879	SER	Peptide
1	с	1584	PRO	Peptide
1	с	237	MET	Peptide
1	с	879	SER	Peptide
1	d	1584	PRO	Peptide
1	d	237	MET	Peptide
1	d	879	SER	Peptide
1	е	1584	PRO	Peptide
1	е	237	MET	Peptide
1	е	879	SER	Peptide
1	f	1584	PRO	Peptide
1	f	237	MET	Peptide
1	f	879	SER	Peptide
2	g	1316	ASP	Peptide
2	h	1316	ASP	Peptide
2	i	1316	ASP	Peptide
2	j	1316	ASP	Peptide
2	k	1316	ASP	Peptide
2	1	1316	ASP	Peptide

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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	А	8667	0	4008	14	0
1	В	8667	0	4008	17	0
1	С	8667	0	4008	16	0
1	D	8667	0	4008	21	0
1	Е	8667	0	4008	14	0
1	F	8667	0	4008	20	0
1	a	8667	0	4008	0	0
1	b	8667	0	4008	0	0
1	с	8667	0	4008	0	0
1	d	8667	0	4008	0	0
1	e	8667	0	4008	0	0
1	f	8667	0	4008	0	0



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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	G	10046	0	4474	8	1
2	Н	10046	0	4474	9	0
2	Ι	10046	0	4473	9	3
2	J	10046	0	4474	7	0
2	Κ	10046	0	4474	11	0
2	L	10046	0	4474	9	0
2	g	10046	0	4474	0	0
2	h	10046	0	4474	0	1
2	i	10046	0	4474	0	0
2	j	10046	0	4474	0	3
2	k	10046	0	4474	0	0
2	l	10046	0	4474	0	0
3	М	558	0	252	0	0
3	N	558	0	252	0	0
3	0	558	0	252	1	0
3	Р	558	0	252	1	0
3	Q	558	0	252	1	0
3	R	558	0	252	1	0
3	m	558	0	252	0	0
3	n	558	0	252	0	0
3	0	558	0	252	0	0
3	р	558	0	252	0	0
3	q	558	0	252	0	0
3	r	558	0	252	0	0
All	All	231252	0	104807	138	4

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 0.

All (138) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom 1	Atom 2	Interatomic	Clash
Atom-1	Atom-2	distance (Å)	overlap (Å)
1:F:180:SER:HA	1:F:183:GLN:CB	1.69	1.19
2:I:1971:GLY:C	2:I:1972:ILE:N	2.00	1.14
1:F:180:SER:O	1:F:184:ASN:N	1.87	1.07
1:B:180:SER:HA	1:B:183:GLN:CB	1.94	0.97
1:D:180:SER:HA	1:D:183:GLN:CB	1.99	0.93
1:D:180:SER:O	1:D:184:ASN:N	2.04	0.89
1:D:173:LYS:O	1:D:176:VAL:O	3.17	0.83
1:F:180:SER:CA	1:F:183:GLN:CB	2.57	0.79
2:I:1971:GLY:C	2:I:1972:ILE:CA	2.57	0.72



	i i i i i i i i i i i i i i i i i i i	Interatomic	Clash		
Atom-1	Atom-2	distance (Å)	overlap (Å)		
1:F:682:GLY:HA2	3:R:136:ASP:HA	1.73	0.69		
1:B:180:SER:CA	1:B:183:GLN:CB	2.72	0.66		
1:D:682:GLY:HA2	3:P:136:ASP:HA	1.76	0.66		
1:C:181:THR:CB	2:H:510:SER:CB	4.16	0.64		
1:C:682:GLY:HA2	3:O:136:ASP:HA	2.59	0.62		
1:E:682:GLY:HA2	3:Q:136:ASP:HA	2.17	0.61		
1:D:43:ARG:O	2:J:1662:THR:HA	2.60	0.60		
1:D:180:SER:CA	1:D:183:GLN:CB	2.76	0.60		
1:B:29:ILE:N	2:H:1891:TYR:O	2.71	0.59		
1:A:173:LYS:O	1:A:176:VAL:O	3.17	0.59		
1:A:46:GLU:HA	2:G:1665:VAL:O	2.06	0.56		
1:D:180:SER:O	1:D:183:GLN:CB	2.54	0.56		
1:A:182:VAL:O	1:A:183:GLN:CB	4.34	0.55		
1:F:180:SER:O	1:F:183:GLN:CB	2.55	0.55		
1:B:817:THR:O	2:K:1722:GLY:N	3.35	0.54		
1:F:180:SER:O	1:F:183:GLN:CA	2.55	0.54		
1:C:1303:GLY:O	1:C:1306:ALA:N	2.41	0.53		
1:A:1303:GLY:O	1:A:1306:ALA:N	2.42	0.53		
1:E:1303:GLY:O	1:E:1306:ALA:N	2.42	0.53		
1:D:1303:GLY:O	1:D:1306:ALA:N	2.42	0.53		
1:B:26:VAL:N	2:H:1889:VAL:O	2.68	0.53		
1:B:1303:GLY:O	1:B:1306:ALA:N	2.42	0.53		
1:C:43:ARG:O	2:I:1662:THR:HA	2.12	0.53		
1:D:180:SER:O	1:D:183:GLN:CA	2.57	0.53		
1:F:1303:GLY:O	1:F:1306:ALA:N	2.41	0.53		
2:I:1971:GLY:C	2:I:1972:ILE:HA	2.29	0.52		
2:H:770:GLY:HA2	2:H:1059:ALA:HB2	1.93	0.51		
2:L:770:GLY:HA2	2:L:1059:ALA:HB2	1.93	0.51		
2:J:770:GLY:HA2	2:J:1059:ALA:HB2	1.93	0.51		
2:G:770:GLY:HA2	2:G:1059:ALA:HB2	1.93	0.51		
2:I:770:GLY:HA2	2:I:1059:ALA:HB2	1.93	0.51		
1:D:1405:ALA:HB1	1:D:1525:ALA:HB1	1.94	0.50		
1:D:1303:GLY:O	1:D:1305:CYS:N	2.45	0.50		
1:E:1303:GLY:O	1:E:1305:CYS:N	2.45	0.50		
1:E:1405:ALA:HB1	1:E:1525:ALA:HB1	1.94	0.50		
1:F:1405:ALA:HB1	1:F:1525:ALA:HB1	1.95	0.50		
1:A:1303:GLY:O	1:A:1305:CYS:N	2.45	0.49		
1:F:1303:GLY:O	1:F:1305:CYS:N	2.45	0.49		
1:A:1405:ALA:HB1	1:A:1525:ALA:HB1	1.94	0.49		
1:C:1405:ALA:HB1	1:C:1525:ALA:HB1	1.94	0.49		
1:D:1584:PRO:O	1:D:1586:GLY:N	2.46	0.49		



		Interatomic	Clash	
Atom-1	Atom-2	distance (\AA)	overlap (Å)	
1:A:879:SER:O	1:A:881:ASN:N	2.46	0.49	
1:C:879:SER:O	1:C:881:ASN:N	2.45	0.49	
1:C:1584:PRO:O	1:C:1586:GLY:N	2.46	0.49	
1:F:879:SER:O	1:F:881:ASN:N	2.46	0.49	
1:F:1576:PHE:O	1:F:1578:LYS:N	2.46	0.49	
1:A:1576:PHE:O	1:A:1578:LYS:N	2.46	0.49	
1:B:879:SER:O	1:B:881:ASN:N	2.46	0.49	
1:B:1584:PRO:O	1:B:1586:GLY:N	2.46	0.49	
1:E:879:SER:O	1:E:881:ASN:N	2.46	0.49	
1:D:879:SER:O	1:D:881:ASN:N	2.46	0.49	
1:E:1576:PHE:O	1:E:1578:LYS:N	2.46	0.49	
1:F:1584:PRO:O	1:F:1586:GLY:N	2.46	0.49	
2:K:770:GLY:HA2	2:K:1059:ALA:HB2	1.93	0.49	
1:D:1576:PHE:O	1:D:1578:LYS:N	2.46	0.49	
1:B:1405:ALA:HB1	1:B:1525:ALA:HB1	1.94	0.49	
1:B:1430:ARG:HA	1:D:1716:LEU:HA	2.29	0.49	
1:C:1303:GLY:O	1:C:1305:CYS:N	2.45	0.49	
1:E:1584:PRO:O	1:E:1586:GLY:N	2.46	0.49	
1:F:26:VAL:N	2:L:1889:VAL:O	2.66	0.49	
1:C:1576:PHE:O	1:C:1578:LYS:N	2.46	0.49	
1:B:1303:GLY:O	1:B:1305:CYS:N	2.45	0.48	
1:B:1576:PHE:O	1:B:1578:LYS:N	2.46	0.48	
1:A:1584:PRO:O	1:A:1586:GLY:N	2.46	0.48	
1:D:180:SER:O	1:D:183:GLN:N	2.45	0.48	
2:I:300:ILE:O	2:I:303:LEU:N	2.47	0.48	
2:J:300:ILE:O	2:J:303:LEU:N	2.47	0.48	
2:K:300:ILE:O	2:K:303:LEU:N	2.47	0.48	
1:E:184:ASN:O	1:E:188:GLY:N	2.66	0.48	
2:H:300:ILE:O	2:H:303:LEU:N	2.47	0.48	
2:G:300:ILE:O	2:G:303:LEU:N	2.47	0.47	
2:L:300:ILE:O	2:L:303:LEU:N	2.47	0.47	
2:G:1867:SER:O	2:G:1870:ALA:HB3	2.15	0.47	
2:H:1867:SER:O	2:H:1870:ALA:HB3	2.15	0.47	
2:I:1867:SER:O	2:I:1870:ALA:HB3	2.15	0.47	
2:K:1867:SER:O	2:K:1870:ALA:HB3	2.15	0.46	
2:J:1867:SER:O	2:J:1870:ALA:HB3	2.16	0.46	
1:E:47:ILE:O	2:K:1666:PHE:HA	2.46	0.46	
2:L:1867:SER:O	2:L:1870:ALA:HB3	2.16	0.46	
1:F:29:ILE:N	2:L:1891:TYR:O	2.61	0.45	
1:E:1023:GLY:O	1:E:1386:ILE:N	2.48	0.45	
1:B:1023:GLY:O	1:B:1386:ILE:N	2.48	0.45	



	ioue puge	Interatomic	Clash		
Atom-1	Atom-2	distance (Å)	overlap (Å)		
2:L:1356:GLY:HA2	2:L:1609:THR:HA	1.99	0.45		
2:J:1356:GLY:HA2	2:J:1609:THR:HA	1.99	0.45		
2:K:1356:GLY:HA2	2:K:1609:THR:HA	1.99	0.44		
1:A:1023:GLY:O	1:A:1386:ILE:N	2.48	0.44		
1:C:1023:GLY:O	1:C:1386:ILE:N	2.48	0.44		
1:F:1023:GLY:O	1:F:1386:ILE:N	2.48	0.44		
1:B:1121:MET:O	1:B:1177:LYS:N	2.46	0.44		
1:C:357:GLY:HA3	1:D:357:GLY:HA3	3.20	0.44		
2:I:1356:GLY:HA2	2:I:1609:THR:HA	1.99	0.44		
2:K:317:THR:HA	2:L:1307:ASN:O	2.18	0.44		
2:H:1356:GLY:HA2	2:H:1609:THR:HA	1.99	0.44		
2:G:1356:GLY:HA2	2:G:1609:THR:HA	1.99	0.43		
1:C:181:THR:CB	2:H:510:SER:CA	4.76	0.43		
1:F:180:SER:O	1:F:183:GLN:C	2.53	0.43		
1:F:1121:MET:O	1:F:1177:LYS:N	2.46	0.43		
1:E:46:GLU:HA	2:K:1665:VAL:O	2.47	0.43		
1:E:1121:MET:O	1:E:1177:LYS:N	2.46	0.43		
2:K:2015:THR:O	2:K:2017:LYS:N	2.46	0.43		
1:D:1023:GLY:O	1:D:1386:ILE:N	2.48	0.42		
1:C:1121:MET:O	1:C:1177:LYS:N	2.45	0.42		
1:A:1121:MET:O	1:A:1177:LYS:N	2.46	0.42		
1:A:44:VAL:HA	2:G:1663:THR:O	2.20	0.42		
1:F:180:SER:O	1:F:183:GLN:N	2.53	0.42		
1:B:1301:PRO:HA	1:D:1300:THR:O	2.45	0.42		
2:J:2015:THR:O	2:J:2017:LYS:N	2.46	0.42		
1:B:870:GLY:HA3	1:B:927:ASN:HA	2.02	0.42		
2:L:1373:SER:O	2:L:1397:SER:N	2.51	0.41		
1:C:870:GLY:HA3	1:C:927:ASN:HA	2.03	0.41		
1:E:870:GLY:HA3	1:E:927:ASN:HA	2.03	0.41		
1:F:666:ALA:O	1:F:670:GLY:HA2	2.21	0.41		
1:B:666:ALA:O	1:B:670:GLY:HA2	2.21	0.41		
1:D:184:ASN:O	1:D:188:GLY:N	2.65	0.41		
2:J:1373:SER:O	2:J:1397:SER:N	2.51	0.41		
1:A:666:ALA:O	1:A:670:GLY:HA2	2.21	0.41		
1:A:870:GLY:HA3	1:A:927:ASN:HA	2.03	0.41		
1:C:180:SER:HA	1:C:183:GLN:CB	2.51	0.41		
1:D:666:ALA:O	1:D:670:GLY:HA2	2.21	0.41		
2:G:2015:THR:O	2:G:2017:LYS:N	2.46	0.41		
2:K:1373:SER:O	2:K:1397:SER:N	2.51	0.41		
1:F:870:GLY:HA3	1:F:927:ASN:HA	2.02	0.41		
2:H:1373:SER:O	2:H:1397:SER:N	2.51	0.40		



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Atom-1	Atom-2	Interatomic	Clash
2100III-1	1100111-2	distance (Å)	overlap (Å)
1:E:666:ALA:O	1:E:670:GLY:HA2	2.21	0.40
2:K:898:ASP:O	2:K:1050:ARG:HA	2.22	0.40
1:C:666:ALA:O	1:C:670:GLY:HA2	2.21	0.40
2:G:1373:SER:O	2:G:1397:SER:N	2.51	0.40
2:I:1373:SER:O	2:I:1397:SER:N	2.51	0.40
2:L:898:ASP:O	2:L:1050:ARG:HA	2.22	0.40

All (4) 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)
2:G:1929:LYS:CB	2:h:1399:ASN:O[2_645]	1.63	0.57
2:I:1929:LYS:O	2:j:444:VAL:CB[1_655]	1.72	0.48
2:I:1929:LYS:O	2:j:444:VAL:CA[1_655]	2.16	0.04
2:I:1929:LYS:C	2:j:444:VAL:CB[1_655]	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	Perce	\mathbf{ntiles}
1	А	1752/1887~(93%)	1652~(94%)	96~(6%)	4 (0%)	47	81
1	В	1752/1887~(93%)	1647 (94%)	101 (6%)	4 (0%)	47	81
1	С	1752/1887~(93%)	1651 (94%)	97~(6%)	4 (0%)	47	81
1	D	1752/1887~(93%)	1652 (94%)	96~(6%)	4 (0%)	47	81
1	Е	1752/1887~(93%)	1649 (94%)	98~(6%)	5 (0%)	41	76
1	F	1752/1887~(93%)	1649 (94%)	98~(6%)	5 (0%)	41	76
1	a	1752/1887~(93%)	1647 (94%)	99~(6%)	6 (0%)	41	76
1	b	1752/1887~(93%)	1649 (94%)	99(6%)	4 (0%)	47	81
1	с	1752/1887~(93%)	1649 (94%)	98~(6%)	5 (0%)	41	76



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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentile	
1	d	1752/1887~(93%)	1652~(94%)	96~(6%)	4 (0%)	47	81
1	е	1752/1887~(93%)	1650~(94%)	97~(6%)	5~(0%)	41	76
1	f	1752/1887~(93%)	1649 (94%)	99~(6%)	4 (0%)	47	81
2	G	2029/2051~(99%)	1901 (94%)	120 (6%)	8 (0%)	34	72
2	Н	2029/2051~(99%)	1900 (94%)	121 (6%)	8 (0%)	34	72
2	Ι	2027/2051~(99%)	1902 (94%)	117~(6%)	8 (0%)	34	72
2	J	2029/2051~(99%)	1902 (94%)	119 (6%)	8 (0%)	34	72
2	K	2029/2051~(99%)	1903 (94%)	118 (6%)	8 (0%)	34	72
2	L	2029/2051~(99%)	1902 (94%)	119 (6%)	8 (0%)	34	72
2	g	2029/2051~(99%)	1902 (94%)	119 (6%)	8 (0%)	34	72
2	h	2029/2051~(99%)	1900 (94%)	121 (6%)	8 (0%)	34	72
2	i	2029/2051~(99%)	1903 (94%)	118 (6%)	8 (0%)	34	72
2	j	2029/2051~(99%)	1902 (94%)	119 (6%)	8 (0%)	34	72
2	k	2029/2051~(99%)	1901 (94%)	120 (6%)	8 (0%)	34	72
2	1	2029/2051~(99%)	1903 (94%)	118 (6%)	8 (0%)	34	72
3	М	107/150~(71%)	98~(92%)	8 (8%)	1 (1%)	17	56
3	N	107/150~(71%)	98~(92%)	8 (8%)	1 (1%)	17	56
3	Ο	107/150~(71%)	98~(92%)	8 (8%)	1 (1%)	17	56
3	Р	107/150~(71%)	98~(92%)	8 (8%)	1 (1%)	17	56
3	Q	107/150~(71%)	98~(92%)	8 (8%)	1 (1%)	17	56
3	R	107/150~(71%)	98~(92%)	8 (8%)	1 (1%)	17	56
3	m	107/150~(71%)	98~(92%)	8 (8%)	1 (1%)	17	56
3	n	107/150~(71%)	98 (92%)	8 (8%)	1 (1%)	17	56
3	О	107/150~(71%)	98~(92%)	8 (8%)	1 (1%)	17	56
3	р	107/150~(71%)	98~(92%)	8 (8%)	1 (1%)	17	56
3	q	107/150~(71%)	98 (92%)	8 (8%)	1 (1%)	17	56
3	r	107/150~(71%)	98~(92%)	8 (8%)	1 (1%)	17	56
All	All	46654/49056~(95%)	43793 (94%)	2699 (6%)	162 (0%)	41	76

All (162) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	А	1304	ALA
	<i>a</i>	7	



Mol Chain		Res	Type
1	В	1304	ALA
1	С	1304	ALA
1	D	1304	ALA
1	Е	179	LYS
1	Е	1304	ALA
1	F	179	LYS
1	F	1304	ALA
2	G	274	SER
2	G	1317	ARG
2	G	1808	SER
2	Н	274	SER
2	Н	1317	ARG
2	Н	1808	SER
2	Ι	274	SER
2	Ι	1317	ARG
2	Ι	1808	SER
2	J	274	SER
2	J	1317	ARG
2	J	1808	SER
2	K	274	SER
2	K	1317	ARG
2	K	1808	SER
2	L	274	SER
2	L	1317	ARG
2	L	1808	SER
1	a	1304	ALA
1	b	1304	ALA
1	с	179	LYS
1	с	1304	ALA
1	d	1304	ALA
1	е	179	LYS
1	е	1304	ALA
1	f	1304	ALA
2	g	274	SER
2	g	1317	ARG
2	g	1808	SER
2	h	274	SER
2	h	1317	ARG
2	h	1808	SER
2	i	274	SER
2	i	1317	ARG
2	i	1808	SER



Mol	Chain	Res	Type	
2	i	274	SER	
2	j	1317	ARG	
2	j	1808	SER	
2	k	274	SER	
2	k	1317	ARG	
2	k	1808	SER	
2	1	274	SER	
2	1	1317	ARG	
2	1	1808	SER	
1	А	880	ALA	
1	А	1577	GLN	
1	В	880	ALA	
1	В	1577	GLN	
1	С	880	ALA	
1	С	1577	GLN	
1	D	880	ALA	
1	D	1577	GLN	
1	Е	880	ALA	
1	Е	1577	GLN	
1	F	880	ALA	
1	F	1577	GLN	
2	Н	1846	GLU	
2	J	1846	GLU	
2	K	1846	GLU	
2	L	1846	GLU	
3	М	148	ILE	
3	N	148	ILE	
3	0	148	ILE	
3	Р	148	ILE	
3	Q	148	ILE	
3	R	148	ILE	
1	a	183	GLN	
1	a	880	ALA	
1	a	1577	GLN	
1	b	880	ALA	
1	b	1577	GLN	
1	с	880	ALA	
1	с	1577	GLN	
1	d	880	ALA	
1	d	1577	GLN	
1	е	880	ALA	
1	е	1577	GLN	



Mol	Chain	Res	Type	
1	f	880	ALA	
1	f	1577	GLN	
2	g	1846	GLU	
2	h	1846	GLU	
2	i	1846	GLU	
2	j	1846	GLU	
2	k	1846	GLU	
2	1	1846	GLU	
3	m	148	ILE	
3	n	148	ILE	
3	0	148	ILE	
3	р	148	ILE	
3	q	148	ILE	
3	r	148	ILE	
1	А	1585	LYS	
1	В	1585	LYS	
1	С	1585	LYS	
1	D	1585	LYS	
1	Е	1585	LYS	
2	G	1846	GLU	
2	G	2016	ALA	
2	Н	2016	ALA	
2	Ι	1846	GLU	
2	Ι	2016	ALA	
2	J	2016	ALA	
2	Κ	2016	ALA	
2	L	2016	ALA	
1	a	1585	LYS	
1	b	1585	LYS	
1	с	1585	LYS	
1	d	1585	LYS	
1	е	1585	LYS	
1	f	1585	LYS	
2	g	2016	ALA	
2	h	2016	ALA	
2	i	2016	ALA	
2	j	2016	ALA	
2	k	2016	ALA	
2	1	2016	ALA	
1	F	1585	LYS	
2	G	1316	ASP	
2	Н	1316	ASP	



	3	1	1 0
\mathbf{Mol}	Chain	Res	Type
2 I		1316	ASP
2	J	1316	ASP
2	К	1316	ASP
2	L	1316	ASP
2	g	1316	ASP
2	h	1316	ASP
2	i	1316	ASP
2	i	1869	GLU
2	j	1316	ASP
2	k	1316	ASP
2	1	1316	ASP
2	G	1214	LEU
2	G	1869	GLU
2	Н	1869	GLU
2	Ι	1869	GLU
2	J	1869	GLU
2	K	1869	GLU
2	L	1869	GLU
2	g	1869	GLU
2	h	1869	GLU
2	j	1869	GLU
2	k	1214	LEU
2	l	1869	GLU
2	Н	1214	LEU
2	Ι	1214	LEU
2	J	1214	LEU
2	K	1214	LEU
2	L	1214	LEU
2	g	1214	LEU
2	h	1214	LEU
2	i	1214	LEU
2	j	1214	LEU
2	k	1869	GLU
2	1	1214	LEU
1	a	182	VAL

5.3.2 Protein sidechains (i)

There are no protein residues with a non-rotameric sidechain to report in this entry.



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)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
2	Ι	3
2	G	2
2	i	2
2	j	2
2	Н	2
2	J	2
2	Κ	2
2	L	2
2	g	2
2	h	2
2	k	2
2	1	2

All chain breaks are listed below:



$6\Omega L7$	
UQLI	

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	G	299:ALA	С	300:ILE	Ν	4.56
1	Ι	299:ALA	С	300:ILE	Ν	4.56
1	i	299:ALA	С	300:ILE	Ν	4.56
1	j	299:ALA	С	300:ILE	Ν	4.56
1	Н	299:ALA	С	300:ILE	Ν	4.55
1	J	299:ALA	С	300:ILE	Ν	4.55
1	Κ	299:ALA	С	300:ILE	Ν	4.55
1	L	299:ALA	С	300:ILE	Ν	4.55
1	g	299:ALA	С	300:ILE	Ν	4.55
1	h	299:ALA	С	300:ILE	Ν	4.55
1	k	299:ALA	С	300:ILE	N	4.55
1	l	299:ALA	С	300:ILE	Ν	4.55
1	Н	300:ILE	С	301:THR	N	3.90
1	Κ	300:ILE	С	301:THR	Ν	3.90
1	h	300:ILE	С	301:THR	Ν	3.90
1	i	300:ILE	С	301:THR	Ν	3.90
1	k	300:ILE	С	301:THR	Ν	3.90
1	G	300:ILE	С	301:THR	Ν	3.89
1	Ι	300:ILE	С	301:THR	Ν	3.89
1	J	300:ILE	С	301:THR	Ν	3.89
1	L	300:ILE	С	301:THR	Ν	3.89
1	g	300:ILE	С	301:THR	Ν	3.89
1	j	300:ILE	С	301:THR	N	3.89
1	1	300:ILE	С	301:THR	Ν	3.89
1	Ι	1971:GLY	С	1972:ILE	Ν	2.00



6 Fit of model and data (i)

6.1 Protein, DNA and RNA chains (i)

Unable to reproduce the depositors R factor - this section is therefore empty.

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

Unable to reproduce the depositors R factor - this section is therefore empty.

6.3 Carbohydrates (i)

Unable to reproduce the depositors R factor - this section is therefore empty.

6.4 Ligands (i)

Unable to reproduce the depositors R factor - this section is therefore empty.

6.5 Other polymers (i)

Unable to reproduce the depositors R factor - this section is therefore empty.

