W O R L D W I D E
wwPDB
P R O T E I N   D A T A   B A N K

wwPDB X-ray Structure Validation Summary Report (i)

Nov 7, 2023 – 12:31 AM EST

PDB ID	:	5EJK
Title	:	Crystal structure of the Rous sarcoma virus intasome
Authors	:	Yin, Z.; Shi, K.; Banerjee, S.; Aihara, H.
Deposited on	:	2015-11-02
Resolution	:	3.80 Å(reported)

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

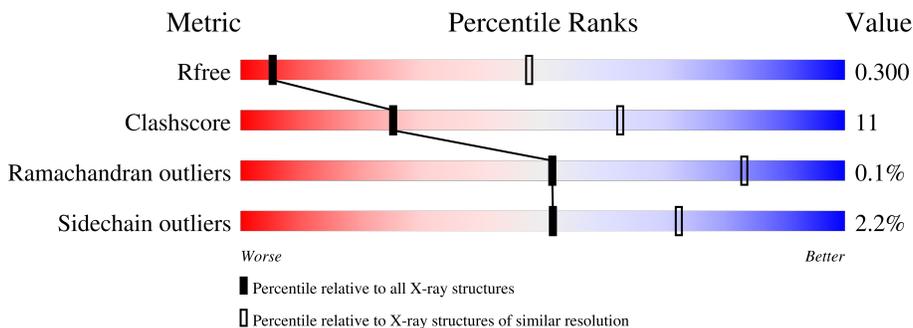|		
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.36
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36

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 3.80 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.
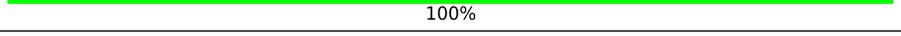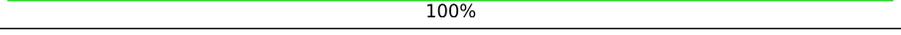
Metric	Percentile Ranks	Value
Rfree		0.300
Clashscore		11
Ramachandran outliers		0.1%
Sidechain outliers		2.2%

Worse ___ *Better*

▮ Percentile relative to all X-ray structures

▯ Percentile relative to X-ray structures of similar resolution

Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	1212 (4.00-3.60)
Clashscore	141614	1288 (4.00-3.60)
Ramachandran outliers	138981	1243 (4.00-3.60)
Sidechain outliers	138945	1237 (4.00-3.60)

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	A	270	74% 24% •
1	B	270	77% 17% 6%
1	C	270	70% 23% • 5%
1	D	270	70% 22% • 7%
1	E	270	72% 26% •
1	F	270	69% 25% • 6%
1	G	270	70% 21% • 7%

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Mol	Chain	Length	Quality of chain
1	H	270	76% 21%
2	I	42	24% 76%
2	L	42	48% 43% 10%
3	J	22	27% 73%
3	M	22	27% 55% 18%
4	K	8	50% 50%
4	N	8	50% 50%
5	k	8	100%
5	n	8	100%

2   Entry composition ⓘ

There are 7 unique types of molecules in this entry. The entry contains 19335 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 Gag-Pro-Pol polyprotein.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
1	A	269	Total	C	N	O	S	Se	0	0	0
			2099	1316	396	373	3	11			
1	B	253	Total	C	N	O	S	Se	0	0	0
			1993	1252	375	352	3	11			
1	C	256	Total	C	N	O	S	Se	0	0	0
			2009	1262	378	355	3	11			
1	D	250	Total	C	N	O	S	Se	0	0	0
			1967	1235	372	346	3	11			
1	E	269	Total	C	N	O	S	Se	0	0	0
			2099	1316	396	373	3	11			
1	F	254	Total	C	N	O	S	Se	0	0	0
			1997	1254	376	353	3	11			
1	G	250	Total	C	N	O	S	Se	0	0	0
			1972	1241	372	345	3	11			
1	H	263	Total	C	N	O	S	Se	0	0	0
			2058	1290	389	365	3	11			

There are 64 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	23	SER	CYS	engineered mutation	UNP P03354
A	112	MSE	LEU	engineered mutation	UNP P03354
A	135	MSE	LEU	engineered mutation	UNP P03354
A	162	MSE	LEU	engineered mutation	UNP P03354
A	163	MSE	LEU	engineered mutation	UNP P03354
A	166	LYS	ARG	conflict	UNP P03354
A	188	MSE	LEU	engineered mutation	UNP P03354
A	189	MSE	LEU	engineered mutation	UNP P03354
B	23	SER	CYS	engineered mutation	UNP P03354
B	112	MSE	LEU	engineered mutation	UNP P03354
B	135	MSE	LEU	engineered mutation	UNP P03354
B	162	MSE	LEU	engineered mutation	UNP P03354
B	163	MSE	LEU	engineered mutation	UNP P03354

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Chain	Residue	Modelled	Actual	Comment	Reference
B	166	LYS	ARG	conflict	UNP P03354
B	188	MSE	LEU	engineered mutation	UNP P03354
B	189	MSE	LEU	engineered mutation	UNP P03354
C	23	SER	CYS	engineered mutation	UNP P03354
C	112	MSE	LEU	engineered mutation	UNP P03354
C	135	MSE	LEU	engineered mutation	UNP P03354
C	162	MSE	LEU	engineered mutation	UNP P03354
C	163	MSE	LEU	engineered mutation	UNP P03354
C	166	LYS	ARG	conflict	UNP P03354
C	188	MSE	LEU	engineered mutation	UNP P03354
C	189	MSE	LEU	engineered mutation	UNP P03354
D	23	SER	CYS	engineered mutation	UNP P03354
D	112	MSE	LEU	engineered mutation	UNP P03354
D	135	MSE	LEU	engineered mutation	UNP P03354
D	162	MSE	LEU	engineered mutation	UNP P03354
D	163	MSE	LEU	engineered mutation	UNP P03354
D	166	LYS	ARG	conflict	UNP P03354
D	188	MSE	LEU	engineered mutation	UNP P03354
D	189	MSE	LEU	engineered mutation	UNP P03354
E	23	SER	CYS	engineered mutation	UNP P03354
E	112	MSE	LEU	engineered mutation	UNP P03354
E	135	MSE	LEU	engineered mutation	UNP P03354
E	162	MSE	LEU	engineered mutation	UNP P03354
E	163	MSE	LEU	engineered mutation	UNP P03354
E	166	LYS	ARG	conflict	UNP P03354
E	188	MSE	LEU	engineered mutation	UNP P03354
E	189	MSE	LEU	engineered mutation	UNP P03354
F	23	SER	CYS	engineered mutation	UNP P03354
F	112	MSE	LEU	engineered mutation	UNP P03354
F	135	MSE	LEU	engineered mutation	UNP P03354
F	162	MSE	LEU	engineered mutation	UNP P03354
F	163	MSE	LEU	engineered mutation	UNP P03354
F	166	LYS	ARG	conflict	UNP P03354
F	188	MSE	LEU	engineered mutation	UNP P03354
F	189	MSE	LEU	engineered mutation	UNP P03354
G	23	SER	CYS	engineered mutation	UNP P03354
G	112	MSE	LEU	engineered mutation	UNP P03354
G	135	MSE	LEU	engineered mutation	UNP P03354
G	162	MSE	LEU	engineered mutation	UNP P03354
G	163	MSE	LEU	engineered mutation	UNP P03354
G	166	LYS	ARG	conflict	UNP P03354
G	188	MSE	LEU	engineered mutation	UNP P03354

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Chain	Residue	Modelled	Actual	Comment	Reference
G	189	MSE	LEU	engineered mutation	UNP P03354
H	23	SER	CYS	engineered mutation	UNP P03354
H	112	MSE	LEU	engineered mutation	UNP P03354
H	135	MSE	LEU	engineered mutation	UNP P03354
H	162	MSE	LEU	engineered mutation	UNP P03354
H	163	MSE	LEU	engineered mutation	UNP P03354
H	166	LYS	ARG	conflict	UNP P03354
H	188	MSE	LEU	engineered mutation	UNP P03354
H	189	MSE	LEU	engineered mutation	UNP P03354

- Molecule 2 is a DNA chain called RSV Integrase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	I	42	Total 869	C 413	N 178	O 237	P 41	0	0	0
2	L	38	Total 787	C 373	N 161	O 215	P 38	0	0	0

- Molecule 3 is a DNA chain called DNA (5'-D(*AP*AP*TP*GP*TP*TP*GP*TP*CP*TP*TP*AP*TP*GP*CP*AP*AP*TP*AP*CP*TP*C)-3').

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	J	22	Total 445	C 216	N 75	O 133	P 21	0	0	0
3	M	18	Total 366	C 178	N 62	O 109	P 17	0	0	0

- Molecule 4 is a DNA chain called DNA (5'-D(*CP*TP*TP*CP*TP*CP*TP*C)-3').

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	K	8	Total 154	C 77	N 19	O 51	P 7	0	0	0
4	N	8	Total 154	C 77	N 19	O 51	P 7	0	0	0

- Molecule 5 is a DNA chain called DNA (5'-D(*AP*GP*TP*GP*TP*CP*TP*T)-3').

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	k	8	Total 161	C 79	N 26	O 49	P 7	0	0	0
5	n	8	Total 161	C 79	N 26	O 49	P 7	0	0	0

- Molecule 6 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	A	1	Total 1	Zn 1	0	0
6	B	1	Total 1	Zn 1	0	0
6	C	1	Total 1	Zn 1	0	0
6	D	1	Total 1	Zn 1	0	0
6	E	1	Total 1	Zn 1	0	0
6	F	1	Total 1	Zn 1	0	0
6	G	1	Total 1	Zn 1	0	0
6	H	1	Total 1	Zn 1	0	0

- Molecule 7 is TUNGSTEN ION (three-letter code: W) (formula: W).

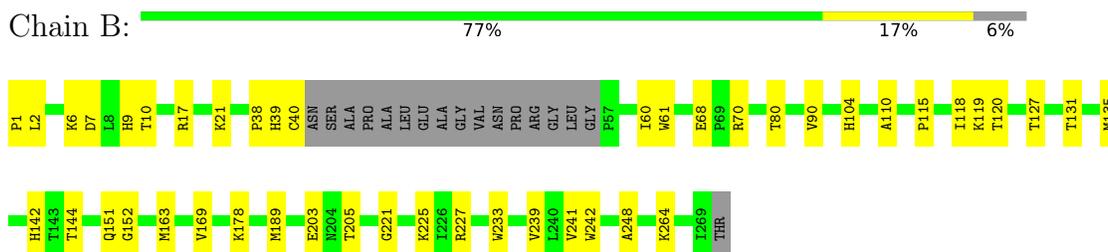| Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
7	A	4	Total 4	W 4	1	0
7	B	20	Total 20	W 20	0	0
7	F	11	Total 11	W 11	0	0
7	G	1	Total 1	W 1	0	0

3 Residue-property plots ⓘ

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry. 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.
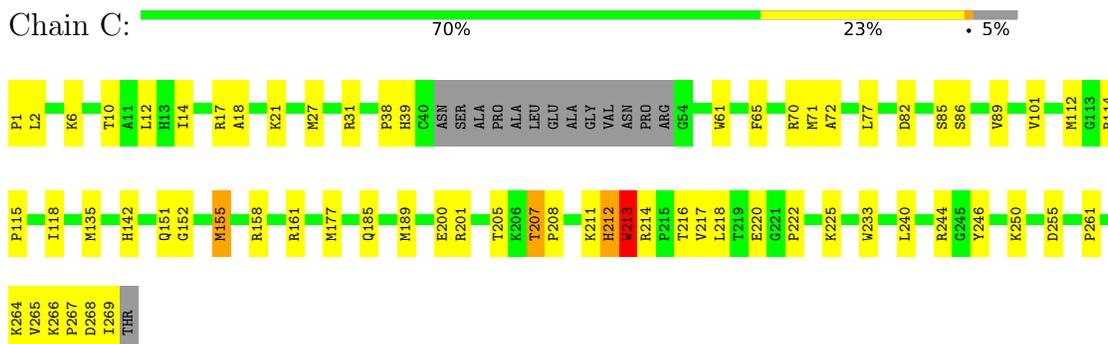
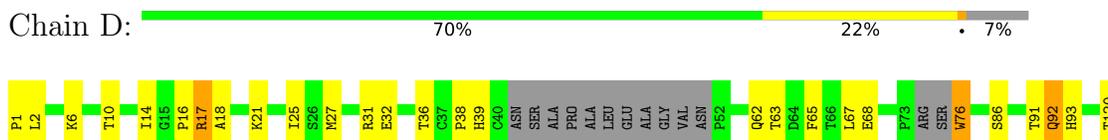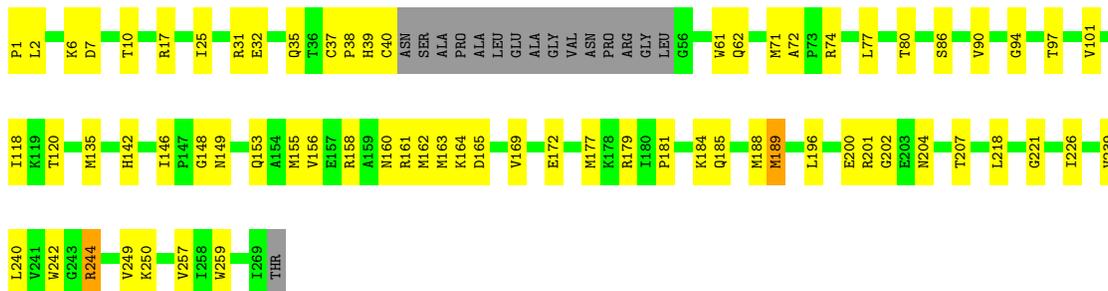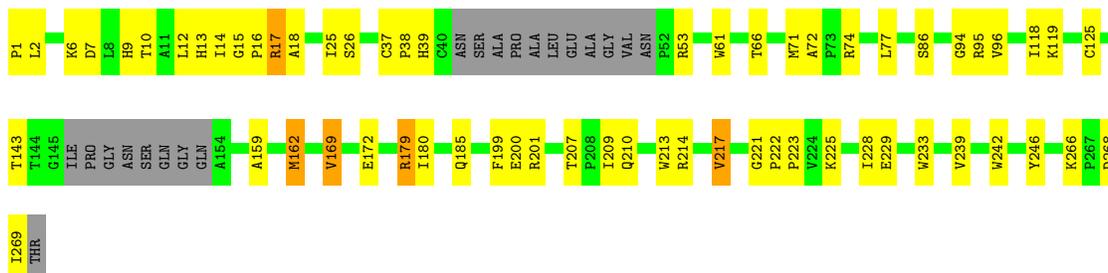- Molecule 1: Gag-Pro-Pol polyprotein

Chain A:

- Molecule 1: Gag-Pro-Pol polyprotein

Chain B:

- Molecule 1: Gag-Pro-Pol polyprotein

Chain C:

- Molecule 1: Gag-Pro-Pol polyprotein

Chain D:

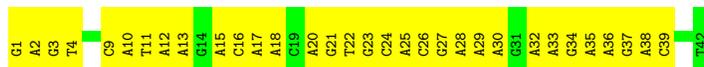D121 N122 M135 H142 T143 T144 G145 I146 PRO G148 G152 R158 M162 M163 K164 L170 M188 K191 Y194 A195 L196 E200 R201 T207 R214 PRO THR VAL LEU THR E220 G221 P222 P223 V224 K225 I226 W233 N238 V239 L240 V241 W242 A248 V249

K250 V257 R263 K264 I269 THR

• Molecule 1: Gag-Pro-Pol polyprotein

Chain E: 72%   26%   .

P1 L2 K6 D7 T10 P16 R17 E32 Q35 T36 C37 P38 H39 C40 N41 P44 A45 L46 V50 N51 P52 R53 Q62 R70 M71 L77 T80 V81 D82 S86 V89 V90 H104 A108 M112 I118 T131 M135 I140

T144 G145 I146 Q151 G152 Q153 A154 M155 V156 E157 R158 A159 N160 R161 M162 M163 K164 D165 K166 E172 I180 M188 L196 R201 T216 V217 L218 P222 P223 V224 K225 I226 R227 I228 E229 W233 L240 G243 Y246 K250 I258 W259 V260 P261 S262 R263

K264 V265 K266 P267 D268 I269 THR

• Molecule 1: Gag-Pro-Pol polyprotein

Chain F: 69%   25%   .   6%

P1 L2 K6 D7 T10 R17 I25 R31 E32 Q35 T36 C37 P38 H39 C40 ASN SER ALA PRO ALA LEU GLU ALA GLY VAL ASN PRO ARG GLY LEU G56 W61 Q62 M71 A72 P73 R74 L77 T80 S86 V90 G94 T97 V101

I118 K119 T120 M135 H142 I146 P147 G148 N149 Q153 A154 M155 V156 E157 R158 A159 N160 R161 M162 M163 K164 D165 V169 E172 M177 K178 R179 I180 P181 K184 Q185 M188 M189 L196 E200 R201 G202 E203 N204 T207 L218 G221 I226 V239

L240 V241 W242 G243 R244 V249 K250 V257 I258 W259 I269 THR

• Molecule 1: Gag-Pro-Pol polyprotein

Chain G: 70%   21%   .   7%

P1 L2 K6 D7 L8 H9 T10 A11 L12 H13 I14 G15 P16 R17 A18 I25 S26 C37 P38 H39 C40 ASN SER ALA PRO ALA LEU GLU ALA GLY VAL ASN P52 R53 W61 T66 M71 A72 P73 R74 L77 S86 G94 R95 V96 I118 K119 C125

T143 T144 G145 ILE PRO GLY ASN SER GLN GLY GLN A154 A159 M162 V169 E172 R179 I180 Q185 F199 E200 R201 T207 P208 I209 Q210 W213 R214 V217 G221 P222 P223 V224 K225 I228 E229 W233 V239 W242 Y246 K266 P267 D268

I269 THR

• Molecule 1: Gag-Pro-Pol polyprotein

Chain H: 76%   21%   ..

P1 L2 K6 D7 L8 H9 T10 I14 R17 A18 L19 M27 R31 E32 P38 H39 S42 A43 L46 E47 A48 GLY VAL ASN P52 T63 M71 A78 D82 S86 V90 T91 Q92 Q102 M112 T120 S130 H142 I146

N149 M162 M163 K166 I167 L170 T182 Q185 M188 M189 L196 E200 R201 N204 T205 K206 T207 R214 P215 T216 VAL LEU THR E220 G221 P222 P223 V224 K225 N238 V241 K250 V257 K266 P267 D268 I269 THR

• Molecule 2: RSV Integrase

Chain I:

24% 76%

G1 A2 G3 T4 C9 A10 T11 A12 A13 G14 A15 C16 A17 A18 C19 A20 G21 T22 G23 C24 A25 C26 G27 A28 A29 A30 G31 A32 A33 G34 A35 A36 G37 A38 C39 T42

• Molecule 2: RSV Integrase

Chain L:

48% 43% 10%

DG DA DG DT A5 C9 A10 T11 A12 A13 G14 A15 C16 A17 A18 C19 C24 A25 C26 G27 A35 A36 G37 A38 C39 T42

• Molecule 3: DNA (5'-D(*AP*AP*TP*GP*TP*TP*GP*TP*CP*TP*TP*AP*TP*GP*CP*AP
*AP*TP*AP*CP*TP*C)-3')

Chain J:

27% 73%

A1 A2 T3 G4 T5 T6 G7 T8 C9 T10 T13 G14 C15 A16 A17 T18 A19 C20 T21 C22

• Molecule 3: DNA (5'-D(*AP*AP*TP*GP*TP*TP*GP*TP*CP*TP*TP*AP*TP*GP*CP*AP
*AP*TP*AP*CP*TP*C)-3')

Chain M:

27% 55% 18%

A1 A2 T3 G4 T5 T6 G7 T8 C9 T10 T11 A12 T13 G14 T18 DA DC DT DC

• Molecule 4: DNA (5'-D(*CP*TP*TP*CP*TP*CP*TP*C)-3')

Chain K:

50% 50%

C9 T10 T11 C12 T15 C16

• Molecule 4: DNA (5'-D(*CP*TP*TP*CP*TP*CP*TP*C)-3')

Chain N:

50% 50%

C9 C12 T13 T14 T15 C16

• Molecule 5: DNA (5'-D(*AP*GP*TP*GP*TP*CP*TP*T)-3')

Chain k:

100%

There are no outlier residues recorded for this chain.

• Molecule 5: DNA (5'-D(*AP*GP*TP*GP*TP*CP*TP*T)-3')

Chain n:

100%

There are no outlier residues recorded for this chain.

4 Data and refinement statistics ⓘ

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	124.94Å　　157.85Å　　126.58Å 90.00°　　110.94°　　90.00°	Depositor
Resolution (Å)	49.22　–　3.80 49.22　–　3.61	Depositor EDS
% Data completeness (in resolution range)	97.0 (49.22-3.80) 77.5 (49.22-3.61)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	0.18 (at 3.57Å)	Xtriage
Refinement program	PHENIX (dev_2210: ???)	Depositor
R, R_{free}	0.254　,　0.294 0.266　,　0.300	Depositor DCC
R_{free} test set	2548 reflections (4.88%)	wwPDB-VP
Wilson B-factor (Å^2)	137.5	Xtriage
Anisotropy	0.201	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.34 , 150.5	EDS
L-test for twinning[2]	$< |L| > = 0.45, < L^2 > = 0.28$	Xtriage
Estimated twinning fraction	0.049 for l,-k,h	Xtriage
F_o,F_c correlation	0.93	EDS
Total number of atoms	19335	wwPDB-VP
Average B, all atoms (Å^2)	206.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.17% of the height of the origin peak. No significant pseudotranslation is detected.*

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[1]Intensities estimated from amplitudes.

[2]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.

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: W, 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	
		RMSZ	#$|Z|$ >5	RMSZ	#$|Z|$ >5
1	A	0.25	0/2139	0.47	0/2882
1	B	0.24	0/2030	0.46	0/2730
1	C	0.26	0/2046	0.51	0/2752
1	D	0.25	0/2000	0.50	0/2681
1	E	0.25	0/2139	0.48	0/2882
1	F	0.24	0/2034	0.46	0/2736
1	G	0.25	0/2008	0.47	0/2698
1	H	0.25	0/2096	0.47	0/2818
2	I	0.56	0/981	0.84	0/1513
2	L	0.53	0/888	0.84	0/1368
3	J	0.57	0/497	1.02	0/765
3	M	0.55	0/409	1.08	0/630
4	K	0.59	0/169	1.14	0/258
4	N	0.49	0/169	1.11	0/258
5	k	0.64	0/179	1.02	0/275
5	n	0.57	0/179	1.02	0/275
All	All	0.32	0/19963	0.60	0/27521

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	G	0	1

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	G	214	ARG	Peptide

5.2 Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	2099	0	2121	49	0
1	B	1993	0	2016	30	0
1	C	2009	0	2032	55	0
1	D	1967	0	1984	46	0
1	E	2099	0	2121	64	0
1	F	1997	0	2018	45	0
1	G	1972	0	2001	43	0
1	H	2058	0	2075	38	0
2	I	869	0	470	23	0
2	L	787	0	424	16	0
3	J	445	0	253	16	0
3	M	366	0	208	12	0
4	K	154	0	95	3	0
4	N	154	0	95	2	0
5	k	161	0	94	0	0
5	n	161	0	94	0	0
6	A	1	0	0	0	0
6	B	1	0	0	0	0
6	C	1	0	0	0	0
6	D	1	0	0	0	0
6	E	1	0	0	0	0
6	F	1	0	0	0	0
6	G	1	0	0	0	0
6	H	1	0	0	0	0
7	A	4	0	0	0	0
7	B	20	0	0	0	0
7	F	11	0	0	0	0
7	G	1	0	0	0	0
All	All	19335	0	18101	392	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 11.

The worst 5 of 392 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:120:THR:HG1	1:H:142:HIS:HE2	1.15	0.94
1:C:135:MSE:HE2	1:C:142:HIS:HB2	1.64	0.79
1:E:80:THR:HG1	1:E:104:HIS:HE2	1.30	0.77
2:L:12:DA:H2'	2:L:13:DA:C8	2.21	0.76
1:C:244:ARG:HH22	1:E:258:ILE:HB	1.52	0.74

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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	267/270 (99%)	253 (95%)	14 (5%)	0	100	100
1	B	249/270 (92%)	243 (98%)	6 (2%)	0	100	100
1	C	252/270 (93%)	237 (94%)	13 (5%)	2 (1%)	19	57
1	D	240/270 (89%)	230 (96%)	10 (4%)	0	100	100
1	E	267/270 (99%)	254 (95%)	13 (5%)	0	100	100
1	F	250/270 (93%)	244 (98%)	6 (2%)	0	100	100
1	G	244/270 (90%)	236 (97%)	8 (3%)	0	100	100
1	H	257/270 (95%)	248 (96%)	9 (4%)	0	100	100
All	All	2026/2160 (94%)	1945 (96%)	79 (4%)	2 (0%)	51	83

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	C	213	TRP
1	C	212	HIS

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	222/212 (105%)	213 (96%)	9 (4%)	30	59
1	B	212/212 (100%)	212 (100%)	0	100	100
1	C	213/212 (100%)	208 (98%)	5 (2%)	50	72
1	D	207/212 (98%)	203 (98%)	4 (2%)	57	76
1	E	222/212 (105%)	217 (98%)	5 (2%)	50	72
1	F	212/212 (100%)	207 (98%)	5 (2%)	49	71
1	G	209/212 (99%)	203 (97%)	6 (3%)	42	67
1	H	217/212 (102%)	214 (99%)	3 (1%)	67	81
All	All	1714/1696 (101%)	1677 (98%)	37 (2%)	52	72

5 of 37 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	G	17	ARG
1	H	207	THR
1	G	95	ARG
1	G	179	ARG
1	C	218	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 10 such sidechains are listed below:

Mol	Chain	Res	Type
1	F	102	GLN
1	H	102	GLN
1	H	153	GLN
1	D	92	GLN
1	D	142	HIS

5.3.3 RNA (i)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates ⓘ

There are no monosaccharides in this entry.

5.6 Ligand geometry ⓘ

Of 44 ligands modelled in this entry, 44 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 ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

There are no chain breaks in this entry.

6 Fit of model and data ⓘ

6.1 Protein, DNA and RNA chains ⓘ

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

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

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

6.3 Carbohydrates ⓘ

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

6.4 Ligands ⓘ

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

6.5 Other polymers ⓘ

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