



# Full wwPDB X-ray Structure Validation Report ⓘ

Mar 19, 2019 – 03:27 PM EDT

PDB ID : 6OAR  
Title : Structure of the Kupe virus OTU bound to the C-terminal domain of sheep ISG15  
Deposited on : 2019-03-18  
Resolution : 2.06 Å (reported)

This is a Full wwPDB X-ray Structure Validation Report.

This report is produced by the wwPDB biocuration pipeline after annotation of the structure.

We welcome your comments at [validation@mail.wwpdb.org](mailto: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.

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

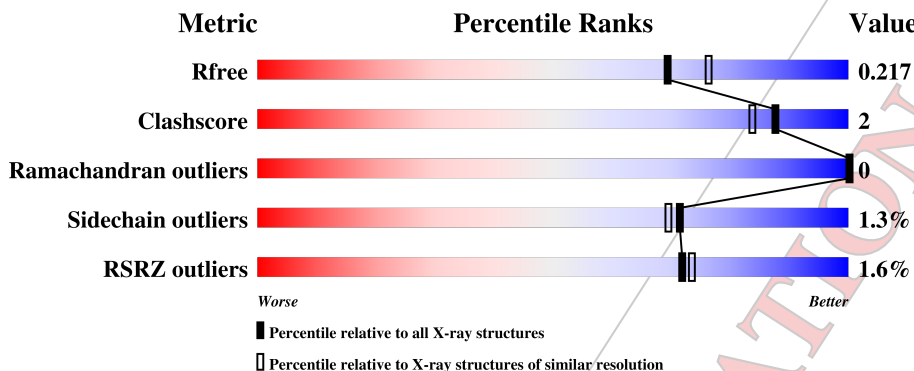
MolProbity : 4.02b-467  
Mogul : 1.8.0 (224370), CSD as540be (2019)  
Xtriage (Phenix) : 1.13  
EDS : 2.1  
Percentile statistics : 20171227.v01 (using entries in the PDB archive December 27th 2017)  
Refmac : 5.8.0158  
CCP4 : 7.0 (Gargrove)  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.1

# 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 2.06 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))
$R_{free}$	111664	2250 (2.08-2.04)
Clashscore	122126	2358 (2.08-2.04)
Ramachandran outliers	120053	2339 (2.08-2.04)
Sidechain outliers	120020	2339 (2.08-2.04)
RSRZ outliers	108989	2211 (2.08-2.04)

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 on the lower bar indicate the fraction of residues that contain outliers for  $\geq 3$ , 2, 1 and 0 types of geometric quality criteria. 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	178	<div style="display: flex; align-items: center;"> <div style="width: 2%; height: 10px; background-color: red; margin-right: 5px;"></div> <div style="width: 81%; height: 10px; background-color: green; margin-right: 5px;"></div> <div style="width: 8%; height: 10px; background-color: yellow; margin-right: 5px;"></div> <div style="width: 11%; height: 10px; background-color: grey;"></div> </div> <p style="text-align: center;">2%      81%      8%      11%</p>
1	C	178	<div style="display: flex; align-items: center;"> <div style="width: 0%; height: 10px; background-color: red; margin-right: 5px;"></div> <div style="width: 81%; height: 10px; background-color: green; margin-right: 5px;"></div> <div style="width: 7%; height: 10px; background-color: yellow; margin-right: 5px;"></div> <div style="width: 12%; height: 10px; background-color: grey;"></div> </div> <p style="text-align: center;">%      81%      7%      12%</p>
1	E	178	<div style="display: flex; align-items: center;"> <div style="width: 0%; height: 10px; background-color: red; margin-right: 5px;"></div> <div style="width: 84%; height: 10px; background-color: green; margin-right: 5px;"></div> <div style="width: 0%; height: 10px; background-color: yellow; margin-right: 5px;"></div> <div style="width: 12%; height: 10px; background-color: grey;"></div> </div> <p style="text-align: center;">%      84%      •      12%</p>
1	G	178	<div style="display: flex; align-items: center;"> <div style="width: 4%; height: 10px; background-color: red; margin-right: 5px;"></div> <div style="width: 81%; height: 10px; background-color: green; margin-right: 5px;"></div> <div style="width: 7%; height: 10px; background-color: yellow; margin-right: 5px;"></div> <div style="width: 11%; height: 10px; background-color: grey;"></div> </div> <p style="text-align: center;">4%      81%      7%      •      11%</p>
2	B	78	<div style="display: flex; align-items: center;"> <div style="width: 0%; height: 10px; background-color: red; margin-right: 5px;"></div> <div style="width: 88%; height: 10px; background-color: green; margin-right: 5px;"></div> <div style="width: 10%; height: 10px; background-color: yellow; margin-right: 5px;"></div> <div style="width: 2%; height: 10px; background-color: grey;"></div> </div> <p style="text-align: center;">%      88%      10%      •</p>

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Mol	Chain	Length	Quality of chain
2	D	78	 92% 6%
2	F	78	 95%
2	H	78	 90% 9%

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
3	J3K	B	201	X	-	-	-
3	J3K	D	201	X	-	-	-
3	J3K	H	201	X	-	-	-

## 2 Entry composition [i](#)

There are 4 unique types of molecules in this entry. The entry contains 7907 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 RNA-dependent RNA polymerase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	158	1268	814	210	239	5	0	0	0
1	C	157	1266	814	209	238	5	0	1	0
1	E	157	1274	819	212	238	5	0	2	0
1	G	158	1268	814	210	239	5	0	0	0

There are 36 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	170	SER	-	expression tag	UNP B8PWH5
A	171	GLY	-	expression tag	UNP B8PWH5
A	172	SER	-	expression tag	UNP B8PWH5
A	173	HIS	-	expression tag	UNP B8PWH5
A	174	HIS	-	expression tag	UNP B8PWH5
A	175	HIS	-	expression tag	UNP B8PWH5
A	176	HIS	-	expression tag	UNP B8PWH5
A	177	HIS	-	expression tag	UNP B8PWH5
A	178	HIS	-	expression tag	UNP B8PWH5
C	170	SER	-	expression tag	UNP B8PWH5
C	171	GLY	-	expression tag	UNP B8PWH5
C	172	SER	-	expression tag	UNP B8PWH5
C	173	HIS	-	expression tag	UNP B8PWH5
C	174	HIS	-	expression tag	UNP B8PWH5
C	175	HIS	-	expression tag	UNP B8PWH5
C	176	HIS	-	expression tag	UNP B8PWH5
C	177	HIS	-	expression tag	UNP B8PWH5
C	178	HIS	-	expression tag	UNP B8PWH5
E	170	SER	-	expression tag	UNP B8PWH5
E	171	GLY	-	expression tag	UNP B8PWH5
E	172	SER	-	expression tag	UNP B8PWH5

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Chain	Residue	Modelled	Actual	Comment	Reference
E	173	HIS	-	expression tag	UNP B8PWH5
E	174	HIS	-	expression tag	UNP B8PWH5
E	175	HIS	-	expression tag	UNP B8PWH5
E	176	HIS	-	expression tag	UNP B8PWH5
E	177	HIS	-	expression tag	UNP B8PWH5
E	178	HIS	-	expression tag	UNP B8PWH5
G	170	SER	-	expression tag	UNP B8PWH5
G	171	GLY	-	expression tag	UNP B8PWH5
G	172	SER	-	expression tag	UNP B8PWH5
G	173	HIS	-	expression tag	UNP B8PWH5
G	174	HIS	-	expression tag	UNP B8PWH5
G	175	HIS	-	expression tag	UNP B8PWH5
G	176	HIS	-	expression tag	UNP B8PWH5
G	177	HIS	-	expression tag	UNP B8PWH5
G	178	HIS	-	expression tag	UNP B8PWH5

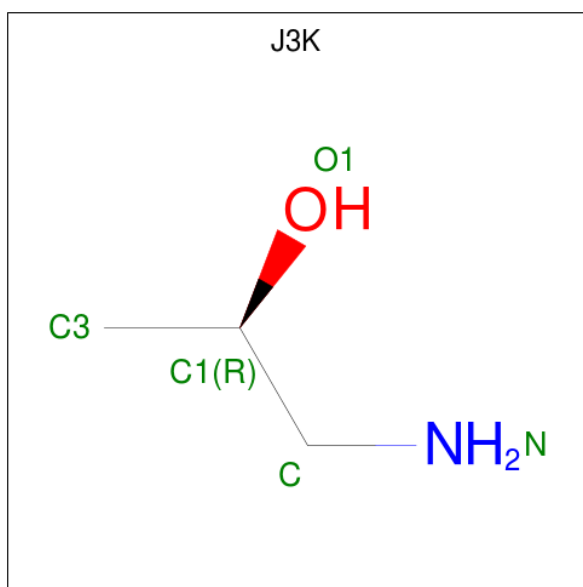
- Molecule 2 is a protein called Interferon stimulated gene 17.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace	
2	B	77	Total	C	N	O	S	0	0	0
			614	382	111	117	4			
2	D	77	Total	C	N	O	S	0	0	0
			614	382	111	117	4			
2	F	77	Total	C	N	O	S	0	0	0
			614	382	111	117	4			
2	H	77	Total	C	N	O	S	0	0	0
			614	382	111	117	4			

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	79	MET	-	expression tag	UNP Q9GKP4
D	79	MET	-	expression tag	UNP Q9GKP4
F	79	MET	-	expression tag	UNP Q9GKP4
H	79	MET	-	expression tag	UNP Q9GKP4

- Molecule 3 is (2 {R})-1-azanylpropan-2-ol (three-letter code: J3K) (formula: C<sub>3</sub>H<sub>9</sub>NO).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
3	B	1	Total	C	N	0	0
			4	3	1		
3	D	1	Total	C	N	0	0
			4	3	1		
3	F	1	Total	C	N	0	0
			4	3	1		
3	H	1	Total	C	N	0	0
			4	3	1		

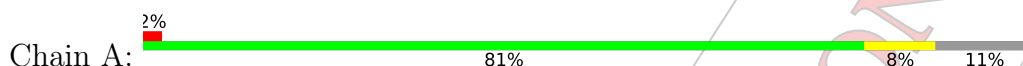
- Molecule 4 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	62	Total	O	0	0
			62	62		
4	B	30	Total	O	0	0
			30	30		
4	C	73	Total	O	0	0
			73	73		
4	D	39	Total	O	0	0
			39	39		
4	E	65	Total	O	0	0
			65	65		
4	F	33	Total	O	0	0
			33	33		
4	G	31	Total	O	0	0
			31	31		
4	H	26	Total	O	0	0
			26	26		

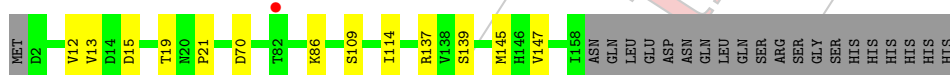
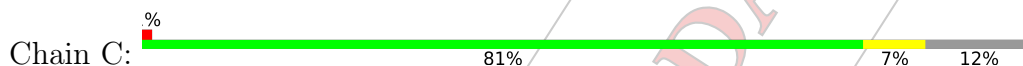
### 3 Residue-property plots [i](#)

These plots are drawn for all protein, RNA and DNA 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.

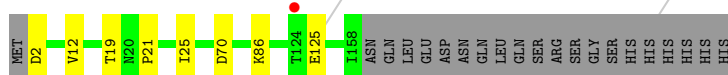
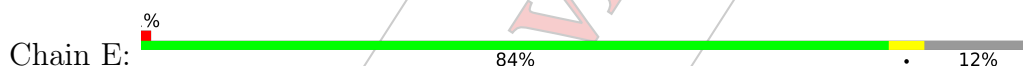
- Molecule 1: RNA-dependent RNA polymerase



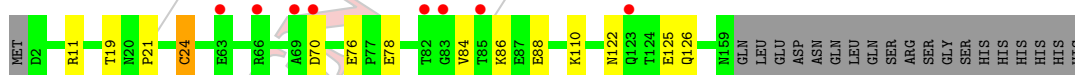
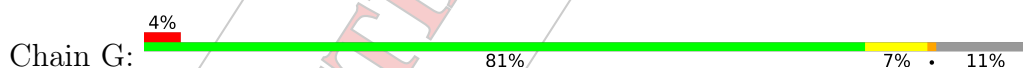
- Molecule 1: RNA-dependent RNA polymerase



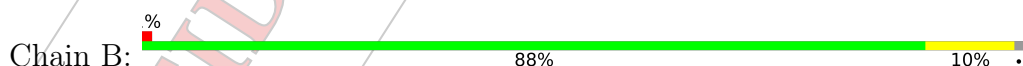
- Molecule 1: RNA-dependent RNA polymerase



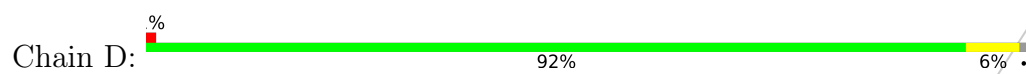
- Molecule 1: RNA-dependent RNA polymerase



- Molecule 2: Interferon stimulated gene 17



- Molecule 2: Interferon stimulated gene 17



- Molecule 2: Interferon stimulated gene 17



- Molecule 2: Interferon stimulated gene 17





## 4 Data and refinement statistics i

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	41.80Å 158.76Å 171.04Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	41.29 – 2.06 41.29 – 2.06	Depositor EDS
% Data completeness (in resolution range)	98.5 (41.29-2.06) 98.5 (41.29-2.06)	Depositor EDS
$R_{merge}$	(Not available)	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	3.01 (at 2.06Å)	Xtrriage
Refinement program	PHENIX (1.11.1_2575: ???)	Depositor
R, $R_{free}$	0.176 , 0.217 0.176 , 0.217	Depositor DCC
$R_{free}$ test set	3512 reflections (4.99%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	31.7	Xtrriage
Anisotropy	0.670	Xtrriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.38 , 57.0	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.50$ , $\langle L^2 \rangle = 0.33$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
$F_o, F_c$ correlation	0.96	EDS
Total number of atoms	7907	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	45.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 11.41% of the height of the origin peak. No significant pseudotranslation is detected.*

<sup>1</sup> Intensities estimated from amplitudes.

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

## 5 Model quality [i](#)

### 5.1 Standard geometry [i](#)

Bond lengths and bond angles in the following residue types are not validated in this section: J3K

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	0.27	0/1298	0.43	0/1762
1	C	0.28	0/1299	0.43	0/1763
1	E	0.27	0/1310	0.43	0/1777
1	G	0.26	0/1298	0.42	0/1762
2	B	0.27	0/623	0.46	0/840
2	D	0.27	0/623	0.47	0/840
2	F	0.27	0/623	0.49	0/840
2	H	0.26	0/623	0.47	0/840
All	All	0.27	0/7697	0.44	0/10424

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	1268	0	1230	7	0
1	C	1266	0	1232	7	0
1	E	1274	0	1245	4	0
1	G	1268	0	1230	7	0
2	B	614	0	608	5	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	D	614	0	608	2	0
2	F	614	0	608	1	0
2	H	614	0	608	5	0
3	B	4	0	0	0	0
3	D	4	0	0	0	0
3	F	4	0	0	0	0
3	H	4	0	0	0	0
4	A	62	0	0	1	0
4	B	30	0	0	0	0
4	C	73	0	0	0	0
4	D	39	0	0	0	0
4	E	65	0	0	0	0
4	F	33	0	0	0	0
4	G	31	0	0	0	0
4	H	26	0	0	0	0
All	All	7907	0	7369	33	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 2.

All (33) 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)
2:H:115:GLU:HG3	2:H:150:MET:HE1	1.76	0.67
2:H:88:ASN:HA	2:H:150:MET:HE3	1.78	0.66
1:G:70:ASP:HA	1:G:86:LYS:HD2	1.79	0.65
1:A:70:ASP:HA	1:A:86:LYS:HD2	1.80	0.64
1:A:19:THR:HG23	1:A:21:PRO:HD3	1.81	0.63
1:C:19:THR:HG23	1:C:21:PRO:HD3	1.83	0.61
1:A:16:GLN:OE1	4:A:201:HOH:O	2.16	0.59
1:C:137:ARG:NH1	1:C:139:SER:OG	2.39	0.55
1:G:76:GLU:OE1	1:G:110:LYS:NZ	2.40	0.55
1:A:78:GLU:O	2:B:153:ARG:NH1	2.40	0.55
1:G:24:CYS:SG	1:G:125:GLU:HG3	2.48	0.54
1:E:19:THR:HG23	1:E:21:PRO:HD3	1.92	0.50
1:C:70:ASP:HA	1:C:86:LYS:HD3	1.93	0.50
2:B:136:PRO:HG2	2:B:139:GLU:HG3	1.93	0.49
1:E:70:ASP:HA	1:E:86:LYS:HD2	1.94	0.49
1:G:84:VAL:HG23	1:G:88:GLU:HB2	1.95	0.49
2:H:126:PHE:O	2:H:129:LYS:HG2	2.11	0.49
2:B:137:LEU:HB3	2:B:142:LEU:HD12	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:78:GLU:O	2:H:153:ARG:NH1	2.47	0.47
1:A:145:MET:HG2	1:A:147:VAL:HG13	1.97	0.47
1:E:25:ILE:HG22	1:E:125:GLU:HB2	1.97	0.47
1:C:12:VAL:HG12	1:C:13:VAL:HG23	1.97	0.46
2:H:89:ASP:OD1	2:H:89:ASP:N	2.46	0.45
1:A:121:VAL:CG1	1:A:125:GLU:HA	2.47	0.44
1:C:145:MET:HG2	1:C:147:VAL:HG13	2.00	0.44
1:G:19:THR:HG23	1:G:21:PRO:HD3	2.00	0.43
1:C:109:SER:HB2	1:C:114:ILE:O	2.19	0.42
1:C:12:VAL:O	2:D:128:GLY:HA2	2.20	0.42
1:G:122:ASN:HD21	1:G:126:GLN:HB2	1.83	0.42
2:B:81:THR:OG1	2:B:97:GLU:HG2	2.20	0.42
1:E:12:VAL:O	2:F:128:GLY:HA2	2.20	0.41
1:A:12:VAL:O	2:B:128:GLY:HA2	2.20	0.41
2:D:86:VAL:O	2:D:93:SER:HA	2.21	0.41

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	Percentiles	
1	A	156/178 (88%)	151 (97%)	5 (3%)	0	100	100
1	C	156/178 (88%)	149 (96%)	7 (4%)	0	100	100
1	E	157/178 (88%)	151 (96%)	6 (4%)	0	100	100
1	G	156/178 (88%)	152 (97%)	4 (3%)	0	100	100
2	B	75/78 (96%)	75 (100%)	0	0	100	100
2	D	75/78 (96%)	75 (100%)	0	0	100	100
2	F	75/78 (96%)	75 (100%)	0	0	100	100
2	H	75/78 (96%)	74 (99%)	1 (1%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
All	All	925/1024 (90%)	902 (98%)	23 (2%)	0	100	100

There are no Ramachandran outliers to report.

### 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	137/156 (88%)	134 (98%)	3 (2%)	55	49
1	C	137/156 (88%)	136 (99%)	1 (1%)	85	85
1	E	138/156 (88%)	137 (99%)	1 (1%)	85	85
1	G	137/156 (88%)	135 (98%)	2 (2%)	67	65
2	B	68/69 (99%)	68 (100%)	0	100	100
2	D	68/69 (99%)	66 (97%)	2 (3%)	45	39
2	F	68/69 (99%)	66 (97%)	2 (3%)	45	39
2	H	68/69 (99%)	68 (100%)	0	100	100
All	All	821/900 (91%)	810 (99%)	11 (1%)	71	69

All (11) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	96	ASP
1	A	124	THR
1	A	126	GLN
1	C	15	ASP
2	D	98	VAL
2	D	133	ASP
1	E	2	ASP
2	F	99	GLN
2	F	120	ASP
1	G	11	ARG
1	G	24	CYS

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (2) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	16	GLN
1	A	97	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 carbohydrates in this entry.

### 5.6 Ligand geometry [i](#)

4 ligands are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with  $|Z| > 2$  is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
3	J3K	B	201	1,2	3,3,4	1.33	1 (33%)	2,2,4	0.72	0
3	J3K	D	201	1,2	3,3,4	1.34	1 (33%)	2,2,4	0.74	0
3	J3K	F	201	1,2	3,3,4	1.35	1 (33%)	2,2,4	0.65	0
3	J3K	H	201	1,2	3,3,4	1.36	1 (33%)	2,2,4	0.70	0

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '?' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	J3K	B	201	1,2	1/1/0/1	0/1/1/2	0/0/0/0
3	J3K	D	201	1,2	1/1/0/1	0/1/1/2	0/0/0/0
3	J3K	F	201	1,2	-	0/1/1/2	0/0/0/0
3	J3K	H	201	1,2	1/1/0/1	0/1/1/2	0/0/0/0

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	H	201	J3K	C3-C1	-2.11	1.32	1.49
3	F	201	J3K	C3-C1	-2.10	1.32	1.49
3	D	201	J3K	C3-C1	-2.07	1.32	1.49
3	B	201	J3K	C3-C1	-2.06	1.32	1.49

There are no bond angle outliers.

All (3) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
3	D	201	J3K	C1
3	B	201	J3K	C1
3	H	201	J3K	C1

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<sup>th</sup> 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 <sup>2</sup> )	Q<0.9
1	A	158/178 (88%)	-0.07	3 (1%) 66 69	25, 43, 82, 110	0
1	C	157/178 (88%)	-0.17	1 (0%) 89 90	24, 40, 68, 88	0
1	E	157/178 (88%)	-0.29	1 (0%) 89 90	26, 39, 63, 85	0
1	G	158/178 (88%)	0.20	8 (5%) 28 29	32, 55, 92, 119	0
2	B	77/78 (98%)	-0.10	1 (1%) 77 78	28, 39, 62, 83	0
2	D	77/78 (98%)	-0.04	1 (1%) 77 78	23, 38, 62, 96	0
2	F	77/78 (98%)	-0.22	0 100 100	21, 35, 60, 68	0
2	H	77/78 (98%)	-0.06	0 100 100	31, 46, 69, 78	0
All	All	938/1024 (91%)	-0.09	15 (1%) 72 73	21, 42, 78, 119	0

All (15) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	G	82	THR	4.6
2	D	80	ALA	3.6
2	B	80	ALA	3.5
1	A	87	GLU	2.7
1	G	83	GLY	2.5
1	G	123	GLN	2.5
1	G	70	ASP	2.5
1	E	124	THR	2.5
1	A	85	THR	2.4
1	C	82	THR	2.2
1	A	90	ILE	2.2
1	G	69	ALA	2.2
1	G	85	THR	2.1
1	G	63	GLU	2.1
1	G	66	ARG	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 carbohydrates 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<sup>th</sup> percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å <sup>2</sup> )	Q<0.9
3	J3K	B	201	4/5	0.95	0.11	27,29,33,37	0
3	J3K	H	201	4/5	0.95	0.11	45,46,58,58	0
3	J3K	F	201	4/5	0.96	0.14	35,37,40,40	0
3	J3K	D	201	4/5	0.96	0.12	24,28,32,32	0

## 6.5 Other polymers [i](#)

There are no such residues in this entry.