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)

Oct 15, 2023 – 09:57 PM EDT

PDB ID	:	2E9T
Title	:	Foot-and-mouth disease virus RNA-polymerase RNA dependent in complex with a template-primer RNA and 5F-UTP
Authors	:	Ferrer-Orta, C.; Arias, A.; Perez-Luque, R.; Escarmis, C.; Domingo, E.; Verdaguer, N.
Deposited on	:	2007-01-26
Resolution	:	2.60 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 2.60 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.

Metric	Percentile Ranks	Value
Rfree		0.282
Clashscore		10
Ramachandran outliers		1.1%
Sidechain outliers		5.3%
RSRZ outliers		6.9%
RNA backbone		0.53

Worse   *Better*

■ Percentile relative to all X-ray structures

▯ Percentile relative to X-ray structures of similar resolution
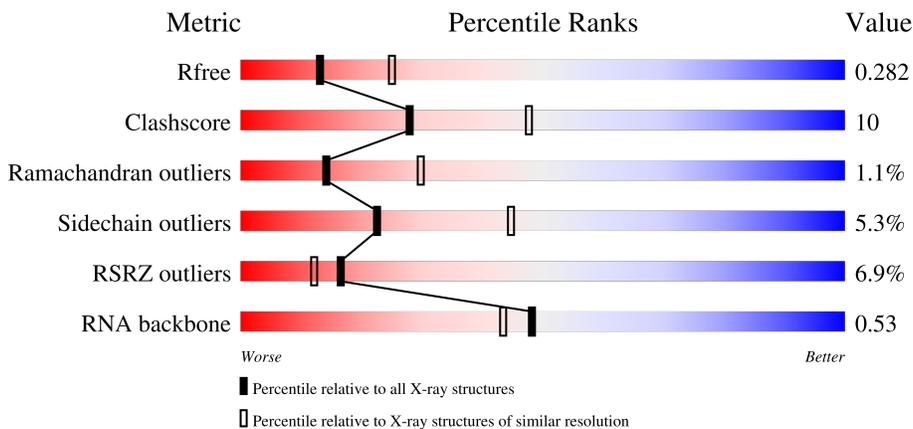
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	3163 (2.60-2.60)
Clashscore	141614	3518 (2.60-2.60)
Ramachandran outliers	138981	3455 (2.60-2.60)
Sidechain outliers	138945	3455 (2.60-2.60)
RSRZ outliers	127900	3104 (2.60-2.60)
RNA backbone	3102	1040 (2.90-2.30)

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
1	B	8	38% / 12% 62% 12% 12%
1	E	8	12% / 12% 50% 38%
2	C	7	29% / 14% 71% 14%
2	F	7	43% / 29% 57% 14%

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Mol	Chain	Length	Quality of chain
3	A	476	6% 81% 16% .
3	D	476	6% 80% 17% .

2 Entry composition ⓘ

There are 6 unique types of molecules in this entry. The entry contains 8205 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 RNA chain called 5'-R(P*UP*AP*GP*GP*GP*CP*CP*C)-3'.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	B	8	Total 171	C 76	N 31	O 56	P 8	0	0	0
1	E	8	Total 171	C 76	N 31	O 56	P 8	0	0	0

- Molecule 2 is a RNA chain called 5'-R(*GP*GP*GP*CP*CP*CP*(5FU))-3'.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
2	C	7	Total 147	C 66	F 1	N 26	O 48	P 6	0	0	0
2	F	7	Total 147	C 66	F 1	N 26	O 48	P 6	0	0	0

- Molecule 3 is a protein called RNA-dependent RNA polymerase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	A	474	Total 3741	C 2378	N 647	O 695	S 21	0	0	0
3	D	474	Total 3741	C 2378	N 647	O 695	S 21	0	0	0

There are 12 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	471	ALA	-	cloning artifact	UNP Q0QEE1
A	472	ALA	-	cloning artifact	UNP Q0QEE1
A	473	LEU	-	cloning artifact	UNP Q0QEE1
A	474	GLU	-	cloning artifact	UNP Q0QEE1
A	475	HIS	-	cloning artifact	UNP Q0QEE1
A	476	HIS	-	cloning artifact	UNP Q0QEE1
D	471	ALA	-	cloning artifact	UNP Q0QEE1
D	472	ALA	-	cloning artifact	UNP Q0QEE1

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Chain	Residue	Modelled	Actual	Comment	Reference
D	473	LEU	-	cloning artifact	UNP Q0QEE1
D	474	GLU	-	cloning artifact	UNP Q0QEE1
D	475	HIS	-	cloning artifact	UNP Q0QEE1
D	476	HIS	-	cloning artifact	UNP Q0QEE1

- Molecule 4 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	2	Total 2	Mg 2	0	0
4	D	2	Total 2	Mg 2	0	0

- Molecule 5 is PYROPHOSPHATE (three-letter code: PPV) (formula: $H_4O_7P_2$).
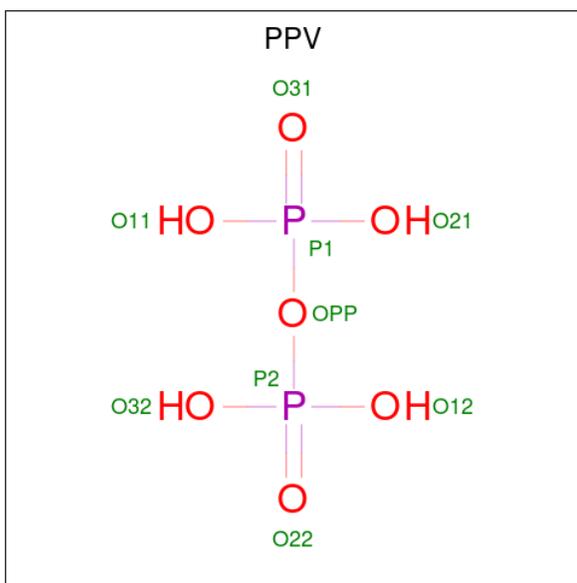
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
5	A	1	Total 9	O 7	P 2	0	0
5	D	1	Total 9	O 7	P 2	0	0

- Molecule 6 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	B	2	Total 2	O 2	0	0

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	C	1	Total 1	O 1	0	0
6	E	2	Total 2	O 2	0	0
6	F	1	Total 1	O 1	0	0
6	A	35	Total 35	O 35	0	0
6	D	24	Total 24	O 24	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 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: 5'-R(P*UP*AP*GP*GP*GP*CP*CP*C)-3'

Chain B:

• Molecule 1: 5'-R(P*UP*AP*GP*GP*GP*CP*CP*C)-3'

Chain E:

• Molecule 2: 5'-R(*GP*GP*GP*CP*CP*CP*(5FU))-3'

Chain C:

• Molecule 2: 5'-R(*GP*GP*GP*CP*CP*CP*(5FU))-3'

Chain F:

• Molecule 3: RNA-dependent RNA polymerase

Chain A:

E135 N136 L147 K148 K152 R153 E154 T161 F162 L163 R168 V173 I180 H188 I189 L190 R193 M194 M203 D220 V221 D222 W223 D238 S242 A243 F244 T277 N280 E286 N287 T291 V292 E293 G299 C300 S301 I306 N311 Y314

R321 H322 E327 K354 P355 H356 F357 K358 S359 L360 G361 Q362 D368 K369 S370 D371 K372 G373 L376 V383 K387 M392 D393 Y394 G397 F398 R417 H433 C467 G468 D469 A470 A471 A472 L473 E474 HIS HIS

• Molecule 3: RNA-dependent RNA polymerase

Chain D:

6%

80%   17%   •

G1 D5 T6 R7 D8 V9 E10 E11 R12 V13 H14 V15 M16 R17 A37 N41 K42 E48 V51 E54 V55 I56 H60 L85 H86 S87 V88 L89 L96 E100 D106 D109 D114 T115 A116 P117 W121 R127 R128 L131 E135 N136

L147 K148 K152 R153 E154 T161 F162 L163 R168 V173 I180 V181 H188 I189 L190 R193 M194 Q202 M203 V215 V221 D222 W223 D238 F244 D245 S250 T277 N280 E286 N287 T291 V292 E293 G299 C300 S301 N307 N311

Y314 R321 H322 E327 S335 Y336 G337 D338 K354 P355 H356 F357 K358 S359 L360 G361 Q362 D368 K369 S370 D371 K372 G373 L376 V383 K387 M392 D393 Y394 G397 R417 A428 E438 L458 C467 G468 D469 A470 A471 A472 L473 E474 HIS HIS

4 Data and refinement statistics ⓘ

Property	Value	Source
Space group	P 31 2 1	Depositor
Cell constants a, b, c, α, β, γ	95.60Å 95.60Å 201.16Å 90.00° 90.00° 120.00°	Depositor
Resolution (Å)	20.00 – 2.60 29.88 – 2.60	Depositor EDS
% Data completeness (in resolution range)	100.0 (20.00-2.60) 100.0 (29.88-2.60)	Depositor EDS
R_{merge}	0.90	Depositor
R_{sym}	0.74	Depositor
$< I/\sigma(I) >$ [1]	3.19 (at 2.61Å)	Xtriage
Refinement program	REFMAC 5.2.0019	Depositor
R, R_{free}	0.233 , 0.289 0.229 , 0.282	Depositor DCC
R_{free} test set	1694 reflections (5.05%)	wwPDB-VP
Wilson B-factor (Å^2)	45.2	Xtriage
Anisotropy	0.080	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.36 , 54.8	EDS
L-test for twinning[2]	$< \lvert L \rvert > = 0.50, < L^2 > = 0.33$	Xtriage
Estimated twinning fraction	0.028 for -h,-k,l	Xtriage
F_o,F_c correlation	0.94	EDS
Total number of atoms	8205	wwPDB-VP
Average B, all atoms (Å^2)	40.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The analyses of the Patterson function reveals a significant off-origin peak that is 81.22 % of the origin peak, indicating pseudo-translational symmetry. The chance of finding a peak of this or larger height randomly in a structure without pseudo-translational symmetry is equal to 3.7341e-07. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

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[1]Intensities estimated from amplitudes.

[2]Theoretical values of $< \lvert L \rvert >$, $< L^2 >$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality ⓘ

5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: PPV, MG, 5FU

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	B	1.01	0/190	1.71	4/294 (1.4%)
1	E	1.06	0/190	1.72	3/294 (1.0%)
2	C	0.84	0/140	1.37	0/217
2	F	0.87	0/140	1.50	0/217
3	A	0.64	0/3830	0.69	0/5186
3	D	0.65	0/3830	0.70	0/5186
All	All	0.67	0/8320	0.82	7/11394 (0.1%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
3	D	0	1

There are no bond length outliers.

The worst 5 of 7 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B	910	C	C1'-O4'-C4'	-6.98	104.31	109.90
1	E	909	C	O4'-C1'-N1	6.64	113.51	108.20
1	B	909	C	O4'-C1'-N1	6.59	113.48	108.20
1	E	908	C	O4'-C1'-N1	6.33	113.27	108.20
1	B	910	C	O4'-C1'-N1	6.12	113.09	108.20

There are no chirality outliers.

All (1) planarity outliers are listed below:

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Mol	Chain	Res	Type	Group
3	D	371	ASP	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	B	171	0	88	14	0
1	E	171	0	88	11	0
2	C	147	0	77	6	0
2	F	147	0	77	6	0
3	A	3741	0	3669	72	0
3	D	3741	0	3669	68	0
4	A	2	0	0	0	0
4	D	2	0	0	0	0
5	A	9	0	0	0	0
5	D	9	0	0	0	0
6	A	35	0	0	7	0
6	B	2	0	0	0	0
6	C	1	0	0	0	0
6	D	24	0	0	1	0
6	E	2	0	0	0	0
6	F	1	0	0	0	0
All	All	8205	0	7668	156	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 10.

The worst 5 of 156 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)
3:D:467:CYS:SG	3:D:470:ALA:HB3	1.64	1.37
3:A:467:CYS:SG	3:A:470:ALA:HB3	1.74	1.26
3:A:85:LEU:HD11	3:A:203:MET:CE	1.72	1.19
3:D:85:LEU:HD11	3:D:203:MET:CE	1.83	1.08
3:D:85:LEU:HD11	3:D:203:MET:HE1	1.01	1.01

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	
3	A	472/476 (99%)	449 (95%)	17 (4%)	6 (1%)	12	24
3	D	472/476 (99%)	446 (94%)	22 (5%)	4 (1%)	19	39
All	All	944/952 (99%)	895 (95%)	39 (4%)	10 (1%)	14	30

5 of 10 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	A	371	ASP
3	D	371	ASP
3	A	106	ASP
3	A	468	GLY
3	D	106	ASP

5.3.2 Protein sidechains ⓘ

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	
3	A	397/399 (100%)	375 (94%)	22 (6%)	21	43
3	D	397/399 (100%)	377 (95%)	20 (5%)	24	47
All	All	794/798 (100%)	752 (95%)	42 (5%)	22	45

5 of 42 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	D	136	ASN

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Mol	Chain	Res	Type
3	D	335	SER
3	D	147	LEU
3	D	221	VAL
3	D	360	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 20 such sidechains are listed below:

Mol	Chain	Res	Type
3	D	188	HIS
3	D	311	ASN
3	D	362	GLN
3	D	356	HIS
3	A	307	ASN

5.3.3   RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	B	7/8 (87%)	1 (14%)	1 (14%)
1	E	7/8 (87%)	1 (14%)	1 (14%)
2	C	7/7 (100%)	1 (14%)	1 (14%)
2	F	6/7 (85%)	1 (16%)	0
All	All	27/30 (90%)	4 (14%)	3 (11%)

All (4) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	B	905	G
2	C	916	G
1	E	905	G
2	F	917	G

All (3) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	B	905	G
2	C	915	G
1	E	904	A

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

2 non-standard protein/DNA/RNA residues 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	#$|Z| > 2$
2	5FU	C	921	2,1	19,22,23	1.17	2 (10%)	28,32,35	2.54	7 (25%)
2	5FU	F	921	2,1	19,22,23	1.04	1 (5%)	28,32,35	2.84	11 (39%)

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
2	5FU	C	921	2,1	-	0/7/25/26	0/2/2/2
2	5FU	F	921	2,1	-	0/7/25/26	0/2/2/2

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	F	921	5FU	C2-N1	-2.21	1.34	1.38
2	C	921	5FU	C2-N1	-2.19	1.34	1.38
2	C	921	5FU	C1'-N1	-2.10	1.41	1.47

The worst 5 of 18 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	C	921	5FU	C5-C4-N3	6.90	119.35	112.56
2	F	921	5FU	C5-C4-N3	6.85	119.30	112.56
2	C	921	5FU	O4-C4-C5	-5.88	120.41	125.72
2	F	921	5FU	O4-C4-C5	-5.85	120.44	125.72
2	C	921	5FU	C4-N3-C2	-5.43	120.32	127.35

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

1 monomer is involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	F	921	5FU	1	0

5.5 Carbohydrates ⓘ

There are no monosaccharides in this entry.

5.6 Ligand geometry ⓘ

Of 6 ligands modelled in this entry, 4 are monoatomic - leaving 2 for Mogul analysis.

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	#$|Z| > 2$
5	PPV	D	1930	4	6,8,8	0.67	0	13,13,13	1.07	0
5	PPV	A	930	4	6,8,8	0.63	0	13,13,13	1.09	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
5	PPV	D	1930	4	-	0/6/6/6	-
5	PPV	A	930	4	-	<mark>2/6/6/6</mark>	-

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (2) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
5	A	930	PPV	P1-OPP-P2-O32
5	A	930	PPV	P1-OPP-P2-O22

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 ⓘ

In the following table, the column labelled '#RSRZ> 2' contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95th percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled 'Q< 0.9' lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å²)	Q<0.9
1	B	8/8 (100%)	1.43	3 (37%)	0	0	46, 55, 70, 88	8 (100%)
1	E	8/8 (100%)	1.43	1 (12%)	3	2	51, 53, 67, 91	8 (100%)
2	C	6/7 (85%)	1.36	2 (33%)	0	0	41, 48, 73, 78	6 (100%)
2	F	6/7 (85%)	1.44	3 (50%)	0	0	43, 47, 68, 68	6 (100%)
3	A	474/476 (99%)	0.21	29 (6%)	21	16	34, 39, 44, 47	0
3	D	474/476 (99%)	0.21	29 (6%)	21	16	34, 39, 44, 47	0
All	All	976/982 (99%)	0.24	67 (6%)	16	12	34, 39, 46, 91	28 (2%)

The worst 5 of 67 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
3	D	371	ASP	6.7
3	A	370	SER	6.6
3	A	371	ASP	6.3
1	B	903	U	5.1
3	D	13	VAL	5.0

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

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, 95th 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(Å²)	Q<0.9
2	5FU	F	921	21/22	0.84	0.25	20,48,52,53	21
2	5FU	C	921	21/22	0.89	0.20	20,42,44,46	21

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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, 95th 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^2)	Q<0.9
4	MG	D	1781	1/1	0.73	0.21	66,66,66,66	0
5	PPV	A	930	9/9	0.73	0.24	80,81,84,84	9
4	MG	D	1780	1/1	0.76	0.14	38,38,38,38	0
4	MG	A	781	1/1	0.80	0.17	57,57,57,57	0
5	PPV	D	1930	9/9	0.83	0.23	78,79,79,80	9
4	MG	A	780	1/1	0.89	0.19	41,41,41,41	0

6.5 Other polymers (i)

There are no such residues in this entry.