W O R L D W I D E
wwPDB
PROTEIN DATA BANK

wwPDB X-ray Structure Validation Summary Report ⓘ

Feb 20, 2024 – 06:47 AM EST

|		
PDB ID	:	4MEY
Title	:	Crystal structure of Escherichia coli RNA polymerase holoenzyme
Authors	:	Feng, Y.; Zhang, Y.; Arnold, E.; Ebright, R.H.
Deposited on	:	2013-08-27
Resolution	:	3.95 Å(reported)

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 3.95 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.
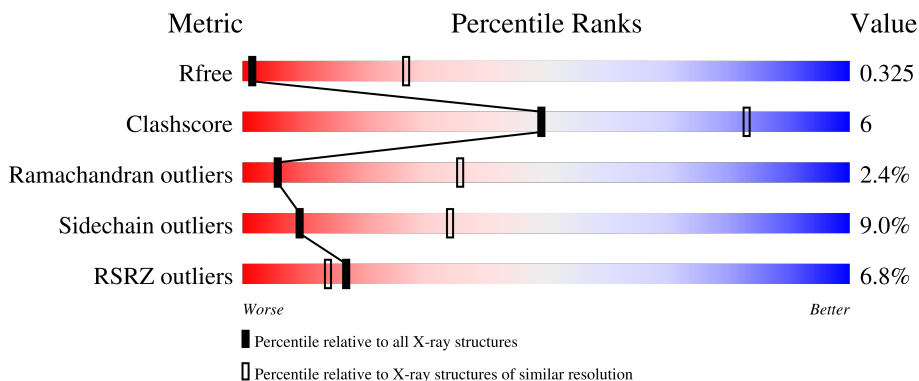
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	1036 (4.20-3.68)
Clashscore	141614	1009 (4.18-3.70)
Ramachandran outliers	138981	1057 (4.20-3.68)
Sidechain outliers	138945	1049 (4.20-3.68)
RSRZ outliers	127900	1007 (4.24-3.64)

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	A	335	7% / 69% / 17% / · / 11%
1	B	335	12% / 65% / 17% / · / 14%
1	G	335	3% / 52% / 11% / · / 36%
1	H	335	10% / 49% / 13% / · / 36%
2	C	1342	7% / 82% / 17% / ·

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Mol	Chain	Length	Quality of chain
2	I	1342	11% 82% 17%
3	D	1407	2% 66% 14% 18%
3	J	1407	2% 66% 13% 19%
4	E	91	78% 16%
4	K	91	% 68% 12% 18%
5	F	613	7% 61% 14% 24%
5	L	613	6% 60% 14% 24%

2   Entry composition ⓘ

There are 7 unique types of molecules in this entry. The entry contains 49826 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 DNA-directed RNA polymerase subunit alpha.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	298	Total	C	N	O	S	0	0	0
			2236	1405	391	432	8			
1	B	287	Total	C	N	O	S	0	0	0
			2160	1359	374	419	8			
1	G	216	Total	C	N	O	S	0	0	0
			1618	1013	282	317	6			
1	H	215	Total	C	N	O	S	0	0	0
			1605	1005	278	316	6			

There are 24 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-4	HIS	-	expression tag	UNP P0A7Z4
A	-3	HIS	-	expression tag	UNP P0A7Z4
A	-2	HIS	-	expression tag	UNP P0A7Z4
A	-1	HIS	-	expression tag	UNP P0A7Z4
A	0	HIS	-	expression tag	UNP P0A7Z4
A	1	HIS	-	expression tag	UNP P0A7Z4
B	-4	HIS	-	expression tag	UNP P0A7Z4
B	-3	HIS	-	expression tag	UNP P0A7Z4
B	-2	HIS	-	expression tag	UNP P0A7Z4
B	-1	HIS	-	expression tag	UNP P0A7Z4
B	0	HIS	-	expression tag	UNP P0A7Z4
B	1	HIS	-	expression tag	UNP P0A7Z4
G	-4	HIS	-	expression tag	UNP P0A7Z4
G	-3	HIS	-	expression tag	UNP P0A7Z4
G	-2	HIS	-	expression tag	UNP P0A7Z4
G	-1	HIS	-	expression tag	UNP P0A7Z4
G	0	HIS	-	expression tag	UNP P0A7Z4
G	1	HIS	-	expression tag	UNP P0A7Z4
H	-4	HIS	-	expression tag	UNP P0A7Z4
H	-3	HIS	-	expression tag	UNP P0A7Z4
H	-2	HIS	-	expression tag	UNP P0A7Z4

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Chain	Residue	Modelled	Actual	Comment	Reference
H	-1	HIS	-	expression tag	UNP P0A7Z4
H	0	HIS	-	expression tag	UNP P0A7Z4
H	1	HIS	-	expression tag	UNP P0A7Z4

- Molecule 2 is a protein called DNA-directed RNA polymerase subunit beta.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	C	1340	Total 9522	C 5999	N 1675	O 1829	S 19	3	0	0
2	I	1340	Total 9544	C 6013	N 1676	O 1835	S 20	3	0	0

- Molecule 3 is a protein called DNA-directed RNA polymerase subunit beta'.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	D	1147	Total 7549	C 4756	N 1355	O 1411	S 27	0	0	0
3	J	1140	Total 7512	C 4733	N 1348	O 1404	S 27	0	0	0

- Molecule 4 is a protein called DNA-directed RNA polymerase subunit omega.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
4	E	89	Total 482	C 299	N 93	O 90	0	0	0
4	K	75	Total 408	C 253	N 79	O 76	0	0	0

- Molecule 5 is a protein called RNA polymerase sigma factor RpoD.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	F	464	Total 3592	C 2253	N 643	O 682	S 14	0	0	0
5	L	464	Total 3592	C 2253	N 643	O 682	S 14	0	0	0

- Molecule 6 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	D	1	Total 1	Mg 1	0	0

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	J	1	Total 1	Mg 1	0	0

- Molecule 7 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
7	D	2	Total 2	Zn 2	0	0
7	J	2	Total 2	Zn 2	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: DNA-directed RNA polymerase subunit alpha

- Molecule 1: DNA-directed RNA polymerase subunit alpha

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• Molecule 1: DNA-directed RNA polymerase subunit alpha
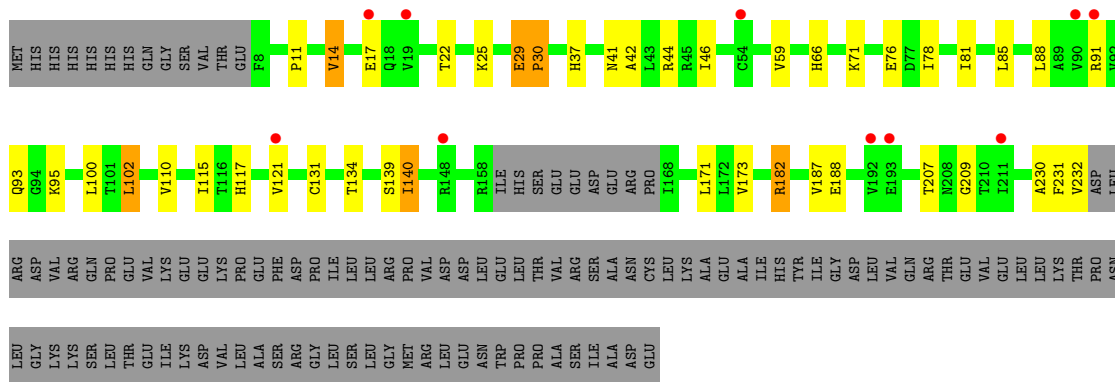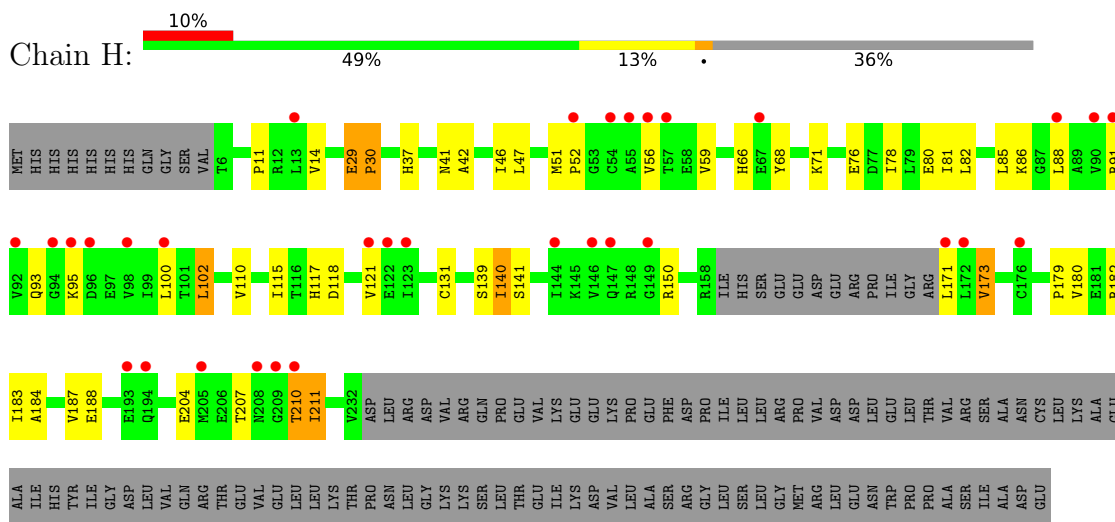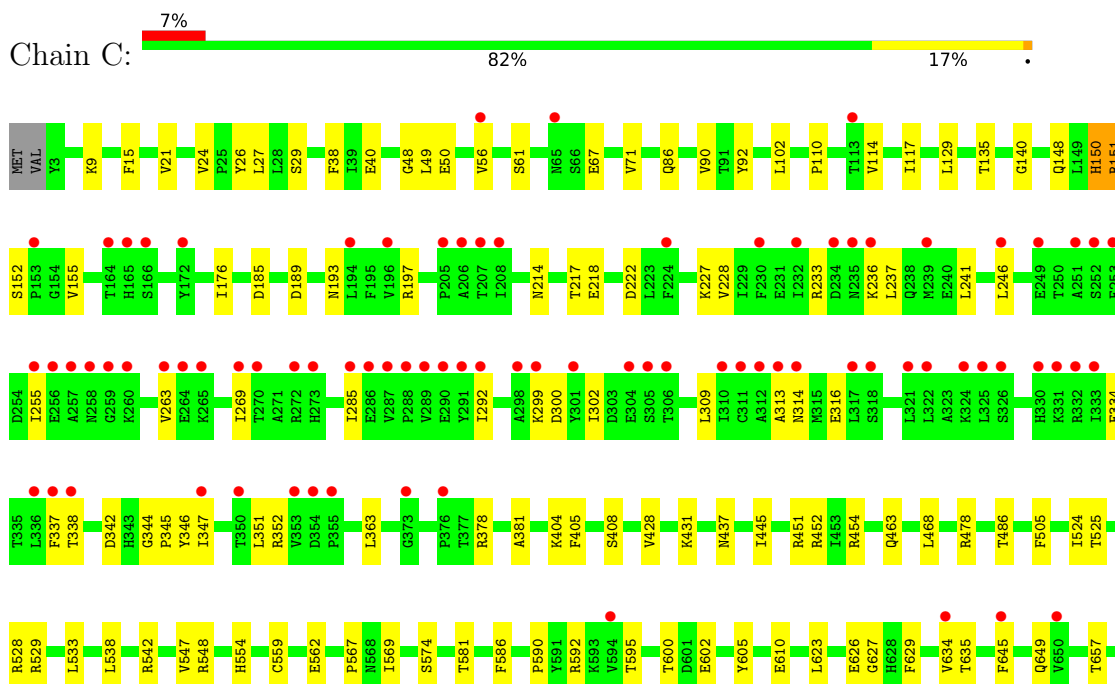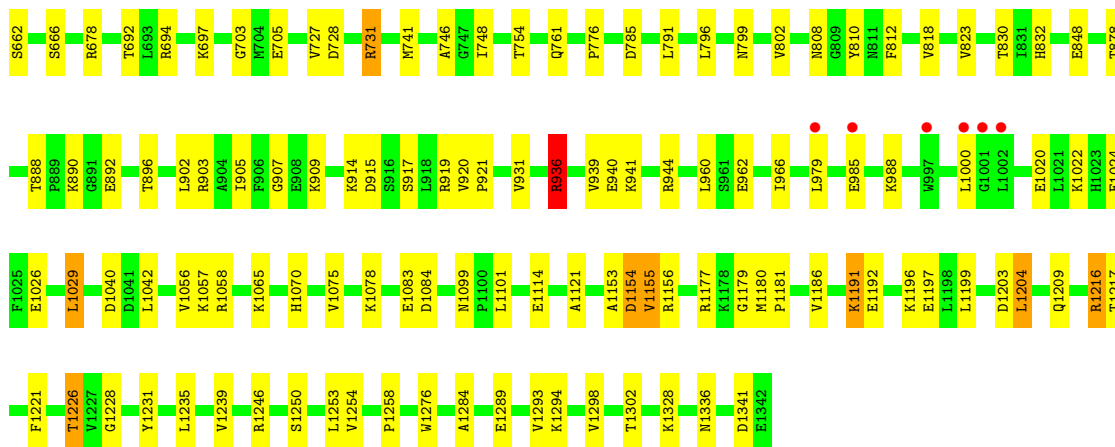
Chain H:

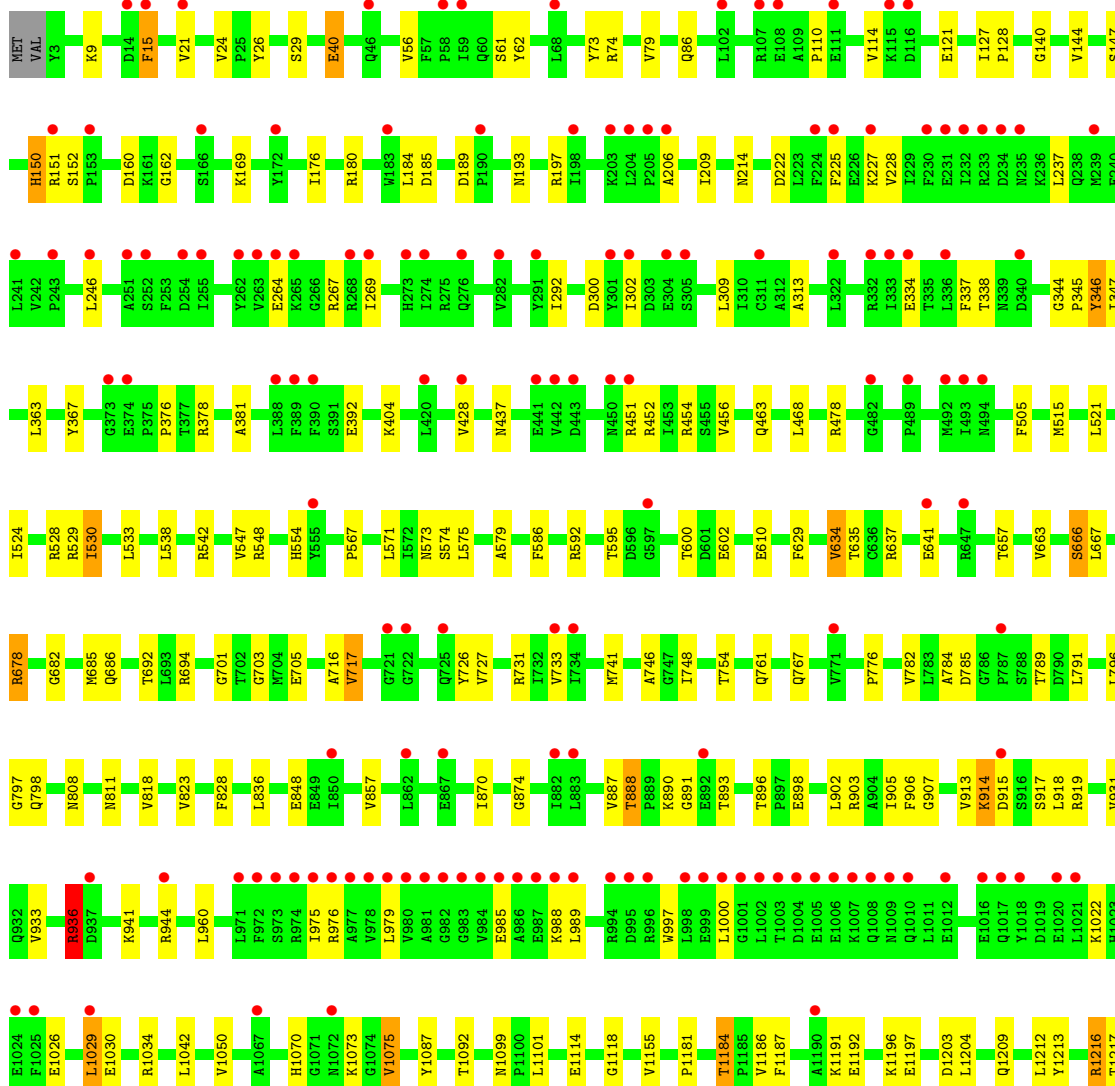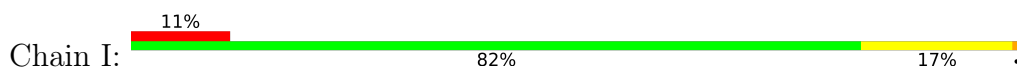• Molecule 2: DNA-directed RNA polymerase subunit beta

Chain C:

• Molecule 2: DNA-directed RNA polymerase subunit beta

F1221 T1226 Y1229 M1230 Y1231 V1239 M1243 H1244 A1245 R1246 S1250 Y1251 T1255 Q1256 Q1257 P1258 K1262 F1265 Q1268 W1276 G1282 E1289 V1293 K1294 S1295 D1296 D1297 V1298 N1299 L1333 G1334 I1335 N1336 D1341 E1342

• Molecule 3: DNA-directed RNA polymerase subunit beta'

Chain D:

MET LYS ASP LEU LEU LYS PHE LEU K9 A23 L24 V38 E42 Y46 R47 L56 F57 C58 F62 Y68 E69 Y75 K76 V90 E91 V92 T93 R98 R99 E100 R101 M102 A108 H113 I114 W115 K118 L127 L128 Y140 E148 M151

D167 K179 A184 L189 K190 S191 M192 D193 E204 T208 N209 S210 R214 T218 K219 R220 F227 N232 K233 P234 T240 L245 P246 P247 R250 P254 T262 N266 D267 L268 R271 V272 R278 L279 P288 N294 R297 M298 E301

L306 R311 R312 T317 P323 K332 GLY LYS GLN GLY ARG PHE ARG GLN ASN LEU LEU GLY K345 R352 S353 V357 G367 K370 L374 T392 V401 V407 V408 W409 H419 P420 V421 L422 R425 H430 I447 Q448 P451 L452 F461

D462 G463 M466 P471 Q477 L478 E479 M484 L491 G496 I499 D505 V506 M513 T514 K531 S539 V550 Y555 E562 L563 V564 T567 S568 L569 T573 V574 G575 R576 A577 I582 P588 A595 K603 T607 C608 Y609 L612

P616 T617 M625 G628 A632 A633 R634 S635 S638 I646 K650 V661 T674 R678 W686 N690 V693 S718 S721 R731 G732 S733 I737 R738 Q739 M743 R744 G745 L746 S753 E756 T757 P758 R764 E765 G766 L767 N768 V769

A779 R780 K781 G782 L783 A784 D785 T786 T790 V801 T810 D813 T816 V825 G828 E833 P834 R842 V843 T844 P851 V858 P859 T862 H865 W868 C869 V877 V880 R883 V886 V894 Y899 L903 G906 E913

Q929 LEU THR MET ARG THR PHE HIS GLY GLY ALA ALA SER ARG ALA ALA GLU SER ILE GLN VAL LYS ASN LYS GLY SER ILE LYS LEU SER VAL VAL ASN SER VAL VAL SER GLY LEU VAL ILE THR SER ARG THR GLU LYS ILE ASP GLU

PHE GLY ARG THR LYS GLU SER TYR LYS PRO TYR ALA VAL LEU ALA LYS ASP GLY GLY GLN VAL ALA GLY GLU THR VAL ALA ASN TRP ASP PRO HIS THR MET PRO VAL ILE GLU GLU VAL SER GLY PHE GLY VAL ARG PHE ASP MET ASP GLY GLY LEU ASP GLY THR ILE THR

ARG GLN THR ASP GLU LEU THR GLY LEU SER SER LEU VAL VAL LEU ASP SER SER ALA GLU ARG THR ALA GLY GLY LYS ASP LEU ARG PRO ALA LEU LYS ILE VAL ASP ALA GLN GLY GLY ASP VAL LEU THR ASP MET ALA GLN LEU TYR PHE LEU PRO GLY LYS ALA ILE VAL

GLN LEU GLU ASP GLY VAL GLN ILE SER SER GLY ASP THR LEU ALA ARG ILE PRO GLN GLU SER GLY GLY THR LYS ASP ILE THR GLY G1137 E1146 R1149 P1150 P1153 A1154 I1155 L1156 A1157 S1160 E1168 T1169 K1170 G1171 K1172 R1173 R1174 L1175 V1176 I1177 P1185 I1190 P1191

V1204 D1208 P1214 L1221 G1225 V1226 K1251 E1254 V1257 M1260 T1265 Y1282 N1295 G1296 G1299 L1306 T1310 T1316 E1317 S1318 D1342 G1346 N1350 R1355 G1360 A1374 ALA GLY GLU GLU ALA PRO ALA ALA PRO GLN VAL THR ALA GLU

ASP ALA SER ALA LEU SER LEU ALA GLU LEU LEU ASN ALA GLY LEU GLY SER ASP ASN GLU

• Molecule 3: DNA-directed RNA polymerase subunit beta'

Chain J:

• Molecule 4: DNA-directed RNA polymerase subunit omega

Chain E:

• Molecule 4: DNA-directed RNA polymerase subunit omega

Chain K:

• Molecule 5: RNA polymerase sigma factor RpoD

• Molecule 5: RNA polymerase sigma factor RpoD

4 Data and refinement statistics ⓘ

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α, β, γ	186.39Å 207.24Å 308.30Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	49.92 – 3.95 49.92 – 3.95	Depositor EDS
% Data completeness (in resolution range)	96.6 (49.92-3.95) 96.2 (49.92-3.95)	Depositor EDS
R_{merge}	0.12	Depositor
R_{sym}	0.12	Depositor
$< I/\sigma(I) >$ [1]	2.45 (at 4.00Å)	Xtriage
Refinement program	PHENIX (phenix.refine: 1.8_1069)	Depositor
R, R_{free}	0.276 , 0.325 0.277 , 0.325	Depositor DCC
R_{free} test set	2079 reflections (2.00%)	wwPDB-VP
Wilson B-factor (Å^2)	142.5	Xtriage
Anisotropy	0.187	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.25 , 153.4	EDS
L-test for twinning[2]	$< |L| > = 0.44$, $< L^2 > = 0.27$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.88	EDS
Total number of atoms	49826	wwPDB-VP
Average B, all atoms (Å^2)	148.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.67% 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 ⓘ

5.1 Standard geometry ⓘ

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

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	0/2263	0.49	0/3073
1	B	0.25	0/2185	0.49	0/2967
1	G	0.24	0/1636	0.47	0/2221
1	H	0.23	0/1623	0.46	0/2205
2	C	0.26	0/9653	0.47	1/13062 (0.0%)
2	I	0.25	0/9676	0.45	1/13089 (0.0%)
3	D	0.28	0/7644	0.50	0/10385
3	J	0.25	0/7607	0.47	0/10334
4	E	0.33	0/482	0.63	1/662 (0.2%)
4	K	0.24	0/407	0.48	0/558
5	F	0.25	0/3636	0.47	2/4892 (0.0%)
5	L	0.25	0/3636	0.47	2/4892 (0.0%)
All	All	0.26	0/50448	0.48	7/68340 (0.0%)

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})
4	E	39	VAL	C-N-CA	7.62	153.99	122.00
2	I	936	ARG	NE-CZ-NH2	6.31	123.45	120.30
2	C	936	ARG	NE-CZ-NH2	5.72	123.16	120.30
5	F	149	ASP	CB-CG-OD2	5.23	123.00	118.30
5	L	149	ASP	CB-CG-OD2	5.17	122.96	118.30

There are no chirality outliers.

There are no planarity outliers.

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	2236	0	2254	31	0
1	B	2160	0	2184	30	0
1	G	1618	0	1622	22	0
1	H	1605	0	1599	28	0
2	C	9522	0	8569	113	0
2	I	9544	0	8601	125	0
3	D	7549	0	6266	88	0
3	J	7512	0	6245	87	0
4	E	482	0	301	7	0
4	K	408	0	255	9	0
5	F	3592	0	3433	40	0
5	L	3592	0	3433	46	0
6	D	1	0	0	0	0
6	J	1	0	0	0	0
7	D	2	0	0	0	0
7	J	2	0	0	0	0
All	All	49826	0	44762	558	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 6.

The worst 5 of 558 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:J:910:ASN:CG	4:K:15:ASN:HB2	1.65	1.17
2:I:936:ARG:HH21	2:I:936:ARG:HG3	1.29	0.98
2:C:936:ARG:HH21	2:C:936:ARG:HG3	1.33	0.92
2:C:808:ASN:H	3:D:633:ALA:HB2	1.44	0.82
1:G:11:PRO:HA	1:G:30:PRO:HD2	1.65	0.79

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	292/335 (87%)	268 (92%)	14 (5%)	10 (3%)	3	30
1	B	281/335 (84%)	257 (92%)	12 (4%)	12 (4%)	2	25
1	G	212/335 (63%)	193 (91%)	14 (7%)	5 (2%)	6	36
1	H	211/335 (63%)	195 (92%)	12 (6%)	4 (2%)	8	40
2	C	1338/1342 (100%)	1259 (94%)	60 (4%)	19 (1%)	11	45
2	I	1338/1342 (100%)	1257 (94%)	65 (5%)	16 (1%)	13	49
3	D	1141/1407 (81%)	1030 (90%)	75 (7%)	36 (3%)	4	31
3	J	1134/1407 (81%)	1026 (90%)	71 (6%)	37 (3%)	4	30
4	E	87/91 (96%)	72 (83%)	6 (7%)	9 (10%)	0	9
4	K	73/91 (80%)	61 (84%)	5 (7%)	7 (10%)	0	10
5	F	456/613 (74%)	437 (96%)	14 (3%)	5 (1%)	14	50
5	L	456/613 (74%)	436 (96%)	14 (3%)	6 (1%)	12	47
All	All	7019/8246 (85%)	6491 (92%)	362 (5%)	166 (2%)	6	36

5 of 166 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	93	GLN
1	A	188	GLU
1	A	229	GLU
1	A	319	GLU
1	A	320	ASN

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	
1	A	239/292 (82%)	220 (92%)	19 (8%)	12	40
1	B	233/292 (80%)	215 (92%)	18 (8%)	13	41
1	G	173/292 (59%)	163 (94%)	10 (6%)	20	48
1	H	171/292 (59%)	159 (93%)	12 (7%)	15	43
2	C	822/1157 (71%)	763 (93%)	59 (7%)	14	42
2	I	828/1157 (72%)	770 (93%)	58 (7%)	15	43
3	D	517/1168 (44%)	451 (87%)	66 (13%)	4	22
3	J	515/1168 (44%)	447 (87%)	68 (13%)	4	22
4	E	10/75 (13%)	8 (80%)	2 (20%)	1	8
4	K	9/75 (12%)	8 (89%)	1 (11%)	6	26
5	F	348/540 (64%)	312 (90%)	36 (10%)	7	28
5	L	348/540 (64%)	317 (91%)	31 (9%)	9	35
All	All	4213/7048 (60%)	3833 (91%)	380 (9%)	9	34

5 of 380 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	I	529	ARG
3	J	167	ASP
2	I	595	THR
2	I	902	LEU
3	J	501	VAL

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 65 such sidechains are listed below:

Mol	Chain	Res	Type
3	J	897	HIS
5	L	128	ASN
3	D	424	ASN
3	D	294	ASN
5	L	129	GLN

5.3.3 RNA ⓘ

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

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers ⓘ

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	A	298/335 (88%)	0.24	24 (8%)	12	11	27, 114, 296, 459	0
1	B	287/335 (85%)	0.64	41 (14%)	2	3	36, 191, 420, 550	0
1	G	216/335 (64%)	0.30	10 (4%)	32	27	33, 168, 289, 370	0
1	H	215/335 (64%)	0.62	32 (14%)	2	3	68, 188, 341, 524	0
2	C	1340/1342 (99%)	0.14	89 (6%)	18	14	2, 102, 402, 550	1 (0%)
2	I	1340/1342 (99%)	0.38	147 (10%)	5	5	3, 144, 388, 550	1 (0%)
3	D	1147/1407 (81%)	-0.21	23 (2%)	65	56	3, 72, 236, 550	0
3	J	1140/1407 (81%)	-0.11	32 (2%)	53	42	3, 96, 268, 550	0
4	E	89/91 (97%)	-0.69	0	100	100	6, 76, 206, 285	0
4	K	75/91 (82%)	0.05	1 (1%)	77	68	47, 171, 393, 535	0
5	F	464/613 (75%)	0.33	45 (9%)	7	7	21, 149, 369, 550	0
5	L	464/613 (75%)	0.32	39 (8%)	11	10	31, 169, 397, 550	0
All	All	7075/8246 (85%)	0.14	483 (6%)	17	14	2, 121, 352, 550	2 (0%)

The worst 5 of 483 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
2	I	1000	LEU	17.7
5	L	315	TRP	15.5
2	C	311	CYS	14.6
2	C	305	SER	12.4
2	I	1001	GLY	12.3

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

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

6.3　Carbohydrates ⓘ

There are no monosaccharides in this entry.

6.4　Ligands ⓘ

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
6	MG	J	2000	1/1	0.37	0.36	396,396,396,396	0
6	MG	D	2000	1/1	0.74	0.35	320,320,320,320	0
7	ZN	D	2001	1/1	0.99	0.07	83,83,83,83	0
7	ZN	D	2002	1/1	0.99	0.20	68,68,68,68	0
7	ZN	J	2001	1/1	0.99	0.09	104,104,104,104	0
7	ZN	J	2002	1/1	0.99	0.19	63,63,63,63	0

6.5　Other polymers ⓘ

There are no such residues in this entry.