



# wwPDB X-ray Structure Validation Summary Report ⓘ

Feb 20, 2024 – 07:21 AM EST

PDB ID : 4LLG  
Title : Crystal Structure Analysis of the E.coli holoenzyme/Gp2 complex  
Authors : Bae, B.; Darst, S.A.  
Deposited on : 2013-07-09  
Resolution : 3.79 Å(reported)

This is a wwPDB X-ray Structure Validation Summary Report for a publicly released PDB entry.

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.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

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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  
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

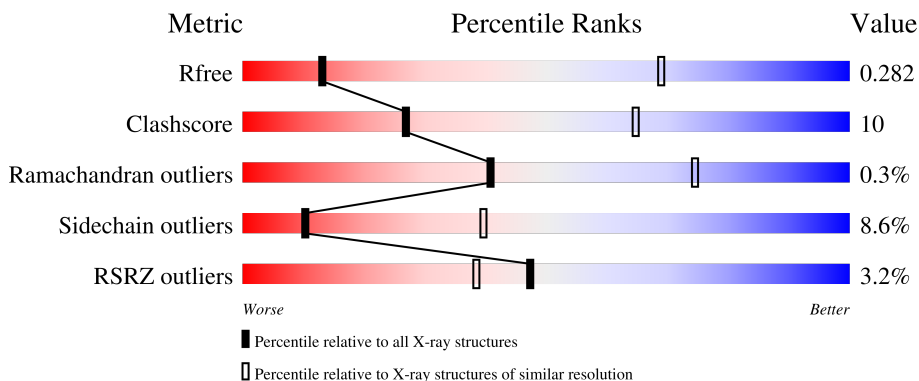
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 3.79 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	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)
RSRZ outliers	127900	1121 (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  $\geq 3$ , 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  $\leq 5\%$ . 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	239	
1	B	239	
1	G	239	
1	H	239	
2	C	1342	

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Mol	Chain	Length	Quality of chain
2	I	1342	
3	D	1407	
3	J	1407	
4	E	91	
4	K	91	
5	F	613	
5	L	613	
6	M	64	
6	N	64	

## 2 Entry composition i

There are 8 unique types of molecules in this entry. The entry contains 59147 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
			Total	C	N	O	S			
1	A	224	1730	1076	308	340	6	0	0	0
1	B	220	1687	1053	298	330	6	0	0	0
1	G	228	1750	1088	312	344	6	0	0	0
1	H	217	1667	1041	293	327	6	0	0	0

There are 20 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	235	GLU	-	expression tag	UNP C9QXI7
A	236	VAL	-	expression tag	UNP C9QXI7
A	237	LEU	-	expression tag	UNP C9QXI7
A	238	PHE	-	expression tag	UNP C9QXI7
A	239	GLN	-	expression tag	UNP C9QXI7
B	235	GLU	-	expression tag	UNP C9QXI7
B	236	VAL	-	expression tag	UNP C9QXI7
B	237	LEU	-	expression tag	UNP C9QXI7
B	238	PHE	-	expression tag	UNP C9QXI7
B	239	GLN	-	expression tag	UNP C9QXI7
G	235	GLU	-	expression tag	UNP C9QXI7
G	236	VAL	-	expression tag	UNP C9QXI7
G	237	LEU	-	expression tag	UNP C9QXI7
G	238	PHE	-	expression tag	UNP C9QXI7
G	239	GLN	-	expression tag	UNP C9QXI7
H	235	GLU	-	expression tag	UNP C9QXI7
H	236	VAL	-	expression tag	UNP C9QXI7
H	237	LEU	-	expression tag	UNP C9QXI7
H	238	PHE	-	expression tag	UNP C9QXI7
H	239	GLN	-	expression tag	UNP C9QXI7

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	C	1340	Total	C	N	O	S	0	0	0
			10570	6631	1841	2055	43			
2	I	1340	Total	C	N	O	S	0	0	0
			10566	6629	1840	2054	43			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
3	D	1345	Total	C	N	O	S	0	0	0
			10447	6560	1864	1974	49			
3	J	1325	Total	C	N	O	S	0	0	0
			10295	6470	1831	1945	49			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
4	E	89	Total	C	N	O	S	0	0	0
			691	421	129	140	1			
4	K	79	Total	C	N	O	S	0	0	0
			627	382	118	126	1			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
5	F	521	Total	C	N	O	S	0	0	0
			4161	2609	735	791	26			
5	L	519	Total	C	N	O	S	0	0	0
			4155	2605	733	791	26			

- Molecule 6 is a protein called Bacterial RNA polymerase inhibitor.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
6	M	50	Total	C	N	O	S	0	0	0
			406	264	63	78	1			
6	N	48	Total	C	N	O	S	0	0	0
			389	253	60	75	1			

- Molecule 7 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
7	D	1	Total Mg 1 1	0	0
7	J	1	Total Mg 1 1	0	0

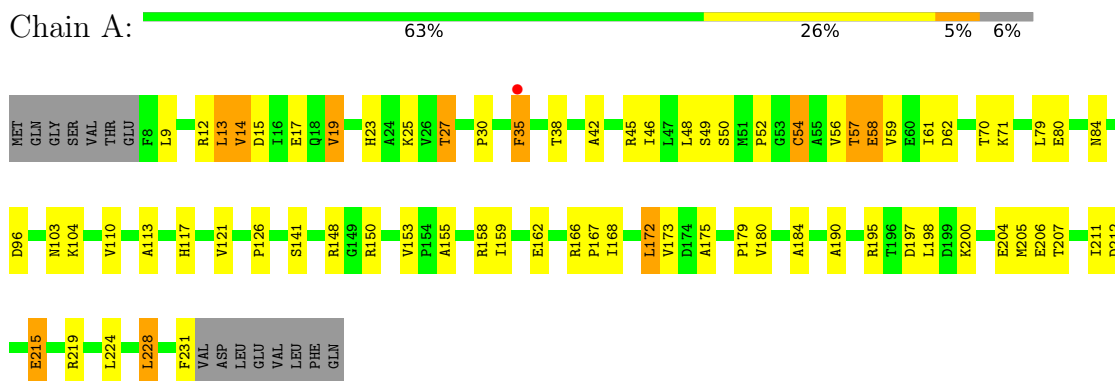
- Molecule 8 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
8	D	2	Total Zn 2 2	0	0
8	J	2	Total Zn 2 2	0	0

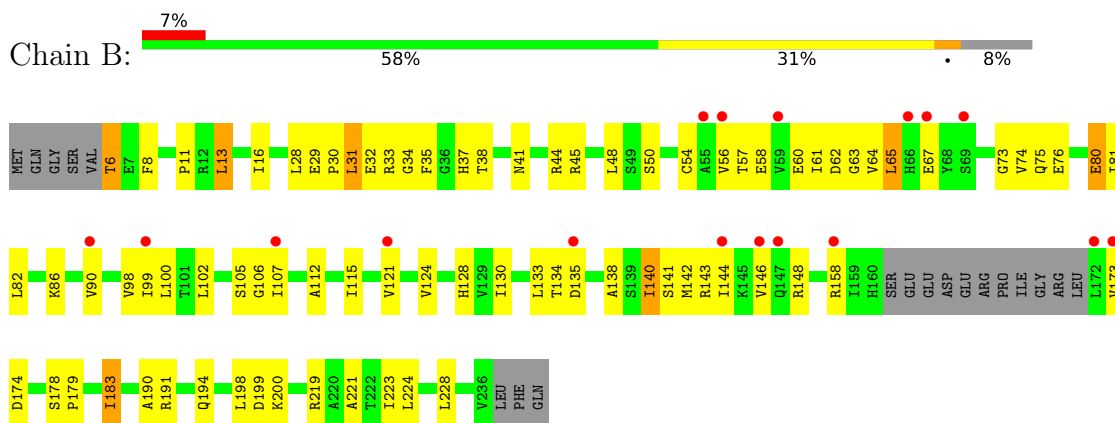
### 3 Residue-property plots [i](#)

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 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.

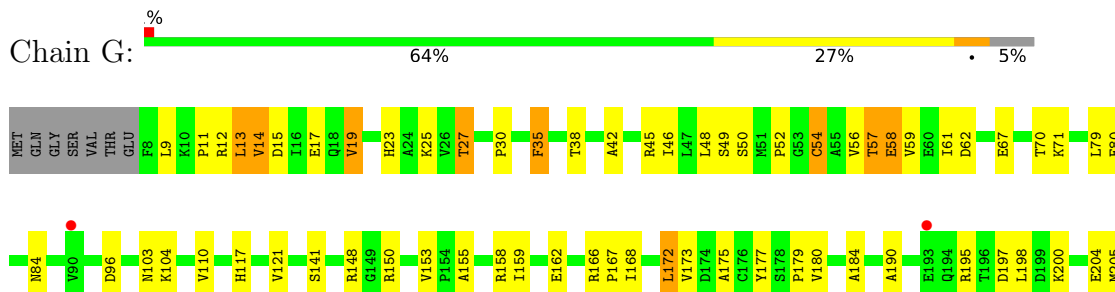
- Molecule 1: DNA-directed RNA polymerase subunit alpha



- Molecule 1: DNA-directed RNA polymerase subunit alpha

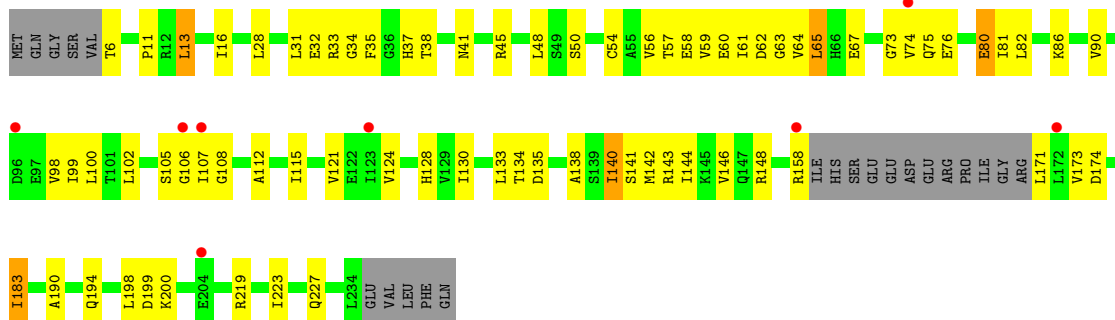


- Molecule 1: DNA-directed RNA polymerase subunit alpha

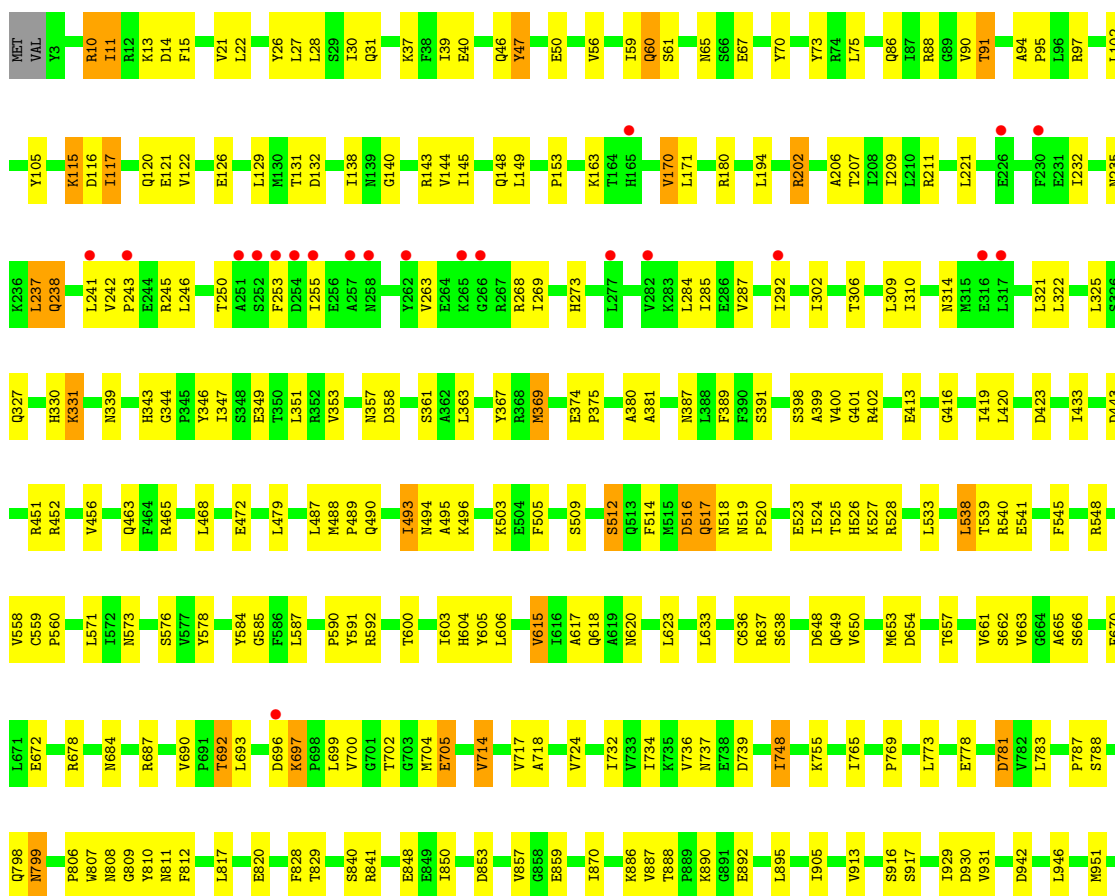




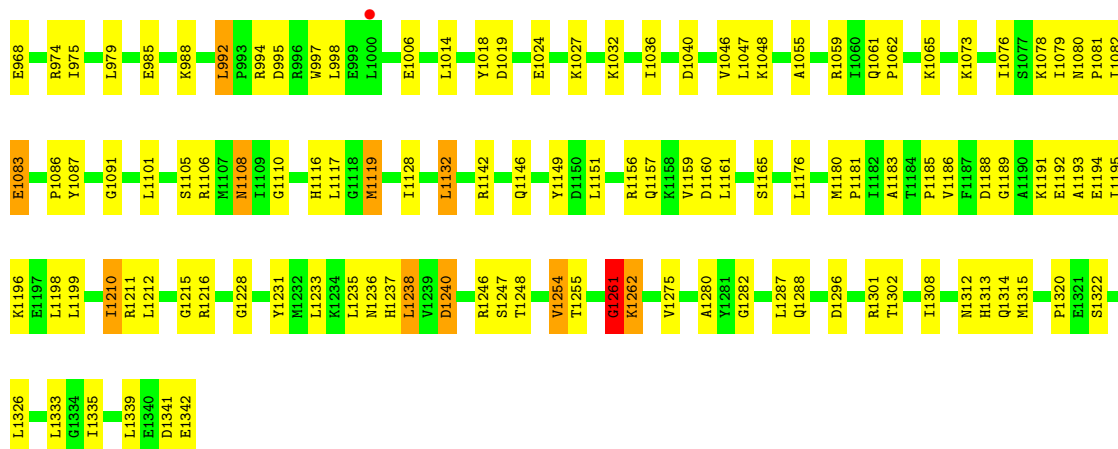
● Molecule 1: DNA-directed RNA polymerase subunit alpha



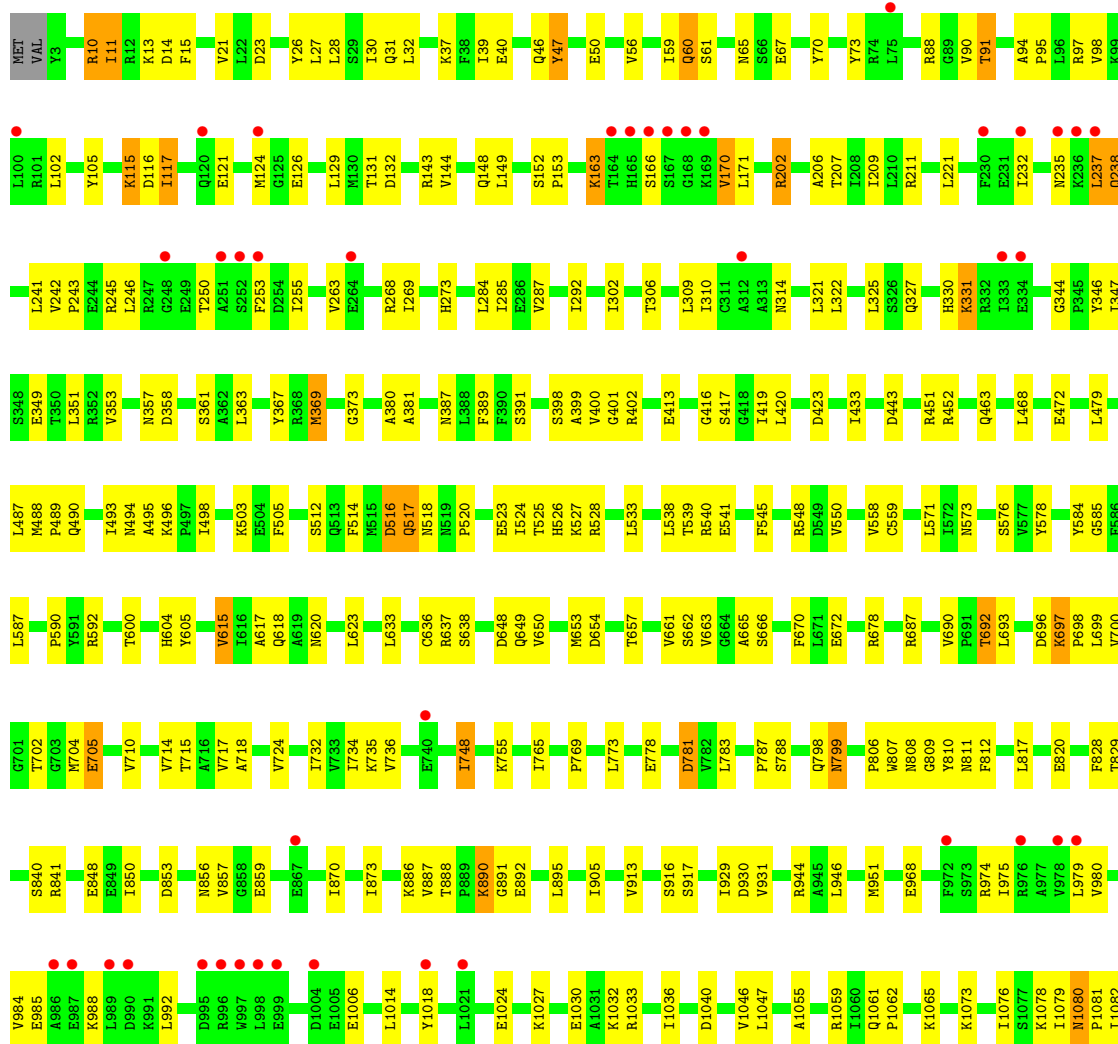
● Molecule 2: DNA-directed RNA polymerase subunit beta

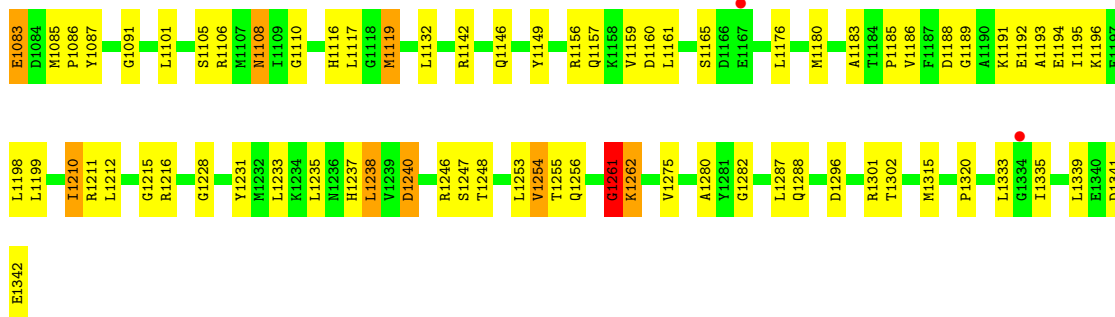




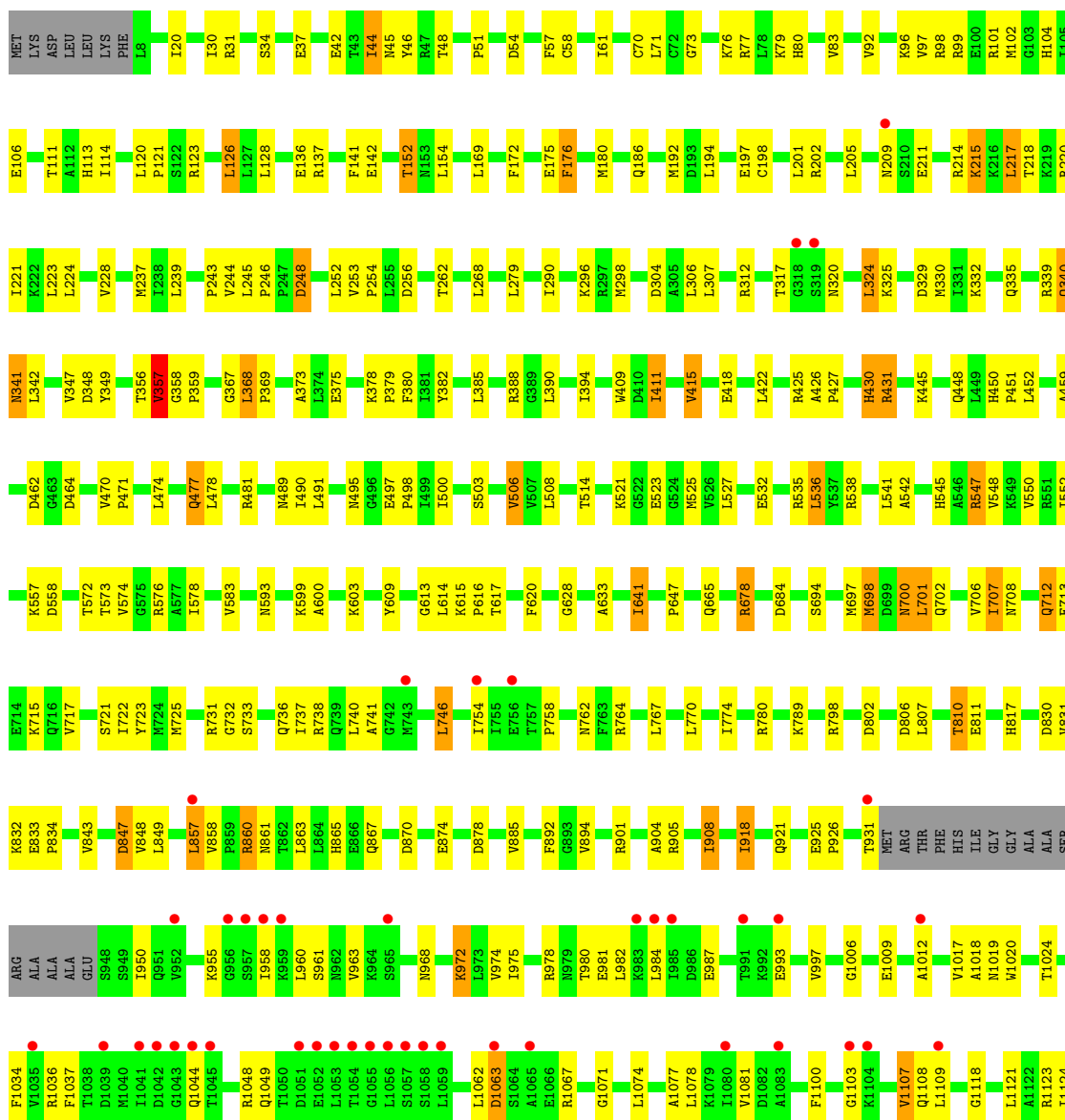


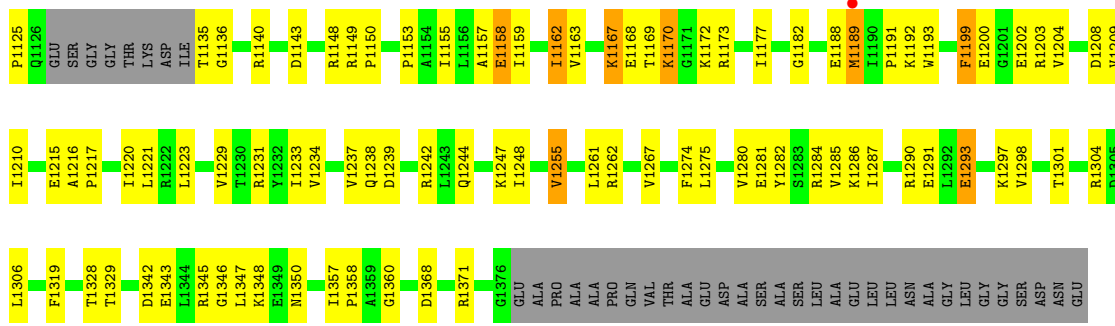
● Molecule 2: DNA-directed RNA polymerase subunit beta



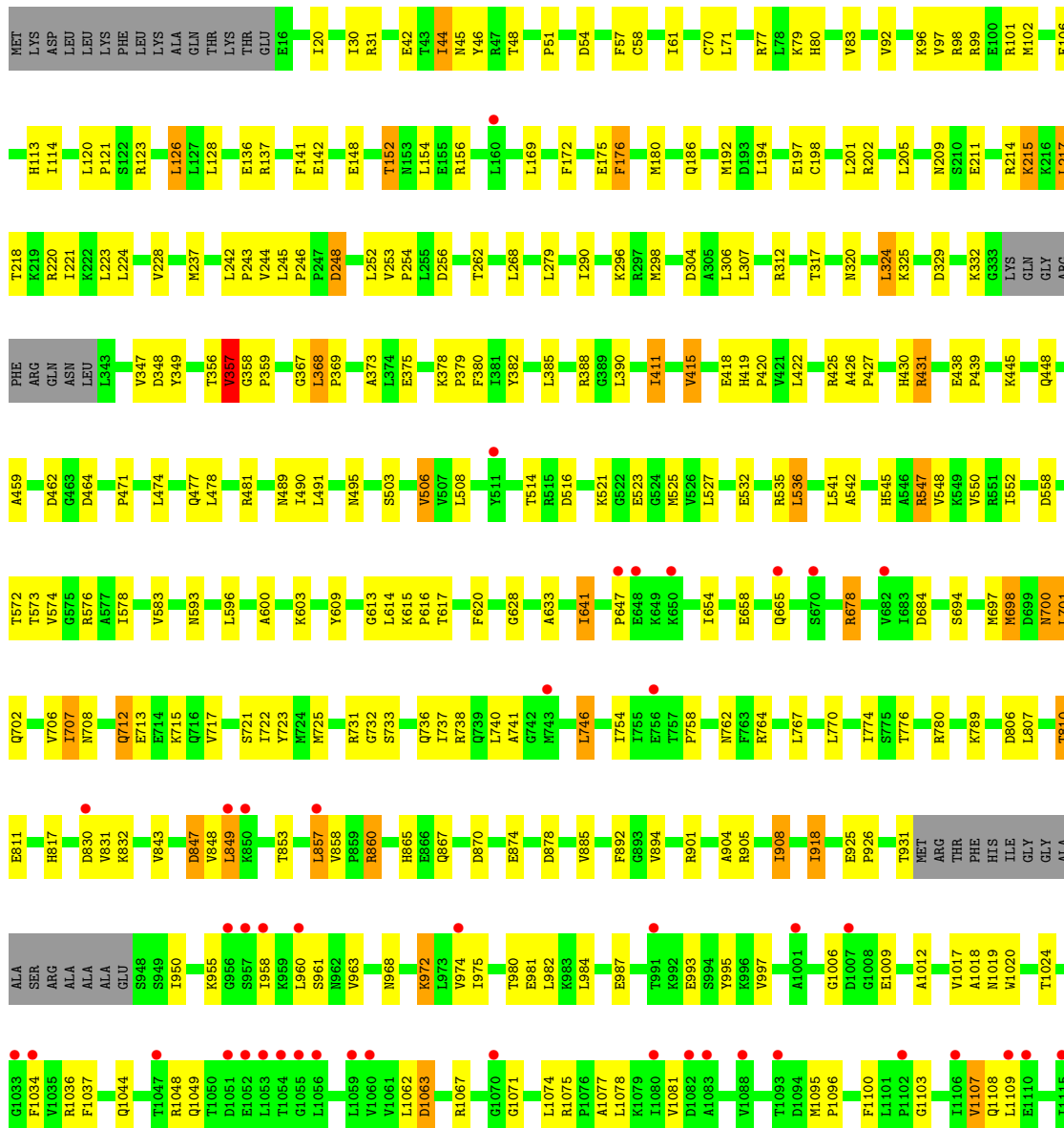


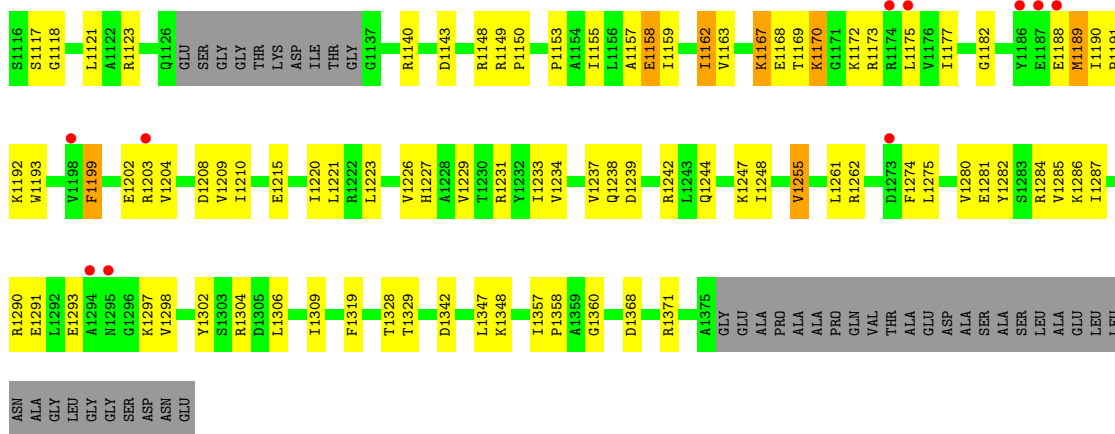
• Molecule 3: DNA-directed RNA polymerase subunit beta'





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





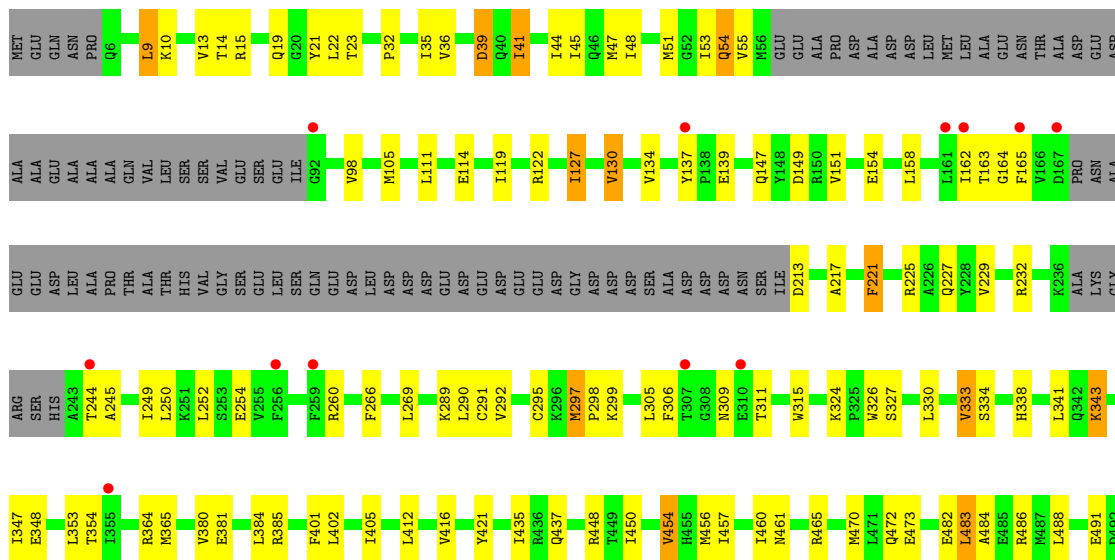
• Molecule 4: DNA-directed RNA polymerase subunit omega



• Molecule 4: DNA-directed RNA polymerase subunit omega

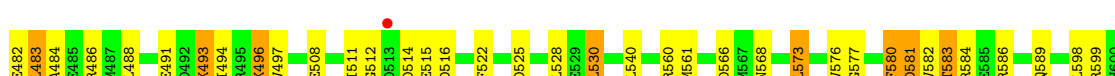
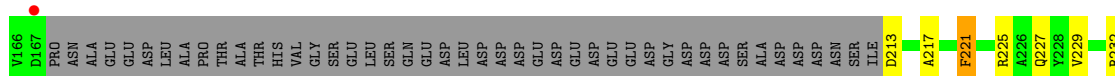
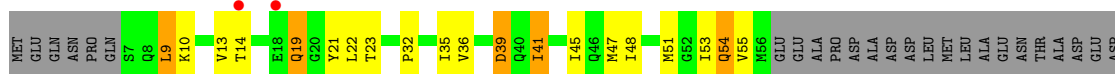


• Molecule 5: RNA polymerase sigma factor RpoD

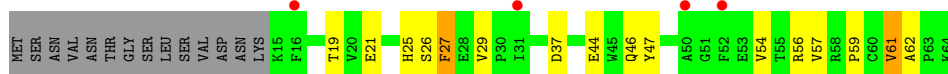




• Molecule 5: RNA polymerase sigma factor RpoD



• Molecule 6: Bacterial RNA polymerase inhibitor



• Molecule 6: Bacterial RNA polymerase inhibitor



## 4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	187.51Å 205.04Å 308.80Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	45.21 – 3.79 45.21 – 3.79	Depositor EDS
% Data completeness (in resolution range)	98.1 (45.21-3.79) 98.2 (45.21-3.79)	Depositor EDS
$R_{merge}$	0.18	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	1.31 (at 3.77Å)	Xtrriage
Refinement program	PHENIX 1.8.2_1309	Depositor
R, $R_{free}$	0.243 , 0.282 0.243 , 0.282	Depositor DCC
$R_{free}$ test set	5813 reflections (5.02%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	126.7	Xtrriage
Anisotropy	0.468	Xtrriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.26 , 27.0	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.49$ , $\langle L^2 \rangle = 0.32$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
$F_o, F_c$ correlation	0.90	EDS
Total number of atoms	59147	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	77.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.79% 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

### 5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: MG, 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	0.23	0/1751	0.49	0/2373
1	B	0.23	0/1707	0.45	0/2314
1	G	0.22	0/1771	0.49	0/2401
1	H	0.22	0/1686	0.45	0/2285
2	C	0.26	2/10739 (0.0%)	0.45	2/14489 (0.0%)
2	I	0.26	2/10735 (0.0%)	0.45	2/14484 (0.0%)
3	D	0.24	1/10603 (0.0%)	0.45	1/14316 (0.0%)
3	J	0.24	1/10450 (0.0%)	0.44	1/14112 (0.0%)
4	E	0.23	0/693	0.50	0/935
4	K	0.22	0/629	0.49	0/847
5	F	0.26	0/4214	0.49	2/5673 (0.0%)
5	L	0.27	0/4208	0.49	2/5665 (0.0%)
6	M	0.31	0/419	0.50	0/572
6	N	0.33	0/401	0.54	0/549
All	All	0.25	6/60006 (0.0%)	0.46	10/81015 (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
2	C	0	1
2	I	0	1
4	E	0	1
4	K	0	1
5	L	0	1
All	All	0	5

The worst 5 of 6 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	C	31	GLN	CD-NE2	-8.70	1.11	1.32
2	I	31	GLN	CD-NE2	-8.41	1.11	1.32
2	I	31	GLN	CD-OE1	-7.96	1.06	1.24
2	C	31	GLN	CD-OE1	-7.79	1.06	1.24
3	D	477	GLN	CD-NE2	-6.25	1.17	1.32

The worst 5 of 10 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	L	19	GLN	C-N-CA	6.02	134.94	122.30
2	I	1261	GLY	N-CA-C	5.91	127.87	113.10
2	C	1261	GLY	N-CA-C	5.90	127.84	113.10
3	J	1182	GLY	N-CA-C	5.72	127.39	113.10
5	F	19	GLN	C-N-CA	5.71	134.30	122.30

There are no chirality outliers.

All (5) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	C	1261	GLY	Peptide
4	E	14	GLY	Peptide
2	I	1261	GLY	Peptide
4	K	14	GLY	Peptide
5	L	19	GLN	Peptide

## 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	1730	0	1756	48	0
1	B	1687	0	1700	49	0
1	G	1750	0	1764	48	0
1	H	1667	0	1689	41	0
2	C	10570	0	10582	232	0
2	I	10566	0	10576	217	0
3	D	10447	0	10671	249	0
3	J	10295	0	10510	229	0
4	E	691	0	695	15	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
4	K	627	0	634	17	0
5	F	4161	0	4171	81	0
5	L	4155	0	4168	85	0
6	M	406	0	383	10	0
6	N	389	0	363	13	0
7	D	1	0	0	0	0
7	J	1	0	0	0	0
8	D	2	0	0	0	0
8	J	2	0	0	0	0
All	All	59147	0	59662	1210	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 1210 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:1173:ARG:HE	3:D:1192:LYS:HG3	1.29	0.97
3:J:1173:ARG:HE	3:J:1192:LYS:HG3	1.28	0.97
3:D:418:GLU:HG3	4:E:45:LYS:H	1.42	0.85
3:J:1006:GLY:H	3:J:1009:GLU:HG3	1.41	0.85
3:J:418:GLU:HG3	4:K:45:LYS:H	1.41	0.83

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	222/239 (93%)	194 (87%)	26 (12%)	2 (1%)	17 54
1	B	216/239 (90%)	187 (87%)	29 (13%)	0	100 100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	G	226/239 (95%)	197 (87%)	26 (12%)	3 (1%)	12	48
1	H	213/239 (89%)	187 (88%)	26 (12%)	0	100	100
2	C	1338/1342 (100%)	1213 (91%)	121 (9%)	4 (0%)	41	74
2	I	1338/1342 (100%)	1210 (90%)	124 (9%)	4 (0%)	41	74
3	D	1339/1407 (95%)	1229 (92%)	108 (8%)	2 (0%)	51	83
3	J	1317/1407 (94%)	1217 (92%)	98 (7%)	2 (0%)	47	79
4	E	87/91 (96%)	74 (85%)	12 (14%)	1 (1%)	14	51
4	K	77/91 (85%)	68 (88%)	8 (10%)	1 (1%)	12	48
5	F	513/613 (84%)	471 (92%)	42 (8%)	0	100	100
5	L	511/613 (83%)	469 (92%)	41 (8%)	1 (0%)	47	79
6	M	48/64 (75%)	43 (90%)	4 (8%)	1 (2%)	7	40
6	N	46/64 (72%)	42 (91%)	3 (6%)	1 (2%)	6	39
All	All	7491/7990 (94%)	6801 (91%)	668 (9%)	22 (0%)	41	74

5 of 22 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
6	N	61	VAL
2	C	170	VAL
2	C	1262	LYS
2	I	170	VAL
2	I	1262	LYS

### 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	191/206 (93%)	175 (92%)	16 (8%)	11	40
1	B	184/206 (89%)	166 (90%)	18 (10%)	8	33
1	G	191/206 (93%)	175 (92%)	16 (8%)	11	40
1	H	183/206 (89%)	168 (92%)	15 (8%)	11	40

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
2	C	1155/1157 (100%)	1059 (92%)	96 (8%)	11	40
2	I	1154/1157 (100%)	1061 (92%)	93 (8%)	11	41
3	D	1125/1168 (96%)	1030 (92%)	95 (8%)	11	40
3	J	1110/1168 (95%)	1017 (92%)	93 (8%)	11	40
4	E	72/75 (96%)	65 (90%)	7 (10%)	8	33
4	K	67/75 (89%)	59 (88%)	8 (12%)	5	26
5	F	444/540 (82%)	400 (90%)	44 (10%)	8	32
5	L	445/540 (82%)	400 (90%)	45 (10%)	7	32
6	M	43/56 (77%)	39 (91%)	4 (9%)	9	35
6	N	41/56 (73%)	37 (90%)	4 (10%)	8	33
All	All	6405/6816 (94%)	5851 (91%)	554 (9%)	10	40

5 of 554 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	J	1017	VAL
3	J	1172	LYS
3	J	997	VAL
5	L	244	THR
3	D	997	VAL

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

Mol	Chain	Res	Type
3	J	680	ASN
3	J	712	GLN
3	J	736	GLN
3	D	736	GLN
2	I	31	GLN

### 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](#)

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 [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	224/239 (93%)	0.06	1 (0%) 92 89	45, 79, 110, 138	0
1	B	220/239 (92%)	0.23	17 (7%) 13 11	54, 96, 118, 134	0
1	G	228/239 (95%)	-0.05	2 (0%) 84 79	49, 82, 112, 136	0
1	H	217/239 (90%)	0.13	8 (3%) 41 34	58, 98, 119, 135	0
2	C	1340/1342 (99%)	-0.00	22 (1%) 72 64	24, 72, 107, 132	0
2	I	1340/1342 (99%)	0.04	43 (3%) 47 38	29, 76, 113, 139	0
3	D	1345/1407 (95%)	0.10	44 (3%) 46 38	26, 67, 119, 138	0
3	J	1325/1407 (94%)	0.10	54 (4%) 37 31	27, 68, 114, 137	0
4	E	89/91 (97%)	-0.19	0 100 100	30, 69, 97, 111	0
4	K	79/91 (86%)	-0.11	2 (2%) 57 49	32, 71, 107, 119	0
5	F	521/613 (84%)	0.11	18 (3%) 44 36	35, 93, 119, 135	0
5	L	519/613 (84%)	0.12	19 (3%) 41 34	39, 92, 119, 138	0
6	M	50/64 (78%)	0.36	4 (8%) 12 10	71, 92, 116, 127	0
6	N	48/64 (75%)	0.54	5 (10%) 6 5	75, 96, 117, 125	0
All	All	7545/7990 (94%)	0.07	239 (3%) 47 38	24, 77, 116, 139	0

The worst 5 of 239 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
2	C	252	SER	8.6
3	J	1054	THR	8.0
3	J	1053	LEU	7.0
5	F	167	ASP	6.9
2	C	257	ALA	6.1

## 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 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, 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( $\text{\AA}^2$ )	Q<0.9
7	MG	D	1501	1/1	0.84	0.61	51,51,51,51	0
7	MG	J	1501	1/1	0.90	0.70	55,55,55,55	0
8	ZN	D	1503	1/1	0.96	0.42	278,278,278,278	0
8	ZN	J	1502	1/1	0.97	0.15	168,168,168,168	0
8	ZN	D	1502	1/1	0.98	0.12	103,103,103,103	0
8	ZN	J	1503	1/1	0.99	0.19	57,57,57,57	0

## 6.5 Other polymers [i](#)

There are no such residues in this entry.