Full wwPDB X-ray Structure Validation Report ⓘ

May 16, 2020 – 01:28 am BST

PDB ID	:	5MX5
Title	:	Mouse PA28alpha-beta
Authors	:	Huber, E.M.; Groll, M.
Deposited on	:	2017-01-20
Resolution	:	2.90 Å(reported)

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

We welcome your comments at *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 following versions of software and data (see references ⓘ) were used in the production of this report:

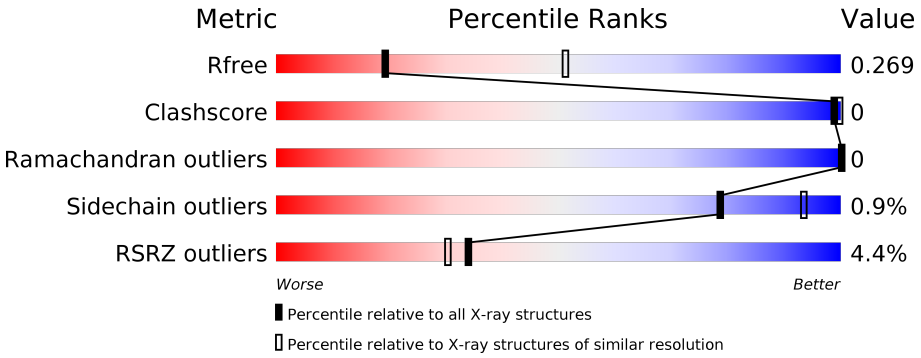
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.11
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.11

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 2.90 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	1957 (2.90-2.90)
Clashscore	141614	2172 (2.90-2.90)
Ramachandran outliers	138981	2115 (2.90-2.90)
Sidechain outliers	138945	2117 (2.90-2.90)
RSRZ outliers	127900	1906 (2.90-2.90)

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 >=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	249	4% 83% 16%
1	C	249	4% 84% 14%
1	E	249	2% 84% 15%
1	G	249	2% 83% 16%
1	H	249	6% 80% 17%
1	J	249	2% 80% 19%

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Mol	Chain	Length	Quality of chain
1	L	249	4% 84% 14%
1	N	249	4% 80% 18%
2	B	239	4% 87% 13%
2	D	239	4% 87% 11%
2	F	239	5% 90% 10%
2	I	239	5% 83% 15%
2	K	239	3% 85% 12%
2	M	239	5% 87% 12%

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	PO4	N	301	-	-	-	X

2 Entry composition

There are 4 unique types of molecules in this entry. The entry contains 23698 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.

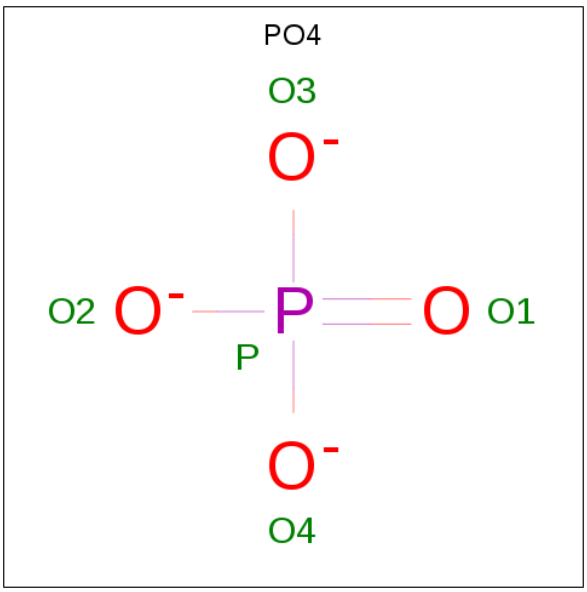
- Molecule 1 is a protein called Proteasome activator complex subunit 1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	208	Total	C	N	O	S	0	0	0
			1674	1071	286	311	6			
1	C	213	Total	C	N	O	S	0	0	0
			1714	1096	290	322	6			
1	E	211	Total	C	N	O	S	0	0	0
			1697	1087	290	314	6			
1	G	208	Total	C	N	O	S	0	0	0
			1673	1071	286	310	6			
1	H	206	Total	C	N	O	S	0	0	0
			1655	1059	281	309	6			
1	J	202	Total	C	N	O	S	0	0	0
			1626	1040	277	303	6			
1	L	214	Total	C	N	O	S	0	0	0
			1724	1103	294	321	6			
1	N	205	Total	C	N	O	S	0	0	0
			1648	1054	280	308	6			

- Molecule 2 is a protein called Proteasome activator complex subunit 2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	209	Total	C	N	O	S	0	0	0
			1658	1065	280	308	5			
2	D	212	Total	C	N	O	S	0	0	0
			1684	1082	286	311	5			
2	F	216	Total	C	N	O	S	0	0	0
			1712	1098	291	317	6			
2	I	204	Total	C	N	O	S	0	0	0
			1625	1044	274	302	5			
2	K	210	Total	C	N	O	S	0	0	0
			1668	1072	284	307	5			
2	M	211	Total	C	N	O	S	0	0	0
			1679	1077	285	312	5			

- Molecule 3 is PHOSPHATE ION (three-letter code: PO4) (formula: O_4P).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	E	1	Total O P 5 4 1	0	0
3	G	1	Total O P 5 4 1	0	0
3	N	1	Total O P 5 4 1	0	0

- Molecule 4 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	23	Total O 23 23	0	0
4	B	15	Total O 15 15	0	0
4	C	19	Total O 19 19	0	0
4	D	27	Total O 27 27	0	0
4	E	26	Total O 26 26	0	0
4	F	17	Total O 17 17	0	0
4	G	25	Total O 25 25	0	0
4	H	15	Total O 15 15	0	0

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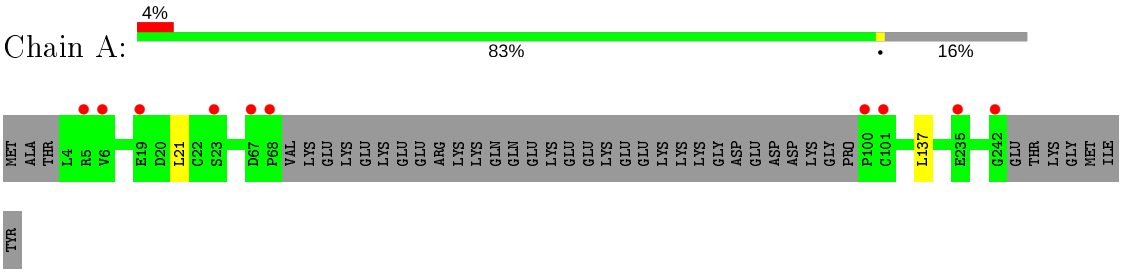
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	I	13	Total O 13 13	0	0
4	J	9	Total O 9 9	0	0
4	K	16	Total O 16 16	0	0
4	L	18	Total O 18 18	0	0
4	M	14	Total O 14 14	0	0
4	N	9	Total O 9 9	0	0

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.

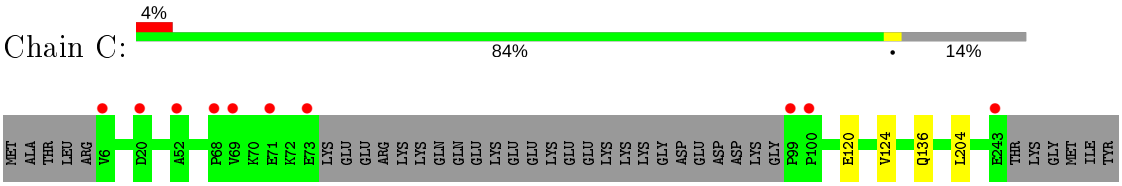
- Molecule 1: Proteasome activator complex subunit 1

Chain A:



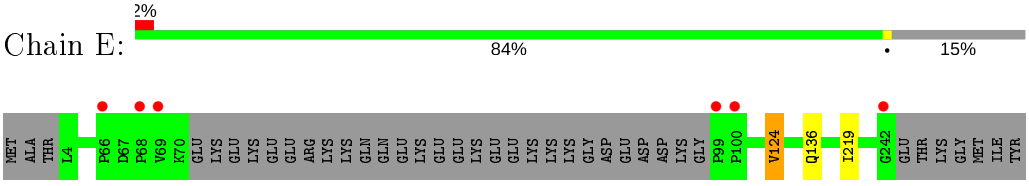
- Molecule 1: Proteasome activator complex subunit 1

Chain C:



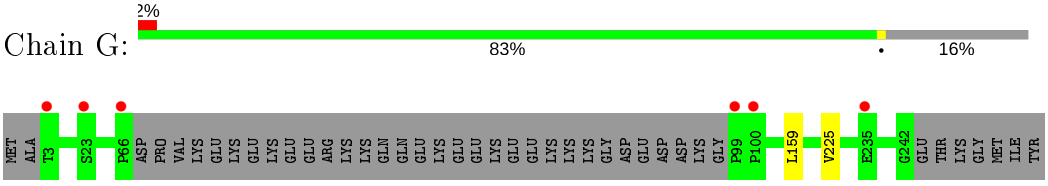
- Molecule 1: Proteasome activator complex subunit 1

Chain E:



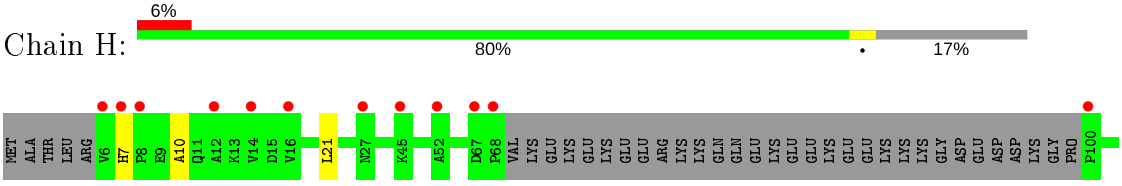
- Molecule 1: Proteasome activator complex subunit 1

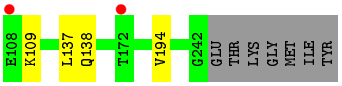
Chain G:



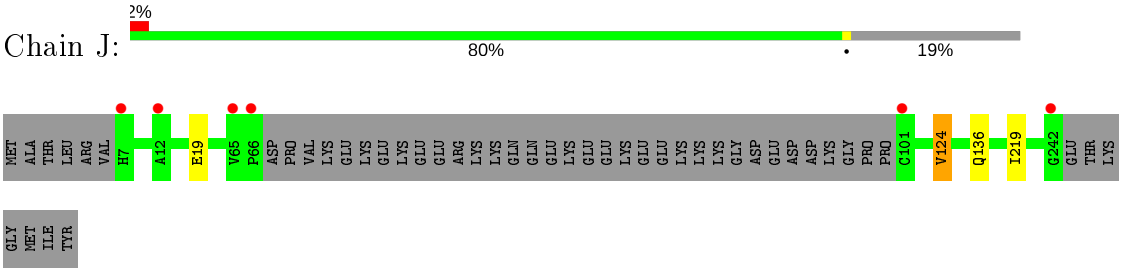
- Molecule 1: Proteasome activator complex subunit 1

Chain H:

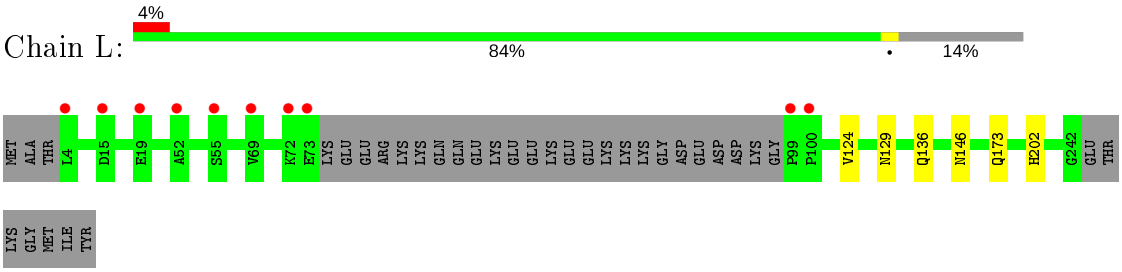




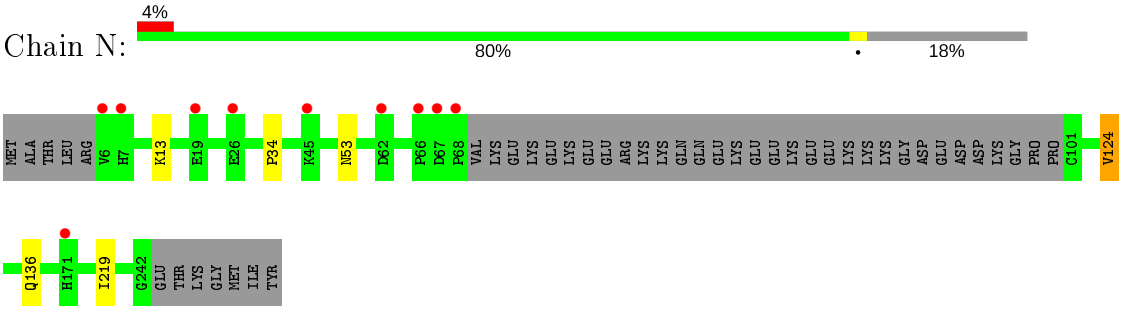
- Molecule 1: Proteasome activator complex subunit 1



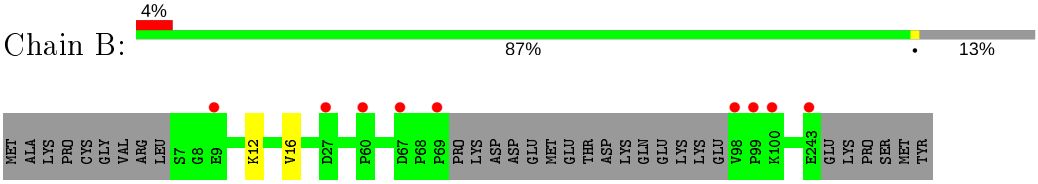
- Molecule 1: Proteasome activator complex subunit 1



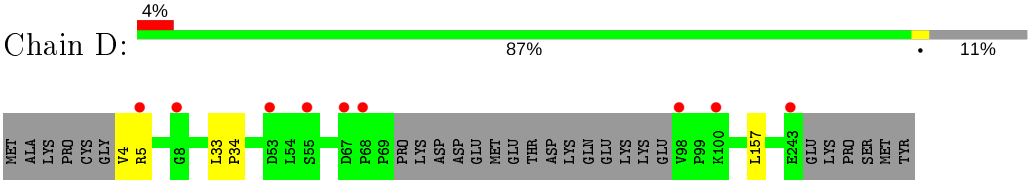
- Molecule 1: Proteasome activator complex subunit 1



- Molecule 2: Proteasome activator complex subunit 2

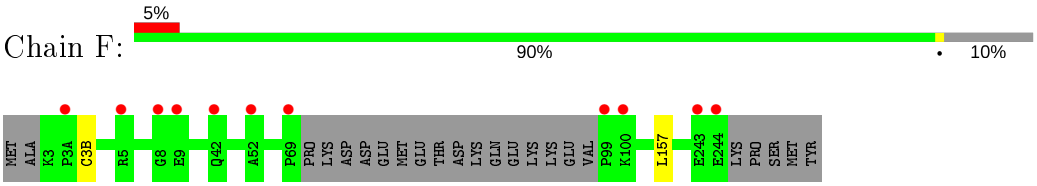


- Molecule 2: Proteasome activator complex subunit 2



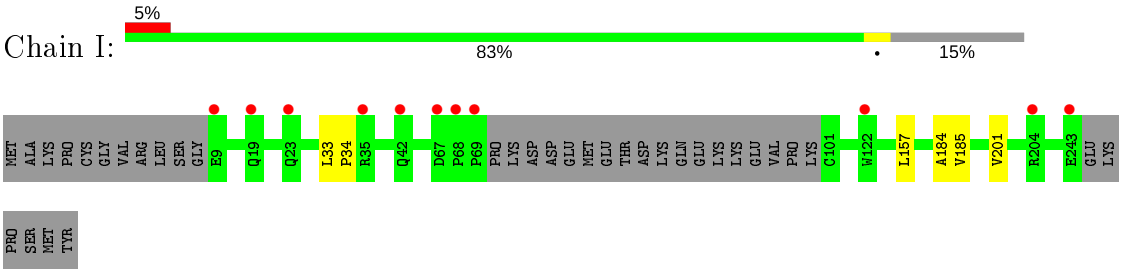
- Molecule 2: Proteasome activator complex subunit 2

Chain F:



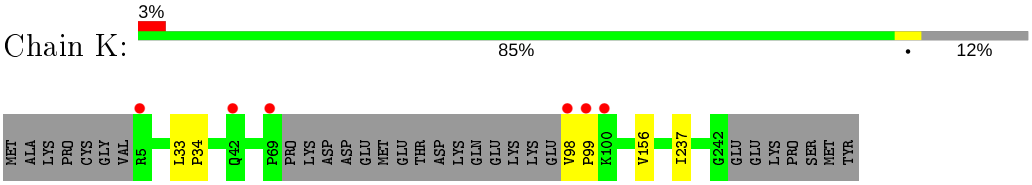
- Molecule 2: Proteasome activator complex subunit 2

Chain I:



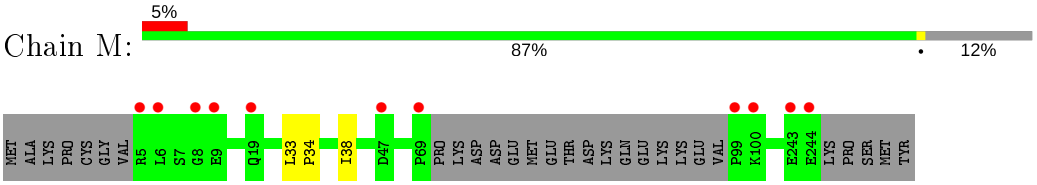
- Molecule 2: Proteasome activator complex subunit 2

Chain K:



- Molecule 2: Proteasome activator complex subunit 2

Chain M:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	126.09Å 137.38Å 136.42Å 90.00° 104.44° 90.00°	Depositor
Resolution (Å)	15.00 – 2.90 15.00 – 2.90	Depositor EDS
% Data completeness (in resolution range)	96.3 (15.00-2.90) 97.0 (15.00-2.90)	Depositor EDS
R_{merge}	0.06	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	2.42 (at 2.91Å)	Xtriage
Refinement program	REFMAC 5.8.0158	Depositor
R, R_{free}	0.243 , 0.272 0.241 , 0.269	Depositor DCC
R_{free} test set	4784 reflections (5.00%)	wwPDB-VP
Wilson B-factor (Å^2)	72.0	Xtriage
Anisotropy	0.089	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.28 , 24.8	EDS
L-test for twinning[2]	$< \|L\| > = 0.50$, $< L^2 > = 0.33$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.94	EDS
Total number of atoms	23698	wwPDB-VP
Average B, all atoms (Å^2)	84.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 12.12% of the height of the origin peak. No significant pseudotranslation is detected.*

[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: PO4

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	0.36	0/1706	0.48	0/2307
1	C	0.36	0/1747	0.49	0/2362
1	E	0.36	0/1730	0.50	0/2340
1	G	0.36	0/1705	0.49	0/2306
1	H	0.37	0/1687	0.48	0/2282
1	J	0.36	0/1656	0.48	0/2238
1	L	0.36	0/1757	0.50	0/2375
1	N	0.36	0/1679	0.49	0/2271
2	B	0.36	0/1689	0.51	0/2288
2	D	0.36	0/1715	0.51	0/2323
2	F	0.36	0/1744	0.50	0/2360
2	I	0.37	0/1655	0.52	0/2242
2	K	0.36	0/1699	0.50	0/2301
2	M	0.36	0/1710	0.51	0/2314
All	All	0.36	0/23879	0.50	0/32309

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

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	1674	0	1703	1	0
1	C	1714	0	1739	1	0
1	E	1697	0	1731	1	0
1	G	1673	0	1706	1	0
1	H	1655	0	1679	4	0
1	J	1626	0	1651	1	0
1	L	1724	0	1757	0	0
1	N	1648	0	1671	3	0
2	B	1658	0	1694	1	0
2	D	1684	0	1727	2	0
2	F	1712	0	1752	0	0
2	I	1625	0	1657	3	0
2	K	1668	0	1712	3	0
2	M	1679	0	1716	2	0
3	E	5	0	0	0	0
3	G	5	0	0	0	0
3	N	5	0	0	0	0
4	A	23	0	0	0	0
4	B	15	0	0	0	0
4	C	19	0	0	0	0
4	D	27	0	0	0	0
4	E	26	0	0	0	0
4	F	17	0	0	0	0
4	G	25	0	0	0	0
4	H	15	0	0	0	0
4	I	13	0	0	0	0
4	J	9	0	0	0	0
4	K	16	0	0	0	0
4	L	18	0	0	0	0
4	M	14	0	0	0	0
4	N	9	0	0	0	0
All	All	23698	0	23895	20	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 0.

All (20) 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:M:38:ILE:HD11	1:N:13:LYS:HD2	1.89	0.54
1:H:7:HIS:ND1	1:H:10:ALA:HB2	2.24	0.53
1:H:10:ALA:HB1	1:N:34:PRO:HG2	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:21:LEU:HD23	1:A:137:LEU:HD12	1.94	0.49
1:G:159:LEU:HD21	1:G:225:VAL:HG12	1.96	0.48
1:H:194:VAL:HG13	2:I:185:VAL:CG2	2.43	0.48
2:K:98:VAL:N	2:K:99:PRO:HD3	2.31	0.45
1:E:124:VAL:HG21	1:E:219:ILE:HG23	1.98	0.45
1:H:21:LEU:HD23	1:H:137:LEU:HD12	1.98	0.44
2:I:184:ALA:HB1	2:I:201:VAL:HG22	1.99	0.43
2:K:33:LEU:HB3	2:K:34:PRO:HD3	2.01	0.42
2:D:33:LEU:HB3	2:D:34:PRO:HD3	2.02	0.41
2:B:12:LYS:O	2:B:16:VAL:HG23	2.20	0.41
1:J:124:VAL:HG21	1:J:219:ILE:HG23	2.02	0.41
2:K:156:VAL:HG21	2:K:237:ILE:HD11	2.02	0.41
2:M:33:LEU:HB3	2:M:34:PRO:HD3	2.02	0.41
2:I:33:LEU:HB3	2:I:34:PRO:HD3	2.02	0.41
1:N:124:VAL:HG21	1:N:219:ILE:HG23	2.03	0.41
2:D:4:VAL:O	2:D:4:VAL:HG13	2.21	0.41
1:C:120:GLU:O	1:C:124:VAL:HG23	2.21	0.40

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	204/249 (82%)	199 (98%)	5 (2%)	0	100	100
1	C	209/249 (84%)	206 (99%)	3 (1%)	0	100	100
1	E	207/249 (83%)	204 (99%)	3 (1%)	0	100	100
1	G	204/249 (82%)	201 (98%)	3 (2%)	0	100	100
1	H	202/249 (81%)	199 (98%)	3 (2%)	0	100	100
1	J	198/249 (80%)	196 (99%)	2 (1%)	0	100	100
1	L	210/249 (84%)	204 (97%)	6 (3%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	N	201/249 (81%)	197 (98%)	4 (2%)	0	100	100
2	B	205/239 (86%)	203 (99%)	2 (1%)	0	100	100
2	D	208/239 (87%)	206 (99%)	2 (1%)	0	100	100
2	F	212/239 (89%)	209 (99%)	3 (1%)	0	100	100
2	I	200/239 (84%)	197 (98%)	3 (2%)	0	100	100
2	K	206/239 (86%)	203 (98%)	3 (2%)	0	100	100
2	M	207/239 (87%)	204 (99%)	3 (1%)	0	100	100
All	All	2873/3426 (84%)	2828 (98%)	45 (2%)	0	100	100

There are no Ramachandran outliers to report.

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	186/223 (83%)	186 (100%)	0	100	100
1	C	191/223 (86%)	189 (99%)	2 (1%)	76	92
1	E	189/223 (85%)	187 (99%)	2 (1%)	73	92
1	G	186/223 (83%)	186 (100%)	0	100	100
1	H	184/223 (82%)	182 (99%)	2 (1%)	73	92
1	J	180/223 (81%)	177 (98%)	3 (2%)	60	86
1	L	192/223 (86%)	186 (97%)	6 (3%)	40	74
1	N	183/223 (82%)	180 (98%)	3 (2%)	62	86
2	B	182/210 (87%)	182 (100%)	0	100	100
2	D	185/210 (88%)	183 (99%)	2 (1%)	73	92
2	F	188/210 (90%)	186 (99%)	2 (1%)	73	92
2	I	178/210 (85%)	177 (99%)	1 (1%)	86	96
2	K	183/210 (87%)	183 (100%)	0	100	100
2	M	184/210 (88%)	184 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
All	All	2591/3044 (85%)	2568 (99%)	23 (1%)	78 93

All (23) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	C	136	GLN
1	C	204	LEU
2	D	5	ARG
2	D	157	LEU
1	E	124	VAL
1	E	136	GLN
2	F	3(B)	CYS
2	F	157	LEU
1	H	109	LYS
1	H	138	GLN
2	I	157	LEU
1	J	19	GLU
1	J	124	VAL
1	J	136	GLN
1	L	124	VAL
1	L	129	ASN
1	L	136	GLN
1	L	146	ASN
1	L	173	GLN
1	L	202	HIS
1	N	53	ASN
1	N	124	VAL
1	N	136	GLN

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (19) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	53	ASN
2	B	171	GLN
1	C	7	HIS
1	C	136	GLN
2	D	13	GLN
1	E	136	GLN
1	H	11	GLN
1	H	53	ASN
1	H	105	ASN

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Mol	Chain	Res	Type
1	H	136	GLN
2	I	20	ASN
1	J	136	GLN
2	K	13	GLN
2	K	136	GLN
1	L	129	ASN
1	L	136	GLN
1	L	146	ASN
1	N	53	ASN
1	N	136	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 carbohydrates in this entry.

5.6 Ligand geometry

3 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	PO4	N	301	-	4,4,4	0.93	0	6,6,6	0.43	0
3	PO4	E	301	-	4,4,4	0.91	0	6,6,6	0.43	0
3	PO4	G	301	-	4,4,4	0.92	0	6,6,6	0.42	0

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, 95^{th} 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^2)	Q<0.9
1	A	208/249 (83%)	0.25	10 (4%)	30	27	68, 86, 113, 130	0
1	C	213/249 (85%)	0.15	10 (4%)	31	28	63, 80, 121, 147	0
1	E	211/249 (84%)	0.06	6 (2%)	53	49	59, 75, 112, 142	0
1	G	208/249 (83%)	0.05	6 (2%)	51	47	64, 79, 103, 124	0
1	H	206/249 (82%)	0.46	14 (6%)	17	13	72, 93, 120, 135	0
1	J	202/249 (81%)	0.11	6 (2%)	50	45	63, 83, 118, 152	0
1	L	214/249 (85%)	0.08	10 (4%)	31	28	65, 82, 115, 157	0
1	N	205/249 (82%)	0.17	10 (4%)	29	26	72, 86, 115, 145	0
2	B	209/239 (87%)	0.13	9 (4%)	35	31	66, 80, 114, 127	0
2	D	212/239 (88%)	0.02	9 (4%)	36	32	61, 74, 111, 123	0
2	F	216/239 (90%)	0.10	11 (5%)	28	24	59, 73, 108, 120	0
2	I	204/239 (85%)	0.31	11 (5%)	25	22	74, 93, 121, 142	0
2	K	210/239 (87%)	-0.02	6 (2%)	51	47	63, 75, 109, 117	0
2	M	211/239 (88%)	0.18	11 (5%)	27	23	70, 81, 111, 138	0
All	All	2929/3426 (85%)	0.14	129 (4%)	34	30	59, 82, 115, 157	0

All (129) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
2	M	244	GLU	6.4
1	H	68	PRO	6.1
1	A	68	PRO	5.5
2	B	98	VAL	4.8
2	M	9	GLU	4.7
1	H	100	PRO	4.7
1	G	66	PRO	4.6
1	C	99	PRO	4.5

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Mol	Chain	Res	Type	RSRZ
1	L	99	PRO	4.4
1	J	12	ALA	4.4
2	I	9	GLU	4.2
2	D	98	VAL	4.1
1	J	7	HIS	4.1
1	G	99	PRO	4.1
2	K	5	ARG	4.0
2	I	67	ASP	3.8
1	C	243	GLU	3.8
1	H	27	ASN	3.7
1	N	66	PRO	3.6
1	A	6	VAL	3.5
1	G	100	PRO	3.5
2	B	67	ASP	3.5
1	H	7	HIS	3.4
1	C	73	GLU	3.4
2	D	243	GLU	3.4
2	D	53	ASP	3.4
1	E	68	PRO	3.3
2	I	42	GLN	3.3
1	N	6	VAL	3.3
2	M	243	GLU	3.3
1	N	67	ASP	3.3
2	I	68	PRO	3.3
2	B	100	LYS	3.2
1	E	100	PRO	3.2
1	H	67	ASP	3.2
1	H	52	ALA	3.1
1	N	68	PRO	3.1
2	F	100	LYS	3.1
1	C	69	VAL	3.1
2	M	47	ASP	3.1
2	M	6	LEU	3.0
2	M	8	GLY	3.0
2	I	69	PRO	3.0
1	A	19	GLU	3.0
2	F	69	PRO	2.9
2	B	243	GLU	2.9
1	H	172	THR	2.9
1	L	73	GLU	2.9
2	F	99	PRO	2.9
2	M	69	PRO	2.9

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Mol	Chain	Res	Type	RSRZ
2	I	122	TRP	2.8
2	F	9	GLU	2.8
1	C	100	PRO	2.8
1	E	69	VAL	2.8
2	I	243	GLU	2.7
2	B	27	ASP	2.7
2	M	99	PRO	2.7
1	H	12	ALA	2.7
2	D	5	ARG	2.7
1	H	8	PRO	2.7
1	N	7	HIS	2.7
1	A	242	GLY	2.6
1	L	4	LEU	2.6
1	A	5	ARG	2.6
1	A	67	ASP	2.6
2	M	5	ARG	2.6
2	I	23	GLN	2.6
1	E	242	GLY	2.6
2	D	100	LYS	2.6
2	F	3(A)	PRO	2.6
1	J	101	CYS	2.5
1	L	100	PRO	2.5
2	M	100	LYS	2.5
1	J	242	GLY	2.5
2	F	42	GLN	2.5
2	B	99	PRO	2.5
2	M	19	GLN	2.5
1	E	66	PRO	2.5
1	H	16	VAL	2.5
1	N	62	ASP	2.4
2	F	52	ALA	2.4
2	B	69	PRO	2.4
2	K	69	PRO	2.4
2	K	99	PRO	2.4
1	C	20	ASP	2.4
1	C	6	VAL	2.4
2	D	55	SER	2.4
1	C	71	GLU	2.4
1	L	55	SER	2.4
2	I	35	ARG	2.4
1	E	99	PRO	2.3
1	N	171	HIS	2.3

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Mol	Chain	Res	Type	RSRZ
2	F	8	GLY	2.3
2	I	204	ARG	2.3
2	K	98	VAL	2.3
1	L	69	VAL	2.3
1	H	45	LYS	2.3
1	J	65	VAL	2.3
2	F	243	GLU	2.3
1	A	100	PRO	2.2
1	N	19	GLU	2.2
1	H	14	VAL	2.2
2	B	60	PRO	2.2
1	A	235	GLU	2.2
2	F	5	ARG	2.2
1	L	72	LYS	2.2
1	C	52	ALA	2.2
1	G	235	GLU	2.2
1	L	19	GLU	2.2
1	N	45	LYS	2.2
1	G	23	SER	2.2
1	G	3	THR	2.2
2	K	42	GLN	2.1
2	F	244	GLU	2.1
2	D	68	PRO	2.1
2	D	67	ASP	2.1
1	A	23	SER	2.1
1	H	108	GLU	2.1
2	D	8	GLY	2.1
2	B	9	GLU	2.1
2	K	100	LYS	2.1
1	L	15	ASP	2.1
1	J	66	PRO	2.0
1	N	26	GLU	2.0
1	A	101	CYS	2.0
1	L	52	ALA	2.0
1	H	6	VAL	2.0
1	C	68	PRO	2.0
2	I	19	GLN	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^{th} 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
3	PO4	N	301	5/5	0.77	0.44	162,162,162,162	0
3	PO4	E	301	5/5	0.85	0.32	128,128,129,129	0
3	PO4	G	301	5/5	0.92	0.25	131,132,132,132	0

6.5 Other polymers (i)

There are no such residues in this entry.