Full wwPDB X-ray Structure Validation Report (i)

Jan 8, 2024 – 12:00 am GMT

PDB ID	:	5MUQ
Title	:	Crystal structure of DC8E8 Fab at pH 7.0 containing a Zn atom
Authors	:	Skrabana, R.; Novak, M.; Cehlar, O.; Kontsekova, E.
Deposited on	:	2017-01-13
Resolution	:	2.62 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 (i) symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

The following versions of software and data (see references (1)) were used in the production of this report:

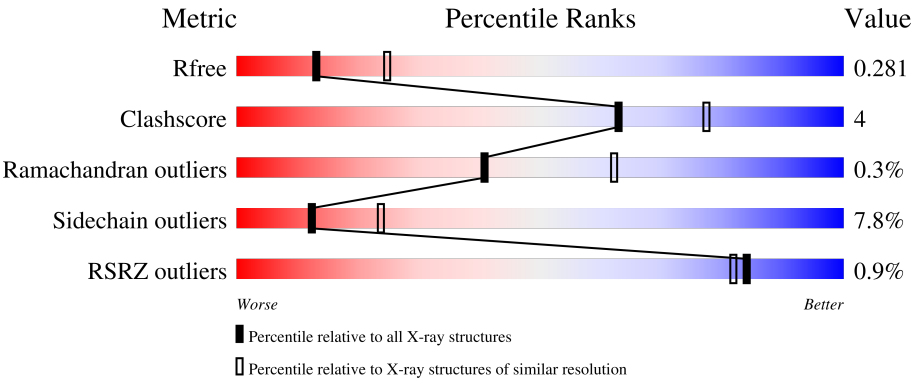
MolProbity	:	4.02b-467
Mogul	:	1.8.4, CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.36
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
X-RAY DIFFRACTION

The reported resolution of this entry is 2.62 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	3797 (2.64-2.60)
Clashscore	141614	4168 (2.64-2.60)
Ramachandran outliers	138981	4093 (2.64-2.60)
Sidechain outliers	138945	4093 (2.64-2.60)
RSRZ outliers	127900	3731 (2.64-2.60)

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 >=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	220	87% 13%
1	H	220	86% 14%
2	B	219	80% 18%
2	L	219	81% 16%

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
4	IMD	L	302	-	-	-	X

2 Entry composition (i)

There are 5 unique types of molecules in this entry. The entry contains 6722 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 antibody Fab heavy chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	H	220	Total	C	N	O	S	0	0	0
			1653	1052	266	327	8			
1	A	220	Total	C	N	O	S	0	0	0
			1654	1053	266	327	8			

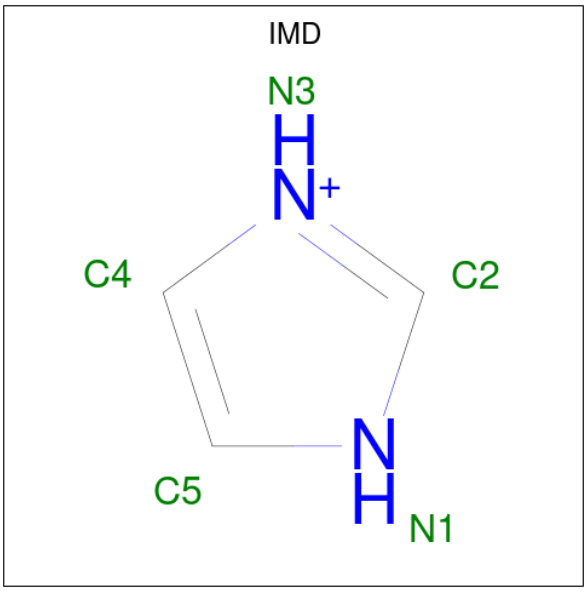
- Molecule 2 is a protein called antibody kappa light chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	L	219	Total	C	N	O	S	0	0	0
			1688	1052	285	343	8			
2	B	219	Total	C	N	O	S	0	0	0
			1688	1052	285	343	8			

- Molecule 3 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	L	1	Total	Zn	0	0
			1	1		
3	B	1	Total	Zn	0	0
			1	1		

- Molecule 4 is IMIDAZOLE (three-letter code: IMD) (formula: $C_3H_5N_2$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	L	1	Total C N 5 3 2	0	0
4	B	1	Total C N 5 3 2	0	0

- Molecule 5 is water.

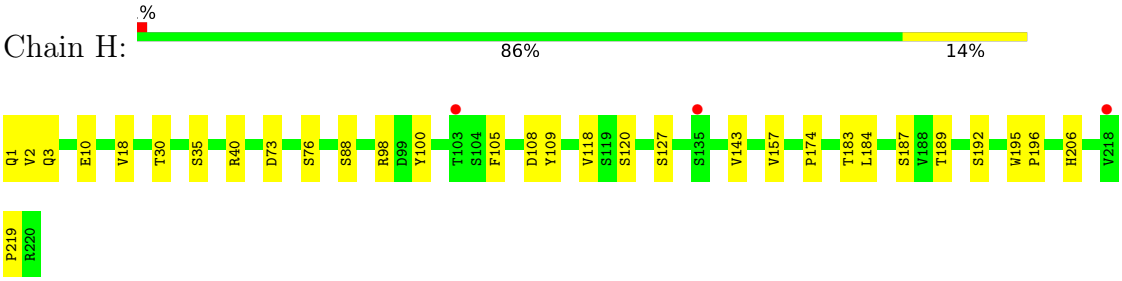
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	H	7	Total O 7 7	0	0
5	L	7	Total O 7 7	0	0
5	A	5	Total O 5 5	0	0
5	B	8	Total O 8 8	0	0

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.

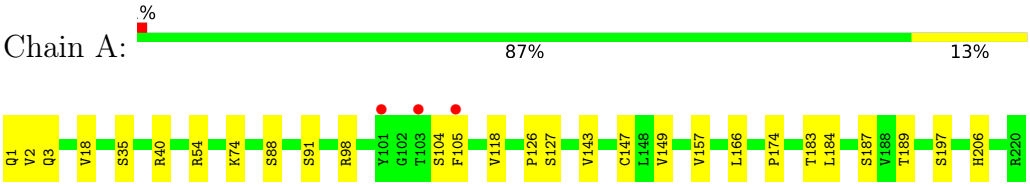
• Molecule 1: antibody Fab heavy chain

Chain H:



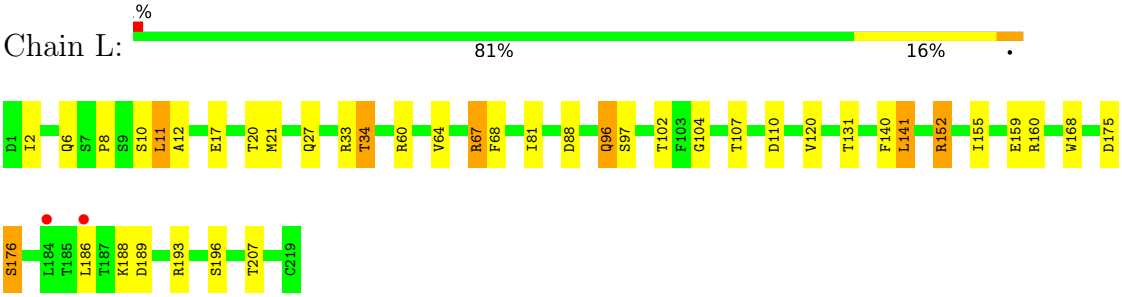
• Molecule 1: antibody Fab heavy chain

Chain A:



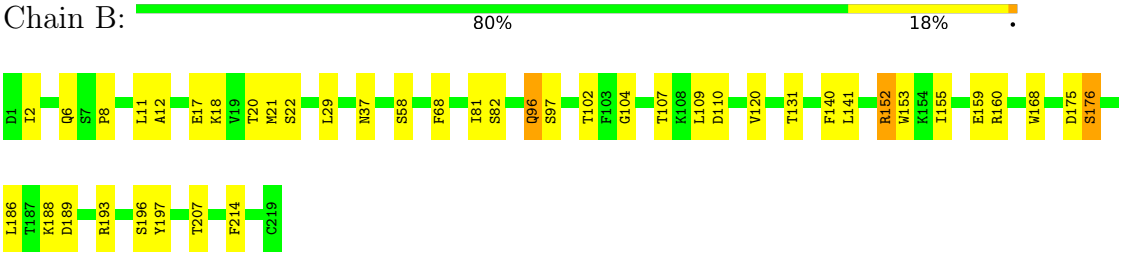
• Molecule 2: antibody kappa light chain

Chain L:



• Molecule 2: antibody kappa light chain

Chain B:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 31	Depositor
Cell constants a, b, c, α, β, γ	113.51Å 113.51Å 69.39Å 90.00° 90.00° 120.00°	Depositor
Resolution (Å)	98.30 – 2.62 32.75 – 2.62	Depositor EDS
% Data completeness (in resolution range)	98.4 (98.30-2.62) 98.4 (32.75-2.62)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	2.86 (at 2.61Å)	Xtriage
Refinement program	REFMAC 5.8.0158	Depositor
R, R_{free}	0.212 , 0.279 0.216 , 0.281	Depositor DCC
R_{free} test set	1503 reflections (5.05%)	wwPDB-VP
Wilson B-factor (Å^2)	71.9	Xtriage
Anisotropy	0.013	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.29 , 36.0	EDS
L-test for twinning[2]	$< \|L\| > = 0.47$, $< L^2 > = 0.29$	Xtriage
Estimated twinning fraction	0.045 for -h,-k,l 0.477 for h,-h-k,-l 0.045 for -k,-h,-l	Xtriage
F_o,F_c correlation	0.95	EDS
Total number of atoms	6722	wwPDB-VP
Average B, all atoms (Å^2)	76.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.93% 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: ZN, PCA, IMD

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	0.73	0/1692	0.87	1/2313 (0.0%)
1	H	0.74	0/1691	0.87	1/2312 (0.0%)
2	B	0.69	0/1724	0.84	0/2338
2	L	0.70	0/1724	0.84	0/2338
All	All	0.71	0/6831	0.86	2/9301 (0.0%)

There are no bond length outliers.

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	H	40	ARG	NE-CZ-NH1	6.07	123.34	120.30
1	A	40	ARG	NE-CZ-NH1	5.46	123.03	120.30

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	1654	0	1604	9	0
1	H	1653	0	1602	11	0
2	B	1688	0	1618	20	0
2	L	1688	0	1618	22	0
3	B	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	L	1	0	0	0	0
4	B	5	0	5	1	0
4	L	5	0	5	1	0
5	A	5	0	0	1	0
5	B	8	0	0	0	0
5	H	7	0	0	0	0
5	L	7	0	0	0	0
All	All	6722	0	6452	57	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 4.

All (57) 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:L:10:SER:O	2:L:11:LEU:HD23	1.90	0.72
1:H:73:ASP:OD2	1:H:76:SER:OG	2.09	0.70
2:L:60:ARG:HD2	2:L:64:VAL:HG12	1.87	0.56
1:H:2:VAL:HB	1:H:109:TYR:CE2	2.41	0.56
2:L:8:PRO:HG2	2:L:11:LEU:CD2	2.37	0.55
1:A:105:PHE:HB3	2:B:97:SER:HB2	1.90	0.53
2:L:8:PRO:CG	2:L:11:LEU:HD21	2.37	0.53
2:L:10:SER:O	2:L:11:LEU:CD2	2.55	0.53
2:L:8:PRO:O	2:L:107:THR:HG23	2.09	0.52
2:L:141:LEU:HD12	2:L:141:LEU:N	2.25	0.52
2:L:193:ARG:HD3	4:L:302:IMD:C4	2.40	0.51
1:H:105:PHE:HB3	2:L:97:SER:HB2	1.92	0.51
2:B:8:PRO:HG2	2:B:11:LEU:HG	1.92	0.51
2:L:8:PRO:CG	2:L:11:LEU:CD2	2.89	0.51
2:B:6:GLN:OE1	2:B:104:GLY:HA3	2.12	0.50
2:B:152:ARG:HE	2:B:159:GLU:CD	2.15	0.49
1:A:88:SER:HA	1:A:118:VAL:HB	1.96	0.48
2:B:8:PRO:O	2:B:107:THR:HG23	2.14	0.48
2:B:155:ILE:HD12	2:B:160:ARG:CZ	2.44	0.48
2:L:8:PRO:HG3	2:L:11:LEU:HD21	1.96	0.47
2:B:18:LYS:HA	2:B:82:SER:HA	1.96	0.47
2:B:197:TYR:HB2	2:B:214:PHE:CE1	2.50	0.47
2:L:68:PHE:CE1	2:L:81:ILE:HG12	2.49	0.47
1:A:174:PRO:CG	2:B:168:TRP:O	2.63	0.47
1:A:157:VAL:HG12	1:A:206:HIS:CD2	2.50	0.47
2:L:155:ILE:HD12	2:L:160:ARG:CZ	2.45	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:29:LEU:O	2:B:37:ASN:HA	2.15	0.46
1:H:174:PRO:CG	2:L:168:TRP:O	2.64	0.46
2:L:12:ALA:HA	2:L:110:ASP:O	2.16	0.46
1:A:2:VAL:HG11	1:A:98:ARG:NH2	2.31	0.45
1:A:174:PRO:HG2	2:B:168:TRP:O	2.17	0.45
2:B:153:TRP:O	2:B:159:GLU:HA	2.17	0.44
1:H:2:VAL:HG11	1:H:98:ARG:NH2	2.32	0.44
2:B:12:ALA:HA	2:B:110:ASP:O	2.17	0.44
2:B:120:VAL:HA	2:B:140:PHE:O	2.18	0.43
2:B:193:ARG:HD3	4:B:302:IMD:N3	2.34	0.43
1:A:126:PRO:HB2	1:A:149:VAL:HG13	2.01	0.43
1:A:166:LEU:HD22	5:A:303:HOH:O	2.18	0.43
1:H:88:SER:HA	1:H:118:VAL:HB	2.01	0.42
2:B:68:PHE:CD1	2:B:81:ILE:HG12	2.54	0.42
2:L:6:GLN:OE1	2:L:104:GLY:HA3	2.19	0.42
2:L:120:VAL:HA	2:L:140:PHE:O	2.20	0.42
2:B:68:PHE:CE1	2:B:81:ILE:HG12	2.54	0.42
2:L:67:ARG:NH1	2:L:88:ASP:OD2	2.53	0.42
2:B:141:LEU:HD12	2:B:141:LEU:N	2.33	0.42
1:A:54:ARG:HA	1:A:74:LYS:HE3	2.02	0.42
1:H:100:TYR:CD1	1:H:108:ASP:OD2	2.73	0.41
2:L:10:SER:C	2:L:11:LEU:HD23	2.40	0.41
2:B:2:ILE:HG21	2:B:96:GLN:HG3	2.03	0.41
1:H:10:GLU:OE1	1:H:18:VAL:HG23	2.21	0.41
1:H:195:TRP:CZ2	1:H:219:PRO:HG3	2.56	0.41
2:B:8:PRO:CG	2:B:11:LEU:HG	2.51	0.41
2:L:2:ILE:HG21	2:L:96:GLN:HG3	2.03	0.41
1:H:157:VAL:HG12	1:H:206:HIS:CD2	2.56	0.41
1:H:195:TRP:HA	1:H:196:PRO:HA	1.92	0.40
2:L:33:ARG:O	2:L:34:THR:CB	2.69	0.40
2:L:152:ARG:HE	2:L:159:GLU:CD	2.25	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	218/220 (99%)	210 (96%)	8 (4%)	0	100	100
1	H	218/220 (99%)	208 (95%)	10 (5%)	0	100	100
2	B	217/219 (99%)	205 (94%)	11 (5%)	1 (0%)	29	50
2	L	217/219 (99%)	204 (94%)	11 (5%)	2 (1%)	17	33
All	All	870/878 (99%)	827 (95%)	40 (5%)	3 (0%)	41	62

All (3) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	L	176	SER
2	B	176	SER
2	L	34	THR

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	185/189 (98%)	172 (93%)	13 (7%)	15	29
1	H	185/189 (98%)	174 (94%)	11 (6%)	19	37
2	B	191/195 (98%)	174 (91%)	17 (9%)	9	18
2	L	191/195 (98%)	173 (91%)	18 (9%)	8	16
All	All	752/768 (98%)	693 (92%)	59 (8%)	12	24

All (59) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	H	3	GLN
1	H	30	THR
1	H	35	SER
1	H	120	SER
1	H	127	SER

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Mol	Chain	Res	Type
1	H	143	VAL
1	H	183	THR
1	H	184	LEU
1	H	187	SER
1	H	189	THR
1	H	192	SER
2	L	11	LEU
2	L	17	GLU
2	L	20	THR
2	L	21	MET
2	L	27	GLN
2	L	67	ARG
2	L	96	GLN
2	L	102	THR
2	L	131	THR
2	L	141	LEU
2	L	152	ARG
2	L	175	ASP
2	L	176	SER
2	L	186	LEU
2	L	188	LYS
2	L	189	ASP
2	L	196	SER
2	L	207	THR
1	A	3	GLN
1	A	18	VAL
1	A	35	SER
1	A	91	SER
1	A	104	SER
1	A	127	SER
1	A	143	VAL
1	A	147	CYS
1	A	183	THR
1	A	184	LEU
1	A	187	SER
1	A	189	THR
1	A	197	SER
2	B	17	GLU
2	B	20	THR
2	B	21	MET
2	B	22	SER
2	B	58	SER

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Mol	Chain	Res	Type
2	B	96	GLN
2	B	102	THR
2	B	109	LEU
2	B	131	THR
2	B	152	ARG
2	B	175	ASP
2	B	176	SER
2	B	186	LEU
2	B	188	LYS
2	B	189	ASP
2	B	196	SER
2	B	207	THR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (1) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	171	HIS

5.3.3 RNA (i)

There are no RNA molecules in this entry.

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

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	$\#\|Z\| > 2$
1	PCA	A	1	1	7,8,9	0.81	0	9,10,12	1.26	2 (22%)
1	PCA	H	1	1	7,8,9	0.79	0	9,10,12	1.28	2 (22%)

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
1	PCA	A	1	1	-	0/0/11/13	0/1/1/1
1	PCA	H	1	1	-	0/0/11/13	0/1/1/1

There are no bond length outliers.

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	1	PCA	CB-CA-C	-2.76	108.91	112.70
1	H	1	PCA	CB-CA-C	-2.59	109.14	112.70
1	H	1	PCA	OE-CD-CG	-2.27	122.81	126.76
1	A	1	PCA	OE-CD-CG	-2.02	123.24	126.76

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

Of 4 ligands modelled in this entry, 2 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	$\#\|Z\| > 2$
4	IMD	L	302	-	3,5,5	0.30	0	4,5,5	0.63	0
4	IMD	B	302	-	3,5,5	0.42	0	4,5,5	0.72	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
4	IMD	L	302	-	-	-	0/1/1/1
4	IMD	B	302	-	-	-	0/1/1/1

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.

2 monomers are involved in 2 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	L	302	IMD	1	0
4	B	302	IMD	1	0

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

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	219/220 (99%)	-0.32	3 (1%)	75	71	36, 71, 113, 141	0
1	H	219/220 (99%)	-0.27	3 (1%)	75	71	36, 71, 114, 143	0
2	B	219/219 (100%)	-0.35	0	100	100	40, 78, 115, 139	0
2	L	219/219 (100%)	-0.26	2 (0%)	84	82	42, 79, 119, 146	0
All	All	876/878 (99%)	-0.30	8 (0%)	84	82	36, 75, 116, 146	0

All (8) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	101	TYR	3.7
2	L	184	LEU	3.6
1	H	218	VAL	3.1
1	H	135	SER	3.1
1	A	105	PHE	2.9
1	A	103	THR	2.9
1	H	103	THR	2.5
2	L	186	LEU	2.4

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, 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
1	PCA	H	1	8/9	0.85	0.18	80,95,104,104	0
1	PCA	A	1	8/9	0.85	0.25	79,99,104,106	0

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^{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
4	IMD	L	302	5/5	0.78	0.48	117,117,133,134	0
4	IMD	B	302	5/5	0.90	0.43	106,107,116,124	0
3	ZN	L	301	1/1	0.98	0.12	76,76,76,76	0
3	ZN	B	301	1/1	0.99	0.15	73,73,73,73	0

6.5 Other polymers (i)

There are no such residues in this entry.