Full wwPDB X-ray Structure Validation Report (i)

Feb 1, 2016 – 07:20 PM GMT

PDB ID	:	4OLA
Title	:	Crystal Structure of Human Argonaute2
Authors	:	Schirle, N.T.; MacRae, I.J.
Deposited on	:	2014-01-23
Resolution	:	2.30 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
http://wwpdb.org/validation/2016/XrayValidationReportHelp
with specific help available everywhere you see the (i) symbol.

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

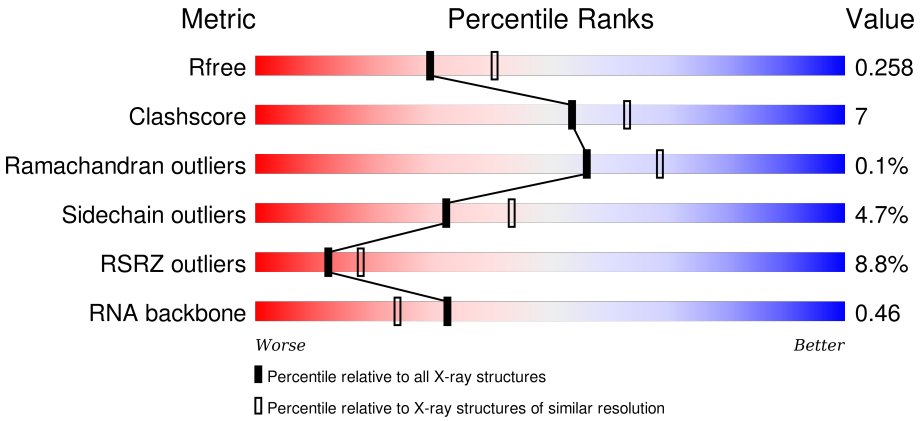
MolProbity	:	4.02b-467
Mogul	:	1.7 (RC4), CSD as536be (2015)
Xtriage (Phenix)	:	1.9-1692
EDS	:	rb-20026688
Percentile statistics	:	20151230.v01 (using entries in the PDB archive December 30th 2015)
Refmac	:	5.8.0135
CCP4	:	6.5.0
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	trunk26865

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 2.30 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}	91344	3852 (2.30-2.30)
Clashscore	102246	4452 (2.30-2.30)
Ramachandran outliers	100387	4410 (2.30-2.30)
Sidechain outliers	100360	4409 (2.30-2.30)
RSRZ outliers	91569	3857 (2.30-2.30)
RNA backbone	2183	1011 (2.84-1.76)

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. 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	859	8% 76% 14% • 8%
2	B	10	10% 70% 30%

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	IPH	A	901	-	-	-	X
4	IPA	A	902	-	-	-	X

2 Entry composition

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 Protein argonaute-2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	789	6343	4041	1142	1121	39	0	0	0

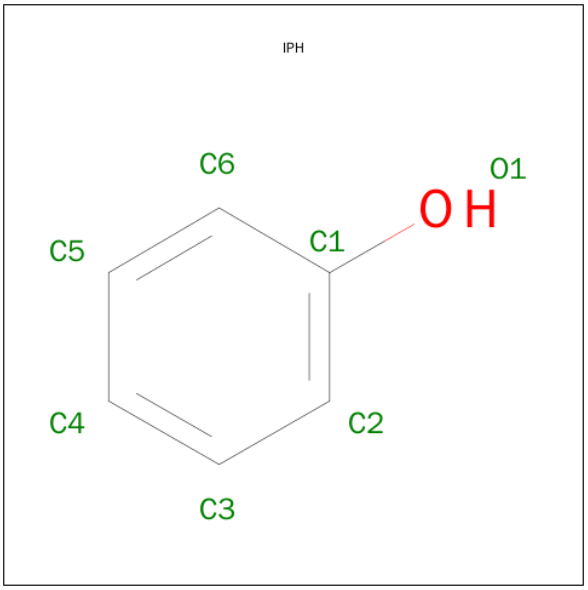
There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	387	ASP	SER	ENGINEERED MUTATION	UNP Q9UKV8

- Molecule 2 is a RNA chain called 5'-R(P*AP*AP*AP*AP*AP*AP*AP*AP*U)-3'.

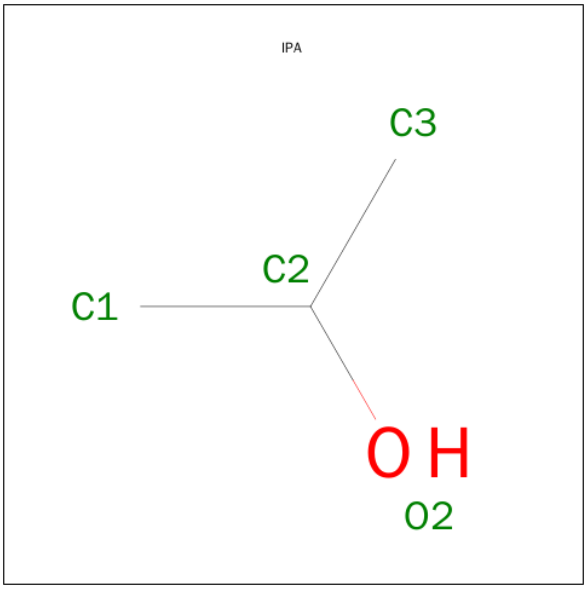
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
2	B	10	191	84	37	60	10	0	0	0

- Molecule 3 is PHENOL (three-letter code: IPH) (formula: C_6H_6O).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	1	Total C O 7 6 1	0	0

- Molecule 4 is ISOPROPYL ALCOHOL (three-letter code: IPA) (formula: C_3H_8O).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	1	Total C O 4 3 1	0	0

- Molecule 5 is water.

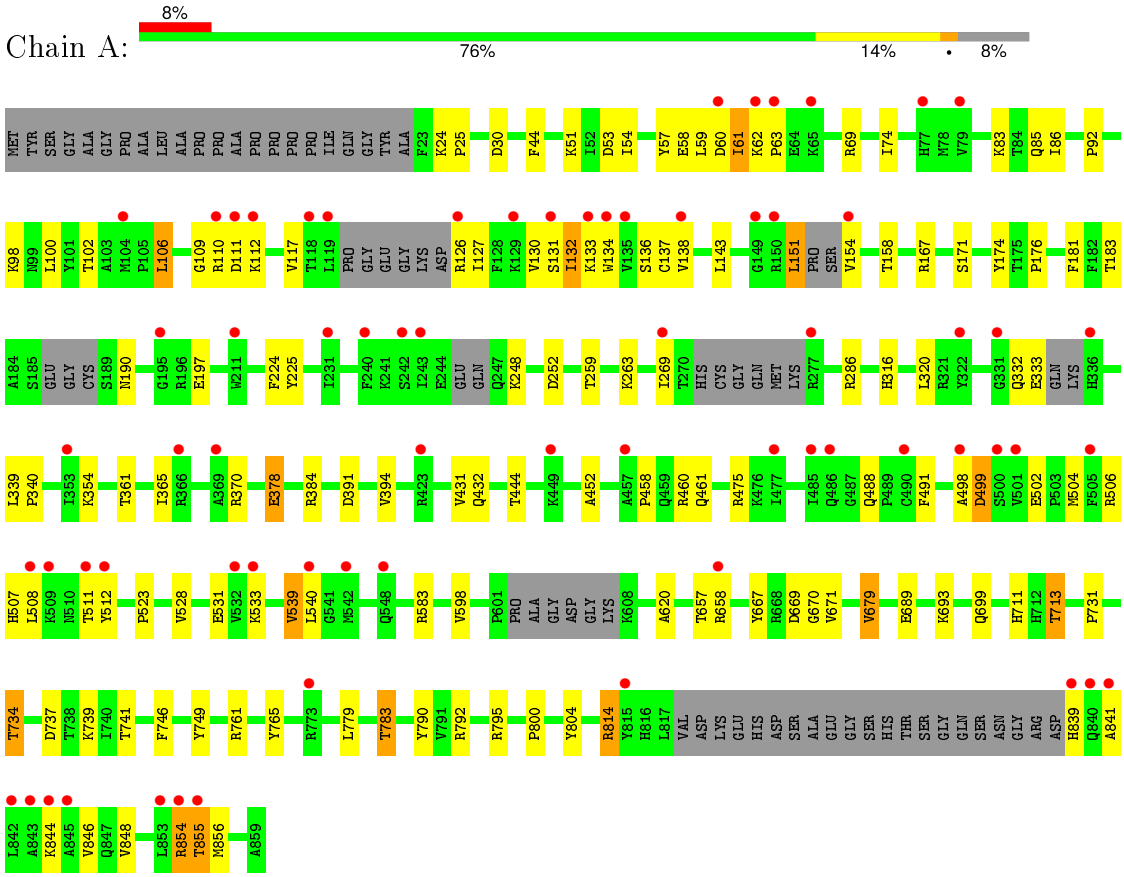
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	A	174	Total O 174 174	0	0
5	B	3	Total O 3 3	0	0

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 errors 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.

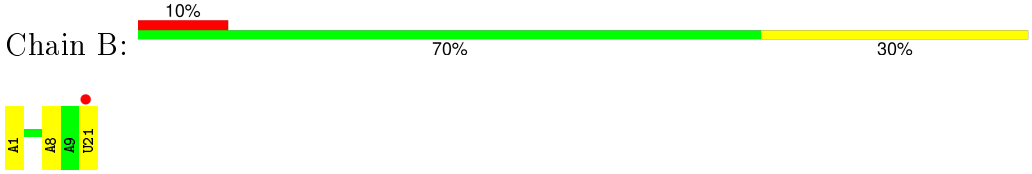
- Molecule 1: Protein argonaute-2

Chain A:



- Molecule 2: 5'-R(P*AP*AP*AP*AP*AP*AP*AP*AP*AP*U)-3'

Chain B:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	63.16Å 107.67Å 68.52Å 90.00° 107.10° 90.00°	Depositor
Resolution (Å)	41.59 – 2.30 41.59 – 2.19	Depositor EDS
% Data completeness (in resolution range)	99.4 (41.59-2.30) 99.0 (41.59-2.19)	Depositor EDS
R_{merge}	0.06	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.80 (at 2.20Å)	Xtriage
Refinement program	PHENIX (phenix.refine: 1.8.2_1309)	Depositor
R, R_{free}	0.212 , 0.253 0.221 , 0.258	Depositor DCC
R_{free} test set	1964 reflections (5.34%)	DCC
Wilson B-factor (Å^2)	44.8	Xtriage
Anisotropy	0.181	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.34 , 50.9	EDS
Estimated twinning fraction	No twinning to report.	Xtriage
L-test for twinning[2]	$< \|L\| > = 0.50$, $< L^2 > = 0.33$	Xtriage
Outliers	0 of 44342 reflections	Xtriage
F_o,F_c correlation	0.94	EDS
Total number of atoms	6722	wwPDB-VP
Average B, all atoms (Å^2)	53.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.50% 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, 0.375 respectively for untwinned datasets, and 0.333, 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: IPH, IPA

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	0.24	0/6488	0.43	0/8775
2	B	0.75	1/213 (0.5%)	0.67	0/326
All	All	0.27	1/6701 (0.0%)	0.44	0/9101

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	1	A	OP3-P	-10.81	1.48	1.61

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	6343	0	6408	85	0
2	B	191	0	94	2	0
3	A	7	0	6	0	0
4	A	4	0	8	2	0
5	A	174	0	0	6	0
5	B	3	0	0	0	0
All	All	6722	0	6516	85	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 7.

All (85) 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)
1:A:112:LYS:HA	1:A:133:LYS:HZ1	1.04	1.11
1:A:112:LYS:HA	1:A:133:LYS:NZ	1.91	0.83
1:A:110:ARG:HD3	1:A:134:TRP:CE3	2.29	0.68
1:A:143:LEU:HB2	1:A:158:THR:HG21	1.74	0.67
1:A:110:ARG:NE	1:A:134:TRP:O	2.28	0.67
1:A:110:ARG:HD3	1:A:134:TRP:HE3	1.60	0.66
1:A:475:ARG:NH2	1:A:488:GLN:OE1	2.30	0.65
1:A:111:ASP:OD1	1:A:112:LYS:N	2.29	0.65
1:A:539:VAL:HG22	1:A:540:LEU:HD12	1.78	0.64
1:A:370:ARG:HH12	1:A:378:GLU:CD	2.01	0.62
1:A:689:GLU:OE1	1:A:693:LYS:NZ	2.28	0.62
1:A:499:ASP:N	1:A:499:ASP:OD1	2.31	0.62
1:A:69:ARG:NH2	1:A:171:SER:O	2.33	0.61
1:A:316:HIS:NE2	2:B:21:U:OP2	2.34	0.61
1:A:502:GLU:OE2	1:A:506:ARG:NH1	2.34	0.60
1:A:737:ASP:HA	1:A:741:THR:HG21	1.84	0.60
1:A:112:LYS:HE3	1:A:133:LYS:HE2	1.83	0.60
1:A:24:LYS:NZ	1:A:25:PRO:O	2.35	0.59
1:A:460:ARG:HG3	1:A:461:GLN:HG3	1.84	0.59
1:A:61:ILE:HD11	1:A:74:ILE:HD13	1.84	0.59
1:A:225:TYR:OH	1:A:354:LYS:NZ	2.36	0.59
1:A:85:GLN:HG2	1:A:86:ILE:HG12	1.85	0.59
1:A:110:ARG:NH1	1:A:133:LYS:HG2	2.18	0.58
1:A:54:ILE:HB	1:A:138:VAL:HB	1.84	0.58
1:A:151:LEU:H	1:A:151:LEU:HD12	1.68	0.58
1:A:795:ARG:NH2	5:A:1145:HOH:O	2.37	0.57
1:A:58:GLU:N	1:A:133:LYS:O	2.26	0.57
1:A:126:ARG:HG3	1:A:127:ILE:HD12	1.87	0.57
1:A:855:THR:OG1	1:A:856:MET:N	2.38	0.56
1:A:24:LYS:HD2	1:A:25:PRO:HD2	1.86	0.56
1:A:333:GLU:N	1:A:333:GLU:OE1	2.35	0.56
1:A:167:ARG:HB2	1:A:181:PHE:HZ	1.71	0.56
1:A:286:ARG:NH2	5:A:1150:HOH:O	2.30	0.55
1:A:384:ARG:NH2	5:A:1069:HOH:O	2.40	0.54
1:A:458:PRO:HB2	1:A:460:ARG:HG2	1.90	0.54
1:A:839:HIS:N	5:A:1114:HOH:O	2.41	0.54
1:A:657:THR:O	1:A:658:ARG:HG2	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:761:ARG:NH2	2:B:8:A:OP2	2.41	0.53
1:A:671:VAL:HG11	1:A:679:VAL:HG11	1.91	0.52
1:A:779:LEU:O	1:A:783:THR:HG23	2.10	0.51
1:A:507:HIS:O	1:A:511:THR:HG22	2.10	0.51
1:A:85:GLN:OE1	1:A:85:GLN:N	2.44	0.50
1:A:713:THR:HG21	1:A:749:TYR:OH	2.12	0.50
1:A:583:ARG:NH1	1:A:620:ALA:O	2.45	0.49
1:A:669:ASP:OD1	1:A:670:GLY:N	2.45	0.49
1:A:109:GLY:HA2	1:A:110:ARG:HA	1.62	0.48
1:A:136:SER:OG	1:A:137:CYS:N	2.47	0.47
1:A:854:ARG:HA	1:A:854:ARG:HD3	1.50	0.47
1:A:259:THR:O	1:A:263:LYS:HB2	2.14	0.47
1:A:731:PRO:O	1:A:734:THR:HG23	2.15	0.46
1:A:74:ILE:HG23	1:A:117:VAL:HG11	1.98	0.46
1:A:711:HIS:ND1	1:A:713:THR:HG23	2.31	0.45
1:A:320:LEU:HD13	4:A:902:IPA:H12	1.97	0.45
1:A:667:TYR:OH	1:A:783:THR:HG22	2.16	0.45
1:A:269:ILE:HD11	1:A:339:LEU:HD13	1.97	0.45
1:A:498:ALA:O	1:A:531:GLU:HG2	2.16	0.45
1:A:92:PRO:HB3	1:A:102:THR:HG22	1.99	0.45
1:A:790:TYR:CE2	1:A:792:ARG:HB2	2.52	0.45
1:A:30:ASP:OD2	5:A:1147:HOH:O	2.21	0.44
1:A:59:LEU:N	1:A:98:LYS:O	2.47	0.44
1:A:110:ARG:CZ	1:A:133:LYS:HG2	2.47	0.44
1:A:110:ARG:HA	1:A:110:ARG:HD2	1.84	0.44
1:A:69:ARG:NH2	5:A:1151:HOH:O	2.51	0.44
1:A:61:ILE:HD12	1:A:74:ILE:HG21	2.00	0.44
1:A:504:MET:O	1:A:508:LEU:HG	2.17	0.44
1:A:197:GLU:N	1:A:224:PHE:O	2.45	0.43
1:A:174:TYR:O	1:A:176:PRO:HD3	2.19	0.43
1:A:511:THR:HG23	1:A:512:TYR:CD2	2.53	0.43
1:A:765:TYR:OH	1:A:800:PRO:HD3	2.18	0.43
1:A:391:ASP:HB3	1:A:394:VAL:HG13	2.00	0.43
1:A:452:ALA:HB1	1:A:491:PHE:HD1	1.84	0.43
1:A:814:ARG:HD3	1:A:814:ARG:HA	1.74	0.43
1:A:841:ALA:O	1:A:844:LYS:HG2	2.18	0.43
1:A:340:PRO:HB3	4:A:902:IPA:H12	1.99	0.43
1:A:62:LYS:HA	1:A:63:PRO:C	2.39	0.43
1:A:57:TYR:CE1	1:A:134:TRP:HB2	2.53	0.42
1:A:533:LYS:HA	1:A:533:LYS:HD3	1.81	0.42
1:A:361:THR:O	1:A:365:ILE:HG12	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:110:ARG:HH12	1:A:133:LYS:HG2	1.84	0.42
1:A:110:ARG:HH12	1:A:133:LYS:HE3	1.85	0.41
1:A:431:VAL:HG12	1:A:432:GLN:HG3	2.02	0.41
1:A:61:ILE:HB	1:A:130:VAL:HG22	2.03	0.40
1:A:44:PHE:HE1	1:A:713:THR:HB	1.87	0.40
1:A:106:LEU:HD23	1:A:132:ILE:HD11	2.03	0.40
1:A:60:ASP:HB2	1:A:131:SER:OG	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	771/859 (90%)	746 (97%)	24 (3%)	1 (0%)	56 68

All (1) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	523	PRO

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	701/752 (93%)	668 (95%)	33 (5%)	32 43

All (33) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	51	LYS
1	A	53	ASP
1	A	61	ILE
1	A	83	LYS
1	A	100	LEU
1	A	106	LEU
1	A	132	ILE
1	A	151	LEU
1	A	154	VAL
1	A	183	THR
1	A	190	ASN
1	A	248	LYS
1	A	252	ASP
1	A	332	GLN
1	A	378	GLU
1	A	444	THR
1	A	499	ASP
1	A	528	VAL
1	A	539	VAL
1	A	598	VAL
1	A	679	VAL
1	A	699	GLN
1	A	713	THR
1	A	734	THR
1	A	739	LYS
1	A	746	PHE
1	A	783	THR
1	A	804	TYR
1	A	814	ARG
1	A	846	VAL
1	A	848	VAL
1	A	854	ARG
1	A	855	THR

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

Mol	Chain	Res	Type
1	A	636	GLN

5.3.3 RNA

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
2	B	7/10 (70%)	0	0

There are no RNA backbone outliers to report.

There are no RNA pucker outliers to report.

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 carbohydrates in this entry.

5.6 Ligand geometry (i)

2 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	IPH	A	901	-	7,7,7	0.40	0	8,8,8	0.43	0
4	IPA	A	902	-	3,3,3	0.53	0	3,3,3	0.32	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
3	IPH	A	901	-	-	0/0/0/0	0/1/1/1
4	IPA	A	902	-	-	0/0/0/0	0/0/0/0

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.

1 monomer is involved in 2 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	A	902	IPA	2	0

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	789/859 (91%)	0.69	69 (8%) 13 18	24, 51, 84, 136	0
2	B	10/10 (100%)	0.76	1 (10%) 9 14	40, 49, 83, 90	1 (10%)
All	All	799/869 (91%)	0.69	70 (8%) 12 18	24, 51, 84, 136	1 (0%)

All (70) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	110	ARG	8.4
1	A	841	ALA	7.5
1	A	449	LYS	6.1
1	A	134	TRP	5.5
1	A	112	LYS	5.3
1	A	240	PHE	5.3
1	A	243	ILE	5.1
1	A	505	PHE	5.1
1	A	133	LYS	4.8
1	A	423	ARG	4.7
1	A	111	ASP	4.6
1	A	242	SER	4.4
1	A	508	LEU	4.2
1	A	149	GLY	4.2
1	A	62	LYS	4.1
1	A	501	VAL	4.0
1	A	845	ALA	3.8
1	A	854	ARG	3.6
1	A	844	LYS	3.5
1	A	540	LEU	3.5
1	A	60	ASP	3.4
1	A	839	HIS	3.4
1	A	150	ARG	3.4
1	A	211	TRP	3.3

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Mol	Chain	Res	Type	RSRZ
1	A	773	ARG	3.2
1	A	542	MET	3.1
1	A	322	TYR	3.1
1	A	118	THR	3.0
1	A	509	LYS	3.0
1	A	658	ARG	3.0
1	A	154	VAL	2.9
1	A	231	ILE	2.8
1	A	269	ILE	2.8
1	A	195	GLY	2.7
2	B	21	U	2.7
1	A	840	GLN	2.7
1	A	63	PRO	2.7
1	A	277	ARG	2.7
1	A	119	LEU	2.7
1	A	512	TYR	2.7
1	A	369	ALA	2.6
1	A	815	TYR	2.6
1	A	79	VAL	2.6
1	A	511	THR	2.6
1	A	855	THR	2.6
1	A	498	ALA	2.6
1	A	129	LYS	2.6
1	A	532	VAL	2.6
1	A	135	VAL	2.5
1	A	490	CYS	2.5
1	A	486	GLN	2.5
1	A	366	ARG	2.5
1	A	77	HIS	2.5
1	A	65	LYS	2.4
1	A	842	LEU	2.4
1	A	477	ILE	2.3
1	A	548	GLN	2.3
1	A	104	MET	2.3
1	A	336	HIS	2.3
1	A	331	GLY	2.3
1	A	485	ILE	2.2
1	A	457	ALA	2.2
1	A	533	LYS	2.2
1	A	843	ALA	2.2
1	A	353	ILE	2.2
1	A	126	ARG	2.1

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Mol	Chain	Res	Type	RSRZ
1	A	500	SER	2.1
1	A	131	SER	2.0
1	A	138	VAL	2.0
1	A	853	LEU	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. LLDF column lists the quality of electron density of the group with respect to its neighbouring residues in protein, DNA or RNA chains. 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	LLDF	B-factors(Å^2)	Q<0.9
3	IPH	A	901	7/7	0.81	0.27	4.84	52,57,63,66	0
4	IPA	A	902	4/4	0.81	0.45	4.38	40,55,64,64	0

6.5 Other polymers (i)

There are no such residues in this entry.