Full wwPDB X-ray Structure Validation Report (i)

Nov 17, 2026 – 02:46 AM JST

PDB ID	:	9XS2 / pdb_00009xs2
Title	:	crystal Structures of Keap1-A4 complexes
Authors	:	Zhuang, C.L.; Yu, R.Z.
Deposited on	:	2025-11-20
Resolution	:	1.38 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 (i)) were used in the production of this report:

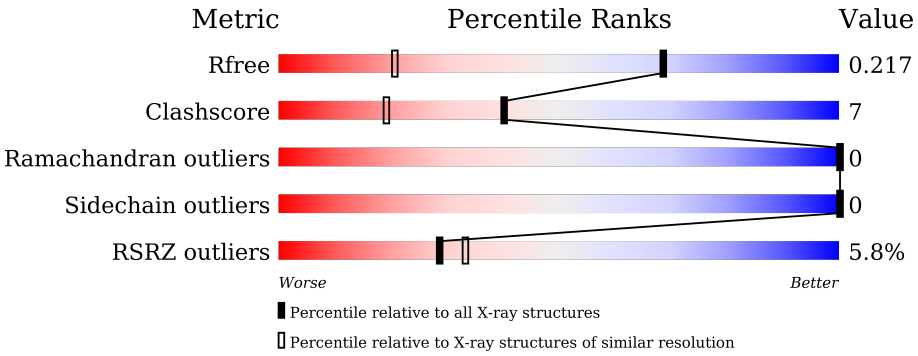
MolProbity	:	4-5-2 with Phenix2.2
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	2.2
EDS	:	3.0
Buster-report	:	wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4	:	9.0.015 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.51

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 1.38 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}	180053	4403 (1.40-1.36)
Clashscore	190562	4528 (1.40-1.36)
Ramachandran outliers	187476	4459 (1.40-1.36)
Sidechain outliers	187428	4458 (1.40-1.36)
RSRZ outliers	180081	4399 (1.40-1.36)

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	292	6% 86% 12%
1	B	292	5% 86% 11%

2 Entry composition

There are 3 unique types of molecules in this entry. The entry contains 5139 atoms, of which 40 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.

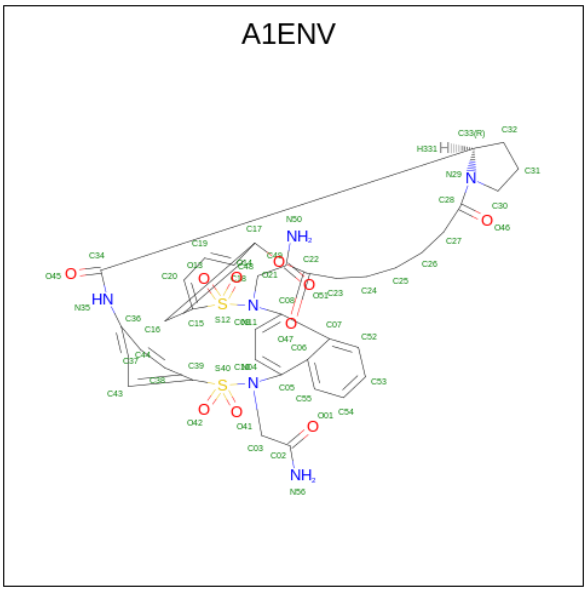
- Molecule 1 is a protein called Kelch-like ECH-associated protein 1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	285	Total	C	N	O	S	0	1	0
			2193	1364	394	420	15			
1	B	286	Total	C	N	O	S	0	0	0
			2201	1368	398	420	15			

There are 6 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	318	GLY	-	expression tag	UNP Q14145
A	319	SER	-	expression tag	UNP Q14145
A	320	HIS	-	expression tag	UNP Q14145
B	318	GLY	-	expression tag	UNP Q14145
B	319	SER	-	expression tag	UNP Q14145
B	320	HIS	-	expression tag	UNP Q14145

- Molecule 2 is (R)-2,2'-(5,5,9,9-tetraoxido-2,12,18-trioxo-11-oxa-5,9-dithia-3,6,8-triaza-1(2,1)-pyrrolidina-7(1,4)-naphthalena-4(1,4),10(1,3)-dibenzenacyclooctadecaphane-6,8-diyl)diacetamide (CCD ID: A1ENV) (formula: $C_{38}H_{40}N_6O_{10}S_2$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms						ZeroOcc	AltConf
2	A	1	Total	C	H	N	O	S	0	0
			96	38	40	6	10	2		

- Molecule 3 is water.

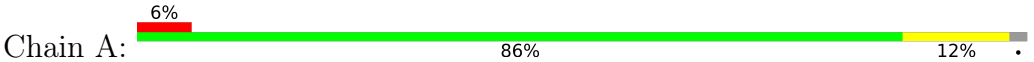
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	325	Total	O	0	0
			325	325		
3	B	324	Total	O	0	0
			324	324		

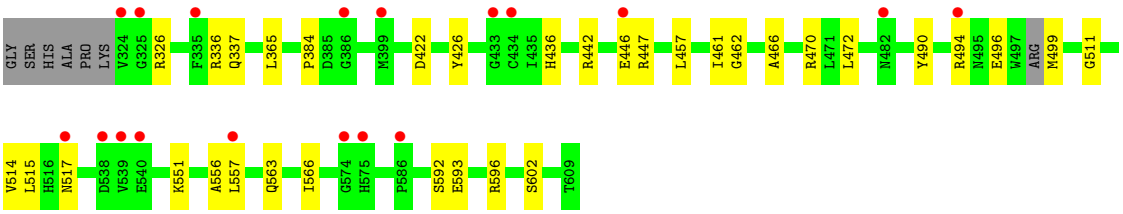
3 Residue-property plots (i)

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: Kelch-like ECH-associated protein 1

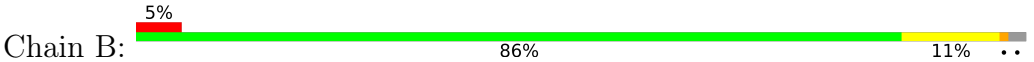
Chain A:

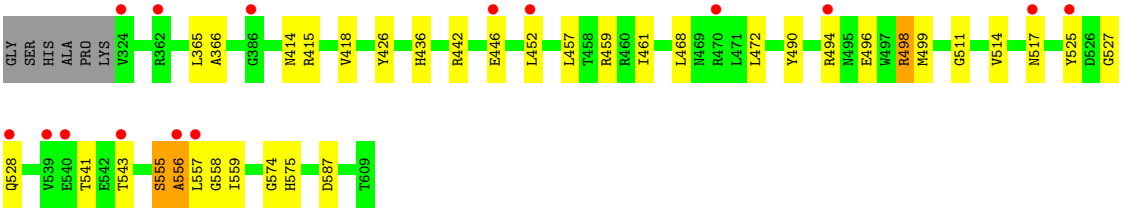




• Molecule 1: Kelch-like ECH-associated protein 1

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	70.54Å 51.12Å 76.33Å 90.00° 113.73° 90.00°	Depositor
Resolution (Å)	35.20 – 1.38 35.20 – 1.38	Depositor EDS
% Data completeness (in resolution range)	98.2 (35.20-1.38) 98.2 (35.20-1.38)	Depositor EDS
R_{merge}	0.06	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.99 (at 1.38Å)	Xtriage
Refinement program	PHENIX (1.20.1_4487: ???)	Depositor
R, R_{free}	0.195 , 0.217 0.195 , 0.217	Depositor DCC
R_{free} test set	4932 reflections (4.82%)	wwPDB-VP
Wilson B-factor (Å^2)	14.5	Xtriage
Anisotropy	0.330	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.34 , 32.2	EDS
L-test for twinning[2]	$< \|L\| > = 0.49$, $< L^2 > = 0.32$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.96	EDS
Total number of atoms	5139	wwPDB-VP
Average B, all atoms (Å^2)	19.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The analyses of the Patterson function reveals a significant off-origin peak that is 43.56 % of the origin peak, indicating pseudo-translational symmetry. The chance of finding a peak of this or larger height randomly in a structure without pseudo-translational symmetry is equal to 1.7321e-04. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

[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: A1ENV

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	0.49	0/2248	0.67	0/3059
1	B	0.56	3/2254 (0.1%)	0.68	3/3068 (0.1%)
All	All	0.53	3/4502 (0.1%)	0.68	3/6127 (0.0%)

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B	528	GLN	C-N	-7.97	1.21	1.33
1	B	498	ARG	C-N	-5.46	1.26	1.33
1	B	556	ALA	C-N	5.00	1.40	1.33

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B	555	SER	CA-C-N	-7.36	112.60	123.93
1	B	555	SER	C-N-CA	-7.36	112.60	123.93
1	B	555	SER	N-CA-C	-5.40	101.54	109.81

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	2193	0	2084	29	0
1	B	2201	0	2093	28	0
2	A	56	40	0	2	0
3	A	325	0	0	4	0
3	B	324	0	0	3	0
All	All	5099	40	4177	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 7.

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)
1:A:511:GLY:HA3	1:A:557:LEU:HD11	1.47	0.94
1:B:494:ARG:NH2	1:B:498:ARG:HE	1.68	0.90
1:A:551:LYS:HD2	1:A:592:SER:HA	1.61	0.79
1:B:511:GLY:HA3	1:B:557:LEU:HD11	1.67	0.77
1:A:466:ALA:HB1	1:A:514:VAL:HG23	1.72	0.72
1:B:426:TYR:CZ	1:B:442:ARG:HD3	2.27	0.69
1:B:525:TYR:CE2	1:B:527:GLY:HA2	2.30	0.67
1:A:446:GLU:HG2	1:A:447:ARG:HG2	1.81	0.62
1:B:494:ARG:HH21	1:B:498:ARG:HE	1.46	0.62
1:B:459:ARG:NH1	3:B:702:HOH:O	2.32	0.62
1:B:366:ALA:HB1	1:B:418:VAL:HG22	1.81	0.61
1:B:494:ARG:HH22	1:B:498:ARG:HE	1.50	0.59
1:A:384:PRO:HD2	3:A:953:HOH:O	2.02	0.59
1:A:457:LEU:HD12	1:A:499:MET:HE2	1.84	0.58
1:A:517:ASN:ND2	3:A:807:HOH:O	2.36	0.57
1:A:494:ARG:HB2	1:A:496:GLU:HG2	1.87	0.57
1:A:557:LEU:HD12	1:A:557:LEU:C	2.30	0.56
1:A:422:ASP:OD2	1:A:470:ARG:NH2	2.29	0.56
1:B:452:LEU:HD12	3:B:964:HOH:O	2.06	0.55
1:A:557:LEU:HD12	1:A:557:LEU:O	2.06	0.55
1:B:555:SER:O	1:B:556:ALA:HB3	2.07	0.55
1:B:514:VAL:HG12	3:B:853:HOH:O	2.07	0.53
1:B:541:THR:O	1:B:543:THR:HG23	2.09	0.53
1:A:472:LEU:HB3	1:A:490:TYR:HB3	1.91	0.53
1:B:525:TYR:CE2	1:B:527:GLY:CA	2.91	0.52
1:A:551:LYS:NZ	1:A:593:GLU:H	2.07	0.52
1:B:468:LEU:HD11	1:B:517:ASN:HA	1.92	0.52
2:A:701:A1ENV:C32	1:B:587:ASP:HA	2.40	0.51
1:A:511:GLY:CA	1:A:557:LEU:HD11	2.31	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:326:ARG:HG2	1:A:326:ARG:HH11	1.76	0.50
1:B:557:LEU:HD13	1:B:558:GLY:O	2.12	0.48
1:A:551:LYS:HZ3	1:A:593:GLU:H	1.62	0.48
1:B:436:HIS:HB3	1:B:461:ILE:HD11	1.95	0.47
1:A:426:TYR:CZ	1:A:442:ARG:HD3	2.49	0.47
1:B:557:LEU:CD1	1:B:559:ILE:HB	2.44	0.47
1:A:365:LEU:HD23	1:A:365:LEU:H	1.79	0.47
1:B:496:GLU:OE2	1:B:498:ARG:NH2	2.47	0.47
1:B:457:LEU:HD12	1:B:499:MET:SD	2.55	0.47
1:B:414:ASN:O	1:B:415:ARG:HB2	2.15	0.46
1:A:515:LEU:HD22	1:A:566:ILE:HG13	1.96	0.46
1:B:446:GLU:H	1:B:446:GLU:CD	2.24	0.46
1:A:551:LYS:CD	1:A:592:SER:HA	2.39	0.45
1:A:563:GLN:NE2	3:A:815:HOH:O	2.49	0.45
1:A:457:LEU:HD12	1:A:499:MET:CE	2.46	0.44
1:A:551:LYS:CE	1:A:593:GLU:H	2.30	0.44
1:A:436:HIS:CD2	1:A:461:ILE:HD11	2.54	0.43
1:B:496:GLU:OE2	1:B:498:ARG:NE	2.51	0.43
1:A:556:ALA:HB3	1:A:602[B]:SER:OG	2.19	0.42
1:B:365:LEU:H	1:B:365:LEU:HD23	1.85	0.42
1:B:574:GLY:C	1:B:575:HIS:ND1	2.78	0.42
1:A:326:ARG:HG2	1:A:326:ARG:NH1	2.34	0.42
1:A:462:GLY:HA3	2:A:701:A1ENV:N50	2.35	0.42
1:A:336:ARG:HG2	1:A:337:GLN:OE1	2.21	0.41
1:B:557:LEU:HD12	1:B:557:LEU:C	2.46	0.41
1:B:496:GLU:OE2	1:B:498:ARG:CZ	2.68	0.41
1:B:472:LEU:HB3	1:B:490:TYR:HB3	2.03	0.41
1:A:596:ARG:NH1	3:A:816:HOH:O	2.49	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	282/292 (97%)	273 (97%)	9 (3%)	0	100	100
1	B	284/292 (97%)	275 (97%)	9 (3%)	0	100	100
All	All	566/584 (97%)	548 (97%)	18 (3%)	0	100	100

There are no Ramachandran outliers to report.

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	232/236 (98%)	232 (100%)	0	100	100
1	B	232/236 (98%)	232 (100%)	0	100	100
All	All	464/472 (98%)	464 (100%)	0	100	100

There are no protein residues with a non-rotameric sidechain to report.

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (4) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	528	GLN
1	A	563	GLN
1	B	414	ASN
1	B	517	ASN

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 oligosaccharides in this entry.

5.6 Ligand geometry (i)

1 ligand is 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	$\#\|Z\| > 2$
2	A1ENV	A	701	-	61,61,61	2.12	15 (24%)	82,89,89	2.13	20 (24%)

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
2	A1ENV	A	701	-	-	13/64/74/74	0/5/6/6

All (15) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A	701	A1ENV	S40-N04	6.58	1.74	1.65
2	A	701	A1ENV	S12-N11	6.23	1.73	1.65
2	A	701	A1ENV	C34-N35	4.99	1.46	1.35
2	A	701	A1ENV	C39-S40	4.93	1.83	1.76
2	A	701	A1ENV	O13-S12	4.58	1.48	1.43
2	A	701	A1ENV	C49-N50	3.54	1.44	1.32
2	A	701	A1ENV	C02-N56	3.41	1.43	1.32
2	A	701	A1ENV	C28-N29	3.41	1.45	1.35
2	A	701	A1ENV	O42-S40	3.14	1.47	1.43
2	A	701	A1ENV	C05-N04	3.12	1.47	1.44
2	A	701	A1ENV	C07-C06	-3.05	1.37	1.43
2	A	701	A1ENV	O41-S40	3.05	1.46	1.43
2	A	701	A1ENV	C36-N35	2.77	1.47	1.41

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A	701	A1ENV	O45-C34	-2.26	1.18	1.23
2	A	701	A1ENV	O46-C28	-2.05	1.18	1.23

All (20) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	A	701	A1ENV	C39-S40-N04	-7.65	96.49	106.92
2	A	701	A1ENV	O42-S40-N04	6.48	114.37	106.71
2	A	701	A1ENV	O14-S12-N11	5.52	113.25	106.71
2	A	701	A1ENV	C10-C05-N04	-5.05	113.86	119.75
2	A	701	A1ENV	C17-O21-C22	-4.93	106.57	119.42
2	A	701	A1ENV	O21-C22-C23	4.07	122.43	110.67
2	A	701	A1ENV	C48-N11-S12	4.02	124.08	117.23
2	A	701	A1ENV	C09-C08-N11	-3.76	115.37	119.75
2	A	701	A1ENV	O13-S12-C15	3.56	112.55	108.05
2	A	701	A1ENV	C15-S12-N11	-3.45	102.21	106.92
2	A	701	A1ENV	O42-S40-O41	-3.42	113.98	119.52
2	A	701	A1ENV	O14-S12-O13	-2.85	114.90	119.52
2	A	701	A1ENV	O41-S40-N04	2.67	109.87	106.71
2	A	701	A1ENV	C36-N35-C34	-2.67	121.02	127.40
2	A	701	A1ENV	O21-C22-O47	-2.59	117.89	122.84
2	A	701	A1ENV	C48-C49-N50	2.55	119.88	115.86
2	A	701	A1ENV	C38-C39-S40	-2.30	117.33	119.76
2	A	701	A1ENV	C43-C39-S40	2.28	122.16	119.76
2	A	701	A1ENV	C32-C33-C34	-2.16	106.61	111.22
2	A	701	A1ENV	C33-C34-N35	2.10	119.32	114.12

There are no chirality outliers.

All (13) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	701	A1ENV	N56-C02-C03-N04
2	A	701	A1ENV	O01-C02-C03-N04
2	A	701	A1ENV	C32-C33-C34-O45
2	A	701	A1ENV	C23-C22-O21-C17
2	A	701	A1ENV	C22-C23-C24-C25
2	A	701	A1ENV	C32-C33-C34-N35
2	A	701	A1ENV	O47-C22-O21-C17
2	A	701	A1ENV	C48-N11-S12-O14
2	A	701	A1ENV	C25-C26-C27-C28
2	A	701	A1ENV	C48-N11-S12-C15
2	A	701	A1ENV	C48-N11-S12-O13

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Mol	Chain	Res	Type	Atoms
2	A	701	A1ENV	C24-C25-C26-C27
2	A	701	A1ENV	C49-C48-N11-S12

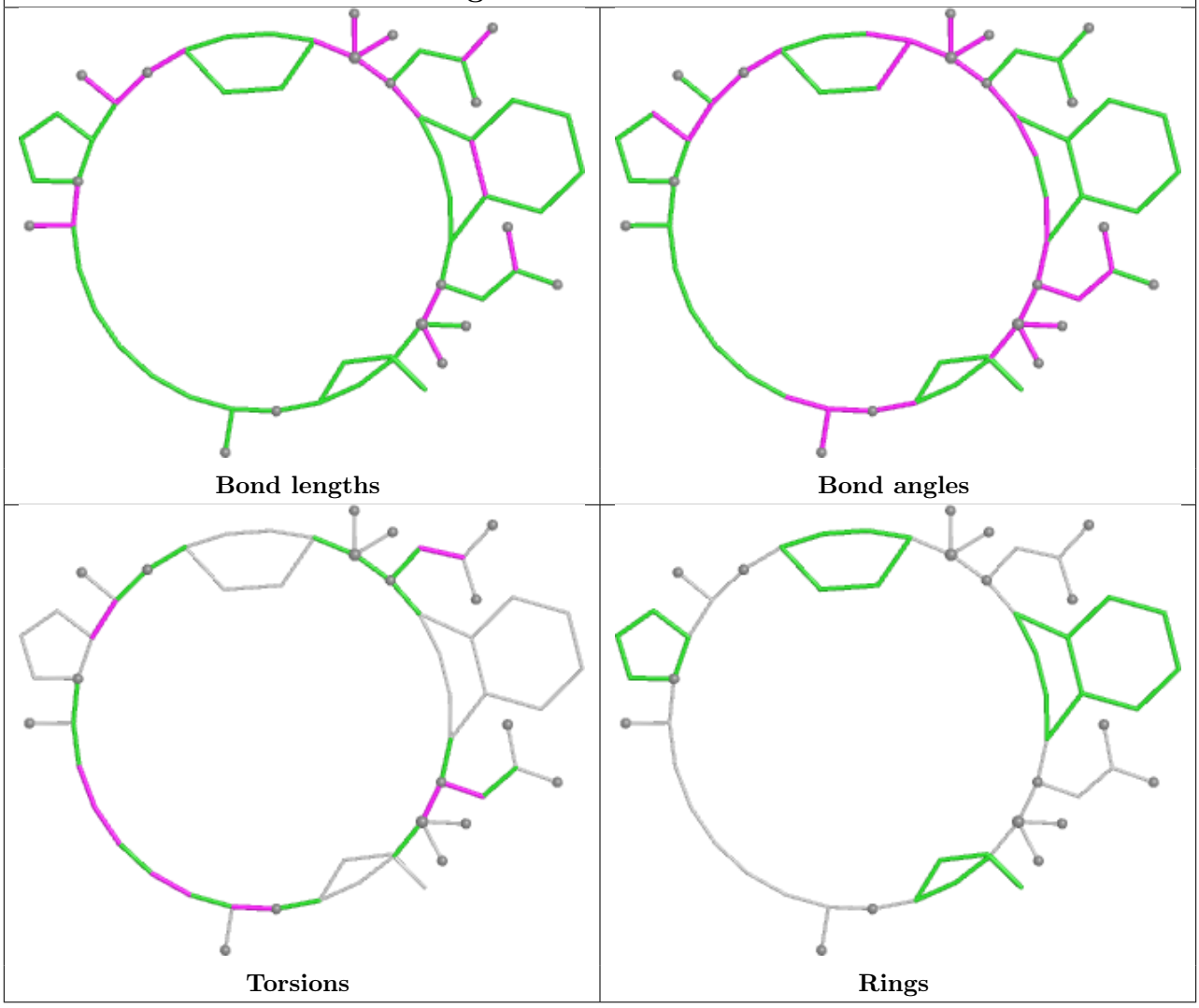
There are no ring outliers.

1 monomer is involved in 2 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	A	701	A1ENV	2	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less then 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

Ligand A1ENV A 701



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, 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(Å^2)	Q<0.9
1	A	285/292 (97%)	0.42	18 (6%)	26	30	10, 15, 29, 53	1 (0%)
1	B	286/292 (97%)	0.55	15 (5%)	33	38	12, 17, 30, 46	0
All	All	571/584 (97%)	0.49	33 (5%)	29	33	10, 16, 30, 53	1 (0%)

All (33) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	324	VAL	9.1
1	B	324	VAL	5.9
1	B	556	ALA	5.1
1	B	525	TYR	4.3
1	A	434	CYS	3.1
1	B	362	ARG	3.0
1	B	539	VAL	2.9
1	B	557	LEU	2.8
1	A	325	GLY	2.8
1	B	470	ARG	2.7
1	A	517	ASN	2.5
1	B	452	LEU	2.5
1	A	575	HIS	2.4
1	A	386	GLY	2.4
1	B	517	ASN	2.3
1	A	335	PHE	2.3
1	B	528	GLN	2.3
1	A	586	PRO	2.3
1	A	539	VAL	2.2
1	B	543	THR	2.2
1	A	494	ARG	2.2
1	A	574	GLY	2.2
1	B	446	GLU	2.2
1	B	494	ARG	2.1

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Mol	Chain	Res	Type	RSRZ
1	B	386	GLY	2.1
1	A	433	GLY	2.1
1	A	557	LEU	2.1
1	A	540	GLU	2.1
1	A	399	MET	2.0
1	A	446	GLU	2.0
1	B	540	GLU	2.0
1	A	482	ASN	2.0
1	A	538	ASP	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 oligosaccharides in this entry.

6.4 Ligands (i)

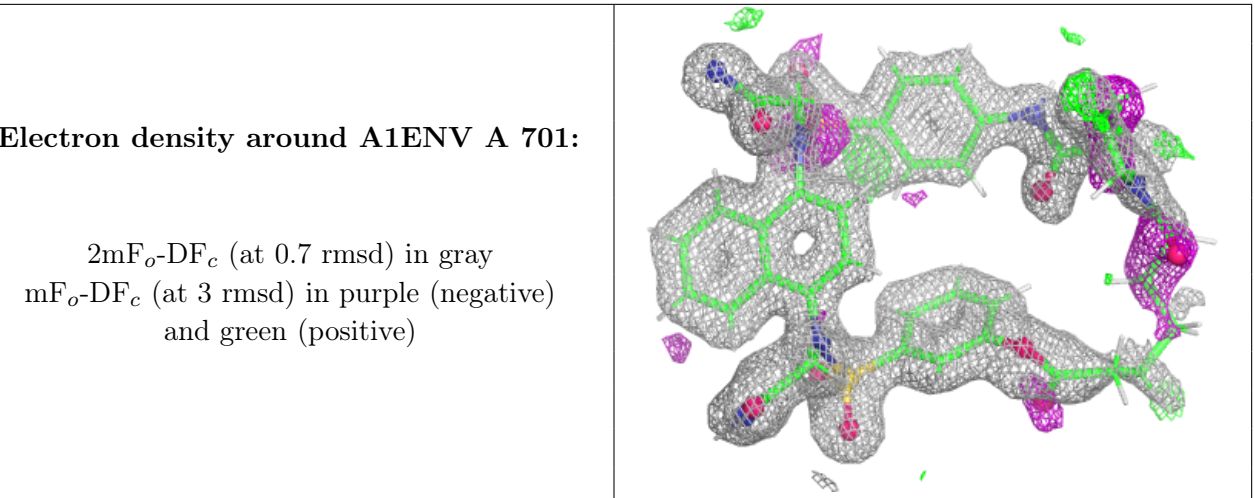
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
2	A1ENV	A	701	56/56	0.90	0.11	16,25,41,44	0

The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation to approximate a three-dimensional view.

Electron density around A1ENV A 701:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)



6.5 Other polymers (i)

There are no such residues in this entry.