

# Full wwPDB X-ray Structure Validation Report (i)

#### Sep 24, 2023 – 12:27 PM EDT

PDB ID : 5UFX

Title : Estrogen Receptor Alpha Ligand Binding Domain in Complex with OP1074 Authors : Fanning, S.W.; Hodges-Gallagher, L.; Myles, D.C.; Sun, R.; Fowler, C.E.;

Green, B.D.; Harmon, C.L.; Greene, G.L.; Kushner, P.J.

Deposited on : 2017-01-06

Resolution : 1.55 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 : 1.8.5 (274361), CSD as541be (2020)

Xtriage (Phenix) : 1.13

EDS : 2.35.1

buster-report : 1.1.7 (2018)

Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)

 $Refmac \quad : \quad 5.8.0158$ 

CCP4 : 7.0.044 (Gargrove)

Ideal geometry (proteins) : Engh & Huber (2001) Ideal geometry (DNA, RNA) : Parkinson et al. (1996)

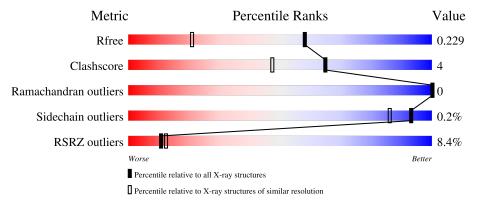
Validation Pipeline (wwPDB-VP) : 2.35.1

## 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 1.55 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	Similar resolution
Metric	$(\# \mathrm{Entries})$	$(\#  ext{Entries},  ext{ resolution range}( ext{Å}))$
$R_{free}$	130704	1483 (1.56-1.56)
Clashscore	141614	1529 (1.56-1.56)
Ramachandran outliers	138981	1498 (1.56-1.56)
Sidechain outliers	138945	1495 (1.56-1.56)
RSRZ outliers	127900	1465 (1.56-1.56)

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	249	85%	9%	6%
1	В	249	85%	8%	7%



# 2 Entry composition (i)

There are 3 unique types of molecules in this entry. The entry contains 4416 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 Estrogen receptor.

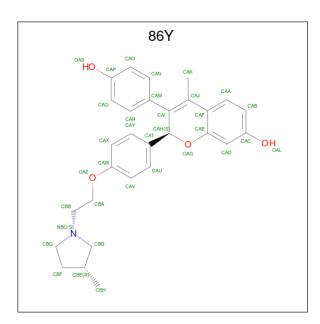
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf	Trace		
1	A	234	Total 1899	C 1216	N 318	O 349	S 16	4	8	0
1	В	231	Total 1832	C 1177	N 310	O 328	S 17	0	4	0

There are 8 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	381	SER	CYS	engineered mutation	UNP P03372
A	417	SER	CYS	engineered mutation	UNP P03372
A	530	SER	CYS	engineered mutation	UNP P03372
A	536	SER	LEU	engineered mutation	UNP P03372
В	381	SER	CYS	engineered mutation	UNP P03372
В	417	SER	CYS	engineered mutation	UNP P03372
В	530	SER	CYS	engineered mutation	UNP P03372
В	536	SER	LEU	engineered mutation	UNP P03372

• Molecule 2 is (2S)-3-(4-hydroxyphenyl)-4-methyl-2-(4- $\{2-[(3R)-3-methylpyrrolidin-1-yl]ethoxy\}$ phenyl)-2H-1-benzopyran-7-ol (three-letter code: 86Y) (formula:  $C_{29}H_{31}NO_4$ ).





Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
2	A	1	Total 34				0	0
2	В	1	Total 34	C 29	N 1	O 4	0	0

### • Molecule 3 is water.

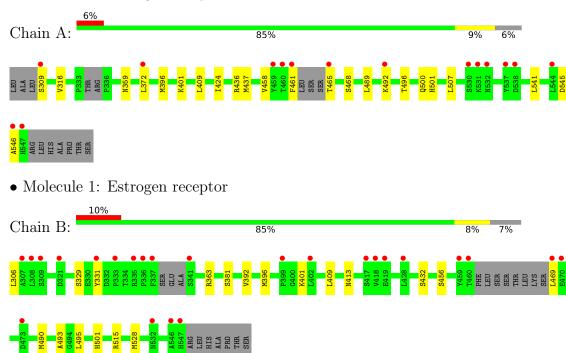
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	347	Total O 347 347	0	0
3	В	269	Total O 270 270	0	1



# 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: Estrogen receptor





# 4 Data and refinement statistics (i)

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants	102.72Å 58.02Å 87.83Å	Depositor
a, b, c, $\alpha$ , $\beta$ , $\gamma$	$90.00^{\circ}$ $102.89^{\circ}$ $90.00^{\circ}$	Depositor
Resolution (Å)	19.99 - 1.55	Depositor
rtesolution (A)	19.99 - 1.55	EDS
% Data completeness	94.2 (19.99-1.55)	Depositor
(in resolution range)	94.2 (19.99-1.55)	EDS
$R_{merge}$	(Not available)	Depositor
$R_{sym}$	(Not available)	Depositor
$< I/\sigma(I) > 1$	2.28 (at 1.55Å)	Xtriage
Refinement program	PHENIX 1.9_1692	Depositor
D D.	0.195 , 0.230	Depositor
$R, R_{free}$	0.196 , 0.229	DCC
$R_{free}$ test set	3441 reflections (5.00%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	14.4	Xtriage
Anisotropy	0.089	Xtriage
Bulk solvent $k_{sol}(e/Å^3)$ , $B_{sol}(Å^2)$	0.35, 47.9	EDS
L-test for twinning <sup>2</sup>	$ < L >=0.50, < L^2>=0.33$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
$F_o, F_c$ correlation	0.95	EDS
Total number of atoms	4416	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	22.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: The largest off-origin peak in the Patterson function is 5.46% of the height of the origin peak. No significant pseudotranslation is detected.

<sup>&</sup>lt;sup>2</sup>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.



<sup>&</sup>lt;sup>1</sup>Intensities estimated from amplitudes.

## 5 Model quality (i)

## 5.1 Standard geometry (i)

Bond lengths and bond angles in the following residue types are not validated in this section: 86Y

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	Boı	nd lengths	Bond	angles
IVIOI	Chain	RMSZ	# Z  > 5	RMSZ	# Z >5
1	A	0.37	0/1943	0.54	0/2626
1	В	0.38	1/1871 (0.1%)	0.49	0/2530
All	All	0.37	1/3814 (0.0%)	0.51	0/5156

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	$\mathbf{Z}$	$\operatorname{Observed}(\text{\AA})$	$Ideal(\AA)$
1	В	381	SER	CB-OG	-5.09	1.35	1.42

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

## 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	1899	0	1915	18	0
1	В	1832	0	1843	15	0
2	A	34	0	0	1	0
2	В	34	0	0	0	0
3	A	347	0	0	6	2
3	В	270	0	0	7	2
All	All	4416	0	3758	31	2



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 (31) 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:359[A]:ASN:ND2	3:A:701:HOH:O	2.10	0.83
1:A:465:THR:HA	1:A:468:SER:HB2	1.70	0.73
1:B:493:ALA:O	3:B:701:HOH:O	2.17	0.60
1:A:396:MET:O	1:A:436:ARG:HD3	2.03	0.58
1:A:309:SER:N	3:A:720:HOH:O	2.41	0.54
1:B:306:LEU:N	3:B:711:HOH:O	2.41	0.52
1:B:413:ASN:ND2	3:B:706:HOH:O	2.35	0.51
1:B:490:MET:HB3	1:B:495:LEU:HD12	1.94	0.50
1:A:501:HIS:CE1	1:B:501[B]:HIS:NE2	2.81	0.49
1:A:401:LYS:HD3	1:A:409:LEU:HG	1.95	0.49
1:B:329:SER:HG	1:B:331:TYR:HD2	1.60	0.49
1:B:501[B]:HIS:HE1	3:B:904:HOH:O	1.96	0.49
1:A:541:LEU:O	1:A:545:ASP:N	2.32	0.48
1:A:461:PHE:N	3:A:712:HOH:O	2.35	0.47
1:A:492:LYS:NZ	3:A:706:HOH:O	2.25	0.47
1:B:401:LYS:HB3	1:B:409:LEU:HD22	1.97	0.47
1:B:456:SER:HA	1:B:515:ARG:NH2	2.30	0.46
1:A:496:THR:O	1:A:500:GLN:HG3	2.16	0.45
1:B:363:ARG:NH1	3:B:707:HOH:O	2.37	0.44
1:A:546:ALA:HB1	3:A:796:HOH:O	2.16	0.44
1:A:424:ILE:HD13	2:A:601:86Y:OAS	2.18	0.44
1:A:507:LEU:HD23	1:A:507:LEU:HA	1.84	0.43
1:A:316:VAL:HG21	1:A:489:LEU:HD21	2.01	0.42
1:B:392:VAL:HG13	1:B:432:SER:HA	2.02	0.42
1:A:545:ASP:OD1	3:A:704:HOH:O	2.21	0.41
1:B:528:MET:O	3:B:702:HOH:O	2.22	0.41
1:A:501:HIS:HE1	1:B:501[B]:HIS:NE2	2.18	0.41
1:A:458:VAL:HA	1:A:461:PHE:CE2	2.55	0.41
1:B:469:LEU:N	3:B:729:HOH:O	2.53	0.41
1:A:372[B]:LEU:HD23	1:A:372[B]:LEU:HA	1.90	0.40
1:B:396:MET:HE2	1:B:396:MET:HB2	1.61	0.40

All (2) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.



Atom-1	Atom-2	$\begin{array}{c} {\rm Interatomic} \\ {\rm distance} \ ({\rm \AA}) \end{array}$	Clash overlap (Å)
3:A:1029:HOH:O	3:B:906:HOH:O[3_455]	2.14	0.06
3:A:961:HOH:O	3:B:830:HOH:O[3_455]	2.17	0.03

## 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	Perce	${f ntiles}$
1	A	$236/249\ (95\%)$	233 (99%)	3 (1%)	0	100	100
1	В	229/249~(92%)	228 (100%)	1 (0%)	0	100	100
All	All	465/498 (93%)	461 (99%)	4 (1%)	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	214/224 (96%)	213 (100%)	1 (0%)	88	78	
1	В	200/224 (89%)	200 (100%)	0	100	100	
All	All	414/448 (92%)	413 (100%)	1 (0%)	93	86	

All (1) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	437	MET



Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (2) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	501	HIS
1	A	547	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)

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)

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	Mol Type Chain Res		Link	В	Bond lengths			Bond angles		
MIOI	Type	Chain	nes	LIIIK	Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
2	86Y	A	601	-	38,38,38	4.08	22 (57%)	47,54,54	1.60	11 (23%)
2	86Y	В	601	-	38,38,38	4.21	21 (55%)	47,54,54	1.52	6 (12%)

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	86Y	A	601	-	-	0/14/39/39	0/5/5/5
2	86Y	В	601	-	-	0/14/39/39	0/5/5/5

All (43) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	$Observed(\AA)$	Ideal(Å)
2	В	601	86Y	CAY-CAT	10.12	1.55	1.39
2	A	601	86Y	CAY-CAT	9.53	1.54	1.39
2	В	601	86Y	CAU-CAV	7.69	1.52	1.38
2	A	601	86Y	CAU-CAV	7.46	1.52	1.38
2	В	601	86Y	CAO-CAN	7.34	1.52	1.38
2	A	601	86Y	CAO-CAN	7.18	1.51	1.38
2	A	601	86Y	CAX-CAW	6.88	1.52	1.38
2	В	601	86Y	CAA-CAB	6.78	1.51	1.38
2	В	601	86Y	CAR-CAM	6.75	1.50	1.39
2	В	601	86Y	CAX-CAW	6.61	1.51	1.38
2	В	601	86Y	OAG-CAH	-6.58	1.35	1.45
2	В	601	86Y	CAQ-CAP	6.56	1.51	1.38
2	A	601	86Y	CAT-CAH	-6.49	1.41	1.51
2	A	601	86Y	CAR-CAM	6.39	1.50	1.39
2	A	601	86Y	OAG-CAH	-6.30	1.35	1.45
2	A	601	86Y	CAI-CAJ	6.14	1.43	1.35
2	A	601	86Y	CAQ-CAP	6.02	1.50	1.38
2	В	601	86Y	CAI-CAJ	5.83	1.43	1.35
2	A	601	86Y	CAA-CAB	5.81	1.49	1.38
2	В	601	86Y	CAT-CAH	-5.80	1.42	1.51
2	В	601	86Y	OAG-CAE	-5.58	1.30	1.38
2	В	601	86Y	CAD-CAC	5.35	1.47	1.39
2	A	601	86Y	CAD-CAC	4.96	1.46	1.39
2	A	601	86Y	OAG-CAE	-4.38	1.32	1.38
2	A	601	86Y	CAF-CAJ	-4.29	1.38	1.45
2	A	601	86Y	CAB-CAC	-4.17	1.31	1.38
2	В	601	86Y	CAF-CAJ	-4.03	1.39	1.45
2	В	601	86Y	CAB-CAC	-3.93	1.31	1.38
2	В	601	86Y	CBB-NBC	-3.58	1.39	1.47
2	A	601	86Y	CBB-NBC	-3.54	1.39	1.47
2	В	601	86Y	CBD-NBC	-3.30	1.42	1.47
2	A	601	86Y	CBD-NBC	-3.21	1.42	1.47
2	В	601	86Y	CAK-CAJ	3.12	1.55	1.50
2	A	601	86Y	CAK-CAJ	2.84	1.55	1.50
2	A	601	86Y	CAO-CAP	-2.64	1.33	1.38
2	A	601	86Y	CAM-CAI	2.63	1.53	1.48
2	В	601	86Y	CAO-CAP	-2.60	1.34	1.38

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Mol	Chain	Res	Type	Atoms	$\mathbf{Z}$	$\operatorname{Observed}(\text{\AA})$	$\operatorname{Ideal}( ext{\AA})$
2	В	601	86Y	OAL-CAC	2.46	1.42	1.37
2	В	601	86Y	CAR-CAQ	-2.22	1.34	1.38
2	В	601	86Y	CAM-CAI	2.13	1.52	1.48
2	A	601	86Y	CAN-CAM	-2.13	1.35	1.39
2	A	601	86Y	OAL-CAC	2.09	1.41	1.37
2	A	601	86Y	CAR-CAQ	-2.07	1.35	1.38

All (17) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	$Observed(^o)$	$\operatorname{Ideal}({}^{o})$
2	В	601	86Y	CAE-OAG-CAH	5.07	130.14	116.63
2	В	601	86Y	CAT-CAH-CAI	-4.03	107.20	114.48
2	A	601	86Y	CBG-NBC-CBD	3.86	107.79	104.02
2	A	601	86Y	CAE-OAG-CAH	3.61	126.24	116.63
2	A	601	86Y	CAT-CAH-CAI	-3.60	107.98	114.48
2	A	601	86Y	CAR-CAM-CAI	-3.34	116.59	120.91
2	В	601	86Y	CAK-CAJ-CAI	-2.82	120.76	124.49
2	A	601	86Y	CAB-CAC-CAD	2.74	123.18	120.17
2	A	601	86Y	CAK-CAJ-CAF	2.72	121.61	118.57
2	В	601	86Y	CAK-CAJ-CAF	2.56	121.44	118.57
2	В	601	86Y	OAG-CAE-CAF	-2.44	119.29	122.09
2	В	601	86Y	CAR-CAM-CAI	-2.40	117.80	120.91
2	A	601	86Y	CAK-CAJ-CAI	-2.26	121.50	124.49
2	A	601	86Y	CAU-CAT-CAH	2.16	123.93	120.50
2	A	601	86Y	CAY-CAT-CAH	-2.13	117.11	120.50
2	A	601	86Y	CAA-CAF-CAJ	-2.13	119.44	122.97
2	A	601	86Y	CAA-CAF-CAE	2.04	120.89	118.21

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

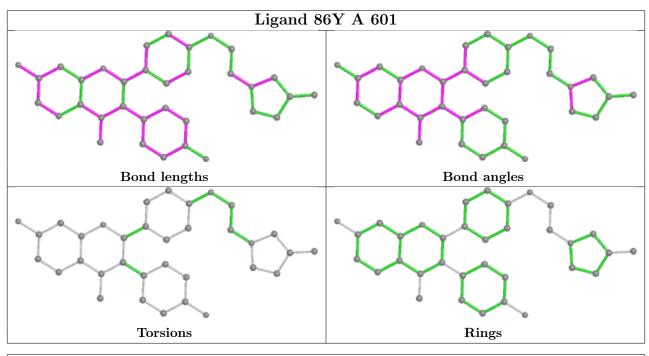
1 monomer is involved in 1 short contact:

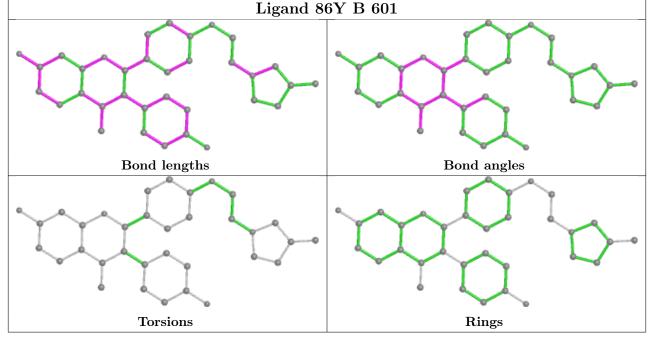
Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	A	601	86Y	1	0

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.







## 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,  $95^{th}$  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 $>$	$\# \mathrm{RSRZ}{>}2$	$OWAB(A^2)$	Q<0.9
1	A	234/249 (93%)	0.17	15 (6%) 19 23	7, 17, 39, 50	2 (0%)
1	В	231/249 (92%)	0.40	24 (10%) 6 6	10, 21, 44, 49	0
All	All	465/498 (93%)	0.28	39 (8%) 11 12	7, 19, 41, 50	2 (0%)

All (39) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	В	469	LEU	6.6
1	В	418	VAL	6.4
1	В	308	LEU	6.0
1	В	336	PRO	4.8
1	В	337	PHE	4.7
1	В	459	TYR	4.3
1	В	307	ALA	4.2
1	A	465	THR	4.1
1	A	530	SER	3.7
1	В	417	SER	3.6
1	В	419	GLU	3.4
1	A	532	ASN	3.4
1	В	331	TYR	3.2
1	В	547	HIS	3.2
1	В	333	PRO	3.2
1	В	402	LEU	3.1
1	A	461	PHE	3.0
1	A	459	TYR	3.0
1	A	546	ALA	3.0
1	A	544	LEU	3.0
1	A	531	LYS	2.9
1	В	532	ASN	2.8
1	В	460	THR	2.7
1	A	537	TYR	2.7

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Mol	Chain	Res Type		RSRZ
1	В	470	GLU	2.7
1	В	335	ARG	2.6
1	В	309	SER	2.6
1	A	538	ASP	2.6
1	A	492	LYS	2.5
1	A	460	THR	2.4
1	В	399	PRO	2.3
1	A	309	SER	2.3
1	В	428	LEU	2.3
1	В	473	ASP	2.3
1	В	321	ASP	2.3
1	A	547	HIS	2.2
1	В	546	ALA	2.2
1	В	341	SER	2.1
1	A	372[A]	LEU	2.1

## 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.

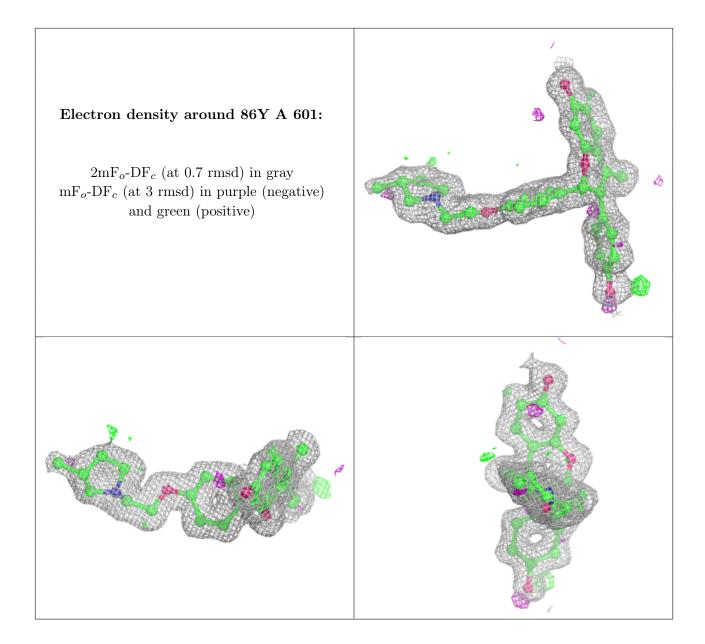
## 6.4 Ligands (i)

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,  $95^{th}$  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.

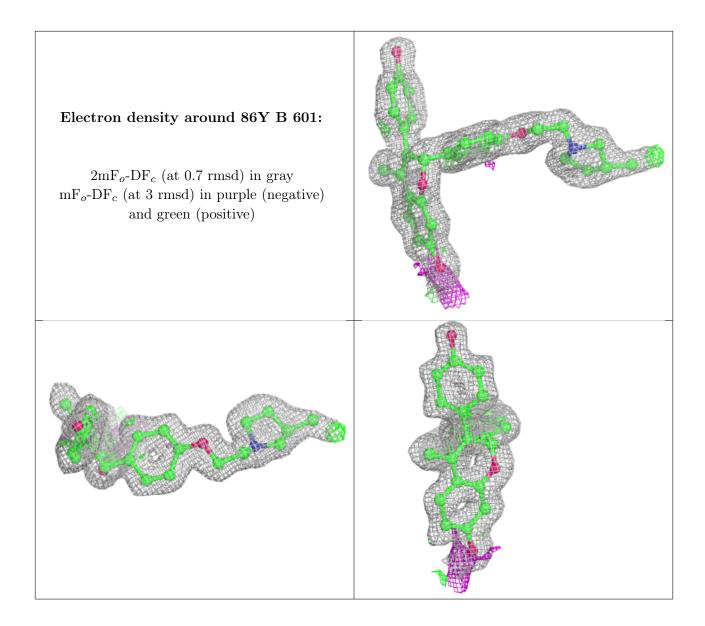
Mol	Type	Chain	Res	Atoms	RSCC	RSR	$\mathbf{B} ext{-}\mathbf{factors}(\mathbf{\mathring{A}}^2)$	Q<0.9
2	86Y	A	601	34/34	0.94	0.09	6,12,23,29	0
2	86Y	В	601	34/34	0.94	0.09	10,13,23,26	0

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.









# 6.5 Other polymers (i)

There are no such residues in this entry.

