



Full wwPDB X-ray Structure Validation Report ⓘ

Jul 6, 2026 – 01:25 PM JST

PDB ID : 9VS0 / pdb_00009vs0
Title : Carbonyl reductase SxPR mutant-Q158AM198G
Authors : Zhen, M.; Tingting, Y.
Deposited on : 2025-07-08
Resolution : 1.49 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 types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

The following versions of software and data (see [references ⓘ](#)) were used in the production of this report:

MolProbity : 4-5-2 with Phenix2.0
Mogul : 1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix) : 2.0
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) : 2.50

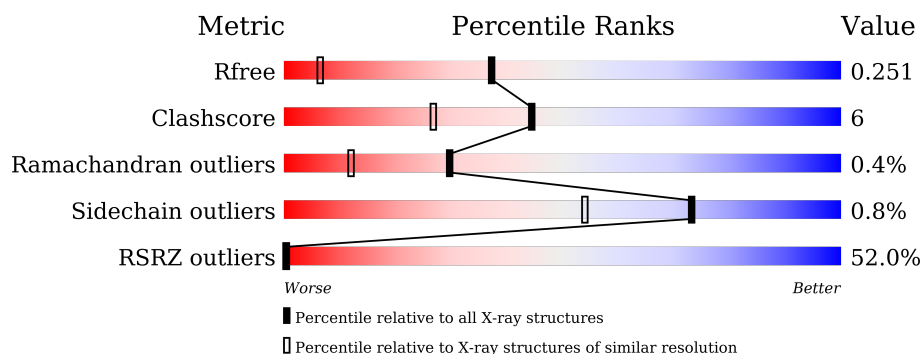
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 1.49 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	4037 (1.50-1.50)
Clashscore	190562	4235 (1.50-1.50)
Ramachandran outliers	187476	4153 (1.50-1.50)
Sidechain outliers	187428	4150 (1.50-1.50)
RSRZ outliers	180081	4039 (1.50-1.50)

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 $\leq 5\%$. 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	260	4% 90% 7% .
1	B	260	97% 81% 15% .

2 Entry composition [i](#)

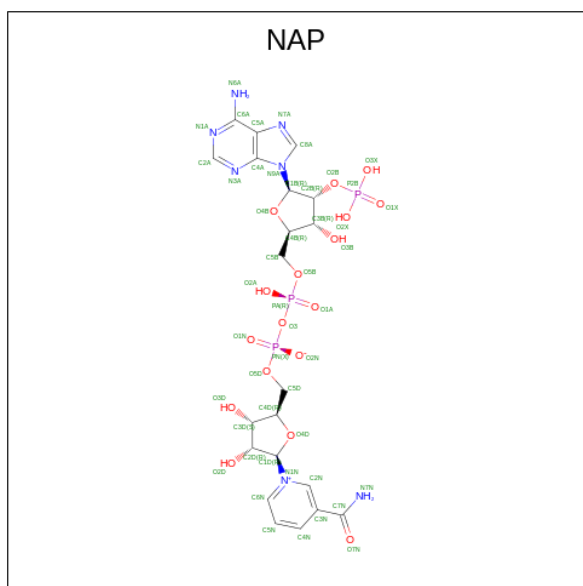
There are 3 unique types of molecules in this entry. The entry contains 3826 atoms, of which 0 are hydrogens and 0 are deuteriums.

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 Carbonyl Reductase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	252	Total	C	N	O	S	0	5	0
			1837	1150	326	358	3			
1	B	252	Total	C	N	O	S	0	2	0
			1821	1138	323	357	3			

- Molecule 2 is NADP NICOTINAMIDE-ADENINE-DINUCLEOTIDE PHOSPHATE (CCD ID: NAP) (formula: $C_{21}H_{28}N_7O_{17}P_3$) (labeled as "Ligand of Interest" by depositor).

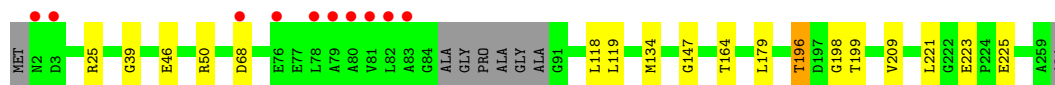
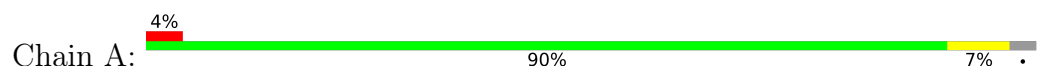


Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	71	Total 71	O 71	0	0
3	B	1	Total 1	O 1	0	0

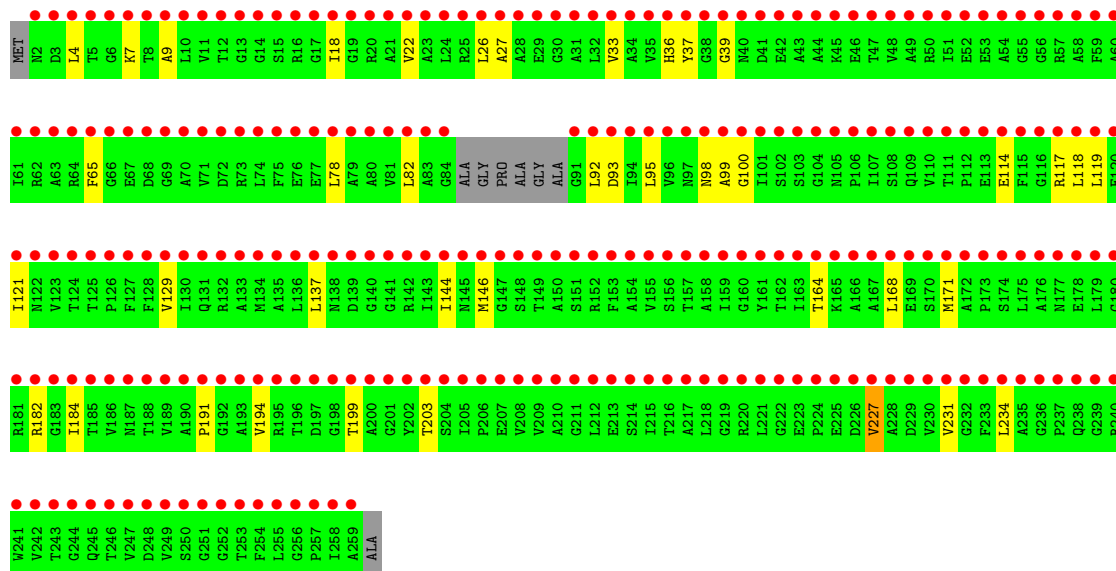
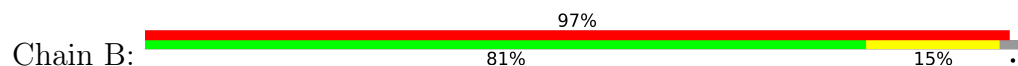
3 Residue-property plots

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: Carbonyl Reductase



• Molecule 1: Carbonyl Reductase



4 Data and refinement statistics

Property	Value	Source
Space group	C 2 2 2	Depositor
Cell constants a, b, c, α , β , γ	80.16Å 80.29Å 132.19Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	34.31 – 1.49 34.31 – 1.49	Depositor EDS
% Data completeness (in resolution range)	99.4 (34.31-1.49) 99.7 (34.31-1.49)	Depositor EDS
R_{merge}	0.13	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	3.21 (at 1.49Å)	Xtriage
Refinement program	PHENIX (1.21.2_5419: ???)	Depositor
R, R_{free}	0.232 , 0.251 0.232 , 0.251	Depositor DCC
R_{free} test set	3472 reflections (4.95%)	wwPDB-VP
Wilson B-factor (Å ²)	12.4	Xtriage
Anisotropy	0.024	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.37 , 39.8	EDS
L-test for twinning ²	$\langle L \rangle = 0.50$, $\langle L^2 \rangle = 0.33$	Xtriage
Estimated twinning fraction	0.099 for -k,-h,-l	Xtriage
Reported twinning fraction	0.489 for H, K, L 0.511 for -K, -H, -L	Depositor
Outliers	0 of 69703 reflections	Xtriage
F_o, F_c correlation	0.92	EDS
Total number of atoms	3826	wwPDB-VP
Average B, all atoms (Å ²)	51.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 5.47% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

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: NAP

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	0.42	0/1874	0.64	0/2544
1	B	0.13	0/1849	0.32	0/2511
All	All	0.31	0/3723	0.51	0/5055

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 [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	1837	0	1866	13	0
1	B	1821	0	1837	31	0
2	A	48	0	25	2	0
2	B	48	0	24	6	0
3	A	71	0	0	1	0
3	B	1	0	0	0	0
All	All	3826	0	3752	45	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 6.

All (45) 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:196:THR:HG21	2:A:301:NAP:O1N	1.75	0.87
1:B:4:LEU:HD22	1:B:7:LYS:HG3	1.66	0.76
1:B:18:ILE:HD12	1:B:227:VAL:HG11	1.74	0.70
1:B:26:LEU:HD23	1:B:33:VAL:HG22	1.74	0.69
1:B:144:ILE:HD11	1:B:234:LEU:HB2	1.77	0.65
1:B:146:MET:HE1	1:B:191:PRO:HG2	1.78	0.65
1:B:36:HIS:CE1	2:B:301:NAP:H2A	2.37	0.60
2:B:301:NAP:H2N	2:B:301:NAP:O1N	2.03	0.59
1:B:9:ALA:HB3	1:B:26:LEU:HD21	1.87	0.56
1:B:18:ILE:HD11	1:B:194:VAL:HG11	1.88	0.55
1:B:98:ASN:HA	1:B:146:MET:HB2	1.88	0.54
1:B:144:ILE:HG21	1:B:231:VAL:HG13	1.90	0.53
1:B:227:VAL:O	1:B:231:VAL:HG23	2.08	0.53
1:B:168:LEU:HD12	1:B:171:MET:SD	2.50	0.52
1:B:100:GLY:HA2	1:B:121[B]:ILE:HG22	1.92	0.51
1:A:196:THR:HG23	1:A:198:GLY:H	1.75	0.51
1:B:37:TYR:HB2	2:B:301:NAP:O2X	2.11	0.51
1:A:119:LEU:HD12	1:A:164:THR:HG22	1.93	0.50
1:B:100:GLY:HA2	1:B:121[A]:ILE:HG22	1.94	0.49
1:B:78:LEU:HD21	1:B:92:LEU:HD23	1.94	0.49
1:A:134:MET:HE3	1:A:179:LEU:HD21	1.94	0.48
1:A:209:VAL:HG13	1:A:221:LEU:CD1	2.44	0.48
1:B:119:LEU:HD12	1:B:164:THR:HG22	1.95	0.47
1:B:18:ILE:O	1:B:22:VAL:HG23	2.15	0.47
1:B:92:LEU:O	1:B:137:LEU:HA	2.17	0.45
1:A:209:VAL:HG13	1:A:221:LEU:HD11	1.97	0.45
1:B:27:ALA:HB2	1:B:33:VAL:HG21	1.99	0.44
1:A:46:GLU:O	1:A:50[A]:ARG:HG2	2.16	0.44
1:B:168:LEU:HA	1:B:171:MET:SD	2.57	0.44
1:B:199:THR:O	1:B:203:THR:HG23	2.18	0.44
1:A:118:LEU:HB3	1:A:164:THR:HG21	1.99	0.44
1:A:147:GLY:O	2:A:301:NAP:H6N	2.17	0.44
1:B:100:GLY:N	2:B:301:NAP:H3D	2.34	0.43
1:B:114:GLU:O	1:B:117:ARG:HG2	2.18	0.43
1:A:196:THR:HG22	1:A:199:THR:H	1.83	0.43
1:B:65:PHE:HB2	2:B:301:NAP:N6A	2.34	0.42
1:B:99:ALA:HA	2:B:301:NAP:H52N	2.02	0.42
1:A:223[A]:GLU:HG3	1:A:225:GLU:H	1.84	0.42
1:B:78:LEU:O	1:B:82:LEU:HG	2.18	0.42
1:B:95:LEU:HD11	1:B:129:VAL:HG12	2.02	0.41
1:A:25:ARG:NH2	3:A:402:HOH:O	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:196:THR:CG2	1:A:198:GLY:H	2.32	0.41
1:B:182:ARG:HB2	1:B:184:ILE:HD12	2.02	0.40
1:B:92:LEU:HD13	1:B:93:ASP:N	2.36	0.40
1:B:118:LEU:HB3	1:B:164:THR:HG21	2.02	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	253/260 (97%)	251 (99%)	1 (0%)	1 (0%)	30	12
1	B	250/260 (96%)	243 (97%)	6 (2%)	1 (0%)	30	12
All	All	503/520 (97%)	494 (98%)	7 (1%)	2 (0%)	30	12

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	39	GLY
1	B	39	GLY

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.

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	185/182 (102%)	183 (99%)	2 (1%)	65	41
1	B	182/182 (100%)	181 (100%)	1 (0%)	81	66
All	All	367/364 (101%)	364 (99%)	3 (1%)	73	54

All (3) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	68	ASP
1	A	196	THR
1	B	227	VAL

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	97	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](#)

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	$\# Z > 2$
2	NAP	B	301	-	49,52,52	1.33	1 (2%)	69,80,80	0.98	2 (2%)
2	NAP	A	301	-	49,52,52	1.29	3 (6%)	69,80,80	1.68	8 (11%)

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	NAP	B	301	-	-	8/35/67/67	0/5/5/5
2	NAP	A	301	-	-	1/35/67/67	0/5/5/5

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	301	NAP	P2B-O2B	7.93	1.74	1.59
2	A	301	NAP	P2B-O2B	6.12	1.70	1.59
2	A	301	NAP	C2D-C1D	3.21	1.58	1.53
2	A	301	NAP	C2D-C3D	-2.31	1.47	1.53

All (10) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A	301	NAP	O2D-C2D-C3D	-7.47	87.66	111.82
2	A	301	NAP	C6N-N1N-C2N	-4.52	117.85	121.97
2	A	301	NAP	C5D-C4D-C3D	-4.47	98.44	115.18
2	A	301	NAP	O3X-P2B-O1X	3.04	122.58	110.68
2	A	301	NAP	O2B-P2B-O1X	-3.01	97.78	109.39
2	A	301	NAP	C2B-C1B-N9A	-2.91	108.63	113.53
2	A	301	NAP	O2N-PN-O1N	2.89	126.53	112.24
2	B	301	NAP	C6N-N1N-C2N	-2.25	119.92	121.97
2	B	301	NAP	O2N-PN-O1N	2.19	123.07	112.24
2	A	301	NAP	O2D-C2D-C1D	2.14	118.75	110.85

There are no chirality outliers.

All (9) torsion outliers are listed below:

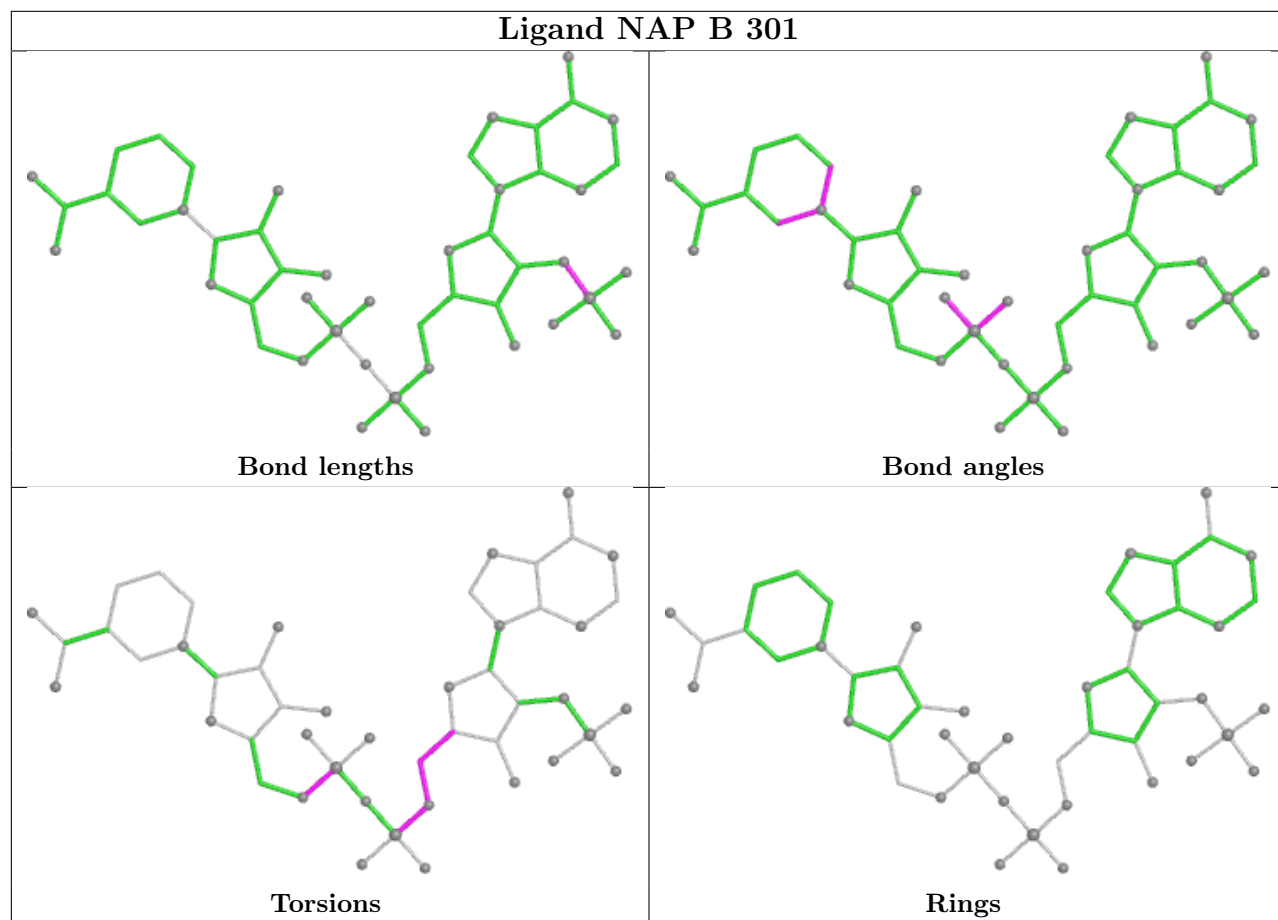
Mol	Chain	Res	Type	Atoms
2	B	301	NAP	C5B-O5B-PA-O2A
2	B	301	NAP	C5B-O5B-PA-O3
2	B	301	NAP	C5D-O5D-PN-O1N
2	B	301	NAP	C5D-O5D-PN-O2N
2	B	301	NAP	C4B-C5B-O5B-PA
2	B	301	NAP	C5B-O5B-PA-O1A
2	A	301	NAP	O4B-C4B-C5B-O5B
2	B	301	NAP	C5D-O5D-PN-O3
2	B	301	NAP	O4B-C4B-C5B-O5B

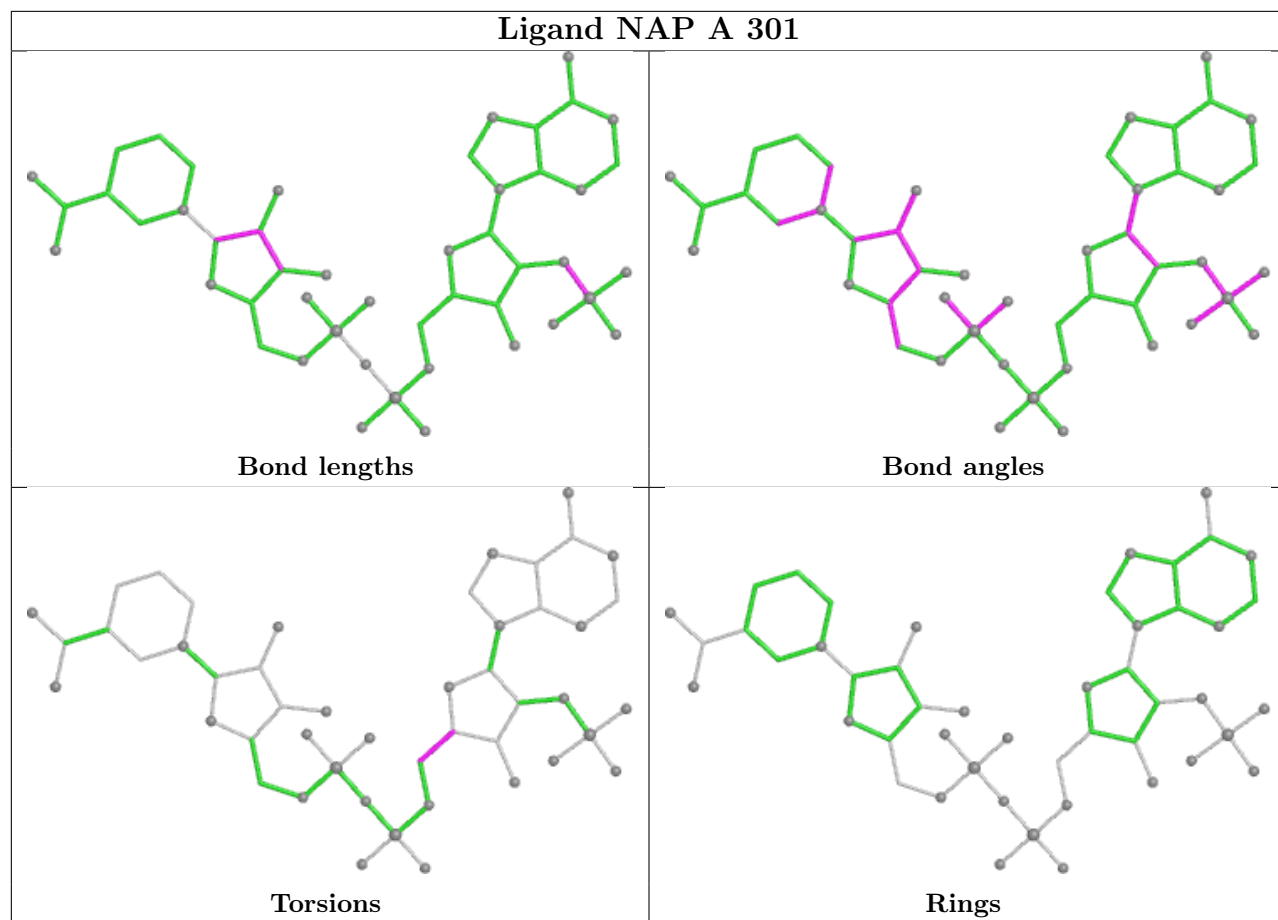
There are no ring outliers.

2 monomers are involved in 8 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	B	301	NAP	6	0
2	A	301	NAP	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 than 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

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	252/260 (96%)	0.30	10 (3%) 42 46	6, 12, 29, 50	5 (1%)
1	B	252/260 (96%)	6.36	252 (100%) 0 0	51, 90, 103, 113	2 (0%)
All	All	504/520 (96%)	3.33	262 (51%) 0 0	6, 50, 101, 113	7 (1%)

All (262) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	58	ALA	10.8
1	B	59	PHE	10.8
1	B	26	LEU	9.8
1	B	32	LEU	9.8
1	B	65	PHE	9.7
1	B	221	LEU	9.7
1	B	61	ILE	9.7
1	B	215	ILE	9.7
1	B	33	VAL	9.6
1	B	208	VAL	9.4
1	B	27	ALA	9.4
1	B	44	ALA	9.3
1	B	194	VAL	9.3
1	B	212	LEU	9.2
1	B	35	VAL	9.2
1	B	186	VAL	9.1
1	B	34	ALA	9.1
1	B	54	ALA	9.1
1	B	159	ILE	9.1
1	B	127	PHE	8.9
1	B	155	VAL	8.9
1	B	242	VAL	8.9
1	B	23	ALA	8.8
1	B	200	ALA	8.8

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Mol	Chain	Res	Type	RSRZ
1	B	143	ILE	8.7
1	B	51	ILE	8.7
1	B	241	TRP	8.7
1	B	96	VAL	8.7
1	B	71	VAL	8.5
1	B	129	VAL	8.5
1	B	234	LEU	8.5
1	B	37	TYR	8.4
1	B	254	PHE	8.4
1	B	193	ALA	8.4
1	B	233	PHE	8.3
1	B	184	ILE	8.3
1	B	99	ALA	8.3
1	B	205	ILE	8.3
1	B	4	LEU	8.2
1	B	22	VAL	8.2
1	B	252	GLY	8.2
1	B	11	VAL	8.2
1	B	121[A]	ILE	8.2
1	B	63	ALA	8.1
1	B	47	THR	8.1
1	B	31	ALA	8.1
1	B	48	VAL	8.1
1	B	49	ALA	8.0
1	B	189	VAL	8.0
1	B	28	ALA	8.0
1	B	39	GLY	7.9
1	B	237	PRO	7.8
1	B	18	ILE	7.8
1	B	24	LEU	7.8
1	B	209	VAL	7.8
1	B	210	ALA	7.8
1	B	258	ILE	7.7
1	B	217	ALA	7.7
1	B	14	GLY	7.7
1	B	158	ALA	7.7
1	B	168	LEU	7.6
1	B	144	ILE	7.6
1	B	30	GLY	7.6
1	B	60	ALA	7.5
1	B	188	THR	7.5
1	B	75	PHE	7.5

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Mol	Chain	Res	Type	RSRZ
1	B	70	ALA	7.5
1	B	128	PHE	7.5
1	B	153	PHE	7.5
1	B	239	GLY	7.5
1	B	78	LEU	7.5
1	B	255	LEU	7.5
1	B	243	THR	7.4
1	B	119	LEU	7.3
1	B	167	ALA	7.3
1	B	141	GLY	7.3
1	B	10	LEU	7.3
1	B	227	VAL	7.3
1	B	218	LEU	7.2
1	B	230	VAL	7.2
1	B	118	LEU	7.2
1	B	202	TYR	7.2
1	B	198	GLY	7.1
1	B	179	LEU	7.1
1	B	247	VAL	7.1
1	B	150	ALA	7.1
1	B	231	VAL	7.1
1	B	228	ALA	7.1
1	B	69	GLY	7.1
1	B	232	GLY	7.1
1	B	137	LEU	7.0
1	B	110	VAL	7.0
1	B	235	ALA	7.0
1	B	253	THR	6.9
1	B	74	LEU	6.9
1	B	94	ILE	6.9
1	B	224	PRO	6.9
1	B	183	GLY	6.8
1	B	216	THR	6.8
1	B	123	VAL	6.8
1	B	82	LEU	6.8
1	B	125	THR	6.8
1	B	206	PRO	6.7
1	B	166	ALA	6.7
1	B	130	ILE	6.7
1	B	100	GLY	6.7
1	B	249	VAL	6.7
1	B	154	ALA	6.6

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Mol	Chain	Res	Type	RSRZ
1	B	236	GLY	6.6
1	B	211	GLY	6.6
1	B	175	LEU	6.6
1	B	201	GLY	6.6
1	B	124	THR	6.5
1	B	95	LEU	6.5
1	B	135	ALA	6.5
1	B	203	THR	6.5
1	B	176	ALA	6.5
1	B	190	ALA	6.5
1	B	101	ILE	6.4
1	B	38	GLY	6.4
1	B	43	ALA	6.4
1	B	133	ALA	6.4
1	B	111	THR	6.4
1	B	17	GLY	6.3
1	B	21	ALA	6.3
1	B	185	THR	6.3
1	B	19	GLY	6.3
1	B	92	LEU	6.3
1	B	62	ARG	6.2
1	B	56	GLY	6.2
1	B	196	THR	6.2
1	B	161	TYR	6.2
1	B	140	GLY	6.2
1	B	5	THR	6.2
1	B	136	LEU	6.2
1	B	187	ASN	6.1
1	B	219	GLY	6.1
1	B	107	ILE	6.1
1	B	9	ALA	6.1
1	B	84	GLY	6.1
1	B	25	ARG	6.0
1	B	197	ASP	6.0
1	B	172	ALA	6.0
1	B	79	ALA	6.0
1	B	163	ILE	5.9
1	B	57	ARG	5.9
1	B	115	PHE	5.9
1	B	164	THR	5.9
1	B	104	GLY	5.8
1	B	257	PRO	5.8

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Mol	Chain	Res	Type	RSRZ
1	B	45	LYS	5.8
1	B	12	THR	5.8
1	B	195	ARG	5.8
1	B	251	GLY	5.7
1	B	173	PRO	5.6
1	B	15	SER	5.6
1	B	170	SER	5.6
1	B	160	GLY	5.6
1	B	2	ASN	5.6
1	B	259	ALA	5.6
1	B	156	SER	5.6
1	B	207	GLU	5.5
1	B	52	GLU	5.5
1	B	8	THR	5.5
1	B	3	ASP	5.5
1	B	13	GLY	5.5
1	B	134	MET	5.5
1	B	41	ASP	5.5
1	B	106	PRO	5.5
1	B	157	THR	5.4
1	B	36	HIS	5.4
1	B	112	PRO	5.4
1	B	238	GLN	5.4
1	B	102	SER	5.4
1	B	81	VAL	5.4
1	B	146	MET	5.3
1	B	103	SER	5.3
1	B	214	SER	5.3
1	B	93	ASP	5.2
1	B	199	THR	5.2
1	B	147	GLY	5.2
1	B	171	MET	5.1
1	B	6	GLY	5.1
1	B	42	GLU	5.1
1	B	80	ALA	5.1
1	B	162	THR	5.1
1	B	40	ASN	5.1
1	B	191	PRO	5.0
1	B	204	SER	5.0
1	B	55	GLY	5.0
1	B	97	ASN	5.0
1	B	220	ARG	5.0

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Mol	Chain	Res	Type	RSRZ
1	B	91	GLY	4.9
1	B	192	GLY	4.9
1	B	149	THR	4.9
1	B	20	ARG	4.9
1	B	116	GLY	4.9
1	B	244	GLY	4.9
1	B	256	GLY	4.9
1	B	250	SER	4.8
1	B	108	SER	4.8
1	B	174	SER	4.8
1	B	50	ARG	4.8
1	B	68	ASP	4.8
1	A	80	ALA	4.7
1	B	145	ASN	4.7
1	B	229	ASP	4.7
1	B	7	LYS	4.7
1	B	246	THR	4.7
1	B	222	GLY	4.6
1	B	148	SER	4.6
1	B	151	SER	4.6
1	B	180	GLY	4.6
1	B	64	ARG	4.6
1	B	223[A]	GLU	4.6
1	B	83	ALA	4.6
1	B	142	ARG	4.5
1	B	122	ASN	4.5
1	B	165	LYS	4.4
1	B	16	ARG	4.3
1	B	152	ARG	4.3
1	B	46	GLU	4.3
1	B	73	ARG	4.3
1	B	245	GLN	4.3
1	B	113	GLU	4.3
1	B	177	ASN	4.3
1	B	126	PRO	4.2
1	B	117	ARG	4.2
1	B	240	ARG	4.2
1	B	226	ASP	4.2
1	B	213	GLU	4.2
1	B	132	ARG	4.2
1	B	139	ASP	4.1
1	B	248	ASP	4.1

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Mol	Chain	Res	Type	RSRZ
1	B	76	GLU	4.1
1	A	83	ALA	4.0
1	B	169	GLU	4.0
1	B	109	GLN	4.0
1	B	225	GLU	3.9
1	B	98	ASN	3.9
1	B	105	ASN	3.8
1	B	53	GLU	3.8
1	B	72	ASP	3.8
1	B	181	ARG	3.7
1	B	67	GLU	3.6
1	A	81	VAL	3.6
1	B	138	ASN	3.6
1	B	178	GLU	3.5
1	B	120	GLU	3.5
1	B	29	GLU	3.4
1	B	131	GLN	3.4
1	B	77	GLU	3.1
1	B	66	GLY	3.1
1	A	82	LEU	3.1
1	A	78	LEU	2.7
1	A	3	ASP	2.7
1	B	114	GLU	2.5
1	B	182	ARG	2.5
1	A	68	ASP	2.4
1	A	2	ASN	2.3
1	A	79	ALA	2.1
1	A	76	GLU	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 oligosaccharides in this entry.

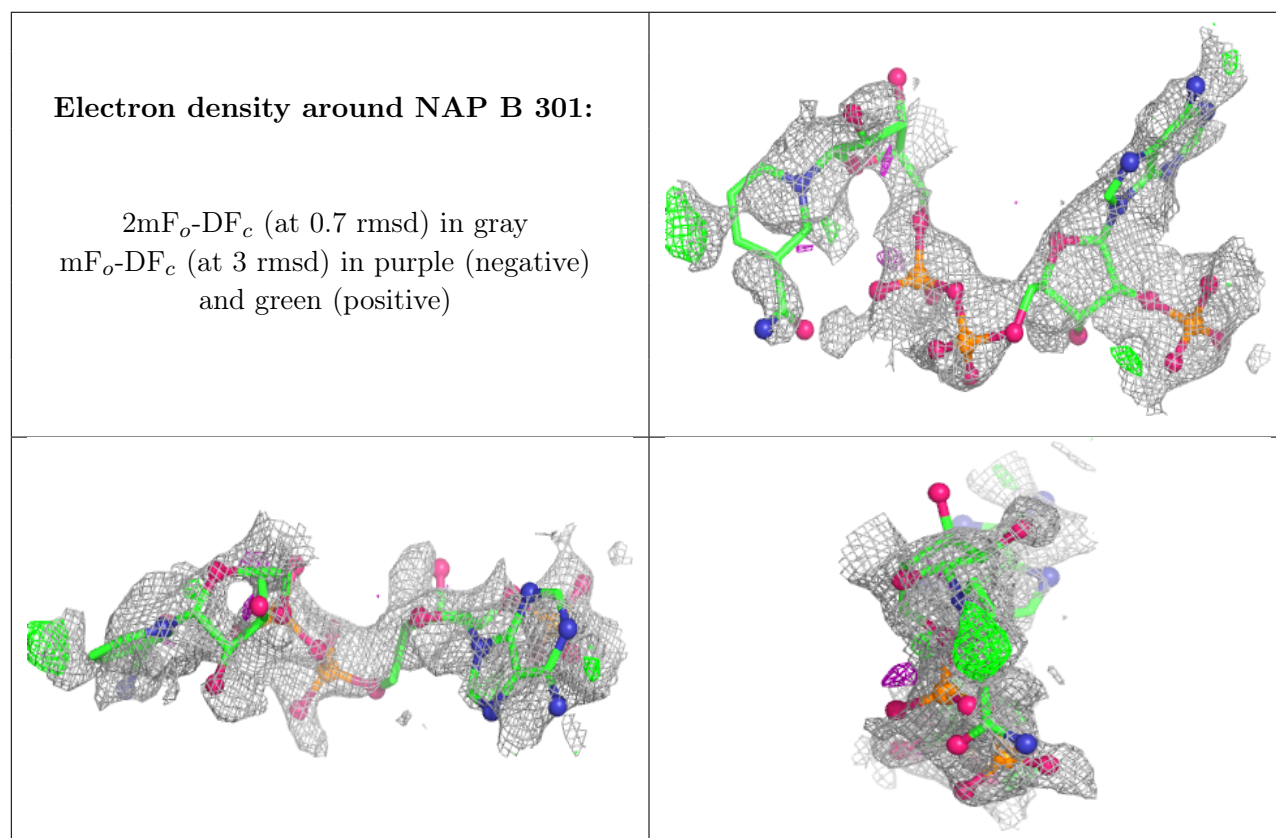
6.4 Ligands [i](#)

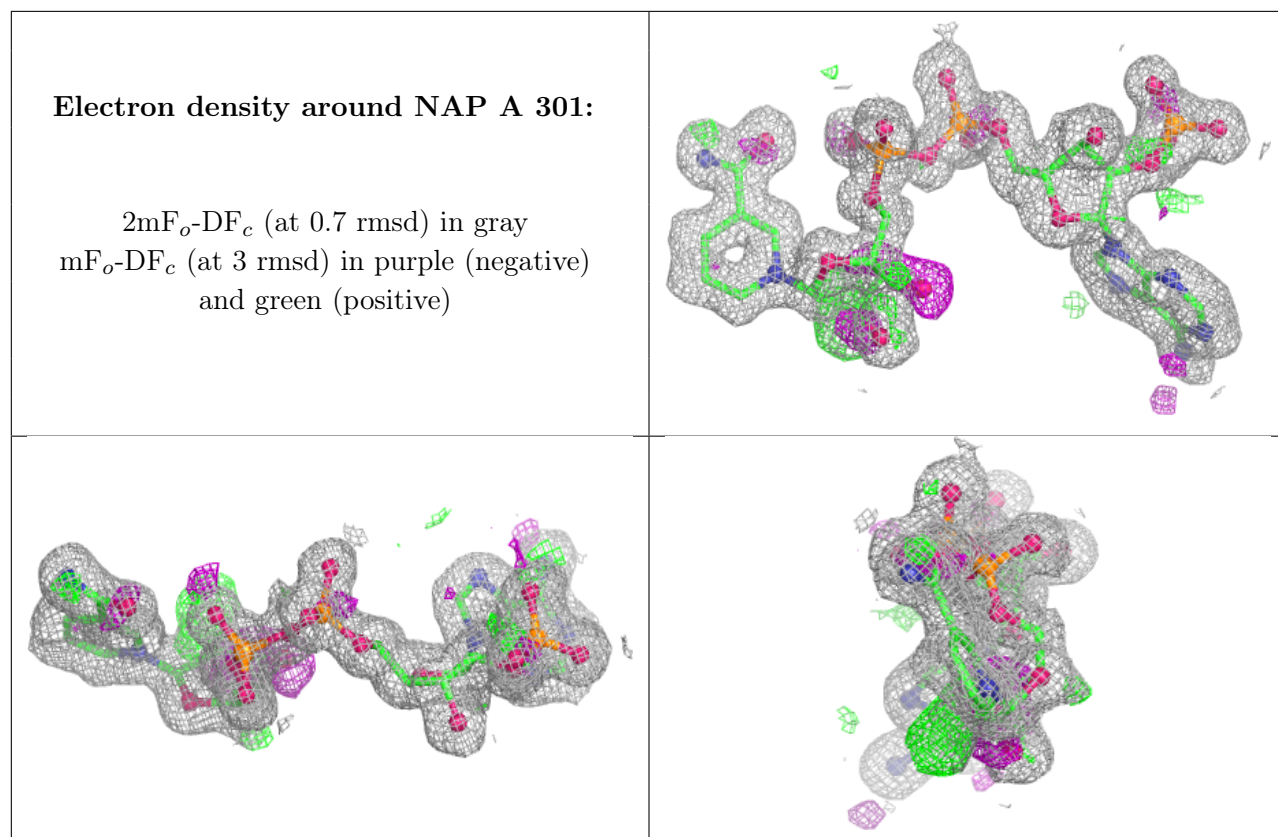
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum,

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	NAP	B	301	48/48	0.55	0.23	78,88,95,95	0
2	NAP	A	301	48/48	0.92	0.09	8,13,18,24	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.