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wwPDB X-ray Structure Validation Summary Report (i)

Aug 15, 2024 – 04:58 pm BST

PDB ID	:	8S65
Title	:	1-deoxy-D-xylulose 5-phosphate reductoisomerase (DXR) as target for anti Toxoplasma gondii compounds: crystal structure, biochemical characterization and biological evaluation of inhibitors
Authors	:	Mazzone, F.; Hoeppner, A.; Reiners, J.; Applegate, V.; Abdullaziz, M.; Gottstein, J.; Wesemann, M.; Kurz, T.; Smits, S.H.; Pfeffer, K.
Deposited on	:	2024-02-26
Resolution	:	2.56 Å(reported)

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	:	2.37.1
buster-report	:	1.1.7 (2018)
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)	:	2.37.1

1 Overall quality at a glance ⓘ

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

The reported resolution of this entry is 2.56 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	Percentile Ranks	Value
Rfree		0.226
Clashscore		18
Ramachandran outliers		0.6%
Sidechain outliers		4.4%
RSRZ outliers		5.8%

Worse ▬ *Better*

■ Percentile relative to all X-ray structures

▯ Percentile relative to X-ray structures of similar resolution
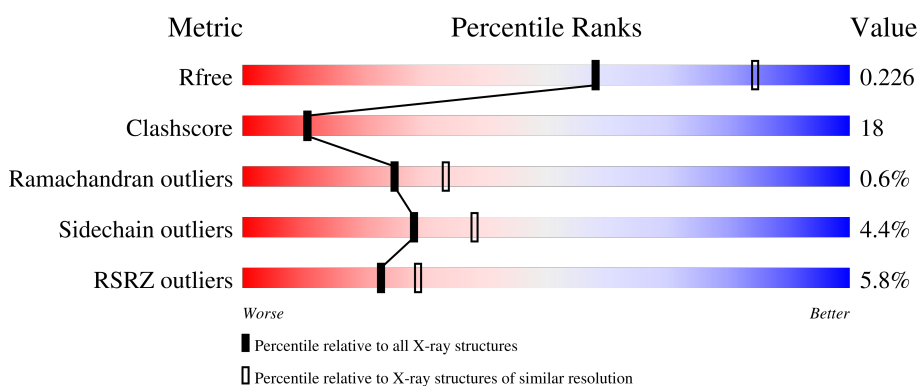
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R$_{free}$	130704	1279 (2.58-2.54)
Clashscore	141614	1327 (2.58-2.54)
Ramachandran outliers	138981	1312 (2.58-2.54)
Sidechain outliers	138945	1312 (2.58-2.54)
RSRZ outliers	127900	1269 (2.58-2.54)

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	472	2% / 62% / 22% ·· / 13%
1	B	472	8% / 57% / 26% ·· / 13%

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:

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
3	FOM	A	502	-	X	-	-

2 Entry composition ⓘ

There are 6 unique types of molecules in this entry. The entry contains 12821 atoms, of which 6405 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 1-deoxy-D-xylulose-5-phosphate reductoisomerase.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
1	A	410	Total 6292	C 1989	H 3159	N 554	O 579	S 11	0	0	0
1	B	411	Total 6330	C 1999	H 3180	N 559	O 581	S 11	0	1	0

There are 44 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	1	MET	-	initiating methionine	UNP S8ESX0
A	2	GLY	-	expression tag	UNP S8ESX0
A	3	HIS	-	expression tag	UNP S8ESX0
A	4	HIS	-	expression tag	UNP S8ESX0
A	5	HIS	-	expression tag	UNP S8ESX0
A	6	HIS	-	expression tag	UNP S8ESX0
A	7	HIS	-	expression tag	UNP S8ESX0
A	8	HIS	-	expression tag	UNP S8ESX0
A	9	HIS	-	expression tag	UNP S8ESX0
A	10	HIS	-	expression tag	UNP S8ESX0
A	11	HIS	-	expression tag	UNP S8ESX0
A	12	HIS	-	expression tag	UNP S8ESX0
A	13	SER	-	expression tag	UNP S8ESX0
A	14	SER	-	expression tag	UNP S8ESX0
A	15	GLY	-	expression tag	UNP S8ESX0
A	16	HIS	-	expression tag	UNP S8ESX0
A	17	ILE	-	expression tag	UNP S8ESX0
A	18	GLU	-	expression tag	UNP S8ESX0
A	19	GLY	-	expression tag	UNP S8ESX0
A	20	ARG	-	expression tag	UNP S8ESX0
A	21	HIS	-	expression tag	UNP S8ESX0
A	22	MET	-	expression tag	UNP S8ESX0
B	1	MET	-	initiating methionine	UNP S8ESX0
B	2	GLY	-	expression tag	UNP S8ESX0
B	3	HIS	-	expression tag	UNP S8ESX0

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Chain	Residue	Modelled	Actual	Comment	Reference
B	4	HIS	-	expression tag	UNP S8ESX0
B	5	HIS	-	expression tag	UNP S8ESX0
B	6	HIS	-	expression tag	UNP S8ESX0
B	7	HIS	-	expression tag	UNP S8ESX0
B	8	HIS	-	expression tag	UNP S8ESX0
B	9	HIS	-	expression tag	UNP S8ESX0
B	10	HIS	-	expression tag	UNP S8ESX0
B	11	HIS	-	expression tag	UNP S8ESX0
B	12	HIS	-	expression tag	UNP S8ESX0
B	13	SER	-	expression tag	UNP S8ESX0
B	14	SER	-	expression tag	UNP S8ESX0
B	15	GLY	-	expression tag	UNP S8ESX0
B	16	HIS	-	expression tag	UNP S8ESX0
B	17	ILE	-	expression tag	UNP S8ESX0
B	18	GLU	-	expression tag	UNP S8ESX0
B	19	GLY	-	expression tag	UNP S8ESX0
B	20	ARG	-	expression tag	UNP S8ESX0
B	21	HIS	-	expression tag	UNP S8ESX0
B	22	MET	-	expression tag	UNP S8ESX0

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

NAP
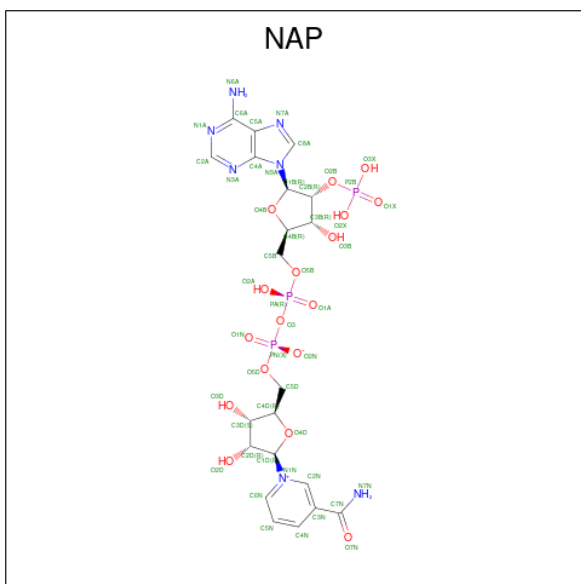
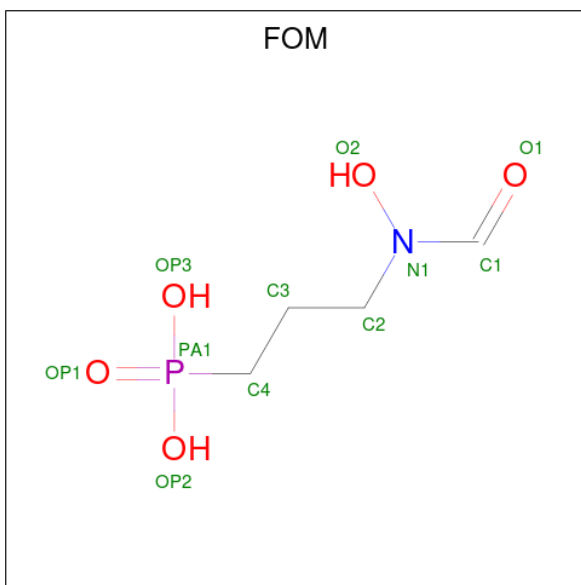| Mol	Chain	Residues	Atoms						ZeroOcc	AltConf
			Total	C	H	N	O	P		
2	A	1	73	21	25	7	17	3	0	0

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Mol	Chain	Residues	Atoms						ZeroOcc	AltConf
2	B	1	Total	C	H	N	O	P	0	0
			73	21	25	7	17	3		

- Molecule 3 is 3-[FORMYL(HYDROXY)AMINO]PROPYLPHOSPHONIC ACID (three-letter code: FOM) (formula: $C_4H_{10}NO_5P$).

FOM

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf
3	A	1	Total	C	H	N	O	P	0	0
			19	4	8	1	5	1		
3	B	1	Total	C	H	N	O	P	0	0
			19	4	8	1	5	1		

- Molecule 4 is CHLORIDE ION (three-letter code: CL) (formula: Cl).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	1	Total	Cl	0	0
			1	1		
4	B	1	Total	Cl	0	0
			1	1		

- Molecule 5 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	A	3	Total	Mg	0	0
			3	3		

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	B	1	Total 1	Mg 1	0	0

- Molecule 6 is water.

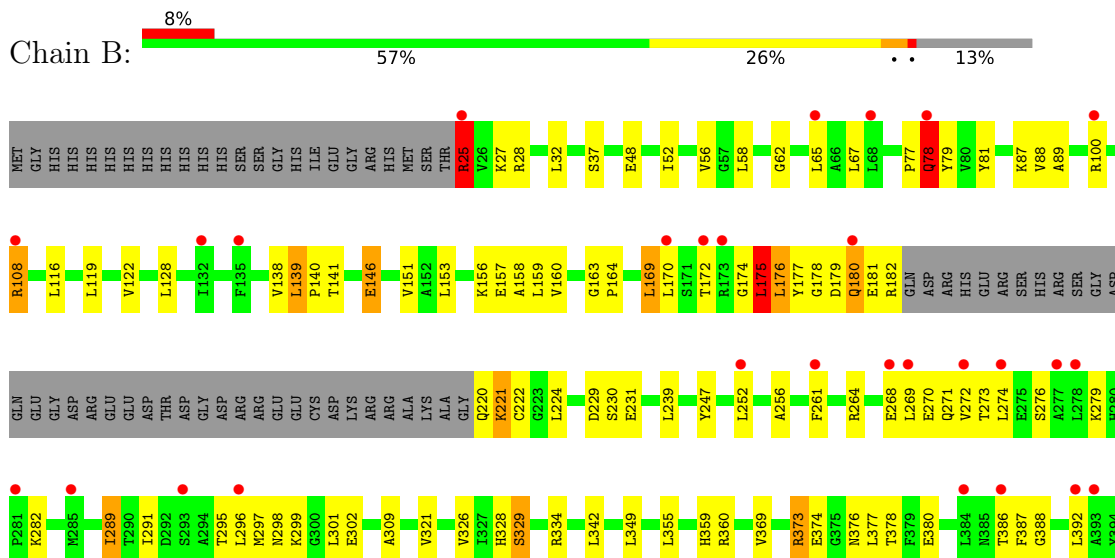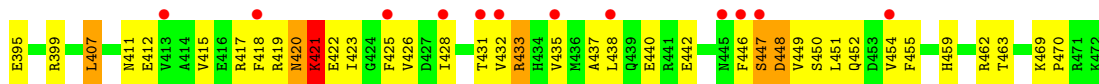| Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	A	5	Total 5	O 5	0	0
6	B	4	Total 4	O 4	0	0

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: 1-deoxy-D-xylulose-5-phosphate reductoisomerase

Chain A:

- Molecule 1: 1-deoxy-D-xylulose-5-phosphate reductoisomerase

Chain B:

E395 R399 L407 N411 E412 V413 A414 V415 E416 R417 F418 R419 N420 K421 E422 I423 G424 F425 V426 D427 I428 T431 V432 R433 H434 V435 M436 A437 L438 Q439 E440 R441 E442 N445 F446 S447 D448 V449 S450 L451 Q452 D453 V454 F455 H459 R462 T463 K469 P470 R471 K472
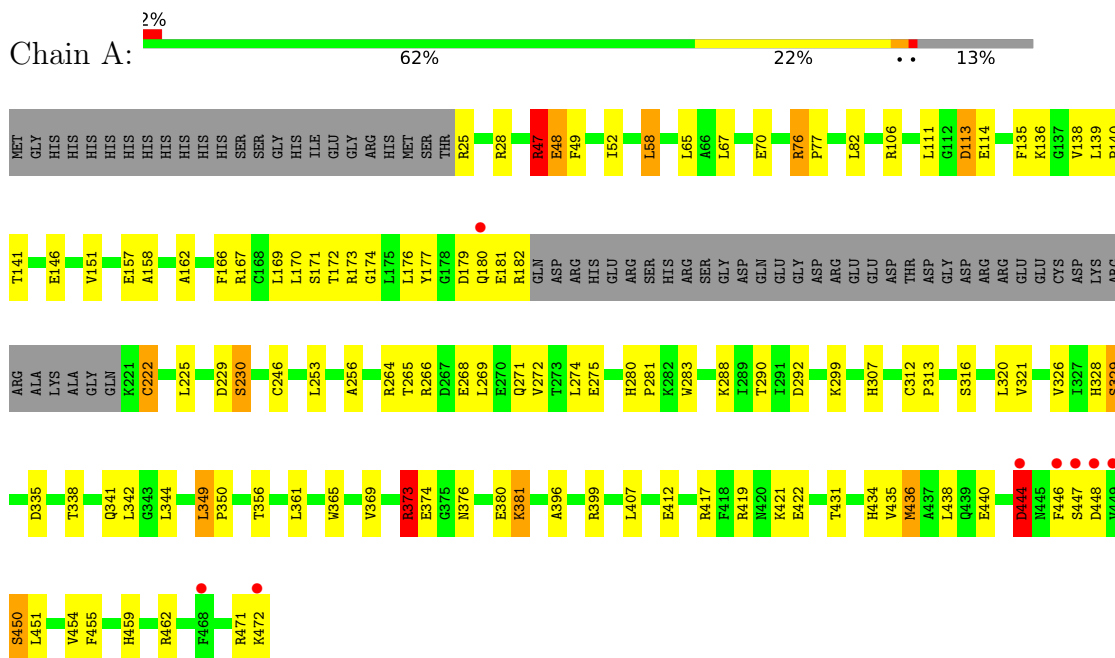
4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 65	Depositor
Cell constants a, b, c, α, β, γ	159.52Å 159.52Å 75.87Å 90.00° 90.00° 120.00°	Depositor
Resolution (Å)	66.50 – 2.56 66.50 – 2.56	Depositor EDS
% Data completeness (in resolution range)	99.0 (66.50-2.56) 99.0 (66.50-2.56)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.43 (at 2.55Å)	Xtriage
Refinement program	PHENIX 1.17.1_3660, PHENIX 1.17.1_3660	Depositor
R, R_{free}	0.194 , 0.225 0.194 , 0.226	Depositor DCC
R_{free} test set	2004 reflections (5.66%)	wwPDB-VP
Wilson B-factor (Å^2)	65.8	Xtriage
Anisotropy	0.568	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.38 , 58.0	EDS
L-test for twinning[2]	$< |L| > = 0.49, < L^2 > = 0.33$	Xtriage
Estimated twinning fraction	0.026 for h,-h-k,-l	Xtriage
F_o,F_c correlation	0.96	EDS
Total number of atoms	12821	wwPDB-VP
Average B, all atoms (Å^2)	88.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 8.18% of the height of the origin peak. No significant pseudotranslation is detected.*

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[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 (i)

5.1 Standard geometry (i)

Bond lengths and bond angles in the following residue types are not validated in this section: CL, FOM, MG, 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	0.74	6/3195 (0.2%)	0.90	9/4333 (0.2%)
1	B	1.12	27/3215 (0.8%)	1.41	40/4359 (0.9%)
All	All	0.95	33/6410 (0.5%)	1.18	49/8692 (0.6%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand.A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	1
1	B	0	5
All	All	0	6

The worst 5 of 33 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B	78	GLN	CG-CD	17.10	1.90	1.51
1	B	169	LEU	CG-CD2	16.14	2.11	1.51
1	B	25	ARG	CG-CD	15.45	1.90	1.51
1	B	373	ARG	CZ-NH1	13.45	1.50	1.33
1	B	25	ARG	CB-CG	12.79	1.87	1.52

The worst 5 of 49 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B	175	LEU	CB-CG-CD2	-24.50	69.35	111.00
1	B	108	ARG	NE-CZ-NH1	-22.48	109.06	120.30
1	B	373	ARG	NE-CZ-NH1	-22.09	109.25	120.30
1	B	169	LEU	CB-CG-CD1	18.14	141.84	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B	108	ARG	NH1-CZ-NH2	17.99	139.19	119.40

There are no chirality outliers.

5 of 6 planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	47	ARG	Sidechain
1	B	146	GLU	Sidechain
1	B	25	ARG	Sidechain
1	B	420	ASN	Peptide
1	B	78	GLN	Sidechain

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	3133	3159	3159	81	1
1	B	3150	3180	3179	156	1
2	A	48	25	24	1	0
2	B	48	25	24	4	0
3	A	11	8	8	2	0
3	B	11	8	8	1	0
4	A	1	0	0	1	0
4	B	1	0	0	0	0
5	A	3	0	0	0	0
5	B	1	0	0	0	0
6	A	5	0	0	2	0
6	B	4	0	0	0	0
All	All	6416	6405	6402	235	1

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 18.

The worst 5 of 235 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:B:373:ARG:CG	1:B:373:ARG:CD	1.80	1.59
1:B:78:GLN:CB	1:B:78:GLN:CG	1.74	1.57
1:B:289:ILE:CG2	1:B:289:ILE:CB	1.75	1.57
1:B:421:LYS:CG	1:B:421:LYS:CB	1.84	1.55
1:B:25:ARG:CG	1:B:25:ARG:CB	1.87	1.53

All (1) 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	Interatomic distance (Å)	Clash overlap (Å)
1:A:373:ARG:HH22	1:B:447:SER:H[3_565]	1.12	0.48

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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	406/472 (86%)	393 (97%)	11 (3%)	2 (0%)	29	39
1	B	408/472 (86%)	392 (96%)	13 (3%)	3 (1%)	22	29
All	All	814/944 (86%)	785 (96%)	24 (3%)	5 (1%)	25	33

All (5) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	180	GLN
1	A	329	SER
1	B	448	ASP
1	A	181	GLU
1	B	329	SER

5.3.2 Protein sidechains ⓘ

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	326/379 (86%)	309 (95%)	17 (5%)	23	31
1	B	328/379 (86%)	316 (96%)	12 (4%)	34	45
All	All	654/758 (86%)	625 (96%)	29 (4%)	28	38

5 of 29 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	459	HIS
1	B	407	LEU
1	B	25	ARG
1	B	230	SER
1	A	472	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 9 such sidechains are listed below:

Mol	Chain	Res	Type
1	B	271	GLN
1	B	376	ASN
1	A	341	GLN
1	A	385	ASN
1	B	78	GLN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

There are no non-standard protein/DNA/RNA residues in this entry.

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5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

Of 10 ligands modelled in this entry, 6 are monoatomic - leaving 4 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	#$|Z| > 2$
3	FOM	B	502	-	9,10,10	4.13	2 (22%)	11,13,13	1.69	4 (36%)
3	FOM	A	502	-	9,10,10	3.78	3 (33%)	11,13,13	2.04	6 (54%)
2	NAP	A	501	5	45,52,52	4.53	17 (37%)	56,80,80	1.95	13 (23%)
2	NAP	B	501	-	45,52,52	4.60	13 (28%)	56,80,80	1.96	10 (17%)

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	FOM	B	502	-	-	5/7/9/9	-
3	FOM	A	502	-	-	5/7/9/9	-
2	NAP	A	501	5	-	5/31/67/67	0/5/5/5
2	NAP	B	501	-	-	5/31/67/67	0/5/5/5

The worst 5 of 35 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	501	NAP	O4B-C1B	17.05	1.64	1.41
2	A	501	NAP	O4D-C1D	17.04	1.64	1.41
2	B	501	NAP	O4D-C1D	15.27	1.62	1.41
2	A	501	NAP	C2D-C1D	-14.64	1.31	1.53
2	B	501	NAP	C2D-C1D	-13.94	1.32	1.53

The worst 5 of 33 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	B	501	NAP	C5A-C6A-N6A	7.32	131.48	120.35
2	A	501	NAP	C5A-C6A-N6A	6.70	130.53	120.35
2	B	501	NAP	C1B-N9A-C4A	-5.56	116.88	126.64
2	A	501	NAP	C1B-N9A-C4A	-5.04	117.79	126.64
2	B	501	NAP	N3A-C2A-N1A	-4.84	121.12	128.68

There are no chirality outliers.
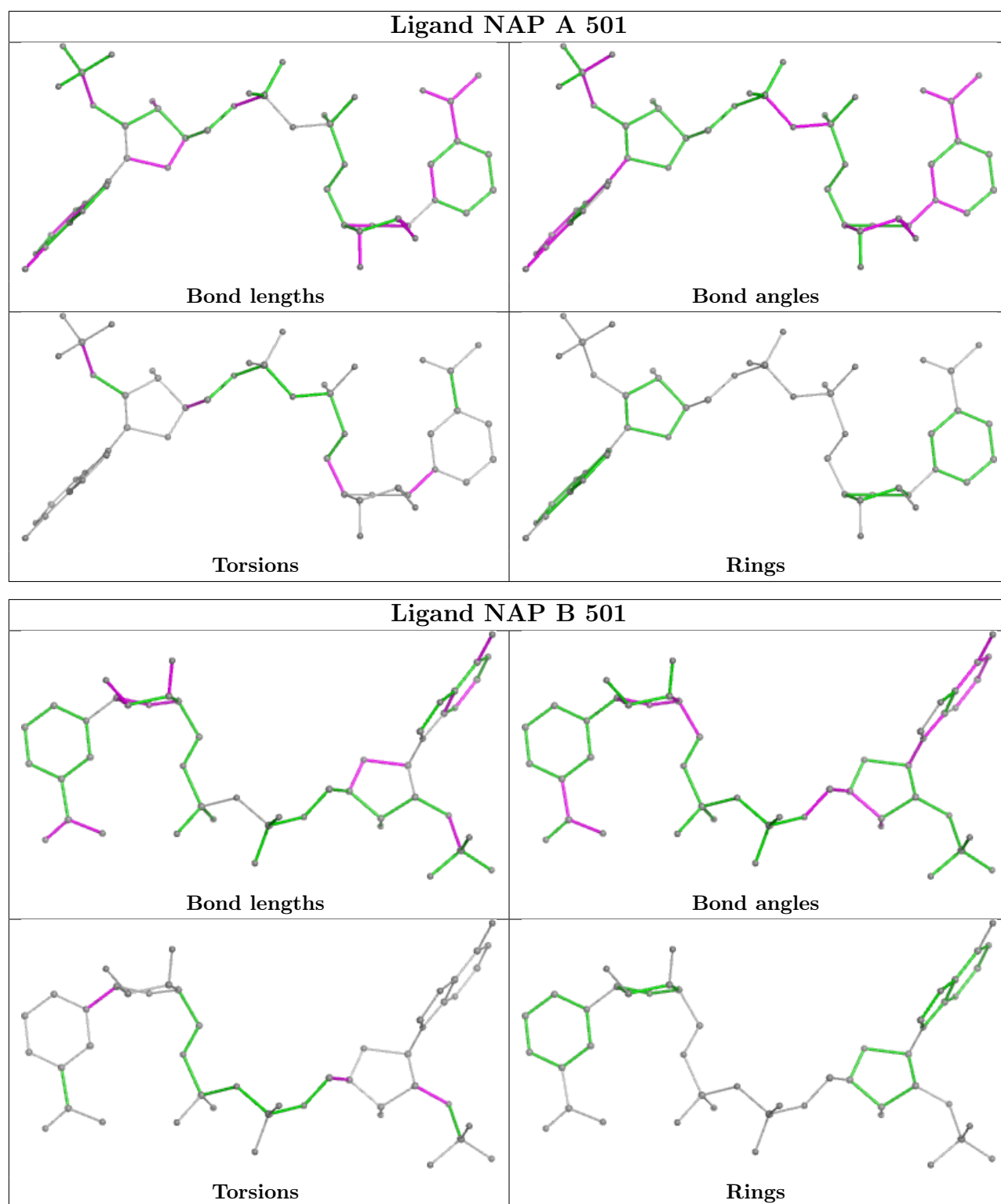
5 of 20 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	501	NAP	O4D-C1D-N1N-C2N
2	B	501	NAP	O4B-C4B-C5B-O5B
2	B	501	NAP	O4D-C1D-N1N-C2N
3	A	502	FOM	C3-C2-N1-O2
3	A	502	FOM	N1-C2-C3-C4

There are no ring outliers.

4 monomers are involved in 8 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	B	502	FOM	1	0
3	A	502	FOM	2	0
2	A	501	NAP	1	0
2	B	501	NAP	4	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 NAP A 501

Bond lengths

Bond angles

Torsions

Rings

Ligand NAP B 501

Bond lengths

Bond angles

Torsions

Rings

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, 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	410/472 (86%)	0.41	8 (1%)	65	73	50, 68, 112, 175	0
1	B	411/472 (87%)	0.70	40 (9%)	7	11	50, 82, 130, 181	0
All	All	821/944 (86%)	0.56	48 (5%)	23	29	50, 73, 121, 181	0

The worst 5 of 48 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	446	PHE	9.2
1	B	425	PHE	8.7
1	B	277	ALA	5.1
1	B	447	SER	5.0
1	A	444	ASP	4.6

6.2   Non-standard residues in protein, DNA, RNA chains ⓘ

There are no non-standard protein/DNA/RNA residues in this entry.
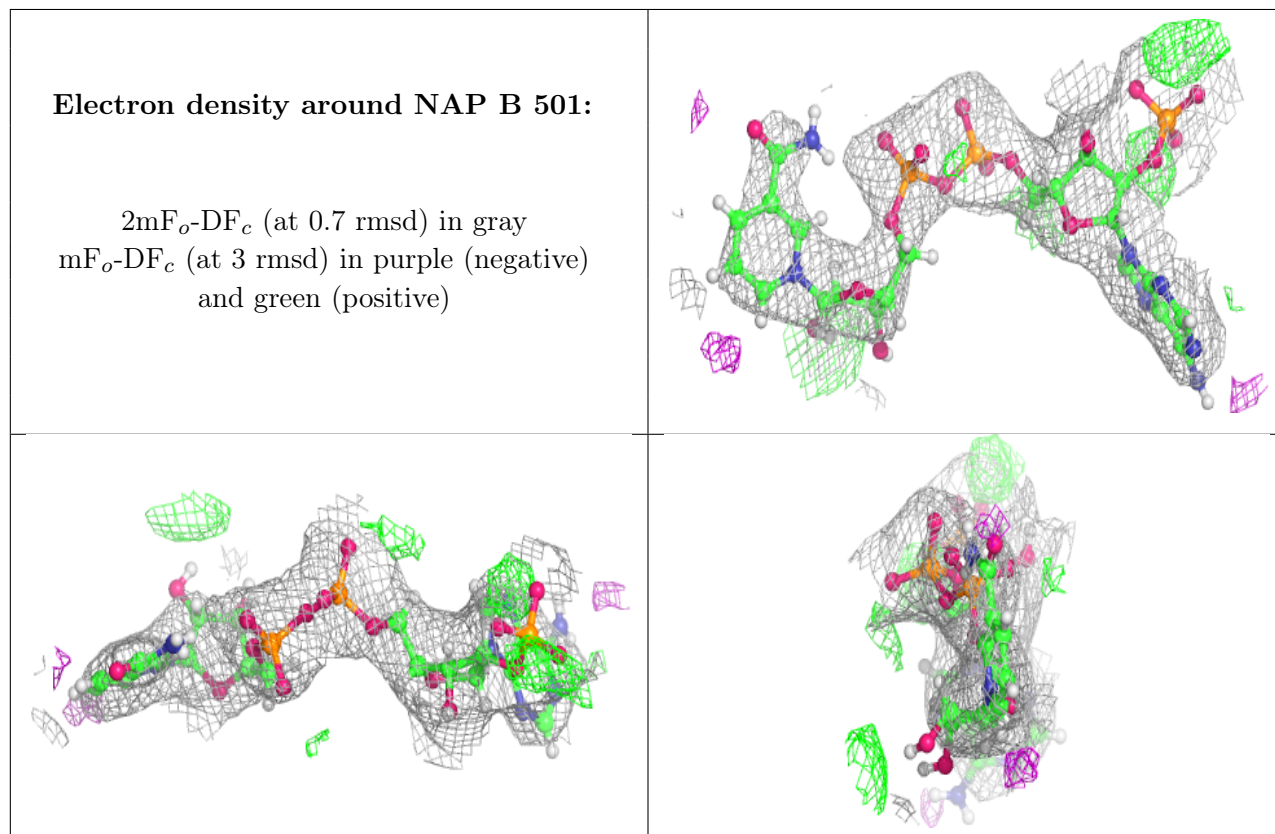
6.3   Carbohydrates ⓘ
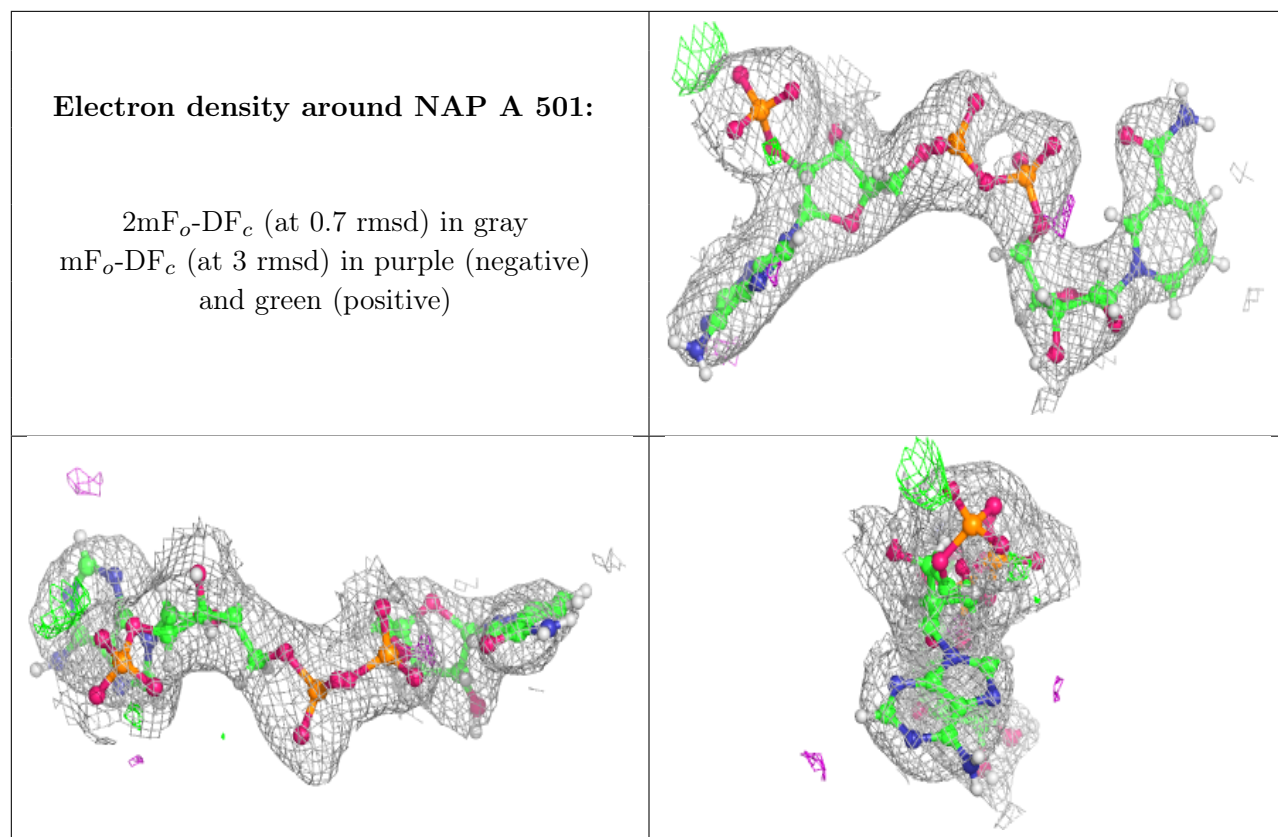
There are no monosaccharides in this entry.

6.4   Ligands ⓘ

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
4	CL	B	503	1/1	0.70	0.29	116,116,116,116	0
4	CL	A	503	1/1	0.75	0.16	113,113,113,113	0
5	MG	A	505	1/1	0.83	0.38	91,91,91,91	0
5	MG	B	504	1/1	0.84	0.39	69,69,69,69	0
2	NAP	B	501	48/48	0.87	0.22	71,105,138,146	0
3	FOM	B	502	11/11	0.90	0.21	92,109,130,130	0
5	MG	A	504	1/1	0.91	0.16	54,54,54,54	0
2	NAP	A	501	48/48	0.95	0.18	55,81,106,111	0
3	FOM	A	502	11/11	0.96	0.19	80,96,117,117	0
5	MG	A	506	1/1	0.97	0.21	77,77,77,77	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 NAP B 501:

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

Electron density around NAP A 501:

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

6.5 Other polymers ⓘ

There are no such residues in this entry.