WORLDWIDE PDB PROTEIN DATA BANK

wwPDB X-ray Structure Validation Summary Report (i)

Jan 6, 2025 – 12:31 pm GMT

PDB ID	:	8PIN
Title	:	Crystal structure of Ser33
Authors	:	Perrone, S.; Cifuente, J.O.; Marina, A.; Mastrella, L.; Trastoy, B.; Linster, C.L.; Guerin, M.E.
Deposited on	:	2023-06-22
Resolution	:	3.19 Å(reported)

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

|		
MolProbity	:	4.02b-467
Mogul	:	1.8.4, CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	3.0
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4	:	9.0.003 (Gargrove)
Density-Fitness	:	1.0.11
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.40

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 3.19 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		0.283
Clashscore		10
Ramachandran outliers		0.4%
Sidechain outliers		0
RSRZ outliers		0.9%

Worse   *Better*

▌ Percentile relative to all X-ray structures

▯ Percentile relative to X-ray structures of similar resolution
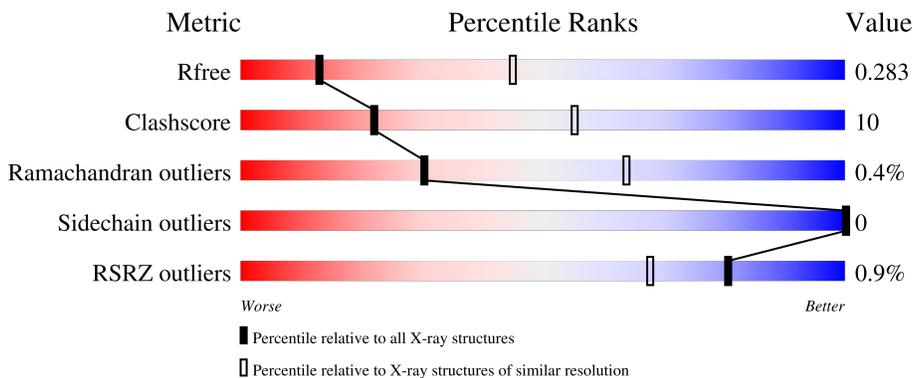
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	164625	1370 (3.20-3.20)
Clashscore	180529	1497 (3.20-3.20)
Ramachandran outliers	177936	1479 (3.20-3.20)
Sidechain outliers	177891	1478 (3.20-3.20)
RSRZ outliers	164620	1371 (3.20-3.20)

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	424	76% 22% ••
1	B	424	82% 17%
1	C	424	79% 20% •
1	D	424	82% 17%
2	F	8	100%

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
2	G	8	100%
2	H	8	100%

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
4	PI	B	601	-	X	-	-
4	PI	C	601	-	X	-	-
4	PI	D	601	-	X	X	-

2 Entry composition ⓘ

There are 4 unique types of molecules in this entry. The entry contains 11800 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 D-3-phosphoglycerate dehydrogenase 2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	421	Total	C	N	O	S	0	0	0
			2914	1848	505	553	8			
1	C	419	Total	C	N	O	S	0	0	0
			2865	1803	504	550	8			
1	D	422	Total	C	N	O	S	0	0	0
			2854	1816	496	534	8			
1	B	422	Total	C	N	O	S	0	0	0
			2851	1800	500	544	7			

- Molecule 2 is a protein called Poli-ALA.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
2	F	8	Total	C	N	O	0	0	0
			40	24	8	8			
2	G	8	Total	C	N	O	0	0	0
			40	24	8	8			
2	H	8	Total	C	N	O	0	0	0
			40	24	8	8			

- Molecule 3 is NICOTINAMIDE-ADENINE-DINUCLEOTIDE (three-letter code: NAD) (formula: $C_{21}H_{27}N_7O_{14}P_2$) (labeled as "Ligand of Interest" by depositor).

NAD

| Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
3	A	1	Total	C	N	O	P	0	0
			44	21	7	14	2		
3	C	1	Total	C	N	O	P	0	0
			44	21	7	14	2		
3	D	1	Total	C	N	O	P	0	0
			44	21	7	14	2		
3	B	1	Total	C	N	O	P	0	0
			44	21	7	14	2		

- Molecule 4 is HYDROGENPHOSPHATE ION (three-letter code: PI) (formula: HO_4P) (labeled as "Ligand of Interest" by depositor).

PI

Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
4	A	1	Total 5	O 4	P 1	0	0
4	C	1	Total 5	O 4	P 1	0	0
4	D	1	Total 5	O 4	P 1	0	0
4	B	1	Total 5	O 4	P 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: D-3-phosphoglycerate dehydrogenase 2
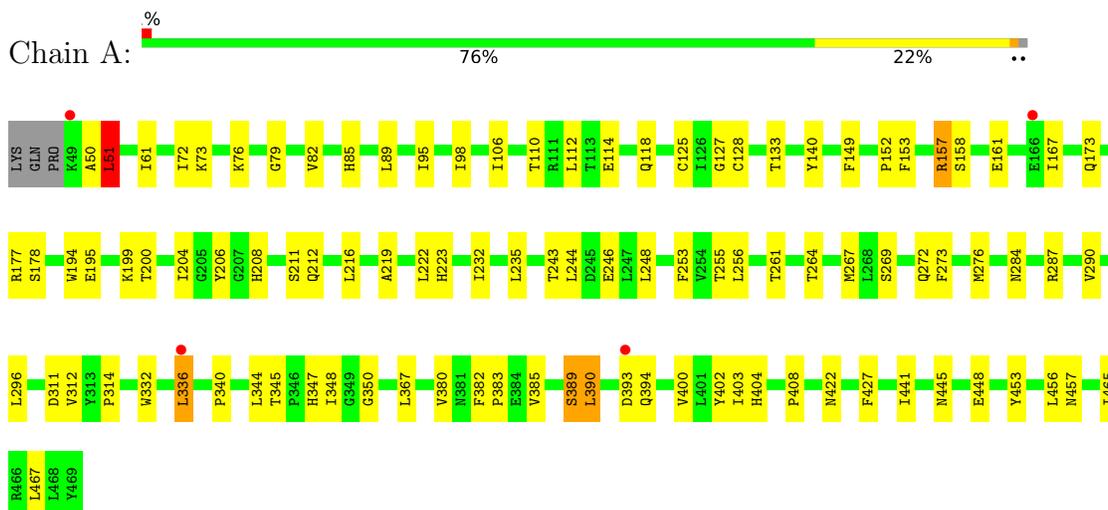
Chain A:

• Molecule 1: D-3-phosphoglycerate dehydrogenase 2

Chain C:

• Molecule 1: D-3-phosphoglycerate dehydrogenase 2

Chain D:

• Molecule 1: D-3-phosphoglycerate dehydrogenase 2

Chain B:

• Molecule 2: Poli-ALA

Chain F:

100%

There are no outlier residues recorded for this chain.

• Molecule 2: Poli-ALA

Chain G:

100%

There are no outlier residues recorded for this chain.

• Molecule 2: Poli-ALA

Chain H:

100%
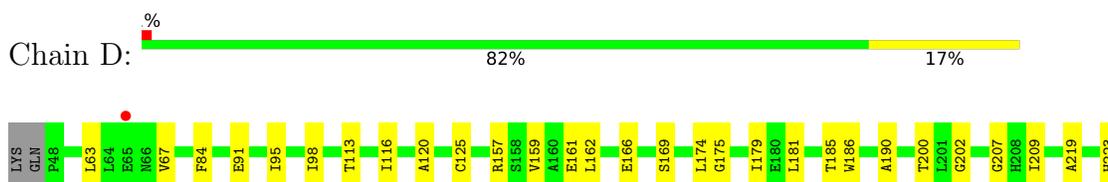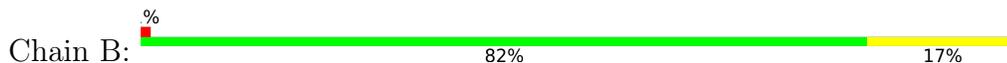
There are no outlier residues recorded for this chain.

4   Data and refinement statistics   ⓘ

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α, β, γ	98.16Å 148.52Å 161.74Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	47.78 – 3.19 47.78 – 3.19	Depositor EDS
% Data completeness (in resolution range)	96.9 (47.78-3.19) 99.2 (47.78-3.19)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.91 (at 3.19Å)	Xtriage
Refinement program	PHENIX (1.19.2_4158: ???)	Depositor
R, R_{free}	0.229 , 0.284 0.229 , 0.283	Depositor DCC
R_{free} test set	1990 reflections (5.00%)	wwPDB-VP
Wilson B-factor (Å^2)	125.6	Xtriage
Anisotropy	0.166	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.28 , 102.7	EDS
L-test for twinning[2]	$< |L| > = 0.48, < L^2 > = 0.31$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.94	EDS
Total number of atoms	11800	wwPDB-VP
Average B, all atoms (Å^2)	112.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.99% 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, 0.333 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: PI, NAD

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	0.50	1/2966 (0.0%)	0.76	5/4069 (0.1%)
1	B	0.48	0/2898	0.70	0/3975
1	C	0.48	0/2914	0.71	1/4000 (0.0%)
1	D	0.45	0/2905	0.68	0/3991
All	All	0.48	1/11683 (0.0%)	0.72	6/16035 (0.0%)

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	128	CYS	CB-SG	-5.37	1.73	1.81

The worst 5 of 6 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	51	LEU	CB-CG-CD2	-6.13	100.58	111.00
1	A	336	LEU	CA-CB-CG	5.95	128.99	115.30
1	A	51	LEU	CA-CB-CG	5.79	128.62	115.30
1	C	315	HIS	C-N-CA	-5.77	107.28	121.70
1	A	157	ARG	CG-CD-NE	5.53	123.42	111.80

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	2914	0	2619	67	0
1	B	2851	0	2470	60	0
1	C	2865	0	2492	63	0
1	D	2854	0	2502	56	0
2	F	40	0	10	0	0
2	G	40	0	11	0	0
2	H	40	0	12	0	0
3	A	44	0	26	0	0
3	B	44	0	26	1	0
3	C	44	0	26	5	0
3	D	44	0	26	2	0
4	A	5	0	0	1	0
4	B	5	0	0	1	0
4	C	5	0	0	0	0
4	D	5	0	0	2	0
All	All	11800	0	10220	231	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 10.

The worst 5 of 231 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:297:ILE:HG13	1:B:339:LEU:HD11	1.45	0.98
1:A:200:THR:HG22	1:A:223:HIS:HB2	1.44	0.95
1:D:200:THR:HG22	1:D:223:HIS:HB2	1.49	0.93
1:C:200:THR:HG22	1:C:223:HIS:HB2	1.54	0.89
1:B:245:ASP:O	1:B:249:ASN:ND2	2.15	0.79

There are no symmetry-related clashes.

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	419/424 (99%)	397 (95%)	18 (4%)	4 (1%)	13	47
1	B	418/424 (99%)	395 (94%)	21 (5%)	2 (0%)	25	60
1	C	417/424 (98%)	392 (94%)	25 (6%)	0	100	100
1	D	420/424 (99%)	395 (94%)	24 (6%)	1 (0%)	44	75
All	All	1674/1696 (99%)	1579 (94%)	88 (5%)	7 (0%)	30	64

5 of 7 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	390	LEU
1	A	389	SER
1	A	390	LEU
1	D	349	GLY
1	B	108	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	260/362 (72%)	260 (100%)	0	100	100
1	B	239/362 (66%)	239 (100%)	0	100	100
1	C	245/362 (68%)	245 (100%)	0	100	100
1	D	239/362 (66%)	239 (100%)	0	100	100
All	All	983/1448 (68%)	983 (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 (5) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	406	ASN
1	A	422	ASN
1	D	422	ASN

Continued on next page...

WORLDWIDE
wwPDB
PROTEIN DATA BANK

Continued from previous page...

Mol	Chain	Res	Type
1	B	212	GLN
1	B	422	ASN

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.

5.5   Carbohydrates ⓘ

There are no oligosaccharides in this entry.

5.6   Ligand geometry ⓘ

8 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	NAD	A	501	-	42,48,48	0.62	0	50,73,73	0.87	2 (4%)
4	PI	A	601	-	4,4,4	4.17	1 (25%)	6,6,6	2.17	2 (33%)
3	NAD	D	501	-	42,48,48	0.64	0	50,73,73	1.08	3 (6%)
4	PI	D	601	-	4,4,4	5.93	1 (25%)	6,6,6	2.78	3 (50%)
4	PI	C	601	-	4,4,4	6.10	1 (25%)	6,6,6	2.69	4 (66%)
3	NAD	B	501	-	42,48,48	0.62	0	50,73,73	0.74	1 (2%)
3	NAD	C	501	-	42,48,48	0.59	0	50,73,73	0.85	2 (4%)
4	PI	B	601	-	4,4,4	5.62	1 (25%)	6,6,6	2.92	4 (66%)

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	NAD	A	501	-	-	9/26/62/62	0/5/5/5
3	NAD	D	501	-	-	7/26/62/62	0/5/5/5
3	NAD	B	501	-	-	6/26/62/62	0/5/5/5
3	NAD	C	501	-	-	8/26/62/62	0/5/5/5

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	C	601	PI	P-O1	12.17	1.79	1.50
4	D	601	PI	P-O1	11.79	1.78	1.50
4	B	601	PI	P-O1	11.21	1.77	1.50
4	A	601	PI	P-O4	8.10	1.79	1.54

The worst 5 of 21 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	D	601	PI	O2-P-O1	-4.80	93.33	110.89
4	C	601	PI	O3-P-O1	-4.50	94.45	110.89
4	B	601	PI	O3-P-O1	-4.41	94.77	110.89
4	B	601	PI	O4-P-O3	3.83	120.26	107.97
4	A	601	PI	O3-P-O2	3.72	119.92	107.97

There are no chirality outliers.

5 of 30 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	A	501	NAD	O4D-C1D-N1N-C2N
3	A	501	NAD	O4D-C1D-N1N-C6N
3	A	501	NAD	C2D-C1D-N1N-C2N
3	A	501	NAD	C2D-C1D-N1N-C6N
3	C	501	NAD	O4D-C1D-N1N-C2N

There are no ring outliers.

6 monomers are involved in 12 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	A	601	PI	1	0

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	D	501	NAD	2	0
4	D	601	PI	2	0
3	B	501	NAD	1	0
3	C	501	NAD	5	0
4	B	601	PI	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.

Ligand NAD A 501

Bond lengths

Bond angles

Torsions

Rings

Ligand PI A 601

Bond lengths

Bond angles

Torsions

Rings

Ligand NAD D 501

Bond lengths

Bond angles

Torsions

Rings

Ligand PI D 601

Bond lengths

Bond angles

Torsions

Rings

Ligand PI C 601

Bond lengths

Bond angles

Torsions

Rings

Ligand NAD B 501

Bond lengths

Bond angles

Torsions

Rings

Ligand NAD C 501

Bond lengths

Bond angles

Torsions

Rings

Ligand PI B 601

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	421/424 (99%)	-0.21	4 (0%)	79	66	74, 106, 140, 157	0
1	B	422/424 (99%)	-0.22	4 (0%)	81	68	74, 106, 152, 173	0
1	C	419/424 (98%)	-0.20	4 (0%)	79	66	81, 115, 148, 166	0
1	D	422/424 (99%)	-0.14	3 (0%)	84	73	78, 113, 150, 162	0
2	F	0/8	-	-			-	-
2	G	0/8	-	-			-	-
2	H	0/8	-	-			-	-
All	All	1684/1720 (97%)	-0.19	15 (0%)	81	68	74, 110, 149, 173	0

The worst 5 of 15 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	D	253	PHE	3.2
1	C	56	THR	3.1
1	A	336	LEU	2.7
1	A	166	GLU	2.6
1	A	49	LYS	2.6

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	PI	A	601	5/5	0.66	0.17	105,110,115,119	5
4	PI	B	601	5/5	0.73	0.16	102,108,116,117	5
4	PI	D	601	5/5	0.78	0.19	96,99,104,108	5
4	PI	C	601	5/5	0.86	0.12	92,98,105,110	5
3	NAD	D	501	44/44	0.91	0.08	109,116,122,125	0
3	NAD	A	501	44/44	0.95	0.08	76,90,99,106	0
3	NAD	B	501	44/44	0.95	0.07	78,89,96,100	0
3	NAD	C	501	44/44	0.95	0.06	95,106,121,131	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 PI A 601:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
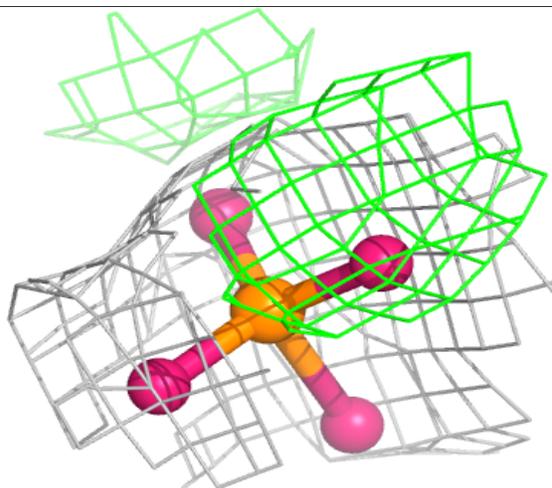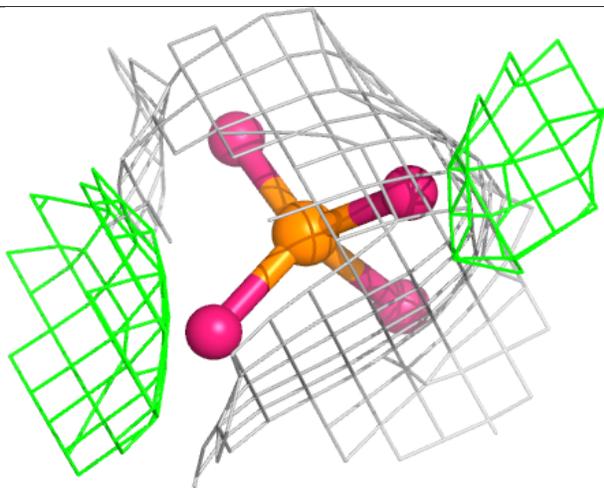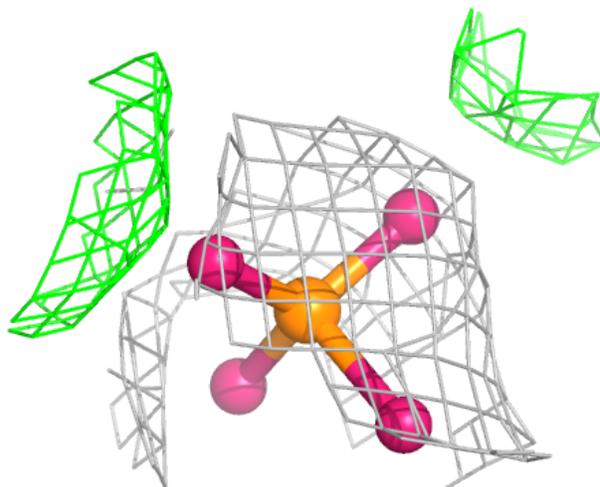
Electron density around PI B 601:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
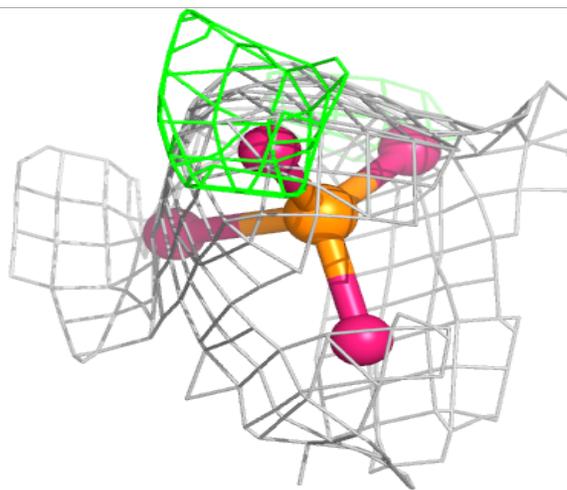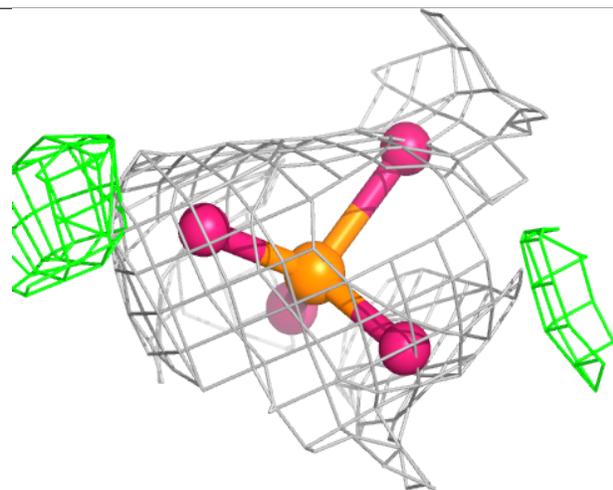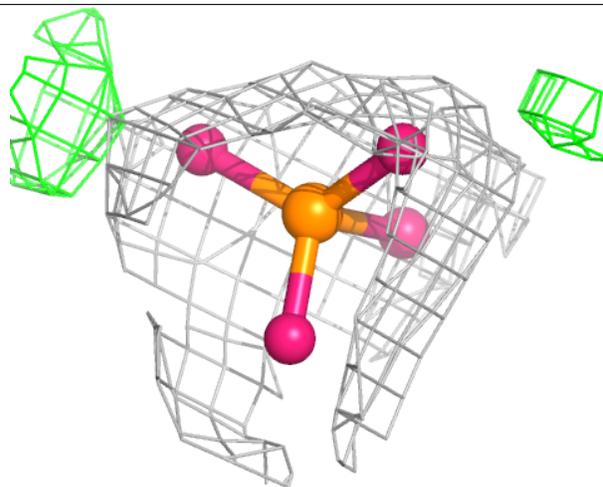
Electron density around PI D 601:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
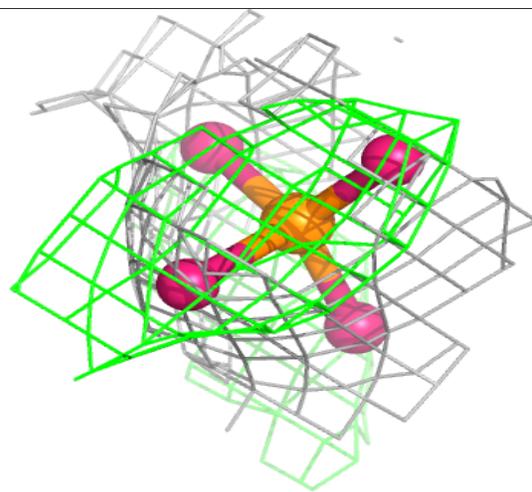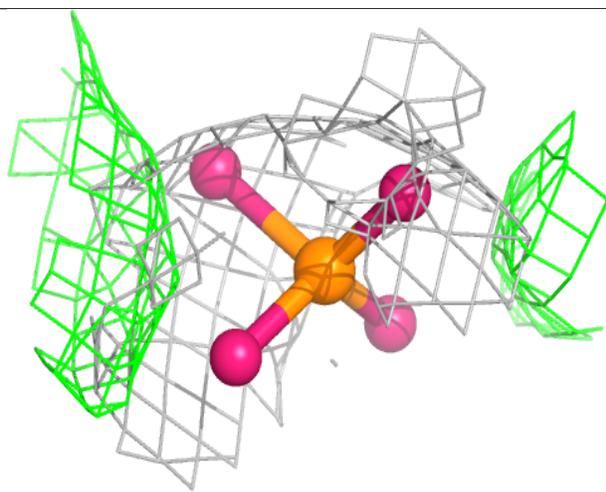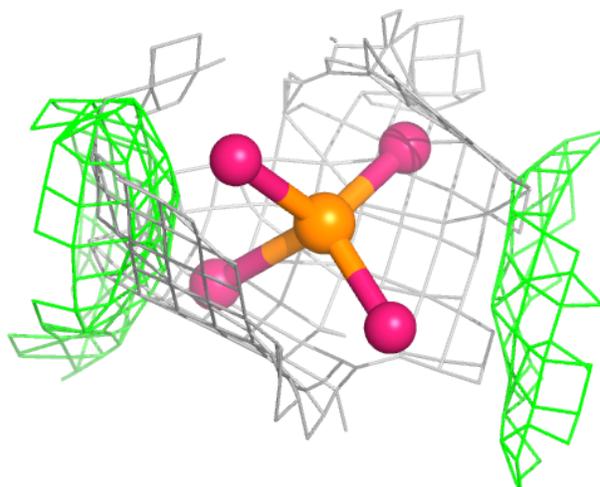
Electron density around PI C 601:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
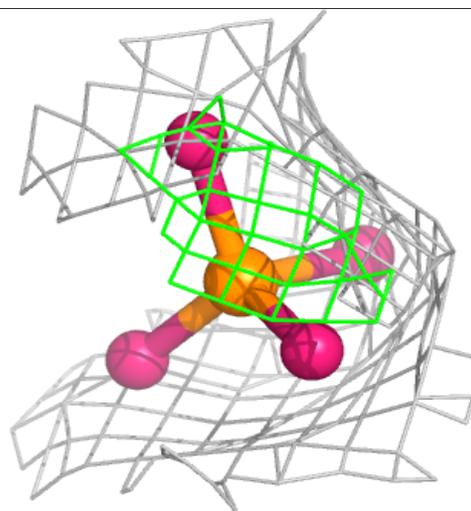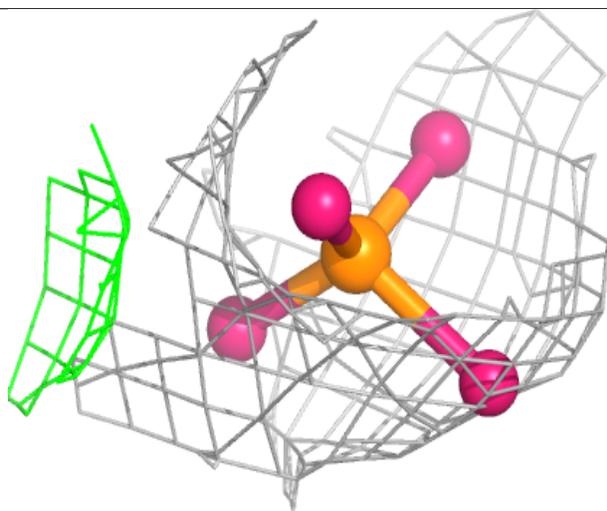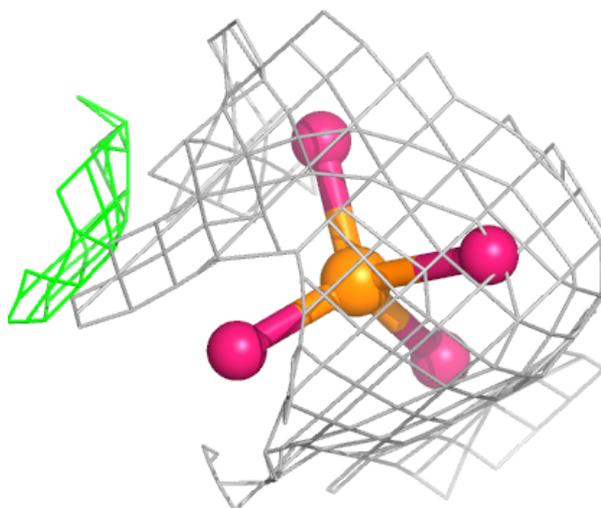
Electron density around NAD D 501:

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)
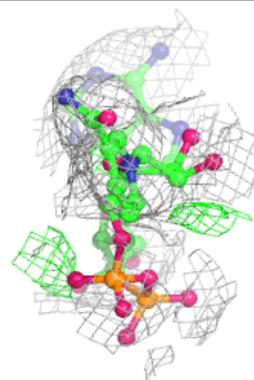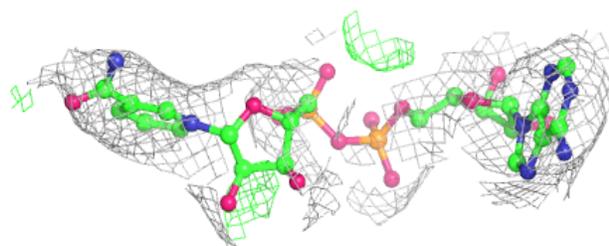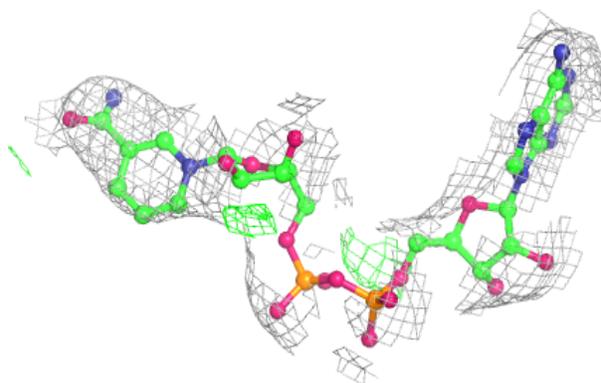
Electron density around NAD A 501:

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)
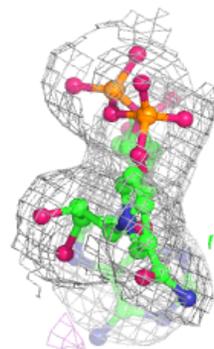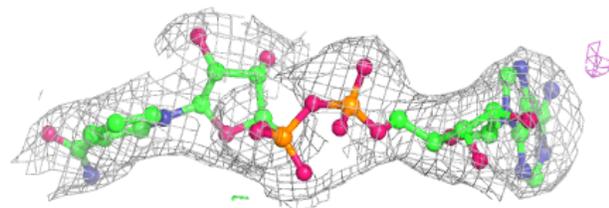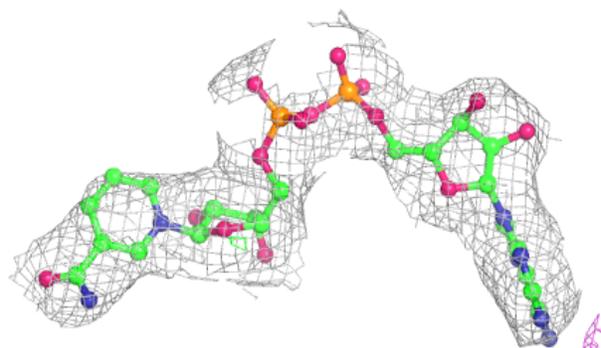
Electron density around NAD B 501:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
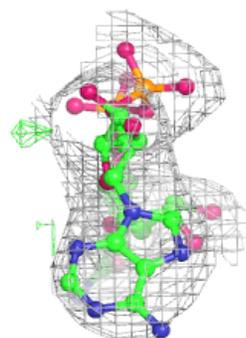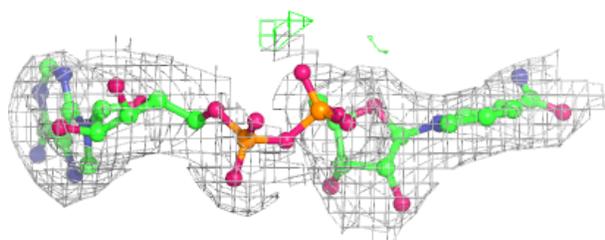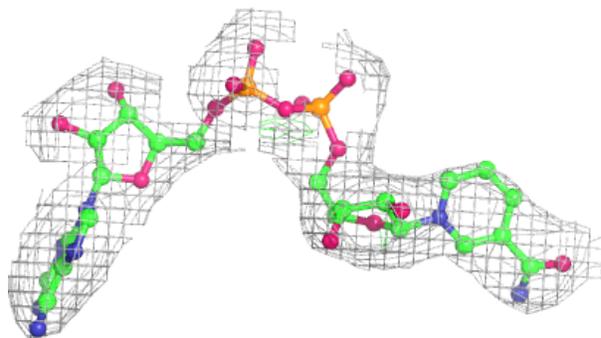
Electron density around NAD C 501:

$2mF_o$-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 ⓘ

There are no such residues in this entry.