



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 10, 2026 – 11:23 AM UTC

PDB ID : 4R9S / pdb_00004r9s
Title : Mycobacterium tuberculosis InhA bound to NITD-916
Authors : Noble, C.G.
Deposited on : 2014-09-07
Resolution : 3.20 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 : 2022.3.0, CSD as543be (2022)
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 : 9.0.010 (Gargrove)
Density-Fitness : 1.0.12
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

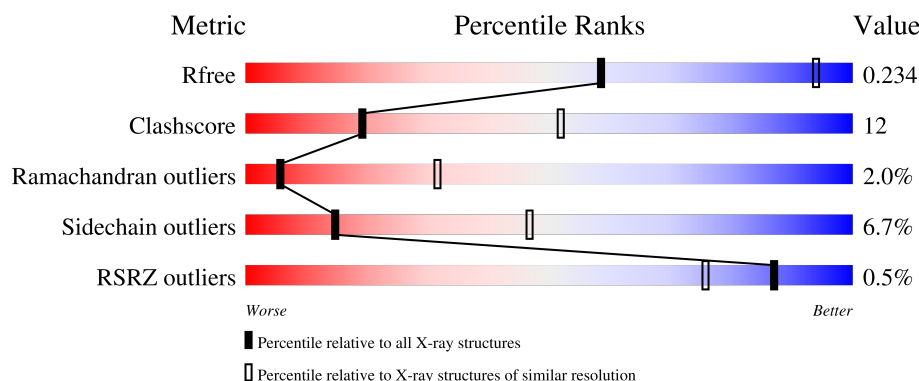
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.20 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	1466 (3.20-3.20)
Clashscore	190562	1573 (3.20-3.20)
Ramachandran outliers	187476	1548 (3.20-3.20)
Sidechain outliers	187428	1547 (3.20-3.20)
RSRZ outliers	180081	1466 (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 $\leq 5\%$. 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	272	 69% 26% ..
1	C	272	 72% 24% ..
1	E	272	 73% 24% ..
1	G	272	 61% 34% ..

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
3	3KY	E	302	-	-	X	-
3	3KY	G	302	-	-	X	-

2 Entry composition

There are 4 unique types of molecules in this entry. The entry contains 8271 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 Enoyl-[acyl-carrier-protein] reductase [NADH].

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	268	Total	C	N	O	S	0	0	0
			1996	1264	348	374	10			
1	C	268	Total	C	N	O	S	0	0	0
			1996	1264	348	374	10			
1	E	268	Total	C	N	O	S	0	0	0
			1996	1264	348	374	10			
1	G	268	Total	C	N	O	S	0	0	0
			1996	1264	348	374	10			

There are 12 discrepancies between the modelled and reference sequences:

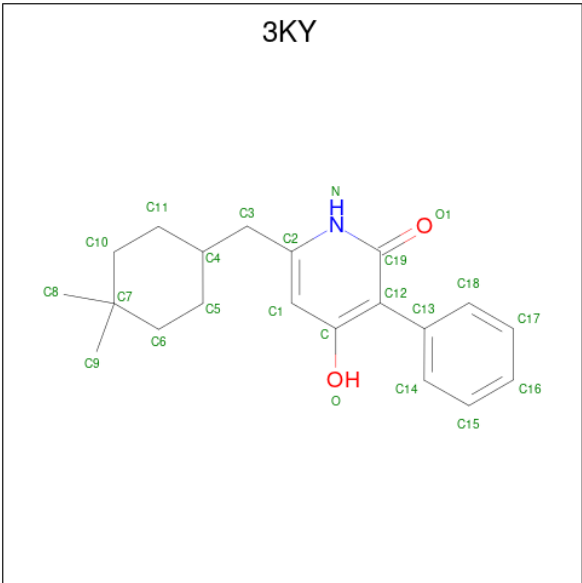
Chain	Residue	Modelled	Actual	Comment	Reference
A	-2	GLY	-	expression tag	UNP I6Y6N7
A	-1	SER	-	expression tag	UNP I6Y6N7
A	0	HIS	-	expression tag	UNP I6Y6N7
C	-2	GLY	-	expression tag	UNP I6Y6N7
C	-1	SER	-	expression tag	UNP I6Y6N7
C	0	HIS	-	expression tag	UNP I6Y6N7
E	-2	GLY	-	expression tag	UNP I6Y6N7
E	-1	SER	-	expression tag	UNP I6Y6N7
E	0	HIS	-	expression tag	UNP I6Y6N7
G	-2	GLY	-	expression tag	UNP I6Y6N7
G	-1	SER	-	expression tag	UNP I6Y6N7
G	0	HIS	-	expression tag	UNP I6Y6N7

- Molecule 2 is NICOTINAMIDE-ADENINE-DINUCLEOTIDE (CCD ID: NAD) (formula: $C_{21}H_{27}N_7O_{14}P_2$).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
2	A	1	Total	C	N	O	P	0	0
			44	21	7	14	2		
2	C	1	Total	C	N	O	P	0	0
			44	21	7	14	2		
2	E	1	Total	C	N	O	P	0	0
			44	21	7	14	2		
2	G	1	Total	C	N	O	P	0	0
			44	21	7	14	2		

- Molecule 3 is 6-[(4,4-dimethylcyclohexyl)methyl]-4-hydroxy-3-phenylpyridin-2(1H)-one (CCD ID: 3KY) (formula: C₂₀H₂₅NO₂).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
3	A	1	Total	C	N	O	0	0
			23	20	1	2		
3	C	1	Total	C	N	O	0	0
			23	20	1	2		
3	E	1	Total	C	N	O	0	0
			23	20	1	2		
3	G	1	Total	C	N	O	0	0
			23	20	1	2		

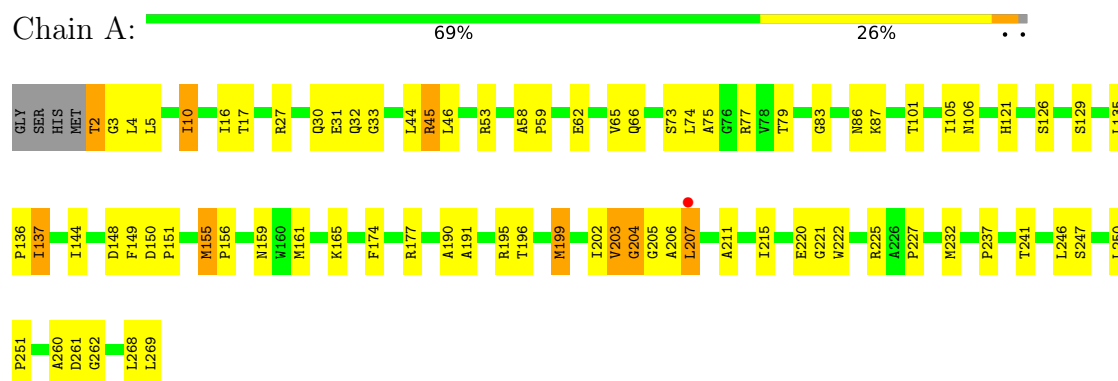
- Molecule 4 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	3	Total	O	0	0
			3	3		
4	C	3	Total	O	0	0
			3	3		
4	E	8	Total	O	0	0
			8	8		
4	G	5	Total	O	0	0
			5	5		

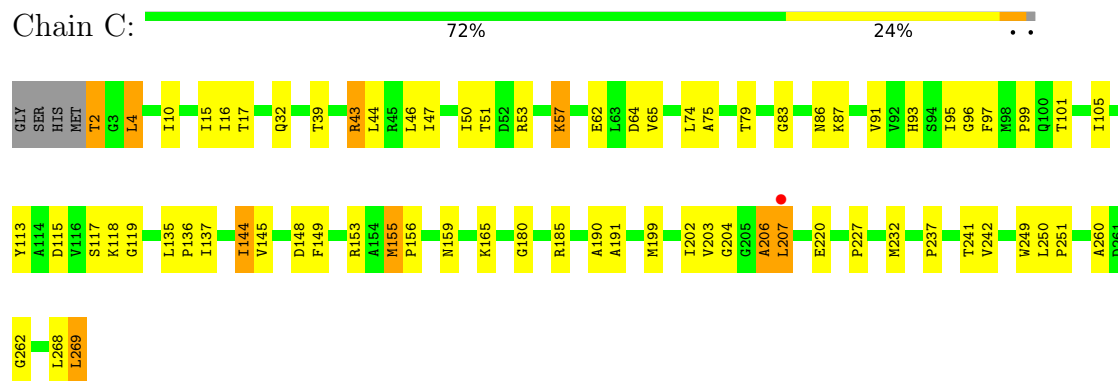
3 Residue-property plots

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.

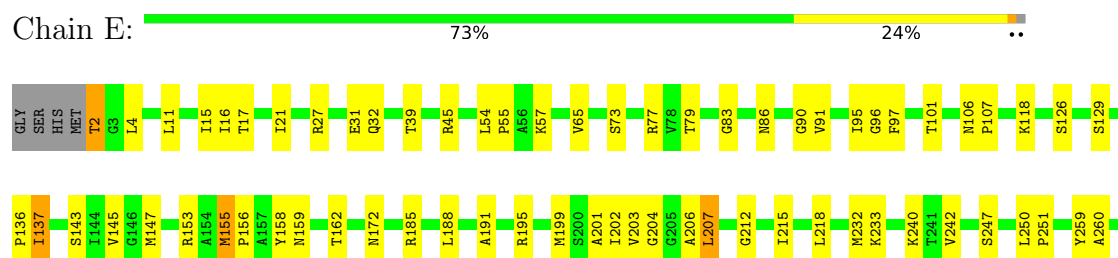
- Molecule 1: Enoyl-[acyl-carrier-protein] reductase [NADH]



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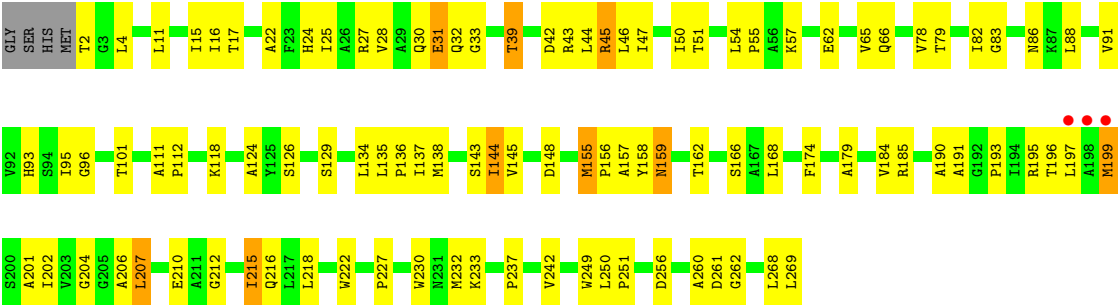


- Molecule 1: Enoyl-[acyl-carrier-protein] reductase [NADH]



L268
L269

● Molecule 1: Enoyl-[acyl-carrier-protein] reductase [NADH]



4 Data and refinement statistics

Property	Value	Source
Space group	P 32	Depositor
Cell constants a, b, c, α , β , γ	103.58Å 103.58Å 121.39Å 90.00° 90.00° 120.00°	Depositor
Resolution (Å)	45.00 – 3.20 45.00 – 3.20	Depositor EDS
% Data completeness (in resolution range)	100.0 (45.00-3.20) 100.0 (45.00-3.20)	Depositor EDS
R_{merge}	0.10	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.82 (at 3.19Å)	Xtriage
Refinement program	REFMAC 5.7.0029	Depositor
R, R_{free}	0.177 , 0.235 0.174 , 0.234	Depositor DCC
R_{free} test set	1230 reflections (5.12%)	wwPDB-VP
Wilson B-factor (Å ²)	111.8	Xtriage
Anisotropy	0.083	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.29 , 62.2	EDS
L-test for twinning ²	$\langle L \rangle = 0.46$, $\langle L^2 \rangle = 0.29$	Xtriage
Estimated twinning fraction	0.027 for -h,-k,l 0.059 for h,-h-k,-l 0.039 for -k,-h,-l	Xtriage
F_o, F_c correlation	0.97	EDS
Total number of atoms	8271	wwPDB-VP
Average B, all atoms (Å ²)	117.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 5.18% 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: 3KY, 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	0.53	1/2034 (0.0%)	0.90	3/2761 (0.1%)
1	C	0.52	1/2034 (0.0%)	0.91	2/2761 (0.1%)
1	E	0.51	1/2034 (0.0%)	0.92	4/2761 (0.1%)
1	G	0.50	0/2034	0.91	2/2761 (0.1%)
All	All	0.51	3/8136 (0.0%)	0.91	11/11044 (0.1%)

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	2	THR	CB-CG2	5.86	1.71	1.52
1	C	2	THR	CB-CG2	5.20	1.69	1.52
1	E	2	THR	CB-CG2	5.14	1.69	1.52

All (11) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	E	54	LEU	CA-C-N	6.05	127.41	119.84
1	E	54	LEU	C-N-CA	6.05	127.41	119.84
1	E	106	ASN	CA-C-N	5.64	126.89	119.84
1	E	106	ASN	C-N-CA	5.64	126.89	119.84
1	G	54	LEU	CA-C-N	5.56	126.79	119.84
1	G	54	LEU	C-N-CA	5.56	126.79	119.84
1	C	206	ALA	N-CA-C	5.42	119.39	112.34
1	C	10	ILE	N-CA-C	5.19	115.45	107.77
1	A	106	ASN	CA-C-N	5.11	125.11	119.89
1	A	106	ASN	C-N-CA	5.11	125.11	119.89
1	A	10	ILE	N-CA-C	5.03	115.21	107.77

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	1996	0	2013	52	0
1	C	1996	0	2013	43	0
1	E	1996	0	2013	40	0
1	G	1996	0	2013	63	0
2	A	44	0	26	2	0
2	C	44	0	26	3	0
2	E	44	0	26	3	0
2	G	44	0	26	3	0
3	A	23	0	25	5	0
3	C	23	0	24	5	0
3	E	23	0	25	9	0
3	G	23	0	25	11	0
4	A	3	0	0	3	0
4	C	3	0	0	0	0
4	E	8	0	0	4	0
4	G	5	0	0	4	0
All	All	8271	0	8255	193	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 12.

All (193) 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:G:195:ARG:HB2	4:G:403:HOH:O	1.60	1.01
2:G:301:NAD:H2D	3:G:302:3KY:H1	1.55	0.86
1:G:215:ILE:HD13	3:G:302:3KY:H21	1.61	0.83
1:E:215:ILE:HD13	3:E:302:3KY:H21	1.60	0.82
1:E:77:ARG:HB2	4:E:407:HOH:O	1.80	0.80
1:E:16:ILE:HG23	1:E:17:THR:HG23	1.66	0.76
1:G:210:GLU:HA	4:G:405:HOH:O	1.86	0.74
2:G:301:NAD:H2D	3:G:302:3KY:C18	2.20	0.71
1:G:96:GLY:O	3:G:302:3KY:H3	1.91	0.71
1:A:46:LEU:HA	4:A:401:HOH:O	1.89	0.70
1:E:96:GLY:O	3:E:302:3KY:H3	1.92	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:45:ARG:NH2	1:G:45:ARG:HB2	2.08	0.68
1:G:4:LEU:H	1:G:32:GLN:HE21	1.42	0.66
1:A:5:LEU:HB2	4:A:403:HOH:O	1.96	0.66
3:C:302:3KY:H17	3:C:302:3KY:H11	1.77	0.66
1:A:83:GLY:O	1:A:86:ASN:HB2	1.96	0.66
1:A:2:THR:N	1:C:2:THR:HG1	1.95	0.65
1:E:65:VAL:HG22	2:E:301:NAD:N1A	2.12	0.65
1:C:96:GLY:O	3:C:302:3KY:H3	1.97	0.64
1:G:233:LYS:HG3	4:G:403:HOH:O	1.96	0.64
1:C:44:LEU:HD21	1:C:62:GLU:HG3	1.79	0.63
1:G:148:ASP:O	1:G:190:ALA:HA	1.98	0.62
1:A:202:ILE:HG12	1:A:207:LEU:HB2	1.80	0.62
1:G:212:GLY:O	1:G:216:GLN:HB2	2.01	0.61
1:A:161:MET:HE3	1:A:165:LYS:HE2	1.85	0.59
1:E:191:ALA:HA	1:E:260:ALA:O	2.02	0.59
1:A:105:ILE:HG23	1:A:211:ALA:HB2	1.85	0.59
1:E:2:THR:HG1	1:G:2:THR:N	1.99	0.59
1:G:126:SER:HA	1:G:129:SER:HB2	1.85	0.59
1:G:65:VAL:HG22	2:G:301:NAD:N1A	2.18	0.58
3:A:302:3KY:H17	3:A:302:3KY:H11	1.85	0.57
1:A:149:PHE:CE2	3:A:302:3KY:H11	2.38	0.57
1:A:221:GLY:O	1:A:225:ARG:HG3	2.05	0.57
1:G:16:ILE:HG23	1:G:17:THR:HG23	1.86	0.56
1:C:99:PRO:HG2	1:C:115:ASP:HB3	1.88	0.56
1:E:136:PRO:HD2	4:E:406:HOH:O	2.05	0.56
1:C:91:VAL:HB	1:C:144:ILE:HG23	1.88	0.56
1:C:83:GLY:O	1:C:86:ASN:HB2	2.07	0.55
1:A:241:THR:HG23	1:C:250:LEU:HD23	1.88	0.55
2:C:301:NAD:H2D	3:C:302:3KY:C18	2.36	0.54
3:E:302:3KY:H17	3:E:302:3KY:H11	1.87	0.54
1:G:202:ILE:HG23	1:G:207:LEU:HB3	1.88	0.54
1:C:97:PHE:HE2	1:C:118:LYS:HD3	1.72	0.54
1:C:4:LEU:HB2	1:C:32:GLN:HE21	1.73	0.54
1:C:249:TRP:C	1:C:251:PRO:HD3	2.33	0.54
1:G:78:VAL:HG11	1:G:88:LEU:HD11	1.89	0.54
1:A:44:LEU:HD21	1:A:62:GLU:HG3	1.90	0.53
1:E:137:ILE:HG13	1:E:137:ILE:O	2.08	0.53
3:G:302:3KY:H17	3:G:302:3KY:H11	1.88	0.53
1:C:155:MET:HE3	1:E:268:LEU:HD22	1.89	0.53
1:G:30:GLN:O	1:G:33:GLY:N	2.34	0.53
1:E:259:TYR:HB2	1:G:256:ASP:OD2	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:157:ALA:O	1:G:159:ASN:N	2.41	0.53
1:G:134:LEU:O	1:G:138:MET:HG3	2.10	0.53
2:C:301:NAD:H2D	3:C:302:3KY:H1	1.92	0.52
1:G:27:ARG:HG2	1:G:31:GLU:OE2	2.09	0.52
1:G:46:LEU:O	1:G:50:ILE:HG12	2.08	0.52
1:E:27:ARG:HG2	1:E:31:GLU:OE2	2.10	0.52
1:E:195:ARG:HH21	1:E:203:VAL:HG21	1.73	0.52
1:A:65:VAL:HG22	2:A:301:NAD:N1A	2.24	0.52
1:G:17:THR:HG21	1:G:197:LEU:HD22	1.89	0.52
1:A:53:ARG:N	1:A:53:ARG:HD2	2.25	0.52
1:E:202:ILE:HG12	1:E:207:LEU:HB2	1.90	0.52
1:C:149:PHE:H	1:C:165:LYS:HD2	1.74	0.51
1:A:215:ILE:HD13	3:A:302:3KY:H21	1.90	0.51
1:E:212:GLY:C	4:E:402:HOH:O	2.53	0.51
2:E:301:NAD:H2D	3:E:302:3KY:C18	2.41	0.51
1:C:46:LEU:O	1:C:50:ILE:HG12	2.11	0.51
1:C:159:ASN:HA	1:G:174:PHE:CE2	2.45	0.51
1:E:4:LEU:H	1:E:32:GLN:HB3	1.75	0.51
1:G:249:TRP:C	1:G:251:PRO:HD3	2.36	0.51
1:G:22:ALA:HA	1:G:25:ILE:HD12	1.93	0.51
1:G:193:PRO:HB3	3:G:302:3KY:C5	2.41	0.51
1:A:250:LEU:HD23	1:C:241:THR:HG23	1.92	0.51
1:A:3:GLY:HA3	1:A:32:GLN:O	2.11	0.51
1:A:135:LEU:N	1:A:136:PRO:HD2	2.26	0.51
1:E:83:GLY:O	1:E:86:ASN:HB2	2.12	0.50
1:G:124:ALA:HA	1:G:168:LEU:HD13	1.93	0.50
1:A:174:PHE:O	1:A:177:ARG:HB2	2.11	0.50
1:A:87:LYS:HE2	1:A:137:ILE:HA	1.93	0.50
1:C:87:LYS:HE2	1:C:137:ILE:HA	1.94	0.50
1:A:227:PRO:O	1:C:180:GLY:HA3	2.12	0.49
1:G:91:VAL:HB	1:G:144:ILE:HG23	1.94	0.49
1:C:202:ILE:HG12	1:C:207:LEU:HB2	1.93	0.49
1:E:218:LEU:HD12	3:E:302:3KY:H22	1.95	0.49
1:E:73:SER:O	1:E:77:ARG:HG3	2.12	0.49
1:G:191:ALA:HA	1:G:260:ALA:O	2.12	0.49
1:C:65:VAL:HG22	2:C:301:NAD:N1A	2.28	0.49
1:G:218:LEU:HD12	3:G:302:3KY:H22	1.94	0.49
1:A:33:GLY:C	4:A:403:HOH:O	2.56	0.48
1:A:45:ARG:HH21	1:A:45:ARG:HB2	1.77	0.48
1:G:179:ALA:HB1	1:G:184:VAL:HB	1.94	0.48
1:G:78:VAL:O	1:G:82:ILE:HG12	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:16:ILE:HG23	1:C:17:THR:HG23	1.95	0.48
1:G:45:ARG:HB2	1:G:45:ARG:CZ	2.43	0.48
1:A:227:PRO:HD2	1:A:262:GLY:O	2.13	0.48
2:E:301:NAD:H2D	3:E:302:3KY:H1	1.96	0.47
1:G:201:ALA:O	1:G:206:ALA:HB3	2.15	0.47
1:A:74:LEU:O	1:A:75:ALA:C	2.57	0.47
1:C:113:TYR:CE2	1:C:117:SER:HB2	2.49	0.47
1:G:145:VAL:HG11	1:G:242:VAL:HG13	1.97	0.47
3:G:302:3KY:N	3:G:302:3KY:C11	2.78	0.47
1:A:237:PRO:HB3	1:C:251:PRO:HG2	1.96	0.47
1:E:136:PRO:CD	4:E:406:HOH:O	2.61	0.47
1:E:201:ALA:O	1:E:206:ALA:HB3	2.14	0.47
1:A:16:ILE:HG23	1:A:17:THR:HG23	1.96	0.46
1:G:11:LEU:HD21	1:G:39:THR:HG22	1.98	0.46
1:G:45:ARG:HB2	1:G:45:ARG:HH21	1.79	0.46
1:A:215:ILE:HD13	3:A:302:3KY:H23	1.96	0.46
1:G:227:PRO:HD2	1:G:262:GLY:O	2.15	0.46
1:E:251:PRO:HG2	1:G:237:PRO:HB3	1.98	0.46
1:C:153:ARG:CZ	1:E:153:ARG:CZ	2.94	0.46
1:G:135:LEU:N	1:G:136:PRO:HD2	2.31	0.46
1:A:27:ARG:HG2	1:A:31:GLU:OE2	2.16	0.45
1:A:155:MET:HB2	1:A:156:PRO:HD2	1.99	0.45
1:A:148:ASP:O	1:A:190:ALA:HA	2.15	0.45
1:G:193:PRO:HB3	3:G:302:3KY:H25	1.99	0.45
1:A:45:ARG:H	1:A:45:ARG:HG3	1.57	0.45
1:C:47:ILE:O	1:C:51:THR:HG23	2.16	0.45
1:E:172:ASN:HB2	1:E:188:LEU:HD11	1.99	0.45
1:E:90:GLY:HA2	1:E:143:SER:O	2.17	0.45
1:A:66:GLN:HG2	1:A:121:HIS:CE1	2.51	0.45
1:G:199:MET:SD	4:G:404:HOH:O	2.61	0.45
1:G:202:ILE:HG12	1:G:207:LEU:HB2	1.99	0.45
1:A:150:ASP:HA	1:A:151:PRO:HD3	1.88	0.44
1:A:58:ALA:HB1	1:A:59:PRO:HD2	2.00	0.44
1:C:135:LEU:N	1:C:136:PRO:HD2	2.32	0.44
1:E:11:LEU:HD12	1:E:91:VAL:HG13	2.00	0.44
1:C:185:ARG:NH1	1:C:250:LEU:O	2.50	0.44
1:A:251:PRO:HG2	1:C:237:PRO:HB3	1.98	0.44
1:E:97:PHE:HE2	1:E:118:LYS:HD3	1.82	0.44
1:E:158:TYR:HB2	3:E:302:3KY:H18	2.00	0.44
1:C:44:LEU:HD21	1:C:62:GLU:CG	2.48	0.44
1:E:21:ILE:HG21	1:E:147:MET:HE2	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:269:LEU:HD22	1:E:218:LEU:HD23	1.99	0.44
1:C:53:ARG:HD2	1:C:53:ARG:N	2.33	0.44
1:C:145:VAL:HG11	1:C:242:VAL:HG13	2.00	0.44
1:C:148:ASP:O	1:C:190:ALA:HA	2.17	0.44
1:A:10:ILE:HD13	1:A:246:LEU:HD13	2.00	0.43
1:G:222:TRP:HE1	1:G:261:ASP:HB2	1.82	0.43
1:A:73:SER:O	1:A:77:ARG:HG3	2.18	0.43
1:G:193:PRO:HB3	3:G:302:3KY:H24	2.00	0.43
1:A:191:ALA:HA	1:A:260:ALA:O	2.18	0.43
1:C:191:ALA:HA	1:C:260:ALA:O	2.18	0.43
1:A:30:GLN:O	1:A:33:GLY:N	2.50	0.43
1:G:83:GLY:O	1:G:86:ASN:HB2	2.19	0.43
1:G:96:GLY:O	3:G:302:3KY:C16	2.64	0.43
1:G:156:PRO:O	1:G:157:ALA:HB3	2.18	0.43
1:E:4:LEU:H	1:E:32:GLN:HE21	1.67	0.43
1:G:44:LEU:HD21	1:G:62:GLU:HG3	2.01	0.43
1:C:64:ASP:C	1:C:64:ASP:OD1	2.62	0.43
1:C:93:HIS:CE1	1:C:95:ILE:HB	2.54	0.43
1:A:199:MET:HE1	3:A:302:3KY:H13	2.00	0.43
1:E:240:LYS:HD2	1:G:251:PRO:HG3	2.01	0.43
1:G:4:LEU:N	1:G:32:GLN:HE21	2.13	0.43
1:G:193:PRO:HD2	1:G:230:TRP:NE1	2.34	0.43
1:C:86:ASN:HD22	1:C:86:ASN:HA	1.67	0.42
1:C:268:LEU:CD2	1:E:155:MET:HE3	2.49	0.42
1:A:45:ARG:HB2	1:A:45:ARG:NH2	2.33	0.42
1:E:96:GLY:O	3:E:302:3KY:C16	2.62	0.42
1:C:97:PHE:O	1:C:119:GLY:HA2	2.18	0.42
1:E:4:LEU:HD22	1:G:249:TRP:CE2	2.54	0.42
1:E:126:SER:HA	1:E:129:SER:HB2	2.02	0.42
1:E:145:VAL:HG11	1:E:242:VAL:HG13	2.01	0.42
1:G:185:ARG:NH1	1:G:250:LEU:O	2.52	0.42
1:C:43:ARG:HH11	1:C:43:ARG:HB3	1.85	0.42
1:A:203:VAL:HG12	1:A:203:VAL:O	2.19	0.42
3:E:302:3KY:N	3:E:302:3KY:C11	2.82	0.42
1:C:74:LEU:O	1:C:75:ALA:C	2.63	0.42
1:C:227:PRO:HD2	1:C:262:GLY:O	2.19	0.42
1:G:111:ALA:HA	1:G:112:PRO:HD3	1.92	0.42
1:A:4:LEU:H	1:A:32:GLN:HB3	1.84	0.41
1:E:95:ILE:HG22	1:E:96:GLY:N	2.35	0.41
1:A:204:GLY:C	1:A:206:ALA:H	2.28	0.41
1:G:24:HIS:O	1:G:28:VAL:HG23	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:222:TRP:HE1	1:A:261:ASP:HB2	1.85	0.41
1:C:155:MET:HB2	1:C:156:PRO:HD2	2.02	0.41
1:G:143:SER:HB2	1:G:185:ARG:NH2	2.36	0.41
1:A:126:SER:HA	1:A:129:SER:HB2	2.03	0.41
1:A:268:LEU:CD2	1:G:155:MET:HE3	2.51	0.41
3:C:302:3KY:H17	3:C:302:3KY:C4	2.46	0.41
1:E:185:ARG:NH1	1:E:250:LEU:O	2.54	0.41
1:G:43:ARG:O	1:G:47:ILE:HG13	2.21	0.41
1:G:93:HIS:CE1	1:G:95:ILE:HB	2.56	0.41
1:A:196:THR:HG21	2:A:301:NAD:O1N	2.21	0.40
1:A:202:ILE:CG2	1:A:215:ILE:HG13	2.51	0.40
1:A:195:ARG:HH21	1:A:203:VAL:HG21	1.86	0.40
1:E:155:MET:HB2	1:E:156:PRO:HD2	2.03	0.40
1:A:155:MET:HE3	1:G:268:LEU:CD2	2.52	0.40
1:A:204:GLY:O	1:A:206:ALA:N	2.51	0.40
1:C:57:LYS:HD3	1:C:57:LYS:H	1.87	0.40
1:G:47:ILE:O	1:G:51:THR:HG23	2.21	0.40
1:G:66:GLN:HE22	1:G:118:LYS:HG3	1.87	0.40

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	266/272 (98%)	243 (91%)	18 (7%)	5 (2%)	6	33
1	C	266/272 (98%)	241 (91%)	22 (8%)	3 (1%)	11	43
1	E	266/272 (98%)	237 (89%)	24 (9%)	5 (2%)	6	33
1	G	266/272 (98%)	239 (90%)	19 (7%)	8 (3%)	3	23
All	All	1064/1088 (98%)	960 (90%)	83 (8%)	21 (2%)	6	31

All (21) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	E	159	ASN
1	G	204	GLY
1	C	203	VAL
1	G	158	TYR
1	G	159	ASN
1	G	196	THR
1	A	203	VAL
1	E	204	GLY
1	G	42	ASP
1	E	107	PRO
1	A	159	ASN
1	A	205	GLY
1	C	206	ALA
1	G	31	GLU
1	G	55	PRO
1	A	204	GLY
1	G	137	ILE
1	C	204	GLY
1	A	137	ILE
1	E	55	PRO
1	E	137	ILE

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	204/207 (99%)	193 (95%)	11 (5%)	20	53
1	C	204/207 (99%)	189 (93%)	15 (7%)	13	43
1	E	204/207 (99%)	190 (93%)	14 (7%)	14	45
1	G	204/207 (99%)	189 (93%)	15 (7%)	13	43
All	All	816/828 (99%)	761 (93%)	55 (7%)	15	47

All (55) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	45	ARG

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Mol	Chain	Res	Type
1	A	79	THR
1	A	101	THR
1	A	144	ILE
1	A	155	MET
1	A	199	MET
1	A	207	LEU
1	A	220	GLU
1	A	232	MET
1	A	247	SER
1	A	269	LEU
1	C	4	LEU
1	C	15	ILE
1	C	39	THR
1	C	43	ARG
1	C	57	LYS
1	C	79	THR
1	C	101	THR
1	C	105	ILE
1	C	144	ILE
1	C	155	MET
1	C	199	MET
1	C	207	LEU
1	C	220	GLU
1	C	232	MET
1	C	269	LEU
1	E	15	ILE
1	E	39	THR
1	E	45	ARG
1	E	57	LYS
1	E	79	THR
1	E	101	THR
1	E	155	MET
1	E	162	THR
1	E	199	MET
1	E	207	LEU
1	E	232	MET
1	E	233	LYS
1	E	247	SER
1	E	269	LEU
1	G	15	ILE
1	G	39	THR
1	G	45	ARG

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Mol	Chain	Res	Type
1	G	57	LYS
1	G	79	THR
1	G	101	THR
1	G	144	ILE
1	G	155	MET
1	G	162	THR
1	G	166	SER
1	G	199	MET
1	G	207	LEU
1	G	215	ILE
1	G	232	MET
1	G	269	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (27) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	32	GLN
1	A	48	GLN
1	A	66	GLN
1	A	86	ASN
1	A	121	HIS
1	A	187	ASN
1	C	32	GLN
1	C	35	GLN
1	C	48	GLN
1	C	86	ASN
1	C	100	GLN
1	C	172	ASN
1	C	187	ASN
1	C	265	HIS
1	E	32	GLN
1	E	35	GLN
1	E	66	GLN
1	E	86	ASN
1	E	100	GLN
1	E	216	GLN
1	E	224	GLN
1	G	32	GLN
1	G	35	GLN
1	G	48	GLN
1	G	66	GLN
1	G	86	ASN

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Mol	Chain	Res	Type
1	G	187	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](#)

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$
2	NAD	G	301	-	46,48,48	1.29	5 (10%)	64,73,73	1.62	10 (15%)
3	3KY	C	302	-	25,25,25	0.78	0	31,36,36	0.83	2 (6%)
2	NAD	A	301	-	46,48,48	1.25	8 (17%)	64,73,73	1.55	11 (17%)
3	3KY	G	302	-	25,25,25	0.81	0	31,36,36	0.90	2 (6%)
2	NAD	C	301	-	46,48,48	1.27	6 (13%)	64,73,73	1.60	12 (18%)
3	3KY	E	302	-	25,25,25	1.00	0	31,36,36	0.92	2 (6%)
3	3KY	A	302	-	25,25,25	0.95	0	31,36,36	0.87	2 (6%)
2	NAD	E	301	-	46,48,48	1.31	7 (15%)	64,73,73	1.61	11 (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
2	NAD	G	301	-	-	11/30/62/62	0/5/5/5
3	3KY	C	302	-	-	2/8/20/20	1/3/3/3
2	NAD	A	301	-	-	7/30/62/62	0/5/5/5
3	3KY	G	302	-	-	1/8/20/20	0/3/3/3
2	NAD	C	301	-	-	7/30/62/62	0/5/5/5
3	3KY	E	302	-	-	1/8/20/20	1/3/3/3
3	3KY	A	302	-	-	2/8/20/20	0/3/3/3
2	NAD	E	301	-	-	12/30/62/62	0/5/5/5

All (26) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	G	301	NAD	C5A-C4A	5.18	1.48	1.39
2	E	301	NAD	C5A-C4A	5.04	1.48	1.39
2	C	301	NAD	C5A-C4A	4.89	1.47	1.39
2	A	301	NAD	C5A-C4A	4.70	1.47	1.39
2	E	301	NAD	C5A-C6A	2.99	1.49	1.41
2	G	301	NAD	C5A-C6A	2.96	1.49	1.41
2	C	301	NAD	C5A-C6A	2.79	1.48	1.41
2	A	301	NAD	C5A-C6A	2.59	1.48	1.41
2	G	301	NAD	C8A-N7A	2.58	1.36	1.31
2	A	301	NAD	C8A-N7A	2.47	1.36	1.31
2	C	301	NAD	C8A-N7A	2.47	1.36	1.31
2	E	301	NAD	C8A-N7A	2.43	1.36	1.31
2	E	301	NAD	C4A-N9A	-2.39	1.32	1.37
2	C	301	NAD	C5A-N7A	-2.35	1.34	1.39
2	A	301	NAD	C4A-N9A	-2.32	1.32	1.37
2	A	301	NAD	O4D-C1D	2.31	1.43	1.40
2	G	301	NAD	C5A-N7A	-2.28	1.34	1.39
2	A	301	NAD	C5A-N7A	-2.28	1.34	1.39
2	E	301	NAD	C5A-N7A	-2.24	1.35	1.39
2	C	301	NAD	C4A-N9A	-2.23	1.33	1.37
2	E	301	NAD	PN-O3	2.22	1.61	1.59
2	G	301	NAD	C4A-N9A	-2.20	1.33	1.37
2	A	301	NAD	PN-O3	2.11	1.61	1.59
2	E	301	NAD	PA-O3	2.07	1.61	1.59
2	C	301	NAD	PN-O3	2.04	1.61	1.59
2	A	301	NAD	PA-O3	2.03	1.61	1.59

All (52) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	G	301	NAD	C5A-C4A-N3A	-5.50	119.14	126.72
2	C	301	NAD	C5A-C4A-N3A	-5.14	119.64	126.72
2	E	301	NAD	C5A-C4A-N3A	-5.11	119.69	126.72
2	A	301	NAD	C5A-C4A-N3A	-4.85	120.04	126.72
2	G	301	NAD	N3A-C4A-N9A	4.25	134.39	127.17
2	C	301	NAD	N3A-C4A-N9A	4.19	134.30	127.17
2	A	301	NAD	N3A-C4A-N9A	4.07	134.08	127.17
2	E	301	NAD	N3A-C4A-N9A	4.00	133.97	127.17
2	A	301	NAD	C4A-N9A-C8A	3.52	109.44	105.74
2	E	301	NAD	C4A-C5A-N7A	-3.52	106.56	110.58
2	A	301	NAD	N3A-C2A-N1A	-3.47	123.33	128.58
2	C	301	NAD	C2A-N3A-C4A	3.44	120.24	111.83
2	G	301	NAD	C2A-N3A-C4A	3.43	120.21	111.83
2	G	301	NAD	C4A-C5A-N7A	-3.43	106.66	110.58
2	E	301	NAD	C2A-N3A-C4A	3.41	120.16	111.83
2	A	301	NAD	C2A-N3A-C4A	3.36	120.04	111.83
2	C	301	NAD	C4A-C5A-N7A	-3.27	106.85	110.58
2	A	301	NAD	C4A-C5A-N7A	-3.26	106.85	110.58
2	C	301	NAD	N3A-C2A-N1A	-3.25	123.66	128.58
2	E	301	NAD	N3A-C2A-N1A	-3.21	123.72	128.58
2	C	301	NAD	C4A-N9A-C8A	3.08	108.97	105.74
2	E	301	NAD	C4A-N9A-C8A	2.90	108.79	105.74
2	G	301	NAD	N3A-C2A-N1A	-2.86	124.26	128.58
2	C	301	NAD	C2N-C3N-C4N	2.80	121.52	118.26
3	G	302	3KY	C5-C6-C7	2.69	117.60	113.01
3	A	302	3KY	C11-C10-C7	2.61	117.47	113.01
2	G	301	NAD	C4A-N9A-C8A	2.51	108.37	105.74
2	C	301	NAD	C5N-C4N-C3N	-2.51	117.90	120.36
2	E	301	NAD	C3N-C7N-N7N	2.50	120.82	117.74
2	A	301	NAD	C5A-N7A-C8A	2.47	107.33	103.45
2	A	301	NAD	N9A-C8A-N7A	-2.42	110.50	113.94
2	C	301	NAD	C5A-N7A-C8A	2.41	107.24	103.45
2	G	301	NAD	C5N-C4N-C3N	-2.40	118.00	120.36
3	G	302	3KY	C11-C10-C7	2.40	117.11	113.01
3	A	302	3KY	C5-C6-C7	2.37	117.06	113.01
2	E	301	NAD	C5A-N7A-C8A	2.36	107.15	103.45
2	G	301	NAD	O4B-C1B-N9A	2.31	112.53	108.09
3	E	302	3KY	C6-C5-C4	2.31	114.50	110.36
2	A	301	NAD	C6A-C5A-N7A	2.30	136.53	132.09
2	E	301	NAD	C6A-C5A-N7A	2.28	136.48	132.09
2	A	301	NAD	C2A-N1A-C6A	2.25	122.42	118.73
3	C	302	3KY	C6-C5-C4	2.24	114.37	110.36

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	G	301	NAD	C5A-N7A-C8A	2.23	106.95	103.45
2	C	301	NAD	N9A-C8A-N7A	-2.15	110.89	113.94
3	E	302	3KY	C11-C10-C7	2.13	116.65	113.01
2	C	301	NAD	C6A-C5A-N7A	2.12	136.18	132.09
3	C	302	3KY	C11-C10-C7	2.09	116.58	113.01
2	E	301	NAD	C2A-N1A-C6A	2.09	122.16	118.73
2	E	301	NAD	C6N-N1N-C1D	-2.06	115.69	119.73
2	C	301	NAD	O2N-PN-O1N	2.06	122.01	112.44
2	A	301	NAD	O2N-PN-O1N	2.03	121.91	112.44
2	G	301	NAD	C3N-C7N-N7N	2.02	120.23	117.74

There are no chirality outliers.

All (43) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	301	NAD	C5B-O5B-PA-O1A
2	A	301	NAD	O4D-C1D-N1N-C2N
2	A	301	NAD	O4D-C1D-N1N-C6N
2	A	301	NAD	C2D-C1D-N1N-C2N
2	A	301	NAD	C2D-C1D-N1N-C6N
2	C	301	NAD	O4D-C1D-N1N-C2N
2	C	301	NAD	O4D-C1D-N1N-C6N
2	E	301	NAD	C5B-O5B-PA-O1A
2	E	301	NAD	C5B-O5B-PA-O3
2	E	301	NAD	O4D-C1D-N1N-C2N
2	E	301	NAD	O4D-C1D-N1N-C6N
2	E	301	NAD	C2D-C1D-N1N-C2N
2	E	301	NAD	C2D-C1D-N1N-C6N
2	G	301	NAD	C5B-O5B-PA-O1A
2	G	301	NAD	O4D-C1D-N1N-C2N
2	G	301	NAD	O4D-C1D-N1N-C6N
2	G	301	NAD	C2D-C1D-N1N-C2N
2	G	301	NAD	C2D-C1D-N1N-C6N
3	A	302	3KY	C2-C3-C4-C11
3	A	302	3KY	C2-C3-C4-C5
3	C	302	3KY	C2-C3-C4-C11
3	C	302	3KY	C2-C3-C4-C5
3	E	302	3KY	C2-C3-C4-C11
3	G	302	3KY	C2-C3-C4-C11
2	G	301	NAD	O4D-C4D-C5D-O5D
2	E	301	NAD	O4D-C4D-C5D-O5D
2	G	301	NAD	C3D-C4D-C5D-O5D

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Mol	Chain	Res	Type	Atoms
2	E	301	NAD	C3D-C4D-C5D-O5D
2	E	301	NAD	O4B-C4B-C5B-O5B
2	C	301	NAD	C5D-O5D-PN-O2N
2	E	301	NAD	C5B-O5B-PA-O2A
2	G	301	NAD	C5B-O5B-PA-O2A
2	G	301	NAD	C5B-O5B-PA-O3
2	A	301	NAD	PA-O3-PN-O2N
2	C	301	NAD	PA-O3-PN-O2N
2	E	301	NAD	PA-O3-PN-O2N
2	G	301	NAD	PA-O3-PN-O2N
2	C	301	NAD	C2D-C1D-N1N-C2N
2	C	301	NAD	C2D-C1D-N1N-C6N
2	E	301	NAD	C3B-C4B-C5B-O5B
2	A	301	NAD	PA-O3-PN-O1N
2	C	301	NAD	PA-O3-PN-O1N
2	G	301	NAD	PA-O3-PN-O1N

All (2) ring outliers are listed below:

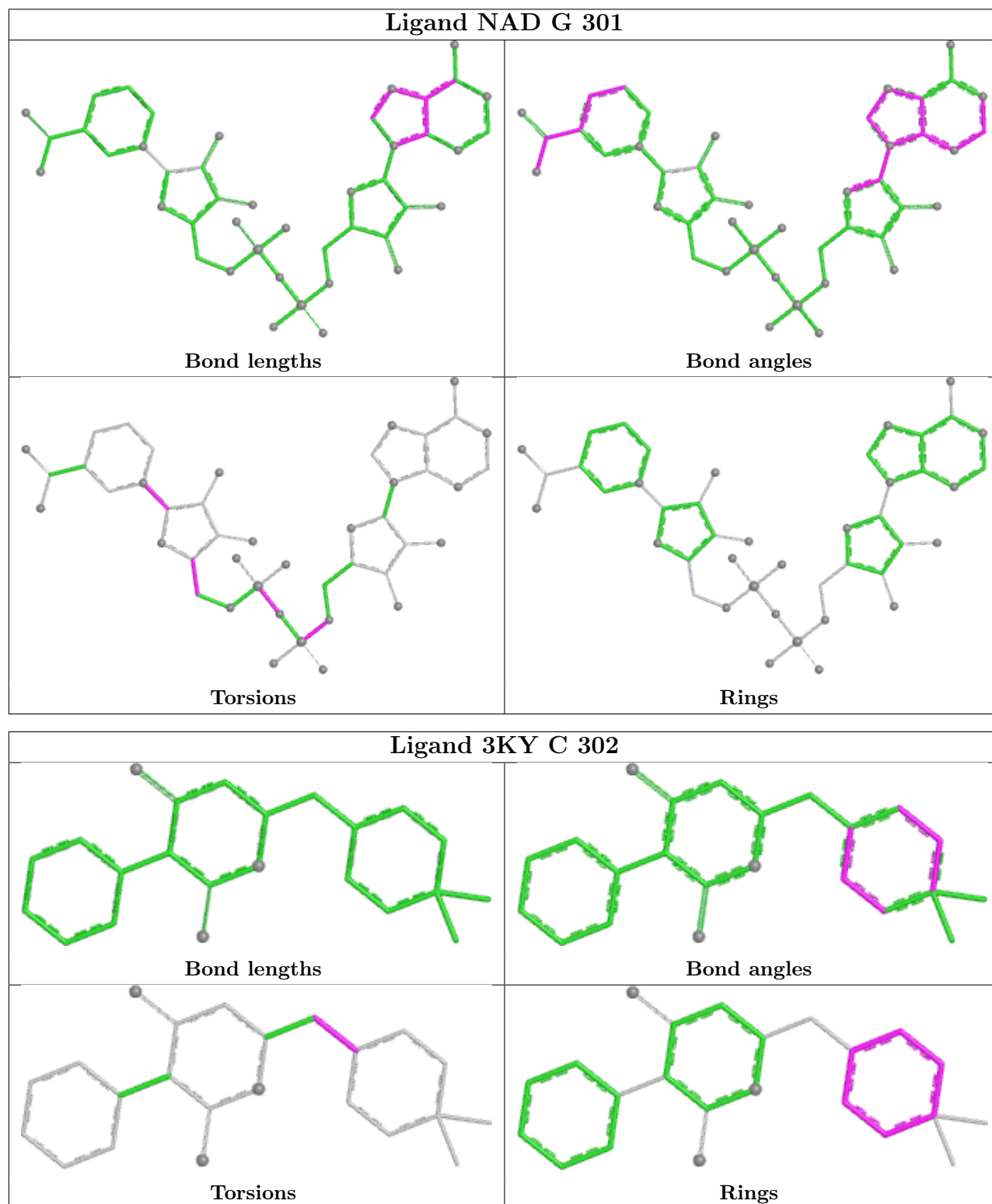
Mol	Chain	Res	Type	Atoms
3	E	302	3KY	C10-C11-C4-C5-C6-C7
3	C	302	3KY	C10-C11-C4-C5-C6-C7

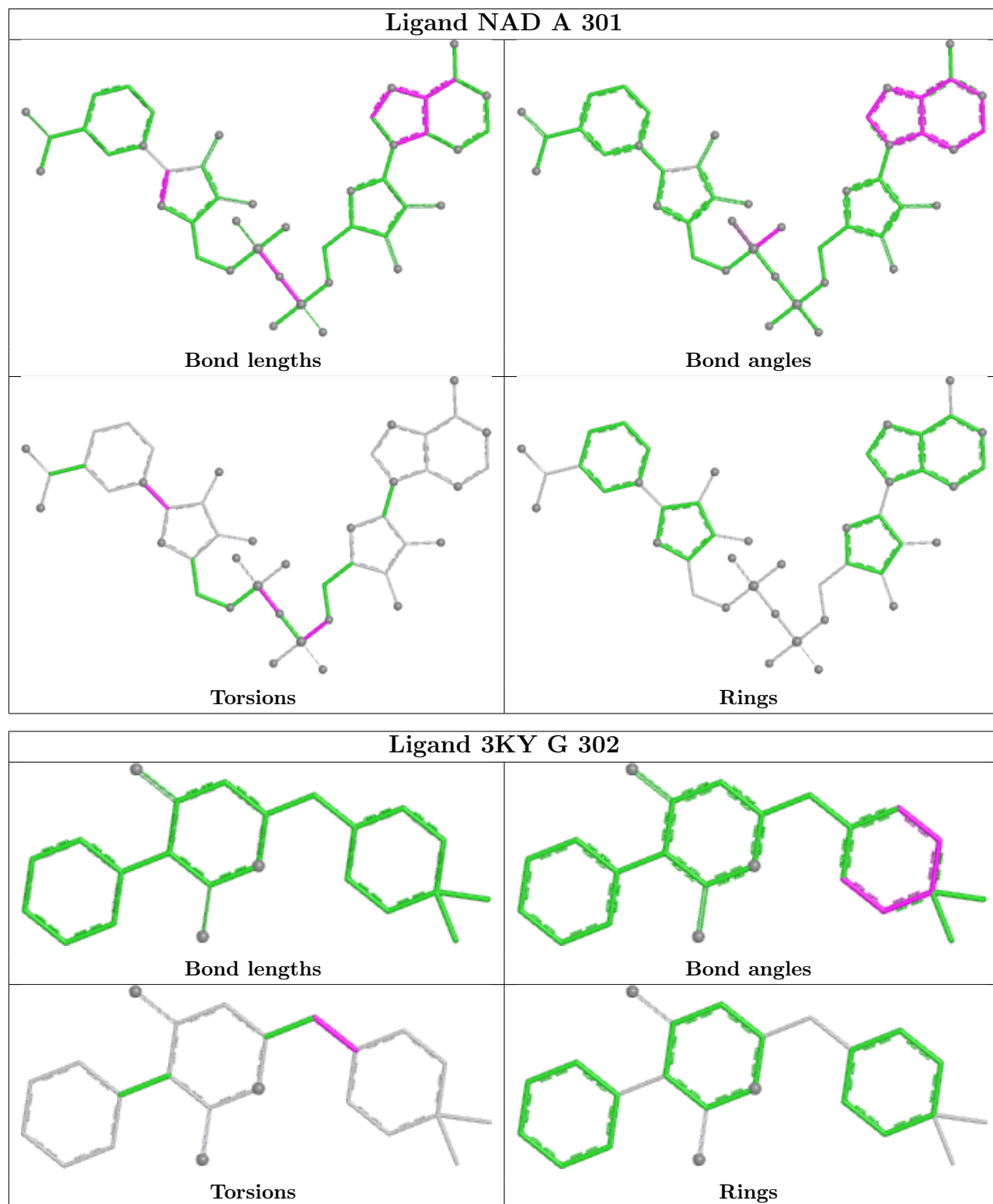
8 monomers are involved in 35 short contacts:

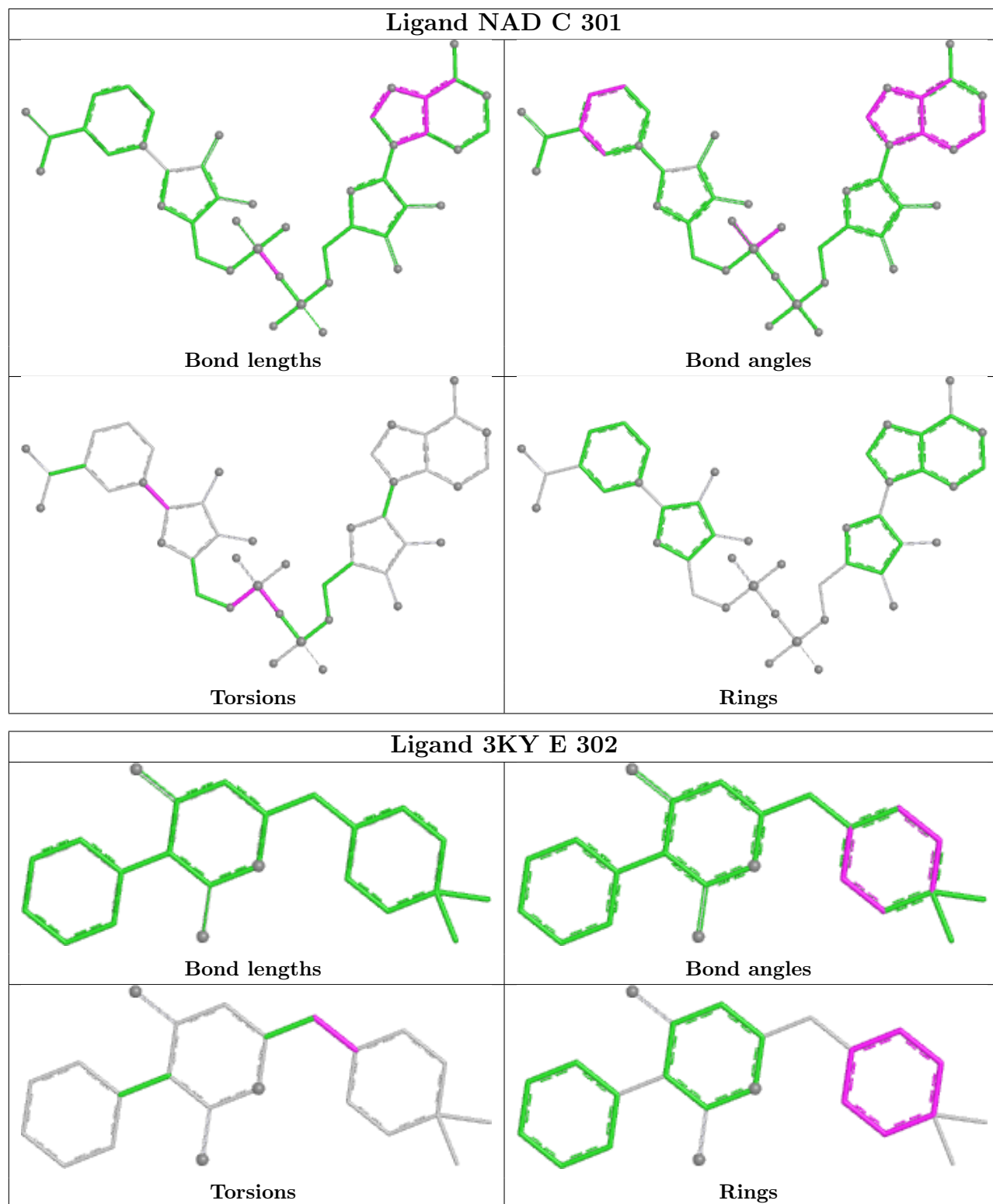
Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	G	301	NAD	3	0
3	C	302	3KY	5	0
2	A	301	NAD	2	0
3	G	302	3KY	11	0
2	C	301	NAD	3	0
3	E	302	3KY	9	0
3	A	302	3KY	5	0
2	E	301	NAD	3	0

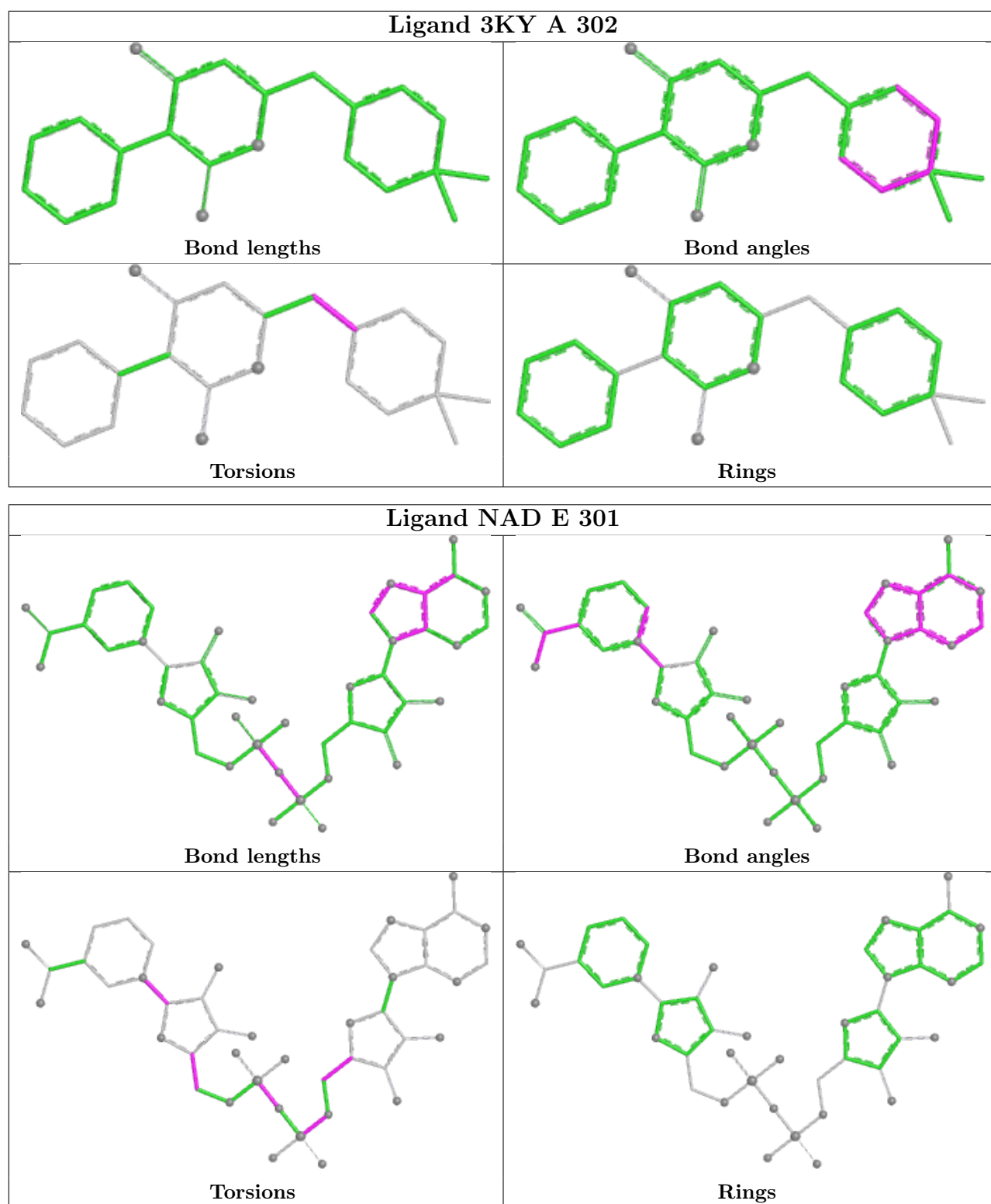
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. 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 ⓘ

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, 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	268/272 (98%)	-0.86	1 (0%) 88 79	74, 102, 142, 215	0
1	C	268/272 (98%)	-0.83	1 (0%) 88 79	76, 100, 133, 213	0
1	E	268/272 (98%)	-0.61	0 100 100	85, 126, 211, 299	0
1	G	268/272 (98%)	-0.60	3 (1%) 78 61	88, 117, 235, 314	0
All	All	1072/1088 (98%)	-0.72	5 (0%) 87 76	74, 111, 176, 314	0

All (5) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	207	LEU	3.5
1	G	197	LEU	2.8
1	C	207	LEU	2.6
1	G	198	ALA	2.5
1	G	199	MET	2.0

6.2 Non-standard residues in protein, DNA, RNA chains [i](#)

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

6.3 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

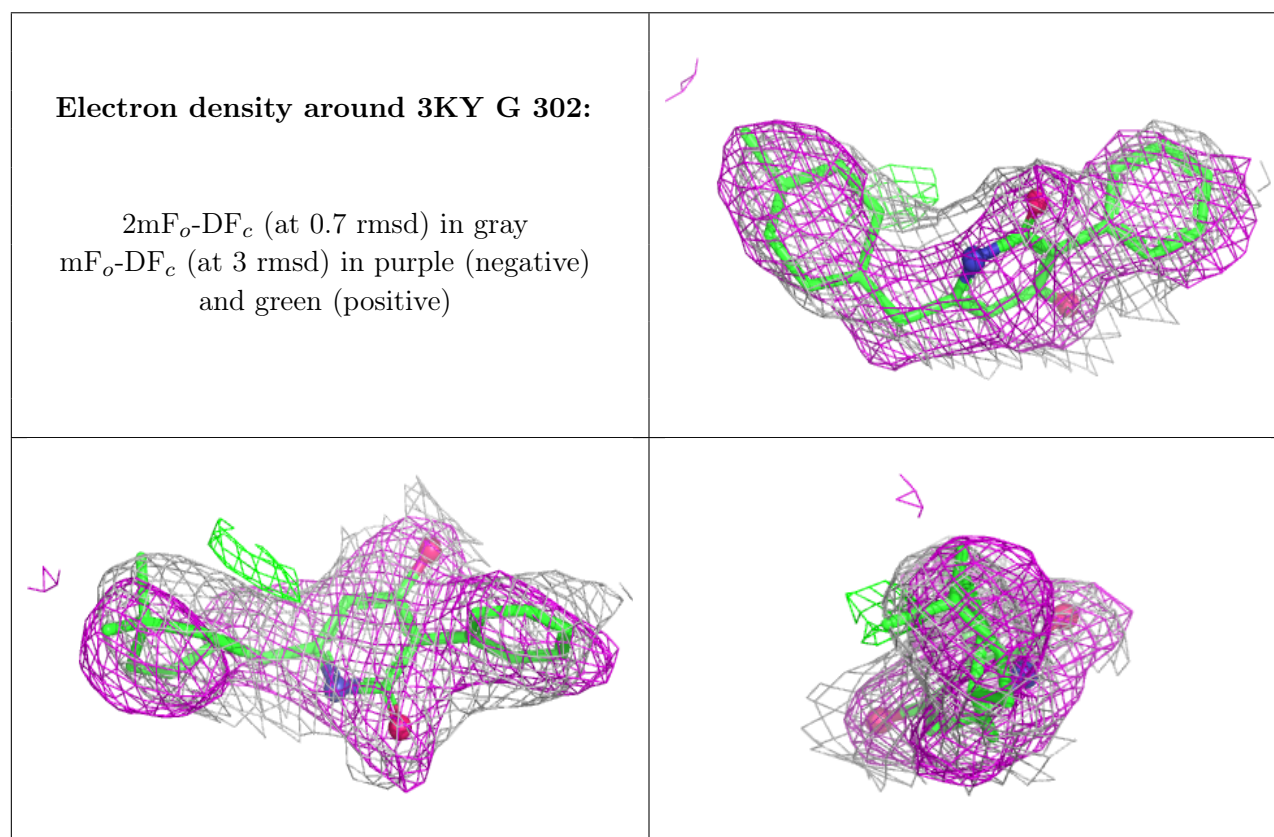
6.4 Ligands [i](#)

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

median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

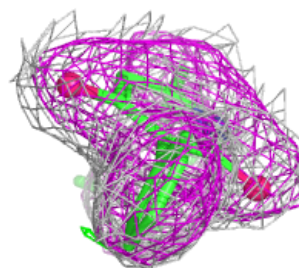
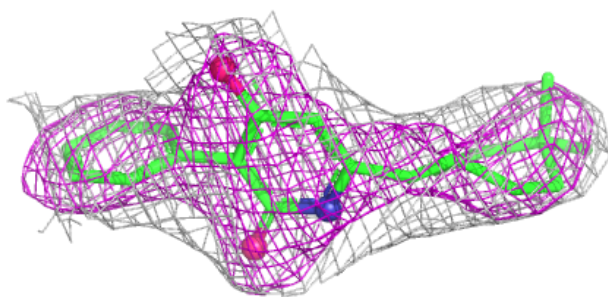
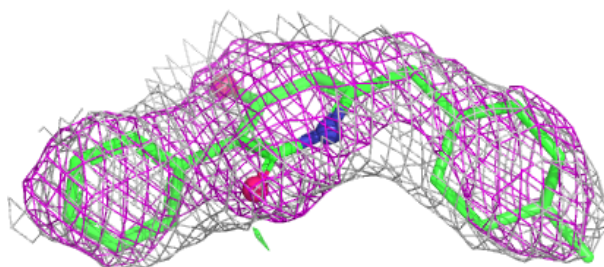
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
3	3KY	G	302	23/23	0.92	0.10	47,50,54,57	0
3	3KY	E	302	23/23	0.93	0.10	47,51,57,59	0
2	NAD	E	301	44/44	0.94	0.07	97,114,132,138	0
3	3KY	A	302	23/23	0.94	0.09	45,49,55,57	0
2	NAD	G	301	44/44	0.95	0.06	89,104,116,125	0
3	3KY	C	302	23/23	0.96	0.08	43,48,53,56	0
2	NAD	A	301	44/44	0.97	0.06	85,102,121,122	0
2	NAD	C	301	44/44	0.97	0.05	88,96,106,116	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.

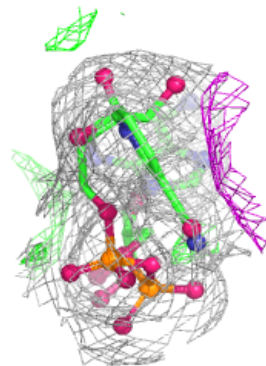
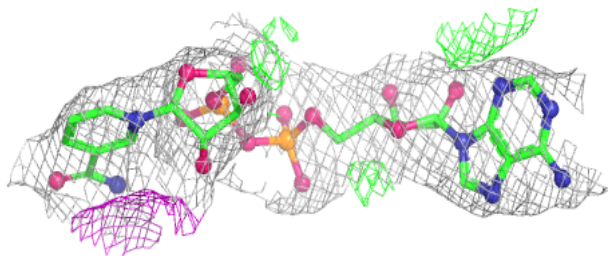
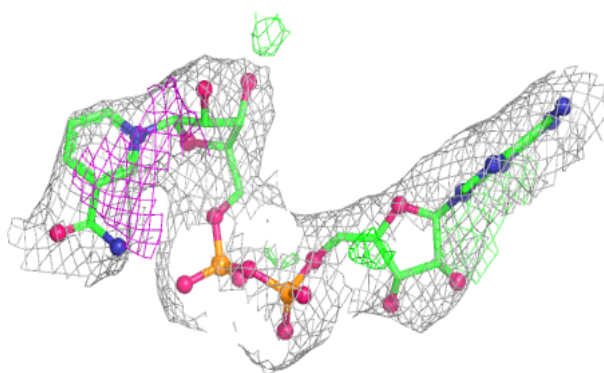


Electron density around 3KY E 302:

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

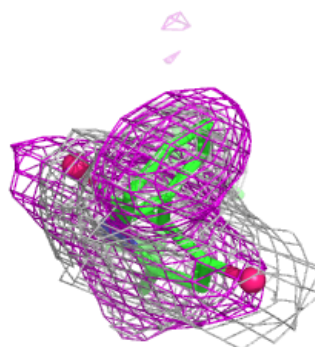
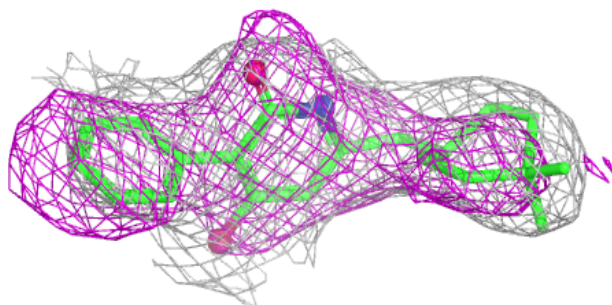
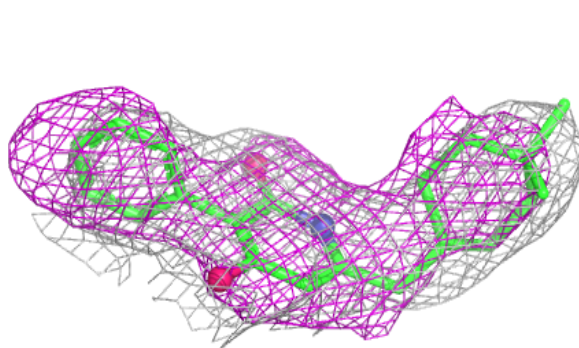
**Electron density around NAD E 301:**

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

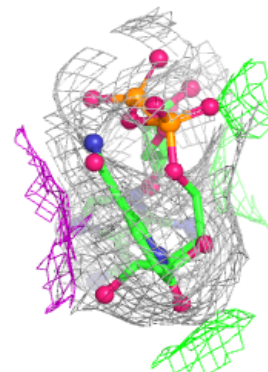
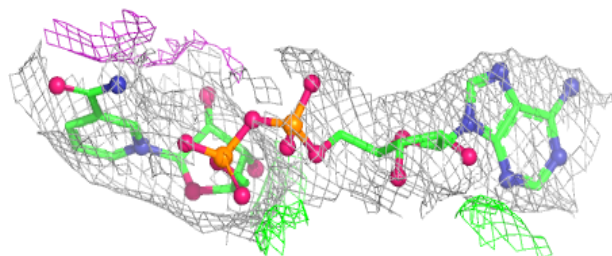
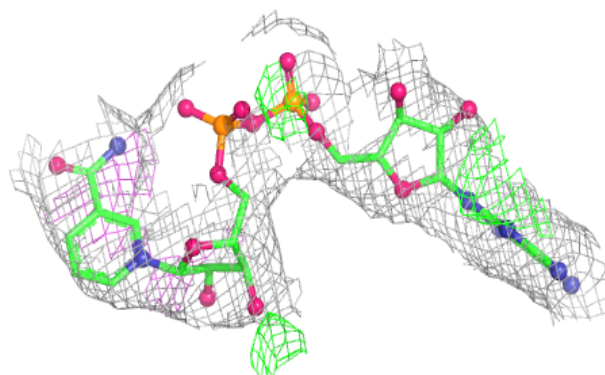


Electron density around 3KY A 302:

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

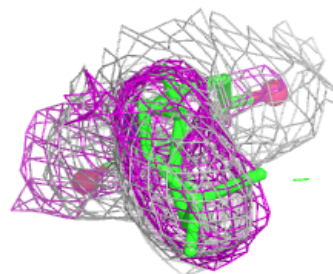
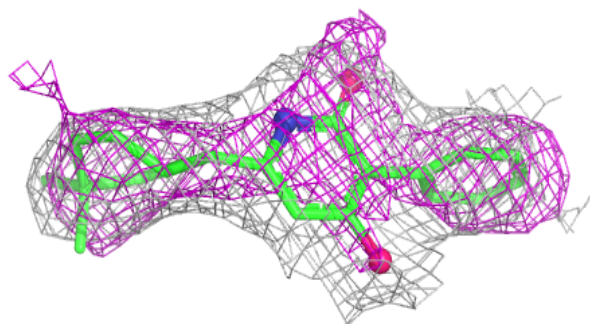
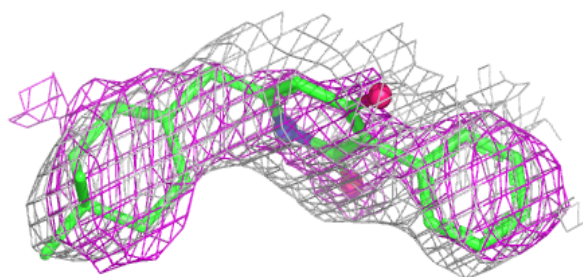
**Electron density around NAD G 301:**

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

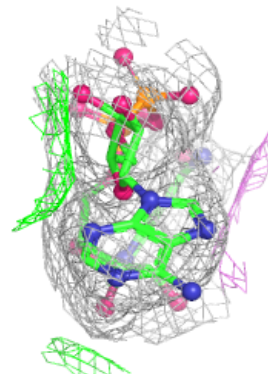
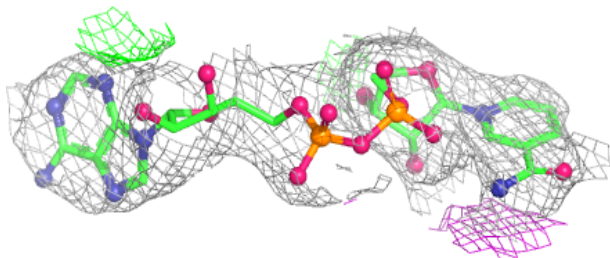
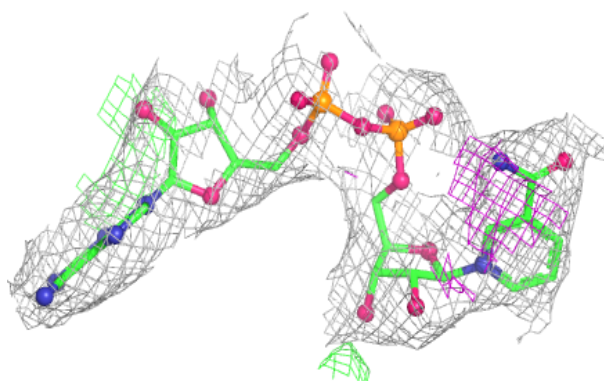


Electron density around 3KY C 302:

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

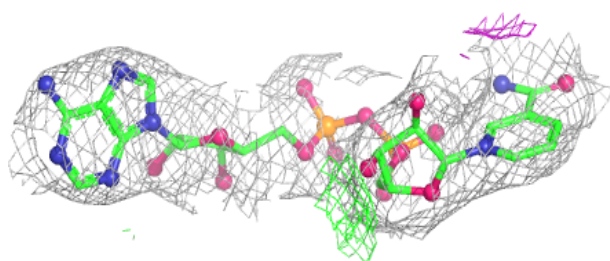
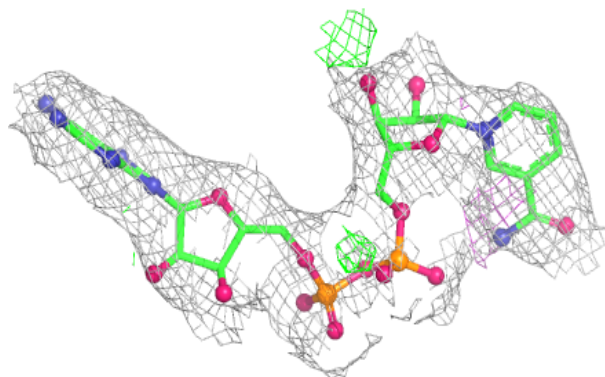
**Electron density around NAD A 301:**

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



Electron density around NAD C 301:

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



6.5 Other polymers [i](#)

There are no such residues in this entry.