



Full wwPDB X-ray Structure Validation Report ⓘ

Oct 14, 2021 – 04:07 PM EDT

PDB ID : 3D4N
Title : Crystal Structure of Human 11-beta-Hydroxysteroid Dehydrogenase (HSD1)
in Complex with Sulfonamide Inhibitor
Authors : Wang, Z.; Liu, J.; Sudom, A.; Walker, N.P.
Deposited on : 2008-05-14
Resolution : 2.50 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 following versions of software and data (see [references ⓘ](#)) were used in the production of this report:

MolProbity : 4.02b-467
Mogul : 1.8.5 (274361), CSD as541be (2020)
Xtrriage (Phenix) : 1.13
EDS : 2.23.2
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) : 2.23.2

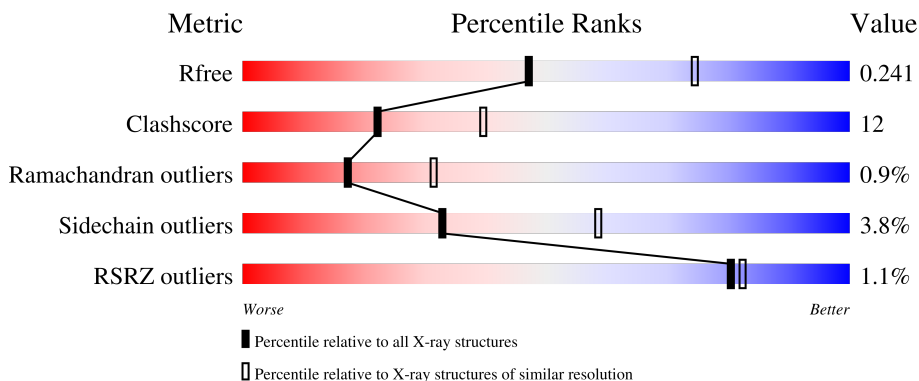
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.50 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}	130704	4661 (2.50-2.50)
Clashscore	141614	5346 (2.50-2.50)
Ramachandran outliers	138981	5231 (2.50-2.50)
Sidechain outliers	138945	5233 (2.50-2.50)
RSRZ outliers	127900	4559 (2.50-2.50)

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	286	 2% 67% 22% • 9%
1	B	286	 67% 23% • 7%
1	C	286	 1% 71% 19% • 9%
1	D	286	 1% 71% 19% • 9%

2 Entry composition [i](#)

There are 4 unique types of molecules in this entry. The entry contains 8585 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 Corticosteroid 11-beta-dehydrogenase isozyme 1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	261	2023	1289	342	377	15	0	7	0
1	B	265	2050	1310	344	380	16	0	6	0
1	C	260	2001	1276	339	371	15	0	2	0
1	D	261	2032	1295	341	379	17	0	9	0

There are 72 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	7	MET	-	expression tag	UNP P28845
A	8	LYS	-	expression tag	UNP P28845
A	9	HIS	-	expression tag	UNP P28845
A	10	GLN	-	expression tag	UNP P28845
A	11	HIS	-	expression tag	UNP P28845
A	12	GLN	-	expression tag	UNP P28845
A	13	HIS	-	expression tag	UNP P28845
A	14	GLN	-	expression tag	UNP P28845
A	15	HIS	-	expression tag	UNP P28845
A	16	GLN	-	expression tag	UNP P28845
A	17	HIS	-	expression tag	UNP P28845
A	18	GLN	-	expression tag	UNP P28845
A	19	HIS	-	expression tag	UNP P28845
A	20	GLN	-	expression tag	UNP P28845
A	21	GLN	-	expression tag	UNP P28845
A	22	PRO	-	expression tag	UNP P28845
A	23	LEU	-	expression tag	UNP P28845
A	272	SER	CYS	engineered mutation	UNP P28845
B	7	MET	-	expression tag	UNP P28845
B	8	LYS	-	expression tag	UNP P28845
B	9	HIS	-	expression tag	UNP P28845

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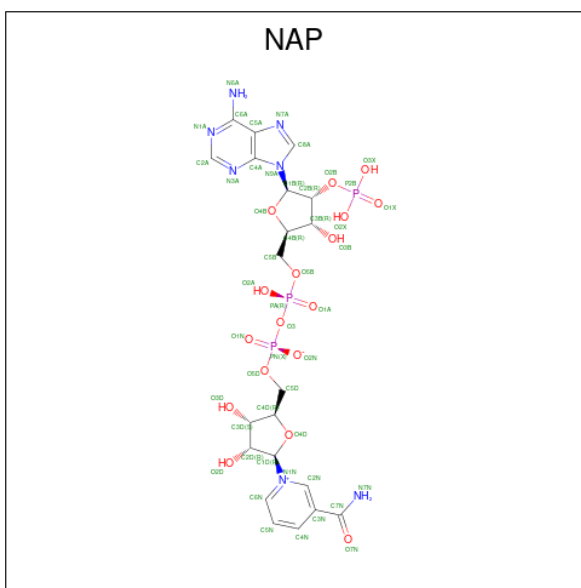
Chain	Residue	Modelled	Actual	Comment	Reference
B	10	GLN	-	expression tag	UNP P28845
B	11	HIS	-	expression tag	UNP P28845
B	12	GLN	-	expression tag	UNP P28845
B	13	HIS	-	expression tag	UNP P28845
B	14	GLN	-	expression tag	UNP P28845
B	15	HIS	-	expression tag	UNP P28845
B	16	GLN	-	expression tag	UNP P28845
B	17	HIS	-	expression tag	UNP P28845
B	18	GLN	-	expression tag	UNP P28845
B	19	HIS	-	expression tag	UNP P28845
B	20	GLN	-	expression tag	UNP P28845
B	21	GLN	-	expression tag	UNP P28845
B	22	PRO	-	expression tag	UNP P28845
B	23	LEU	-	expression tag	UNP P28845
B	272	SER	CYS	engineered mutation	UNP P28845
C	7	MET	-	expression tag	UNP P28845
C	8	LYS	-	expression tag	UNP P28845
C	9	HIS	-	expression tag	UNP P28845
C	10	GLN	-	expression tag	UNP P28845
C	11	HIS	-	expression tag	UNP P28845
C	12	GLN	-	expression tag	UNP P28845
C	13	HIS	-	expression tag	UNP P28845
C	14	GLN	-	expression tag	UNP P28845
C	15	HIS	-	expression tag	UNP P28845
C	16	GLN	-	expression tag	UNP P28845
C	17	HIS	-	expression tag	UNP P28845
C	18	GLN	-	expression tag	UNP P28845
C	19	HIS	-	expression tag	UNP P28845
C	20	GLN	-	expression tag	UNP P28845
C	21	GLN	-	expression tag	UNP P28845
C	22	PRO	-	expression tag	UNP P28845
C	23	LEU	-	expression tag	UNP P28845
C	272	SER	CYS	engineered mutation	UNP P28845
D	7	MET	-	expression tag	UNP P28845
D	8	LYS	-	expression tag	UNP P28845
D	9	HIS	-	expression tag	UNP P28845
D	10	GLN	-	expression tag	UNP P28845
D	11	HIS	-	expression tag	UNP P28845
D	12	GLN	-	expression tag	UNP P28845
D	13	HIS	-	expression tag	UNP P28845
D	14	GLN	-	expression tag	UNP P28845
D	15	HIS	-	expression tag	UNP P28845

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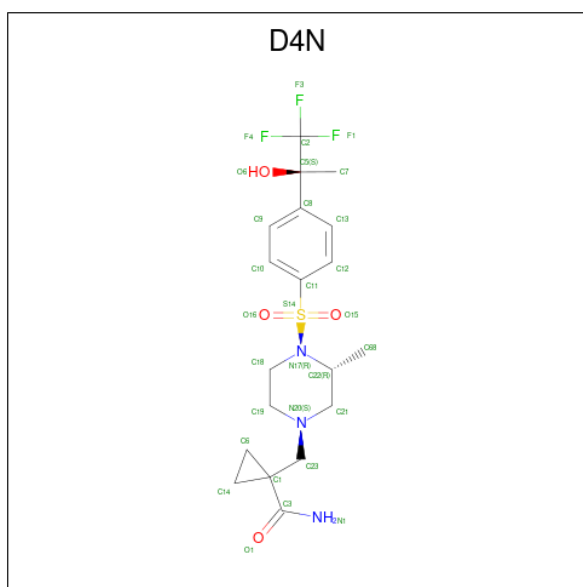
Chain	Residue	Modelled	Actual	Comment	Reference
D	16	GLN	-	expression tag	UNP P28845
D	17	HIS	-	expression tag	UNP P28845
D	18	GLN	-	expression tag	UNP P28845
D	19	HIS	-	expression tag	UNP P28845
D	20	GLN	-	expression tag	UNP P28845
D	21	GLN	-	expression tag	UNP P28845
D	22	PRO	-	expression tag	UNP P28845
D	23	LEU	-	expression tag	UNP P28845
D	272	SER	CYS	engineered mutation	UNP P28845

- Molecule 2 is NADP NICOTINAMIDE-ADENINE-DINUCLEOTIDE PHOSPHATE (three-letter code: NAP) (formula: $C_{21}H_{28}N_7O_{17}P_3$).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	
2	A	1	Total	C	N	O	P	0	0
			48	21	7	17	3		
2	B	1	Total	C	N	O	P	0	0
			48	21	7	17	3		
2	C	1	Total	C	N	O	P	0	0
			48	21	7	17	3		
2	D	1	Total	C	N	O	P	0	0
			48	21	7	17	3		

- Molecule 3 is 1-[(3R)-3-methyl-4-({4-[(1S)-2,2,2-trifluoro-1-hydroxy-1-methylethyl]phenyl} sulfonyl)piperazin-1-yl]methyl}cyclopropanecarboxamide (three-letter code: D4N) (formula: $C_{19}H_{26}F_3N_3O_4S$).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	
			Total	C	F	N	O			S
3	A	1	Total	C	F	N	O	S	0	0
			30	19	3	3	4	1		
3	B	1	Total	C	F	N	O	S	0	0
			30	19	3	3	4	1		
3	C	1	Total	C	F	N	O	S	0	0
			30	19	3	3	4	1		
3	D	1	Total	C	F	N	O	S	0	0
			30	19	3	3	4	1		

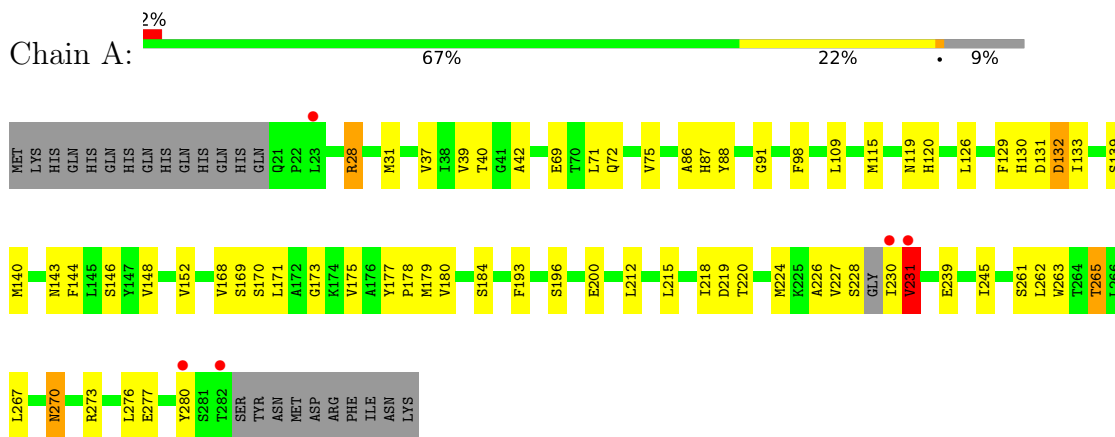
- Molecule 4 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	52	Total	O	0	0
			52	52		
4	B	48	Total	O	0	0
			48	48		
4	C	47	Total	O	0	0
			47	47		
4	D	20	Total	O	0	0
			20	20		

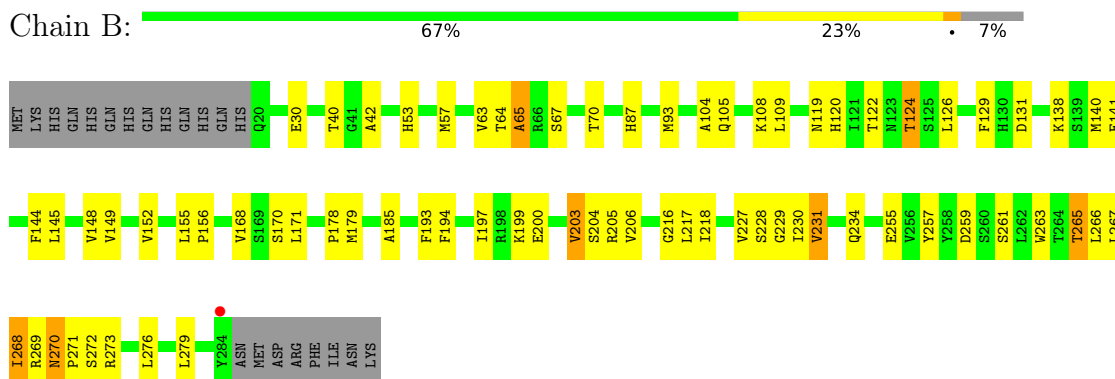
3 Residue-property plots [i](#)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red dot above a residue indicates a poor fit to the electron density ($RSRZ > 2$). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

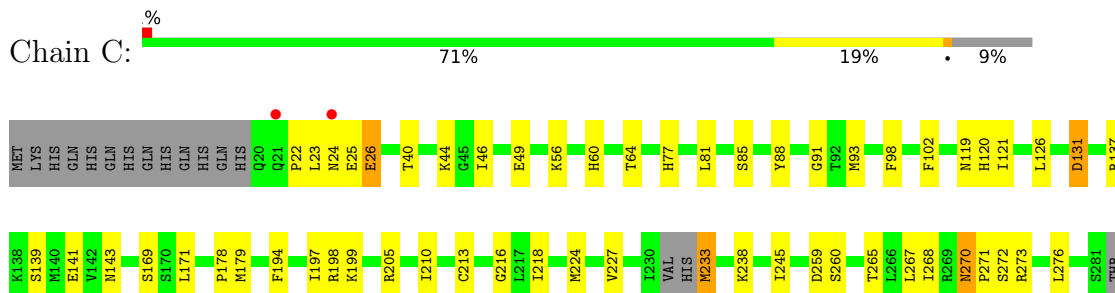
- Molecule 1: Corticosteroid 11-beta-dehydrogenase isozyme 1



- Molecule 1: Corticosteroid 11-beta-dehydrogenase isozyme 1



- Molecule 1: Corticosteroid 11-beta-dehydrogenase isozyme 1



SER
TYR
ASN
MET
ASP
ARG
PHE
ILE
ASN
LYS

● Molecule 1: Corticosteroid 11-beta-dehydrogenase isozyme 1

Chain D: %

MET LYS HIS GLN HIS GLN HIS GLN HIS GLN HIS GLN HIS GLN HIS GLN HIS
 Q20 L23 N24 F27 R28 P29 Q33 V37 T40 K44 Y52 A55 K56 M57 T64 A65 T70 L71 Q72 H77 L81 Y88 G91 E94 F98 M115 M119 H120

M123 L126 H130 D131 K138 F144 V148 V152 S170 P178 M179 K187 L190 G216 L217 E221 M224 G229 I230 VAL H232 M233 K247 E255 V256 Y257 D259 L262 W263 L267 I268 R269 N270 P271 S272 R273 K274 I275 L276 L279

Y280 S281 THR SER TYR ASN MET ASP ARG PHE ILE ASN LYS

4 Data and refinement statistics

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α , β , γ	56.62Å 153.76Å 73.91Å 90.00° 93.11° 90.00°	Depositor
Resolution (Å)	76.92 – 2.50 56.54 – 2.50	Depositor EDS
% Data completeness (in resolution range)	93.5 (76.92-2.50) 93.5 (56.54-2.50)	Depositor EDS
R_{merge}	0.12	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	3.83 (at 2.51Å)	Xtrriage
Refinement program	REFMAC 5.4.0069	Depositor
R, R_{free}	0.227 , 0.259 0.221 , 0.241	Depositor DCC
R_{free} test set	2050 reflections (5.03%)	wwPDB-VP
Wilson B-factor (Å ²)	31.0	Xtrriage
Anisotropy	0.732	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.36 , 42.4	EDS
L-test for twinning ²	$\langle L \rangle = 0.49$, $\langle L^2 \rangle = 0.32$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
F_o, F_c correlation	0.91	EDS
Total number of atoms	8585	wwPDB-VP
Average B, all atoms (Å ²)	26.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.90% 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, D4N

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	0.30	0/2089	0.51	0/2820
1	B	0.30	0/2113	0.52	0/2854
1	C	0.31	0/2042	0.49	0/2755
1	D	0.28	0/2104	0.48	0/2837
All	All	0.30	0/8348	0.50	0/11266

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	2023	0	2072	64	0
1	B	2050	0	2106	59	0
1	C	2001	0	2046	41	0
1	D	2032	0	2075	50	0
2	A	48	0	25	1	0
2	B	48	0	25	2	0
2	C	48	0	25	3	0
2	D	48	0	25	2	0
3	A	30	0	26	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	B	30	0	26	0	0
3	C	30	0	26	0	0
3	D	30	0	26	0	0
4	A	52	0	0	0	0
4	B	48	0	0	0	0
4	C	47	0	0	0	0
4	D	20	0	0	0	0
All	All	8585	0	8503	198	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 (198) 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:230:ILE:O	1:A:231:VAL:HG22	1.27	1.28
1:D:229:GLY:O	1:D:230:ILE:HG12	1.22	1.26
1:A:230:ILE:O	1:A:231:VAL:CG2	1.97	1.13
1:A:227:VAL:HG23	1:A:228:SER:H	1.10	1.09
1:D:230:ILE:O	1:D:232:HIS:HB3	1.55	1.04
1:C:233:MET:SD	1:C:233:MET:O	2.24	0.95
1:D:229:GLY:O	1:D:230:ILE:CG1	2.15	0.95
1:C:60:HIS:HD1	1:C:85:SER:HG	1.19	0.90
1:A:230:ILE:C	1:A:231:VAL:CG2	2.38	0.88
1:A:109:LEU:HD23	1:A:109:LEU:C	1.95	0.87
1:C:272:SER:O	1:C:276:LEU:HD12	1.76	0.85
1:A:227:VAL:HG23	1:A:228:SER:N	1.91	0.84
1:A:129:PHE:HB3	1:B:197[B]:ILE:HD11	1.57	0.84
1:B:105:GLN:O	1:B:109:LEU:HD13	1.79	0.81
1:B:261:SER:O	1:B:265:THR:HG23	1.82	0.79
1:A:230:ILE:C	1:A:231:VAL:HG23	2.02	0.79
1:A:130:HIS:C	1:A:132:ASP:H	1.90	0.74
1:A:109:LEU:HD23	1:A:109:LEU:O	1.87	0.73
1:A:40:THR:OG1	1:A:120:HIS:HD2	1.71	0.73
1:D:270:ASN:C	1:D:270:ASN:HD22	1.91	0.73
1:C:56:LYS:HE3	1:C:81:LEU:HD22	1.70	0.72
1:B:230:ILE:O	1:B:231:VAL:CG2	2.38	0.72
1:A:227:VAL:O	1:A:228:SER:C	2.31	0.69
1:D:94:GLU:OE2	1:D:138:LYS:NZ	2.25	0.69
1:B:122:THR:O	1:B:124:THR:HG22	1.92	0.68
1:D:217:LEU:HD21	1:D:224:MET:HE3	1.76	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:171:LEU:HD22	1:B:268:ILE:HD13	1.75	0.67
1:A:227:VAL:CG2	1:A:228:SER:H	1.96	0.67
1:C:270:ASN:C	1:C:270:ASN:HD22	1.98	0.66
1:A:109:LEU:C	1:A:109:LEU:CD2	2.64	0.65
1:A:276:LEU:HB3	1:A:280:TYR:CE1	2.32	0.65
1:D:229:GLY:C	1:D:230:ILE:HG12	2.12	0.65
1:C:216:GLY:HA3	1:C:259:ASP:OD2	1.98	0.62
1:D:230:ILE:O	1:D:232:HIS:CB	2.42	0.62
1:C:93:MET:HG3	1:C:120:HIS:CE1	2.35	0.61
1:B:216:GLY:HA3	1:B:259:ASP:OD2	2.00	0.61
1:D:263:TRP:O	1:D:267:LEU:HB2	1.99	0.61
1:B:194:PHE:CD2	1:B:197[A]:ILE:HD11	2.36	0.61
1:B:272:SER:O	1:B:276:LEU:HG	2.01	0.60
1:B:228:SER:O	1:B:230:ILE:HG13	2.01	0.60
1:B:230:ILE:O	1:B:231:VAL:HG22	1.99	0.60
1:B:230:ILE:C	1:B:231:VAL:HG23	2.21	0.60
1:B:273:ARG:HA	1:B:276:LEU:HD12	1.84	0.59
1:D:276:LEU:HB3	1:D:280:TYR:CE1	2.38	0.59
1:C:270:ASN:HD21	1:C:272:SER:HB2	1.66	0.59
1:A:126:LEU:HD11	1:A:227:VAL:HG12	1.84	0.58
1:B:119:ASN:HD22	1:B:168:VAL:HG21	1.69	0.58
1:B:228:SER:O	1:B:230:ILE:N	2.36	0.58
1:C:77:HIS:CD2	1:C:81:LEU:HD11	2.39	0.57
1:A:28:ARG:O	1:A:31:MET:HG3	2.05	0.57
1:A:130:HIS:C	1:A:132:ASP:N	2.58	0.57
1:B:178:PRO:O	1:B:179[B]:MET:HB2	2.04	0.57
1:D:217:LEU:HD21	1:D:224:MET:CE	2.34	0.56
1:C:267:LEU:HB3	1:D:276:LEU:HD21	1.88	0.56
1:B:266:LEU:O	1:B:269:ARG:HG2	2.05	0.56
1:A:276:LEU:HD21	1:B:267:LEU:HB3	1.88	0.56
1:A:91:GLY:HA3	1:A:98:PHE:CZ	2.41	0.55
1:B:40:THR:OG1	1:B:120:HIS:HD2	1.89	0.55
1:C:23:LEU:C	1:C:25:GLU:H	2.10	0.55
1:D:178:PRO:O	1:D:179[B]:MET:HB2	2.06	0.55
1:D:40:THR:OG1	1:D:120:HIS:HD2	1.90	0.55
1:B:199:LYS:O	1:B:203:VAL:HG12	2.06	0.54
1:B:64:THR:O	1:B:65:ALA:HB2	2.07	0.54
1:C:131:ASP:HB3	1:D:152:VAL:HG13	1.88	0.54
1:C:137:ARG:O	1:C:141:GLU:HG3	2.07	0.54
1:A:129:PHE:CB	1:B:197[B]:ILE:HD11	2.32	0.54
1:B:228:SER:C	1:B:230:ILE:H	2.10	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:155:LEU:HB3	1:B:156:PRO:HD3	1.88	0.53
1:D:130:HIS:O	1:D:131:ASP:OD1	2.26	0.53
1:C:270:ASN:C	1:C:270:ASN:ND2	2.60	0.53
1:D:40:THR:HA	1:D:64:THR:HG22	1.90	0.53
1:D:270:ASN:C	1:D:270:ASN:ND2	2.60	0.53
1:B:129:PHE:CZ	1:B:131:ASP:HA	2.43	0.53
1:C:171:LEU:HD22	1:C:268:ILE:HD13	1.90	0.53
1:D:44:LYS:HG2	2:D:4:NAP:H3B	1.91	0.53
1:B:230:ILE:C	1:B:231:VAL:CG2	2.77	0.53
1:C:64:THR:HB	1:C:102:PHE:CE1	2.44	0.52
1:B:230:ILE:O	1:B:231:VAL:HG23	2.06	0.52
1:C:194:PHE:HA	1:C:197:ILE:HG12	1.91	0.52
1:B:42:ALA:HB3	1:B:63:VAL:HB	1.91	0.52
1:D:29:PRO:HB3	1:D:57:MET:HG2	1.92	0.52
1:A:91:GLY:HA3	1:A:98:PHE:CE1	2.44	0.52
1:B:148:VAL:HG22	1:B:193:PHE:CE1	2.45	0.52
1:A:71:LEU:HD13	1:A:88:TYR:HB2	1.91	0.51
1:A:119:ASN:HD22	1:A:168:VAL:HG21	1.76	0.51
1:D:272:SER:O	1:D:275:ILE:HB	2.10	0.51
1:D:275:ILE:HG22	1:D:276:LEU:N	2.25	0.51
1:A:276:LEU:HB3	1:A:280:TYR:HE1	1.75	0.51
1:B:144:PHE:CD2	1:B:145[B]:LEU:HD12	2.45	0.51
1:A:267:LEU:HB3	1:B:276:LEU:HD21	1.93	0.50
1:A:37:VAL:HG22	1:A:115:MET:HB3	1.93	0.50
1:B:140:MET:HE3	1:B:144:PHE:HB3	1.93	0.50
1:D:221:GLU:HA	1:D:221:GLU:OE1	2.12	0.50
1:B:270:ASN:HD22	1:B:271:PRO:HD2	1.75	0.50
1:C:126:LEU:HD11	1:C:227:VAL:HG12	1.94	0.50
1:A:267:LEU:HB3	1:B:276:LEU:CD2	2.42	0.50
1:B:119:ASN:ND2	2:B:2:NAP:H4D	2.27	0.49
1:B:126:LEU:HD22	1:B:179[B]:MET:HB3	1.93	0.49
1:B:104:ALA:O	1:B:108:LYS:HG3	2.12	0.49
1:D:255:GLU:OE2	1:D:257:TYR:OH	2.20	0.49
1:C:131:ASP:HB3	1:D:152:VAL:CG1	2.43	0.49
1:A:69:GLU:O	1:A:72:GLN:HB2	2.13	0.49
1:D:270:ASN:ND2	1:D:273:ARG:H	2.11	0.49
1:D:72:GLN:OE1	1:D:88:TYR:CE2	2.66	0.48
1:C:270:ASN:HA	1:C:271:PRO:HD2	1.64	0.48
1:C:272:SER:O	1:C:276:LEU:CD1	2.56	0.48
1:A:227:VAL:CG2	1:A:228:SER:N	2.64	0.48
1:A:126:LEU:HD22	1:A:179:MET:HB2	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:139:SER:O	1:C:143:ASN:HB2	2.14	0.48
1:C:88:TYR:C	1:C:88:TYR:CD1	2.87	0.48
1:D:170:SER:HB3	2:D:4:NAP:H5N	1.96	0.48
1:A:40:THR:O	1:A:119:ASN:HB3	2.14	0.47
1:C:178:PRO:O	1:C:179:MET:HB2	2.14	0.47
1:C:276:LEU:HD21	1:D:267:LEU:HB3	1.95	0.47
1:A:263:TRP:O	1:A:267:LEU:HG	2.14	0.47
1:A:171:LEU:C	1:A:173:GLY:H	2.16	0.47
1:A:193:PHE:HB2	1:B:185:ALA:HB2	1.97	0.47
1:C:49:GLU:OE1	1:C:238:LYS:HE2	2.15	0.47
1:D:72:GLN:OE1	1:D:88:TYR:HE2	1.98	0.47
1:D:233:MET:HE3	1:D:233:MET:H	1.78	0.47
1:A:126:LEU:HD12	1:A:226:ALA:O	2.14	0.47
1:A:273:ARG:O	1:A:277:GLU:HG3	2.15	0.47
1:C:26:GLU:H	1:C:26:GLU:HG2	1.60	0.47
1:C:213:CYS:SG	1:C:245:ILE:HG23	2.54	0.47
1:D:216:GLY:HA3	1:D:259:ASP:OD2	2.14	0.47
1:B:93:MET:HG3	1:B:120:HIS:CE1	2.50	0.46
1:A:131:ASP:O	1:A:133:ILE:N	2.49	0.46
1:B:53:HIS:O	1:B:57:MET:HG3	2.15	0.46
1:B:194:PHE:HA	1:B:197[A]:ILE:HG12	1.96	0.46
1:D:270:ASN:HD21	1:D:272:SER:HB2	1.80	0.46
1:B:93:MET:HG2	2:B:2:NAP:H2A	1.97	0.46
1:D:217:LEU:CD2	1:D:224:MET:HE3	2.44	0.46
1:A:120:HIS:HE1	1:A:146:SER:OG	1.98	0.45
1:B:227:VAL:O	1:B:228:SER:C	2.53	0.45
1:A:261:SER:O	1:A:265:THR:HG22	2.17	0.45
1:C:270:ASN:ND2	1:C:273:ARG:H	2.15	0.45
1:D:233:MET:H	1:D:233:MET:CE	2.29	0.45
1:D:52:TYR:O	1:D:55:ALA:HB3	2.17	0.45
1:B:217:LEU:O	1:B:218:ILE:HD13	2.17	0.45
1:B:67[B]:SER:HB2	1:B:70:THR:OG1	2.17	0.44
1:A:239:GLU:CD	1:A:239:GLU:H	2.19	0.44
1:A:131:ASP:OD2	1:B:152:VAL:HG13	2.17	0.44
1:A:180:VAL:HG23	1:A:184:SER:HG	1.83	0.44
1:D:187:LYS:O	1:D:190:LEU:HB2	2.18	0.44
1:B:30:GLU:H	1:B:30:GLU:CD	2.22	0.43
1:B:263:TRP:CE3	1:D:279:LEU:HD13	2.54	0.43
1:A:224:MET:HA	1:A:224:MET:CE	2.48	0.43
1:C:194:PHE:CD2	1:C:197:ILE:HD11	2.54	0.43
1:C:276:LEU:HD22	1:D:268:ILE:HD12	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:279:LEU:HD13	1:D:263:TRP:CE3	2.54	0.43
1:B:255:GLU:OE2	1:B:257:TYR:OH	2.29	0.43
1:A:148:VAL:O	1:A:152:VAL:HG23	2.19	0.43
1:A:139:SER:O	1:A:143:ASN:HB2	2.18	0.43
1:A:169:SER:HB2	1:A:212:LEU:HD11	2.00	0.43
1:D:37:VAL:HG22	1:D:115:MET:HB3	2.01	0.43
1:D:77:HIS:CE1	1:D:81:LEU:HD11	2.54	0.43
1:D:131:ASP:OD1	1:D:131:ASP:C	2.57	0.43
1:D:224:MET:HA	1:D:224:MET:HE2	2.01	0.43
1:A:178:PRO:C	1:A:179:MET:HG2	2.38	0.43
1:C:169:SER:N	1:C:213:CYS:O	2.50	0.43
1:A:75:VAL:HG13	1:A:86:ALA:O	2.19	0.42
1:A:215:LEU:HD11	1:A:245:ILE:HD11	2.01	0.42
1:D:91:GLY:HA3	1:D:98:PHE:CZ	2.54	0.42
1:A:119:ASN:ND2	2:A:1:NAP:H4D	2.35	0.42
1:B:141:GLU:OE1	1:B:145[A]:LEU:HD23	2.19	0.42
1:B:204[B]:SER:OG	1:B:206:VAL:HG23	2.19	0.42
1:A:126:LEU:HD22	1:A:179:MET:CB	2.49	0.42
1:C:121:ILE:HG12	2:C:3:NAP:H3D	2.00	0.42
1:B:144:PHE:HD2	1:B:145[B]:LEU:HD12	1.83	0.42
1:C:91:GLY:HA3	1:C:98:PHE:CZ	2.54	0.42
1:C:119:ASN:ND2	2:C:3:NAP:H4D	2.35	0.42
1:C:40:THR:OG1	1:C:120:HIS:HD2	2.03	0.42
1:A:262:LEU:HA	1:A:265:THR:HG23	2.01	0.41
1:C:46:ILE:HD11	1:C:218:ILE:HG13	2.02	0.41
1:A:39:VAL:HG12	1:A:42:ALA:HB2	2.02	0.41
1:A:133:ILE:HD13	1:B:149:VAL:HG22	2.02	0.41
1:A:218:ILE:O	1:A:220:THR:N	2.52	0.41
1:B:261:SER:OG	1:B:263:TRP:HB2	2.20	0.41
1:A:140:MET:HE3	1:A:144:PHE:HB3	2.03	0.41
1:B:87:HIS:CB	1:B:109:LEU:HD23	2.50	0.41
1:D:126:LEU:HB3	1:D:179[B]:MET:SD	2.60	0.41
1:A:175:VAL:HG12	1:B:273:ARG:HG3	2.02	0.41
1:C:224:MET:HA	1:C:224:MET:CE	2.50	0.41
1:A:171:LEU:C	1:A:173:GLY:N	2.74	0.41
1:D:64:THR:O	1:D:65:ALA:HB2	2.20	0.41
1:A:177:TYR:HB3	1:A:178:PRO:HD2	2.02	0.41
1:A:276:LEU:HD22	1:A:280:TYR:OH	2.20	0.41
1:D:144:PHE:O	1:D:148:VAL:HG23	2.21	0.41
1:B:194:PHE:HD2	1:B:197[A]:ILE:HD11	1.82	0.41
1:B:197[B]:ILE:HD13	1:B:200:GLU:OE2	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:196:SER:O	1:A:200:GLU:HG3	2.21	0.40
1:A:270:ASN:C	1:A:270:ASN:ND2	2.74	0.40
1:D:27:PHE:CD2	1:D:247:LYS:HG2	2.56	0.40
1:A:87:HIS:CD2	1:A:109:LEU:HD11	2.56	0.40
1:C:198:ARG:HA	1:C:210:ILE:HD12	2.03	0.40
1:C:93:MET:HG2	2:C:3:NAP:H2A	2.03	0.40
1:C:271:PRO:O	1:C:272:SER:C	2.58	0.40
1:D:71:LEU:HD13	1:D:88:TYR:HB2	2.04	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	264/286 (92%)	247 (94%)	14 (5%)	3 (1%)	14	26
1	B	269/286 (94%)	250 (93%)	16 (6%)	3 (1%)	14	26
1	C	258/286 (90%)	238 (92%)	18 (7%)	2 (1%)	19	35
1	D	266/286 (93%)	252 (95%)	13 (5%)	1 (0%)	34	54
All	All	1057/1144 (92%)	987 (93%)	61 (6%)	9 (1%)	17	31

All (9) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	132	ASP
1	A	231	VAL
1	B	229	GLY
1	A	219	ASP
1	B	65	ALA
1	D	65	ALA
1	C	24	ASN

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Mol	Chain	Res	Type
1	C	22	PRO
1	B	231	VAL

5.3.2 Protein sidechains [i](#)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	A	226/243 (93%)	221 (98%)	5 (2%)	52 77
1	B	228/243 (94%)	219 (96%)	9 (4%)	32 57
1	C	219/243 (90%)	210 (96%)	9 (4%)	30 55
1	D	227/243 (93%)	217 (96%)	10 (4%)	28 52
All	All	900/972 (93%)	867 (96%)	33 (4%)	33 60

All (33) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	28	ARG
1	A	170	SER
1	A	231	VAL
1	A	265	THR
1	A	270	ASN
1	B	124	THR
1	B	138	LYS
1	B	170	SER
1	B	203	VAL
1	B	205	ARG
1	B	234	GLN
1	B	265	THR
1	B	268	ILE
1	B	270	ASN
1	C	26	GLU
1	C	44	LYS
1	C	131	ASP
1	C	199	LYS
1	C	205	ARG

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Mol	Chain	Res	Type
1	C	233	MET
1	C	260	SER
1	C	265	THR
1	C	270	ASN
1	D	33	GLN
1	D	70	THR
1	D	119	ASN
1	D	123	ASN
1	D	138	LYS
1	D	170	SER
1	D	233	MET
1	D	262	LEU
1	D	270	ASN
1	D	275	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (20) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	21	GLN
1	A	24	ASN
1	A	87	HIS
1	A	119	ASN
1	A	120	HIS
1	A	135	HIS
1	A	270	ASN
1	B	119	ASN
1	B	120	HIS
1	B	135	HIS
1	B	270	ASN
1	C	24	ASN
1	C	87	HIS
1	C	119	ASN
1	C	120	HIS
1	C	135	HIS
1	C	270	ASN
1	D	120	HIS
1	D	253	GLN
1	D	270	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 monosaccharides 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	NAP	B	2	-	45,52,52	1.69	3 (6%)	56,80,80	1.13	2 (3%)
3	D4N	D	293	-	29,32,32	2.20	1 (3%)	41,52,52	2.37	8 (19%)
3	D4N	A	293	-	29,32,32	2.29	2 (6%)	41,52,52	2.68	8 (19%)
2	NAP	A	1	-	45,52,52	1.68	3 (6%)	56,80,80	1.16	3 (5%)
3	D4N	B	293	-	29,32,32	2.17	1 (3%)	41,52,52	2.35	7 (17%)
2	NAP	D	4	-	45,52,52	1.71	3 (6%)	56,80,80	1.10	1 (1%)
2	NAP	C	3	-	45,52,52	1.70	3 (6%)	56,80,80	1.08	1 (1%)
3	D4N	C	293	-	29,32,32	2.21	1 (3%)	41,52,52	2.42	8 (19%)

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	2	-	-	2/31/67/67	0/5/5/5
3	D4N	D	293	-	-	3/34/55/55	0/3/3/3
3	D4N	A	293	-	-	1/34/55/55	0/3/3/3
2	NAP	A	1	-	-	3/31/67/67	0/5/5/5
3	D4N	B	293	-	-	1/34/55/55	0/3/3/3
2	NAP	D	4	-	-	2/31/67/67	0/5/5/5
2	NAP	C	3	-	-	3/31/67/67	0/5/5/5
3	D4N	C	293	-	-	0/34/55/55	0/3/3/3

All (17) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	A	293	D4N	C11-S14	-11.84	1.60	1.76
3	D	293	D4N	C11-S14	-11.40	1.60	1.76
3	C	293	D4N	C11-S14	-11.36	1.60	1.76
3	B	293	D4N	C11-S14	-11.13	1.60	1.76
2	D	4	NAP	O7N-C7N	9.02	1.41	1.24
2	C	3	NAP	O7N-C7N	8.99	1.41	1.24
2	A	1	NAP	O7N-C7N	8.94	1.41	1.24
2	B	2	NAP	O7N-C7N	8.80	1.41	1.24
2	B	2	NAP	C2A-N3A	3.84	1.38	1.32
2	A	1	NAP	C2A-N3A	3.80	1.38	1.32
2	D	4	NAP	C2A-N3A	3.76	1.38	1.32
2	C	3	NAP	C2A-N3A	3.72	1.38	1.32
2	B	2	NAP	C2A-N1A	2.46	1.38	1.33
2	A	1	NAP	C2A-N1A	2.42	1.38	1.33
2	C	3	NAP	C2A-N1A	2.37	1.38	1.33
2	D	4	NAP	C2A-N1A	2.34	1.38	1.33
3	A	293	D4N	C5-C8	-2.16	1.50	1.53

All (38) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	A	293	D4N	C21-C22-N17	9.03	115.74	108.12
3	A	293	D4N	C19-C18-N17	8.78	116.28	108.96
3	C	293	D4N	C21-C22-N17	8.53	115.32	108.12
3	D	293	D4N	C19-C18-N17	8.07	115.69	108.96
3	B	293	D4N	C21-C22-N17	7.79	114.69	108.12
3	C	293	D4N	C19-C18-N17	7.45	115.17	108.96
3	B	293	D4N	C19-C18-N17	7.21	114.97	108.96
3	A	293	D4N	O16-S14-O15	-7.14	107.95	119.52
3	B	293	D4N	O16-S14-O15	-7.07	108.07	119.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	D	293	D4N	C21-C22-N17	7.05	114.06	108.12
3	C	293	D4N	O16-S14-O15	-6.89	108.35	119.52
3	D	293	D4N	O16-S14-O15	-6.27	109.35	119.52
2	D	4	NAP	N3A-C2A-N1A	-5.52	120.05	128.68
2	A	1	NAP	N3A-C2A-N1A	-5.43	120.20	128.68
2	B	2	NAP	N3A-C2A-N1A	-5.38	120.26	128.68
2	C	3	NAP	N3A-C2A-N1A	-5.17	120.61	128.68
3	D	293	D4N	C22-N17-S14	-4.96	110.64	119.99
3	A	293	D4N	C22-N17-S14	-4.39	111.72	119.99
3	B	293	D4N	C22-N17-S14	-4.10	112.27	119.99
3	A	293	D4N	C6-C1-C3	-3.95	111.50	115.24
3	A	293	D4N	C19-N20-C21	-3.39	104.33	109.52
3	D	293	D4N	C11-S14-N17	3.31	113.25	107.36
3	C	293	D4N	C11-S14-N17	3.31	113.25	107.36
3	C	293	D4N	C22-N17-S14	-3.21	113.94	119.99
3	B	293	D4N	C11-S14-N17	3.04	112.78	107.36
3	B	293	D4N	C19-N20-C21	-2.51	105.68	109.52
2	B	2	NAP	C3N-C7N-N7N	2.49	120.74	117.75
3	D	293	D4N	C14-C1-C3	-2.47	112.90	115.24
3	C	293	D4N	C18-N17-S14	-2.45	111.82	118.31
3	A	293	D4N	C11-S14-N17	2.45	111.72	107.36
2	A	1	NAP	C1B-N9A-C4A	-2.43	122.38	126.64
3	A	293	D4N	C18-N17-S14	-2.38	112.02	118.31
3	B	293	D4N	C18-N17-S14	-2.28	112.28	118.31
3	D	293	D4N	C18-N17-S14	-2.19	112.52	118.31
3	D	293	D4N	C9-C8-C5	-2.11	119.14	121.46
2	A	1	NAP	C2N-C3N-C4N	2.09	120.63	118.26
3	C	293	D4N	C21-N20-C23	-2.06	108.20	111.92
3	C	293	D4N	C14-C1-C3	-2.01	113.34	115.24

There are no chirality outliers.

All (15) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	D	293	D4N	C6-C1-C23-N20
3	D	293	D4N	C14-C1-C23-N20
2	C	3	NAP	O4D-C4D-C5D-O5D
2	C	3	NAP	C3D-C4D-C5D-O5D
2	A	1	NAP	C2B-O2B-P2B-O2X
2	B	2	NAP	PN-O3-PA-O1A
2	A	1	NAP	O4B-C4B-C5B-O5B
2	D	4	NAP	O4B-C4B-C5B-O5B

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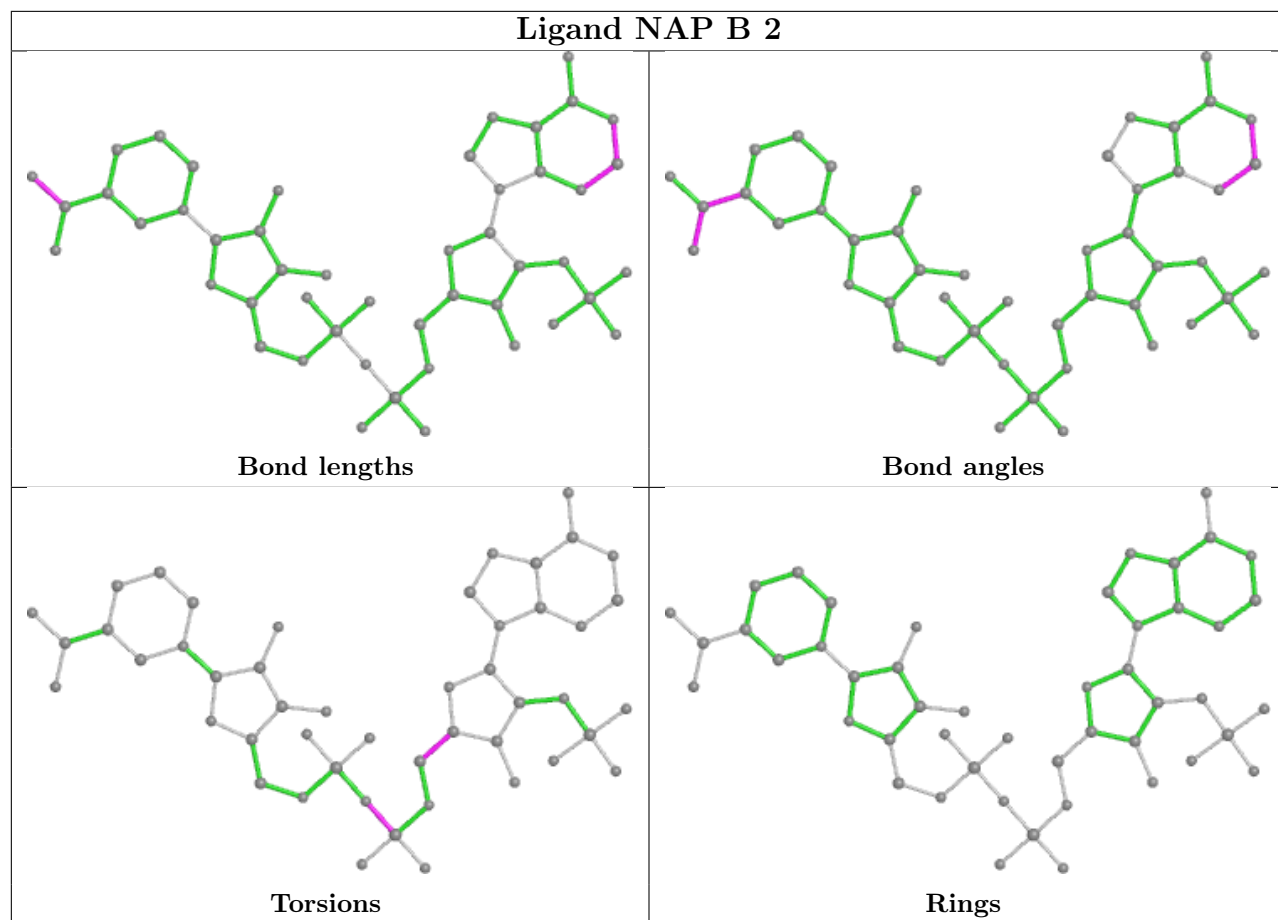
Mol	Chain	Res	Type	Atoms
2	C	3	NAP	O4B-C4B-C5B-O5B
2	B	2	NAP	O4B-C4B-C5B-O5B
2	D	4	NAP	PN-O3-PA-O2A
2	A	1	NAP	C3B-C2B-O2B-P2B
3	A	293	D4N	C1-C23-N20-C19
3	B	293	D4N	C1-C23-N20-C21
3	D	293	D4N	C1-C23-N20-C21

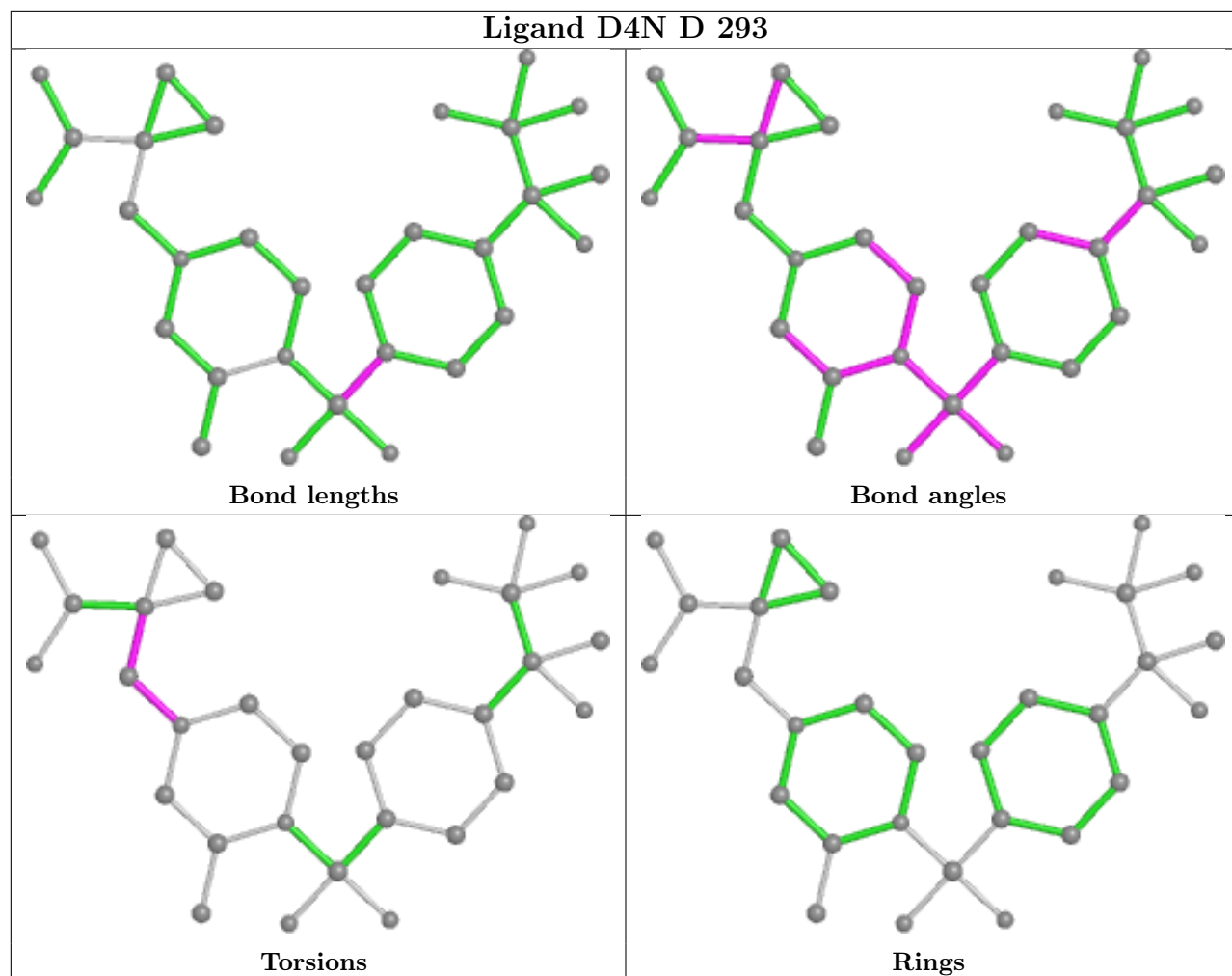
There are no ring outliers.

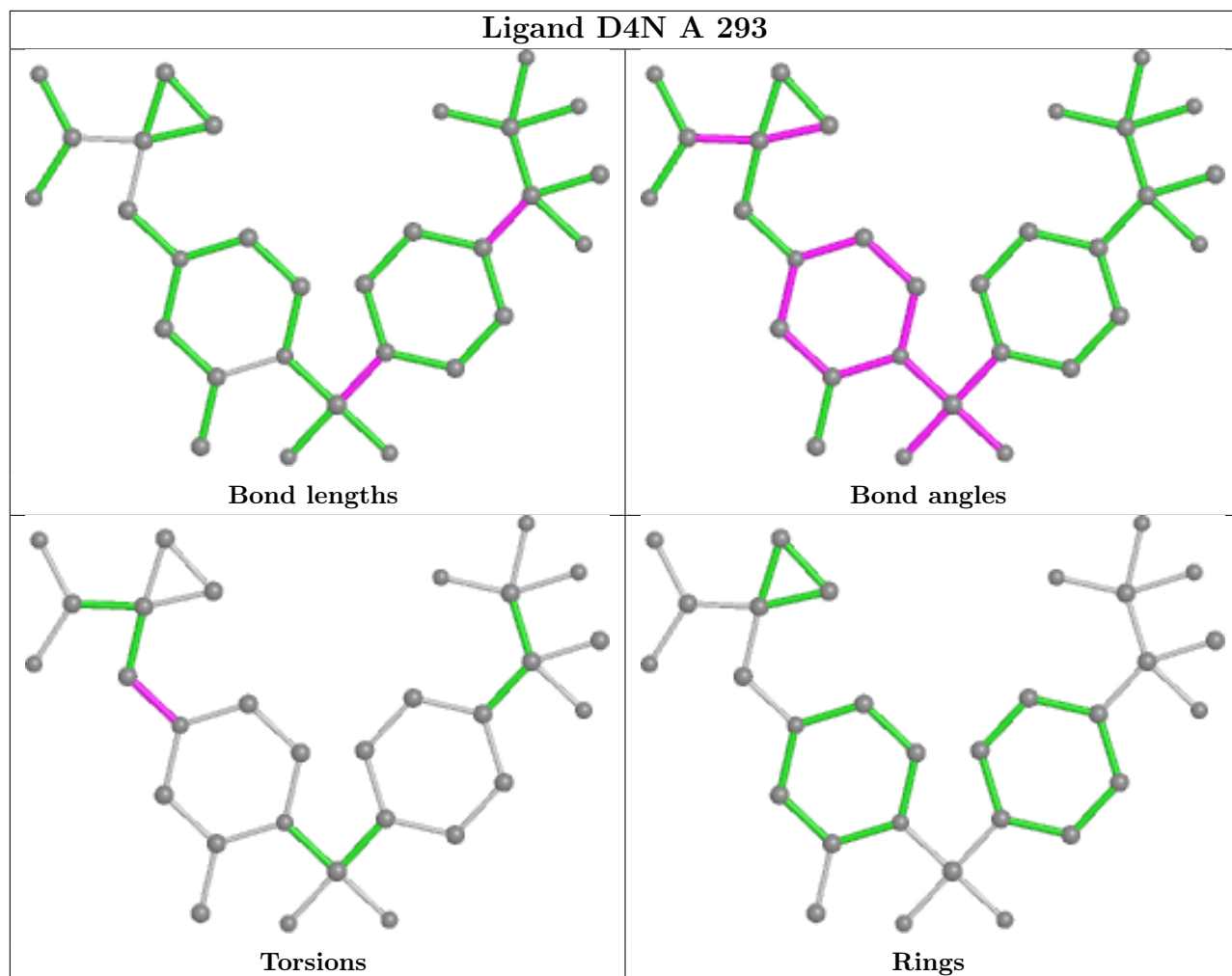
4 monomers are involved in 8 short contacts:

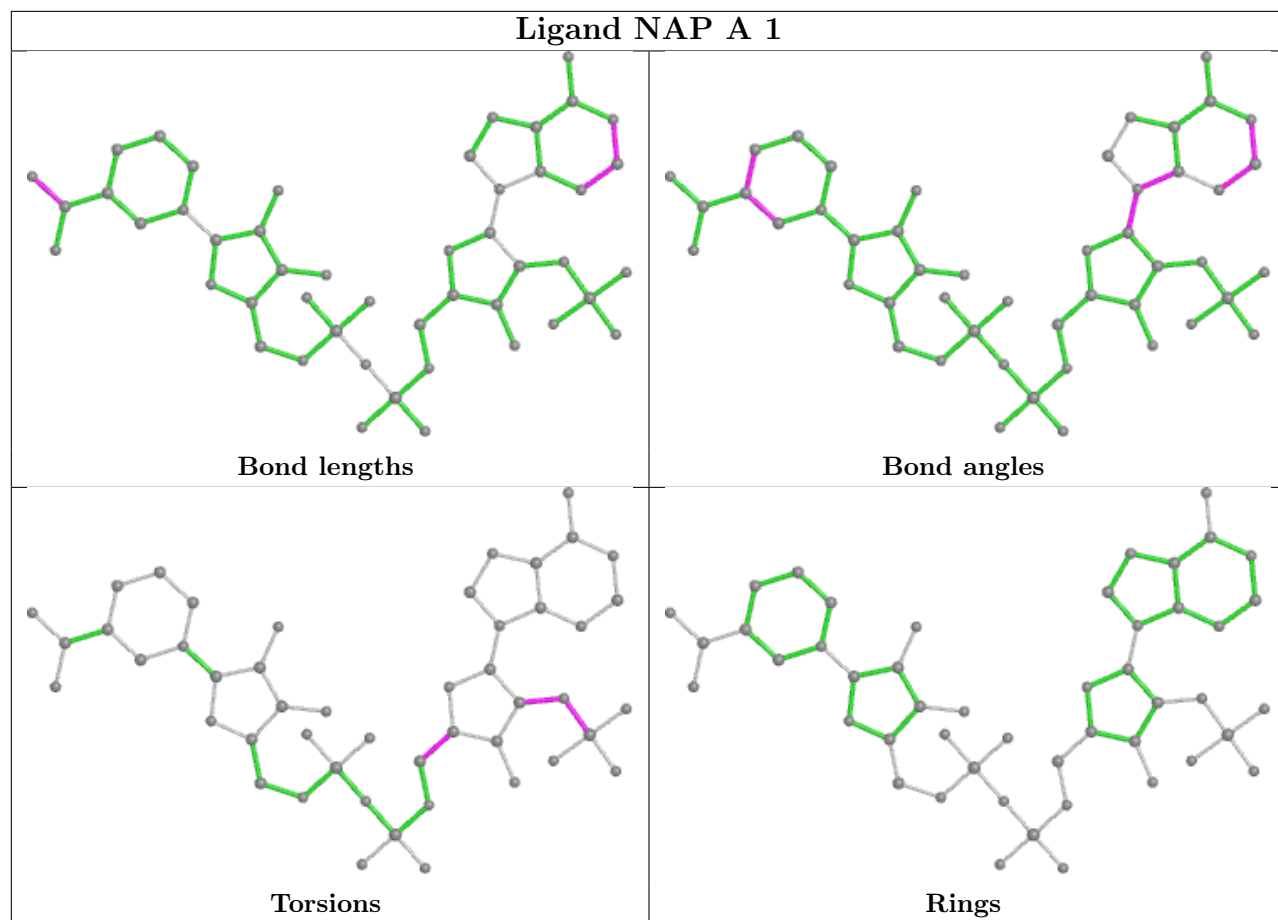
Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	B	2	NAP	2	0
2	A	1	NAP	1	0
2	D	4	NAP	2	0
2	C	3	NAP	3	0

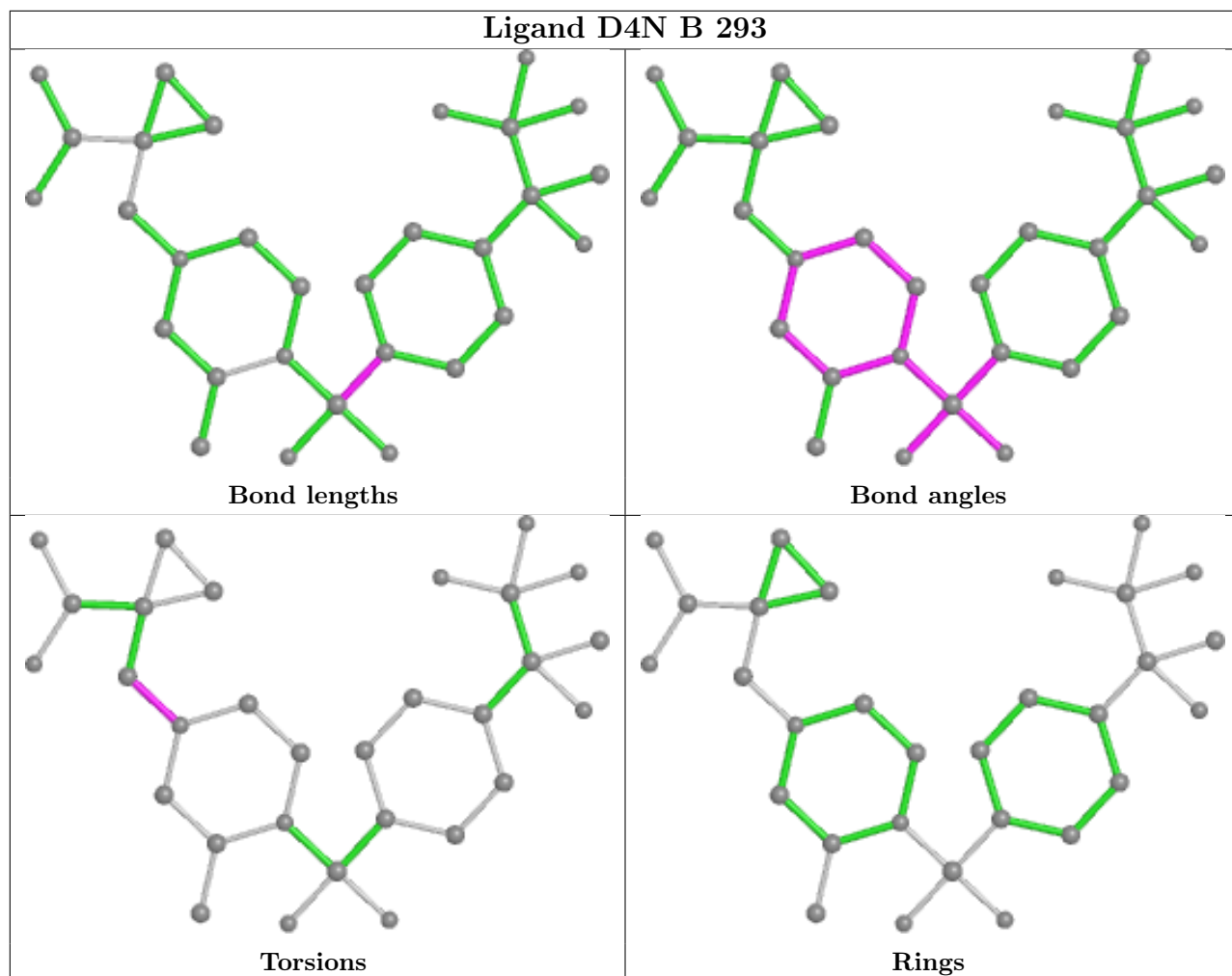
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included.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

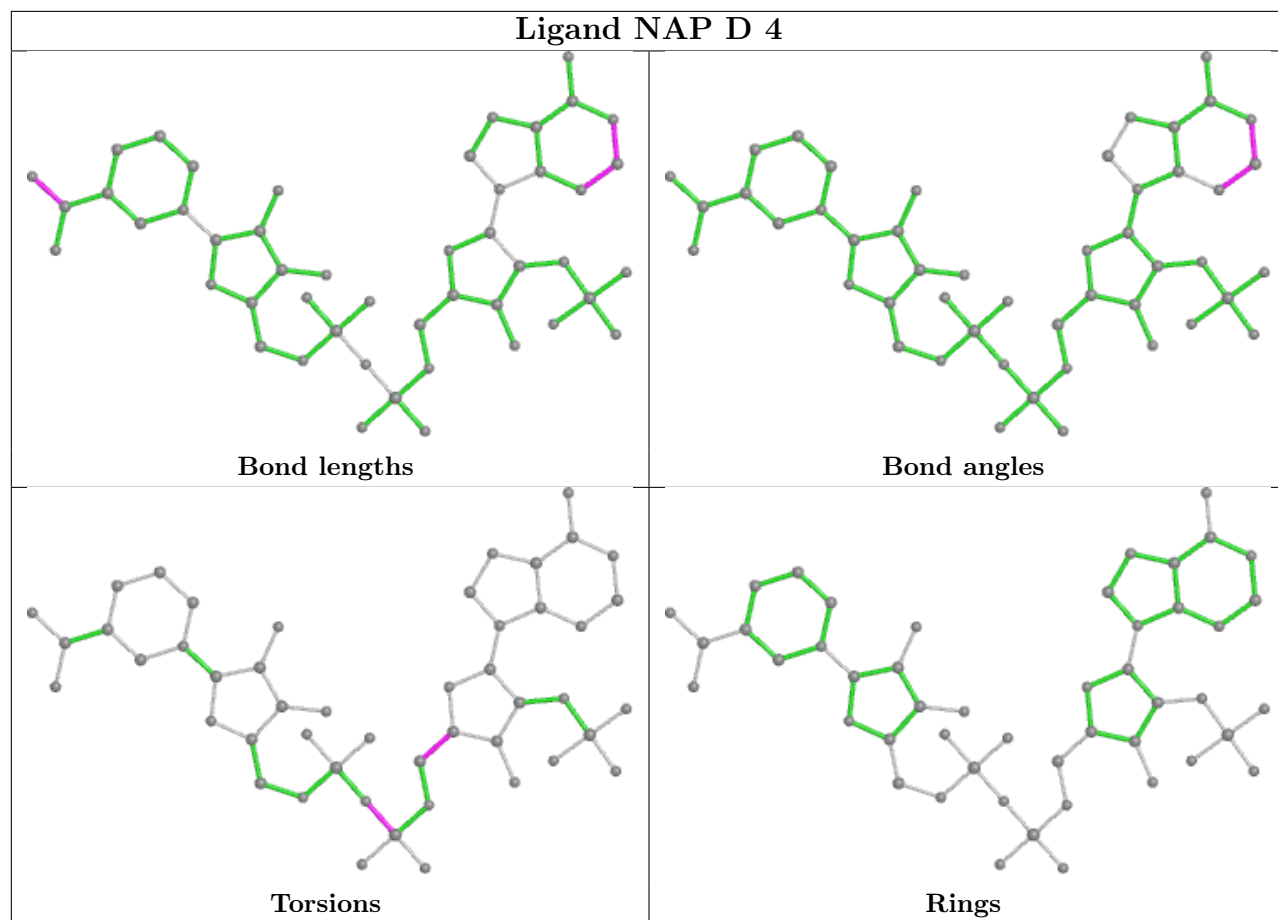


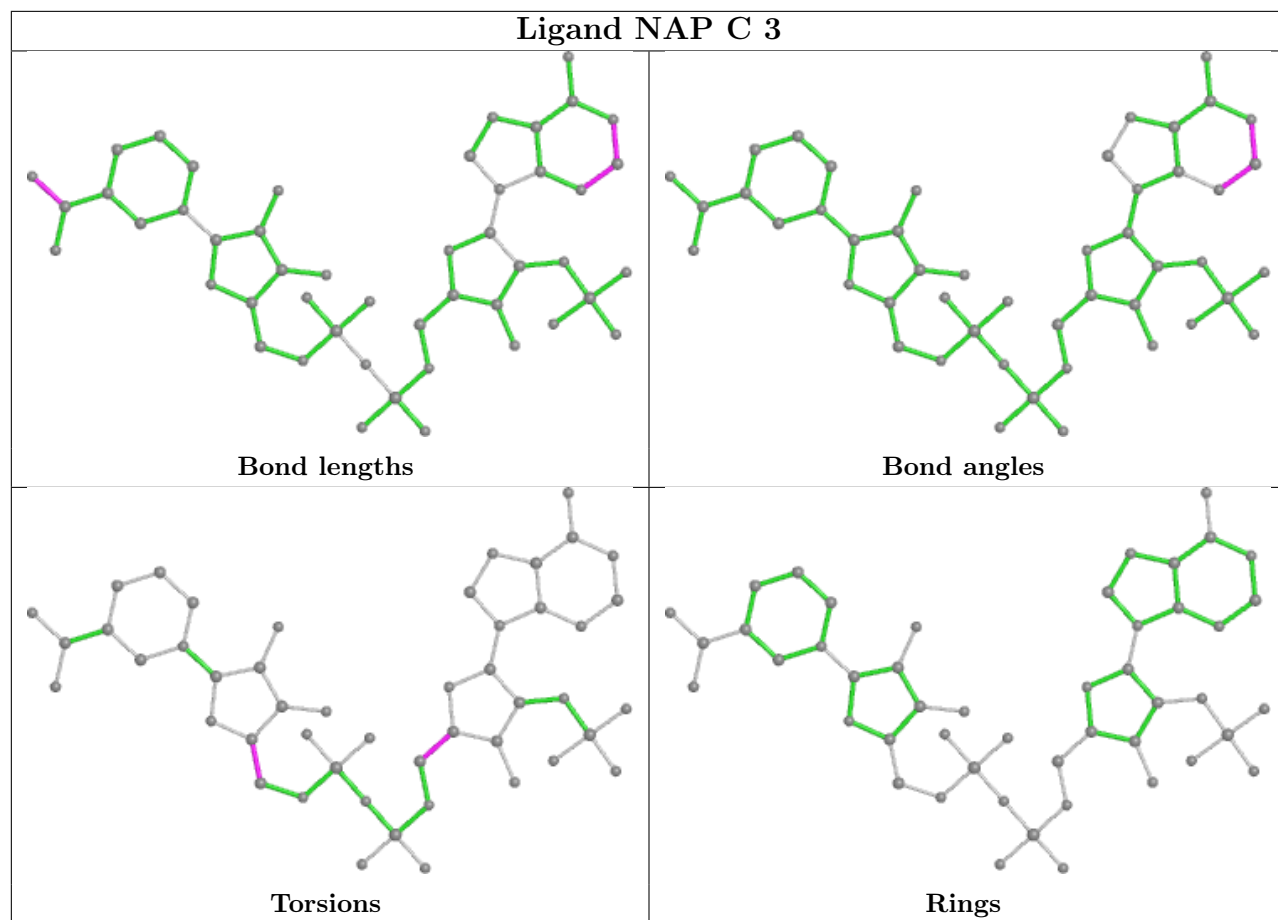


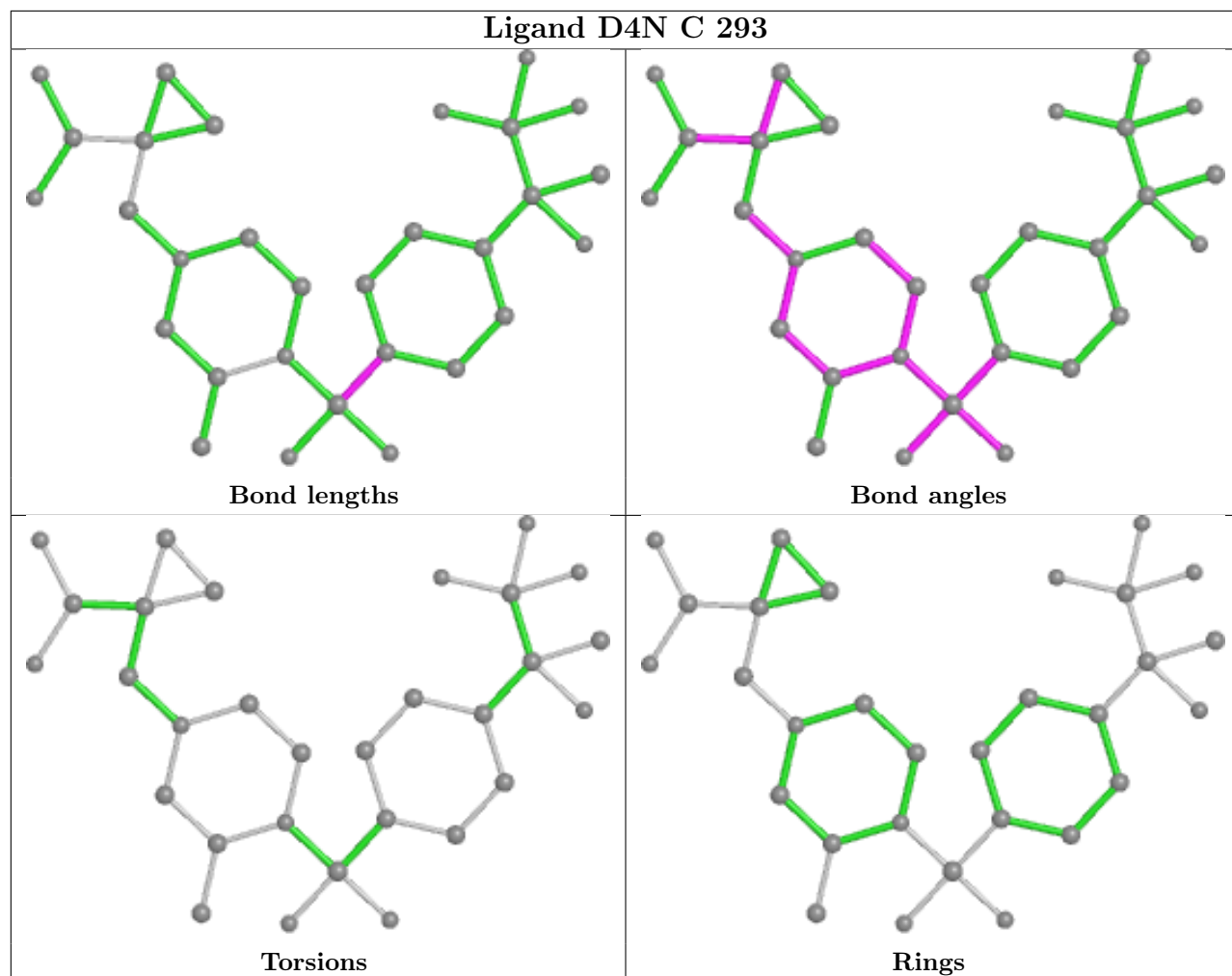












5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data [i](#)

6.1 Protein, DNA and RNA chains [i](#)

In the following table, the column labelled ‘#RSRZ> 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 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	261/286 (91%)	0.01	5 (1%) 66 69	13, 25, 46, 54	0
1	B	265/286 (92%)	-0.05	1 (0%) 92 93	13, 26, 45, 57	0
1	C	260/286 (90%)	-0.21	2 (0%) 86 87	13, 21, 37, 51	0
1	D	261/286 (91%)	0.06	4 (1%) 73 75	14, 28, 43, 50	0
All	All	1047/1144 (91%)	-0.04	12 (1%) 80 82	13, 25, 44, 57	0

All (12) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	230	ILE	5.3
1	A	23	LEU	3.5
1	A	282	THR	2.8
1	D	263	TRP	2.7
1	B	284	TYR	2.7
1	A	231	VAL	2.5
1	D	23	LEU	2.5
1	C	24	ASN	2.5
1	A	280	TYR	2.5
1	D	20	GLN	2.3
1	C	21	GLN	2.3
1	D	24	ASN	2.3

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

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

6.3 Carbohydrates [i](#)

There are no monosaccharides in this entry.

6.4 Ligands

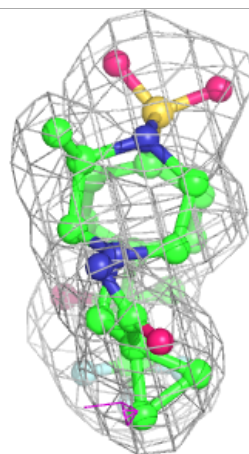
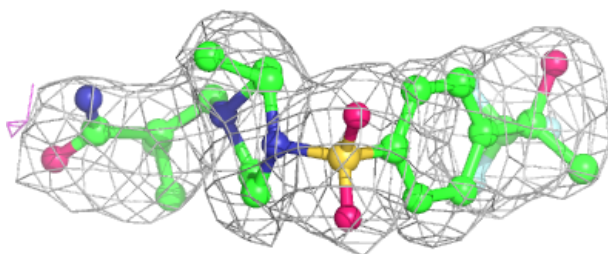
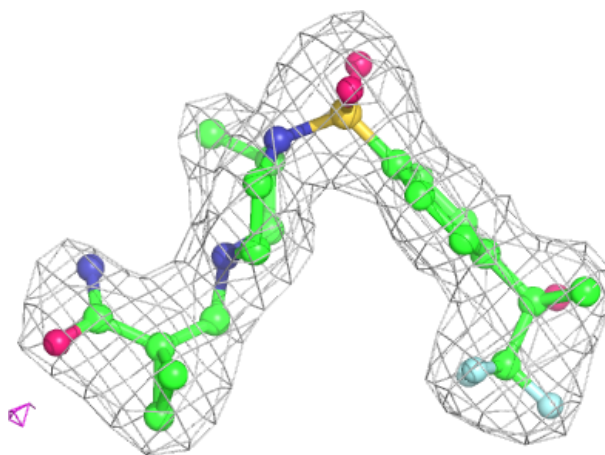
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
3	D4N	A	293	30/30	0.96	0.15	24,25,30,30	0
3	D4N	B	293	30/30	0.96	0.15	27,29,30,31	0
2	NAP	B	2	48/48	0.97	0.12	15,17,22,22	0
3	D4N	D	293	30/30	0.97	0.15	24,25,26,27	0
2	NAP	A	1	48/48	0.98	0.11	13,17,18,19	0
2	NAP	C	3	48/48	0.98	0.11	11,13,18,18	0
3	D4N	C	293	30/30	0.98	0.11	23,24,25,25	0
2	NAP	D	4	48/48	0.98	0.11	20,22,24,25	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.

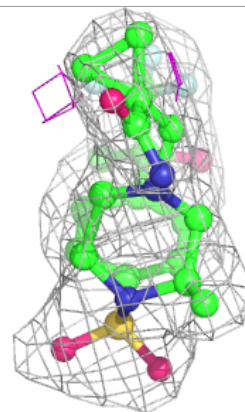
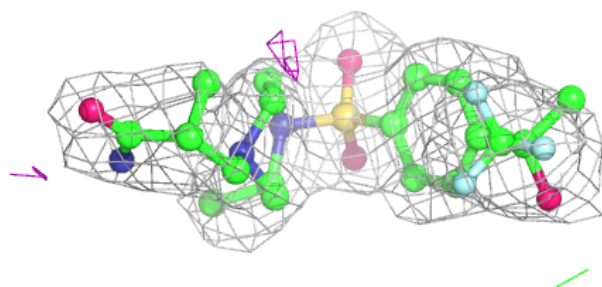
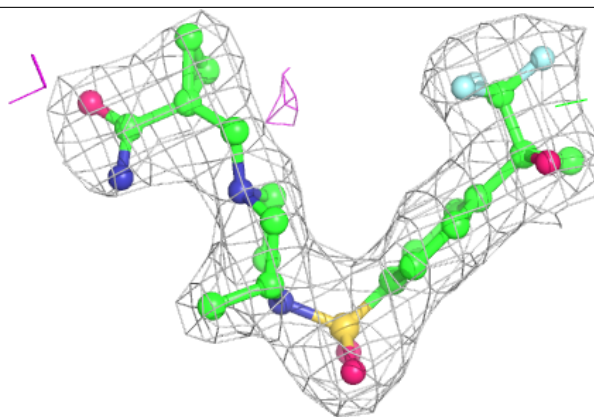
Electron density around D4N A 293:

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

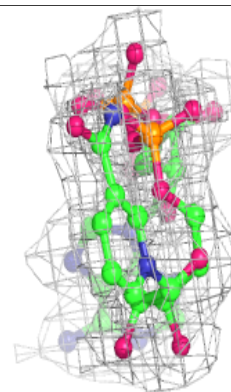
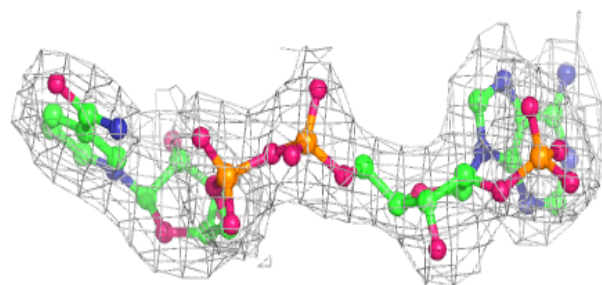


Electron density around D4N B 293:

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

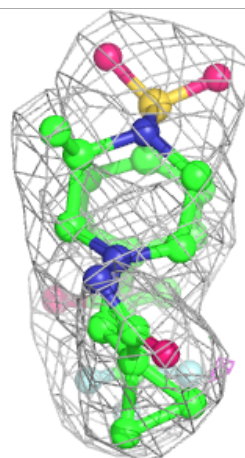
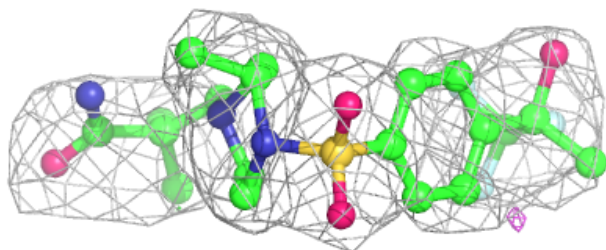
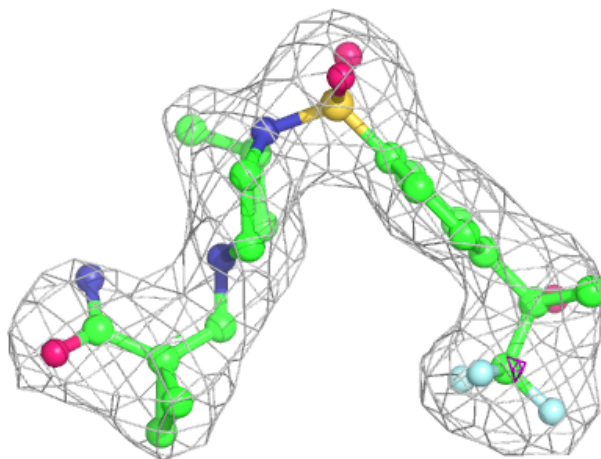
**Electron density around NAP B 2:**

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



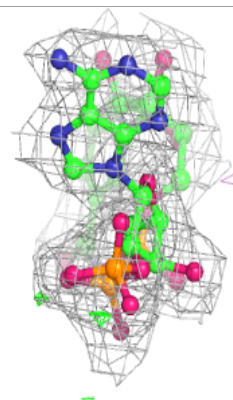
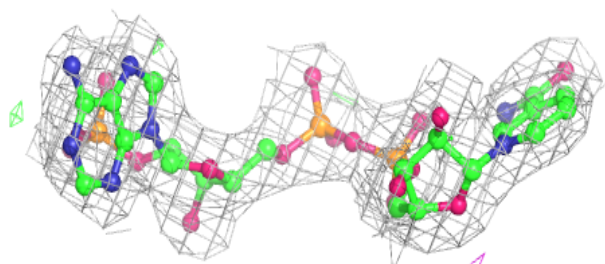
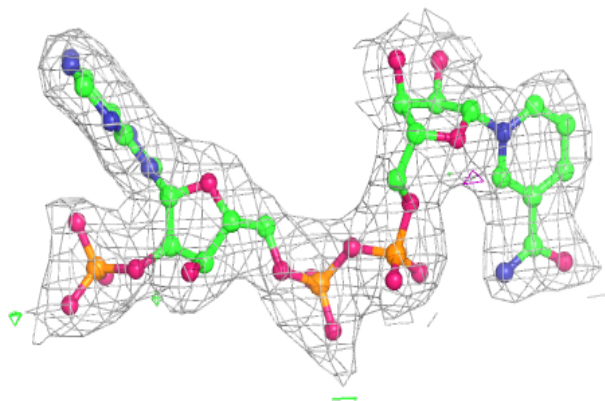
Electron density around D4N D 293:

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

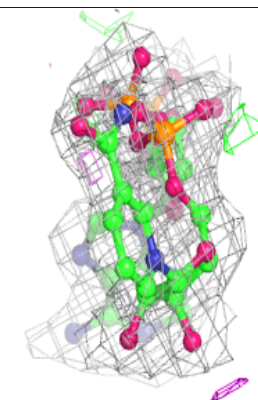
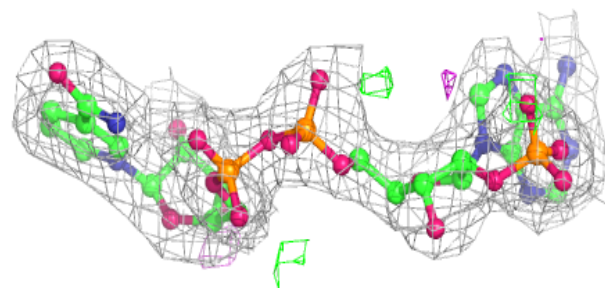
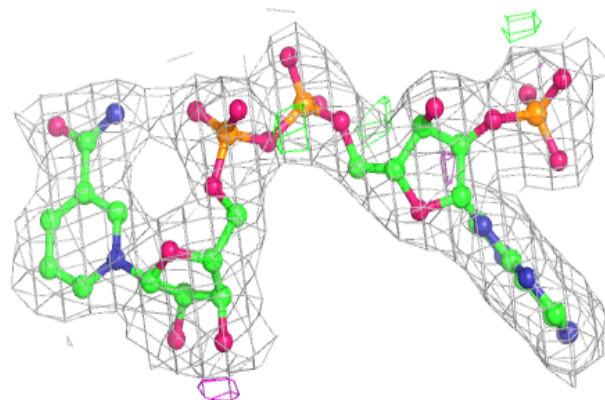


Electron density around NAP A 1:

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

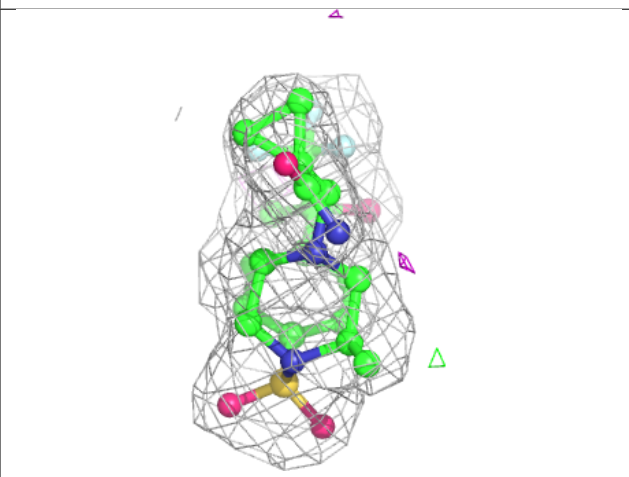
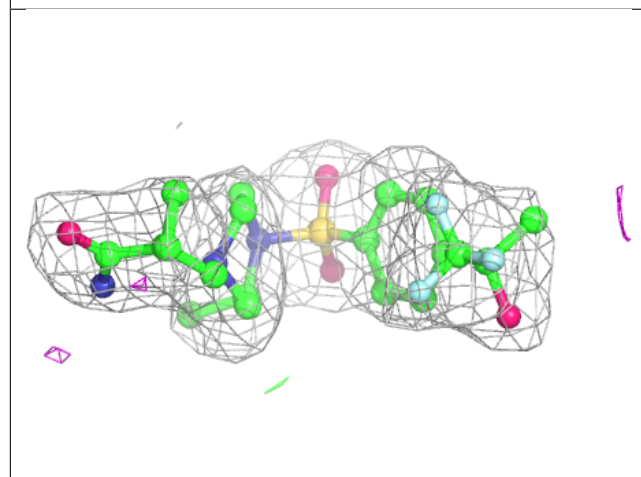
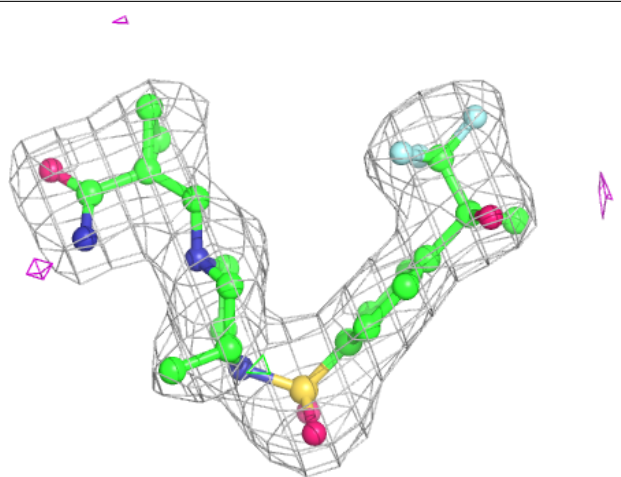
**Electron density around NAP C 3:**

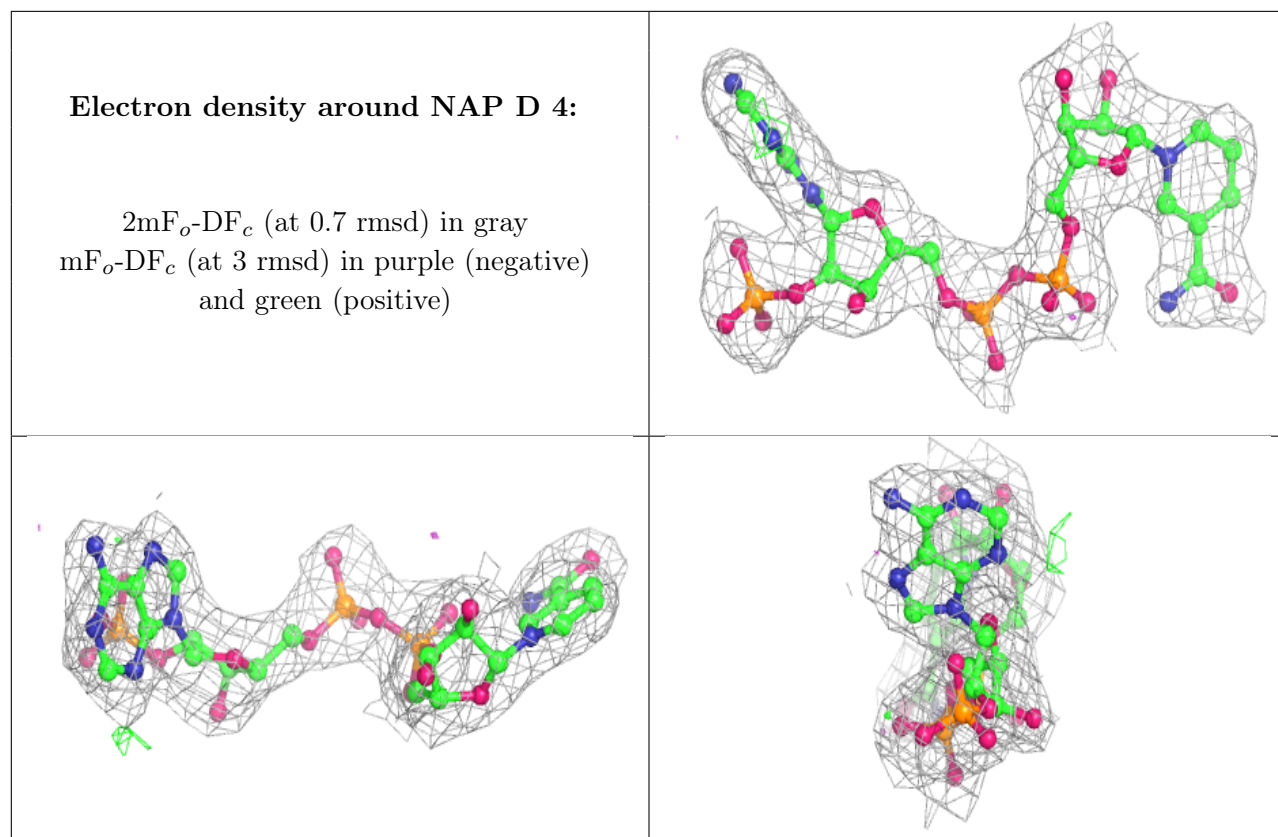
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



Electron density around D4N C 293:

$2mF_o-DF_c$ (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.